ADAPTATION FUND

AFB/PPRC.36/34
7-8 October 2025

Adaptation Fund Board
Project and Programme Review Committee
Thirty-sixth Meeting
Bonn, Germany 7-8 October 2025

Agenda Item 10 b)

PROPOSAL FOR LARGE INNOVATION PROJECT FOR FOUR COUNTRIES IN THE WESTERN BALKANS REGION: BOSNIA AND HERZEGOVINA (BIH), MONTENEGRO, NORTH MACEDONIA, AND SERBIA

Background

1. At its thirtieth meeting, having considered document AFB/B.30/5/Rev.1, the Adaptation Fund Board (the Board) decided:

> *(a) To adopt the medium-term strategy as amended by the Board, as contained in the Annex 1 of the document AFB/B.30/5/Rev.1 (the MTS); and*
>
> *(b) To request the secretariat:*
>
> *(i) To broadly disseminate the MTS and work with key stakeholders to build understanding and support;*
>
> *(ii) To prepare, under the supervision of the MTS task force, a draft implementation plan for operationalizing the MTS, containing a draft budget and addressing key assumptions and risks, including but not limited to funding and political risks, for consideration by the Board at its thirty-first meeting; and*
>
> *(iii) To draft, as part of the implementation plan, the updates/modifications to the operational policies and guidelines of the Adaptation Fund needed to facilitate implementation of the MTS, for consideration by the Board at its thirty-first meeting.*
>
> *(Decision B.30/42)*

2. Pursuant to decision B.30/42, subparagraph (b) (ii), the secretariat prepared a draft implementation plan for the MTS, including an assessment of assumptions and risks. The secretariat shared a version of the draft with the MTS task force for comments.

3. The draft implementation plan also contains suggestions for specific funding windows that might be opened under the MTS in complement of the Fund's existing funding windows for single-country and regional adaptation projects and readiness support projects. Following the approval of the implementation plan, the secretariat would present specific proposed details for each new funding window at subsequent meetings of the Board for its consideration, in accordance with the timeline contained in the implementation plan.

4. At its thirty-first meeting, the Board discussed the draft implementation plan for the MTS, and members of the Board proposed amendments to the document. The secretariat then presented a revised draft, in document AFB/B.31/5/Rev.1. Having considered that document, the Board decided:

> *(a) To approve the implementation plan for the medium-term strategy for the Fund for 2018–2022 contained in the Annex I to document AFB/B.31/5/Rev.1 (the plan);*
>
> *(b) To request the secretariat:*
>
> *[…]*

(iii) To prepare, for each proposed new type of grant and funding window, a specific document containing objectives, review criteria, expected grant sizes, implementation modalities, review process and other relevant features and submit it to the Board for its consideration in accordance with the tentative timeline contained in Annex I to document AFB/B.31/5/Rev.1, with input from the Board's committees;

(iv) Following consideration of the new types of support mentioned in subparagraph (b)(iii), to propose, as necessary, amendments to the Fund's operational policies and guidelines Fund to better facilitate the implementation of such new types of support; and

[…]

(Decision B.31/32)

5. At the second session of its thirty-fifth meeting, the Board considered document AFB/PPRC.26.b/16, Program on Innovation: Large Grants for Innovation, and the Board decided:

(a) To approve the process for providing funding for innovation through large grants to Implementing Entities (IEs) as described in document AFB/PPRC.26.b/16; including the proposed objectives, review criteria, expected grant sizes, implementation modalities, review process and other relevant features as described in the document;

(b) That the large grants for innovation would fall outside the country cap approved by the Board in decision B.13/23 or, in the case of regional or multi-regional proposals, the regional provision, whereas they would count against the Multilateral Implementing Entity cap as per decision B.12/9;

(c) To request the secretariat to prepare the first Request for Proposals to IEs for a total amount of US $30 million to be launched by the first quarter of calendar year of 2021; and

(d) To request the secretariat to consider the need to develop specific objectives and indicators for the innovation aspects of the projects, beyond what is included in the regular project performance reporting process and make relevant recommendations to the Board at its thirty-seventh meeting.

(Decision B.35.b/8)

6. At its thirty-sixth meeting, the Board considered the document AFB/PPRC.27/28, *Programme on Innovation: Operationalization of Large Grants for Innovation*, and the Board decided:

(a) To approve the Innovation Large Grant Project Proposal template, the Review Criteria template and the Instructions for Preparing a Proposal for Innovation Large Grants, as described in annexes II, III and IV to document AFB/PPRC.27/28;

(b) To launch the request for proposals so that submissions of Innovation Large Grants proposals are invited to be considered as early as the thirty-seventh meeting of the Board.

(Decision B.36/24)

7. Subsequently, the first call for project and programme proposals under the indicative set-aside amount of US$ 30 million was issued to eligible Parties to submit large innovation project and programme proposals to the Fund through accredited NIEs, RIEs and MIEs.

8. At its thirty-ninth meeting in October 2022, the Board discussed and adopted the “Medium-term strategy of the Fund for the period 2023–2027” (Decision B.39/61). At the subsequent meeting, the Board adopted, via Decision B.40/72, the *Implementation Plan for Medium-Term Strategy of the Fund for the Period 2023-2027* (document AFB/B.40/.5/Rev.1). Together, these documents include plans for the continuation and expansion of the innovation pillar that was launched and developed during the MTS 2018 to 2022 period.

9. The following fully-developed proposal document titled “Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience” was submitted for Bosnia and Herzegovina (BiH), Montenegro, North Macedonia, and Serbia by United Nations Development Programme (UNDP) which is a Multilateral Implementing Entity of the Adaptation Fund.

10. This is the fourth submission of the fully developed project proposal using the one-step process.

11. The current submission was received by the secretariat in time to be considered in the forty-fifth Board meeting. The secretariat carried out review of the project proposal, assigned it the Project ID number AF00000448, and completed a review sheet.

12. In accordance with a request to the secretariat made by the Board in its 10th meeting, the secretariat shared this review sheet with UNDP and offered it the opportunity of providing responses before the review sheet was sent to the PPRC.

13. The secretariat is submitting to the PPRC the summary and, pursuant to decision B.17/15, the final technical review of the project, both prepared by the secretariat, along with the final submission of the proposal in the following section. In accordance with decision B.25/15, the proposal is submitted with changes between the initial submission and the revised version highlighted or with track changes.

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: [Please select from the drop menu if the proposal is single-country or regional] Single Large Innovation Project Full Proposal

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Country/Region: Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia (Western Balkans)
Project Title: Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience
Thematic Focal Area: Innovative Climate Finance
Implementing Entity: UNDP
Executing Entities: UNDP
AF Project ID: AF00000448
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): 5,000,000
Reviewer and contact person: Marcus Johannesson
Co-reviewer(s): Alyssa Maria Gomes
IE Contact Person:

Technical Summary	The project "Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience" aims to accelerate locally-led climate change adaptation innovation in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia by applying an enterprise development approach that strengthens regional collaboration, promotes gender equality, women's empowerment and social inclusion, supports community-based innovation, and fosters learning and knowledge exchange at both regional and global levels. This will be done through the four components below: **Component 1**: Enabling Locally-Led Innovation via Small Grants ("Innovation Facility for Climate Adaptation ($2,767,793); **Component 2**: Technical assistance and capability development for scale ($981,656); **Component 3**: Knowledge Management and Regional Collaboration ($638,246); <u>Requested financing overview:</u> Project/Programme Execution Cost: $157,760 Total Project/Programme Cost: $4,545,455 Implementing Fee: $4,545,455

	Financing Requested: $5,000,000.00 The initial technical review raised some issues, such as budget related issues, the need for clarifying the ESP principles assessment and the lack of detailed project activities in the proposal, as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. The second technical review raised some issues related to the monitoring and evaluation budget and the eligibility of component 4 activities, as is discussed in the Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. The third technical review raises a few pending issues pertaining to the results framework and alignment table, as is discussed in the Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. The fourth technical review found that no remaining issues need clarification.
Date:	September 2, 2025

Review Criteria	**Questions**	**1st Technical Review [5 August 2025]**	**2nd Technical Review [14 August 2025]**	**3rd Technical Review [21 August 2025]**	**4th Technical Review [2 September 2025]**
Country Eligibility	1. Is/are the beneficiary country/countries a developing country/countries Party/Parties to the Kyoto Protocol?	**Yes**	-	-	-
	2. Is the participating country / are all participating countries developing countries particularly vulnerable to the	**Yes, (p. 3-21)** The region and countries targeted are experiencing severe climate impacts, including more frequent and intense	-	-	-

	adverse effects of climate change?	droughts, floods, wildfires, and landslides, worsened by rising temperatures and erratic rainfall patterns. These climate events undermine agriculture, water systems, and energy infrastructure, while placing vulnerable communities — particularly rural populations, women, youth, and marginalized groups— at greater risk.			
Project Eligibility	1. Has the designated government authority for the Adaptation Fund / Have the governments' d esignated authorities for the Adaptation Fund endorsed the project?	**Yes** Republic of North Macedonia as per the Endorsement letter dated 2025-07-04. Ministry of Environment and Physical Planning, DA Minister Iset Mexhiti. Republic of Serbia as per the Endorsement letter dated 2025-06-26. Ministry of Environmental	-	-	-

		Protection, DA Minister Sara Pavkov**. Our records indicate Ana Repac as the DA. Please note while we can process the review as the proposal is signed by a minister. Please follow the guidance for DA nomination to the AF.** Bosnia Herzegovina as per the Endorsement letter dated 2025-07-16. Ministry of Finance and Treasury, DA Minister Srdan Amidzic. Montenegro as per the Endorsement letter dated 2025-07-16. Ministry of Ecology, Sustainable development and Northern Region Development, DA State Secretary Zoran Dabetic. *At its forty-third meeting in October 2024, the Adaptation*			

		Fund Board decided to change the definition of designated authority from an officer to an entity, to no longer accept new nominations of officers as Designated Authorities and phase out the current system of nominating government officers as the Designated Authority within 12 months of the Board's decision (AFB Decision B.43/29). Per the Adaptation Fund Board's decision, governments have been invited to nominate a government entity as the Designated Authority to represent their country in its relations with the Adaptation Fund. A nomination letter template is provided here as a suggested guide for submitting a nomination for an entity as the designated authority.			

		*Nominations of the government entity and primary and secondary contact points should be sent to afbsec@adaptation-fund.org (with "DA Nomination" in the subject line) by Friday **October 11, 2025**.*			
	2. Does the project/programme support concrete adaptation actions to assist the country or countries in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience? In case of regional project/programme, is there added value using the regional approach, compared to implementing similar activities in each country individually?	**Yes, but needs clarification.** The proposal describes how the project aims to accelerate climate adaptation innovations with the purpose of addressing priority climate risks and socio-economic vulnerabilities identified by the four countries. This will generate multiple co-benefits beyond climate resilience including public health, food security, gender equality, green economic growth and energy transition.	**CAR1: Partially cleared. (p. 41-42, 47-48, 50-51, 53-54, 56)** Detailed specific activities under each output for the various components have now been added. The activities for components 1-3 are well received. However, there are a number of ineligible activities under component 4. These relate to evaluation costs (MTR, PPR, Final report) that need to be included under	**CAR1: Cleared. (Pages 100, 101, 109, 114)** Component 4 is now removed and the costs related to MTR and TE are now correctly budgeted under the IE fee.	-

		However, while the proposal outlines a logical sequence of outcomes and outputs under four components (p. 32), it lacks detailed, specific activities that would underpin the project's implementation. Annex 4 (ESMF) provides a list of some potential activities that could serve as a foundation for this. Without a clear set of activities, it is difficult to fully assess the project's feasibility and implementation strategy. **CAR1:** Please integrate detailed, specific activities under each output described in Part II: Project Justification (p. 34-53). These activities should clearly demonstrate how the project's components will be operationalized. A good practice would be to structure them clearly, for example,	the IE fee. **Please see CAR3 below**		

		using bullet points under each output.			
	3. Does the project/programme help spread innovative adaptation practices, tools and technologies that have demonstrated success in one country to another country, countries, or regions; and/or Does the project/programme pilot at larger scale innovative ad aptation practices, tools or technologies generated that have demonstrated viability at a small scale?	**Cleared. (p. 37-41)** This project will act as an incubator for locally led adaptation innovation, accelerating the development and scaling of context-specific solutions across the Western Balkan through a regional “Calls for interest” followed by a regional Learning and Design Innovation Sprint. Targeted small seed grants for experimentation and medium-sized grants for proven concept scaling grants, will de-risk innovation in the spectrum where private capital remains limited and address a critical financing gap for early-stage and high-impact initiatives that typically fall outside the scope of traditional funding. By			

		promoting both emerging and validated solutions the project aims fostering a dynamic ecosystem that generates novel approaches while accelerating proven interventions. The regional lens of the project will draw already built up national and regional capacities across the countries and connect the region while promoting regional public goods through strengthened cooperation and integration, managing climate adaptation externalities that transcend borders, and generating shared development knowledge and innovation that overcomes institutional and financial barriers too high for individual countries to surmount alone.			

	4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	**Cleared. (p. 59-61)** Under Output 1.2 and starting from p. 42 the proposal has thoroughly elaborated on the adaptation benefits expected for beneficiaries of the main sectors of focus selected to address the main vulnerabilities across the countries. Integrated risk and benefit management through the project will be enabled through the screening and review process while all grantee proposals be evaluated by: • A general due diligence process; • Economic and financial viability, • Social inclusiveness and gender-responsiveness,			

		and Environmental sustainability. Furthermore, the project structurally plans to nurture economic, social, and environmental benefits in various ways to vulnerable communities including through: • Grant support and technical assistance will support the projects' development of **inclusive and sustainable adaptation enterprises** while acknowledging both indirect and direct economic impacts. • **Social equity and resilience** will be promoted since all supported initiatives will have			

		a particular focus on enhancing the adaptive capacity and leadership of **women and girls**, while also empowering youth and underrepresented groups. • The project promotes climate-smart practices that deliver co-benefits for biodiversity, soil and water quality, and long-term ecosystem services. ESP and gender considerations of the USPs will be safeguarded through an ESMF and ESMPs for the various interventions, a gender action plan and risk mitigation frameworks.			

	5. Does the project engage, empower and/or benefit the most vulnerable communities and social groups?	**Cleared. (p. 37-38, 56)** The project has an inclusive approach while it will launch a 'call for interest' (instead of a traditional call for proposals) to cast a wider net and engage diverse local actors who may have promising ideas but lack the capacity to develop full proposals initially. In relation to this, a broad and six months long outreach campaign will be undertaken across the four participating countries ensuring wide and inclusive awareness and access, tailored to reach diverse local actors such as NGOs, CSOs, cooperatives, MSMEs, and community-based innovators, particularly those from marginalized communities who may not typically engage			

		with formal funding processes including those with a limited proposal-writing capacity. All outreach materials and guidelines will be made available in relevant local languages. A front-loaded learning approach (regional learning and innovation design sprint) follows the Calls for interest phase which will ensure that truly innovative, well-designed, and locally grounded solutions advance to full proposal development and implementation, while building the capacity of local innovators throughout the process. The selection of innovative adaptation solutions will among other, consider that the solutions do not solely focus on new technologies and			

		approaches, but also building on and/or reviving and integrating traditional knowledge of social, economic, and political marginalized communities and local communities into the solutions.			
	6. Does the project advance gender equality and the empowerment of women and girls?	**Not cleared** While the proposal states that all grantees must have gender equality as a significant objective (p. 57) and confirms a Gender Assessment and Gender Action Plan (GAP) have been developed (Annex 5), it currently lacks the specific activities to demonstrate how this will be achieved. The lack of detailed activities (see CAR1) makes it difficult to clearly illustrate how the project will be gender-responsive in	**CR1: Cleared** More gender disaggregated indicator and targets are now included in the results framework (p. 112) and the GAP (Annex 5). This clarifies how gender considerations will be operationalized throughout the project lifecycle.	-	-

		practice. The GAP in Annex 5 must be directly linked to concrete actions within the project's framework to show how gender considerations are mainstreamed throughout the project's lifecycle. **CR1:** Please include in the Gender Action Plan (Annex 5) a clear description of how the project's activities, under each component, will be gender mainstreamed based on the conclusions and recommendations from the gender assessment provided in the proposal. This should detail how the project will go beyond simply requiring grantees to consider gender and will actively			

		support them in doing so.			
	7. Is the project/programme cost-effective? In the case of regional project/ programmes, does the regional approach support cost effectiveness? Does the project engage, empower, and/or benefit the most vulnerable communities and social groups?	**Cleared. (p. 62-63)** Implementing this project as a **regional initiative** and lens rather than as separate national projects creates multiple opportunities for **cost-efficiency and knowledge synergies**, including: • **Shared technical and advisory resources** across countries, avoiding duplication of efforts and access to wide range of technical expertise and knowledge; • **Joint learning platforms and knowledge exchange events** that serve multiple countries at once;	-		

		• **Regional coordination mechanisms** that streamline governance, reduce overhead costs, and improve implementation consistency; • **Cross-border replication of successful solutions**, reducing the need to reinvent adaptation models in each national context. These efficiencies ensure that a greater proportion of available funding directly supports innovation development and scaling, rather than administrative or transaction costs. The use of existing institutional infrastructure, leverages strategic partnerships, and applies a regional lens			

		to promote efficient delivery and optimize results. The project's cost-effectiveness is further enhanced by its ability to **leverage additional technical and financial contributions** from strategic partners. Organizations that are already working with UNDP under the UNDP-AFCIA Programme, such as the **Global Resilience Partnership (GRP)**, **Climate-KIC**, **impact investment and philanthropy networks, public or private funders** could be potentially engaged to provide additional technical support or knowledge exchange/amplification. These partnerships will:			

		• Enhance the project's reach and visibility; • Enable resource pooling for grantee support; • Unlock additional investment pathways for scaling successful innovations; • Align scalability requirements and technical support with impact funder´s requirements. Furthermore, the project will support relevant regional initiatives and draw on other relevant regional and global programmes and platforms implemented by UNDP including BOOST acceleration programme,			

		Adaptation Innovation Marketplace, Climate Promise, Tadamon NGO Empowerment Project and AFCIA.			
	8. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?	**Needs clarification.** The proposal clearly states its alignment with national and sub-national strategies, including NAPs, NDCs, the Paris Agreement, and the 2030 Agenda for Sustainable Development (p. 64). The project also requires grant proposals to demonstrate how their innovations contribute to specific SDGs. However, a key element of innovation and adaptation planning is missing from this alignment analysis: Technology Needs Assessments (TNAs) and Technology Action Plans (TAPs). These instruments are often developed by	**CR2: Cleared (p. 68-69)** The proposal has clarified the project's consistency with Technology Needs Assessments (TNAs) and Technology Action Plans (TAPs) and outlining how their findings will be reviewed and incorporated during implementation as a part of the 'due diligence process'.		

		countries to identify and prioritize technologies for both climate mitigation and adaptation, and they could provide valuable insight for an innovation-focused project. While the project is well aligned with national and subnational strategies and development plans, it is unclear if it plans to be consistent with TNAs and TAPs? This could be especially relevant as the project is an innovation project. **CR2:** Please clarify the existence of Technology Needs Assessments (TNAs) and Technology Action Plans (TAPs) in the Western Balkans. If they exist, please describe how the project will take them into consideration to ensure alignment and complementarity with			

		the countries' identified technology priorities for adaptation.			
	9. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	**Cleared. (p. 65)** As part of the competitive grant process, all applicants will be required to: • **Demonstrate alignment with national technical regulations and standards**, including but not limited to environmental assessments, building codes, agricultural practices, water management protocols, and public health standards relevant to the nature and scope of their proposed innovation; • **Describe how proposed products,**	-		

		services, or technologies comply with applicable national and—where relevant—international standards, especially for innovations intended for broader replication or export. This will be further verified during implementation of awarded grantees and safeguarded through environmental and social frameworks including that of the Adaptation Fund. The ESMF (Annex 5) lists all relevant laws in the four countries that are deemed relevant and that must be complied with.			
	10. Is there duplication of project / programme with	**Cleared. (p. 67-68)** The Regional Project has been developed to	**-**	**-**	**-**

	other funding sources?	complement, rather than duplicate, existing regional adaptation initiatives, ensuring its alignment with the broader regional and global climate adaptation agenda already from the preparatory phase. Under Section H, the proposal has listed and analysed of how the proposed project will be complementary and maximize synergies with existing adaptation initiatives in the region.			
	11. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	**Cleared. (p. 69-71)** The project has developed a dedicated **learning and knowledge management component** with a Monitoring, Evaluation and Learning framework (MEL) that will capture, share and leverage Knowledge,	-		

		evidence, and lessons from adaptation innovations to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks. The MEL will ensure accountability, learning, and adaptive management across the four participating countries. Central in the project's work with Learning and Knowledge Management is the establishment of regional knowledge exchange platforms and collaboration mechanisms to facilitate peer learning, cross-border dialogue, and community-of-practice engagement			

		among adaptation actors. A **strategic communications and dissemination plan** will ensure that key learnings, achievements, and grantee impact stories are shared across national, regional, and global platforms and appropriate social media channels. The communication efforts will include Digital and social media content creation, Documentation of results and key learnings in reports like the Donor Progress Report and Participation in relevant events and forums.			
	12. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups,	**Cleared. (p. 71-73)** Engagement and consultation (virtual and in person) with a broad range of key	-	-	-

	including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	actors and stakeholders at various levels have been undertaken in the preparation of the project. Furthermore, stakeholder consultations and engagement of women's organizations promote gender equality at the local as well as the national level have been conducted and underpinned design including gender issues to consider and monitor under the project's implementation. See Annex 5. Since the project has USPs, deeper consultations with locally grounded stakeholders will be conducted once grantees are selected and specific interventions and sites are identified. These will include			

		consultations with vulnerable or marginalized groups, women, Indigenous Peoples, and other directly affected communities as relevant.			
	13. Is the requested financing justified on the basis of full cost of adaptation reasoning?	**Needs clarification.** The proposal provides a strong justification for the project's additionality and value compared to a baseline scenario (p. 74-79). It correctly identifies the critical gaps in financing for locally-led innovation and how the project will address them. However, the proposal does not explicitly state that the funds from the Adaptation Fund are sufficient to achieve the intended results without additional external funding. This is a key requirement of the Adaptation Fund's "Full Cost of Adaptation Reasoning." While the	**CAR2: Cleared (p. 84)** The proposal has now clearly stated that the funds from the Adaptation Fund are sufficient to achieve the project's intended results without additional external funding in accordance with the Fund's Full Cost of Adaptation Reasoning.	-	-

		project's ability to leverage co-financing is a strength, the proposal must clarify that the project is not contingent on these external resources for the successful delivery of its core outcomes. **CAR2:** Under Part II, Section L (p. 74), please add a statement explicitly confirming that the requested $5,000,000 from the Adaptation Fund is sufficient to fully cover the project's intended results. The statement should clarify that while the project may pursue additional funding, its core outcomes and objectives are not dependent on external co-financing.			
	14. Is the project / program aligned with AF's results framework?	**Needs clarification.** The results framework in Part III, Section E (p. 90-93) is well-aligned with the Adaptation Fund's framework, referencing	**CR3: Cleared (p. 103-106)** Preliminary targets have now been provided for all indicators in the results framework.		

		AF Outcomes 3, 5, 6, and 8, and includes gender-disaggregated data and indicators. However, some targets have not been set, which is a prerequisite for a full proposal. Specifically, the targets for "male" and "female" beneficiaries under indicator O1 are marked as "TBC" (To Be Confirmed). These targets must be included at this stage, even if they are preliminary and can be updated during the inception phase. **CR3:** Please include preliminary targets (or quotas) for all indicators in the results framework, particularly for the gender-disaggregated data under indicator O1. These targets can be based on initial estimates from the project design phase and can be refined	Please note that there are some formatting issues with the Results Framework in the “Track Changes” documents. **Please note that the track changes version will be uploaded for Board review. However, there needs to be consistency in the content for both Track and Clean versions.**		

		during project inception.			
	15. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	**Cleared. (p. 80).** The project is designed for sustainability of outcomes and make initiatives more 'investment-ready,' enabling them to attract additional funding and diversify income streams. Sustainability measures include: - To promote long term sustainability, the project's proposal screen criteria will require demonstration of evidence of existing funding, a co-financing strategy (if applicable), and secure forthcoming funding. - Each proposal should also include a project risk assessment and management plan focused on ensuring the	-		

		expected outcomes and long-term sustainability. The development of an exit strategy for each grantee will be undertaken. - The project's special tranche for scaling will also increase the potential for replication of what has been shown to be working well. - The project's result framework will track adaptation solutions for policy uptake and replication pathways which also will contribute to the sustainability of outcomes. - Grantees capacity for long-term sustainability will be enhanced through targeted technical assistance, the project will help grantees enhance their financial			

		planning, develop robust business models, and strengthen partnerships. - By addressing core barriers such as limited access to finance, technical know-how, and strategic networks, the project aims to bridge the gap between promising community-led adaptation initiatives and the resources needed for sustained impact.			
	16. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	**Needs clarification.** While the project has populated the Adaptation Fund's ESP checklist (p. 80) and provided a detailed Social and Environmental Management Framework (ESMF) in Annex 4, the checklist itself lacks a substantiated assessment in the right-hand column.	**Further clarification needed** The ESP principle checklist table (p. 91) has been updated with a substantiated risk assessment for each principle including a risk level. No brief statement justifying the inclusion of Unidentified Sub-Projects (USPs) as requested has been	**CR4: Cleared (Page 84).**	**-**

		The proposal must provide a clear written justification for each ESP principle, assigning a risk level (low, moderate, or high) and briefly explaining how potential risks will be avoided or mitigated. Additionally, the project's overall risk level (A, B, or C) must be stated in this section. The justification for including Unidentified Sub-Projects (USPs) has been correctly stated in Section J but should also be included here as a brief statement. **CR4:**Please populate the right-hand column of the ESP checklist in Part II, Section N with a written text for each principle. This text should summarize the specific risk assessment, assign a risk level (low, moderate, or high), and outline the	included under Section K. **CR4: Partially cleared.** Please, include **the justification for including USPs** (already correctly stated under Section J) in Section K before the ESP screening table.		

		proposed measures to avoid and mitigate these risks. Also, please state the project's overall risk level (A, B, or C) and include a brief justification for the presence of USPs, as this is a core part of the project's design.			
Resource Availability	1. Is the requested project funding within the parameters for large grants set by the Board?	**Yes**.	**-**	**-**	
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project budget before the fee? Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)? For regional projects/programm	**Needs clarification.** The project's proposed costs are calculated as follows: • **IE Fee**: $454,545.45, which is exactly **10%** of the total project cost ($4,545,454.55). This is within the 10% cap for a regional project (AFB/PPRC.32 /22, para 38). • **Execution Costs**:	**CR5: Cleared** The budget for execution costs has been reduced to 3.5 % i.e. $ 157,760 but most importantly, a letter of justification is provided to justify the increased level of execution costs above the allowed 1.5 % cap for execution costs. This modest increase is justified, noting the option of flexibility for innovation and LLA projects with	**-**	

	es, are the administrative costs (Implementing Entity Management Fee and Project/ Programme Execution Costs) at or below 10 per cent of the project/programme for implementing entity (IE) fees and at or below 10 per cent of the project/programme cost for the execution costs?	$227,100.00, which is **5%** of the total project cost ($4,545,454.55). This exceeds the **1.5%** cap for a project where the IE is also the EE. The project proposal states that the Implementing Entity (IE) will also act as the Executing Entity (EE) for this regional project. According to Adaptation Fund policy, when the IE and EE are the same, the execution costs are capped at 1.5% of the total project cost. The current proposal's execution cost is 5% of the total project cost ($227,100 / $4,545,454.55). This significantly exceeds the 1.5% cap and is considered an unreasonable allocation for a four-country regional	justifications on a case-by-case basis as per Decision B.38/42.		

		project of this scale. While the policy allows for exceeding the cap with a strong justification on a case-by-case basis, the current proposal does not provide this. **CR5:** Please revise the budget to ensure that the project's execution costs do not exceed the 1.5% cap. Kindly use the IE and EE Fees Calculator (EXCEL)			
Eligibility of IE	1. Is the project submitted through an Implementing Entity accredited by the Board?	**Yes.** Accreditation status: Accredited Accreditation Expiration Date: 11 October 2029	-	-	
Implementation Arrangements	1. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and	**Cleared. (p. 86)** The proposal has developed a dedicated ESMF (Annex 4) that offers guidance for the management of potential environmental and social risks including screening templates to	-	-	-

	Gender Policy of the Fund? Proponents are encouraged to refer to the Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy, for details.	identify, assess and mitigate and safeguard potential risks. Key laws in the four countries that the project's interventions will be complied with have been identified and listed. An organization with roles and responsibilities and with a dedicated budget is also in place to manage preparation, implementation, and monitoring of specific social and environmental management plans/measures. Under the ESMF the potential risks and impacts for the project's outputs and activities have also been briefly assessed including the identification of strategies to avoid and mitigate these. Furthermore, a stakeholder response mechanism and a grievance redress			

		mechanism are in place.			
	2. Are there measures for financial and project/programme risk management?	**Cleared. (p. 84)** Under PART III, Section B, the major financial and project risks have been identified and assessed including risk management strategies to avoid and mitigate these. Furthermore, throughout the project's life cycle lessons learned will be continuously drawn from for improvement, knowledge sharing and to inform best practices and support adaptive learning. This mitigates the risk of unsuccessful interventions by taking choices in the right direction, especially in early stages.			
	3. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-	**Needs corrective action.** The proposal's M&E section is well-structured and aligns	**Not cleared.** The following points require clarification and corrective action	**CAR3: Partially cleared (Pages 100-114).** The updates made in the proposal's table	**CAR3: Cleared (Annex 8)** Annex 8 is updated in accordance with the funding proposal in

	disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	with many of the Fund's requirements regarding M&E activities. However, there are significant misalignments in how the costs for these activities are categorized and budgeted. This is a critical point that requires revision. - M&E as a separate Component: The proposal lists "Component 4: Monitoring and Evaluation" with a budget of $100,741. According to the guidance provided (AFB/EFC.4/7/Rev. 1), costs for monitoring and evaluation should not be a separate component. Instead, they should be allocated to either the Implementing Entity (IE) fee or the Executing Entity (EE) costs,	in the project documentation: • **1. Monitoring and Evaluation (M&E) Cost Allocation:** The project's MTR and Final Evaluation costs are currently linked to the **Executing Entity (EE)**. As the AF Policy, these evaluation costs should be correctly allocated under the **Implementing Entity (IE)** fee. • **2. Component 4 Discrepancy:** The previous "Monitoring and Evaluation" component was removed. However, a new	for IE Management Fee (p. 115) is not updated in the IE fee breakdown in Annex 8. This relates to comments considering the baseline report and the MTR and the Terminal Evaluation. Please, update the IE fee breakdown in Annex 8, in accordance with the proposal's IE Management fee table (p. 115).	refence to the IE fee breakdown regarding the baseline report, the MTR and the Terminal Evaluation.

		with some specific exceptions for independent evaluations. - Incorrect Allocation of Monitoring Costs: The guidance clarifies that day-to-day "Monitoring and evaluation costs" and "Costs related to drafting progress reports and financial reports" are part of the Execution Costs. The proposal currently budgets these under a separate component. - Ambiguity in Evaluation Cost Allocation: The guidance states that Final Evaluation costs are covered by the IE and EE fee. The proposal, however, budgets for an "Independent Mid-Term Review (MTR)" and an "Independent	**"Component 4: Project Office/Management Execution Costs"** has been introduced in some sections of the document. This is problematic because project execution costs should not be a standalone component. As per document AFB/PPRC.32/22, certain execution activities (e.g., staff salaries for component management, technical assistance, and partial travel/RBM) can be charged under the		

		Terminal Evaluation (TE)" under a separate "Evaluation Plan," with a total cost of $43,940. This suggests that these costs are not being funded by the IE fee, which is a misalignment. - Overlap with IE Fee: The IE fee is intended to cover "Project cycle management fees" and "Project completion and evaluation oversight." The proposal's MEL section details activities that fall under this category, such as "Reviewing and clearing submitted reports for quality," "Consolidat[ing] regional data," and "quality assurance." These functions should be funded by the IE fee, but the budget	components. The activities listed under the current Component 4 activities (p. 56-57) go beyond these permissible elements. Furthermore, this component is referenced in the Part II A but is not reflected in the project's Components and Financing table or the Detailed Budget. • **3. Unaddressed Corrections:** The documentation indicates that the M&E role of the UNDP regional Istanbul Hub has been clarified and tied to the IE		

		breakdown is unclear on this. **CAR3**: To ensure full alignment with the Fund's requirements, the project's budget must be re-structured to correctly categorize M&E costs. This is not a matter of simply adjusting numbers, but of fundamentally re-allocating where these costs are placed. - Remove "Component 4: Monitoring and Evaluation" as a separate project component. All activities and costs associated with this component must be reallocated to the appropriate budget lines. - Move Monitoring Costs to Execution Costs: All costs for ongoing project monitoring, tracking results, managing risk, and	fee. However, it is unclear whether all related cost adjustments, including those for the MTR and Final Evaluation, have been accurately reflected and updated in the **IE fee breakdown (Annex 8)**. **CAR3: Not cleared.** Please revise the project documentation to ensure the following: 1. **Correct M&E Cost Allocation:** Reclassify all M&E-related costs, specifically the **Mid-Term Review (MTR)** and **Final Evaluation**, from the		

		drafting progress reports should be budgeted under the Executing Entity (EE) costs. This includes the salary of the MEL Specialist for day-to-day activities, as this is a core EE function. - Clarify all M&E roles: The roles and responsibilities of the UNDP Istanbul Regional Hub and Global Team in M&E coordination and quality assurance should be explicitly tied to the IE fee. Conversely, the roles of the PMU and Project Coordinators for day-to-day monitoring should be tied to the EE costs. This will provide the necessary clarity for a compliant budget.	**Executing Entity (EE)** to the **Implementing Entity (IE)** fee. See the updated Evaluation Policy (p.8-9): https://www.adaptation-fund.org/document/evaluation-policy-of-the-adaptation-fund-graphically-edited/ 2. **Baseline report should be included in the M&E table (p.100-101).** The cost should be charged to the IE fee. 3. **Table under Section III.D i.e., the budgeted MEL plan** should comprehensively include all		

		The proposal does not explicitly commit to the preparation and submission of a formal **project baseline report**. The Fund's "Results Framework and baseline guidance" requires that IEs submit a baseline report, based on primary and/or reliable secondary data, no later than the submission of the first Project Performance Report (PPR). While the proposal mentions a "Baseline Assessment" will be conducted in Year 1 to establish benchmarks, it needs to be clearer that this will result in a formal report that will be used to track progress against all indicators in the results framework. This is a critical step for accountability and for informing the M&E process throughout the project's life cycle.	Monitoring and Evaluation costs. It should adequately reference which costs are charged to the IE fee or EE cost. 4. **Eliminate Standalone Execution Component:** Remove the standalone **"Component 4: Project Office/Management Execution Costs"** and integrate these costs into the appropriate project components as per document AFB/PPRC.32/22. 5. **Update Financial Documentation:** Ensure all budget and		

		CAR4: Please confirm that a formal **Project Baseline Report** will be prepared and submitted to the secretariat by no later than the submission of the first PPR..	financing tables are consistent with the changes made in points 1 and 2, and that the **IE fee breakdown (Annex 8)** is fully updated to reflect the correct allocation of all M&E and project management costs. **CAR4: Cleared (p. 108)** The proposal now states that a Project Baseline Report will be prepared and submitted to the Adaptation Fund Secretariat no later than the submission of the first Project Performance Report (PPR). This is well received however see point 2 in CAR 3 above.		

	4. Is a budget on the Implementing Entity Management Fee use included?	**No.** The proposal lacks a detailed budget breakdown for the Implementing Entity (IE) Management Fee. While the fee amount is stated, there is no corresponding explanation or table outlining how these funds will be used for the project's supervision and oversight functions. This is a crucial omission as the Adaptation Fund requires this information to ensure the fee is appropriately budgeted for its intended purpose. **CAR5:** Please provide a detailed, standalone breakdown of the budget for the IE Management Fee. This breakdown should be included in Annex 8 and referenced within the main body of the proposal. The	**Cleared. (Annex 8, p. 125)** A detailed, standalone breakdown of the budget for the IE Management Fee is now included in Annex 8 and in the table on p. 125.	**-**	

		breakdown should clearly itemize how the fee will cover project cycle management services, such as project supervision, oversight, reporting supervision, and evaluation oversight, in line with the fund's guidance.			
	5. Is an explanation and breakdown of the execution cost included?	**No.** **CR5:** There is a discrepancy for the budget for Execution Costs in between the budget outlined in Annex 8 ($247,040.00) and the one displayed in the proposal under the Table for Project Components and Financing ($227,100.00) on p. 32. Please ensure that the budget for Execution Costs is corrected and harmonized across all parts of the proposal, including the "Project Components and Financing" table on page 32 and the	**Yes.** The figure for the Execution Cost is now correctly populated across the documentation (table p. 32), Annex 8 and in the detailed budget table on p. 118.	-	-

		detailed budget breakdown in Annex 8			
	6. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	**No.** The M&E Framework lacks a specific breakdown of how the Implementing Entity (IE) Fee will be utilized to supervise the M&E function. While Part III, Section D mentions that certain M&E activities (e.g., review, supervision, and management) are attributable to the IE Fee, a specific budget breakdown for these costs is not provided. Furthermore, the overall budget for M&E is indicated as being just under 1% of the total project budget, which is on the low end. To ensure robust project oversight, the Adaptation Fund typically expects M&E to be budgeted in the range of 1% to 5% of the total project budget.	**No.** A detailed budget breakdown for the IE fee is now provided in Annex 8 and in the table on p. 125 which more clearly outline how the IE fee will supervise the M&E function. However, the M&E fee is not correctly calculated as proposed under the response to this CR ($ 101,000 + 43,000) as MTR and Final Evaluation should be tied to the IE fee. **CR6: Corrective actions needed** Please clarify if the costs for the Mid-Term Review (MTR)" and the Terminal Evaluation are covered under the IE fee. If not, please revise where needed	**-**	**-**

		CR6: Please, provide a breakdown of IE Fee in Annex 8 and revise the budget for M&E to be in between 1 to 5 percent of total budget.	across the documentation.		
	7. Is the timeframe for the proposed activities adequate?	**Yes.**	-	-	-
	8. Is a summary breakdown of the budget for the proposed activities included?	**Needs clarification.** **CR7:** While a budget breakdown at the activity level is provided under Annex 8, the budget figures in Annex 8 are not always rounded to whole numbers. Please, round up budget figures in Annex 8. **Please include the detailed budget in the main text.**	**Cleared.** The budget breakdown in Annex 8 is now rounded to whole numbers and also included in the proposal on p. 118.	-	-
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator	**Needs Clarification.** The project's results framework is aligned with that of the AF in reference to AF Outcome 3, 5, 6 and 8. AF core indicators are also provided. The	**CR8: Cleared.** The proposal has now properly aligned the GAP with the results framework and the project's activities so that proposed actions in the GAP are better	**CR8 Reopened (Following RIK review):** In the project results framework the numbering for the indicators seems off. We suggest the following: for outcome	**CR8: Cleared.** The results framework's indicators are now numbered as advice to more clearly link to respective outcomes

	from the Fund's results framework?	project's results framework is gender responsive. The project has made a commendable effort to integrate gender into its design, as evidenced by the comprehensive Gender Assessment and Action Plan (GAAP) in **Annex 5** and the inclusion of gender-disaggregated indicators in the main results framework in **Part III, Section E** (p. 90-93). However, there is a disconnect between the level of detail in the GAAP and the main results framework. While the GAAP provides a rich analysis of gender-based vulnerabilities and proposes specific,	integrated, mainstreamed and tracked under the project.	1 the outcome indicator should be 1.1. and for output 1.1 the indicator should be 1.1.1, etc.	and outputs. See section E, p. 101.

		actionable, and budgeted interventions, the main results framework only includes a few high-level gender-related indicators (e.g., number of women beneficiaries, number of women-led grants). This makes it difficult to track and report on the specific gender-responsive actions outlined in the GAAP, such as providing capacity-building support or developing tailored mentoring for women entrepreneurs. **CR8:** Please revise the main results framework in **Part III, Section E** to more explicitly reflect the detailed actions and indicators from the Gender Action Plan in Annex 5. This will			

		strengthen the project's monitoring system and ensure that the gender-transformative changes envisioned in the GAAP are systematically tracked throughout implementation. The proposal includes an alignment table that maps project outcomes to the Adaptation Fund's results framework (**Part III, Section F**, p. 94). While this table is clear and well-structured, it does not include a breakdown of the financing associated with each outcome. Including this information, even at a high level, would significantly enhance the transparency and justification of the project's budget,	**CAR6: Cleared (p. 114, 33).** The proposal has attached a budget to the table that illustrates how the project's outcomes align with AF's results framework (Section F, p. 114), as well as in the table for Project Components and Financing (p. 33).	**CAR6: Re-opened (Following RIK review)** We note that the project objective is aligned with Fund's outcomes: 3,5,6 and 8, however just with Fund's outputs 8 and 3. Please make sure you report also alignment with outputs belonging to the other outcomes listed. In addition, the estimated budget needs to be reported for every single outcome and output and not by merging multiple ones. Please amend accordingly.	**CAR6: Cleared (page 106).** The AF alignment table has now been amended to include alignment also with Fund Outputs 5 and 6. An estimated budget is now also included for all outcomes and outputs separately. See Section F on p. 106

		demonstrating a clear link between financial allocation and intended results. **CAR6:** For enhanced financial transparency, please consider adding a column to the alignment table in **Part III, Section F** that indicates the associated financing for each project outcome. The proposal's results framework incorporates core Adaptation Fund indicators, which is a key requirement. However, these are embedded within a larger table that also includes non-core, project-specific indicators. For ease of review and to allow for quick oversight, it is best practice to present	**CAR7: Partially cleared (p. 106)** A table that summarizes the core impact indicators under the project has now been added. Three indicators are confirmed to align with AF core indicators: 1. Number of Beneficiaries 2. Assets Produced, Developed, Improved, or Strengthened 3. Institutional Capacity Strengthened. This is well received. However please use		

		the core impact indicators in a dedicated, standalone table. This would provide a clear and concise summary of the project's high-level targets for all stakeholders, including the Adaptation Fund Board. **CAR7:** Please create separate summary tables of the project's core impact indicators. This table should list the core indicators and their corresponding baselines and targets, making it easy to identify the project's key contributions to the Adaptation Fund's strategic goals. • Methodologies for reporting	the template for core indictor tables that are provided. Methodologies for reporting Adaptation Fund core impact indicators (**For fully-developed proposals**) (Template)		

		Adaptation Fund core impact indicators (**For fully-developed proposals**) (Template) • Methodologies for reporting Adaptation Fund core impact indicators (**For fully-developed proposals**) (Guidance)			
	10. Is a disbursement schedule with time-bound milestones included?	**Needs clarification.** The disbursement schedule in Part III, Section H (page 96) contains two key inconsistencies: 1. The budget figures are not rounded, which is inconsistent with standard	**CAR8: Cleared (p. 116)** The budget figures are now rounded to whole figures in the disbursement schedule table on p. 126. The budget items have also been renamed to align with the Projects Components and	-	-

		reporting practices. 2. The budget items listed in the disbursement schedule ("Project Funds," "GMS") do not align with the component-based budget items ("Component 1," "Component 2," etc.) from the "Project Components and Financing" table on page 32. This makes it difficult to track and reconcile the budget. **CAR8:** Please revise the disbursement schedule. First, round all figures to the nearest whole number. Second, for the sake of clarity, rename the budget items in the	Financing table on p. 33.		

		disbursement schedule to match the component names used in the "Project Components and Financing" table on page 32.			

REGIONAL INNOVATION PROJECT/PROGRAMME PROPOSAL

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme:	Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience
Country/ Countries:	Four Countries in the Western Balkans Region: Bosnia and Herzegovina (BiH), Montenegro, North Macedonia, Serbia
Thematic Focal Area[1]:	Innovative climate finance
Type of Implementing Entity:	Multilateral Implementing Entity (MIE)
Implementing Entity:	United Nations Development Programme (UNDP)
Executing Entities:	UNDP
Amount of Financing Requested:	US$ 5,000,000.00

[1] Thematic areas are: Agriculture, Coastal Zone Management, Disaster risk reduction, Food security, Forests, Human health, Innovative climate finance , Marine and Fisheries, Nature-based solutions and ecosystem based adaptation, Protection and enhancement of cultural heritage, Social innovation, Rural development, Urban adaptation, Water management, Wildfire Management.

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PART I: PROJECT INFORMATION

Project Background and Context

Problem Statement

The Western Balkans, a region rich in cultural heritage and natural resources, faces a growing climate crisis that threatens its economic, social, and environmental stability. This Regional Innovation Project focuses on four countries: **Bosnia and Herzegovina, Montenegro, North Macedonia**, and **Serbia**, all of which are already experiencing severe climate impacts, including more frequent and intense droughts, floods, wildfires, and landslides, worsened by rising temperatures and erratic rainfall patterns. These climate events undermine agriculture, water systems, and energy infrastructure, while placing vulnerable communities—particularly rural populations, women, youth, and marginalized groups—at greater risk.

Despite progress in national climate strategies through the formulation of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs), there remains a significant gap in implementation. Local actors—such as civil society organizations (CSOs), micro small and medium-sized enterprises (MSMEs), cooperatives, and community-based groups—often face challenges in accessing the financial and technical resources necessary to develop and scale context-relevant adaptation solutions. At the same time, the region's adaptation innovation ecosystems remain underdeveloped, with insufficient regional collaboration and limited knowledge exchange. These barriers contribute to slow progress and missed opportunities to leverage local adaptation innovation.

The **Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience** (hereafter referred to as **the Regional Project**) seeks to address these gaps by fostering regional collaboration, empowering local actors, and supporting the development and acceleration of locally-led, scalable adaptation innovations. By building on existing innovation capacities and enhancing coordination across the region, the project will reduce transaction costs, streamline processes, and ensure more effective implementation of adaptation solutions and focus on their replication and scalability to generate more impact. It will also promote the integration of lessons learned from previous and ongoing relevant adaptation initiatives to accelerate progress toward resilience, particularly for vulnerable communities.

The Western Balkans Region

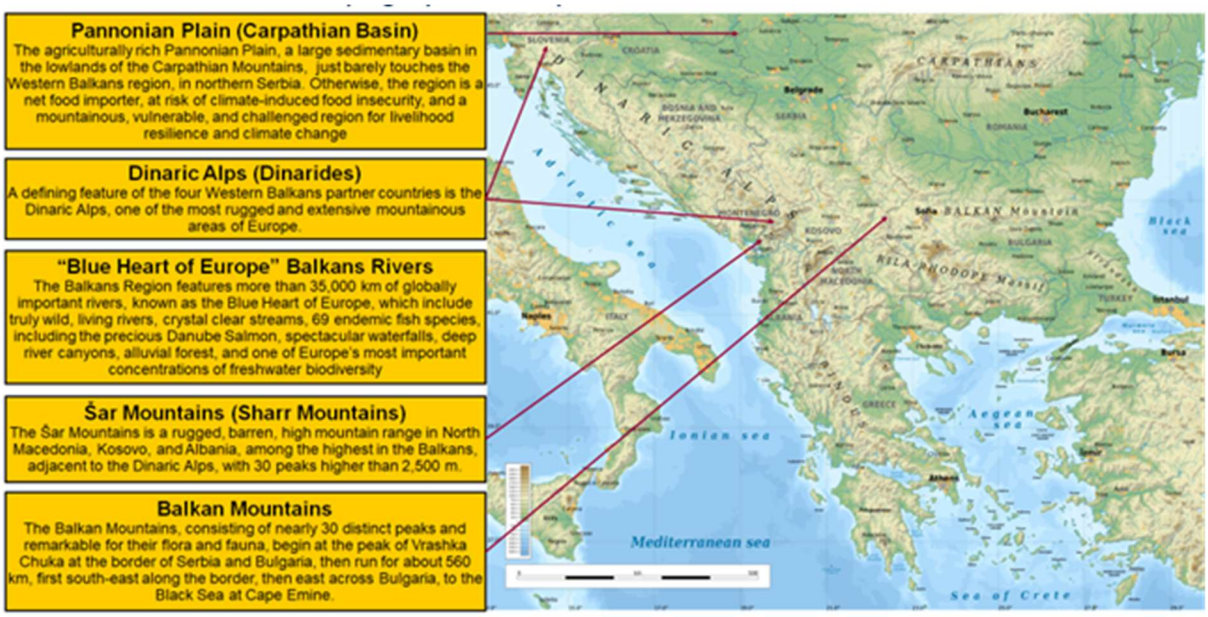
The Western Balkans region includes six countries and one territory - Albania, Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia and Kosovo[2] . This proposal targets four countries in the subregion: Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. The population of the region is declining due to factors like low birth rates and emigration. The current population numbers in the four countries involved are: Montenegro[3] - 632,925 people, North Macedonia[4] - 1,813,793 people, Bosnia and Herzegovina[5] - 3,139,803 people, and Serbia[6] - 6,688,240 people. The real Gross Domestic Product (GDP) in the four countries grew by 3.8% (Bosnia and Herzegovina), 6.4% (Montenegro), 2.2% (North Macedonia) and 2.5% (Serbia). In the following three years, the growth rate was expected to increase[7]. In 2025, Serbia is projected to have the highest GDP among the four countries ($92 billion), followed by Montenegro ($8.02 billion), North Macedonia ($17.27 billion),

[2] All references to Kosovo shall be understood to be in the context of the Security Council Resolution 1244 (1999).
3 Worldometer (2025, July 7). Montenegro Population Live. https://www.worldometers.info/world-population/montenegro-population/
4 Worldometer (2025, July 7). North Macedonia Population Live. https://www.worldometers.info/world-population/north-macedonia-population/#:~:text=The%20current%20population%20of%20the%20Republic%20of,elaboration%20of%20the%20latest%20United%20Nations%20data1.
5 Worldometer (2025, July 7). Bosnia and Herzegovina Population Live. https://www.worldometers.info/world-population/bosnia-and-herzegovina-population/
6 Worldometer (2025, July 7). Serbia Population Live. https://www.worldometers.info/world-population/serbia-population/
7 Statista Research Department (2024, November 22). GDP growth in the Western Balkans 2021-2026. https://www.statista.com/statistics/1337205/western-balkans-gdp-growth/

and Bosnia and Herzegovina[8]. According to UNDP´s latest Human Development Report (2025)[9], the four project countries present a high HDI and are included within the "very high human development" category, with the HDI index per country, presented below:

- Montenegro: the HDI is 0.862, ranking it 48th out of 193 countries.
- Serbia: the HDI is 0.883, ranking it 62th out of 193 countries.
- North Macedonia: HDI is 0.815, ranking it 68th out of 193 countries.
- Bosnia and Herzegovina: the HDI is 0.804, ranking it 74th out of 193 countries.

Geographically, the Western Balkans Region also features a rich, complex, biodiverse geography of globally important mountains, rivers, and plains, which are at the forefront in Europe of dealing with climate change and its impacts (**Figure 1).**



Source of Map: Ikonact in Wikimedia Commons. Available at: https://en.wikipedia.org/wiki/File:Geographic_map_of_Balkan_Peninsula.svg

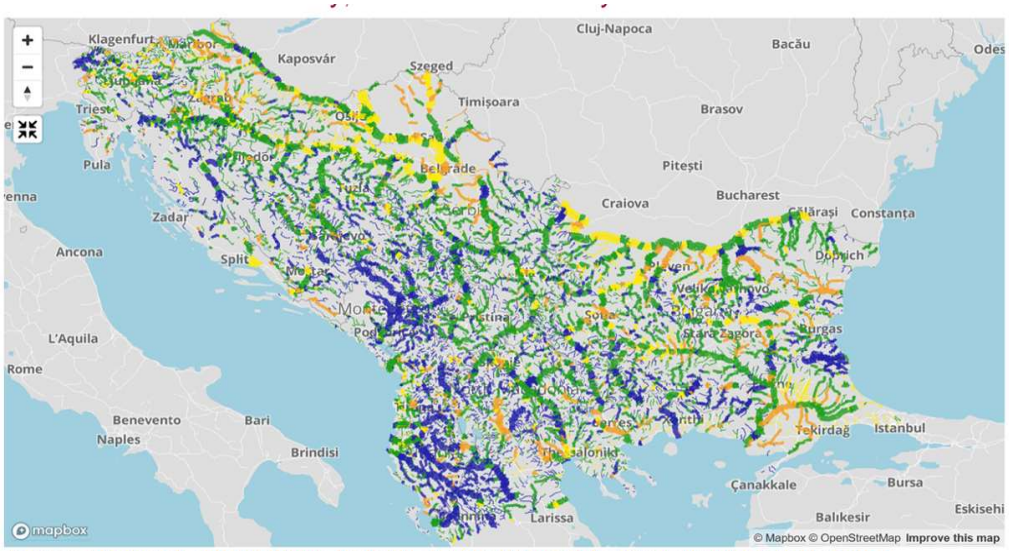
Figure 1**. Topographical Map of the Western Balkans.**

A defining feature of the Western Balkans, and of the four partner countries of this Regional Project, is the **Dinaric Alps** (Dinarides),[10] one of the most rugged and extensive mountainous areas of Europe,[11] which stretches northwest to southeast from the Italy-Slovenia border, across Croatia, Bosnia and Herzegovina, Serbia, Montenegro, and Kosovo to Albania. The **Šar Mountains**[12] (Sharr Mountains), further south and adjacent to the Dinaric Alps, a rugged, biodiversity-rich, high mountain range in North Macedonia, Kosovo, and Albania, is among the highest in the Balkans, with many peaks exceeding 2,500 meters.[13] The **Balkan Mountains**,[14] consisting of nearly 30 distinct peaks exceeding 2,000 meters, including its highest the 2,375-meter Botev Peak,[15] and remarkable for their flora and fauna. Mountains and the region's complex terrain have shaped the adaptation context of the Western Balkans, creating unique adaptation challenges, strong local capacities and identities, and a complex matrix of languages, religions, and cultures, which requires a locally-led adaptation response, informed

8 Statista Research Department (2024, November 22). Real gross domestic product (GDP) growth in the Western Balkans from 2021 to 2026, by territory. https://www.statista.com/statistics/1331455/western-balkans-gdp-growth-by-country/
9 The United Nations Development Programme (2025). Human Development Report. https://hdr.undp.org/content/human-development-report-2025
10 Encyclopædia Britannica. https://www.britannica.com/place/Dinaric-Alps
11 Alpinetrek (2024). "The Dinaric Alps: The Unknown Neighbour." Available at: https://www.alpinetrek.co.uk/blog/dinaric-alps/#h-character-and-special-features
12 Shar Mountain National Park. (n.d.). General information. Public Institution National Park Shar Mountain. Retrieved June 29, 2025, from https://www.sarmountain.org.mk/en/park/general-information
13 Sar Mountain National Park. Available at: https://www.sarmountain.org.mk/en/biodiversity
14 Balkan Mountains ("Stara Planina"). Available at: https://bulgariawalking.com/hiking-tour/balkan-mountains-hiking-trekking-walking-bulgaria/.
15 Lasky, Jack (2024). Balkan Mountains. EBSCO Information Services. Available at: https://www.ebsco.com/research-starters/geology/balkan-mountains.a

by regional and global lessons and practice.[16] The mountains of the Western Balkans are of vital importance in providing ecosystem services to downstream, urban and regional communities, livelihoods and economies. Such mountain ecosystem services include that of "water towers", supplying water (especially in summer) for irrigation, drinking, recreation and hydropower; as centers of both biological and cultural diversity; and as places for tourism, health and recreation. However, the Western Balkans mountain geo- and eco-systems are highly sensitive to climate change. Extreme climate events can have major consequences for both mountain, downstream, agricultural and urban areas, for which a robust adaptation response is essential.

Moreover, the Western Balkans region features some of Europe's richest freshwater ecosystems. Referred to as "Blue Heart of Europe", Balkan rivers are rich with freshwater biodiversity and natural habitats[17] and contribute greatly to the region's adaptation challenge and potential (**Figure 2**).



Source: RiverWatch and EuroNatur. Available at: https://riverwatch.eu/en/balkanrivers/background

Figure 2. The "Blue Heart of Europe": Balkans Rivers. Hydromorphological Map of the Balkan Rivers. (Color Legend: Blue: Near-natural stretch of river. Green: slightly to moderately modified stretches of river. Yellow: extensively modified stretches of river. Red: severely modified stretches of river. While the hydromorphological map of the Balkan River web shows mainly blue and green colours, a comparable map of the rest of Europe would light up in yellow and red.)

This ecologically-diverse region features more than 35,000 km of globally important rivers, notably the Sava and Danube Rivers.[18] The Sava River Basin, comprising a catchment area of approximately 97,713 square kilometers[19] and home to 8.2 million people, drains a significant portion of the Dinaric Alps region, through the major tributaries of the Drina, Bosna, Kupa, Una, Vrbas, Lonja, Kolubara, Bosut and Krka rivers. The Sava River's region-wide river basin is at significant risk of climate change-induced flooding, and paradoxically water scarcity and drought resulting in damages to agriculture production, livelihoods and food security [20]. Increasingly frequent climate-induced extreme weather and floods are putting human safety, assets and livelihoods at perpetual, increasing and unpredictable risk. Moreover, pollution run-off from floods in the basin poses a compounding, significant and increasing threat to human health, ecosystem services, infrastructure, and livelihoods. Floodwaters carry and disperse a dangerous and often toxic mix of sediment, debris, sewage, pollution[21] to adjacent residential, industrial and agricultural lands, including slurry, hazardous

[16] Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. 2015. *Outlook on Climate Change Adaptation in the Western Balkan Mountains.* United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 11.

17 EuroNatur and Riverwatch, Save the Blue Heart of Europe Campaign. Available at: https://www.balkanrivers.net/en/campaign and https://riverwatch.eu/en/balkanrivers/background.

18 International Sava River Basin Commission (2010). Sava River Basin Analysis Summary. Available at: https://www.savacommission.org/UserDocsImages/05_documents_publications/water_management/eng/SavaRBMPlan//sava_booklet_eng.pdf.

19 Ibid.

20 International Sava River Basin Commission (ISRBC). Information on present and future trends, results of the relevant project implementation, and suggestions for adaptation and further steps are available at: https://www.savacommission.org/en/climate-change.

21 Such as occurred after the catastrophic May 2014 floods, as a result of toxic slurry released by the tailings-dam collapse at the discontinued Stolice antimony mine into the Kostajnik River and, in the same flood catastrophe, of hazardous and contaminated water pumped from the flooded Tamnava-West Coal Mine (Tamnava-Zapadno polje), a significant open-pit coal mine and major source of fuel for Serbia's power plants, particularly the Nikola Tesla thermal power plants, into the Kolubara River. **Source:** Serbia PDNA (2014). Republic of Serbia (2014). Serbia Floods 2014: Post Disaster Needs Assessment (PDNA), Supported Jointly by UN Serbia, EU and World Bank. Available at: https://fpi.ec.europa.eu/system/files/2021-05/pdna_-_serbia_2014_-_report.pdf.

waste and pesticides, [22] contaminate waterways, fields and homes for years to come in climate-induced catastrophic flooding events[23]. This endangers the environment, communities and agricultural land throughout the flood-affected areas of the basin and requires a coordinated local and region-wide transboundary management plan and response, [24] of the sort the Regional Project intends to catalyze and support.

The agriculturally rich Pannonian Plain (Carpathian Basin), a large sedimentary basin in the lowlands of the Carpathian Mountains and enriched by the Danube River, invigorates agricultural productivity in northern Serbia. Otherwise, the Western Balkans region is a net food importer,[25] at risk of climate-induced food insecurity, and a mountainous, vulnerable, and challenged region for livelihood resilience, food security and climate change. On average, the region's total household expenditure on food is high, for example, which particularly burdens the poor, marginalized, and climate-vulnerable populations who are a priority of the Regional Project, and more than double that of the EU: 44% in North Macedonia, 32% in Montenegro, and 28% in Serbia,[26] compared to 13% in the EU.[27] Moreover, all of the Regional Project's four partner countries are dependent on the import of agricultural inputs, notably energy[28] and fertilizer,[29] and therefore vulnerable to climate-induced and other disruptions of global trade in key commodities. Global supply shocks in commodities, such as fertilizer, are already having severe consequences on the Western Balkan's food system, food security and livelihoods.[30]

Today, the countries of the Western Balkans are at a climate-change adaptation turning point in the development of their economies, societies and environment. A few social, economic and other drivers will shape the region's future. Integration with the European Union and EU accession[31] are the principal objectives for countries in the region, in the hope that it will bring security, stability and prosperity to the people of the region. Closer integration with the EU will strongly influence environmental, climate and adaptation policies, laws and actions in the coming decades. The Western Balkans region as a whole faces similar environmental problems, which need to be tackled both locally and within the countries themselves and across borders. Legacy issues related to war, former industrial and mining sites, illegal dumping of waste, and the extraction of minerals exacerbates the adaptation challenge.

22 Climate-Adapt (2024). *Toolbox for Transboundary Water Contingency Management in the Sava River Basin.* Available at: https://climate-adapt.eea.europa.eu/en/metadata/case-studies/toolbox-for-transboundary-water-contingency-management-in-the-sava-river-basin/#_ftn1.

23 The contaminated tailings released in the Stolice dam collapse in the catastrophic May 2014 floods "contained high levels of antimony, arsenic, barium, zinc, and lead, contaminating the river and surrounding land. The contamination extended for 27 kilometers of riverbeds and 360 hectares of agricultural land." **Source:** Republic of Serbia (2015). Ministry of Agriculture and Environment, Serbia Environmental Protection Agency, *Assessment and Management of Contaminated Sites in Flood Disaster in Serbia 2014.* Available at: https://contaminated-sites.sazp.sk/wp-content/uploads/2020/11/12_ICCS_2015_Dragana_Vidojevic.pdf.

24 **Climate-Adapt (2024).** *Toolbox for Transboundary Water Contingency Management in the Sava River Basin.*

25 **Jámbor (2024).** Jámbor, A., Varga, Á. *Food security and crises: evidence from the Western Balkans.* Agric & Food Security 13, 60 (2024). https://doi.org/10.1186/s40066-024-00514-z

Brankov (2022). Brankov, Tatjana; Bojan Matkovski. *Is a Food Shortage Coming to the Western Balkans?* Foods 2022, 11(22), 3672; https://doi.org/10.3390/foods11223672

Bogdanov (2022). Bogdanov, N.; Vaško, Ž.; Arias, P.; Pavloska Gjorgjieska, D. *Assessment of the Impact of COVID-19 on Agrifood Systems in the Western Balkans—Regional Synthesis Report*; FAO: Budapest, Hungary, 2022.

Matkovski (2020). Matkovski, B.; Đokić, D.; Zekić, S.; Jurjević, Ž. *Determining Food Security in Crisis Conditions: A Comparative Analysis of the Western Balkans and the EU.* Sustainability 2020, 12, 9924.

Božić (2020). Božić, D.; Nikolić, M. *Food security and comparative analysis of situation in Serbia and neighbouring countries*. Econ. Agric. 2020, 67, 1191–1204.

Brankov (2017). Brankov, T.; Lovre, I. Food security in the Former Yugoslav Republics. Econ. Agric. 2017, 64, 701–721.

26 World Bank (2025). *Western Balkans Regular Economic Report No.21, Steering Through Crises.* Available online: https://openknowledge.worldbank.org/bitstream/handle/10986/37368/P17720607706c30e90841607b7d53ee8106.pdf (accessed on 21 June 2025).

27 Eurostat. How Much are Households Spending on Food? Available online: https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20201228-1 (accessed on 21 June 2025).

28 **World Bank (2022).** Western Balkans Regular Economic Report No. 22, Beyond the Crises, Fall 2022. Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/38189/P17947818ec26c8c17fe014901194ac104a1b5d70a2a.pdf?sequence=1&isAllowed=y (accessed on 21 June 2025).

29 IFASTAT. Available online: https://www.ifastat.org/databases/plant-nutrition (accessed on 21 June 2025).

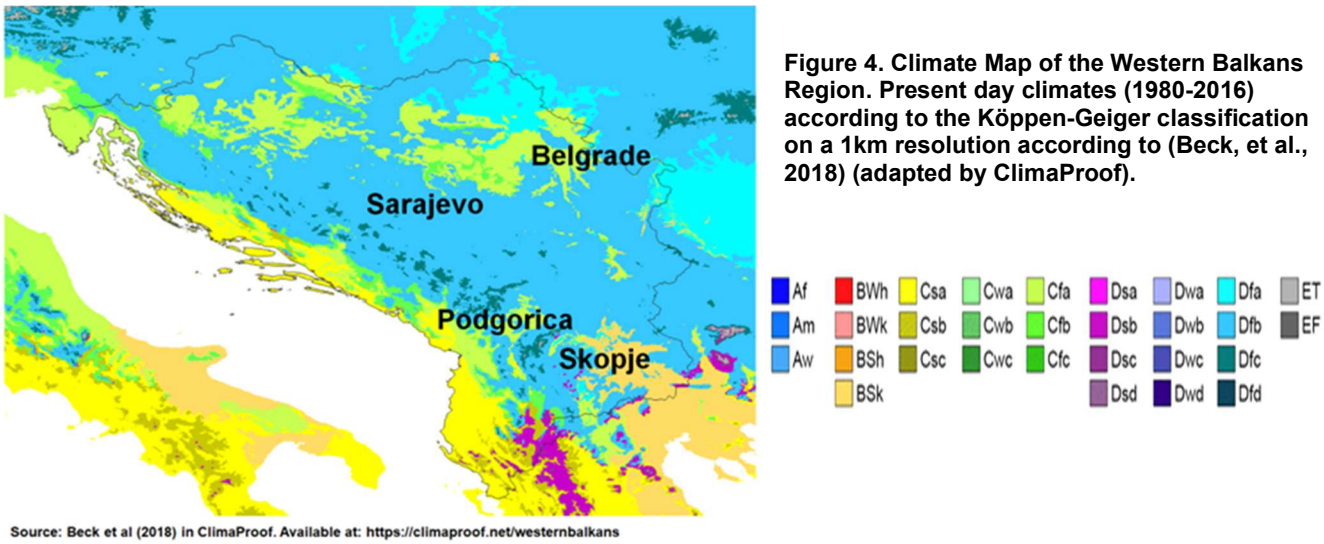
30 Brankov (2022). Brankov, Tatjana; Bojan Matkovski. Is a Food Shortage Coming to the Western Balkans? Foods 2022, 11(22), 3672; https://doi.org/10.3390/foods11223672

31 The Regional Project's four partner countries are in various stages of EU accession, of which the most advanced are Montenegro and Serbia, next North Macedonia, and, for Bosnia and Herzegovina, the European Commission granted candidate status in December 2023 and opened accession negotiations in March 2024. Source: https://enlargement.ec.europa.eu/enlargement-policy/bosnia-and-herzegovina_en.

Improving air quality, the protection and use of rivers and lakes, the conservation of biodiversity and the sustainable management of land, forest and water resources are all pressing priorities and shape the adaptation challenge.[32]

Climate change exacerbates these challenges and amplifies the risks to ecosystems, livelihoods and society.[33]**Climate Risk and Climate Change Vulnerabilities in the Western Balkans Region**

The Western Balkans region experiences a variety of climates due to its diverse, mountainous and riverine geography, including Mediterranean, continental, and alpine influences **(Figure 4)**. Northern and central areas have cold winters and warm summers with consistent rainfall. Coastal and southern areas, particularly along the Adriatic Sea, have a Mediterranean climate with hot, dry summers and mild, wet winters. Inland, the climate is generally continental, with cold winters, warm summers, and well-distributed rainfall. Alpine climates are found in higher mountain areas throughout the region. Climate change is already impacting all four partner countries of the Regional Project,- with increasing, more intense and unpredictable severity, generating more frequent and extreme weather events, including heatwaves, drought, and heavy rain, as described in the country summaries below.



Source: Beck et al (2018) in ClimaProof. Available at: https://climaproof.net/westernbalkans

Figure 4. Climate Map of the Western Balkans Region. Present day climates (1980-2016) according to the Köppen-Geiger classification on a 1km resolution according to (Beck, et al., 2018) (adapted by ClimaProof).

This section presents a summary of the climate change analysis for the sub-region, including the current status, observed change, and projected future status of climate change in the Western Balkans region. The detailed climate change analysis for the sub-region and targeted countries is presented in the **Annex 10**. Values for the period 1961-2015 are analyzed, drawing extensively on the Regional Cooperation Council's (RCC)[34] landmark study of climate change in the region (hereafter, "RCC (2018)"),[35] which defines the period 1961-1980 as the "past" climate baseline period, and 1996-2015 as the "present" climate period.[36] Use of 20 years for climatological period is in accordance with IPCC AR5[37]

32 Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. (2015). *Outlook on Climate Change Adaptation in the Western Balkan Mountains*. United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 11.
33 Ibid., p. 11
34 The Regional Cooperation Council (RCC) is an all-inclusive, regionally owned and led cooperation framework for South-Eastern Europe (SEE), with a view to promoting and advancing the European and Euro-Atlantic integration of the region. Available at: https://www.rcc.int/home.
35 RCC (2018). Vuković, Ana, Mirjam Vujadinović Mandić, Radovan Nikčević, Gazmend Turdiu, *Study on Climate Change in the Western Balkans Region*, Regional Cooperation Council (RCC) Secretariat, Bosne i Hercegovine, Sarajevo. Available at: https://www.rcc.int/download/docs/2018-05-Study-on-Climate-Change-in-WB-2a-lowres.pdf.
36 Ibid., p. 19.
37 RCC (2018), p. 19.

Current Climate Status

1) Temperature (12-19°C Average Annual)

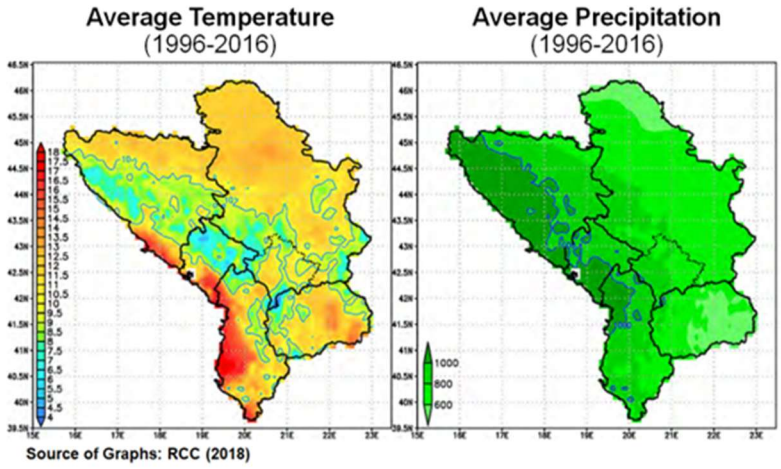


Figure 2. Current Temperature and Precipitation (1996-2016 Average) in Western Balkans Region.

Average annual temperature for the whole region in the present climate period (since 1996) is 10.9°C.[38] The Northern and Central Areas of the Western Balkans typically experience cold winters, warm summers, and well-distributed rainfall throughout the year. The Southern and Coastal areas experience a Mediterranean climate, characterized by hot, dry summers and mild, relatively rainy winters. Average annual temperatures range from 12°C to 19°C, generally, with significant variations depending on location, altitude, and proximity to coast **(Figure 5).**

2) Precipitation (Variable: 800 to 5,000 mm Average Annual)

Average annual precipitation in the Western Balkans in the present climate period (since 1996) varies significantly, depending on location, altitude, and proximity to the coast, ranging from 600 mm to 5,000 mm, which greatly emphasizes the need for locally led adaptation solutions, which is the focus of this Regional Project. The northern parts of the region generally receive around 800 mm per year.[39] The drier, northern Pannonian Plain area, receives average annual precipitation approximately of from 600 to 1,050 mm.[40] The southwestern coastal areas can experience up to 5,000 mm.[41] The Dinaric Mountains form a topographic barrier that affects the precipitation pattern of the Balkan Peninsula, with the west-facing side receiving large amounts of rainfall,[42] the mountainous

38 RCC (2018), p. 19.
39 For example, "normal annual precipitation" for Serbia is 896 mm. Source: Milosevic, Dragan; Stevan Savic (2013). "Analysis of Precipitation Quantities and Trends from Pannonian and Peripannonian Parts of Serbia", *Dela* 39, 2013, 125–139. December 2013. DOI:10.4312/dela.39.7.125-139
40 Ibid., p. 126, 129.
41 Republic of Montenegro (2015). *The Second National Communication on Climate Change to the United Nations Convention on Climate Change (UNFCCC)*, February 2015, p. 43. "The average annual precipitation ranges from 800 mm in the far north to around 5,000 mm in the far southwest." For instance, the village of Crkvice on Mount Orjen in Montenegro is known to receive over 5,000 mm of rainfall annually, and in record years, can even reach 7,000 mm, high precipitation due to orographic rainfall, where moist air is forced upwards by mountains, leading to increased rainfall on the windward slopes. Source: Pavlović, P., Kostić, N., Karadžić, B., Mitrović, M. (2017). *Climate*. In: *The Soils of Serbia*. World Soils Book Series. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8660-7_3.
42 Pavlović, P., Kostić, N., Karadžić, B., Mitrović, M. (2017). *Climate*. In: *The Soils of Serbia*. World Soils Book Series. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8660-7_3.

areas, particularly the Dinaric Alps, receiving higher amounts of precipitation,[43] and the east-facing, agriculturally-endowed side semi-arid and in seasonal and increasing drought,[44] as shown in Figure 5.

Observed Climate Change

1) Temperature (+1.2°C Average Rise)

The Western Balkans region has already experienced a noticeable increase in average temperatures of 1.2°C,[45] compared to the baseline, pre-industrial climate period of 1961-1980,[46] with some areas experiencing a more pronounced warming trend, an increase in the number of days over 40°C,[47] and/or an increase in the frequency and severity of heatwaves. The observed mean annual temperature increase since the pre-industrial baseline period is approximately 2-2.5°C over the region, mainly in: Bosnia and Herzegovina, Montenegro and Serbia.[48] Moreover, the observed change in average *maximum* temperature increase has been far more pronounced than average minimum, with values of highest increase over 2.5°C, mostly over, in Bosnia and Herzegovina, Montenegro and some parts of Serbia (**Figure 6**).[49]

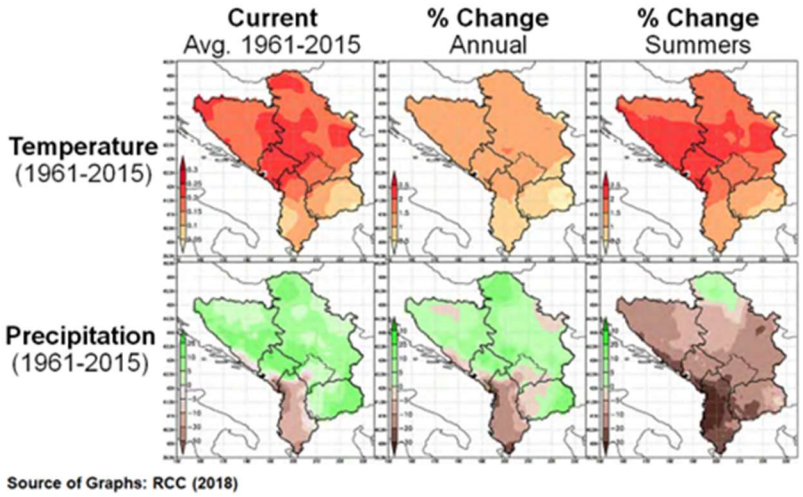


Figure 3. Observed Change in Temperature and Precipitation in Western Balkans Region (1961-2015).

This warming trend region-wide is expected to disproportionately affect sectors critical for the region's livelihoods, resilience and health, particularly agriculture, forestry, water resources, and disease, due to increased heat waves, increased cardiovascular disease, and the potential spread of vector-borne diseases. However, the spatial distribution of temperature increase is not uniform, with southern and central areas showing a smaller increase (0.5°C to 1.0°C), though higher annual averages, compared to northern areas (1.0°C to 1.5°C).[50] The seasonal

43 Micić Ponjiger, Tanja, Tin Lukić, Robert L. Wilby, Slobodan B. Marković, Aleksandar Valjarević, Slavoljub Dragićević, Milivoj B. Gavrilov, Igor Ponjiger, Uroš Durlević, Miško M. Milanović, and et al. (2023). "Evaluation of Rainfall Erosivity in the Western Balkans by Mapping and Clustering ERA5 Reanalysis Data" *Atmosphere* 14, no. 1: 104. https://doi.org/10.3390/atmos14010104
44 Pavlović, P., Kostić, N., Karadžić, B., Mitrović, M. (2017). *Climate*. In: *The Soils of Serbia*. World Soils Book Series. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8660-7_3.
45 RCC (2018), p. 6, 19.
46 RCC (2018), p. 19. See discussion above of RCC methodology for the Western Balkans. Also see: Intergovernmental Panel on Climate Change. (2018). *Global warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways*. Available at: https://www.ipcc.ch/sr15/.
47 Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. (2015). *Outlook on Climate Change Adaptation in the Western Balkan Mountains*. United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 16.
48 RCC (2018), p. 20.
49 Ibid., p. 20.
50 Ibid., p. 19-20.

variation in observed temperature rise is also significant, with the most pronounced increases in the agriculturally critical summer months.[51]

Significant temperature increases began in the 1980s.[52] Moreover, the temperature over the whole region is increasing faster than the global average trend, with an especially pronounced change in the summer season and accelerated increase of maximum temperature.[53] This highlights the alarming patterns of temperature and climate in the Western Balkans and the need for a robust, locally-led adaptation response.

2) Precipitation (+0.2% to +17%).

The observed changes in precipitation patterns since the pre-industrial, baseline climate period (1961-1980), include a mix of increases and decreases, with some areas experiencing more frequent heavy precipitation events, particularly in the east, north, and west (e.g., 15% of river stations in spring and 17% in autumn,[54] contributing to increasing severity of floods, which is discussed below), while other areas, especially in the Dinaric Alps, northern Albania and the Pannonian Plain (a significant decrease of up to 6% per decade[55]) have experienced a decrease in heavy precipitation. The present regional annual average is 807 mm, indicating an observed change in precipitation of 0.2% relative to the baseline period.[56] Precipitation had decreased in the 1980s and 1990s, but then began to increase and returned, at present in observed changes, to the values of the pre-industrial baseline period. This is the apparent reason for the small change of 0.2% as shown in **Figure 6**.[57]

In general, the observed changes in precipitation are not as pronounced as the observed warming, because of the complex topography of the mountains.[58] However, overall, the region has received a decreasing amount of precipitation, contributing to increasing severity of drought events, which is discussed below, with North Macedonia, among the Regional Project's four partner countries, displaying the clearest downward trend. Bosnia and Herzegovina, Montenegro and Serbia, generally, experienced mixed or unchanging annual precipitation patterns.

Within the region, the Dinaric Alps generally receive the most precipitation. The mountains in the Western Balkans are therefore central to the flow of fresh water through rivers, farmland, communities and ecosystems, as decreasing precipitation and increasing evapotranspiration are combining to make the region, and soils in general, drier. The decrease in precipitation, particularly during the summer months, has led to increased drought conditions and reduced water availability in many parts of the region, especially in Serbia and North Macedonia.

Shifts in the seasonal distribution of precipitation has been observed, with some areas receiving more precipitation in the winter months, creating an increased risk of flooding during spring. The observed changes in precipitation also pose significant challenges for water resource management throughout the region. Atmospheric circulation patterns, such as the Arctic Oscillation (AO) and Mediterranean Oscillation (MO), significantly influence precipitation patterns in the Western Balkans.[59]

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51 Ibid., p. 20.
52 Ibid., p. 19.
53 Ibid., p. 21.
54 Milosevic, D., Stojsavljević, R., Szabo, S., Stankov, U., Savic, S., Mitrović, L. (2021). "Spatio-temporal variability of precipitation over the Western Balkan countries and its links with the atmospheric circulation patterns", April 2021, *Journal of the Geographical Institute Jovan Cvijic SASA* 71(1):29-42. Available at: http://dx.doi.org/10.2298/IJGI2101029M, p. 29.
55 Ibid., p. 29.
56 RCC (2018), p. 19.
57 Ibid., p. 19.
58 Ibid, p. 20.
59 Milosevic, D., Stojsavljević, R., Szabo, S., Stankov, U., Savic, S., Mitrović, L. (2021). "Spatio-temporal variability of precipitation over the Western Balkan countries and its links with the atmospheric circulation patterns", April 2021, *Journal of the Geographical Institute Jovan Cvijic SASA* 71(1):29-42. Available at: http://dx.doi.org/10.2298/IJGI2101029M, p. 29.

Projected Climate Change[Error! Bookmark not defined.]

This Section presents RCC (2018)'s projected future climate change for the region for three climatological periods, in compliance with IPCC AR5 approach: 1986-2005 as the baseline period, 2016-2035 as the near future period, 2046-2065 as mid-century period, and 2081-2100 as end of the century period. Projecting the future climate in a mountainous region is notably inexact, because of the complex topography, diverse microclimates, need for high density of measurement, and need for high-resolution climate models, which are scarce.[60] RCC (2018) analyzed two Representative Concentration Pathways (RCP) scenarios: RCP4.5 (stabilization scenario, with GHG emission peak around 2040 and afterwards declining) and RCP8.5 (continuous rise scenario, where GHG concentration continues to increase by the end of the century, otherwise known as the business-as-usual scenario).[61] The RCP4.5 scenario is considered as best possible scenario (lower end) and RCP8.5 as extreme scenario (higher end), but current trends suggest RCP8.5 projections may be more likely ("business as usual"),[62] for which the region should prepare and adapt.

Temperature (+7.5°C).

The Western Balkans region is considered a "Warming Hotspot" with projections of significant and disruptive increased heat waves and temperature increases.[63] Mean summer temperatures could rise by as much as 7.5°C above pre-industrial times,[64] though predicting the climate in mountainous areas is difficult because of the complex topography and hydrology. Extreme heat events are expected to become more frequent and intense, particularly in spring and autumn. Climate models predict significant future warming, with temperature increases expected to be higher than the global average. Projections indicate further warming, potentially ranging from 1.7 to 4.0°C by the end of the century, depending on global efforts to reduce greenhouse gas emissions.[65] According to a regional model based on the medium emission scenario, the Eastern Mediterranean is expected to be 3.5–7°C warmer by the end of the 21st century, with the highest daytime increases in the Western Balkans and in the mountainous areas, in particular[66]. A global high-emissions scenario predicts 5–8°C of warming in the Eastern Mediterranean in summer, with the Western Balkans similarly to receive the highest warming.[67] This warming trend is expected to disproportionately affect certain sectors, including agriculture, forestry, water resources, and human health, due to increased heat waves and the potential spread of vector-borne diseases (**Figure 7).**

60 Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. (2015). *Outlook on Climate Change Adaptation in the Western Balkan Mountains*. United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 17.
61 RCC (2018), p. 7.
62 Ibid., p. 22.
63 World Bank (2014). *Turn Down the Heat: Confronting the New Climate Normal*, Turn Down the Heat Report No. 3, November 2014, World Bank Group, p. xix. See also: UNEP/GRID-Arendal (2015), p. 6.
64 Ibid., p. 4.
65 RCC (2018), p. 6.
66 Lelieveld, J., Hadjinicolaou, P., Kostopoulou, E., Giannakopoulos, C., Pozzer, A., Tanarhte, M., & Tyrlis, E. (2012). "Climate change and impacts in the Eastern Mediterranean and the Middle East." *Climatic Change*, 114(3-4), 667–687. Available at: https://doi.org/10.1007/s10584-012-0418-4.
67 Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. (2015). *Outlook on Climate Change Adaptation in the Western Balkan Mountains*. United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 17.

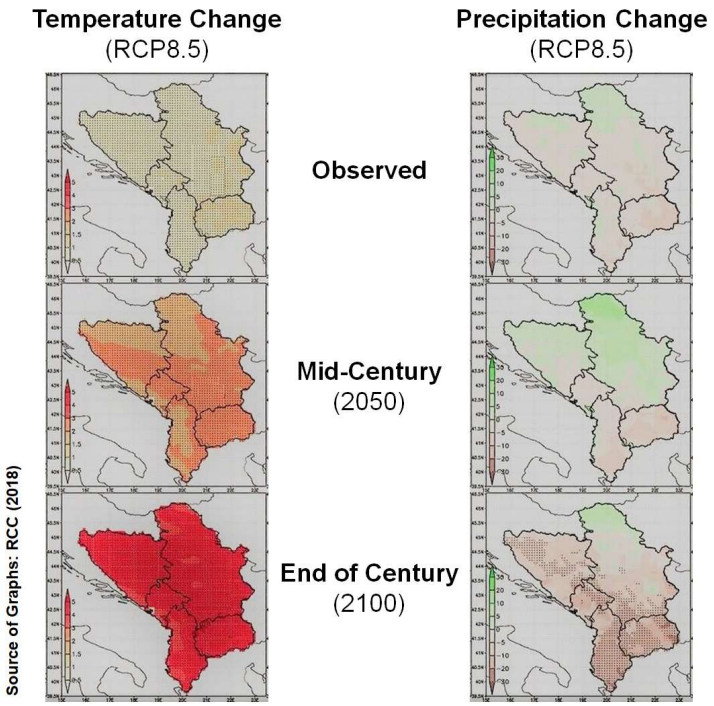

Figure 4. Projected Future Temperature and Precipitation Change in Western Balkans Region (1996-2100).

The consensus among existing models is that the Western Balkans will experience substantial warming throughout the twenty-first century, with regional warming higher than the worldwide average.[68] In Europe, generally, warming is expected to increase with altitude[69] and National Communications (including those of all four of the Regional Project's partner countries) to the United Nations Framework Convention on Climate Change (UNFCCC) also indicate that the highest warming will occur within the mountainous regions of the Western Balkans countries.

Days over 35°C are expected to increase by two weeks in the Balkan Mountains and one month in the region. The same model projects winter temperatures to rise by 3°C.[70]

Figure 7 shows a map of projected temperature change:

In the near-future period (2016-2035), relative to the baseline period (1986-2005): **i)** in the RCP4.5 scenario, temperature change is significant over the whole region, with average increase of 0.8°C, and seasonally significant change during JJA and SON, with more significant change in Tn[71] than Tx.[72]; **ii)** in the RCP8.5 scenario, temperature change is also significant over the whole region, with an average regional increase of 1.0°C, reaching the highest increase in JJA.[73]

68 RCC (2018), UNEP-GRID-Arendal (2015), p. 17, World Bank (2014), p. 205.

[69] Kotlarski, S., Keuler, K., Christensen, O. B., Déqué, M., Gobiet, A., Goergen, K., ... & van Meijgaard, E. (2014). Regional climate modeling on European scales: A joint standard evaluation of the EURO-CORDEX RCM ensemble. *Geoscientific Model Development*, 7(4), 1297–1333. Available at: https://doi.org/10.5194/gmd-7-1297-2014

70 Lelieveld, J., Hadjinicolaou, P., Kostopoulou, E., Giannakopoulos, C., Pozzer, A., Tanarhte, M., & Tyrlis, E. (2012). "Climate change and impacts in the Eastern Mediterranean and the Middle East." *Climatic Change*, 114(3-4), 667–687. Available at: https://doi.org/10.1007/s10584-012-0418-4 in UNEP/GRID-Arendal (2015), p. 17.

71 "Tn" denotes Temperature (Minimum). "Tx" Temperature (Maximum).

72 RCC (2018), p. 23.

73 Ibid., p. 23.

For **the mid-century period (2046-2065)**: **i)** in the RCP4.5 scenario, temperature change is significant over the whole region, with average increase of 1.6°C, and seasonally significant change in JJA and in Tx, between 2.0°C and 3.0°C over most of the region.[74] **ii)** in the RCP8.5 scenario, temperature change is extreme over the whole region, with an average regional increase of 2.1°C and above 2.0°C increase over most of the region most of the year.[75]

For the **end-of-the-century (2081-2100)** RCC (2018) calculates that the projected temperature changes are: **i)** in the RCP4.5 scenario, temperature change is significant over the whole region, with average increase of 2.0°C, but stabilizes, and seasonally pronounced change in Tx in JJA and SON.[76] **ii)** in the RCP8.5 scenario, temperature change will not stabilize and will continue to significantly increase to extremes, reaching a regional average increase of 4.4°C, with the most pronounced increase in JJA of over 5.0°C increase over most of the region.[77]

Projected changes in the main climate indicators and indices for temperature in the Western Balkans, as calculated by RCC (2018), include frost days, icing days, very hot days, and heat waves. RCC (2018) also calculates valuable special climate indicators, which proxy the impacts of climate change in the region on livelihoods, ecosystems, food security, and health, including growing season, very hot dry spells (HDS), and maize yield (SHC):

	2016-2035	**2046-2065**	**2081-2100** (RCP8.5)
Frost	Decrease by 5-10 days (RCP4.5), but with a significant decrease (10-20 days) over the southern and higher altitude parts of the region.	Decrease by 10-20 days under RCP4.5 and by 20-30 days under RCP8.5.	Decrease by over 50 days over the region.
Icing	Decrease by 0-5 days, with a possibly higher decrease over some mountain areas in central parts of the region.	Decrease by 5-10 days under RCP4.5, and by 10-20 days under RCP8.5.	Icing days will appear only in mountain regions, but with a decrease of over 25 days
Very Hot Days	Increase by 5-10 days, with significantly higher increases over some parts of the region, including coastal areas of Albania, Podgorica region in Montenegro, North Macedonia, northern and central Serbia, and some parts of Bosnia and Herzegovina.	Significant increase in parts of lower altitudes (10-20 days), but most pronounced in coastal and near coastal areas and central to south-eastern part of North Macedonia (20-30 days).	Appearance of hot days in higher altitudes; an increase of 20-30 days in lower altitudes, and the most pronounced increase in coastal and near-coastal areas, and large parts of North Macedonia of over 35 days.
Heat Waves Frequency	Slightly increase with a highly probable significant change in southern parts of the region, especially in coastal areas of Albania, southern Bosnia and Herzegovina, Podgorica region in Montenegro and the southeast of North Macedonia.	Significantly increase over low altitudes, coastal and near-coastal areas and parts of North Macedonia, reaching values of +1 heat wave each year and with increased duration of 5 days or more.	Increases up to 2 days over the region with prolonged duration of 5-10 days. Heat waves possibly will appear in high altitudes only once in 10 years, but coastal, near-coastal areas, and large parts of North Macedonia are expected to have 2-5 more heat waves in a year, with increased duration of over 15 days and in coastal areas even over 20 days.
Growing Season	Increase by 10-20 days, with a more pronounced shift towards earlier dates (5-10 days) throughout the region.	Significantly increase up to 20-40 days, depending on scenario, with an earlier start date in most parts of the region of up to 20-30 days. However, in coastal areas, heating may cause the disappearance of a dormant	Prolonged by 50-70 days, with more pronounced change in higher altitudes, and with a larger shift of the start date, reaching over 30 days throughout the region, over 40 days in southern

74 Ibid., p. 24.
75 Ibid., p. 24.
76 RCC (2018), p. 25.
77 Ibid., p. 25.

		season for plants with a biological minimum of 10°C.	parts, and over 50 days in south Albania.
Very Hot Dry Spells	Slightly increases, mainly over southern parts.	Coincide with heat waves, periods with hot temperatures will be combined with very dry periods.	Highly significant change with prolonged duration throughout the region, except the highest altitudes, of over 8 days in Serbia and over 20 days in coastal areas.
Maize Yield	A shift towards dry conditions mainly over agriculturally fertile Serbia and towards insufficiently humid in other parts. Over 10 years in this 20-year period (up-to 14 years in the lowest altitudes), the region will become unsuitable for maize growing without irrigation.	Wider spread of dry conditions mainly over Serbia, while in other parts of the region an insufficiently humid climate for maize is spreading, the number of years unsuitable for maize-growing without irrigation in the 20-year period is likely to be more than 14 years over the north and central Serbia.	Unsuitable conditions for maize growing, and in most productive areas almost all years during this period will not be productive.

Precipitation (0% to -30% Decrease)

The Western Balkans will witness a decrease in annual precipitation.[78] However, projections for precipitation are not as clear or regular as predictions of temperature.[79] The expected precipitation decrease is more pronounced in high emission scenarios than low-emission scenarios and is particularly strong in the summer.[80] In winter, on the contrary, precipitation will increase in the mountains and the region in general.[81] The annual number of rainy days could decrease by 10–20 days in a medium emission scenario by the end of the twenty-first century. No increase in extreme precipitation events are expected in the region[82], however, flooding is predicted to become more frequent due to more precipitation in winter causing spring floods[83] (**Figure 4**).

In the near-future period (2016-2035), relative to the baseline period (1986-2005), RCC (2018) calculates that projected precipitation changes are negligible, though noting that significant observed changes had already occurred prior in the Western Balkans in the 1980s: **i)** in the RCP4.5 scenario, no significant precipitation change in annual or seasonal values over the region. Average annual accumulation change is within a -5% and +5% interval, with decrease over most of the region in JJA. **ii)** in the RCP8.5 scenario, also no significant precipitation change, but with somewhat different distribution.[84] Change in the number of dry days is not significant, but is more pronounced in summer, and annually increase by 5-15 days over the region, mainly in JJA, except in northern parts of the region. Very heavy precipitation increase (in number of days and percentage of total accumulation) is not statistically significant, but is most pronounced over the northern part of Serbia (Vojvodina) according to RCP8.5, as well as an increase of very heavy rain accumulation percentage;

In the **mid-century period (2046-2065)**, relative to the baseline period (1986-2005): **i)** in the RCP4.5 scenario, precipitation change still does not show statistically significant change in mean annual accumulation or in seasonal values, but the annual decrease spreads over the region, and in JJA the whole region suffers a notable decrease, which has significant implications for critical snow melt for agriculture, ecosystems, health and consumption. **ii)**

78 UNEP/GRID--Arendal (2015), p. 17.
79 RCC (2018), p. 19, UNEP/GRID-Arendal, p. 17.
80 Önol, B. and Semazzi, F.H.M (2009). Regionalization of Climate Change Simulations over the Eastern Mediterranean. *J. Climate*, 22, 1944–1961, in UNEP/GRID-Arendal, p. 17.
81 Kotlarski, S., Bosshard, T., Lüthi, D., Pall, P., Schär, C. (2011). Elevation gradients of European climate change in the regional climate model COSMO-CLM, *Climate Change*, vol. 112, pp. 189–215. doi:10.1007/s10584-011-0195-5, in UNEP/GRID-Arendal, p. 17.
82 Sillmann, J., Kharin, V. V., Zwiers, F. W., Zhang, X., & Bronaugh, D. (2013). Climate extremes indices in the CMIP5 multimodel ensemble: Part 2. Future climate projections. *Journal of Geophysical Research: Atmospheres*, 118(6), 2473–2493. Available at: https://doi.org/10.1002/jgrd.50188.
83 Islami, B., Kamberi, M., Bruci, E.D., and Fida, E. (2009). *Albania's Second National Communication to the Conference of Parties under the United Nations Framework Convention on Climate Change.* Ministry of Environment, Forestry, and Water Administration: Tirana, Albania, in UNEP/GRID-Arendal (2015), p. 17.
84 Ibid., p. 24.

in the RCP8.5 scenario, precipitation decrease becomes significant over Albania and parts of Montenegro in JJA and, including North Macedonia, the decrease may be over -20%. However, other seasons and annual averages show no significant change. Increase in the number of dry days is 5-10 days over most of the region, with significant change in southern parts (Albania and North Macedonia); change is most pronounced in JJA. The number of days with very heavy precipitation noticeably increases throughout the region, especially in the northern parts of Serbia (Vojvodina), while in regions which already have a large number of such days already, the increase is much less; very heavy rain percentage increases most over the region where such heavy-precipitation events are uncommon (north Bosnia and Herzegovina, Serbia, Kosovo (UNSC 1244/1999), parts of North Macedonia), even of around 30% in DJF and MAM, while in JJA the decrease is seen over the southern part of the region, and according to RCP8.5 the increase in Vojvodina becomes significant;

In the **end-of-the-century period (2081-2100)**, relative to the baseline period (1986-2005): **i)** in the RCP4.5 scenario, precipitation change has stabilized [85] **ii)** [86] In the RCP8.5 scenarios, increase in very heavy precipitation days is significant, reaching 5-10 days in some northern parts of the region and southern Serbia, especially in DJF; very heavy precipitation percentage shows the same pattern of change, however over the coastal, near-coastal and southern parts of the region (Albania), the decrease is significant in JJA, with values of over 30%.

Based on the regional analysis and baseline information presented above, **Table 1** shows a summary of climate risks in Western Balkans, their vulnerabilities and potential impact.

Summary of Climate Risks in Western Balkans Region-Related Vulnerabilities and Potential Impact		
Climate Risk	**Vulnerability**	**Potential Impact**
Temperature		
Rising Temperatures	• **Agriculture:** high exposure of crops, crop yields and agriculture productivity to a predictable temperature range • **Soil:** exposure of mountain and rural soil and top cover to manage floods and wildfires • **Biodiversity:** loss of endemic, vulnerable and rare species and habitats that are sensitive to high temperatures • **Ecosystems:** exposure of mountain and rural ecosystem functions and services to heat • **Disease:** rise in crop disease • **Net Food Importers:** the countries of the Balkans Region are already net food importers, which will further strain individual, community and national food security, budgets, and spending	• Economic and livelihood losses in agriculture sector and farming communities • Decrease in ecosystem functioning • Loss of valuable species, habitats and ecosystem services • Changes and disruption to species, habitats and ecosystems, leading to loss of ecosystem services, decrease in agricultural productivity, and change in ecosystem diversity and distribution, including migration to higher altitudes • Changes and disruption to soil moisture, productivity and health • Increased fire risk • Reduced agricultural productivity
Heatwaves and Intense Heat	• **Human Health:** exposure of rural and urban populations, especially those who must work outside (farming, construction) and the elderly to heat, respiratory, kidney and cardiovascular problems • **Animal Health:** exposure of animals and livestock to heat-related problems	• Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease • Increased heat-related illness or death, including asthma attacks, cardiovascular disease, and lung inflammation

85 RCC (2018), p. 25.

86 Ibid., p. 26.

Increase in Diseases	• **New Vectors:** exposure to appearance of new disease vectors, such as tick-born encephalitis and dengue fever in warming temperatures • **Health Systems:** limited capacities and resources of rural, remote and mountainous healthcare systems and facilities	• Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease
Precipitation		
Increased Heavy Rains	• **Agriculture:** high exposure of crops, crop yields and agriculture productivity to floods, rain patterns, and change in seasonality • **Soil:** exposure of mountain and rural soil and top cover to heavy rains and flooding	• Economic and livelihood losses in agriculture sector and farming communities • Loss of valuable species, habitats and ecosystem services
Increased Storms, Storm Intensity	• **Agriculture:** high exposure of crops, crop yields and agriculture productivity to floods, rain patterns, and change in seasonality • **Soil:** exposure of mountain and rural soil and top cover to heavy rains and flooding	• Economic and livelihood losses in agriculture sector and farming communities • Decrease in ecosystem functioning • Loss of valuable species, habitats and ecosystem services
Heavy Snow	• **Mountain and Rural Economies:** vulnerability due to poor infrastructure, housing, and access to roads and public services, especially for children and elderly • **Public Services:** inaccessible essential services, including emergency response	• Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease
Reduced Snow Cover	• **Tourism:** heavy reliance of winter economy on snow cover	• Economic and livelihood losses for mountain communities and national budget reliant on ski tourism
Drought		
Increase in Frequency and Intensity of Wildfires	• **Forests:** high exposure of forests, ecosystems, ecosystem services, protected areas • **Agriculture:** high exposure of land, ecosystem services, water availability • **Tourism:** exposure of tourism operations and appeal, in coastal and inland mountain areas • **Pollution:** exposure to smoke, particulates, fire damage	• Loss of biodiversity, habitats, ecosystem services • Land degradation • Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease
Decrease in Annual River Discharge and Flow in Summer and Drought	• **Agriculture:** high exposure of agriculture, livestock and farms to water supply, irrigation, and groundwater • **Water Infrastructure:** poor water-supply infrastructure, with high system losses • **Energy:** exposure of hydropower and thermal power facilities to decreases in discharge, river-flow seasonality, and rising river temperatures	• Loss of crops, crop yields and livestock • Water shortages in urban areas • Inability to meet energy demand during peak summer months • Decreased energy security and supply
Floods		
Increase in Frequency and Intensity of Floods	• **Agriculture:** high exposure of land, home, assets and property, rural and urban • **Energy:** energy infrastructure • **Dams:** risk of failure of mining tailings dams containing toxins • **Landmines:** risk of dislodging landmines	• Economic and livelihood losses at individual, community and national levels (budget, GDP, tax income) • Human and animal loss of life, displacement, disease • Loss of habitats, ecosystem services, clean water

Table 1. Summary of Climate Risks in Western Balkans Region and their Vulnerabilities and Potential Impact.

Country-Specific Climate Information and Adaptation Priorities

Please refer to **Annex 10** for detailed country specific analysis of climate change trends, climate risks and adaptation priorities in four project countries: Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia.

Bosnia and Herzegovina

In its National Adaptation Plan (NAP),[87] hereafter BiH NAP (2021), Bosnia and Herzegovina analysed key drivers and impacts of climate change, and proposed 51 priority adaptation measures for the five most climate-vulnerable sectors: **agriculture, water resources, biodiversity and forestry, human health and tourism**. Based on previous research on climate and climate change, the biggest changes were identified in the southern, northern and north-western parts of Bosnia and Herzegovina. These include an increase in the intensity and frequency of extreme climate events (floods, droughts, violent windstorms, days with hail, prolonged heat waves, extreme temperatures, etc.). In the last two decades, some of these extremes have occurred each year, and in some places multiple extreme events have occurred. Previous research has shown increasing climate variability in all seasons in the territory of Bosnia and Herzegovina. Rapid and intense changes occur over short periods of time – from extremely cold to warm weather, or from periods of extremely heavy rainfall to very dry spells.[88] Water systems are expected to be exposed to the impacts associated with climate change, and the projected changes in precipitation and air temperature are expected to adversely affect the current water resources management system in Bosnia and Herzegovina. In recent decades the country has seen an increase in the frequency of extreme droughts and floods. Climate change in Bosnia and Herzegovina is having an increasing impact on human health.[89] This impact is predominantly manifested through sudden changes in extreme weather conditions. These changes are closely associated with blood pressure oscillations and cardiovascular and neurological problems, especially in vulnerable groups (chronic patients, the elderly, etc.). Moreover, extreme events such as floods may cause the spread of water-borne diseases.[90]

Montenegro

Montenegro is increasingly vulnerable to a range of climate-related hazards that threaten its natural ecosystems, socio-economic sectors, and the well-being of its population. The country's mountainous terrain, Mediterranean-continental climate, and high biodiversity intensify the complexity of its climate vulnerabilities. One of the most critical and rapidly intensifying risks is the increased frequency, intensity, and duration of heatwaves. Podgorica, the Montenegro capital for instance, now experiences over 70 tropical days annually, with maximum temperatures surpassing 40°C becoming increasingly common—an elevenfold increase compared to historic norms. These temperature extremes have grave implications for public health, energy systems, and labor productivity, especially affecting vulnerable groups such as the elderly, outdoor workers, and people with pre-existing health conditions. Droughts pose a chronic and expanding risk to agriculture, forestry, and water supply systems. Severe drought events in 2003, 2011, 2017, and 2020 demonstrated Montenegro's limited capacity to absorb such shocks. These events reduced crop yields, led to livestock mortality, diminished hydropower output, and triggered significant economic losses across rural communities. Future climate patterns indicate that droughts will become more frequent, longer lasting, and spatially widespread. Flooding and flash floods, driven by erratic and intense precipitation events, increasingly damage infrastructure, disrupt transportation, and contaminate water supplies. Forest fires have become a seasonal hazard, particularly in the south and central parts of the country, driven by prolonged droughts, high temperatures, and strong winds. Sea-level rise, while more gradual, poses a critical long-term threat to Montenegro's coastal infrastructure and tourism industry. As part of the preparation of Montenegro's

87 Bosnia NAP (2021). *Bosnia and Herzegovina National Adaptation Plan and Proposed Measures 2021.*

88 Bosnia NAP (2021), p. 16.

89 Bosnia NAP (2021), p. 52.

90 Bosnia NAP (2021), p. 52.

first National Adaptation Plan, which is currently in the final phase of adoption by the Government of Montenegro, key priority sectors for climate adaptation have been identified based on vulnerability assessments and national consultations. These include **water resources, agriculture, health, and tourism, with cross-cutting priorities** in institutional capacity building, data systems, and gender-sensitive policy integration.[91]

North Macedonia

The last decade (2011-2020) was the warmest decade since the beginning of meteorological measurements in the country. The largest change in the annual number of frost days, icing days, summer days and tropical nights compared to the reference period is observed for the same decade. Analysis of precipitation indices shows a change in the precipitation regime with an increase in the frequency of heavy and very heavy precipitation[92]. Climate projections also include [93]further increase in temperature with more temperature extremes in summer months, likely increase in precipitation variability, and in frequency and intensity of droughts. These changes in climate lead to more frequent and intense extreme weather events, forest fires, droughts, and floods, all of which threaten socio-economic stability, public health, and natural ecosystems. Both urban and rural areas are affected. Urban centres face issues related to infrastructure, heatwaves, pollution, and governance. In urban centres air pollution and related public health risks pose a major adaptation challenge.[94] Intersectional vulnerabilities are pronounced among women and vulnerable groups, including Roma women, rural women, and persons with disabilities, who face compounded exclusion due to poor housing, lack of infrastructure, and limited mobility. Flooding and stormwater management also represent a significant challenge for cities in North Macedonia. In rural areas, where a large portion of the population depends on agriculture for their livelihood, agricultural vulnerability to climate change is the most critical adaptation challenge. Recurrent droughts, record-breaking wildfires, hailstorms, and temperature extremes have reduced crop yields and affected food security. Closely linked to agriculture is the issue of water scarcity. Rural areas increasingly suffer from declining water availability, particularly during the growing season. Biodiversity and ecosystem degradation are also acute in rural landscapes, especially in forested and mountainous regions as a result of rising temperatures and human activity. Forest fires are becoming more frequent and severe, damaging ecosystems, farmland, and infrastructure, while landslides, often triggered by intense rainfall and enabled by erosion and slope instability, threaten rural settlements and transport routes.

Serbia

Serbia has a moderate, warm-humid continental climate and continental precipitation regime, influenced by the Adriatic and Mediterranean Seas.[95] Serbia's geographic diversity shapes its climate and local context for adaptation, including variations in elevation, proximity to the Adriatic Sea and large river basins, and exposure to winds. In the Serbian NAP (2023), the government prioritized six "climatic impact-drivers", or climate hazards[96]: (1) increased climate variability, (2) increase in temperature and heat waves, (3) change in the annual-precipitation distribution, (4) change in precipitation-intensity distribution, (5) change in droughts, and (6) change in climate aridity/dryness. These climatic impact-drivers contribute to one or more of four climate hazard groups, which Serbia identifies as: Too Warm; Too Wet; Too Dry; and Storms.[97]An increase in the level of aridity of the climate

91 Montenegro Draft NAP

92 https://www.worldbank.org/en/country/northmacedonia/overview
93 Climate Risk in North Macedonia: Country Risk Profile. USAID 2018 Report on climate change projections and changes in climate extremes for the Republic of North Macedonia. Available at:
https://api.klimatskipromeni.mk/data/rest/file/download/5e8046fa4761fb1b91d41c7fa0a0f34b621b19acc537ff9f45b79af5b623255e.p
94 https://documents1.worldbank.org/curated/en/116521576516981237/txt/Air-Quality-Management-in-North-Macedonia.txt

95 Republic Hydrometeorological Service of Serbia (RHMSS). "Temperature Regime in Serbia". Available at: https://www.hidmet.gov.rs/eng/meteorologija/klimatologija_temp_rezim.php.
96 Serbia NAP (2023). *Republic of Serbia: Climate Change Adaptation Program for the Period 2023-2030*, referred to informally as the National Adaptation Plan (NAP) or "Serbia NAP 2023".
97 Serbia NAP (2023), pp. 22-25.

in Serbia is expected, meaning increasingly drier average climate conditions. Due to the unfavorable distribution of precipitation during the year, in the largest part of the country, except in the high mountains of the western Serbia, the JJA season is “semi-dry”. In 2041-2060, on average, Serbia will have a “dry sub-humid” climate, and in RCP8.5 it will be “semi-arid” in 2081-2100. The increased climate variability means more frequent occurrence of years with drier conditions, as well as the afore-mentioned increase in droughts. Landslides in Serbia are a significant risk to life, livelihoods, and the environment [98], and are increasing, particularly in the central and eastern parts of the country, due to a combination of factors, including climate change, extreme weather events, particularly heavy precipitation (rain and snow) and floods, and human activities. Serbia is prone to landslides triggered by heavy rainfall, snow thaws, and earthquakes. The climate hazards that threaten human health and safety are increasing and they will continue to increase in the future in Serbia to cause worsening of health conditions and premature deaths.[99] Serbian NAP (2023) proposes 25 priority adaptation measures in eight climate-vulnerable sectors: **Cross-Cutting Measures (9), Agriculture (6), Forestry (3), Road Infrastructure (1), Urban Planning (2), Energy Sector (2), Health Sector (1), Biodiversity (1)**. [100]

Socio-Economic Vulnerability of Communities in the Western Balkans to Climate-Induced Risks

The Western Balkan region is increasingly exposed to climate-induced hazards such as floods, droughts, wildfires, and heatwaves. These events are becoming more frequent and intense due to climate change, threatening lives, livelihoods, and development gains[101]. Over the past decade, floods alone have affected more than two million people in the region, while wildfires and heatwaves have caused widespread damage and thousands of premature deaths[101]. These hazards are intensifying due to climate change, placing significant stress on already vulnerable populations.

Vulnerable Populations in the Western Balkans

The people of the Western Balkans region have a high population vulnerability to climate-induced risks because of the region’s socio-economic, demographic, and employment characteristics, and this is critically the case for the region’s vulnerable and marginalized communities, who are a high priority of the Regional Project. Please refer to the Gender Assessment and Action Plan (**Annex 5**) for more details.

Rural and Agricultural Communities: Rural populations, particularly those dependent on agriculture, are among the most climate-vulnerable groups in the Western Balkans. Agriculture employs a significant portion of the workforce in countries like Albania and North Macedonia, yet it remains highly sensitive to climate variability. Droughts and erratic rainfall patterns have led to crop failures, livestock losses, and reduced income, pushing many smallholder farmers into poverty[102]. Structural issues such as fragmented land ownership, outdated irrigation systems, and limited access to credit further exacerbate vulnerability[102].

Urban Poor and Informal Settlements: Urbanization in the Western Balkans has led to the expansion of informal settlements, particularly in secondary cities and peri-urban areas. These communities often lack basic infrastructure such as drainage, waste management, and emergency services. As a result, they are disproportionately affected by urban flooding, heatwaves, and landslides. The urban poor typically live in substandard housing with limited access to cooling or healthcare, increasing their exposure to climate-related health risks[103].

98 Lukić, T.; Bjelajac, D.; Fitzsimmons, K.E.; Marković, S.B.; Basarin, B.; Mlađan, D.; Micić, T.; Schaetzl, R.J.; Gavrilov, M.B.; Milanović, M.; et al. Factors triggering landslide occurrence on the Zemun loess plateau, Belgrade area, Serbia. Environ. Earth Sci. 2018, 77, 1–15.
99 Serbia NAP (2023), p. 28.
[100] Serbia NAP (2023), P. 52.
[101] World Bank. (2024). Western Balkan Economies Need to Strengthen Climate Resilience. https://www.worldbank.org/en/news/press-release/2024/03/06/western-balkan-economies-need-to-strengthen-climate-resilience
[102] FAO. (2021). Climate-Smart Agriculture in the Western Balkans. UN Women. (2020). Gender and Climate Change in the Western Balkans.
[103] World Bank. (2022). Country Climate and Development Reports: Western Balkans.

Women and Children: Women in the region face systemic barriers to economic participation, land ownership, and decision-making, particularly in rural areas. These gender disparities limit their ability to adapt to climate change. For example, women are more likely to be employed in informal or subsistence agriculture, which is highly climate-sensitive and lacks social protection. Additionally, caregiving responsibilities and limited mobility during disasters increase their exposure to harm[103]. Children, especially in poor households, are also at risk due to malnutrition, disrupted education, and health impacts from extreme weather events.

Elderly and Persons with Disabilities: The region's aging population is particularly vulnerable to climate-induced health risks. Elderly individuals are more susceptible to heat stress, respiratory illnesses, and mobility challenges during evacuations. Many live alone or in remote areas with limited access to healthcare and social support. Similarly, persons with disabilities face barriers to accessing early warning systems, shelters, and emergency services, making them highly vulnerable during disasters[104.]

Marginalized Ethnic Minorities: Significant ethnic minorities in the Western Balkans—such as Bosniaks, Albanians, Serbs, and Croats—live both in their ethnic homelands and across neighboring states due to historical shifts following the fall of the Ottoman and Austro-Hungarian Empires and the breakup of Yugoslavia. These populations often reside in ethnically mixed or contested areas. Depending on their location, these groups may face discrimination, climate-related vulnerabilities, and social or political constraints. Ethnic tensions, cultural divides, and historical grievances can further intensify their marginalization and exposure to risk.

Marginalized ethnic minorities in the region—particularly **Roma, Ashkali, Egyptian**s, and others—face persistent and severe discrimination, exclusion, and poverty. The Roma, Europe's largest ethnic minority, are especially affected, with limited access to education, employment, healthcare, housing, and essential services. Despite living near non-Roma communities, they experience significantly worse outcomes due to systemic barriers and a lack of reliable data to inform effective policy responses.

These communities struggle with low human and financial capital, weak labor market participation, and limited opportunities for economic advancement. For example, in Serbia, equalizing Roma employment and earnings with the general population could boost GDP by up to 3.5% annually105. Youth are particularly affected, with 68% of marginalized Roma aged 15–24 in the Western Balkans classified as NEET (not in employment, education, or training), compared to 34% among non-Roma peers106. Addressing these disparities is crucial for both social justice and economic development.

Roma women are among the most disadvantaged groups in Europe, facing double discrimination—both as women and as members of the Roma minority. Their access to education, employment, and essential services is significantly worse than that of both non-Roma women and Roma men. This exclusion is reflected in alarming statistics: 78% of Roma women aged 15–24 are not in employment, education, or training (NEET), compared to 59% of Roma men107. Unemployment among Roma women is also higher, and their labor force participation remains extremely low.

This marginalization traps Roma women in a cycle of poverty and social exclusion, limiting their ability to contribute to or benefit from economic growth. Given the Roma population's youthfulness, investing in their human capital—especially that of women—is crucial, particularly in the context of Europe's aging population. Economic inclusion of Roma women could unlock a large, underutilized labor force and help break intergenerational cycles of disadvantage.

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[104] World Bank. (2024). Western Balkan Economies Need to Strengthen Climate Resilience. Press Release.

105 World Bank. (2019). Breaking the cycle of Roma exclusion in the Western Balkans. Retrieved from https://www.worldbank.org
106 UNDP, World Bank, & European Commission. (2017). Regional Roma Survey. Retrieved from https://www.worldbank.org
107 European Union Agency for Fundamental Rights. (2014). *Discrimination against and living conditions of Roma women in 11 EU Member States: Roma survey – Data in focus*. Publications Office of the European Union. https://fra.europa.eu/sites/default/files/fra_uploads/fra-2014-roma-survey-dif-women-2_en.pdf

The **Balkan Vlach**, also known as Aromanians or Wallachians, are a Romance-language-speaking ethnic minority spread across several Balkan countries, including Serbia, Albania, Greece, North Macedonia, Romania, and Bulgaria. Historically pastoral and seasonally nomadic, they lived in remote valleys and mountains and are known for their entrepreneurial and trading skills, as well as a rich oral tradition of folk tales and legends.

Despite their distinct cultural identity, the Balkan Vlach faces ongoing challenges such as cultural and linguistic subordination, limited political recognition, and socio-economic marginalization. Over time, long-term cohabitation with neighboring groups has led to increasing assimilation, further threatening the preservation of their unique heritage[108].

LGBTQ+ Individuals. Anti-gender movements in the region are threatening human rights and democracy, especially targeting women and **LGBTQ+ individuals**[109]. These movements influence laws and policies that restrict access to basic services and fuel widespread discrimination and violence. Marginalized individuals, especially those facing multiple layers of exclusion (e.g., LGBTQ+ people in rural, low-income areas), are particularly vulnerable. In response, feminist and LGBTQ+ organizations are urged to strengthen alliances, protect inclusive education, and push for intersectional gender perspectives in EU-related processes like the Berlin Process.

Socio-Economic Dimensions of Vulnerability

Poverty and Economic Inequality: Poverty remains a persistent challenge in the Western Balkans, particularly in rural areas and among marginalized groups. Climate shocks such as floods and droughts disproportionately affect low-income households, who often lack savings, insurance, or diversified income sources. In Kosovo and Bosnia and Herzegovina, for example, over 20% of the population lives below the national poverty line, with rural poverty rates even higher[110]. Economic inequality also limits access to adaptation resources, reinforcing cycles of vulnerability.

Employment and Livelihoods: The region's economies are heavily reliant on sectors that are highly sensitive to climate change, including agriculture, forestry, and tourism. These sectors provide employment for a large share of the population, especially in rural areas[111]. However, climate-induced disruptions—such as droughts reducing crop yields or wildfires damaging forests—can lead to job losses and income instability. In addition, outdoor workers are heavily affected by heat waves, in particular those working in construction, transport etc. Informal employment is widespread, particularly among women and youth, and often lacks social protection, making workers more vulnerable to climate shocks[112].

Health and Infrastructure: Climate change is exacerbating public health risks in the Western Balkans. Heat waves contribute to cardiovascular and respiratory illnesses, while floods increase the spread of waterborne diseases. Vulnerable populations—such as the elderly, children, and those with pre-existing conditions—are at greatest risk. At the same time, aging infrastructure and under-resourced health systems limit the region's capacity to respond to climate-related health emergencies[113].

Education and Human Capital: Climate change also threatens long-term human development in the region. Disruptions to education due to extreme weather events—such as school closures during floods or heatwaves—

108 Minority Rights Group International. (2024). Aromanians in Albania. https://minorityrights.org/communities/aromanians-in-albania/
109 Council of Europe. (2024). Tackling the backlash against human rights. Retrieved from https://www.coe.int/en/web/inclusion-and-antidiscrimination/-/tackling-the-backlash-against-human-rights
110 UNDP Kosovo. 'Inclusive and Just Pathway to 2030.

111 International Labour Organization. 'Informal Employment in the Western Balkans.' https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_834485/lang--en/index.htm
112 World Bank. 'Western Balkans Labor Market Trends.' https://www.worldbank.org/en/news/feature/2022/04/12/western-balkans-labor-market-trends-2022
113 World Bank. (2022). Climate Risk Profile: Western Balkans. Washington, DC.

can have lasting impacts on children's learning outcomes. Poor nutrition linked to agricultural shocks can impair cognitive development, particularly among young children. These effects are most pronounced among low-income and rural households, perpetuating intergenerational cycles of poverty and vulnerability[114].

Migration and Demographic Change: Climate-induced stressors are contributing to demographic shifts in the Western Balkans. Rural depopulation is accelerating as young people migrate to urban areas or abroad in search of better opportunities. This out migration reduces the adaptive capacity of rural communities, leaving behind aging populations with limited resources. At the same time, urban areas are struggling to accommodate growing populations, leading to overcrowding and increased pressure on infrastructure and services[115].

Governance and Institutional Capacity: Local governments in the Western Balkans often lack the financial and technical capacity to implement effective climate adaptation measures. This is particularly true in smaller municipalities, where planning systems are under developed and emergency response mechanisms are weak. Limited coordination between national and local authorities further hampers the effectiveness of adaptation efforts. Vulnerable populations are often excluded from decision-making processes, reducing the relevance and equity of climate policies[116].

Innovation Context in the Western Balkans

The Western Balkans is classified as an "Emerging Innovator" region according to the 2024 European Innovation Scoreboard (EIS)[117]. The region presents strong potential for innovation, particularly in the field of climate adaptation, but faces key challenges such as low R&D investment, limited government support for business innovation, and underdeveloped innovation ecosystems. Despite these challenges, the region has a foundation upon which this project can build. By fostering regional collaboration and applying lessons learned from previous initiatives, this project will support innovation, reduce transactional costs, and strengthen the capacity of local actors.

European Innovation Scoreboard (EIS) Overview:
EIS measures innovation across four categories:

- **Framework Conditions**: Evaluates human resources, research systems, and digitalization capabilities.
- **Innovation Investments**: Measures investments made by both public and private sectors in R&D and innovation support.
- **Innovation Activities**: Focuses on the innovation performance of SMEs, including R&D, intellectual property, and industry linkages.
- **Innovation Impacts**: Assesses the outcomes of innovation, including employment impacts, sales, and environmental sustainability.

Each country has strengths in specific areas of innovation, including environment-related technologies and the activities of SMEs. However, challenges persist in areas such as R&D spending, government support for innovation, and the integration of climate adaptation solutions into broader business practices. This project will leverage the region's existing innovation capacity and aim to overcome these barriers, creating a strong foundation for locally-led climate adaptation solutions.

114 World Bank. (2022). Climate Risk Profile: Western Balkans. Washington, DC.
115 Regional Cooperation Council. (2023). Western Balkans Climate Resilience Assessment. Sarajevo.
116 Regional Cooperation Council. (2023). Western Balkans Climate Resilience Assessment. Sarajevo
117 European Commission. (2024). European Innovation Scoreboard 2024. Publications Office of the European Union. Retrieved from https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en

Innovation Readiness in the Four Partner Countries

According to the EIS (2024), the four Western Balkan countries possess a strong foundation for innovation and are developing an emerging innovation ecosystem. The Regional Project can leverage and enhance this foundation, advancing and amplifying the efforts of locally-led, climate-focused innovators (**Figure 8**).

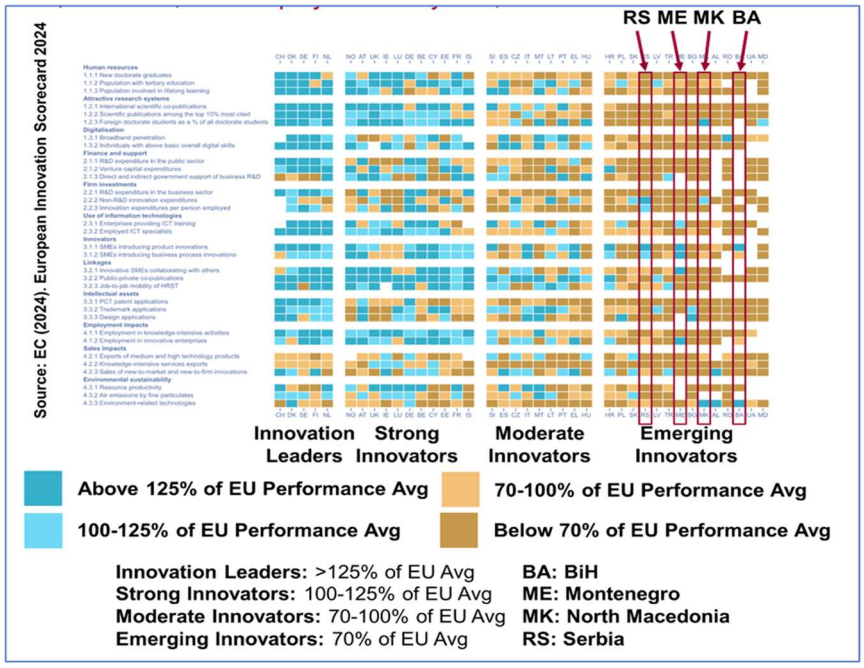


Figure 8. European Innovation Scorecard (EIS 2024), Highlighting the Readiness of the Four Western Balkans Partner Countries, in the Context of the Entire EU, for AF's Investment in Innovation and Locally-Led Adaptation Acceleration.

This section provides a summary of the EIS (2024) assessment for each of the Regional Project's partner countries. Each country exhibits unique strengths, such as in the production, deployment, or use of environmental technologies, positioning them as strong candidates for investment in locally-led adaptation and innovation.

Bosnia and Herzegovina

EIS Summary. EIS (2024) categorizes Bosnia as an "Emerging Innovator", the EIS category which comprises countries that score less than 70% of the EU average in the EIS Innovation Framework. EIS calculates an Innovation Index of 36.4 for Bosnia and Innovation Rank of 37, an impressive 2.7 improvement since 2023 and 6.4 improvement since 2017 (**Figure 9**). This highlights Bosnia's readiness for an AF investment in locally-led adaptation innovation.

That said, Bosnia's innovation performance still falls short of its potential, at 33.1% of the EU average in 2024 and lower than the Emerging Innovator category average of 48%. This underscores the potential to build on, improve and amplify adaptation innovation in Bosnia through AF's investment and the Regional Project's proposed technical assistance, capacity building, incubation, and adaptation acceleration support services.

EIS Assessment of Relative Strengths and Weaknesses. According to EIS (2024), Bosnia's Innovation *Relative Strengths* include: environment-related technologies, SMEs introducing product innovations, and SMEs introducing business process innovations. *Relative Weaknesses* include: R&D spending in the public sector, venture capital (VC) spending, and direct and indirect government support of business R&D. *Strong increases* since 2017 include: broadband penetration, international scientific co-publications, and employment in knowledge-intensive activities. *Strong decreases* since 2017 include: population with tertiary education, population involved in lifelong learning, and R&D expenditure in the public sector. Strong increases since 2023 include: broadband

penetration, employment in knowledge-intensive activities, and resource productivity. Strong decreases since 2023 include: scientific publications among the top 10% most cited, trademark applications, and knowledge-intensive services exports.

Montenegro

EIS Summary. EIS (2024) categorizes Montenegro as an "Emerging Innovator", the EIS category which comprises countries that score less than 70% of the EU average in the EIS Innovation Framework. EIS calculates an Innovation Index of 36.4 for Montenegro and Innovation Rank of 37, an impressive 2.7 improvement since 2023 and 6.4 improvement since 2017 (**Figure 9)**. This highlights Montenegro's readiness for an AF investment in locally-led adaptation innovation.

That said, Montenegro's innovation performance still falls short of its potential, at 33.1% of the EU average in 2024 and lower than the Emerging Innovator category average of 48%. This underscores the potential to build on, improve and amplify adaptation innovation in Montenegro through AF's investment and the Regional Project's proposed technical assistance, capacity building, incubation, and adaptation acceleration support services.

EIS Assessment of Relative Innovation Strengths and Weaknesses. According to EIS (2024), Montenegro's Innovation *Relative Strengths* include: SMEs introducing product innovations, innovative SMEs collaborating with others, and SMEs introducing business process innovations. *Relative Weaknesses* include: direct and indirect government support of business R&D, design applications, and new Ph.D. graduates. *Strong increases* since 2017 include: broadband penetration, environment-related technologies, and international scientific co-publications. *Strong decreases* since 2017 include: foreign Ph.D. students as a % of all Ph.D. students, job-to-job mobility of HRST,[6] and PCT[7] patent applications. Strong increases since 2023 include: broadband penetration, scientific publications among the top 10% most cited, and PCT patent applications. Strong decreases since 2023 include: enterprises providing ICT training, trademark applications, and public-private co-publications.

North Macedonia

EIS Summary. EIS (2024) categorizes North Macedonia as an "Emerging Innovator", the EIS category which comprises countries that score less than 70% of the EU average in the EIS Innovation Framework. EIS calculates an Innovation Index of 49.6 for North Macedonia and Innovation Rank of 34, an impressive 3.9 improvement since 2023 and 11.9 improvement since 2017 (**Figure 10**). This highlights North Macedonia's readiness for an AF investment in locally-led adaptation innovation.

That said, North Macedonia's innovation performance still falls short of its potential, at 45.1% of the EU average in 2024 and lower than the Emerging Innovator category average of 48%. This underscores the potential to build on, improve and amplify adaptation innovation in North Macedonia through AF's investment and the Regional Project's proposed technical assistance, capacity building, incubation, and adaptation acceleration support services.

EIS Assessment of Relative Strengths and Weaknesses. According to EIS (2024), North Macedonia's Innovation *Relative Strengths* include: number of foreign Ph.D. students as a % of all Ph.D. students, environment-related technologies, and non-R&D innovation expenditures. *Relative Weaknesses* include: design applications, R&D spending in the business sector, and direct and indirect government support of business R&D. *Strong increases* since 2017 include: job-to-job mobility of HRST, number of foreign Ph.D. students as a % of all Ph.D. students, environment-related technologies. *Strong decreases* since 2017 include: R&D expenditure in the public sector, enterprises providing ICT training, population involved in lifelong learning. Strong increases since 2023 include: environment-related technologies, resource productivity, new Ph.D. graduates. Strong decreases since 2023 include: job-to-job mobility of HRST, enterprises providing ICT training, public-private co-publications.

Serbia

EIS Summary. EIS (2024) categorizes Serbia as an "Emerging Innovator", the EIS category which comprises countries that score less than 70% of the EU average in the EIS Innovation Framework. EIS calculates an Innovation Index of 49.6 for Serbia and Innovation Rank of 34, an impressive 3.9 improvement since 2023 and 11.9 improvement since 2017 (**Figure 10**). This highlights Serbia's readiness for an AF investment in innovation for adaptation.

That said, Serbia's innovation performance still falls short of its potential, at 45.1% of the EU average in 2024 and lower than the Emerging Innovator category average of 48%. This underscores the potential to build on, improve and amplify adaptation innovation in Serbia through AF's investment and the Regional Project's proposed technical assistance, capacity building, incubation, and adaptation acceleration support services.

EIS Assessment of Relative Strengths and Weaknesses. According to EIS (2024), Serbia's Innovation *Relative Strengths* include: non-R&D innovation expenditures, SMEs introducing product innovations, and innovation expenditures per person employed. *Relative Weaknesses* include: design applications, air emissions by fine particulates, and resource productivity. *Strong increases* since 2017 include: broadband penetration, SMEs introducing product innovations, and SMEs introducing business process innovations. *Strong decreases* since 2017 include: innovation expenditures per person employed, enterprises providing ICT training, and environment-related technologies. Strong increases since 2023 include: SMEs introducing product innovations, SMEs introducing business process innovations, and enterprises providing ICT training. Strong decreases since 2023 include: environment-related technologies, job-to-job mobility of HRST, and PCT patent applications.

BOSNIA AND HERZEGOVINA

Emerging Innovator

Summary innovation index (relative to EU in 2017): **36.4**

Rank: **37**

Change vs 2023: ▲ 2.7 Change vs 2017: ▲ 6.4

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
SUMMARY INNOVATION INDEX	**33.1**	6.4	2.7
Human resources	**10.3**	**-0.2**	0.3
New doctorate graduates	13.3	4	0
Population with tertiary education	10.3	-3	1.2
Population involved in lifelong learning	6.9	-3	0
Attractive research systems	**23.2**	8	**-8.6**
International scientific co-publications	23.1	21.3	0
Scientific publications among the top 10% most cited	20.8	1	-10.6
Foreign doctorate students as a % of all doctorate students	N/A	N/A	N/A
Digitalisation	**35.8**	25.5	15.9
Broadband penetration	52.8	44.6	25
Individuals with above basic overall digital skills	12.3	6.8	6.8
Finance and support	**0**	**0**	**0**
R&D expenditure in the public sector	0	0	0
Venture capital expenditures	0	0	0
Direct and indirect government support of business R&D	0	0	0
Firm investments	**0.8**	**0**	**0**
R&D expenditure in the business sector	2.1	0	0
Non-R&D innovation expenditures	0	0	0
Innovation expenditures per person employed	0.5	0	0
Use of information technologies	**39.8**	9.2	7.8
Enterprises providing ICT training	62.6	1.9	5.7
Employed ICT specialists	17.7	16.2	9.7
Innovators	**117.6**	**0**	**0**
SMEs introducing product innovations	165.7	0	0
SMEs introducing business process innovations	78.6	0	0
Linkages	**15**	7.3	**0**
Innovative SMEs collaborating with others	N/A	N/A	N/A
Public-private co-publications	27.3	11.4	0
Job-to-job mobility of HRST	N/A	N/A	N/A
Intellectual assets	**14.9**	7.4	2.4
PCT patent applications	30.7	15.5	8.3
Trademark applications	4.3	2.9	-5
Design applications	1.1	0.4	0.5
Employment impacts	**50.8**	9.7	5.7
Employment in knowledge-intensive activities	24.7	20.5	12
Employment in innovative enterprises	73.1	0	0
Sales impacts	**29.6**	8.9	3.2
Exports of medium and high technology products	28.3	15.6	9
Knowledge-intensive services exports	6.8	7.8	-1.1
Sales of new-to-market and new-to-firm innovations	67.7	0	0
Environmental sustainability	**89**	4.9	3.7
Resource productivity	25.2	13.3	10.1
Air emissions by fine particulates	N/A	N/A	N/A
Environment-related technologies	171.9	0	0

MONTENEGRO

Emerging Innovator

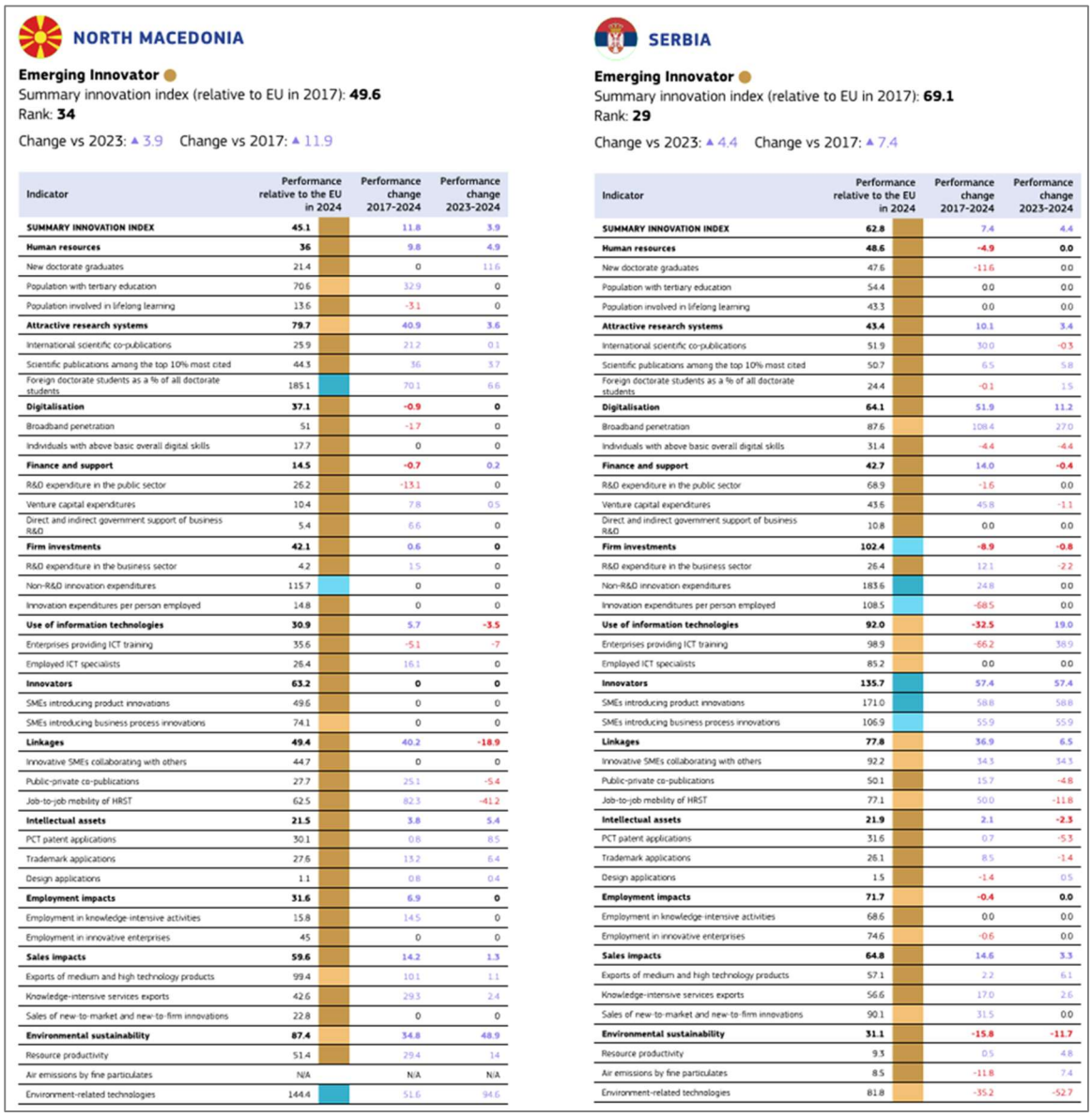
Summary innovation index (relative to EU in 2017): **52.3**

Rank: **32**

Change vs 2023: ▲ 0.8 Change vs 2017: ▲ 5.7

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
SUMMARY INNOVATION INDEX	**47.5**	5.7	0.8
Human resources	**34.4**	11.1	**0**
New doctorate graduates	2.5	2.2	0
Population with tertiary education	85.3	36.5	0
Population involved in lifelong learning	14.5	-6.1	0
Attractive research systems	**49.6**	**-4.6**	6
International scientific co-publications	56.1	40.6	-0.4
Scientific publications among the top 10% most cited	47.2	-3.9	11.4
Foreign doctorate students as a % of all doctorate students	47.1	-48.1	0
Digitalisation	**54.7**	42.8	13.8
Broadband penetration	73.9	79.5	21.2
Individuals with above basic overall digital skills	28	6.2	6.2
Finance and support	**12.5**	6.7	**0**
R&D expenditure in the public sector	29.5	9.8	0
Venture capital expenditures	6.3	8.4	0
Direct and indirect government support of business R&D	0	0	0
Firm investments	**23.8**	2.2	**0**
R&D expenditure in the business sector	10.4	6	0
Non-R&D innovation expenditures	35	0	0
Innovation expenditures per person employed	27.4	0	0
Use of information technologies	**69.4**	14.7	**-6.6**
Enterprises providing ICT training	107.5	16.6	-13.4
Employed ICT specialists	32.4	12.9	0
Innovators	**170.3**	**0**	**0**
SMEs introducing product innovations	213.9	0	0
SMEs introducing business process innovations	134.6	0	0
Linkages	**73.5**	**-16.3**	**-4.4**
Innovative SMEs collaborating with others	146.5	0	0
Public-private co-publications	33.1	13.9	-7.5
Job-to-job mobility of HRST	29.2	-44.1	-5.9
Intellectual assets	**8.9**	**-10.1**	1.2
PCT patent applications	18.8	-16.4	8.2
Trademark applications	2.5	-12.8	-9.3
Design applications	0	0	0
Employment impacts	**100.5**	3.6	**0**
Employment in knowledge-intensive activities	64.1	7.3	0
Employment in innovative enterprises	131.7	0	0
Sales impacts	**20.9**	2.7	**-0.7**
Exports of medium and high technology products	8.6	1.8	0
Knowledge-intensive services exports	13.5	5.9	-1.8
Sales of new-to-market and new-to-firm innovations	52.2	0	0
Environmental sustainability	**52.3**	48.1	**0**
Resource productivity	N/A	N/A	N/A
Air emissions by fine particulates	N/A	N/A	N/A
Environment-related technologies	57.1	51.9	0

Figure 9. European Innovation Scorecard (EIS) (2024). Bosnia and Herzegovina and Montenegro



NORTH MACEDONIA

Emerging Innovator

Summary innovation index (relative to EU in 2017): **49.6**

Rank: **34**

Change vs 2023: ▲ 3.9 Change vs 2017: ▲ 11.9

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
SUMMARY INNOVATION INDEX	**45.1**	11.8	3.9
Human resources	**36**	9.8	4.9
New doctorate graduates	21.4	0	11.6
Population with tertiary education	70.6	32.9	0
Population involved in lifelong learning	13.6	-3.1	0
Attractive research systems	**79.7**	40.9	3.6
International scientific co-publications	25.9	21.2	0.1
Scientific publications among the top 10% most cited	44.3	36	3.7
Foreign doctorate students as a % of all doctorate students	185.1	70.1	6.6
Digitalisation	**37.1**	**-0.9**	**0**
Broadband penetration	51	-1.7	0
Individuals with above basic overall digital skills	17.7	0	0
Finance and support	**14.5**	**-0.7**	**0.2**
R&D expenditure in the public sector	26.2	-13.1	0
Venture capital expenditures	10.4	7.8	0.5
Direct and indirect government support of business R&D	5.4	6.6	0
Firm investments	**42.1**	**0.6**	**0**
R&D expenditure in the business sector	4.2	1.5	0
Non-R&D innovation expenditures	115.7	0	0
Innovation expenditures per person employed	14.8	0	0
Use of information technologies	**30.9**	**5.7**	**-3.5**
Enterprises providing ICT training	35.6	-5.1	-7
Employed ICT specialists	26.4	16.1	0
Innovators	**63.2**	**0**	**0**
SMEs introducing product innovations	49.6	0	0
SMEs introducing business process innovations	74.1	0	0
Linkages	**49.4**	**40.2**	**-18.9**
Innovative SMEs collaborating with others	44.7	0	0
Public-private co-publications	27.7	25.1	-5.4
Job-to-job mobility of HRST	62.5	82.3	-41.2
Intellectual assets	**21.5**	**3.8**	**5.4**
PCT patent applications	30.1	0.8	8.5
Trademark applications	27.6	13.2	6.4
Design applications	1.1	0.8	0.4
Employment impacts	**31.6**	**6.9**	**0**
Employment in knowledge-intensive activities	15.8	14.5	0
Employment in innovative enterprises	45	0	0
Sales impacts	**59.6**	**14.2**	**1.3**
Exports of medium and high technology products	99.4	10.1	1.1
Knowledge-intensive services exports	42.6	29.3	2.4
Sales of new-to-market and new-to-firm innovations	22.8	0	0
Environmental sustainability	**87.4**	**34.8**	**48.9**
Resource productivity	51.4	29.4	14
Air emissions by fine particulates	N/A	N/A	N/A
Environment-related technologies	144.4	51.6	94.6

SERBIA

Emerging Innovator

Summary innovation index (relative to EU in 2017): **69.1**

Rank: **29**

Change vs 2023: ▲ 4.4 Change vs 2017: ▲ 7.4

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
SUMMARY INNOVATION INDEX	**62.8**	7.4	4.4
Human resources	**48.6**	**-4.9**	**0.0**
New doctorate graduates	47.6	-11.6	0.0
Population with tertiary education	54.4	0.0	0.0
Population involved in lifelong learning	43.3	0.0	0.0
Attractive research systems	**43.4**	10.1	3.4
International scientific co-publications	51.9	30.0	-0.3
Scientific publications among the top 10% most cited	50.7	6.5	5.8
Foreign doctorate students as a % of all doctorate students	24.4	-0.1	1.5
Digitalisation	**64.1**	51.9	11.2
Broadband penetration	87.6	108.4	27.0
Individuals with above basic overall digital skills	31.4	-4.4	-4.4
Finance and support	**42.7**	14.0	**-0.4**
R&D expenditure in the public sector	68.9	-1.6	0.0
Venture capital expenditures	43.6	45.8	-1.1
Direct and indirect government support of business R&D	10.8	0.0	0.0
Firm investments	**102.4**	**-8.9**	**-0.8**
R&D expenditure in the business sector	26.4	12.1	-2.2
Non-R&D innovation expenditures	183.6	24.8	0.0
Innovation expenditures per person employed	108.5	-68.5	0.0
Use of information technologies	**92.0**	**-32.5**	**19.0**
Enterprises providing ICT training	98.9	-66.2	38.9
Employed ICT specialists	85.2	0.0	0.0
Innovators	**135.7**	**57.4**	**57.4**
SMEs introducing product innovations	171.0	58.8	58.8
SMEs introducing business process innovations	106.9	55.9	55.9
Linkages	**77.8**	**36.9**	**6.5**
Innovative SMEs collaborating with others	92.2	34.3	34.3
Public-private co-publications	50.1	15.7	-4.8
Job-to-job mobility of HRST	77.1	50.0	-11.8
Intellectual assets	**21.9**	**2.1**	**-2.3**
PCT patent applications	31.6	0.7	-5.3
Trademark applications	26.1	8.5	-1.4
Design applications	1.5	-1.4	0.5
Employment impacts	**71.7**	**-0.4**	**0.0**
Employment in knowledge-intensive activities	68.6	0.0	0.0
Employment in innovative enterprises	74.6	-0.6	0.0
Sales impacts	**64.8**	**14.6**	**3.3**
Exports of medium and high technology products	57.1	2.2	6.1
Knowledge-intensive services exports	56.6	17.0	2.6
Sales of new-to-market and new-to-firm innovations	90.1	31.5	0.0
Environmental sustainability	**31.1**	**-15.8**	**-11.7**
Resource productivity	9.3	0.5	4.8
Air emissions by fine particulates	8.5	-11.8	7.4
Environment-related technologies	81.8	-35.2	-52.7

Figure 10. European Innovation Scorecard (EIS) (2024). North Macedonia and Serbia

The EIS assessment underscores the potential to build on existing innovation ecosystems in these countries, offering a strong foundation for the Regional Project. The project aims to accelerate climate adaptation innovations by providing catalytic funding to local innovators, strengthening regional collaboration, and supporting capacity-building and incubation for local NGOs, CSOs and small businesses.

Urgency of Adaptation Investments at the Local Level

The World Bank estimates that an initial, comprehensive adaptation investment package in the Western Balkans could reach up to US$37.2 billion[118], including for the Regional Project's four partner countries: US$6.8 billion for

[118] "To counter the growing risks linked to climate change, WB6 [Western Balkans 6] countries will need to consider large investments in adaptation—investments that will come with significant benefits. An analysis of an initial, comprehensive multi-sectoral adaptation investment package was completed [by the World Bank team] based on data gathered from local documents, literature, and expert knowledge. The undiscounted costs (expressed in 2020 US$) of proposed policy actions and investments for an initial adaptation package following this approach in the six Western Balkan countries include, US$6.0 billion (Albania), US$6.8 billion (Bosnia and Herzegovina), US$2.8 billion (Kosovo), US$5.7 billion (Montenegro), US$6.4 billion (North

Bosnia and Herzegovina, or 0.6–1 percent of GDP per year until 2050; US$5.7 billion for **Montenegro**, or 1.5-2.3 percent of GDP per year until 2050; US$6.4 billion for **North Macedonia**, or 0.8-1.2 percent of GDP per year until 2050; and US$9.5 billion for **Serbia**, or 0.4-0.6 percent of GDP per year until 2050 Globally, UNDP highlights a significant funding gap for climate change adaptation, with costs projected to range from US$140 billion to US$300 billion per year by 2030 and as high as US[119][120]. In the Western Balkans, each country may need to invest up to US$2 billion by 2030 alone. Front-loading and accelerating adaptation investments and innovation within the next five years will help mitigate long-term costs and the impacts of climate-related shocks. Such actions are expected to deliver substantial economic benefits, including avoided losses, accelerated economic growth, and amplified social and environmental co-benefits, with an estimated return on investment of up to 400%. However, these adaptation investments are just one part of the fiscal burden. In addition, to achieve economy-wide Net Zero, the countries of the Western Balkans would need to invest an additional US$89.4 billion, or 1.9 percent of GDP on average per year until 2050, compared to a reference scenario, most of which would be to transition the power sectors of each country and scal[121] solar, wind, and hydro generation capacities. **North Macedonia**, for example, would need to invest an additional US$1.7 billion by 2030 and US$5.6 billion by 2050, equivalent to about 2.6 percent of GDP per year. **Serbia** would need to invest an additional US$10.4 billion by 2050, equivalent to 1.6 percent of GDP per year. **Montenegro** would need to invest an additional US$235 million until 2050, equivalent to 0.2 percent of GDP per year. **Bosnia and Herzegovina** would need to invest an additional US$0.5 billion by 2030 and US$5.8 billion by 2050, equivalent to 1.8 percent of GDP per year.

Climate adaptation innovations bring numerous benefits beyond the immediate impact on climate resilience. For example, the transition to net-zero could reduce air pollution-related mortality by 15% by 2050, potentially saving thousands of lives[122]. Additionally, early-warning systems offer substantial benefits in terms of preventing mortality and hospitalization, with the benefits often outweighing the implementation costs by hundreds or even thousands of times[123]. Water and flood management, along with nature-based solutions, can stimulate local economic development. However, a key missing component is locally-led adaptation and innovation at the community level, supported by national, regional, and global expertise, to scale successful climate adaptation practices, tools, and technologies. This project aims to address this critical gap.

Currently, the global and regional climate finance landscape places a heavy emphasis on mitigation efforts aimed at reducing greenhouse gas emissions. However, there has been less focus on risk reduction, adaptation, and particularly in locally-led adaptation innovation. According to the Climate Policy Initiative, only US$22 billion per year globally is allocated to climate adaptation, compared to over US$436 billion for mitigation[124]. This underfunding is partly due to the complexity of adaptation, as it lacks a single, standardized measure like greenhouse gas emissions, making it harder to track and fund. Moreover, there is no “one size fits all” solution to adaptation challenges, further explaining why it has received less attention and funding. Locally-led adaptation

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Macedonia), and US$9.5 billion (Serbia). Multiple sources of information were used to estimate the needs of each country. The total for the region comes to $37.2 billion (in 2020 US$) undiscounted.”

Source: World Bank. (2024). Western Balkans 6 Country Climate and Development Report (CCDR). Available at: https://www.worldbank.org/en/region/eca/publication/western-balkans-6-ccdr.

Note: estimates for each country’s “percent of GDP per year until 2050” are drawn from the individual country reports of the CCDR, available at the same link.

[119] UNDP. (2023). *Why the Western Balkans Are Choosing Decarbonization*. https://climatepromise.undp.org/news-and-stories/why-western-balkans-are-choosing-decarbonization-serbia-bosnia-and-herzegovina

[120] United Nations Development Programme. (2023). Immediate action is needed to step up climate adaptation in Eastern Europe and Central Asia. https://www.undp.org/press-releases/immediate-action-needed-step-climate-adaptation-eastern-europe-and-central-asia

121 World Bank. (2024). Western Balkans 6 Country Climate and Development Report (CCDR). Available at: https://www.worldbank.org/en/region/eca/publication/western-balkans-6-ccdr. **Note:** estimates for each country’s required Net Zero investment and its estimate of “percent of GDP per year by 2050” are drawn from the individual country reports of the CCDR, available at the same link.

[122] World Health Organization, 'Air pollution and climate change', WHO, 2021

[123] Global Commission on Adaptation, 'Adapt Now: A Global Call for Leadership on Climate Resilience', 2019

[124] Climate Policy Initiative. (2023). Global Landscape of Climate Finance 2023. Retrieved from https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2023/

innovation represents a key opportunity, particularly in the Western Balkans, where diverse and non-standard solutions can be developed to address climate risks. Entrepreneurship, whether non-profit, social, for-profit, or in partnership models, is an effective approach to generating locally-led, innovative solutions to adaptation challenges.

However, adaptation finance for NGOs, CSOs, and Micro, Small, and Medium-sized Enterprises (MSMEs) remains scarce. The finance gap between NGOs, CSOs, and Micro, Small, and MSMEs and private sector finance continues to hinder the scalability of local innovative solutions. Traditionally, small, community-based initiatives have limited access to funding, relying primarily on donations or local grants. These initiatives falling under the "missing middle" group remain largely excluded from larger, transformative funding mechanisms typically available through private finance.

As identified in a OECD/UNCDF report (2020; p.112)[125], the Small and Medium Enterprises (SMEs) are vital to emerging economies, generating 70% of new jobs, contributing up to 40% of GDP, and act as important vehicles for innovation and community development. However, many of these SMEs fall into the "missing middle"—which means that they are too large for microfinance, yet too small or risky for traditional banks and investors. Three main barriers contribute to this financing gap according to this report are:

- High Transaction Costs – Similar effort is needed to assess SMEs as large firms, but with smaller returns.
- Risk Perception – SMEs often lack collateral, financial history, or sector familiarity, making them appear riskier.
- Investment Readiness – Many SMEs lack the skills to present strong financial models and business plans to attract formal investment.

The above is particularly evident in the Western Balkans, where high capital costs and concerns over ownership deter innovators and entrepreneurs from accessing equity, while non-profits and social enterprises face even greater challenges due to the unsuitability of traditional financing models. As a result, the capacity to scale and invest in locally-led adaptation solutions are severely constrained.

Early-stage investments in adaptation are crucial to reducing long-term costs, preventing climate-related losses, and generating substantial returns. These investments will also yield co-benefits, such as improved public health, biodiversity restoration, and the creation of sustainable local economies. By addressing these challenges, this regional project will help bridge the existing finance gaps, foster locally-led innovations, and support the broader goal of enhancing climate resilience across the Western Balkans.

Project Objectives

The objective of the Regional Project is to **accelerate locally-led climate change adaptation innovation** in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia by applying an **enterprise development approach** that strengthens **regional collaboration**, promotes **gender equality, women's empowerment and social inclusion**, supports **community-based innovation**, and fosters learning and **knowledge exchange** at both regional and global levels.

This objective will be achieved through the following three interlinked outcomes:

[125] OECD/UNCDF (2020; p.112), Blended Finance in the Least Developed Countries 2020: Supporting a Resilient COVID-19 Recovery, OECD Publishing, Paris, https://doi.org/10.1787/57620d04-en.

- **Outcome 1:** Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Western Balkans countries, with particular emphasis on approaches that advance gender equality and women's empowerment, and which address priority climate risks.

- **Outcome 2:** Selected adaptation innovations are strengthened and positioned for scale through tailored business development support, market testing, and identification of funding and financing pathways.

- **Outcome 3:** Knowledge, evidence, and lessons from adaptation innovations are captured, shared, and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks.

Overarching Development Outcome

The overarching goal of the project is to accelerate, develop, and promote innovation for effective, long-term, locally-led adaptation to climate change in the four Western Balkans partner countries. Special emphasis will be placed on supporting vulnerable groups and advancing gender equity and women's empowerment. The innovative adaptation solutions will address priority climate risks which affect the four Western Balkan countries as described in the baseline information of this proposal.

Project Design and Implementation Approach

This project adopts a holistic ecosystem-building approach to strengthen climate resilience at local and regional levels. By integrating innovation, inclusion, and knowledge-sharing, the project aims to catalyze sustainable, community-driven adaptation. The main project approach is described as follows:

1. **Pilot Locally-Led Adaptation Technologies and Practices**

Objective: Empower communities to test and scale context-specific adaptation solutions.

Could be achieved through:

- Support demonstration projects in climate-resilient agriculture, water management, and nature-based solutions.
- Facilitate participatory design processes to ensure solutions are culturally appropriate and locally owned.
- Monitor and evaluate pilot outcomes to inform broader replication.

Impact: Builds local capacity, enhances community ownership, and ensures solutions are grounded in real-world needs.

2. Incubate and Accelerate CSOs, NGOs, SMEs, and Cooperatives

Objective: Strengthen the innovation ecosystem by supporting grassroots and entrepreneurial actors.

Could be achieved through:

- Provide grant funding, mentorship, and technical assistance to early-stage climate adaptation initiatives.
- Establish innovation hubs or accelerators focused on climate-smart technologies and services.
- Foster partnerships between civil society, private sector, and academia.

Impact: Drives local economic development, creates green jobs, and scales innovative adaptation solutions.

3. Create Regional Knowledge Platforms

Objective: Facilitate peer learning and replication of successful adaptation strategies.

Could be achieved through:

- Develop digital and in-person platforms for sharing case studies, tools, and lessons learned.
- Organize regional discussions, workshops, and exchange visits.
- Promote open-access knowledge products and policy briefs.

Impact: Enhances regional cooperation, reduces duplication of efforts, and accelerates the spread of effective practices.

4. Ensure Inclusive Innovation

Objective: Prioritize equity and inclusion in all project components.

Could be achieved through:

- Design targeted approaches for women, youth, Roma, Vlachs, Vlachs, Gorani, Egyptians (in Montenegro), and other marginalized groups.
- Support leadership development and capacity-building for underrepresented stakeholders.
- Apply gender and social inclusion lenses in project design, implementation, and evaluation.

Impact: Promotes social equity, strengthens community cohesion, and ensures that adaptation benefits reach the most vulnerable.

5. **Cross-Cutting Co-Benefits:**

This integrated approach will generate multiple co-benefits beyond climate resilience:

- Public Health: Reduced exposure to climate-related health risks (e.g., heat stress, waterborne diseases).
- Food Security: Improved agricultural productivity and access to nutritious food.
- Gender Equality: Empowerment of women through leadership roles and economic opportunities.
- Green Economic Growth: Job creation in sustainable sectors and support for climate-resilient livelihoods.
- Energy Transition[126]: Promotion of clean energy solutions (e.g., efficient cooking, solar-powered irrigation).

[126] The Western Balkans' heavy reliance on coal-based energy necessitates integrating adaptation efforts with energy transition and decarbonization. While maintaining focus on adaptation finance, interventions should leverage co-benefits that support green skills development, alternative livelihoods, and local innovation capacity. This approach ensures just transition pathways for coal-dependent communities, providing workers and families with green technology training and livelihood alternatives essential for regional socio-economic stability during the shift toward sustainable resilience.

Project Components and Financing

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US$)
1. Innovation Facility for Climate Adaptation	**Outcome 1:** Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Balkans countries, with particular emphasis on approaches that advance gender equality and women's empowerment, and which address priority climate risks.	**Output 1.1:** Innovation concepts are identified and strengthened through inclusive call for interest, innovation sprints, and tailored design support. **Output 1.2:** Promising pilots are financed through small-scale grants and supported to address climate risks with a focus on gender equality and social inclusion.	Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia	$ 2,767,793
2. Technical assistance and capability development for scale	**Outcome 2:** Selected adaptation innovations are strengthened and positioned for scale through tailored business development support, market testing, and identification of funding and financing pathways.	**Output 2.1:** Adaptation innovators receive tailored business development support, including incubation, acceleration, mentoring, and market testing, to strengthen implementation readiness and sustainability. **Output 2.2:** Scalable adaptation innovations are connected to funding and financing opportunities and supported for integration into national systems, local service delivery, or relevant markets.	Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia	$ 981,656
3. Knowledge Management and Regional Collaboration	**Outcome 3:** Knowledge, evidence, and lessons from adaptation innovations are captured, shared,	**Output 3.1:** Regional knowledge exchange platforms and collaboration mechanisms are established to facilitate peer learning, cross-border dialogue, and community-of-practice	Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia	$ 638,246

	and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks.	engagement among adaptation actors. **Output 3.2:** Insights, lessons learned, and good practices from adaptation pilots are systematically documented, synthesized, and disseminated to inform future programming and policy across countries.		
4. Project Office/Management Execution cost (3.1%)				$157,760
5. Total Project Cost				$4,545,455
6. Project Cycle Management Fee charged by the Implementing Entity (if applicable) (10%)				$454,545
Amount of Financing Requested				$5,000,000.00

Projected Calendar

Indicate the dates of the following milestones for the proposed project/programme

Milestones	Expected Dates
Start of Project Implementation	1 April 2026
Mid-term Evaluation	31 May 2028
Project Closing	30 March 2030
Terminal Evaluation	15 December 2029

PART II: PROJECT JUSTIFICATION

PART II: PROJECT JUSTIFICATION

A. Describe the project / programme components, particularly focusing on the concrete adaptation activities, how these activities would contribute to climate resilience. For regional projects describe also how they would build added value through the regional approach, compared to implementing similar activities in each country individually. For the case of a programme, show how the combination of individual projects would contribute to the overall increase in resilience.

Project Components and Contribution to Climate Resilience

Theory of Change

This Theory of Change is grounded in the belief that locally led innovation, when supported with the right resources, partnerships, and knowledge systems, can drive inclusive, scalable, replicable, and gender-responsive adaptation across the Western Balkans. It recognizes that climate adaptation innovation emerges through interconnected

dynamics rather than linear cause-and-effect relationships, creating the conditions for an innovation ecosystem to flourish.

If local innovators, actors and communities in the Western Balkans, particularly women and the most vulnerable, are empowered with interconnected innovation cycles that build capabilities, credibility, and enabling networks to develop and scale adaptation solutions,

Then an ecosystem of locally led adaptation innovations will emerge, strengthen resilience across the region, and contribute to more sustainable, inclusive and gender-responsive adaptation and responses to climate change,

Because they are supported through three mutually reinforcing components that create upward spirals of innovation, learning, and scaling.

Theory of Change is supported by three key components:

- **Innovation Facility for Climate Adaptation:** the call for proposal and innovation sprint recognize and elevate local solutions while building context-specific adaptation technologies and practices, addressing priority climate risks identified by the four countries. This generates a "capacity-confidence-investment cycle" where successful recognition of local expertise builds confidence, attracts investment, and enables further capacity building.
- **Technical assistance and capability development for scale:** supports the transition from pilots to scalable solutions through targeted business support, technical assistance and acceleration. This creates a "visibility-credibility-support cycle" where successful pilots enhance the local actors credibility, attract additional support from funders and policy makers, and creates opportunities for recognition.
- **Knowledge Management and Regional Collaboration:** captures and amplifies learnings through peer exchange, regional platforms and systematic documentation of effective practices. This generates a "regional-local learning loop" where cross-border knowledge exchange strengthens the entire regional adaptation ecosystem.

This approach rests on several assumptions, including the willingness and capacity of local actors to drive innovation, the engagement of women-led initiatives, the existence of policy and market space to support scaling, and continued regional cooperation driven by shared climate priorities.

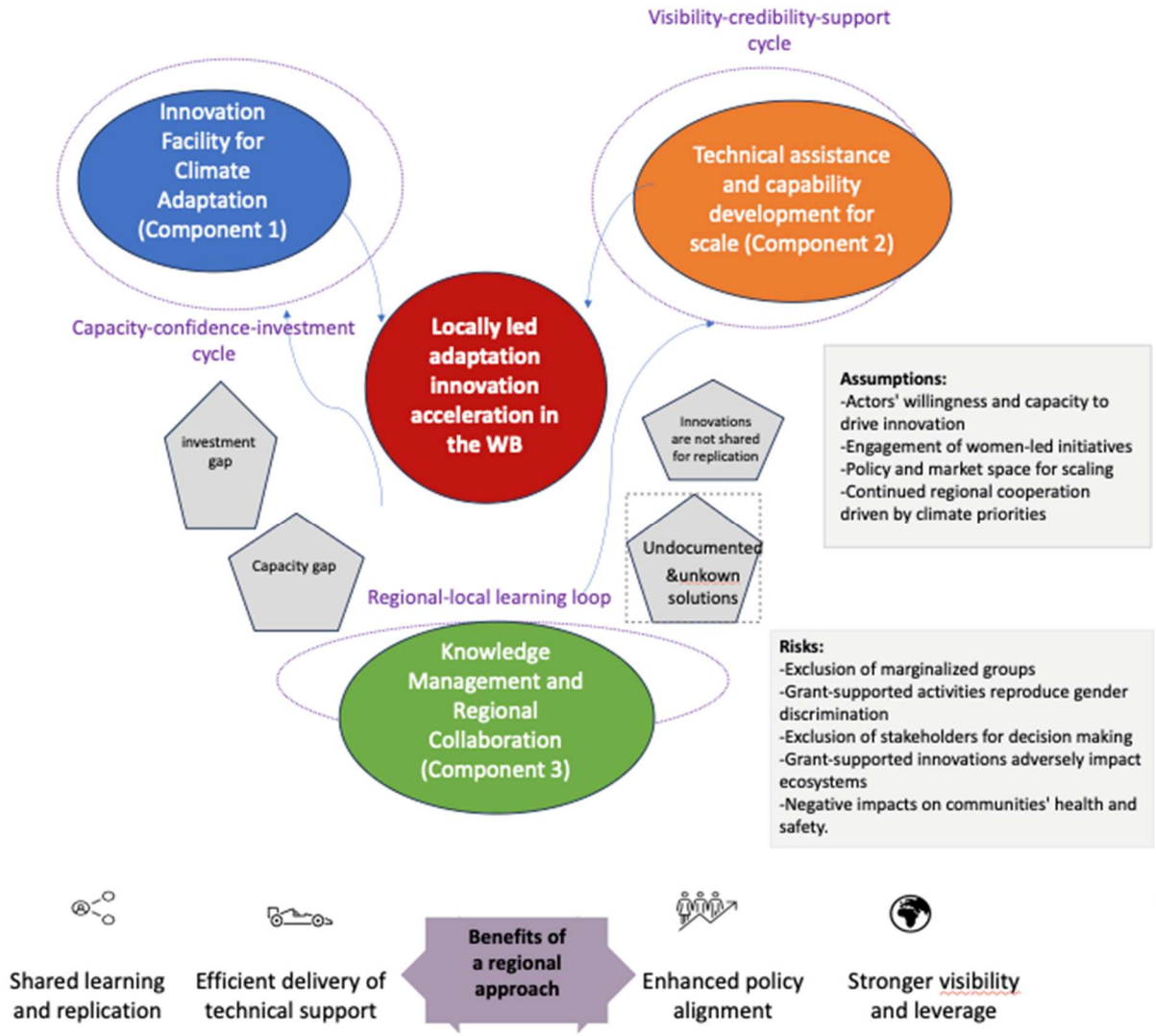


Figure 11-12. Regional Project Theory of Change

To achieve the programme's objective of supporting the development and diffusion of innovative adaptation practices, tools, and technologies, the Regional Project will be established and managed by UNDP with four main functions: (1) Sourcing, screening, and selection; (2) Grant Administration and Management; (3) Aggregated technical advisory and business development support; and (4) Knowledge coordination and result aggregation. All the funding windows under the UNDP's Adaptation Innovation Marketplace (AIM) follows a similar structure.

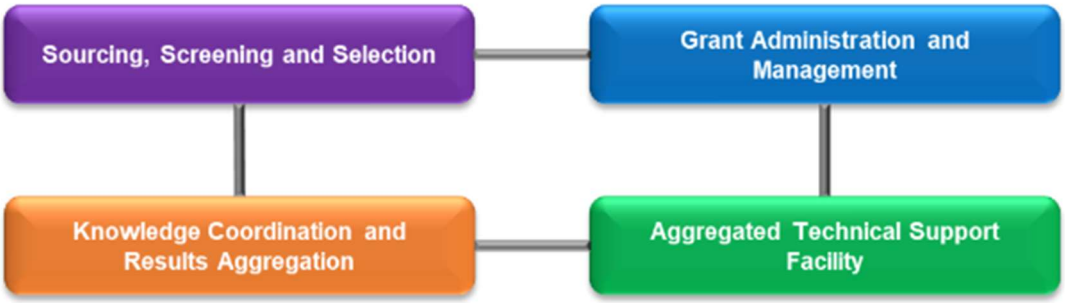


Figure 12. Major Functions of the Regional Project

The four major functions are described as following briefly:

1. **Sourcing, screening and Selection of grants**. The small grant size will be grouped into two lots: (i) Between USD 15,000 USD to USD 40,000 USD (for testing, new solutions); (ii) between USD 40,000 to USD 150,000 (for scaling or replicating solutions). One regional call for proposal will be launched during the project cycle. Small grants proposals will be reviewed and screened according to the screening criteria that will comply with the Adaptation Fund´s and UNDP´s guidelines. Each grantee will have from 18 to maximum 30 months to complete the grant project.

2. **Aggregated Technical Support Facility**. The project will leverage both in-house expertise as well as external expertise (on competitive basis) to efficiently deliver Technical and Business Development Capacity Building, Incubation, and Acceleration Support.

3. **Knowledge Management and sharing and Result-Based Monitoring and Evaluation**. The Regional Project will coordinate with local, regional, global relevant stakeholders to share knowledge and lessons learned to further enhance the effectiveness and sustainability of the programme.

4. **Programme Execution and Management**. This will include grant administration and management.

The Regional Project is designed to develop and diffuse innovative adaptation practices, tools, and technologies that will result in improved climate resilience of the target grantee-project beneficiaries over a baseline or business as usual scenario. UNDP's presence in over 170 countries is a unique and underutilized asset in acceleration of ideas space. It can act as a powerful vehicle for scaling proven adaptation innovations across borders, accelerating learning loops and market entry. Furthermore, technical assistance from the network of UNDP and partners will be provided to grantees to enhance the results. The Regional Project will also provide grantees a pathway to explore to scale their solutions, leveraging both public funding opportunities and potential private funding channels, including those potential opportunities brokered by UNDP and its partners.

Furthermore, utilizing existing networks, the Regional Project also aims to share lessons learned and best practices through a knowledge-sharing open platform. Sharing best practices can help individuals and organizations from the Western Balkans to better prioritize their options based on need, capacity, and local adaptation context.

In addition to this, this Regional Project offers **distinct advantages over standalone national** interventions:

- **Shared learning and replication:** Peer-to-peer exchange enables solutions to be adapted and scaled across similar contexts, accelerating progress and reducing risk.
- **Efficient delivery of technical support:** A regional pool of expertise ensures consistent, high-quality assistance across countries.

- **Enhanced policy alignment:** The platform complements regional frameworks such as the Green Agenda for the Western Balkans and reinforces EU integration processes.
- **Stronger visibility and leverage:** Regional coordination amplifies grantee visibility, fosters strategic partnerships, and opens new pathways to finance and scale.

The results and learning of the Regional Project will assist the landscape for innovation in locally-led climate change adaptation with the focus on pre-seed, non-profit, as well as established organizations and social enterprises, while sharing the experience and evidence of locally-led adaptation innovations with regional Western Balkans and relevant global communities.

Strategic Fit and Partnerships

Strategically, the project will be anchored under the UNDP-led Adaptation Innovation Marketplace (AIM), an initiative born in 2021, out of a need to help countries overcome barriers to developing and implementing innovative climate adaptation solutions in line with their context and priorities, especially those related to accessing finance and technical support. AIM is a Flagship Initiative of the Climate Promise, which is the framework for UNDP's support to developing countries to achieve their NDC priorities and deliver the Paris Agreement goals.

AIM supports local communities around the world to expand and accelerate promising adaptation solutions by providing investment, know-how and visibility. With initial funding from the Adaptation Fund, the Global Environment Facility (GEF) and the European Union, the initiative supports civil society organizations, social enterprises, women and young people to scale up innovative technologies, practices and business models that advance climate adaptation in local communities.

In addition to catalytic grant investment, AIM through it projects, offers local actors know-how on enterprise development and mentoring opportunities, leverages technical assistance, provides global visibility, and access to investors and partners who could accelerate these climate adaptation solutions.

In addition to this, the Regional Project aligns with the following frameworks and initiatives:

- **National frameworks**: NAPs, NDCs, green growth, and poverty reduction strategies
- **Regional initiatives**: Green Agenda for the Western Balkans, RCC, NALAS, SWG RRD, South-East European Climate Change Framework
- **Global goals**: SDGs, Paris Agreement, Sendai Framework

The Western Balkans stands at a critical juncture, where climate vulnerability and innovation potential intersect. This project will help bridge gaps in adaptation finance, strengthen innovation ecosystems, and foster regional collaboration. By supporting local actors and innovators, the project will:

- Deliver inclusive, scalable, and cost-effective adaptation solutions
- Empower communities to build resilience to climate risks
- Catalyze systemic change, improving the region's long-term climate resilience

This initiative will set a replicable precedent for climate innovation in transition economies, unlocking significant social, environmental, and economic benefits while contributing to the region's just transition towards a low-carbon future.

Description of the Project Components

To operationalize its Theory of Change, the regional project will be implemented through three interrelated components, corresponding to three outcomes:

Component 1: Innovation Facility for Climate Adaptation

Outcome 1: Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Balkans countries, with particular emphasis on approaches that advance gender equality and women's empowerment, and which address priority climate risks.

Locally-led adaptation innovations are developed, designed, and prepared for implementation through inclusive sourcing, technical support, and grant funding, with a focus on addressing priority climate risks and advancing gender equality and social inclusion in the Western Balkans.

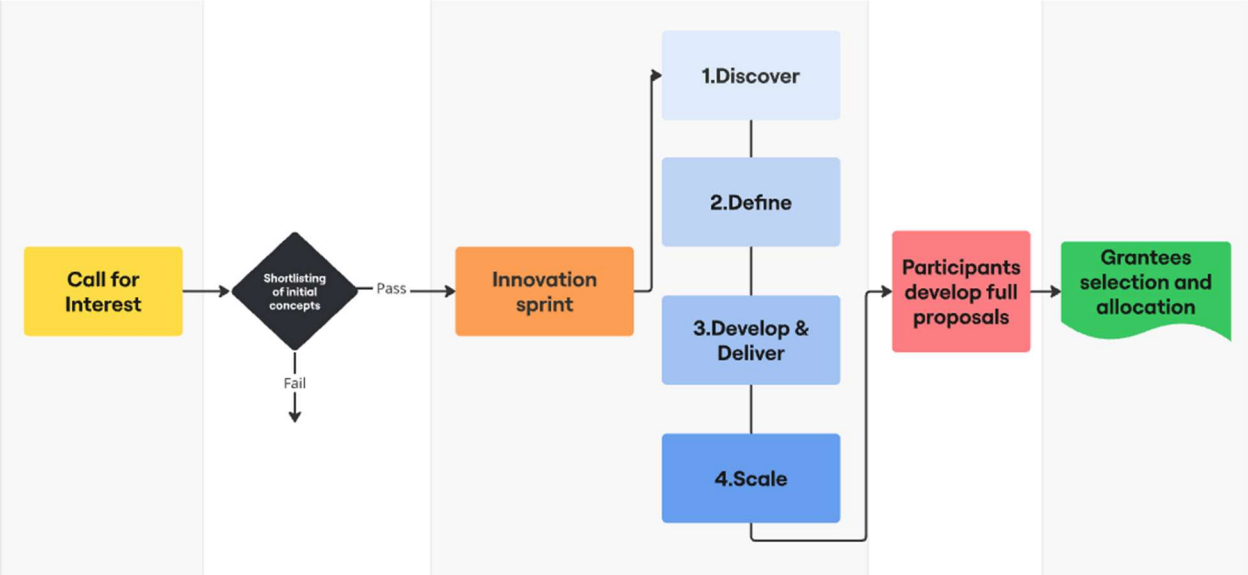
Output 1.1: Innovation concepts are identified and strengthened through an inclusive call for interest, innovation sprints, and tailored design support.

The methodology for identifying and selecting locally-led innovation solutions prioritizes inclusivity and innovation quality through a deliberate two-stage approach. Rather than issuing a traditional 'call for proposals', the project will launch a '**call for interest'** to cast a wider net and engage diverse local actors who may have promising ideas but lack the capacity to develop full proposals initially. During the project's inception phase (first six months), a broad outreach campaign will be undertaken across the four participating countries to ensure wide awareness and inclusive access to the upcoming call for interest. This will include targeted information sessions—online and in person if needed—tailored to reach diverse local actors such as NGOs, CSOs, cooperatives, MSMEs, and community-based innovators, particularly those from marginalized communities who may not typically engage with formal funding processes. All outreach materials and guidelines will be made available in relevant local languages.

The call for interest will be followed by rapid innovation and learning sprint designed to strengthen concept development and ensure genuine innovation before full proposal development. Selected applicants will participate in intensive, short-term collaborative workshops that combine peer learning and technical mentorship, for participants to hands-on improve their initial concepts. This sprint will specifically focus on validating the innovation potential of concepts, identifying implementation challenges early, and incorporating lessons from similar initiatives globally. This front-loaded learning approach ensures that only truly innovative, well-designed, and locally-grounded solutions advance to full proposal development and implementation, while building the capacity of local innovators throughout the process. The full design of the call for interest and the structure of innovation and learning sprints will be developed - during the outreach and initiation phase - by the project team, drawing on UNDP's regional capabilities on innovation and peer learning practices.

The below figure **(Figure13)** illustrates the process from Regional call for interest to selection of initiatives to fund.

Figure 135: Regional Learning and Design Sprint



Regional call for interest

To build a strong pipeline of locally-led adaptation innovations, the project will launch a comprehensive regional 'Call for Interest' targeting local NGOs, CSOs, MSMEs, cooperatives, and grassroots innovators across the four participating Western Balkan countries. This inclusive approach deliberately moves beyond traditional proposal-based funding to ensure that promising adaptation concepts from diverse actors - including those with limited proposal-writing capacity - can enter the innovation pipeline and receive tailored support for development.

The project team will ensure robust outreach to maximize reach and ensure equitable access:

- **Multi-channel outreach campaign**: Leveraging UNDP's extensive networks, partner organizations, civil society networks, business associations, academic institutions, and local government contacts to disseminate information through formal and informal channels. The project team will develop a visual identity of the Call for Interest and the regional Innovation Facility for Climate Adaptation that generates attraction and interest from stakeholders.
- **Targeted communication**: Developing locally-adapted messaging and materials in all relevant local languages, with specific outreach efforts directed toward women-led organizations, youth groups, and marginalized communities including Roma, Vlachs, Gorani, and Egyptians.
- **Information webinars and Q&A sessions**: Hosting multiple information sessions in each country as needed, offered in local languages and at different times to accommodate diverse schedules, with recordings made available for wider access.
- **Application support materials**: Creating an application guideline and FAQ document that clearly explain the process, criteria, and expectations in accessible language.

The Call for Interest will utilize a streamlined application template (online) requiring as a minimum:

1. Basic organizational information and legal status verification
2. Initial concept idea description using a standardized template that guides applicants

3. Preliminary alignment with selection criteria (detailed in project annex) covering innovation potential, local relevance, climate adaptation impact, and inclusion considerations
4. Expression of commitment to participate in subsequent learning activities

The Call for Interest will be done at the regional level, however, translated and modified as needed by the country coordinators, including direct communication to applicants as needed.

Applications will undergo a **pass/fail assessment** conducted by the extended regional project team (consisting of all four UNDP country offices and Istanbul Regional Hub), ensuring consistent standards while incorporating local contextual knowledge. The assessment will focus on basic eligibility, concept viability, and innovation potential rather than detailed technical merit as this will be part of the full proposal development later.

This approach is designed to create a **larger learning cohort** (described in more details below) than the final number of funded innovations, allowing for peer learning, cross-pollination of ideas, and further selection through the subsequent development process. Selected applicants will advance to the innovation and learning sprint phase, where they will refine their concepts before developing full proposals for final selection by the project's Selection Committee.

The Call for Interest serves as both an inclusive entry point and a capacity-development mechanism, ensuring that the most promising locally-led adaptation innovations receive the support needed to develop into fundable, implementable solutions.

This approach of maintaining a larger cohort of concepts, while recognizing that not all will reach full maturity for selection, provides UNDP and partners with a comprehensive landscape review of current climate adaptation innovation potential across the Western Balkans region and creates a valuable **'bank of ideas'** that can be further refined, promoted, and potentially connected with alternative funding sources and opportunities beyond the project's direct support.

Regional Learning and Design Sprint

Following the Call for Interest, the project will implement a regional **Learning and Design for Innovation Sprint** designed to further improve promising concepts into implementable adaptation solutions. This intensive capacity-development sprint serves dual purposes: strengthening individual project concepts building on a tested process and embedding experience from outside the Western Balkans while fostering peer learning among the selected cohort.

The Sprint will be co-designed and facilitated in-house by UNDP, building on similar previous examples, and will bring in global and regional expertise as needed. The program will be carried out over 6-8 weeks and utilize a blended approach featuring:

- **Virtual regional workshops** bringing the full cohort together for intensive collaborative sessions
- **"Test & Refine Homework"** enabling continuous engagement between face-to-face sessions
- **Peer-to-peer learning exchanges** facilitating knowledge sharing across countries and sectors
- **Rapid Individual mentorship** to check-in on learning and engagement of the participants
- **Regional expertise integration** incorporating insights from previous climate adaptation initiatives and local innovation ecosystems

The Sprint follows a proven four-stage approach tailored for climate adaptation innovation:

1. **Discover:** Participants deepen their understanding of the specific adaptation challenge through a structured community listening exercise, stakeholder mapping, a light climate risk assessment, and vulnerability analysis. This component emphasizes participatory methods and ensures solutions are grounded in real community needs and local knowledge systems.

2. **Define:** Teams refine their project focus and intervention pathways using strategic framing processes including systems thinking and foresight methodologies. Participants learn to articulate clear problem statements, identify leverage points for maximum impact, and integrate gender equality and social inclusion considerations from the outset.
3. **Develop & Deliver:** Participants are given the space to (re)think their partnership base and outreach, current business model, and prepare their possible implementation plan, with continuous integration of gender and social inclusion lenses throughout the design process.
4. **Scale:** The final sessions explore and will inspire participants to consider already upfront possible pathways for scaling and sustainability. Scaling will be unpacked as a concept and entails not only replication, but intention to attract further public funding or private finance, behavioral and cultural changes, and or regulatory and policy changes in the longer run.

Beyond individual project development, the sprint incorporates:

- **Cross-regional and global inspiration** examining successful adaptation innovations globally
- **Failure analysis** learning from challenges and setbacks in similar initiatives, including a tailored session on social and environmental risks
- **Innovation ecosystem mapping** identifying potential partners, funders, and scaling pathways
- **Gender and inclusion** ensuring projects advance equity and reach marginalized groups
- **Pitch development training** preparing participants for effective communication with diverse stakeholders

Following the Sprint, participants will have dedicated time to develop their comprehensive proposals if they choose to go forward in the proposal stage, incorporating learning and feedback from the sprint. This intensive collaborative process also provides UNDP with valuable opportunities to assess participants' sustained motivation, capacity to deliver on commitments, and collaborative potential, while building trust and rapport essential for effective communication, engagement, and support throughout the implementation phase. Importantly, this approach moves beyond transactional grant-making toward building genuine partnerships that leverage and strengthen existing local capabilities, facilitate strategic connections across the innovation ecosystem, and create synergies where collaborative impact exceeds individual project outcomes. Final proposals will be screened by the extended regional team and evaluated by the project's Selection Committee described below. This pre-step prior to full proposal development ensures that selected projects are not only technically sound and context-specific but also benefit from regional learning networks, peer support systems, and enhanced capability for implementation success and long-term sustainability.

Output 1.1 – Indicative Activities

- **Design and Launch of Call for Expression of Interest (EOI)**, developing guidelines and eligibility criteria, and disseminating through regional networks, UNDP country offices, and social media. The project will identify and support locally-led adaptation innovations across the Western Balkans using inclusive outreach and simplified applications.
- **Screening and Scoring for EOI** submissions using a standardized scorecard to assess innovation, feasibility, and impact, including gender and social inclusion as scoring criteria.
- **Innovation and Learning Sprint,** conduct an innovation and learning sprint to strengthen concept development, validate innovation potential, and ensure only well-designed, locally grounded solutions move forward to the full proposal stage.
- **Regional Call for Proposals,** launch a regional call for proposals with a detailed application package, including templates for the results framework, budget, and gender action plan.
- **Proposal Screening and Scoring,** Screen and score proposals using a standardized scorecard to assess innovation, feasibility, and impact, including gender and social inclusion as scoring criteria.

- **Conducted Selection and Due D**iligence, including background checks, financial assessments, and risk screening, while applying Environmental and Social Safeguards (ESS) and the Gender Marker.
- **Grant Agreement Finalization, r**eview and finalize Low Value Grant Agreements (LVGAs) by reviewing and ensuring alignment with national adaptation priorities.
- **Disbursement and Monitoring,** disburse funds in tranches based on milestones, with quarterly reporting and site visits (if required).

Output 1.2: Promising pilots are financed through small-scale grants and supported to address climate risks with a focus on gender equality and social inclusion.

Selection Committee establishment

As part of the inception phase of the project, a Selection Committee will be established with delegated responsibility on behalf of the projects Steering Committee, as per UNDP's programmatic rules and regulations. The Selection Committee comprises a minimum of eight members ensuring balanced regional representation and technical expertise:

- Four country office representatives at management level (Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia)
- One senior representative from UNDP Istanbul Regional Hub
- One representative from UNDP's Technical Adaptation team
- Two external experts from relevant organizations or programs with 1) climate adaptation and 2) innovation expertise
- Social and Environmental Safeguard Specialist and Gender Equality and Women's Empowerment Specialist

Meetings will be held online, the Regional Project team serves as the Secretariat, and decisions are based on consensus. More information will be spelled out in the separate Terms of Reference of the Selection Committee endorsed upon its first meeting. Final selection recommendations require endorsement on a no-objection basis by the Steering Committee to ensure alignment with overall project objectives and strategic priorities.

Robust conflict of interest protocol governs the selection processes. Members of the Selection Committee, along with their affiliated institutions, are ineligible for funding. Any potential conflicts will be declared and managed according to UNDP standards, with affected members recusing themselves from relevant deliberations. The grant application template and criteria are found in Annex 2. While grants will be awarded through a competitive merit-based selection process, the Selection Committee will apply a balanced regional distribution principle to ensure equitable participation and capacity development across all four participating countries, while maintaining quality standards and full alignment with project objective.

Grant agreements will be executed using appropriate modalities as per UNDP's rules and regulations, and will include Low Value Grants, Innovation Challenges, Responsible Party Agreements, and or in exceptional cases direct procurement by UNDP, to ensure maximum flexibility to adapt to changing circumstances on the ground.

Grants allocation and monitoring

The project's innovation approach deliberately employs a two-tiered funding structure designed to nurture the full spectrum of climate adaptation solutions—from early-stage experimentation to proven concept scaling. This dual approach recognizes that genuine innovation requires supporting both emerging ideas and validated solutions, helping to foster a dynamic ecosystem that generates novel approaches while accelerating proven interventions.

Lot 1 – Grants for Innovation and Experimentation (USD 15,000 - USD 40,000) These smaller grants specifically target novel approaches, emerging technologies, or innovative business models with clear potential for climate adaptation impact. Priority will be given to:

- Untested but promising concepts that address adaptation challenges through new methodologies
- Early-stage innovations from non-traditional actors or emerging organizations
- Experimental approaches that challenge conventional adaptation practices
- Solutions that demonstrate potential for breakthrough impact despite limited track records

Lot 2 - Scaling Grants for Proven Solutions (USD 40,000 - USD 150,000) These larger grants support the expansion or replication of solutions that have demonstrated early results and pathways to scale. Focus areas include:

- Validated approaches ready for geographic expansion, replication or deeper implementation
- Proven technologies or methodologies requiring support for broader adoption
- Successful pilot initiatives with documented results and scaling potential

By supporting both experimentation and scaling, the project aims to create an innovation facility for climate adaptation that can attract additional funding sources beyond the Adaptation Fund. This facility acts as a dynamic platform for generating, testing, and scaling new solutions, building a pipeline of innovations that can leverage diverse funding mechanisms and create sustained impact across the Western Balkans region.

On **quality assurance and compliance**, all proposals undergo rigorous screening aligned with Adaptation Fund and UNDP guidelines, including:

- Social and environmental safeguards assessment
- Gender analysis and inclusion impact review
- Sustainability and scalability review
- Technical feasibility and innovation potential review

Priority consideration will be given to concepts that enhance the resilience of vulnerable populations, demonstrate clear pathways to longer-term sustainability, and contribute to the broader learning agenda of the innovation facility.

Grant and funding instrument agreements will be structured using appropriate UNDP modalities tailored to recipient organizational characteristics (CSOs, NGOs, SMEs, cooperatives), ensuring compliance with UNDP rules and policies while maintaining flexibility to support diverse innovation actors. Performance-based disbursement mechanisms will be employed where appropriate, linking funding to achievement of specific milestones and learning objectives that contribute to both individual project success and broader ecosystem knowledge generation.

What types of innovative adaptation solutions to be funded by the grants/funding instruments?

Based on the development context presented in the first part of this proposal, the climate risks faced by Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia are diverse but interconnected, with common threats including extreme heat, droughts, flooding, and wildfires. These impacts threaten key sectors such as agriculture, water resources, and energy, making adaptation a crucial priority for the region. Each country's NAP priority areas outline specific actions, such as improving water management, strengthening disaster risk reduction systems, and

adapting agriculture to changing climate conditions among others. The Regional Project will build on these priorities, supporting the development and scaling of locally-led adaptation innovations solutions[127], enhancing regional collaboration, and ensuring that adaptation solutions are inclusive, sustainable, and resilient to future climate risks.

The following priority climate risks will be addressed through this project, as they are common to the four Western Balkan countries:

Priority climate risks:

- Droughts and rainfall variability
- Temperature rise, heatwaves and wildfires
- Floods
- Landslides
- Sea Level Rise and/or Salination (only Montenegro)
- Coastal erosion (only Montenegro)
- Climate induced health risk

Considering the above, the following types of solutions and thematic sectors would be considered for the call for proposals/grantees selection. It is important to recognize the strong interlinkages and co-benefits that exist between the targeted sectors and adaptation solutions. Many of the piloted interventions contribute to multiple outcomes across thematic areas. Leveraging these interconnections can significantly enhance the overall impact and sustainability of the financing. Ensuring the scalability of solutions and maximizing their relevance across sectors are both critical to the effectiveness and long-term value of the grant:

1. Climate-Resilient Agriculture and Food Security

The agricultural sector is not only a major driver of climate change but is also seriously affected by it, increasing the importance of the sector to climate action. As noted in the narrative section, the agriculture sector is central to the economies of the Western Balkans. Climate change increases weather variability, intensifying and increasing extreme weather events, disrupts rainfall patterns, increases temperatures, and risks the introduction of pests and diseases to regions previously unaffected.

Adaptation benefits:

- Promoting drought- and flood-tolerant crops, digital agricultural tools and services for on-farm practices like irrigation and agrochemical inputs, resilient and effective irrigation systems, among other interventions, can reduce the vulnerability of farmers to climate change, increase food security by stabilizing crop yields and prices of agricultural commodities.
- Promote sustainable and resilient livelihoods of farmers through sustainable production of agricultural commodities, higher value-added and sustainable food value chain development, and crop/plant diversification, including agroforestry.
- Supports sustainable farming practices that preserve or improve soil health, water, and biodiversity.
- Integrating farming and food traditions with context-specific technology can drive sustainable development by building on local knowledge.

127 Similar to solutions as categorized under: https://www.adaptation-fund.org/wp-content/uploads/2020/10/AFB.PPRC_.26.b.17-Options-for-further-defining-innovation-in-adaptation-1.pdf

- Technological and policy innovations must reshape the cost structure of the agrifood value chain to incentivize sustainable practices.
- Tapping into wasted and underutilized assets offers potential for creating sustainable food value, reducing waste while enhancing resource efficiency and economic inclusiveness.

2. Water Management

Climate change increase the intensity and frequency of droughts, and increasingly variable rainfall impacts hydrological cycles and freshwater availability, among others [128]. Improving water management in areas experiencing an elevated level of water stress can reduce the increased pressure on water demand and improve room for allocation under increasingly scarce and constrained conditions, particularly important for reducing competition between critical water use sectors. There is a high degree of interlinkages with several other thematic priorities, including agriculture and disaster risk reduction.

Adaptation benefits:

- Rainwater harvesting and storage can reduce dependency on ground- and surface water extraction, reduce flows in drainage systems (alleviating flood risk). Risks of reduced surface flow and/or return flows would have to be determined on a case-to-case basis.
- Wastewater treatment that leads to effective water recycling can contribute to more efficient use during dry periods.
- Builds resilience in both rural and urban water systems. Due to the interconnectedness of the water sector, especially at basin, watershed, and catchment levels, adaptation measures for improved water resources management have significant co-benefits and leveraging opportunity – for example in terms of agriculture and flood protection.

3. Flood Risk Management

Reasons: Climate change increases the frequency and intensity of floods. Adaptation benefits:

- Infrastructure like levees, retention basins, and green drainage systems protect lives and property
- Flood zoning and early warning systems reduce vulnerability
- Helps maintain economic stability in flood-prone areas

4. Urban Climate Resilience

Cities are hotspots for climate risks like heatwaves, flooding, air pollution, and infrastructure stress. According to a 2024 World Bank report, the average frequency of extremely hot temperatures in Western Balkan cities, on average, relative to its own historical experience increased from 0.09 months (or 3 days a year) in the 1990s to 1.32 months (or more than 40 days a year) in 2011–20 – a fourteen-fold increase in only two decades. The average intensity of extreme heat events also gradually increased over the same period, while extreme dry and extreme wet weather events have been increasing. [129]

Adaptation benefits:

[128] https://climate.ec.europa.eu/climate-change/consequences-climate-change_en
[129] World Bank (2024) Reshaping Cities: Readying cities in the Western Balkan for a changing climate. https://openknowledge.worldbank.org/entities/publication/2919885d-84a9-40e6-ab2a-aab21a5c1fcf

- Resilient and risk-informed housing development, sustainable and resilient city planning, and climate resilience principles integrated in zoning regulation.
- Develop solutions focused on climate resilience of energy infrastructure to address issues of access and costs – aiming to reduce demand and use of polluting fuels, such as wood and waste, for private heating solutions.
- Innovative solutions for greening cities in a practical and walkable manner, developing urban nature-based solutions (NbS) for adapting to climate risks, e.g. permeable surfaces, tree-planting solutions for increasing canopy coverage and cleaner air, utilizing wall and roof spaces for greenery, and developing or applying green-blue solutions for better urban water management – strengthening resilience to urban flooding, promoting cool and healthy urban micro-climates, and human well-being.

4. Disaster Risk Reduction (DRR)

Climate change intensifies weather related disasters, like floods, wildfires, droughts, storms, among others, leading to increasing human, economic, and environmental losses. Aside from the direct threat to life, disasters are having increasingly stronger macroeconomic impacts, with direct losses estimated at $202 billion. When cascading and ecosystem costs are considered, escalating disaster costs now surpass $2.3 trillion annually, disproportionately affecting the most vulnerable. Even as hazards become more intense and volatile due to climate change, investments in reducing exposure and vulnerability are the cost-effective future of development. Disaster risk reduction (DRR) measures deliver some of the **highest benefit-cost ratios** in development investment, ranging from 2:1 to 10:1 or more. Just as total disaster costs have been underestimated, so have the benefits of DRR in both developed and developing countries alike.[130]

Floods, drought, extreme heat, landslides, and wildfire hazards become more frequent and more intense, posing substantial and growing risks for people and the economy. There is research suggesting compounding risks through overlapping hazards, for example droughts may increase risk of floods depending on the preconditions during which the sudden increase of precipitation occurs (geography, topography, soil conditions including moisture, etc.). There is however strong evidence that drought-to-flood events cause more impacts than if the hazards would occur on their own[131] – situations more likely to arise due to the increased frequency of these extreme weather events.

Nature-based Solutions (NbS) innovations, such as Ecosystem-based DRR (Eco-DRR), that provide natural buffers against climate impacts and work with ecosystems to provide myriad co-benefits across all categories listed in this section would be highly encouraged to increase impact of investments.

Adaptation benefits:

- Deploying or creating local adaptations of natural asset valuation tools to make a bankable business case for ecosystems, natural resources, promoting biodiversity and natural conservation.
- Addressing gaps for multi-hazard early warning systems in low-access areas to prevent disasters, enhance preparedness, increase response times, and minimize recovery costs – saving lives, protecting infrastructure, and reducing impacts on livelihoods.
- Integrating risk-informed, green (green-grey where necessary) engineering solutions in water management and flood planning.

[130] UNDRR (2025) Global Assessment Report (GAR) on Disaster Risk Reduction.
[131] Barendrecht, M. H. et al. (2024). Exploring drought-to-flood interactions and dynamics: A global case review. *WIREs Water*, 11(4), e1726. https://doi.org/10.1002/wat2.1726

- Restoring and protecting wetlands and forests reduces flood and erosion risks, protect biodiversity, protecting natural carbon sequestration functions, and providing opportunities for sustainable tourism.
- Enhances biodiversity and carbon sequestration and is often more cost-effective and sustainable than purely grey engineering solutions.
- Combining bio- and grey infrastructure through hybrid engineering for improving local coastal development in high-risk areas, protecting the environment and livelihoods (e.g., fisheries, tourism).
- Early warning systems save lives by enabling timely evacuations
- Spatial risk mapping informs better land-use planning
- Wildfire prevention reduces damage to ecosystems and communities

5. Nature-Based Solutions

Ecosystems provide natural buffers against climate impacts.

Adaptation benefits:

- Restoring wetlands, mangroves, and forests reduces flood and erosion risks
- Enhances biodiversity and carbon sequestration
- Often more cost-effective and sustainable than engineered solutions

6. Integrated Coastal Zone Management

Rising sea levels and storm surges threaten coastal communities and ecosystems.

Adaptation benefits:

- Combines engineering, policy, and ecosystem-based approaches
- Protects livelihoods (e.g., fisheries, tourism) and infrastructure
- Encourages sustainable development in vulnerable coastal zones

7. Climate-Health Integrated Management

Recognizes the deep interconnection between climate change and public health and ensures that adaptation strategies address both environmental and human well-being in a coordinated way.

Adaptation benefits:

- Helps prevent and manage diseases linked to climate change, such as heatstroke, respiratory illnesses, and vector-borne diseases
- Ensures health facilities and services can withstand and respond to climate shocks like floods, droughts, and extreme heat
- Combines climate forecasting with health surveillance to anticipate and respond to outbreaks and emergencies more effectively
- Targets vulnerable populations and delivers broader benefits like cleaner air, safer water, and improved nutrition

Output 1.2 – Indicative Activities

- **Targeted outreach to women and marginalized groups,** partner with women's networks, youth groups, and minority associations; translate materials into local languages to ensure social inclusiveness and gender-responsiveness in selection criteria.
- **Gender and inclusion training for applicants,** offer webinars on how to integrate GESI into project design; provide examples of inclusive adaptation innovations.
- **Gender-responsive proposal review,** require gender analysis and action plans in proposals; prioritize women-led and socially inclusive initiatives.
- **Monitoring GESI outcomes & capacity building for grantees,** track participation of women and marginalized groups; evaluate how projects address structural barriers and promote empowerment.

Component 2: Technical assistance and capability development for scale

Outcome 2: Selected adaptation innovations are strengthened and positioned for scale through tailored business development support, market testing, and identification of funding and financing pathways.

Building on the foundation of locally-led adaptation innovations developed under Outcome 1, Component 2 focuses on stewarding promising climate adaptation solutions into viable, scalable solutions capable of generating effects across the Western Balkans region. This component recognizes that innovative adaptation technologies and practices require strategic business development support, market validation, and access to appropriate funding or financing to transition from pilot demonstrations to widespread implementation. This component will provide differentiated support tailored to the two distinct categories of innovators identified in Outcome 1 through a methodological approach that combines targeted capability development, mentorship, and market positioning, among other things. By connecting adaptation innovators with funding opportunities and integrating successful solutions into national systems and local service delivery mechanisms, Component 2 ensures that climate adaptation innovations can achieve the scale and sustainability necessary to meaningfully enhance regional climate resilience while generating economic opportunities for local communities and enterprises.

Output 2.1: Adaptation innovators receive tailored business development support, including incubation, acceleration, mentoring, and market testing, to strengthen implementation readiness and sustainability.

Given the nature of this project, the innovation facility will have a range of available support options to meet the diverse needs of climate adaptation innovators across the Western Balkans. Under this output, selected adaptation innovators will receive multi-layered support designed to strengthen their organizational capacity, enhance solution viability, and accelerate pathway to scale. This support ecosystem will be tailored to address the specific needs and maturity levels of the two innovator categories, ensuring that both established organizations and emerging innovators receive appropriate guidance to achieve their scaling objectives. The support framework includes hands-on practical assistance from country-based and regional project teams throughout implementation, with specialized expertise in gender equality integration and innovation development; strategic mentorship and engagement from MBA students and faculty from globally recognized universities, providing access to cutting-edge business development knowledge and international networks; and participation in BOOST, a tailored regional accelerator programme specifically designed for climate adaptation enterprises in the Western Balkans context. The detailed design and delivery mechanisms for these support interventions will be refined during the project inception phase to ensure maximum relevance and impact. The core areas of business development support are outlined below.

Overall hands-on and in-house technical support from UNDP

The project team will provide customized support to grantees, including tailored technical training, business development mentoring, and strategic partnership facilitation. The facility will offer on-demand expertise in gender

equality and innovation, while actively connecting grantees with relevant national institutions and private sector actors to enhance solution development and market penetration. Additional external expertise and support can also be provided depending on the specific needs and circumstances of individual grantees. Beyond direct grantee support, the project team aims to help strengthen the broader enabling environment through policy support, hands-on advice and technical assistance, enhanced linkages with marginalized groups, and specialized support for women and youth empowerment. Drawing on proven methodologies from the global UNDP implemented AFCIA project and the Innovation Team in the Istanbul Regional Hub, the team will embed and localize training modules and assessment tools—including Value Chain Driven Viability Analysis and climate risk and scaling assessments—tailored to address specific needs identified during implementation. This integrated approach ensures that grantees receive both immediate operational support and access to systemic improvements that facilitate long-term sustainability and scale.

Please visit the two-page factsheets for all 44 grantees are now available on the UNDP AFCIA webpage, under the Solutions Catalogue[132]. Each factsheet highlights the grantee's key achievements, social impact, adaptation benefits, innovation characteristics, replication potential, funding snapshot, and investability.

BOOST Acceleration Programme

To support the transition from robust proposal development to effective delivery, selected grantees will receive targeted support through a structured **BOOST Acceleration Programme**, implemented in-house by UNDP with external expertise as needed. This will help strengthen their organizational structures, enhance financial sustainability, and build operational readiness for scaling their climate adaptation solutions.

BOOST is UNDP's tested acceleration model designed to help local innovators, social enterprises, MSMEs, CSOs, NGOs strengthen their business models, internal capacity, and readiness for implementation. The programme has been successfully applied across Europe and Central Asia to support over 100 solutions advancing climate resilience, green recovery, and social innovation.

UNDP has so far delivered 10 BOOST acceleration programs in the region, including a dedicated Urban Future Finance edition for Western Balkan cities. These programs gave firsthand insights into what innovators in the region are missing—capital, mentors, and business development support—and how to close those gaps. Through these programs and offices, UNDP has built strong partnerships with regional governments, municipalities, private sector (including advanced technology companies and the startup ecosystem), and relevant development partner

In this project, BOOST will be tailored to support adaptation-focused initiatives in the Western Balkans with guidance from the Technical Team to ensure that the knowledge and learnings from UNDP AFCIA's capacity-building efforts are fully integrated into the design. It will complement the innovation sprint by providing structured, practical assistance during the early stages of implementation, helping grantees strengthen their organizations, improve operational readiness, and position their projects for long-term success. The programme will specifically focus on strengthening projects that address the Adaptation Fund's priorities, including enhancing climate resilience, reducing vulnerability, promoting inclusion, and building sustainable, locally relevant solutions.

The BOOST support package will run over approximately **8-10 weeks**, however can be divided up or phased out depending on the needs of the cohort(s) of grantees. Examples of well-tested and documented main modules and

132 Under UNDP-AFCIA, 44 grantees received a first round of funding between 60,000 USD and 125,000 USD. Out of those 44, 36 received a second round of funding of 80,000 to 110,000 USD for scaling purposes. Please note that the published factsheets only contain the results of the first round of funding for the 44 grantees. In October 2025, the UNDP-AFCIA team will be updating all factsheets to reflect the final impact and scaling results considering the second round of funding. The revised versions will be made available online by the end of 2025.

boosters are shared below, which can be further complemented by sub-sessions or thematics as relevant during implementation.

Example Modules of a BOOST Acceleration Programme

1. Sustainability-Focused Business Model Innovation: This module focuses on strengthening business models to enhance organizational resilience and sustainability. It emphasizes the integration of social, environmental, and economic dimensions into long-term business strategies aligned with green recovery. It will provide practical tools for building sustainable businesses.

2. Impact Measurement / Management Guidance: Grantees will be supported to integrate practical, results-oriented impact measurement into their project design. This includes developing a measurable impact strategy aligned with the Sustainable Development Goals (SDGs), essential for scaling innovative solutions and attracting strategic partners. By strengthening impact management, grantees will be better positioned to demonstrate how their work contributes to reducing vulnerability, enhancing climate resilience, and creating lasting benefits for communities.

3. Communications and Visibility Support: Grantees will receive targeted support to strengthen their communications capacity, increase visibility, and access platforms to showcase their work. This includes tailored advice on storytelling, brand positioning, and engaging partners, funders, and stakeholders. Effective communication is essential to building partnerships, securing resources, and raising the profile of adaptation solutions within local, national, and regional contexts.

Examples of Booster workshops

1. Mentorship and Expert Guidance: Through this component, grantees will have access to dedicated mentorship that addresses both organizational development and sector-specific challenges. This includes core support in areas such as business development, operational planning, and team management. Where relevant, participants will also be connected to sector experts who can provide targeted technical advice, market insights, and connections to relevant networks, supporting both technical and strategic growth.

2. Peer Learning and Ecosystem Connections: This component will foster peer learning, shared knowledge exchange, and connections to relevant networks within the adaptation and innovation space. Grantees will have opportunities to engage with the BOOST alumni network, participate in curated events, and build relationships with other actors working to advance climate resilience. This helps situate their work within a broader ecosystem, enhancing collaboration, visibility, and potential for scaling.

BOOST's flexible design allows the support provided to be tailored to the specific needs of the selected grantees, based on their organizational type, experience level, and the nature of their proposed solution. Whether participants are NGOs, MSMEs, cooperatives, or local innovators, the programme will be adapted to ensure that the tools, mentorship, and learning opportunities are relevant and practical.

Output 2.1 – Indicative Activities

- **Establish or partner with incubators/accelerators to deliver tailored support,** leverage existing innovation hubs or university-based incubators.
- **Organize structured training programs on business model development, financial planning, and investment readiness, i**nclude both in-person and virtual delivery formats.

- **Facilitate prototype development and testing through access to technical labs or pilot communities, p**rioritize climate-resilient and locally appropriate technologies.
- **Support development of business plans and investment pitches through coaching, MBA fellowship programme support, and peer review, u**se standardized templates and expert mentors.
- **Host discussions for scaling or investor pitch events at the country and regional levels,** invite local investors, donors, and government representatives.
- **Support grantees through university students and MBA Fellowship Programme,** engage university students to leverage their skills and knowledge.

Output 2.2: Scalable adaptation innovations are connected to funding and financing opportunities and supported for integration into national systems, local service delivery, or relevant markets.

This output aims to support proven adaptation innovations in their transition from grant-supported pilots to sustainable, scaled efforts through strategic financing connections and market integration support. The project will provide comprehensive investment readiness and financing facilitation through multiple complementary activities.

MBA Fellowship Programme

Building on the success and learning from the global UNDP AFCIA project's use of this modality, which has successfully integrated business expertise into locally-led climate adaptation efforts, the MBA Fellowship Programme strategically engages postgraduate students from prestigious universities from the Global Network for Advanced Management (GNAM Network), to support grantees with dedicated business development assistance for up to six months. This collaboration will be facilitated through a responsible party selected under UNDP's procurement standards, ensuring a seamless integration of top-tier students into the programme.

The programme connects academic expertise with the practical needs of climate adaptation, providing vital support in areas such as business model refinement, financial strategy, and market expansion planning. Students will assist local initiatives by applying their knowledge in business management, financial planning, and market research, ensuring alignment with locally led adaptation principles. This mutual learning platform will benefit both grantees, who gain strategic business support, and students, who acquire real-world experience in addressing complex climate adaptation challenges, particularly in the Western Balkans context.

The programme also contributes to building a repository of lessons learned, tested practices, and case studies, creating a continuous documentation and knowledge exchange mechanism. By promoting systemic learning, the programme fosters collaboration between academia, development organizations, and local innovators, contributing to the scaling of sustainable, scalable climate solutions. This collaboration strengthens the climate adaptation landscape and ensures that the lessons learned can be applied to future projects, enabling scaling across regions.

By connecting grassroots organizations with business schools, the MBA Fellowship Programme bridges the gap between local knowledge and business expertise, driving scalable, innovative climate adaptation solutions. The fellowship enhances the leadership, financial, and strategic skills of students while providing grantees with high-level business support, improving their capacity to attract investment and scale their solutions.

The programme also promotes systemic change by aligning development finance with private sector priorities, fostering collaboration between the two sectors. Business schools serve as neutral platforms for testing new concepts, promoting long-term relationships, and closing the gap between climate finance and the projects that need it most. Ultimately, the MBA Fellowship Programme contributes to scaling adaptation solutions, strengthening resilience, and building more sustainable, inclusive societies.

In addition to the global MBA fellowship programme, the project will actively seek partnerships with universities across the Western Balkans region to engage local students and faculty with climate adaptation innovators. These potential collaborations will leverage regional expertise and cultural understanding while building institutional capacity, ensuring the sustainability of knowledge and expertise developed through the project beyond its duration. This approach will help ensure that knowledge and expertise developed through the project remain embedded within regional educational institutions, creating a sustainable foundation for continued support to future climate adaptation initiatives beyond the project's duration.

Investment and Partnership Expertise

The project will maintain on-demand in-house investment and partnership expertise to support grantees in developing fundraising strategies, exploring potential financing partners, and structuring approaches for scaling. This technical support includes assistance with financial modeling, due diligence preparation, investor relations, and partnership negotiations with both public and private sector actors.

To further strengthen the investment readiness of grantees, where appropriate, the project will engage specialized venture philanthropy organizations through competitive procurement processes. These experts will provide tailored guidance on impact investment strategies, social enterprise development, and innovative financing mechanisms for climate adaptation ventures.

Additionally, the project team will leverage UNDP AFCIA's partnership model to facilitate connections between local grantees and potential investors. This will support the refinement of business models and enhance their investment-readiness. Through the MBA Fellowship Programme, MBA students from leading global universities will work with local grantees to refine business models, strengthen financial strategies, and expand market reach. This collaboration will not only provide technical expertise but also enhance the sustainability and scalability of adaptation solutions, driving long-term impact and fostering partnerships that can accelerate adaptation efforts across the region.

Financing Pathways and Market Integration

The project will assist grantees in exploring a variety of financing pathways, including concessional and blended finance opportunities, ensuring alignment with the most appropriate and sustainable funding mechanisms. In addition, the project will leverage UNDP's extensive portfolio of climate and environmental projects as potential scaling platforms to facilitate the growth of innovative solutions.

Grantees will be introduced to government entities to explore available public funding mechanisms, creating opportunities for strategic collaborations with national institutions. This will enhance their access to both public and private sector funding, fostering market penetration and increasing sustainability potential. Additionally, the engagement of the four UNDP country offices in the Western Balkans and their extensive stakeholder networks will further support market integration, ensuring a broader and more impactful reach for adaptation solutions across the region.

Showcase and Networking Opportunities

Toward the end of grant implementation cycles, structured Pitching Events at the national level will provide grantees with platforms to present their work and explore scaling and replication opportunities with potential investors and partners. Additionally, UNDP will aim to support grantee participation in high-level national and international events to showcase innovations and build networks that may facilitate future scaling opportunities.

BOOST Acceleration Programme - Module on Fundraising and Investment Readiness

As part of the BOOST programme, selected grantees will receive specialized support to strengthen their financing capabilities and investment readiness. This module provides tailored mentorship to improve solution communication, develop compelling pitch materials, and design comprehensive fundraising strategies. Participants will explore pathways to diverse financing sources, including public, private, and blended finance mechanisms, while investigating alternative financing tools such as crowdfunding[133] and impact lending. This component aims to help promising innovations develop operational and financial foundations that may support long-term viability and scaling opportunities.

Output 2.2 – Indicative Activities

- **Map Potential Public and Private Sector Partners for Scaling and Integration, i**nclude the country office stakeholder ecosystem—ministries, local governments, cooperatives, and MSMEs.
- **Facilitate Investor Brokering, o**rganize sector-specific innovation fairs or B2B meetings.
- **Conduct Policy Dialogues and Roundtables to Present Innovation Outcomes,** engage policymakers early to build buy-in.
- **Support Pilot Integration of Selected Innovations into Public Programs or Private Sector Supply Chains,** provide technical assistance and co-financing where needed.
- **Develop Case Studies and Policy Briefs Showcasing Successful Innovations,** disseminate through national and regional platforms.

Component 3: Knowledge Management and Regional Collaboration

Outcome 3: Knowledge, evidence, and lessons from adaptation innovations are captured, shared, and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks.

Innovation thrives through shared learning and collaborative exchange. Recognizing that sustainable climate adaptation requires continuous knowledge sharing to scale innovative solutions, Component 3 establishes a comprehensive framework for capturing, synthesizing, and disseminating insights from locally-led adaptation innovations across the Western Balkans. This component will design and implement peer learning and cross-border collaboration, ensuring that successful adaptation practices and lessons learned are effectively shared among communities, practitioners, and policymakers throughout the region and beyond. Through both formal regional platforms and flexible, responsive learning support directly tailored to grantee needs, this outcome will maximize the visibility and replication potential of proven adaptation solutions while building lasting capacity for innovation and knowledge management across Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia.

Output 3.1: Regional knowledge exchange platforms and collaboration mechanisms are established to facilitate peer learning, cross-border dialogue, and community-of-practice engagement among adaptation actors.

A comprehensive knowledge-sharing mechanism will be established under this output, focusing on facilitating the exchange of relevant practices, lessons learned, and innovative solutions. This system will leverage existing regional knowledge and experiences from UNDP's initiatives, particularly in the Istanbul Regional Hub and Western Balkans Country Offices, UNDP Climate Promise, UNDP implemented AFCIA project, using a variety of channels such as social media, blogs, working papers, case studies, and open-source tools. Rather than

[133] Building on UNDP's extensive experience in supporting local CSOs in their crowdfunding efforts, including under the IsDB supported Tadamon Crowdfunding Academy, https://tadamon.community/cfa. Tadamon Crowdfunding Academy was also successfully applied in the UNDP-AFCIA programme with evidence of successful crowdfunding campaigns.

developing an online platform, the focus will be on creating a flexible structure that ensures broad access to knowledge through these multiple channels, and the creation of a community of practice of practitioners and relevant stakeholders.

Community engagement will be a key element of this system, with tools like the BOOST Alumni Network, the AIM partner network (which includes AFCIA's partnership platform), TADAMON NGO Empowernment Platform and the UNDP SGP's Global Citizens Knowledge Platform playing important roles in expanding the reach and effects of shared knowledge. These tools will ensure the knowledge-sharing process is expansive and impactful, supporting both grassroots-level actors and policymakers. More details will be specified in the respective annual work plans.

Output 3.1 – Indicative Activities

- **Establish a Regional Digital Knowledge Space for Adaptation Innovation,** includes a searchable repository of case studies, tools, and policy briefs.
- **Organize Annual Regional Learning and Knowledge-Sharing Events,** includes innovation fairs, thematic workshops, and regional showcases.
- **Launch Regional MBA Fellowship Program for Knowledge Exchange and Capacity Building.** The MBA Fellowship Programme will connect local adaptation innovators with postgraduate business students from global and regional universities, providing tailored business development support while fostering mutual learning, strengthening institutional capacity, and promoting scalable, sustainable climate solutions across the Western Balkans.
- **Develop and Implement a Visibility and Branding Strategy for the Adaptation Fund,** includes branding guidelines, media kits, and storytelling campaigns.
- **Facilitate Peer-to-Peer Learning Exchanges Between Countries,** includes virtual and in-person study tours and thematic dialogues.
- **Collaborate with National Entities and Global Networks (e.g., weADAPT, Global Resilience Partnership)** to align with global best practices and amplify regional voices.

Output 3.2: Insights, lessons learned, and good practices from adaptation pilots are systematically documented, synthesized, and disseminated to inform future programming and policy across countries.

This output will focus on systematically documenting, synthesizing, and sharing lessons from adaptation pilots across the region. Key activities will include organizing peer learning spaces such as innovation fairs, workshops, peer to peer knowledge exchange "Talks", and product showcases in collaboration with grantees and the broader AIM community (e.g. partners like the International Centre for Climate Change and Development (ICCCAD), Climate and Development Knowledge Network (CDKN), the Least Developed Countries Universities Consortium on Climate Change (LUCCC), the Global Resilience Partnership (GRP), the Climate-Knowledge Innovation Community (Climate-KIC) , the UN Capital Development Fund (UNCDF) and investment networks like the Asia Venture Philanthropy Network (AVPN), African Venture Philanthropy Alliance (AVPA), Latimpacto and Impact Europe) can all offer additional networking, dissemination and knowledge brokering possibilities for the grantees under this regional project.

The stakeholder ecosystems of the four UNDP Country Offices in the Western Balkans alongside the Istanbul Regional Hub, will facilitate the exchange of ideas, foster collaboration, and support the scaling of successful solutions. To enhance the knowledge base, the project will establish virtual connections with incubators, accelerators, innovation labs, and climate adaptation practitioners. These engagements will enrich the adaptation process by integrating diverse perspectives, providing tailored support to grantees, and ensuring that solutions are scalable, impactful, and aligned with regional and global best practices.

A **strategic communications and dissemination plan**, developed with UNDP Communication teams and adhering to UNDP's Communication guidelines, will ensure that key learnings, achievements, and grantee impact stories are shared across national, regional, and global platforms and appropriate social media channels. This plan will leverage UNDP's communication channels, ensuring consistency with global messaging and alignment with organizational standards for disseminating climate adaptation insights.

The communication efforts will include:

- Digital and social media content creation
- Documentation of results and key learnings in reports like the Donor Progress Report
- Participation in relevant events and forums

These efforts will amplify the project's impact, ensuring that lessons reach key stakeholders such as policymakers, practitioners, and the broader public, ultimately supporting the scaling of locally-led, gender-responsive adaptation solutions.

The project will also utilize existing tools like CoP platforms (e.g., Slack and Microsoft Teams) and survey tools (e.g., SurveyMonkey and Google Forms) for real-time engagement and data collection. This will ensure ongoing knowledge exchange and support the scaling and replication of innovative adaptation solutions.

The Adaptation Fund's contribution will be prominently highlighted at key stages throughout the project, including grant sourcing, screening, and administration. UNDP will develop knowledge products that clearly demonstrate the impact of the Adaptation Fund, featuring key success stories that will be shared in broader external communications. Grantees will be encouraged to recognize the support of the Adaptation Fund and UNDP in their communications, ensuring proper acknowledgment without co-branding. Some examples of UNDP's communication products related to adaptation for innovation solutions can be found below:

- Showcasing AIM and UNDP-AFCIA as UNDP's Climate Promise flagship initiative.
- UNDP-AFCIA's grantee stories
- UNDP-AFCIA's catalogue factsheets
- UNDP-AFCIA's videos and Flickr
- UNDPs Innovation platform in Eurasia (landing page for all innovation related project)

The Regional Project will create a dynamic, inclusive learning environment that fosters knowledge exchange and supports the scaling and replication of successful adaptation solutions. Through a comprehensive knowledge exchange framework, the project will encourage collaboration, continuous learning, and innovation. This approach will empower grantees to strengthen their capacity to effectively tackle climate challenges across the Western Balkans.

The project's **digital-first approach**, incorporating online workshops, virtual collaboration platforms, and generative AI tools for innovation and knowledge co-creation, will measurably enhance participants' digital literacy and technological skills while strengthening their capacity to develop and scale locally-led climate adaptation solutions.

Knowledge Management and Monitoring

As described in more detail in separate section, a robust results-based monitoring, evaluation and learning (MEL) framework will guide project implementation, allowing for the measurement of progress, identification of emerging challenges, and adaptive management. The MEL framework will be conducted in line with UNDP and AF requirements, ensuring accountability, learning, and adaptive management across the four participating countries. A dedicated knowledge management system will capture lessons learned, good practices, and innovations,

disseminating them across regional and global adaptation platforms to support continuous learning and contribute to broader climate adaptation agendas.

The MEL system will be coordinated by the UNDP Istanbul Regional Hub as project lead, with oversight from the technical team and implementation support from the UNDP Country Offices. The framework will include:

- A web-based digital data collection system for quarterly grantee reports
- A results-based reporting template designed to meet both UNDP and AF requirements
- A project dashboard to track KPIs, measure progress, and showcase impact (as an example, please see UNDP-AFCIA dashboard).
- Consolidation of impact data generated by the Regional Project, and integration in UNDP's Climate Change Adaptation portfolio's dashboard , and in IRH's databases and dashboards.
- Consolidation of regional data and quality assurance before submitting reports to the AF

Key performance indicators for this output will include:

- Progress measured through quarterly grantee reports
- Evaluation of grantee reports for alignment with project goals and gender/safeguard standards
- Regular participation in mid-term and terminal evaluations
- Existence a Learning Methodology to capture tangible and intangible learning from project team and grantees

Output 3.2 – Indicative Activities

- **Document and publish case studies, policy briefs, and innovation profiles,** focus on scalability, gender inclusion, and climate impact.
- **Organize cross-border exchange visits and joint learning missions,** target policymakers, innovators, and community leaders.
- **Host regional webinars and podcasts on adaptation innovation,** thematic focus on finance, gender, nature-based solutions, etc.
- **Develop a regional knowledge dissemination toolkit,** includes templates, translation support, and dissemination channels.
- **Conduct impact assessments and learning reviews,** feed into adaptive management and future programming.
- **Support joint publications and research with academic institutions,** promote evidence-based scaling and policy influence.

B. Describe how the project /programme would promote new and innovative solutions to climate change adaptation, such as new approaches, technologies, and mechanisms.

Promoting New and Innovative Solutions to Climate Change Adaptation

The Regional Project is designed to identify, support, and advance **locally-led, innovative adaptation solutions** that respond directly to the climate vulnerabilities of Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. Drawing on lessons learned from the *UNDP-Adaptation Fund Climate Innovation Accelerator (AFCIA)*, the project introduces a **challenge fund model**, a relatively new mechanism in the adaptation landscape that empowers non-traditional actors—such as grassroots organizations, social enterprises, cooperatives, and local innovators—to drive change.

Unlike conventional adaptation projects, innovation under this initiative is not limited to technological invention. It includes any improved or adapted solution that offers **greater efficiency, effectiveness, equity, or sustainability**. These principles are operationalized through a competitive grant process and structured support system, ensuring that innovations are both **bold and grounded in local realities**.

The project fosters innovation for adaptation considering:

- **New approaches and technologies** tailored to local socio-ecological realities;
- **Revived and contextualized knowledge of social, economic, and political marginalized communities and traditional knowledge** that supports adaptation;
- **Enterprise-based solutions** that integrate adaptation into sustainable business models;
- **Social innovations** that strengthen inclusion and climate leadership among women, youth, and marginalized groups.

All small grant proposals are screened against a rigorous set of innovation criteria, including:

- **"Different or Better"**: The solution must represent an improvement or alternative to existing practices;
- **Value-Driven**: The innovation must address a specific, quantifiable adaptation problem;
- **Scalability**: A clear strategy must exist for replication or policy uptake;
- **Feasibility**: Solutions must be viable within current capacities and resources.

Additionally, proposals must outline pathways for **financial, technical, and operational sustainability**, including co-financing strategies, risk management, and an exit plan. All proposals are reviewed through a gender equality lens and screened for environmental and social safeguards.

Innovation for Adaptation Approach

Through the three core technical components and dedicated project-management component, the Regional Project aims to foster, develop and accelerate locally-led adaptation innovation from local entrepreneurs and NGOs/CSOs, in each of the four partner countries, through three main avenues:

1. **Integration of climate change adaptation strategies with focus on vulnerable communities:** Finding and implementing adaptation solutions that address priority climate risks in the Western Balkan countries, which are developed contextually and with the inclusion of the communities most vulnerable to climate change, to enable those communities to become more resilient to climate change.

2. **Innovate with focus on adaptation:** Innovation for adaptation solutions may include approaches, technologies and mechanisms. Innovation for adaptation projects differ from concrete adaptation projects in their stakeholder engagement, including with unconventional actors, and in the emphasis on iterative deployment where change, learning, and new information is embraced and can take innovation projects in different directions (Definition of Innovation (AFB/B.36/8).

3. **Embed SES and Gender:** Embed gender equality and social considerations into these innovative solutions, with measurable indicators and monitoring mechanisms to track progress, outcomes and impact.

The following sections elaborate on each of these three essential innovation and scaling skills.

1. Integration of climate change adaptation strategies with focus on vulnerable communities

1. Address Climate Change-induced Risks

The grantee funding proposal should be clearly linked to a sector identified at the national level (i.e. through NDCs, NAPs or National Communications) that is particularly vulnerable to climate change and specify the climate risks that the grant will be addressing. Different types of solutions that could be considered are, for example:

- Climate-resilient agriculture and food security
- Water management (harvesting, storage, recirculating water in areas or periods of drought).
- Flood risk management
- Nature-based solutions
- Urban climate resilience (e.g. resilient housing, energy efficient cooking).
- Disaster risk reduction (e.g. early warning systems, spatial risk mapping, wildfire prevention)
- Integrated coastal zone management practices
- Climate-Health Integrated Management

2. Measurable adaptation impacts

The project components will deliver measurable improvements in climate resilience by:

- Reducing exposure to climate hazards across agriculture, water, land, and urban systems;
- Enhancing the adaptive capacity of vulnerable communities and ecosystems;
- Fostering inclusive, gender-equitable innovation ecosystems that amplify the voices and leadership of women, youth, and marginalized groups;
- Building financially sustainable models for adaptation enterprises and solutions.

3. Address the Adaptive Capacity or Resilience of a Community to Climate Change, including Vulnerable and Marginalized Peoples

The project will support solutions that increase the adaptive capacity of a community and/or increase their resilience (including, for example, by increasing the resilience of the natural systems on which they depend) to climate change, including climate variability, as well as in the formation of resilient social networks. All proposed solutions will be required to address gender and vulnerability aspects of the target beneficiaries such as how to enhance adaptive capacity of women and girls, youth, peoples with disabilities, elders, ethnic minorities (e.g. Roma, Vlachs, Gorani, Egyptians in Montenegro), all of whom are particularly vulnerable to climate risks.

Proposed grantee solutions will be based on the application of the innovation-assessment methodologies and will describe the characteristics of community vulnerability and options considered to accelerate tried-and-tested and innovative solutions to climate change risks.

4. Scale-up and Replicate Successful Locally-Led Adaptation-Innovation Results

With UNDP's regional and global network and partners, successful adaptation-innovation technologies, practices and business models from the Regional Project, scaling up or replication of solutions will be explored through either public or private channels. Public channels include UNDP's adaptation projects supported by AF, EU, GEF and GCF. Private channels include UNDP's partners network and innovation ecosystem. These pathways will help expand the reach and impact of effective solutions, facilitating their adoption across a broader region.

While the project can play an important role in **investment brokering** by facilitating connections and supporting the development of a strong pipeline of investable projects, it will not engage in the extensive matchmaking

process. The complexities of due diligence and the high level of engagement required to secure deals—especially between investors and grantees—are beyond the scope of the project. UNDP is positioned to provide strategic support but will not act as a dedicated intermediary to close investment deals. Instead, the focus will be on creating an enabling environment for scaling successful solutions and ensuring that projects are better positioned for future investment opportunities.

2. Innovate with focus on adaptation

The Adaptation Fund describes innovation for adaptation as:

> *"The creating, testing, deployment or diffusion of new, adapted or improved adaptation solutions, developed contextually and with the inclusion of the communities most vulnerable to climate change, to enable those communities to become more resilient to climate change. Innovation solutions may include approaches, technologies and mechanisms. Innovation projects and programmes differ from concrete adaptation projects and programmes in the nature of their stakeholder engagement, including with unconventional actors, and in the emphasis on iterative deployment where change, learning, and new information is embraced and can take innovation projects and programmes in different directions."*

The Regional Project will directly support the Adaptation Fund's innovation for adaptation agenda by supporting initiatives that demonstrate strong potential to enable the most vulnerable communities to adapt to climate change impacts. Through this support, a diverse portfolio of locally appropriate, community-driven innovation activities has taken shape, each contributing uniquely to a broader ecosystem of learning, testing, replicating and/ or scaling.

The critical aspects to select strong, scalable and self-sustainable innovation for adaptation solutions are:

1. Different or Better Solutions

The proposed idea must be an improvement over existing practices or solutions or a new solution that is meaningfully different than existing adaptation solutions. It must have added value over and above what the target beneficiary is currently using/practicing to address the adaptation problem that they are facing. These innovative solutions could be not only new technologies and approaches, but also building on and/or reviving and integrating traditional knowledge of social, economic, and political marginalized communities and local communities into the solutions. The grantee proposal should also show potential for systemic and sustained improvement of such practices or approaches, and even engaging with uncommon stakeholders.

2. Delivers Value/Solves an Adaptation Problem

The proposed idea must address a specific and sizable adaptation problem that is incurring a cost (either in cash or in kind) to the target beneficiaries. For example, a revival of indigenous technology could be proposed to increase access to water during dry-spell resulting in reduction of multiple planting costs. It must deliver value and impact that can be quantified. Although, it is not required that the target beneficiaries have to pay (in-kind or in-cash) for such solution, it is crucial that project proponents articulate how the project would be operationally sustainable.

3. Cross-scale Policy and Acceleration Potential

It is critical that replication and scale up potential are embedded in a project design from the beginning to increase the likelihood of project replicability and scalability. Therefore, all proposed grantee solutions will identify and engage tested solutions for potential replication, up-scaling, or integrating of the innovations to be supported, and

describe a process to support such processes (e.g. holding knowledge fairs to promote replication, engagement of social impact investors etc.).

4. Doable/Practical

Most markets value proven technologies that provide potential solutions that are also testable. Capacity, commitment, and track record of the proposal developers are also crucial in determining whether the idea can be realized and further developed into a successful venture. To support this, the project will offer targeted technical assistance to help strengthen promising ideas, ensuring they are feasible, viable, desirable, grounded in local realities, and designed for practical implementation and sustainability.

5. Evolves and Strengthens Through Innovation Practices

The proposed ideas should demonstrate the potential to evolve over time, incorporating learning, feedback, and the use of innovation tools and frameworks to improve design and delivery. This includes being open to refining solutions through testing, community engagement, and technical support.

To support this process, the project will draw on the expertise and experience of UNDP's Istanbul Regional Hub. Through its innovation practice, IRH will provide technical assistance and design support at two key stages.

First, during the expression of interest stage, a broad pool of applicants will receive support to strengthen their understanding of the problem at hand and refine their proposals. This includes applying tools such as the portfolio approach, community listening, and foresight to help applicants unpack the problem, explore system dynamics, and improve the design and relevance of their ideas.

For shortlisted applicants, the project will offer more tailored, in-depth support through a structured accelerator programme. Drawing on tested initiatives such as BOOST, Tadamon NGO Empowerment Project, and other regional initiatives, this phase will provide practical tools, mentorship, and business development support to help selected grantees further develop their solutions and build the capabilities needed for effective implementation, scale, and long-term sustainability.

Together, this two-fold process not only strengthens individual proposals but also helps build a stronger, more investable pipeline of innovative, locally relevant adaptation projects for the region.

3. Embed Gender Equality and Social Considerations into Business Operations

Quantitatively (as much as possible) assess both direct and indirect costs and economic and financial, social and environmental benefits, with preference to work with women and the most vulnerable. The Regional Project´s screening criteria will address economic and financial viability criteria by describing value proposition and an economic/financial benefit and cost analysis to clearly and vulnerable communities, and vulnerable groups within communities, including gender considerations. Additionally, the proposal will have to compare the benefit/cost of its innovation against the existing baseline and/or current practices to demonstrate its innovative aspects as well as its cost effectiveness of the proposed innovation. All the projects will need to meet the GENDER Marker 2 at least, which means projects that have gender equality as a significant objective.

Potential environment and social impacts and their management will also be an essential part of the screening criteria, in alignment with the Adaptation Fund´s and UNDP´s Environmental and Social Policy. The project proponent will provide a brief environmental and social impact assessment and the corresponding management and monitoring and evaluation plan, as required according to the AF and UNDP relevant policies.

Furthermore, the small-grant proposal will integrate a simplified gender analysis to understand and meaningfully address the specific needs, priorities, structural and systemic barriers, status and roles of men and women. Proposals will detail how the project will advance gender equality and women's empowerment, and must adhere to the Adaptation Fund´s and UNDP´s policies and requirements on gender. The proposal will demonstrate how the grantee project intends to build resilience, address their differentiated vulnerabilities and increase their capability to adapt to climate change impacts with a gender-responsive approach. The proposal will illustrate how gender equality is embedded in the project design, consultation, implementation, monitoring, reporting, and evaluation and how the project has adequate budget to deliver on these objectives. Existing gender inequalities should not be exacerbated by any activities or innovative solutions of grantee.

C. Describe how the project/programme aims to roll out successful innovative adaptation practices, tools, and technologies and/or describe how the project aims to scale up viable innovative adaptation practices, tools, and technologies.

Scaling Up and Rolling Out Successful Adaptation Innovations

A key objective of the project is to ensure that **successful adaptation innovations do not remain isolated** pilots but instead evolve into scalable and replicable models. To this end, the project integrates a multi-pronged strategy for scaling:

- **Built-in Scalability Criteria**: Proposals must demonstrate how their innovation could be scaled within or beyond their immediate context, including potential policy linkages and market channels.

- **Dedicated Technical Support**: A portion of the technical assistance facility is reserved specifically to support grantees in refining their scale-up strategies. This includes:
    - Technical advisory support in climate change adaptation
    - Technical advisory support in innovation processes
    - Business development and investment-readiness training;
    - Tailored incubation and acceleration services;
    - Support for implementing exit and sustainability strategies.

- **Investment Brokering**: The project through UNDP network of partners facilitates connections with public finance mechanisms (e.g., GEF, GCF, national funds) and private sector partners to unlock follow-on investment. Each grantee is encouraged to identify pipeline funding and partnerships from the outset.

- **Knowledge Sharing and Peer Learning**: Through regional innovation fairs, peer-to-peer exchanges, and learning platforms, successful innovations are showcased and shared across the four countries, enabling replication by other actors facing similar challenges.

- **Global Networks and Visibility**: Innovations supported by the project are integrated into UNDP's Adaptation Innovation Marketplace (AIM) networks of partners (e.g. Adaptation Innovation Marketplace/AFCIA; BOOST programme, Tadamon programme, SGP Programme to mention few), which links grantees with international platforms for knowledge, funding, and policy engagement.

The project's scaling framework is informed by practical experience under the UNDP-AFCIA initiative. As documented in the AFCIA Annual Reports (2022–2024), innovations such as solar-powered irrigation, fog harvesting, and community-based early warning systems have demonstrated how structured support, visibility, and ecosystem-building can lead to tangible and replicable adaptation impact.

Through its structured support model, focus on inclusive innovation, and clear pathways for scale, the Regional Project ensures that **locally-led adaptation solutions are not only discovered—but strengthened, replicated, and sustained**. It positions the Western Balkans as a regional hub for climate adaptation innovation, while contributing to the global knowledge base on how to enable transformational resilience at scale.

Economic, Social, and Environmental Benefits and Safeguards

The Regional Project is designed to deliver tangible **economic, social, and environmental benefits** while ensuring strong alignment with the **Environmental and Social Policy (ESP)** and **Gender Policy (GP)** of the Adaptation Fund and UNDP. The project gives particular attention to the needs and priorities of **vulnerable communities and groups within communities**, including women, youth, communities facing social, economic, and political marginalization, persons with disabilities, and other marginalized populations.

D. Describe how the project / programme would provide economic, social, and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme would avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Economic, Social, and Environmental Benefits

Economic Benefits

Through catalytic grant support and technical assistance, the project supports the development of **inclusive and sustainable adaptation enterprises**, with clear value propositions and demonstrable cost-effectiveness. Each small grant proposal must conduct a benefit-cost analysis that identifies both direct and indirect economic impacts—such as reduced loss and damage from climate hazards, improved agricultural productivity, and new or strengthened livelihood opportunities. The project also encourages innovations that lower climate-related costs for at-risk communities and foster long-term financial sustainability.

Social Benefits

The project is committed to strengthening **social equity and resilience**. All supported initiatives must address differentiated vulnerabilities across social groups, with a particular focus on enhancing the adaptive capacity and leadership of **women and girls**, while also empowering youth and underrepresented groups. Proposals are required to articulate how they will promote inclusive participation, strengthen community networks, and contribute to improved access to information, resources, and services.

Environmental Benefits

Funded innovations are expected to contribute to **environmental protection and ecosystem resilience**, including through nature-based solutions, improved water and land management, and the restoration of degraded ecosystems. The project promotes climate-smart practices that deliver co-benefits for biodiversity, soil and water quality, and long-term ecosystem services.

Gender Considerations and Social Inclusion

Gender equality and women's empowerment are central to the project’s design and implementation. In alignment with the **Adaptation Fund’s Gender Policy**, all grantees will be required to:

- Conduct a gender analysis as part of project planning;
- Ensure inclusive participation of women and men in consultations and decision-making;
- Embed gender-responsive objectives and indicators in their results frameworks;
- Allocate sufficient resources to implement gender-focused activities.

Proposals must also show how project design and implementation will contribute to **addressing structural barriers**, ensuring **equitable access to benefits**, and **strengthening the agency of** women and girls, youth, peoples with disabilities, elders, ethnic minorities (e.g. Roma, Vlachs, Gorani, Egyptians in Montenegro) in local adaptation efforts. Please refer to GAAP in the Annex 5.

Environmental and Social Safeguards

All project activities will be assessed and implemented in accordance with the **Environmental and Social Policy (ESP) of the Adaptation Fund** and **UNDP's Social and Environmental Standards**. Environmental and social risks will be proactively identified and managed through a **phased, consultative approach**:

- **Initial National-Level Consultations**: In coordination with UNDP Country Offices, the project has initiated virtual consultations with national stakeholders—government institutions, civil society organizations, and technical experts—in each participating country. These discussions are informing the design of the project framework, principles for implementation, and early identification of environmental and social risks.

- **Integration of National Priorities**: In-house localized know-how of the project team as well as stakeholder input will be used to align the project with national climate adaptation priorities and contextual realities, before and throughout the specific grantee-led interventions are identified. This approach helps ensure **local relevance and ownership** and enhances safeguard responsiveness from the outset. Any risks will be duly recorded and brought to the attention of the regional SES specialist and Steering Committee as needed.

- **Site-Specific Safeguard Measures**: Once grantees are selected and specific sites/interventions are confirmed, a more detailed review by the project team in consultation with the Gender Specialist and SES Specialist as needed will be conducted and based on the review, targeted screenings and or **community-level consultations** will be conducted. These targeted screenings may necessitate the development:

    - Environmental and Social Management Plans (ESMPs)
    - Stakeholder Engagement Plans (SEPs)
    - Gender Action Plans (GAPs)
    - Risk mitigation frameworks, with support from a designated safeguards expert

This **phased safeguards approach** enables responsible expectation management, ensures compliance with AF and UNDP policies, and provides transparency throughout the project lifecycle—especially in the early stages when grantee selection and project sites are still being finalized.

More information is found in Annexes 3, Social and Environmental Screening Procedure and Annex 4, Environmental and Social Management Plan.

Integrated Risk and Benefit Management

Through the screening and review process, all grantee proposals will be evaluated for:

- **General due diligence process;** including checking legal registration documents, social media accounts, and other relevant documents to ensure compliance with the minimum application pre-requisites, including the alignment with Technology Needs Assessments (if applicable)
- **Economic and financial viability**, including direct and indirect benefit potential;
- **Social inclusiveness and gender-responsiveness**, with clear targets for vulnerable groups;
- **Environmental sustainability**, with impact mitigation plans where necessary.

A portion of the project's technical assistance facility is dedicated to helping grantees **implement safeguards, exit strategies, and sustainability measures**, ensuring that adaptation innovations deliver long-term, transformative impact without causing harm.

E. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme and explain how the regional approach would support cost-effectiveness.

Cost-Effectiveness of the Proposed Project and Added Value of the Regional Approach

The Regional Project is designed to deliver impact through a **cost-effective, performance-based, and partnership-oriented model**. The project maximizes the use of existing institutional infrastructure, leverages strategic partnerships, and applies a regional lens to promote efficient delivery and optimize results.

Cost-Effectiveness of the Innovation Model

The project uses an **approach** to identify, test, and scale the most promising locally-led adaptation innovations. Rather than predetermining intervention sites or thematic areas, the open call of interest mechanism enables a **bottom-up selection process**, allowing the best ideas to emerge based on merit and contextual relevance. This method avoids inefficiencies often associated with top-down programme design and ensures that resources are allocated to interventions with the highest potential for impact.

Proposals will be selected based on clearly defined, **multi-criteria screening**, including:

- Adaptation relevance and innovation potential;
- Financial, technical, and operational sustainability;
- Economic, social, and environmental co-benefits;
- Alignment with the Environmental and Social Policy and Gender Policy of the Adaptation Fund and UNDP.

This approach ensures that only initiatives offering strong value for money and alignment with adaptation priorities will be supported.

Leveraging UNDP's Institutional Capabilities

The project builds on UNDP's proven experience in managing multi-country and innovation-focused initiatives, such as the Global Environment Facility's Small Grants Programme (GEF SGP), the Adaptation Fund Climate Innovation Accelerator (AFCIA), the BOOST Impact Acceleration Programme, and the TADAMON NGO Empowerment Programme. It also draws on our extensive work applying systems thinking and portfolio approaches to address complex development challenges, particularly through initiatives like the City Experiment Fund and Mayors for Economic Growth.

These established programme structures, operational systems, and regional knowledge - including pre-existing insights from our work in the Western Balkans - will be adapted and applied to this project. This significantly reduces start-up costs and enables rapid, community-driven, high-quality delivery without the need to build new

entities or teams from scratch. This use of existing infrastructure represents a cost-efficient model of fund administration, technical assistance, and monitoring and evaluation, while still offering sufficient flexibility to tailor support to local conditions.

This project will be supported throughout by the expertise of UNDP's Istanbul Regional Hub, which leads the application of innovation practices, ecosystem development, and systems approaches across the region. Through this work, IRH provides practical methods to help local actors design solutions that are ambitious, strategic, and grounded in context. These capabilities, along with tools such as the portfolio approach, community listening, foresight, and innovation accelerators like BOOST and Tadamon NGO Empowerment Project, will be embedded into the project to strengthen proposals, build robust solutions, and ensure supported initiatives are well-positioned for implementation and scale.

Economies of Scale and Efficiency through a Regional Approach

This project aligns with **UNDP's Regionality Principles** by promoting regional public goods through strengthened cooperation and integration, managing climate adaptation externalities that transcend borders, and generating shared development knowledge and innovation that overcomes institutional and financial barriers too high for individual countries to surmount alone.

Implementing this project as a **regional initiative** rather than as separate national projects creates multiple opportunities for **cost-efficiency and knowledge synergies**, including:

- **Shared technical and advisory resources** across countries, avoiding duplication of efforts and access to wide range of technical expertise and knowledge;
- **Joint learning platforms and knowledge exchange events** that serve multiple countries at once;
- **Regional coordination mechanisms** that streamline governance, reduce overhead costs, and improve implementation consistency;
- **Cross-border replication of successful solutions**, reducing the need to reinvent adaptation models in each national context.

These efficiencies ensure that a greater proportion of available funding directly supports innovation development and scaling, rather than administrative or transaction costs.

Strategic Partnerships and Co-Financing Opportunities

The project's cost-effectiveness is further enhanced by its ability to **leverage additional technical and financial contributions** from strategic partners. Organizations that are already working with UNDP under the UNDP-AFCIA Programme, such as the **Global Resilience Partnership (GRP)**, **Climate-KIC**, **impact investment and philanthropy networks, public or private funders** could be potentially engaged to provide additional technical support or knowledge exchange/amplification. These partnerships will:

- Enhance the project's reach and visibility;
- Enable resource pooling for grantee support;
- Unlock additional investment pathways for scaling successful innovations;
- Align scalability requirements and technical support with impact funder´s requirements.

Under UNDP-AFCIA´s Fellowship programme and thought leadership work stream, three informal Collaborative Working Groups with key systemic stakeholders have been set up, including Alti Global, BNP Paribas, UNCDF, Euroclear, Fidelity, and Acumen, to explore and advance the potential of micro-bonds and blended finance as

innovative mechanisms to mobilize capital for climate resilience and adaptation at the local level. A key focus of this initiative is tackling one of the most critical bottlenecks hindering climate projects in the global south: the smaller ticket sizes of these projects, coupled with their high perceived risk. The Collaborative Working Group is exploring pathways to de-risk such investments, making them more attractive to private sector players and institutional investors while ensuring financial models that enable scalability and long-term sustainability.

By aligning with partners that share a common goal of accelerating innovation for climate resilience, the project is well-positioned to **amplify its impact without requiring proportionate increases in budget**.

In summary, the project offers a **highly cost-effective model** for delivering climate adaptation results through innovation. It combines a competitive, performance-based funding mechanism with efficient use of UNDP's infrastructure, strategic partnerships, and the collective efficiencies of a regional platform. This structure ensures that the project delivers **maximum value per dollar invested**, with a strong emphasis on sustainability, scalability, and inclusive impact.

F. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist. If applicable, please refer to relevant regional plans and strategies where they exist.

Alignment with National, Sub-National and Regional Adaptation and Development Strategies

The Regional Project is fully aligned with the national and sub-national sustainable development strategies, climate policies, and adaptation priorities of Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. The project is also consistent with the objectives of the **Paris Agreement**, **2030 Agenda for Sustainable Development**, and the respective **Nationally Determined Contributions (NDCs)** of the participating countries. At the regional level, the project complements efforts to promote stability, resilience, and climate-smart development in Southeast Europe.

Alignment with National Adaptation Plans (NAPs)

All four participating countries are actively engaged in advancing their National Adaptation Plans (NAPs) with support from the Green Climate Fund (GCF) and UNDP. This project is designed to **complement, accelerate, and amplify** these national processes by catalysing local adaptation innovations that address the priority sectors and vulnerable populations identified in each NAP.

- **Bosnia and Herzegovina** finalized its NAP in December 2022, identifying agriculture, water resources, biodiversity and forestry, health, and tourism as key priority sectors. The project directly supports Bosnia's emphasis on nature-based solutions, early warning systems, resilient agriculture, and community-level capacity building.
- **Montenegro** is finalizing its NAP with UNDP support, with a focus on agriculture, water, health, and tourism. The project aligns with Montenegro's efforts to integrate adaptation into national planning systems and strengthen institutional capacities for evidence-based, gender-sensitive adaptation decision-making.
- **North Macedonia** initiated its GCF-funded NAP process in 2024, prioritizing adaptation in water, agriculture, energy, health, biodiversity, forestry, and cultural heritage, with a nexus approach and cross-sectoral planning. The project's multi-sectoral, locally-led innovation approach is highly complementary to North Macedonia's integrated planning objectives.

- **Serbia** officially adopted NAP in December 2023 by Government's decision, and submitted its NAP to UNFCCC in July 2024. It outlines cross-sectoral adaptation measures including in agriculture, energy, infrastructure, health, biodiversity, and urban planning. The project supports Serbia's priorities by targeting community-level innovation in these sectors and promoting scalable adaptation practices aligned with Serbia's institutional frameworks.

In all four countries, the project will engage closely with ministries and institutions responsible for adaptation planning, contributing to the **mainstreaming of climate resilience into sectoral development policies and budgets**.

Alignment with SDGs, NDCs, and Other National Strategies

At the national level, the project also supports implementation of:

- **NDC commitments**, especially in adaptation-relevant sectors such as agriculture, water, ecosystems, health, and infrastructure;
- **National sustainable development strategies** that promote resilience, economic inclusion, and green growth;
- **Poverty reduction strategies** by targeting the most vulnerable populations, including women, rural communities, and marginalized groups.

Each grant proposal submitted under the project will be required to **demonstrate alignment with national and sub-national policies**. This includes explaining how the innovation contributes to:

- SDG 2: Zero Hunger;
- SDG 5: Gender Equality;
- SDG 6: Clean Water and Sanitation;
- SDG 13: Climate Action;
- and other context-specific SDGs and national development objectives.

This alignment will be part of the **screening and selection criteria**, ensuring coherence between project-supported activities and national adaptation and development priorities.

Alignment with Technology Needs Assessments (TNAs) and Technology Action Plans (TAPs)

In addition to alignment with NAPs and NDCs, the project will also take into account the Technology Needs Assessments (TNAs) and Technology Action Plans (TAPs) where available in the participating countries, as follows:

- **Bosnia and Herzegovina** initiated TNA for both mitigation and adaptation in the Fourth National Communication to the UNFCCC, with a focus on sectors such as agriculture and water resources. [134]
- **North Macedonia** has completed the process of TNA in energy sector in 2004. [135] There are no Technology Action Plans (TAPs) for North Macedonia listed on TT:CLEAR as of today. Currently the Fifth National Communication and Bi-Annual Transparency Reports are under preparation and TNA with TAPs will be developed. Both documents are expected to be completed by 2026. National submissions and

134 https://unfccc.int/sites/default/files/resource/FNC%20BiH_ENG%20fin.pdf
135 https://unfccc.int/ttclear/TNA/MKD-TNA-TNA_2004.pdf

summaries consistently flag water resources, agriculture, forestry/biodiversity (incl. wildfire risk), health, and tourism & cultural heritage as priority sectors for adaptation, with cross-cutting DRR/governance and early-warning components.

- **Montenegro** has completed their TNA processes identifying technology priorities across key adaptation and mitigation sectors.[136] The assessment prioritized water resources, public health, agricultural land and production, coastal zones, and forests for climate adaptation. Montenegro's Third National Communication (TNC) to the UNFCCC, published in 2020, reinforced many of the TNA's findings. The TNC presented projections under "without measures" and "with additional measures" scenarios, alongside sector-specific mitigation actions. It also provided a detailed assessment of climate risks, highlighting increased exposure to droughts, floods, wildfires, and heatwaves. Adaptation options were laid out for water management, forestry, agriculture, coastal protection, health, and urban resilience. For the period 2025–2035, the updated strategy and action plan will need to align the TNA's technology priorities with the new NDC targets and NECP measures. On the adaptation side, operationalising the NAP will be critical for sequencing measures such as water balance management, flood early-warning systems, drought response, wildfire prevention, climate-resilient agriculture, and coastal protection. Key enabling actions remain consistent with the original TNA recommendations but have become more urgent. These include expanding financing instruments through the Eco-Fund and international partners, strengthening and enforcing technical standards, upgrading the monitoring, reporting, and verification (MRV) system, investing in data and information services, and ensuring effective coordination among ministries and stakeholders.

- **In Serbia**, the Biennial Transparency Report recognizes the need for technological development and technology transfer to strengthen Serbia's capacities and technologies, thus contributing to the achievement of long-term climate goals in accordance with the Paris Agreement and the commitments defined in NDC. TNA identified the need for development and transfer technologies in the context of climate change, including creating, spreading, and applying new technologies that help, not only mitigate climate change, but also adapt to its effects. TNA demonstrated that assistance is needed in promoting technological development and technology transfer in the following sectors:
    - Agriculture (improvement of technology and practices in the agricultural sector), e.g. Precision farming (PF), including Variable Rate Technology (VRT), Remote Sensing Technologies, Global Positioning Systems (GPS) and Geographic Information Systems (GIS) to support the more precise application of inputs and machinery, on 146 kha by 2030. This will contribute to a 20.44kt CO2 eq reduction compared to the WOM scenario.
    - Industry (modernization of technological processes in industrial production),
    - Energy (improvement of the use of renewable energy sources and modernization of the energy sector),
    - Transport (promotion of the production and use of advanced biofuels, as well as the development of infrastructure for alternative fuels).

Serbia's National Climate Change Adaptation Programme envisaged the deployment of **resilient infrastructure and production technologies**—such as optimized irrigation systems, drought resistant crops, climate-smart livestock facilities, anti-hail and frost-protection systems, green infrastructure in urban planning, and sustainable soil management methods. Integrated **climate information and monitoring technologies** (high-performance computing systems, automated meteorological, hydrological, soil-moisture and agrometeorological stations, radar and satellite remote sensing, GIS-based georeferenced data portals, biodiversity and ecosystem monitoring tools) supported by **data integration and early-warning platforms** with advanced forecasting and

[136] https://www.gov.me/dokumenta/caefb6fa-762c-4e3b-9b11-7f15a6944254

dissemination capabilities; **modelling and simulation tools** for climate risk assessments (including agriculture, forestry, infrastructure, health, and biodiversity), and **decision-support systems** for public policy integration and budget tracking. In the field, **specialized sensors, drones, and remote monitoring devices** for damage and loss assessments.The regional project will review and incorporate the findings of these TNAs, TAPs, and equivalent instruments during implementation—particularly within the due diligence and technical support processes. This will help guide the selection and scaling of locally led innovations, ensuring their alignment with national technology priorities. Integrating these instruments will further enhance country ownership, policy coherence, and the long-term sustainability of project outcomes.

Regional and Multi-Country Value

As a regional initiative, the project adds unique value by facilitating:

- **Cross-border knowledge exchange** on shared climate risks;
- **Replication of tested practices** across similar ecological and socio-economic contexts;
- **Regional collaboration mechanisms** that support the diffusion of innovative solutions, alignment of policy instruments, and strengthening of collective resilience.

Rather than duplicating isolated national efforts, this regional approach allows countries to **benefit from economies of scale**, shared learning platforms, and coordinated support systems. It enhances regional capacity while reinforcing country ownership and leadership in climate adaptation. This alignment ensures that the project effectively addresses local vulnerabilities while also making a valuable contribution to the broader regional and global climate resilience agenda.

G. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

Compliance with National Technical Standards and the Adaptation Fund's Environmental and Social Policy

The Regional Project is designed to ensure full compliance with relevant **national technical standards**, **sectoral regulations**, and the **Environmental and Social Policy (ESP)** and **Gender Policy (GP)** of the Adaptation Fund (AF). Alignment with these frameworks is embedded in both the **design** and **implementation modalities** of the project.

Integration into Grant Proposal and Selection Process

As part of the competitive grant process, all applicants will be required to:

- **Demonstrate alignment with national technical regulations and standards**, including but not limited to environmental assessments, building codes, agricultural practices, water management protocols, and public health standards relevant to the nature and scope of their proposed innovation;

- **Describe how proposed products, services, or technologies comply** with applicable national and—where relevant—international standards, especially for innovations intended for broader replication or export.

This requirement is clearly outlined in the **grant application template** and forms a core part of the proposal evaluation and due diligence process.

Verification During Implementation

Once grants are awarded, grantees will be expected to:

- **Report on their compliance** with the national technical standards outlined in their original proposal;
- **Provide supporting documentation or certificates** (where applicable), such as approvals, permits, or independent verification of conformity with standards;
- **Submit to compliance monitoring** conducted through the project's monitoring and evaluation framework, in collaboration with UNDP Country Offices and technical experts.

This process will ensure that innovations supported by the project are **not only context-appropriate and effective**, but also safe, legally compliant, and scalable.

Environmental and Social Safeguards

Since the project includes a range of activities and sub-projects with yet unknown design parameters and uncertain social and environmental risks that cannot be fully assessed during the project appraisal, this Environmental and Social Management Framework (ESMF) has been developed to guide further assessment and management of the expected environmental and social risks of the project based on the applicable UNDP's Social and Environmental Standards (SES) and the Adaptation Fund's ESP and GP.

In line with the ESMF:

- All grantees will undergo a **preliminary environmental and social risk screening** as part of the proposal assessment process;
- A qualified safeguards expert in coordination with the Performance and Data Analystexpert will provide **technical support and quality assurance** to grantees throughout the project lifecycle.

UNDP will ensure that **no activity causes or contributes to adverse environmental or social impacts**, particularly on vulnerable or marginalized groups. Local consultations and grievance mechanisms will be implemented where necessary, consistent with national requirements and AF policy.

H. Describe if there is duplication of project / programme with other funding sources, if any.

Maximizing Synergy: Enhancing Regional Climate Resilience through Complementary Adaptation Initiatives

The Regional Project has been designed to complement, rather than duplicate, existing regional adaptation initiatives, ensuring its alignment with the broader regional and global climate adaptation agenda. By addressing local vulnerabilities and supporting climate resilience, the project will build on and scale up adaptation innovations in synergy with ongoing initiatives. Efforts will be made to avoid the duplication of activities, with careful attention to leveraging existing resources, structures, infrastructures, and services from other projects to maximize efficiency and impact.

During the preparatory phase, the project will assess relevant ongoing and past initiatives to ensure proper alignment, complementarity, and compatibility. This process will occur during the concept and proposal stages, facilitating coordination with other organizations and program focal points in the project area. By prioritizing

consultation and collaboration, the project will avoid redundancy and ensure that activities are well-integrated within the broader landscape of regional adaptation efforts.

Through a structured approach to coordination, the project will enhance its contributions to regional adaptation goals, driving innovation while supporting and building on existing frameworks. This proactive strategy will ensure that the project complements and strengthens existing efforts, fostering a collaborative environment where synergies can be realized and outcomes can be maximized.

The following provides a comprehensive analysis of how the proposed project aligns with and contributes to the broader spectrum of existing adaptation initiatives in the region:

1. **Regional Cooperation Council (RCC)**

The RCC is a key regional platform that promotes cooperation, sustainable development, and integration across the Western Balkans. While it focuses on economic growth, green transformation, and reducing regional disparities, the **Regional Project** complements these efforts by addressing specific climate adaptation challenges through locally-driven solutions. The project will contribute to the RCC's broader objectives by focusing on the practical implementation of climate adaptation innovations, ensuring alignment with the region's sustainable development goals without overlapping with RCC's broader political, economic, and environmental initiatives.

2. **Biodiversity Task Force of the Western Balkans (BDTF WB)**

The BDTF WB focuses on integrating biodiversity into regional environmental policy and fostering cooperation on biodiversity conservation. The **Regional Project** complements these efforts by incorporating biodiversity considerations into local climate adaptation strategies, promoting climate-resilient solutions that enhance ecosystem stability. By addressing local climate vulnerabilities, the Regional Project supports the region's biodiversity goals without duplicating the BDTF WB's core work, ensuring alignment with broader sustainability and resource management objectives.

3. **Green Agenda for the Western Balkans (GAWB)**

The GAWB is a strategic framework designed to align the region with the European Green Deal and the 2030 Biodiversity Strategy, promoting sustainable economic transformation and carbon neutrality by 2050. The **Regional Project** supports GAWB’s goals by scaling locally-led climate adaptation solutions that address specific climate vulnerabilities. While GAWB focuses on broader sustainability objectives, the **Regional Project** takes a more targeted approach, accelerating innovation at the community level and complementing the Green Agenda’s vision by strengthening local capacities for climate resilience and adaptation.

4. **IUCN: Greening the Western Balkans Project (2024–2028)**

The Greening the Western Balkans Project focuses on restoring and protecting biodiversity across the region, strengthening governance, and promoting regional cooperation. The **Regional Project** complements these efforts by enhancing climate resilience through locally-led adaptation innovations, addressing local climate risks, and scaling up climate adaptation solutions. While both projects share a focus on environmental sustainability, the **Regional Project** extends IUCN’s work by introducing new practices for climate resilience and supporting communities in adapting to climate change, without duplicating conservation activities.

5. **IUCN (SIDA): ADAPT 2.0: Nature-based Solutions (NbS) for Climate Change Mitigation and Adaptation**

ADAPT 2.0 integrates Nature-based Solutions (NbS) into regional policies and development frameworks to address climate and biodiversity challenges in the Western Balkans. The **Regional Project** complements ADAPT 2.0 by extending NbS into a broader adaptation strategy that addresses a wider range of climate vulnerabilities and promotes locally-led solutions to enhance resilience across the region. While ADAPT 2.0 focuses primarily on NbS for climate mitigation and adaptation, the **Regional Project** incorporates NbS as a key component while introducing additional innovative adaptation practices, ensuring alignment with the broader climate adaptation agenda without duplicating ADAPT 2.0's focus.

6. **EU's Economic and Investment Plan for the Western Balkans (EIP)**

The EIP focuses on driving long-term economic recovery and green transition through infrastructure and economic development. The **Regional Project** complements the EIP by scaling up climate adaptation solutions at the local level, addressing the specific climate vulnerabilities of communities and ecosystems. While the EIP emphasizes sustainable economic growth and green transformation, the **Regional Project** ensures that climate resilience is integrated into the region's broader development strategies, filling an important gap in local adaptation efforts. This alignment allows both projects to contribute to a cohesive strategy for sustainable development without overlapping in their core activities.

7. **AF-UNDP: Integrated Climate-resilient Transboundary Flood Risk Management in the Drin River Basin**

The AF-UNDP project focuses on transboundary flood risk management in the Drin River Basin, addressing climate-induced risks through improved coordination and resilience-building measures. The **Regional Project** complements this initiative by expanding its scope beyond flood risk management, addressing a wider range of climate adaptation challenges across the Western Balkans. While both projects aim to enhance climate resilience, the **Regional Project** introduces innovative solutions to various climate impacts and scales them beyond the Drin River Basin, ensuring a holistic approach to regional climate adaptation.

The Regional Project is strategically designed to complement the ongoing adaptation initiatives in the region, contributing to the broader climate resilience agenda without duplicating existing efforts. By focusing on locally-driven innovations, enhancing community-level resilience, and fostering regional collaboration, the project will add value to the existing adaptation framework in the Western Balkans, ensuring that adaptation solutions are scalable, inclusive, and aligned with broader regional and global goals.

I. Describe the learning and knowledge management component to capture and disseminate lessons learned.

Learning and Knowledge Management

Empowering Grantees and Strengthening Local Adaptation through Knowledge Exchange

Knowledge exchange and peer-to-peer learning are fundamental to the Regional Project as they create opportunities for grantees to share valuable insights, best practices, and lessons learned from their own experiences. By facilitating networking and providing direct communication channels between grantees, the project fosters a collaborative environment where participants can learn from one another and collectively address common challenges. This approach promotes the cross-pollination of ideas and solutions, enhancing local adaptation efforts while scaling up successful initiatives. Peer-to-peer exchange not only strengthens the impact of the project but also empowers grantees by building valuable connections and creating opportunities for collaboration and growth across the region.

Fostering Knowledge Exchange and Capacity Building through the MBA Internship Program

The MBA Internship Programme is a powerful tool for knowledge exchange, strategically linking academic expertise from leading business schools with the practical needs of locally-led climate adaptation initiatives. This unique partnership, which includes UNDP, a responsible party selected within UNDP's procurement standards, and top-tier universities, fosters an environment for cross-disciplinary collaboration. By embedding MBA students with Regional Project grantees, the program facilitates the transfer of essential business knowledge, particularly in areas such as business model refinement, financial strategy, and market expansion. In turn, students gain valuable insights into the complexities of climate adaptation in the Global South, deepening their understanding of real-world challenges faced by grassroots organizations. This exchange not only bridges the gap between academic theory and practical application but also contributes to the development of a more robust, evidence-based understanding of climate adaptation and innovation.

From a knowledge management perspective, the MBA internship program serves as a platform for the continuous documentation and sharing of lessons learned from both students and grantees. Grantees benefit from the strategic support provided by students, which enhances their ability to scale successful climate solutions and strengthen their organizational capacity. For students, the program offers a rare opportunity to apply academic knowledge in real-world settings, contributing to meaningful solutions for complex climate issues. Through this continuous knowledge exchange, the program helps create a living repository of insights, best practices, and case studies, which can be leveraged to inform future adaptation strategies. By fostering a culture of mutual learning, the program ensures that innovative climate solutions are better supported and more widely replicated, strengthening the knowledge base of all stakeholders involved.

The structure of the MBA internship program also promotes systemic learning and knowledge exchange on a broader scale. Through collaboration between academia, development organizations, and the private sector, the program creates an inclusive environment for shared learning, facilitating discussions on critical issues such as blended finance and how to scale financing models to support climate adaptation projects. Students' exposure to these innovative financial mechanisms contributes to an evolving understanding of how to effectively address funding gaps for adaptation initiatives. The program helps to build a knowledge ecosystem where students, local organizations, and global experts can collaborate and share insights. This continuous learning process not only addresses immediate challenges but also generates long-term value by fostering sustainable and scalable solutions. Ultimately, the MBA internship program contributes to building a more resilient climate adaptation landscape, ensuring that lessons learned can be applied to future projects and scaled across regions.

The results from the knowledge management component can also be fed into the work that the three Collaborative Working Groups established with support from UNDP-AFCIA, to explore and advance the potential of micro-bonds and blended finance as innovative mechanisms to mobilize capital for climate resilience and adaptation at the local level. Key partners like the Global Resilience Partnership and the MBA schools engaged in the MBA internship programme, have also expressed interest in continuing to co-developing case studies and specialized research about scaling locally led adaptation solutions, using as a base the pipeline of projects created by UNDP under this regional project.

Creating a Knowledge Platform to Support Scaling and Replication

The regional project will establish a comprehensive knowledge-sharing and learning structure designed to facilitate the exchange, scaling, and replication of climate adaptation solutions. This approach will align with the Adaptation Fund's Monitoring and Tracking System (AF MTS), specifically focusing on Strategic Focus 3, which emphasizes sharing lessons learned and developing guidance on adaptation finance and actions. Key outcomes will include

identifying, codifying, and disseminating lessons learned while creating knowledge to support scaling efforts and strengthen adaptation capacities across the region.

The structured knowledge exchange system will facilitate the sharing of best practices, lessons learned, and innovative solutions. This system will not involve developing an online platform but will instead establish a structure that ensures effective knowledge dissemination across various channels. This structure will build on existing regional knowledge and experiences from ongoing UNDP Istanbul Regional Hub initiatives and UNDP Country Office initiatives in the Western Balkans, leveraging tools such as social media, blogs, working papers, case studies, and open-source applications to ensure broad access to key knowledge.

The knowledge exchange will be strengthened by community engagement tools such as the BOOST Alumni Network, network of AIM partners, UNDP SGP's Global Citizens Knowledge Platform, and South-South Cooperation initiatives, which will help expand the reach and impact of the knowledge-sharing efforts.

The peer learning opportunities are facilitated among regional grantees. These events, such as hackathons, innovation fairs, and product showcases, will encourage the cross-fertilization of ideas and foster collaboration, helping to scale and replicate successful adaptation solutions across the region. These learning events will be organized in close collaboration with direct access grantees and the broader AIM community, enabling a dynamic flow of knowledge and building a foundation for scaling impactful solutions.

Additionally, the project will enhance the knowledge base through virtual connections between the knowledge exchange structure and leading incubators, accelerators, innovation labs, and climate adaptation practitioners. This collaboration will help integrate diverse perspectives and expertise, enriching the capacity-building process. A strategic communication and dissemination program will also be implemented to raise visibility and highlight the Adaptation Fund's contribution throughout the project lifecycle, ensuring that key learnings and achievements reach relevant stakeholders at national, regional, and global levels.

Furthermore, the project will utilize several existing platforms and tools to further enhance knowledge exchange and peer learning, including Community of Practice (CoP) platforms like Slack and Microsoft Teams, surveys and polls through platforms such as SurveyMonkey and Google Forms, and the Adaptation Innovation Marketplace for showcasing and sharing innovative climate solutions. Learning platforms for webinars, virtual workshops, and training will be leveraged to deliver capacity-building content to grantees, enhancing their understanding of climate adaptation solutions and equipping them with practical tools to implement in their communities.

Through this comprehensive structure, the project will facilitate an ongoing cycle of knowledge creation, validation, and sharing, promoting collaboration across the region and fostering the scaling of locally led, gender-responsive climate adaptation solutions.

Visibility and Branding of the Adaptation Fund

The Adaptation Fund's support will be clearly visible at key stages of the project, including grant sourcing, screening, and administration. UNDP will produce knowledge products that showcase the impact of the Adaptation Fund, with success stories shared for broader external communication. Grantees will be encouraged to acknowledge the support of the Adaptation Fund and UNDP in their communications, ensuring proper recognition without co-branding.

By creating a dynamic and inclusive learning environment, the Regional Project will enhance knowledge exchange, facilitate scaling and replication of adaptation solutions, and empower grantees to address climate challenges more effectively across the Western Balkans.

J. Describe the consultative process, including the list of stakeholders consulted, undertaken during project / programme preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund.

Consultative Process and Stakeholder Engagement Approach

At the stage of the Regional Project´s preparation, it was not yet feasible to conduct deeper consultations at the level of specific project sites or with stakeholders that will ultimately be engaged by the grantees. This is because the specific sub-projects and implementing partners (grantees) across the three target countries will be identified through a transparent open call for proposals, which will take place at the beginning of implementation. As such, the project currently includes Unidentified Sub-Projects (USPs), consistent with the nature of the innovation process being supported and in line with guidance from the Adaptation Fund (Decision B.39/52).

Given this structure, UNDP´s approach to stakeholder consultation has been adapted accordingly. In line with the Adaptation Fund's Environmental and Social Policy (ESP) and Gender Policy (GP), we are undertaking initial virtual consultations with key national stakeholders—coordinated through the respective UNDP Country Offices in the 4 participating countries. These consultations include representatives from government agencies, civil society organizations, research centres and other relevant institutions, and are intended to inform the overall project framework, including implementation principles and safeguards.

UNDP recognizes that national stakeholders require clarity on the project's direction and expected outcomes. While specific grantee-led activities cannot yet be defined, UNDP is ensuring that stakeholder input shapes the overarching implementation approach and risk identification processes at the national level. This includes integrating national priorities and contextual realities now as part of the project design stage.

Once grantees are selected and specific interventions and sites are identified through the open call process, more detailed, locally grounded stakeholder consultations will be conducted. These will include consultations with vulnerable or marginalized groups, women, Indigenous Peoples, and other directly affected communities as relevant. At that stage, UNDP will also develop and disclose detailed risk assessments and management instruments—including gender action plans, stakeholder engagement plans, and environmental and social management plans—supported by gender and safeguards experts as part of project support and quality assurance.

This phased approach allows UNDP to manage stakeholder expectations responsibly and transparently, recognizing that not all organizations applying for the grants may ultimately be selected or have the capacity to implement. However, UNDP us fully committed to ensuring that, in line with Adaptation Fund guidance on USPs, risk identification, gender considerations, and stakeholder engagement are addressed at both the framework level (during proposal formulation) and the sub-project level (once grantees are known). These measures will ensure robust safeguards and inclusive engagement throughout the project lifecycle.

The Adaptation Fund was consulted about the above-mentioned phased approach to stakeholder consultations and considering the nature of the programme and the inclusion of Unidentified Sub-Projects (USPs), they informed that the strategy seemed well-justified and aligned with the Fund's guidance.

Further to this, **Annexes 4 and 5** outline the envisioned consultation processes that will further advance during implementation—to meet the requirements of the UNDP´s and the Adaptation Fund´s Environmental and Social Safeguards Policies and Gender Policies.

Initial Consultations with Key National Stakeholders

The consultative process undertaken during the preparation of the Regional Project has been designed to ensure broad stakeholder engagement, with particular attention to vulnerable groups and gender considerations, in compliance with the Environmental and Social Policy (ESP) of the Adaptation Fund. The process has been structured in phases, enabling effective national and local input integration throughout the project's development. Detailed information can be found in the following annexes to this proposal **Annex 6** (Stakeholder Mapping Matrixes), and **Annex 7** (Stakeholder Consultations and Engagement).

The first phase of the consultation process involved virtual meetings with key national stakeholders, coordinated through UNDP Country Offices in the four target countries. These consultations engaged representatives from government agencies, civil society organizations, non governmental organizations, SMEs and relevant institutions. The primary aim was to inform the overall project framework, ensuring alignment with national priorities and contextual realities. National stakeholders provided valuable input that guided the development of the project's implementation principles, safeguards, and risk identification processes, ensuring that the project aligns with national adaptation strategies.

In Bosnia and Herzegovina, the stakeholder consultation brought together representatives from government ministries, hydrometeorological institutes, academia, development agencies, civil society, and the private sector. Participants welcomed the regional initiative and emphasized the need for clear administrative procedures and institutional support to ensure effective participation, given the country's complex governance structure. The importance of ensuring access for development agencies and civil society organizations was underlined, along with calls for active engagement of local actors and broader community involvement. Stakeholders expressed strong interest in grant access and regional collaboration and affirmed the need for flexible, inclusive processes. Stakeholders also stressed the relevance of gender-sensitive approaches and appreciated the inclusive design of the initiative. The session reaffirmed Bosnia and Herzegovina's interest and readiness to participate in the Regional Project. Focus on Vulnerable Groups and Gender Considerations.

In Montenegro, stakeholder consultations emphasized the importance of aligning the regional project with national policy processes, including the National Adaptation Plan (NAP), Low-Carbon Development Strategy, National Climate and Energy Plan, and NDCs. Participants highlighted significant capacity gaps among municipalities, SMEs, and NGOs in developing fundable adaptation proposals and called for the pairing of grant support with technical assistance and mentoring. Engagement with business development professionals was seen as essential, particularly in raising awareness and building skills to integrate climate considerations into investment planning. Stakeholders also identified a need to strengthen the role of local governments in embedding adaptation criteria into economic support schemes, especially in agriculture and tourism. The Environmental Protection Fund was recognized as a potential partner to leverage existing mechanisms and build capacity. Gender considerations were prioritized, with recommendations to build on UNDP's EmpowerHer experience and align with national gender equality legislation. Finally, stakeholders stressed the importance of coordinating with existing initiatives—such as GORA and GEF-7 projects—to ensure complementarity, avoid duplication, and maximize outreach to vulnerable groups and local actors.

In North Macedonia, during the consultation stage stakeholders emphasized the need to prioritize high-impact sectors—such as agriculture, water resource management, and urban resilience—while ensuring inclusivity and innovation at even modest funding levels. It is noted that flexibility is important to allow participation from a wide range of municipalities, while still making sure that underserved and vulnerable communities receive adequate support. The consultation highlighted the importance of supporting rural women, youth, persons with disabilities, Roma communities, and small-scale farmers, who are often excluded from formal decision-making but face acute climate risks. Participants stressed the value of strong municipal leadership, gender expertise, and partnerships

with academia and civil society to enhance implementation and sustainability. Geographically, the North-East region and climate-stressed urban zones like Skopje were identified as priority areas. Innovation, affordability, and scalability were key themes, with stakeholders advocating for solutions such as hydroponics and bio-waste processing, underpinned by robust monitoring frameworks and inclusive engagement mechanisms.

In Serbia, stakeholder consultations aligned with the ongoing national adaptation planning process, providing an opportunity to ensure coherence with the country's National Adaptation Plan and related strategies. Participants expressed strong support for the project's emphasis on locally driven action and prioritization of vulnerable populations—particularly the elderly, Roma communities, individuals with chronic illnesses, and rural residents and underlined the importance of inclusivity to address vulnerabilities and existing needs of target areas. Key thematic priorities included nature-based solutions, disaster risk reduction, and drought resilience. Stakeholders emphasized the importance of transparent and inclusive grant allocation mechanisms, recommending that informal groups be supported through structured partnerships. They also highlighted the need to build the capacities of civil society organizations and local governments. Regional cooperation was seen as a valuable dimension—both for sharing knowledge and for implementing cross-border or jurisdictionally aligned initiatives with scalable benefits across the Western Balkans.

In compliance with the ESP, particular attention was given to vulnerable groups, including women; youth; communities facing social, economic, and political marginalization; and marginalized communities. Gender considerations were incorporated into the consultation process, with the results informing the project's design and risk management strategies. This approach ensures that the needs of vulnerable groups are central to the project's implementation, and that gender-sensitive actions are embedded into its activities.

Future Stakeholder Consultations and Detailed Risk Assessments

As the project progresses, further consultations will be conducted at the sub-project level, once specific grantees and interventions are identified through an open call for proposals. These consultations will focus on localized engagement, particularly with vulnerable groups, women, and marginalized and underserved populations ensuring that interventions are tailored to the specific needs of the communities they aim to serve. Detailed stakeholder meeting summaries, responses to stakeholder comments, and stakeholder engagement plans will be included in the application forms. Additionally, risk assessments, gender action plans, and environmental and social management plans will be developed and disclosed, ensuring compliance with the Adaptation Fund's policies and the safeguarding of vulnerable groups.

This consultative process ensures that the voices of all stakeholders, particularly vulnerable groups, are actively heard and incorporated into the project's design and implementation. The phased approach allows for continuous learning, adaptation, and responsiveness, ensuring that the project remains aligned with the principles of the Adaptation Fund's Environmental and Social Policy throughout its lifecycle.

K. Describe how the project/programme draws on multiple perspectives on innovation from e.g., communities that are vulnerable to climate change, research organizations, or other partners in the innovation space, in the context in which the project/programme would take place.

Incorporating Diverse Perspectives on Innovation from Different Stakeholders

The project draws on multiple perspectives on innovation by actively engaging a diverse range of stakeholders, including local communities, research organizations, and development partners. Communities most affected by climate change—such as local communities, marginalized groups, women, youth and rural populations—are central to the project's innovation process, as they bring valuable lived experiences and unique insights into local

adaptation challenges. Their participation ensures that the solutions developed are contextually relevant, grounded in the real-world needs of those who are most impacted by climate change.

In addition to local knowledge, the project incorporates expertise from research organizations, whose findings help shape the technical and scientific aspects of the adaptation solutions. These research entities provide evidence-based approaches, innovative methodologies, and a deeper understanding of climate trends, which are crucial for developing scalable and sustainable solutions.

The project also benefits from the MBA Internship Programme, which connects MBA students from leading global business schools with grantees in the region. These students provide valuable expertise in business strategy, financial planning, and scaling, helping to refine and strengthen the business models of local organizations. By integrating academic insights with local adaptation efforts, the MBA Internship Programme ensures that innovative solutions are not only technically feasible but also financially sustainable and scalable.

The Regional Project also collaborates with other key partners in the innovation space, including UNDP stakeholders and UNDP Country office innovation ecosystem for 4 countries, private sector partners, non-profits, and social enterprises, to foster a multi-stakeholder environment. By integrating diverse perspectives from across these sectors, the project ensures that adaptation solutions are not only innovative but also feasible, scalable, and adaptable to the changing realities of the region.

This approach encourages cross-pollination of ideas and strengthens the solutions ability to identify and implement effective, locally driven, and globally informed climate adaptation strategies. Through this inclusive process, the supported solutions not only address the immediate needs of vulnerable communities but also contributes to the broader climate resilience agenda, fostering long-term sustainability and innovation in the region.

L. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

Justification for Funding Requested: Addressing the Full Cost of Climate Adaptation in the Western Balkans

Baseline Scenario: Insufficient Adaptation and Innovation Financing

The Western Balkans are already experiencing significant impacts from climate change, with increasing extreme weather events and long-term shifts in climate patterns. To minimize climate-related losses, reduce long-term adaptation costs, and protect vulnerable communities, these countries urgently need to adapt to the changing conditions. There is a valuable opportunity to strengthen adaptation efforts by supporting locally-led initiatives, promoting regional collaboration, and enhancing knowledge exchange between local and global networks. Innovation plays a crucial role in this process, providing context-specific solutions to address the region's unique challenges. By leveraging local knowledge and integrating innovative technologies, practices, and business models, the region can accelerate the scaling of adaptation solutions, leading to a more resilient and sustainable future. This focus on innovation will drive the development of new tools, methodologies, and partnerships, empowering communities to adapt in a sustainable and effective manner, while closing gaps in adaptation efforts and accelerating inclusive solutions.

Adapting to climate change in the Western Balkans is urgent. The World Bank estimates that an initial, comprehensive package of investments in the Western Balkans may reach US$37 billion[137]. There is a large gap remains in funding for climate change adaptation globally, indicating the global costs of adaptation may range from

137 World Bank (2024). Western Balkans 6 Country Climate and Development Report (CCDR).

US$140 billion to US$300 billion per year by 2030 and up to US$500 billion per year by 2050 and that in the Balkans each country may need to invest as much as US$2 billion by 2030 alone[138].

Climate adaptation innovation and action in the Western Balkans brings many benefits, far beyond the effects on climate. For instance, early-warning systems yield extremely high benefits in terms of avoided mortality and hospitalization - hundreds or even thousands of times the implementation cost. Flood and water management, and nature-based solutions, can also benefit local economic development. However, a crucial gap exists in locally-led adaptation and innovation at the community level, which is essential for scaling successful climate adaptation practices, tools, and technologies. This project aims to bridge that gap by fostering innovative and locally led adaptation solutions and connecting them with national, regional, and global expertise to enhance their impact and scalability.

The current global and regional climate finance landscape focuses heavily on efforts to mitigate future temperature rise by removing greenhouse gas emissions. However, less attention has been paid to risk reduction, adaptation, and especially locally led adaptation innovation. According to the Climate Policy Initiative, as little as $22 billion per year globally goes to climate change adaptation compared to more than $436 billion per year for climate change mitigation.[139] The Western Balkans, with its increasing vulnerability to extreme weather events, rising temperatures, and water scarcity, is facing mounting challenges. Despite the urgent need for adaptation, access to climate finance remains severely constrained, limiting the region's ability to implement effective strategies that can mitigate climate impacts and build resilience.

Adaptation is a complicated challenge as there is no single common unit of measure such as greenhouse gas emissions. There is no “one size fits all” solution, which may, in part, explain why adaptation receives less attention and funding. Locally-led adaptation innovation is the key. This is especially true for the investment in adaptation innovation. The very nature of non-standard solution of adaptation is a massive opportunity for the Western Balkans region. Entrepreneurship in all forms, whether non-profit, social, for-profit and partnership, is a great approach to find potential locally-led and innovative multi-functional solutions for adaptation challenges.

As mentioned in earlier pages of this proposal, many of the entrepreneurs/ SMEs fall into the “missing middle”—which means that they are too large for microfinance, yet too small or risky for traditional banks and investors[140]. Three main barriers contribute to this financing gap according to this OECD/UNCDF (2020) report are:

- High Transaction Costs – Similar effort is needed to assess SMEs as large firms, but with smaller returns.
- Risk Perception – SMEs often lack collateral, financial history, or sector familiarity, making them appear riskier.
- Investment Readiness – Many SMEs lack the skills to present strong financial models and business plans to attract formal investment.

The above is particularly evident in the Western Balkans, where high capital costs and concerns over ownership deter innovators and entrepreneurs from accessing equity, while non-profits and social enterprises face even greater challenges due to the unsuitability of traditional financing models. As a result, the capacity to scale and invest in locally-led adaptation solutions are severely constrained.

The Regional Project will also specifically reach out to include women, disadvantaged, remote, and marginalized communities. The proposed approach acknowledges that women-owned and minority-led enterprises often face

138 UNDP (2018). Climate Change Adaptation in Europe and Central Asia: Adapting to a Changing Climate for Resilient Development

139 https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2024/

140 OECD/UNCDF (2020; p.112), Blended Finance in the Least Developed Countries 2020: Supporting a Resilient COVID-19 Recovery, OECD Publishing, Paris, https://doi.org/10.1787/57620d04-en.

persistent barriers in accessing adaptation finance. These businesses are more likely to operate in informal settings, smaller-scale sectors, or under less favourable lending conditions, which can limit their growth and resilience. Beyond financial constraints, non-financial barriers—such as limited access to training, unequal property rights, and institutional or legal hurdles—also restrict opportunities for formal financing. Gender norms and limited outreach from financial institutions further contribute to the financing gap.

To strengthen inclusive adaptation efforts, UNDP aims to explore targeted solutions that address both financial and systemic barriers, supporting more equitable access to finance for underserved and underrepresented innovators and entrepreneurs.

Locally-led adaptation and innovation are recognized as effective approaches to addressing climate change challenges. Public funding is proven to be extremely crucial for incubating and accelerating innovation when entrepreneurs are still operating at pre-seed stage with limited (or no) revenue potential. Building on existing experience, the proposal seeks to further strengthen and scale these locally driven solutions as a reliable pathway for climate resilience.

Additionality of the Regional Project´s intervention

The requested funding for the Regional Project is critical to bridge the substantial adaptation finance gap in the Western Balkans, aligning with UNDP's commitment to strengthening resilience against climate change impacts. Without the project, available finance for innovations and business development in the region would likely not be directed toward climate resilience initiatives, as these are often perceived as more complex, higher-risk, and less investment-ready compared to conventional business ventures. They also typically require extensive technical assistance, readiness support, and mentoring, which are not sufficiently available or financed under current conditions.

In the baseline scenario, locally led adaptation efforts in the Western Balkans remain largely underdeveloped and insufficiently supported— particularly those led by or benefiting vulnerable communities and women. A lack of targeted technical assistance, early-stage investment, and institutional support prevents these initiatives from progressing beyond isolated pilots or informal solutions.

The Regional Project offers a transformative alternative by creating the enabling conditions—through tailored technical support, capacity building, scoping, and investment facilitation—for the identification, development, and scaling of high-impact, locally driven adaptation innovations.

Through three interlinked outcomes, the Regional Project will catalyse the development and diffusion of innovative adaptation practices, tools, and technologies, thereby strengthening the climate resilience of target communities compared to the baseline scenario:

- **Outcome 1:** Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Western Balkans countries, with particular emphasis on approaches that advance gender equality and women’s empowerment, and which address priority climate risks.
- **Outcome 2:** Selected adaptation innovations are strengthened and positioned for scale through tailored business development support, market testing, and identification of funding and financing pathways.
- **Outcome 3:** Knowledge, evidence, and lessons from adaptation innovations are captured, shared, and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks.

Outcome 1: Additionality

In the baseline scenario without the project, innovative adaptation initiatives led by civil society organizations, social enterprises, and SMEs in the Western Balkans face persistent barriers to financing. Traditional investors often perceive these initiatives as high-risk, with limited or no near-term revenue potential, especially during the early stages of development. Debt financing is typically less accessible, and equity investments are rare. As a result, promising ideas struggle to progress beyond the conceptual phase, leaving significant adaptation potential untapped—particularly among non-traditional actors and community-based innovators.

This project will act as an incubator for locally led adaptation innovation, accelerating the development and scaling of context-specific solutions across the Western Balkans. By providing targeted small and medium-sized grants, it addresses a critical financing gap for early-stage and high-impact initiatives that typically fall outside the scope of traditional funding. In doing so, the project introduces clear additionality by enabling public finance to de-risk innovation where private capital remains limited. Beyond funding, the project will foster a collaborative platform for sharing lessons, showcasing best practices, and building networks—contributing to a growing regional and global knowledge base on effective adaptation.

At the core of this outcome is a **two-tiered funding structure** that supports the entire innovation lifecycle—from early-stage experimentation to the scaling of validated solutions. This dual approach recognizes that genuine innovation requires supporting both emerging ideas and validated solutions, helping to foster a dynamic ecosystem that generates novel approaches while accelerating proven interventions:

- **Lot 1 – Grant Funds for Innovation and Experimentation (USD 15,000 - USD 40,000).** These smaller grants specifically target novel approaches, emerging technologies, or innovative business models with clear potential for climate adaptation impact. Priority will be given to:
    - Untested but promising concepts that address adaptation challenges through new methodologies
    - Early-stage innovations from non-traditional actors or emerging organizations
    - Experimental approaches that challenge conventional adaptation practices
    - Solutions that demonstrate potential for breakthrough impact despite limited track records

- **Lot 2 - Scaling Grants for Proven Solutions (USD 40,000 - USD 150,000).** These larger grants support the expansion or replication of solutions that have demonstrated early results and pathways to scale. Focus areas include**:**
    - Validated approaches ready for geographic expansion, replication or deeper implementation
    - Proven technologies or methodologies requiring support for broader adoption
    - Successful pilot initiatives with documented results and scaling potential

By supporting both experimentation and scaling, the project aims to create an innovation facility for climate adaptation that can attract additional funding sources beyond the Adaptation Fund. This facility will act as a dynamic platform for generating, testing, and scaling new solutions, building a pipeline of innovations that can leverage diverse funding mechanisms and create sustained impact across the Western Balkans region.

Priority will be given to initiatives that demonstrate clear benefits for vulnerable populations, especially women and marginalized communities, and that show credible pathways to sustainability and replication.

Grant agreements will be designed using fit-for-purpose UNDP modalities suited to the nature of recipient organizations (e.g., CSOs, cooperatives, SMEs), ensuring both compliance and flexibility to support diverse innovation actors. Performance-based disbursement mechanisms will be employed where appropriate, linking funding to achievement of specific milestones and learning objectives that contribute to both individual project success and broader ecosystem knowledge generation.

<u>Outcome 2: Additionality</u>

In the baseline scenario, early-stage adaptation innovations in the Western Balkans struggle to mature due to limited access to tailored business development support. Most locally led initiatives—particularly those led by CSOs, cooperatives, or SMEs—are perceived as high-risk, lack investment readiness, and face barriers in accessing conventional financing. Available public or private support for business development is rarely directed toward adaptation-focused ventures, which are often more complex, less profitable in the short term, and require dedicated technical assistance, mentoring, and financial planning to become viable and scalable.

The regional project introduces clear additionality by providing targeted business development support specifically designed for climate adaptation innovations. Through tailored technical assistance—including business model refinement, financial planning, and market access strategies—the project will bridge the gap between promising ideas and scalable adaptation solutions- —enabling innovators to transition from early-stage ideas to viable, investable adaptation solutions. This support will enable local actors to strengthen their operational models, enhance investment readiness, and position themselves to attract both public and private funding, which would otherwise remain out of reach. This approach is in line with UNDP's broader mission to eradicate poverty, reduce inequalities, and build resilience to climate change impacts. The project will ensure that no one is left behind in the face of climate change, fostering sustainable, scalable, and inclusive adaptation solutions across the Western Balkans.

This approach not only enhances the financial and operational sustainability of supported initiatives but also contributes to a broader shift toward systems-level resilience. By helping local actors become more attractive to both public and private funders, the project will catalyse a pipeline of inclusive, scalable adaptation solutions that would otherwise remain overlooked. The Regional Project will catalyse the growth of early-stage, innovative adaptation solutions, providing tailored business development assistance that bridges the gap between innovation and scalable financial structures, ultimately driving broader, impactful deployment of adaptation solutions.

The Regional Project will maximize impact by leveraging existing resources, structures, and partnerships. Collaborations with development partners and community of UNDP offices in the Western Balkans, who have extensive experience in working with vulnerable groups, will be integral to the project’s success. These partners have shown strong support for the project concept and bring valuable expertise in adaptation finance and innovation. Additionally, the project will align with ongoing UNDP initiatives in the region, ensuring complementarity and avoiding duplication of efforts. Close coordination and consultation with other organizations and program focal points in the region will be prioritized during the design, implementation, and monitoring phases to enhance efficiency and maximize impact.

In doing so, the project offers a tangible adaptation alternative—one that strengthens the enabling environment for inclusive, resilient innovation and ensures that locally driven solutions can progress from pilot stage to transformative impact.

Outcome 3: Additionality

In the Western Balkans, the full cost of achieving effective, inclusive, and scalable climate adaptation goes well beyond financing individual projects or technologies. A critical and often underfunded component is the knowledge infrastructure required to ensure that locally led innovations are systematically captured, shared, and scaled across borders. In the baseline scenario, community-level adaptation solutions remain fragmented and isolated. Valuable lessons from local innovation rarely move beyond their immediate context due to the absence of structured mechanisms for documentation, peer learning, and policy feedback. This severely limits the region’s ability to scale what works and build institutional memory around effective climate responses.

The regional project addresses this systemic gap by investing in the enabling conditions that are essential to unlock the full value of locally led adaptation. The requested funding is justified as it covers core costs that are not supported extensively including targeted technical assistance, capacity development, cross-border peer learning,

and strategic knowledge dissemination. These are necessary for creating the ecosystem conditions in which adaptation innovations can be sustained, replicated, and integrated into broader development strategies.

Specifically, the project will establish a regional knowledge exchange and learning framework that supports continuous learning and collaboration across Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. Through structured activities—such as peer learning events, regional workshops, innovation showcases, and facilitated exchanges—grantees and stakeholders will be empowered to share practical insights, build capacity, and adapt successful approaches to new contexts. These efforts will be complemented by systematic documentation and dissemination of lessons through diverse tools such as blogs, case studies, and working papers, leveraging UNDP's regional expertise and platforms including BOOST, TADAMON, the AIM partner network, and the UNDP SGP Global Citizens Knowledge Platform. Importantly, the project will not invest in new digital infrastructure but will utilize a decentralized, multi-channel approach to ensure cost-efficiency while maximizing accessibility and impact. Knowledge will be shared through existing networks, creating a flexible, inclusive community of practice that reaches both grassroots actors and policymakers.

Without this intervention, the existing public and private finance available in the region would not be directed toward these enabling functions. Baseline funding mechanisms do not typically cover the costs associated with cross-country learning, knowledge exchange, or visibility for early-stage innovations—particularly those led by vulnerable or marginalized communities. These aspects are essential to achieving transformational, system-wide adaptation but remain underfunded due to their indirect and long-term return on investment.

Key activities under this component will include peer learning events, innovation showcases, regional workshops, and exchange forums designed in collaboration with grantees and local partners. These events will help surface practical insights and create opportunities for horizontal learning between communities, practitioners, and policymakers.

To further strengthen regional knowledge ecosystems, UNDP Country Offices in 4 Western Balkan countries will play a central role in coordinating stakeholder engagement, ensuring that learnings are integrated into policy processes, and supporting linkages with relevant national and regional institutions. The project will also foster virtual connections with incubators, accelerators, innovation labs, and climate adaptation experts to enrich learning and provide tailored technical input to grantees.

By addressing this critical gap, the project will ensure that locally led adaptation solutions are not only piloted but also equipped for replication and scaling. The funding requested is essential to cover the full cost of adaptation—going beyond direct implementation to include the long-term structures and capacities needed to support the sustained growth and spread of effective solutions.

This outcome directly responds to the current fragmentation of knowledge and lack of structured learning opportunities in the Western Balkans. By fostering collaboration, peer learning, and cross-border exchange, it will enable grantees and their partners to design more adaptive, resilient responses to climate risks. Through this approach, the project will cultivate a culture of continuous improvement, ensuring that successful practices are systematically sustained, scaled, and adapted to new contexts.

Ultimately, this component will lay the foundation for a more connected, inclusive, and durable adaptation ecosystem across the region—one where local innovation can thrive, inform policy, and contribute meaningfully to long-term climate resilience.

The requested amount of $5,000,000 from the Adaptation Fund is sufficient to fully achieve the project's intended outcomes and objectives. While the project may explore opportunities for additional financing to further enhance its impact, the successful delivery of core results is not contingent upon external co-financing.

M. Describe how the sustainability of the project / programme outcomes has been taken into account when designing the project / programme.

Ensuring Sustainability of Project Outcomes in the Design Process

The sustainability of the project outcomes has been carefully considered in the design of the programme to ensure long-term impact. Proposals should demonstrate evidence of existing funding, a co-financing strategy (if applicable), and secure forthcoming funding. Additionally, a comprehensive fundraising strategy and identification of relevant partners must be included to ensure the project's long-term viability. These elements will be evaluated as part of the proposal screening criteria.

Additionally, each proposal will include a project risk assessment and management plan focused on ensuring the expected outcomes and long-term sustainability. An exit strategy for each grantee will be developed, and a portion of the technical assistance facility will be dedicated to ensuring its effective implementation.

To maintain transparency and accountability, the proposal must define clear and transparent procurement procedures, ensuring competition and efficiency. It should outline processes for (i) recording financial transactions and account balances, and (ii) managing and disbursing funds in alignment with project objectives. These procedures must adhere to established financial management best practices. Additionally, a financial and budget plan must be provided, with a possibility of an annual financial audit conducted to ensure compliance.

In accordance with UNDP Financial Regulations and Rules, the supported solutions might undergo audits, with the audit cycle and process to be discussed during the inception stage to ensure full compliance with applicable audit policies.

N. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.

As mentioned in section J, it was not yet feasible to conduct deeper assessment of specific sub-projects during the proposal preparation, because these will be identified through a transparent open call for proposals, which will take place at the beginning of implementation. As such, the project currently includes Unidentified Sub-Projects (USPs), consistent with the nature of the innovation process being supported and in line with guidance from the Adaptation Fund (Decision B.39/52).

In this regard, the UNDP has conducted its own generic screening of the proposed project against the UNDP's Social and Environmental Standards (see Annex with the Social and Environmental Screening Procedure) that broadly outlined the potential impacts and risks associated with the envisaged USPs. The screening classified the projects as involving Moderate social and environmental risks based on the UNDP's risk rating methodology and proposed further screenings of the specific USPs to ensure their full compliance with the UNDP SES and Adaptation Fund's Environmental and Social Policy.

The UNDP's Moderate social and environmental risk rating corresponds to the Adaptation Fund's environmental and social risks rating Category B (few, small, not widespread, and reversible or easily mitigated risks). For sake of completeness, a detailed review of the potential risks is provided below based on the Adaptation Funds Environmental and Social Policy.

Overview of Environmental and Social Impacts and Risks Relevant to the Project

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law:		**Moderate risks** The supported activities might fail to demonstrate full compliance with the applicable law. **Further assessment and management required for compliance** All project-supported activities shall be screened to ensure that they fully comply with all applicable national law.
Access and Equity:		**Moderate risks** Marginalized groups (persons with disabilities, ethnic minorities e.g. Roma populations, poor communities) may be excluded from decision-making and benefits because of limited outreach to vulnerable populations because of their insufficient capacity to engage effectively, or inadequate conflict sensitivity in project design. **Risk level based on Adaptation Fund's methodology: Moderate** All project-supported activities shall be screened in order to ensure that provide fair and equitable access to benefits in a manner that is inclusive for potentially affected populations, including marginalized individuals and persons with disabilities, and not exacerbate existing inequities, particularly with respect to marginalized or vulnerable people who live in extreme poverty or face disadvantage(s) that limit their choices and opportunities relative to others in society.
Marginalized and Vulnerable Groups:		**Moderate risks** The supported projects might exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups. **Further assessment and management required for compliance** All project-supported activities shall be screened to ensure that they do not to exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups. Where risks of potential risks to access and equity arise, the supported actions shall be required to: • identify potential impact of the proposed activities on the potentially affected individuals and groups, including those who have lesser access to its benefits and/or marginalized or vulnerable groups, • Identify practical measures that avoid, reduce or offset such adverse impacts, and • uphold the principles of accountability, inclusion, non-discrimination, and participation and increase the inclusion of potentially affected groups in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle).
Human Rights:		**Moderate risks** The project might provide support for activities that guarantee e.g. equal protection under the law; discrimination based on race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status right; etc., defined in the national law and the core international human rights treaties (e.g. Universal Declaration of Human Rights and International Covenant on Civil and Political Rights, etc.) **Further assessment and management required for compliance**

		All project-supported activities shall be screened for potential Human Rights risks. Where the risks of Human Rights violation would rise, the project shall duly consider any such risks and assist the applicants in adequately addressing them based on standards set in international law or national law (whichever is higher).
Gender Equality and Women's Empowerment:		**Moderate risks** The supported activities might not be implemented in a gender-responsive manner and discriminate against women or girls or reinforce gender-based discrimination and/or inequalities. **Further assessment and management required for compliance** All project-supported activities shall be screened to ensure that they are gender-responsive and not reinforce gender-based discrimination and/or inequalities. The supported actions will be expected to promote a meaningful and equitable participation of both women and men in decision-making about the supported activities, allow both genders obtain comparable social and economic benefits from the proposed actions, and support women to easily access them. The project will (where relevant) promote women-led initiatives.
Core Labour Rights:		**Moderate risks** The grant recipients and project contractors may not have procedures for observance of workers' rights and may not provide contracted worker with labour and working conditions that meet the relevant national labour laws and relevant ILO conventions. **Further assessment and management required for compliance** All project-supported activities shall be screened for the potential labor risk violations. The supported organisations will be required to provide their workers with labour and working conditions that meet the national labour laws, including the following core labor-related requirements stipulated in the relevant key ILO conventions: • Provide project workers with clear and understandable information on terms and conditions of their employment (e.g. payment in a timely manner, written notice of termination, and payment of all wages and benefits on termination, etc.). • Prevent and address violence, harassment, intimidation, or exploitation, including any form of gender-based violence. • Ensure that workers engaged have appropriate health and social insurance. • Exclude unsafe working practices and implement relevant occupational health and safety measures, such as: • Provide workers with introductory job- focused safety trainings before starting work; training event is properly registered in the instructions' book. • Ensure that workers' protective equipment based on the local requirements and international good practice (e.g. hardhats, masks, safety glasses, harnesses, safety boots, etc.) • Make the first aid kits available on site and fire-extinguisher easily accessible in all sections of the site. • Introduce appropriate signposting of the sites will inform workers of key rules and regulations to follow. • Record and report health & safety incidents to UNDP.

Indigenous Peoples:	X	**No risks** The project area does not include any Indigenous Peoples. **Further assessment and management required for compliance** N/A
Involuntary Resettlement:		**Moderate risks** Project activities might cause adverse social and economic impacts from land or resource acquisition or restrictions on land or resource use. **Further assessment and management required for compliance** All project-supported activities shall be screened for potential displacement risks. Where such risks would arise, the actions seeking project support shall be required to conduct a dedicated due diligence of any displacement activities before they take place to: • Identify and assess any potential physical and economic displacement risks • Prohibit any forced evictions. • Include measures for avoiding, or, when avoidance is not possible, minimizing any potential displacement risks and their adverse social and economic impacts. • Consult the potentially affected stakeholders (with specific attention to poor and marginalised groups) on the proposed measures and opportunities for improving their living standards and the overall socioeconomic status through the project interventions.
Protection of Natural Habitats:		**Moderate risks** The supported activities might inadvertently cause a potential degradation of natural and critical habitats and adverse effects on ecosystem services. **Further assessment and management required for compliance** All project-supported activities shall be screened for risks related to natural Habitats. They shall be generally required to: • as far as possible, conduct the proposed activities in areas where natural habitats have already been converted to other land uses or that have low value for biodiversity and ecosystem services, and low sensitivity to the anticipated impacts, • keep interventions in natural and semi-natural habitats to minimum in order not to disturb the existing flora and fauna, degrade the habitat and resident species populations • where possible avoid interventions that would reduce ecological connectivity in the ecosystem (e.g. restricting the free movement of species between important habitats) or changes in the important ecosystem processes (e.g. hydrological regimes and nutrient flows) that support ecosystems and their services. • assess and manage the impacts of proposed interventions on critical, natural and modified habitats and their ecosystem services in accordance with the UNDP SES 1 requirements, • use cost-effective opportunities to enhance the existing habitats and ecosystem services as part of the proposed interventions.
Conservation of Biological Diversity:		**Moderate risks** The supported activities located in the proximity of critical ecosystems might cause reduction of recognized Vulnerable, Endangered, or Critically Endangered species, or have adverse impacts on endemic species, restricted-range species, and migratory species. **Further assessment and management required for compliance**

		All project-supported activities shall be screened for biodiversity risks. They shall be generally required to consider the presence of any endangered species and any potentially significant adverse impacts on their habitats, breeding grounds, free movement, and migration needs and will be optimised to ensure that they: • do not cause any reduction of any recognized Vulnerable, Endangered, or Critically Endangered species, • avoid adverse impacts on endemic species, restricted-range species, and migratory species, and • minimize unwarranted impacts on resident species populations. They shall also be required to: • not introduce species known to be invasive into new environments, • promote the use of native species or more resilient varieties of native species as a priority, and • use any potentially suitable alien species (e.g. climate resilient crop seed varieties) only if they were duly approved as posing no risks of potential invasive behaviour by the relevant authorities.
Climate Change:		**Moderate risks** Some supported activities (e.g. changes in land-uses or changes in the cooling systems) might inadvertently trigger greenhouse gas emissions. **Further assessment and management required for compliance** The supported actions shall be screened for any potential project-related increases in emissions that may exacerbate climate change, such as GHG emissions and black carbon emissions. Where any such risks would arise (e.g. the use of cooling systems), the action shall be asked to consider and adopt technically and financially feasible alternatives for reducing proposal-related greenhouse gas emissions. Such options may include, but are not limited to: • alternative project locations, • adoption of renewable or low-carbon energy sources, or energy efficiency measures • use of low-global-warming-potential coolants for air-conditioning and refrigeration, • promote climate-smart agricultural, forestry, and livestock management practices, and ecosystem-based adaptation and mitigation measures (including potential integration of carbon sinks).
Pollution Prevention and Resource Efficiency:		**Moderate risks** Grant-supported activities may fail to meet all applicable national environmental laws and standards, and applicable international agreements and good international practices or avoiding, minimizing, and mitigating environmental and related public health risks associated with the potential release of pollutants due to routine or non-routine circumstances. **Further assessment and management required for compliance** The supported actions shall be screened for pollution prevention and resource efficiency risks. They will be required to avoid, minimize, and mitigate environmental and related public health risks associated with the potential release of pollutants in routine and non-routine circumstances in accordance with the national law and international best practices used in the region. Where the risks of pollution release would arise, the project will:

		• require operators to conduct orientation training addressing relevant environmental and occupational health and safety issues prior commencement of the relevant operations, • conduct regular surveillance is conducted to avoid leaks, spills, incidents or accidents occurring during the use of equipment and during storage, • monitor, manage and remediate any chemical oil leaks or spills, and incidents/accidents occurring during the use of equipment and their effects, and undertake all necessary immediate actions to ensure they do not adversely affect water bodies/sources. Where the risks of inadequate waste management would arise, the supported actions shall be required to: • reduce the generation of any generated waste • separate waste at the source (where possible) • reuse waste in a manner that is safe for human health and the environment. • transport all waste that cannot be reused to an appropriate waste recovery-or-treatment facility that appropriately controls its emissions and residues in accordance with the national law and international best practices used in the region.
Public Health:		**Moderate risks** Projects may create certain health and safety risks or construction-related risks to communities and workers. **Further assessment and management required for compliance** The supported actions shall be screened for public health and safety risks. They will be required to be designed, implemented, and operated in accordance with the national law and will also respect the following UNDP requirements for construction process management: • have design and management plans which were: i) prepared by suitably qualified and experienced professionals who are certified for such design process, and ii) cleared by the competent authorities for construction process management. Low-risk designs will require at least a peer-review by qualified professionals. • be constructed and operated by the experienced contractor(s) having relevant certifications and permits for the relevant works, • implement preventive/protective measures to avoid/minimize the relevant health and safety risks for the construction workers and the surrounding communities based on the national law and international good practice, and • be before the beginning of their actual use/operation approved (and where needed certified) by either competent authorities or independent professionals not involved in their design and construction. Where potential impacts on public health arise, the supported actions shall be required to: • use qualified health and safety experts to assess the risks to, and potential impacts on, the safety of affected communities during the project design, construction, operation, and decommissioning, • adopt preventive measures and plans to address any identified risks in a manner commensurate with their potential impacts based on good practices and standards used by the international organizations working in the region, • prepare, implement, and monitor emergency preparedness plans in collaboration with stakeholders and relevant authorities, where relevant, and

		• require periodic safety inspections and monitoring, and report to UNDP should any issue be found.
Physical and Cultural Heritage:		**Moderate risks** Grant-supported activities may damage sites, structures, or objects with historical, cultural, or religious values; or adverse impacts on intangible cultural heritage (e.g. changes in landscapes with cultural significance). The supported actions shall be screened for risks related to cultural heritage. They will be required to: • comply with the local requirements for their protection and preservation and fully respect the requirements of the World Heritage Convention (if they might affect the World Heritage sites). • Where moderate risks arise, consult the relevant authorities and explore all viable and feasible alternatives for the reduction of these risks (including changes in the planned activities, in situ conservation and rehabilitation, etc.) to avoid, minimize, or offset such risks. • ensure that it does not lead to the destruction of unknown cultural heritage and follow national requirements and/or globally recognized good practices for field study, inventorying, and documentation of archaeological heritage.
Lands and Soil Conservation:		**Moderate risks** The supported activities might cause adverse impacts on productivity, organic content, structure, and water-retention capacity of soils. **Further assessment and management required for compliance** The supported actions shall be screened for the potential impacts on soil and required to: • avoid conversion of productive lands or lands that provide valuable ecosystem services • avoid, and where avoidance is not possible, minimize adverse impacts on soils, their biodiversity, organic content, productivity, structure, and water-retention capacity • adopt appropriate measures to ensure that the supported activities promote soil conservation • support. They will also be used as a reference during the review process of the project application.

A detailed Social and Environmental Screening Procedure (SESP) and Environmental and Social Management Framework (ESFM) that complies with the Adaptation Fund´s Safeguards Policy and UNDP´s Social and Environmental Standards are presented in Annex 4 and 5 respectively. The ESMF chapter 5 outlines the screening of unspecified sub-projects and presents Environmental and Social Management Guidelines that will be provided to the USPs. These guidelines directly integrate the mitigation measures presented in the above screening.

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PART III: IMPLEMENTATION ARRANGEMENTS

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme management at the regional and national level, including coordination arrangements within countries and among them. Describe how the potential to partner with national institutions, and when possible, national implementing entities (NIEs), has been considered, and included in the management arrangements.

Project Management and Coordination Arrangements

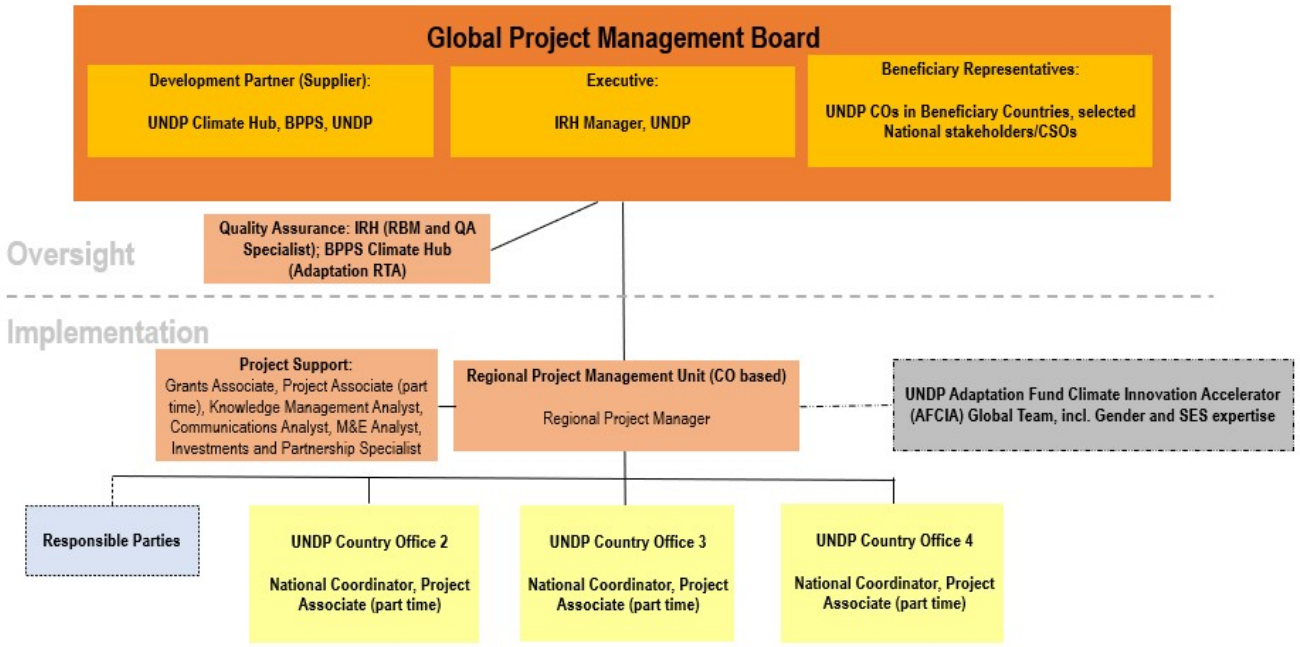
Regional Management Structure

The Regional Project will be implemented by UNDP through its Istanbul Regional Hub under the Direct Implementation Modality (DIM). This modality ensures centralized oversight, coherent governance, and accountability, while enabling efficient delivery of technical and operational support across Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia.

The Istanbul Regional Hub will serve as the Implementing Partner for this project. The Implementing Partner is responsible for executing this project. Specific tasks include:

- Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- Overseeing the management of project risks as included in this project document and new risks that may emerge during project implementation.
- Procurement of goods and services, including human resources.
- Financial management, including overseeing financial expenditures against project budgets.
- Approving and signing the multiyear workplan.
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

The Regional Project Governance Arrangements:



The UNDP Istanbul Regional Hub (IRH) Manager assumes full responsibility and accountability for oversight and quality assurance of this Project and ensures its timely implementation in compliance with the AF-specific requirements and UNDP's Programme and Operations Policies and Procedures (POPP), its Financial Regulations and Rules and Internal Control Framework. A UNDP Regional Bureau representative in the Hub will assume the assurance role and will present assurance findings to the Project Board, and therefore attends Project Board meetings as a non-voting member.

UNDP's implementation oversight role in the project – as represented in the project board and via the project assurance function – is performed by the IRH Manager and UNDP IRH RBM and QA Specialist. UNDP's execution role in the project is performed by the Regional Project Manager**,** who will report to the IRH Innovations Team Leader (or Regional Programme Chief, IRH)**.**

The Implementing Partner could engage Responsible Parties to deliver specific activities under the project in line with UNDP policies and procedures and if deemed necessary for the effective project delivery.

Regional Steering Committee

The regional project will be steered by the Regional Project Steering Committee as per UNDP procedures and requirements. The Regional Steering Committee will secure high-level oversight of the execution of the project and approval of strategic project execution decisions of the Implementing Partner. The Steering Committee's roles and responsibilities are unpacked in the standard UNDP Terms of Reference for Project Board/Steering Committee and will be presented and endorsed upon the Steering Committee's first meeting. The Steering Committee is the formal governance body of the project, which approves the activities in the project, reviews and clears annual workplans (AWPs) and annual progress achieved by the project through Annual Project Reviews based on the approved AWP. The Steering Committee will meet on an annual basis (more often if required) and its decisions are binding. Prior to the meetings the project team, which acts as the secretariat, will duly submit brief mid-year actions updates on the previous period and the plan for the next one. The Steering Committee will evaluate submitted documents and oversee approving plans and budgets. The Steering Committee is chaired by IRH management as per the internal control framework and regional programme Standard Operation Procedures.

Composition of the Regional Steering Committee:

- *Project Executive*: This is an individual who represents ownership of the project and chairs (or co-chairs) the Project Board. The Project Executive is: the IRH Manager, UNDP.
- *Beneficiary Representative(s):* Individuals or groups representing the interests of those groups of stakeholders who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. The Beneficiary representative (s) is/are: Selected national stakeholders/CSOs (on the rotational basis) and UNDP Country Office management in the four partner countries.
- *Development Partner*: Individuals or groups representing the interests of the parties concerned that provide funding, strategic guidance and/or technical expertise to the project. The Development Partner is: Representative of the UNDP BPPS Climate Hub.

Project Assurance

Project Assurance is the responsibility of each Steering Committee member, however the role can be delegated. The Project Assurance role supports the Steering Committee by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project Assurance has to be independent of the Programme Manager; therefore the Steering Committee cannot delegate any of its assurance responsibilities to the Regional Programme Manager. UNDP IRH RBM and QA Specialist will perform the Quality Assurance role.

At the national level, the project will be delivered in close collaboration with UNDP Country Offices and relevant national stakeholders. National coordination mechanisms will be established to align implementation with country-specific climate adaptation priorities and ensure ownership. These mechanisms will facilitate structured engagement with civil society organizations (CSOs), micro-, small- and medium-sized enterprises (MSMEs), cooperatives, and government institutions—promoting inclusive participation in the development and scaling of locally-driven adaptation solutions. The UNDP Adaptation Fund Climate Innovation Accelerator (AFCIA) Global Project Team will provide technical support and advice to the Regional Project Management Team, allowing the project to benefit from global knowledge and technical assistance.

Regional and Inter-Country Coordination

As is the practice in similar regional projects, the project team led by the Regional Project Manager acts as one consolidated team regardless of physical location. Building on IRH's solid experience on distributed teams and implementation and the SOP for regional programming, a regional coordination mechanism will be established to foster collaboration, peer learning, and knowledge exchange across the four countries within UNDP offices and alongside partners. The distributed project team carries out regular joint activities including technical working groups, learning events, peer-to-peer exchanges, and innovation showcases and relevant as needed, in addition to the country specific/led activities. These efforts aim to facilitate the sharing of good practices, refine innovative solutions, and enable replication and scaling of successful approaches across the region.

This coordination framework will also leverage engagement with regional development partners and platforms to promote policy coherence, optimize resource use, and enhance collective impact. The model promotes cross-border collaboration while remaining responsive to national contexts and institutional frameworks.

Regional Project Team

UNDP will maintain a team of professional project personnel who will be directly involved in the implementation and monitoring of the project. The personnel time allocated to the implementation of the project will be duly recorded. The team will consist of the regional project management unit under IRH however based in one of the implementing Western Balkan countries within a UNDP Country Office, working as one project team with the personnel supporting the project from the other implementing UNDP Country Offices, and alongside. Together

they make up the Secretariats of the Regional Project. UNDP personnel will ensure high quality in the development and implementation of activities, provide insight generation, maintain relationships and ensure smooth delivery of the project The UNDP Country Offices (COs) will implement in-country activities as per agreed workplans. IRH will ensure financial allocations to Country Offices as per established workplans / activities for each of the country. The assigned CO staff will support the project implementation, monitoring, and contribute to the financial and operational closure and final reporting.

Partnerships with National Institutions

Strategic engagement with national institutions is integral to the project's approach. Through UNDP Country Offices, the project will work closely with ministries and public agencies responsible for climate change adaptation, environment, and sustainable development to ensure strong alignment with national policy frameworks, including Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs).

The Adaptation Fund´s website indicates that there are no National Implementing Entities (NIEs) operating in the Western Balkans region. However, the Regional Programme will map out relevant NIEs and national agencies that would benefit from knowledge sharing, build on existing innovation grant experiences, and contributing to the replication of scalable solutions, enhancing coherence between global adaptation financing and local implementation efforts.

Stakeholder Engagement

A strong emphasis will be placed on inclusive, multi-stakeholder engagement at all levels. The project will actively involve CSOs, the private sector, academia, and regional and international partners to co-create, implement, and scale solutions. This collaborative framework fosters a dynamic innovation ecosystem, reinforces social ownership, and supports systemic resilience in the Western Balkans.

Knowledge Management and Monitoring

A robust results-based monitoring and evaluation (MEL) framework will guide project implementation, allowing for the measurement of progress, identification of emerging challenges, and adaptive management. A dedicated knowledge management system will capture lessons learned, good practices, and innovations to be disseminated across regional and global adaptation platforms. This will support continuous learning and contribute to broader climate adaptation agendas, including South-South and triangular cooperation.

UNDP Execution Role: The National Designated Authorities for AF, UNDP and the AF have agreed for UNDP to fully execute the project under the DIM modality and for the cost of these services to be charged to the project budget up to the approved amount of USD 106,000. To ensure the strict independence required by the AF and in accordance with the UNDP Internal Control Framework, these execution services will be delivered independently from the AF-specific oversight and quality assurance services.

B. Describe the measures for financial and project / programme risk management.

Measures for Financial and Project Risk Management

Potential Risk	Risk Level	Risk Management Strategy
Misappropriation of the grant funding	Low	Performance based disbursement will be used instead of providing the total grant amount at the grant signing stage. Grantees may be asked to get an agreement from UNDP (with advise from UNDP country office) if procurement of goods/services exceeds a certain threshold. Financial audit is required as a part of the annual progress report.

Lack of participation at the regional call for proposals across the four targeted Western Balkan countries	Low	During the regional call for proposals, UNDP will also actively source innovation ideas from the network of development partners who are working on innovation, incubation, and acceleration as well as climate adaptation and resilience topics. With the extensive network of UNDP Innovation team and BOOST network, Accelerator Labs in the Country Offices, Country Office ecosystem and detailed stakeholder mapping that will be developed the risk of lacking participation is relatively low.
Project implementation delay	Medium	To mitigate this risk, UNDP will provide ongoing technical and business development support and apply its standard Monitoring and Evaluation (MEL) processes, including: • **Quarterly Reporting:** Grantees will submit progress and financial reports every three months throughout the implementation period. • **Ongoing Support:** Continuous technical and business acceleration support will help identify and address potential implementation challenges early on. • **Timely Issue Resolution:** Any barriers to timely completion will be monitored and addressed through tailored mitigation strategies. This approach will ensure proactive oversight and supports effective and timely project delivery
Imbalanced Reporting of Success vs. Challenges and Lessons Learned	Medium	To ensure accurate and balanced reporting, grantees will be encouraged to document both successes and challenges as part of their regular progress updates. Lessons learned—particularly from challenges—are essential for continuous improvement, knowledge sharing, and the replication or scaling of effective practices. This expectation will be clearly communicated throughout the programme implementation cycle and reinforced during regular monitoring. Project implementation will also be guided by the Impact Report and documented lessons learned from UNDP-AFCIA Phase I implementation. These insights will inform best practices and support adaptive learning. All relevant lessons from the Regional Project will be similarly captured to contribute to broader institutional learning and future programme design.
Grantees fail in securing scale up and replication support and funding from	Medium/High	While it is common for only a portion of innovative or early-stage initiatives to secure follow-on funding the programme is designed to improve these odds by strengthening grantees' capacity for long-term sustainability.

other sources after the completion of the project		Through targeted technical assistance, the project will help grantees enhance their financial planning, develop robust business models, and strengthen partnerships. This support aims to make initiatives more 'investment-ready', enabling them to attract additional funding and diversify income streams. By addressing core barriers such as limited access to finance, technical know-how, and strategic networks, the project aims to bridge the gap between promising community-led adaptation initiatives and the resources needed for sustained impact. Based on comparable experience, it is anticipated that approximately 20–30% of supported initiatives may successfully secure follow-on investment or replication support.
Environmental, social and governance risk not managed, triggering risk events	Medium	Environmental, social and governance criteria will be established in every step of the project under the guidance of UNDP teams. UNDP Social and Environmental Safeguards Procedure (SESP) will be used to ensure the controls of this risk are in place. ESG management plan will be prepared before the programme implementation. Call of proposal will highlight potential ESG risk, selection template will contain ESG risk identification questions, ESG expert will be presented in the technical panel, MEL reporting's will also contain a ESG reporting section.

C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.

Environmental and Social Risk Management Measures

A detailed Social and Environmental Screening Procedure (SESP) and Environmental and Social Management Framework (ESFM), that complies with the Adaptation Fund´s Safeguards Policy and UNDP´s Safeguard policy is presented in **Annex 3 and 4 respectively.**

The Regional Project is fully aligned with the Environmental and Social Policy (ESP) of the Adaptation Fund and UNDP's Social and Environmental Standards (SES). It incorporates a comprehensive, phased approach to environmental and social risk management, ensuring that all activities are implemented responsibly and inclusively.

1. Preliminary Risk Screening

- Grantees will be requested to consider - with the help of using the guidance proposed in the ESMF - the main risks that their solution/project could potentially generate in the environment and the communities where they plan to operate.
- Based on this, all grantee proposals will submit their own initial environmental and social risk screening that will be reviewed during the selection process, by the Performance and Data Analyst with the help of the UNDP´s safeguard experts.

3. Integration of mitigation measures into final design of the supported actions

- If this screening identifies potential risks, the applicants will be asked to explore measures to avoid, minimize, or offset any potentially significant risks in order to comply with the minimum legal requirements in each Western Balkan country and the requirements stipulated in UNDP´s Social and Environmental Standards and the Adaptation Fund´s Environmental and Social Policy.

4. Ongoing Monitoring and Support

- Grantees will report regularly on safeguard implementation and will be required to undertake appropriate corrective actions as needed.
- The Performance and Data Analyst will, in coordination with the safeguards expert, provide technical support and quality assurance on social and environmental risk management throughout the project lifecycle.

5. Grievance Redress and Transparency

- In addition, a web-based Grievance Redress Mechanism (GRM) system will be established and made publicly known and accessible in each of the project countries. This platform will enable stakeholders to submit concerns, or complaints —anonymously if they wish— about any potential violation of environmental and social standards during the project implementation. A dedicated email address will also be provided through the project website to facilitate GRM submissions.
- The Project Management Unit (PMU) will regularly monitor and respond to submissions to ensure timely resolution and continuous improvement, in alignment with the Environmental and Social Policy of the Adaptation Fund.

6. Gender equality and social inclusion are central to the project's safeguards approach:

- Proposals must demonstrate how they will **mainstream gender**, empower women, and address differentiated vulnerabilities.
- Gender equality must be embedded across all stages—design, consultation, implementation, monitoring, and evaluation.
- All projects must meet Gender Marker 2, indicating gender equality as a significant objective.

This integrated safeguards framework ensures that all supported innovations are **effective, inclusive, and environmentally and socially responsible**. Its structured and participatory approach **proactively manages environmental and social risks**, contributing to **sustainable, inclusive, and equitable climate adaptation outcomes.**

D. Describe the monitoring and evaluation arrangements and provide a budgeted MEL plan.

Monitoring and Evaluation Arrangements and Budgeted MEL Plan

Monitoring, evaluation and learning (MEL) will be conducted in line with UNDP and AF requirements, ensuring accountability, learning, and adaptive management across the four participating countries. The MEL system will be coordinated by the UNDP Istanbul Regional Hub, with technical support from the global team and implementation support from UNDP Country Offices.

1. MEL Framework and Responsibilities

- **UNDP Istanbul Regional Hub**: Leads MEL coordination including developing a web-based digital data collection system for quarterly grantee reports. Reviewing and clearing submitted reports for quality and alignment, designing a results-based reporting template (meeting both UNDP and AF requirements), and

developing a project dashboard to visualize KPIs, track progress, and showcase impact. The Hub also consolidates regional data and ensures quality assurance before submitting reports to the AF.

- **UNDP Global Team**: Provides technical backstopping, tools, global learning integration, review of AF annual progress report.
- **UNDP Country Offices**: Support national-level data collection, grantee monitoring, and stakeholder engagement.
- **Grantees**: Submit quarterly reports, gender and safeguard data, and participate in evaluations.
- **Independent Evaluators**: Conduct midterm and terminal evaluation.

2. Key MEL Activities

Online Inception Workshop and Report

Held within 90 days of project start to:

- Review project strategy, results framework, and MEL plan.
- Clarify roles, reporting lines, and safeguard responsibilities.
- Finalize the first-year work plan and launch the project.

Baseline Assessment

A formal **Project Baseline Report** will be prepared and submitted to the Adaptation Fund Secretariat **no later than the submission of the first Project Performance Report (PPR)**. This report will:

- Establish baseline values for all indicators in the results framework.
- Use a combination of **primary data collection** and **reliable secondary sources**.
- Be developed in collaboration with national partners and validated through stakeholder consultations.

Quarterly and Annual Monitoring

- Grantees submit quarterly technical and financial reports.
- Annual AF Project Performance Reports (PPRs) will be submitted. These reports will comprehensively cover updates on gender mainstreaming, lessons learned, key achievements, the results framework, procurement, financial status, and environmental and social safeguards.

Mid Term Review

An independent mid-term review by the end of year 2 (mid-project) will be done to assess impact, sustainability, and lessons learned. The MTR report and management response will be publicly disclosed.

Terminal Evaluation (TE)

An independent evaluation at project end to assess impact, sustainability, and lessons learned. The TE report and management response will be publicly disclosed.

Knowledge and Learning

- Annual showcasing events and peer learning workshops.
- Web-based publication of lessons learned and technical briefs.
- Integration with the Adaptation Innovation Marketplace (AIM) and regional knowledge platforms.

In addition to these activities, the project includes a dedicated Performance and Data Analyst to enhance the effectiveness of the project's results framework. The specialist will be responsible for streamlining data collection

processes from all grantees, supporting the design of impact indicators (to be included in LVGAs), and developing a database and dashboard to track progress across Western Balkans grantees. They will also consolidate impact data and, where relevant, connect it to broader dashboard and impact showcases under the global CCA portfolio and IRH. The specialist will further support overall project-level MEL and quality assurance processes, including the Mid-Term Review (MTR) and Terminal Evaluation.

Budget Narrative and Alignment with AF Requirements

Monitoring and Evaluation (M&E) activities are embedded within the project's implementation structure and budgeted in accordance with the Adaptation Fund's guidance (AFB/EFC.4/7/Rev.1).

- Day-to-day monitoring activities, including tracking results, managing risks, and reporting, are budgeted under Executing Entity (EE) costs.
- Evaluation activities, including the Mid-Term Review (MTR) and Terminal Evaluation (TE), are budgeted under the Implementing Entity (IE) fee, as they fall under project oversight and completion responsibilities.
- The roles of the UNDP Istanbul Regional Hub and Global Team in quality assurance and evaluation coordination are explicitly tied to the IE fee.
- The roles of the Project Management Unit (PMU) and Project Coordinators in day-to-day monitoring and reporting are tied to EE costs.

The following table presents the reallocation of M&E activities and associated costs in alignment with Adaptation Fund guidelines:

Monitoring Activity				
	Frequency/Timeframe	**Expected Action**	**Responsible Parties**	**Indicative Cost (USD) (for the 4 years)**
Inception Workshop and Report	Inception Workshop within 2 months of the First Disbursement	As per above description	Executing Entity (EE) PMU, Regional Hub, Performance and Data Analyst	3,000 (See Detailed Budget, Budget Note 4)
Project Baseline Report	Baseline report with in first year of implementation not later than submission of annual PPR	As per above Baseline assessment description	Executing Entity (EE) PMU, Regional Hub, Performance and Data Analyst	3,000 (IE Fee)
Track results progress (see above Results Framework for details)	Annually and at mid-point and closure	Slower than expected progress will be addressed by project management.	Executing Entity (EE) Performance and Data Analyst, Regional PM	20,000 (See Budget Note 1)
Monitor and Manage Risk	Quarterly	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.	Steering Committee, Regional Project Manager, IRH	IRH staff, PMU

Monitoring Activity				
	Frequency/Timeframe	**Expected Action**	**Responsible Parties**	**Indicative Cost (USD) (for the 4 years)**
Monitor *GAAP and ESMF*	ongoing		Executing Entity (EE) Safeguards Specialist, Gender Specialist	16,000 (See Budget Notes 5 and 10)
Supervision Missions	Annually		Implementing Entity (IE) PMU, Performance and Data Analyst	4,000 (EE fee - See Detailed budget, Budget Note 21)
Learning briefs and Learning Missions	As needed	Relevant lessons are captured by the project team and used to inform management decisions. Show and Tell Event: in-person peer networking & learning event for grantees to network and showcase their results	Executing Entity (EE) Performance and Data Analyst, KM Specialist	50,000 (See Budget Notes 1, 4, 12, 19)
Annual Project Quality Assurance	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to improve project performance.	Executing Entity (EE) IRH	4,000 IRH staff (See Budget Note 21)
Review and Make Course Corrections	At least annually	Performance data, risks, lessons and quality will be discussed by the project board and used to make course corrections.	Implementing Entity (IE) PMU, IRH	IRH staff, PMU
Annual AF Project Performance Report (PPR)	Annually	Mandatory contribution by Project Team, CO and RTA. Strengths and weaknesses will be reviewed by project management and used to inform decisions to improve project performance	Executing Entity (EE) PMU, Performance and Data Analyst, IRH, RTA	4,000 (See Budget Note 21)
Project Review (Steering Committee)	*At least annually*	Any quality concerns or slower than expected progress should be discussed by the project board and management actions agreed to address the issues identified.	Implementing Entity (IE) Steering Committee	
Mid-Term Review (MTR)	End of Year 2	An independent mid-term review will assess	Executing Entity (EE) - IRH	18,000

Monitoring Activity				
	Frequency/Timeframe	**Expected Action**	**Responsible Parties**	**Indicative Cost (USD) (for the 4 years)**
		impact, sustainability and lessons learned.		(IE Fee)
Terminal Evaluation (TE)	End of Year 4	An independent evaluation at project end to assess impact, sustainability, and lessons learned.	Executing Entity (EE) - IRH	24,000 (IE Fee)
TOTAL				**146,000**

E. Include a results framework for the project / programme proposal, including milestones, targets, and indicators.

Results Framework for the Project Proposal: Milestones, Targets, and Indicators

Regional Project Objective: To accelerate locally-led adaptation innovation in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia by applying an enterprise development approach that strengthens regional collaboration, promotes gender equality and women's empowerment, supports locally-led innovation in priority and inclusion, and enables knowledge exchange at both regional and global levels.					
Project Objective	**Outcome Indicators**	**Baseline**	**Target at Project Completion**	**Means of Verification**	**Risks and Assumptions**
To accelerate locally-led adaptation innovation in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia by applying an enterprise development approach that strengthens regional collaboration, promotes gender equality and women's empowerment, supports locally-led innovation in priority and inclusion, and enables knowledge exchange at both regional and global levels	01: Number of people with increased resilience to climate change as a result of locally-led adaptation innovations supported, scaled, or replicated through enterprise development and regional collaboration: (a) Direct beneficiaries (male and female) (b) Indirect beneficiaries (male and female)	**0** **0**	*(a) Direct Beneficiaries Total: 40,000 (estimated); Female: 20,660 Male: 19,340 40,000 (est.)* *(b) Indirect Beneficiaries Total: 100,000. Female: 51,650 Male: 48,350 (est.)*[141]	Project records, grantees proposal, progress reports, baseline	**Assumptions** Baseline data on beneficiaries will be available or collected early in the project. **Risks:** Grantees may have limited or no capacity to do so without technical support.
	02: Number of supported adaptation innovations/number of adaptation assets created or strengthened that contribute to: (a) resilience of ecosystems/ecosystem services (b) climate-resilient livelihoods.	**0**	*(a) 10: contributing to the resilience of ecosystems/ ecosystem services or nature-based adaptation solutions* *(b) 10: contributing to climate-resilient livelihoods* *(Targets will be reviewed after selection of grantees.)*		
Outcome & corresponding Outputs	**Output Indicators**	**Baseline**	**Target at Project Completion**	**Means of Verification**	**Risks and Assumptions**

141 These estimates are indicative and will be refined during implementation based on the actual grant size, geographic coverage, and nature of supported innovations. Project will use a robust monitoring and evaluation (M&E) framework to track the actual reach and impact, disaggregated by gender and vulnerability status.

Outcome 1: Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Balkans countries, with particular emphasis on approaches that advance gender equality and women's empowerment, and which address priority climate risks.	1.1. Number of climate adaptation, climate resilient production and consumption, and nature-based solutions piloted	0	30	Project reports, grantee reports, signed LVGAs, gender action plan, gender disaggregated indicators and data	**Assumptions**: Sufficient pool of local actors with innovative ideas; Local organizations have or can develop technical capacity; Innovation grant mechanism is accessible **Risks**: Limited capacity of grantees; Political or institutional barriers; Low participation from underrepresented groups such as women and marginalized population.
Output 1.1: innovation concepts are identified and strengthened through inclusive call for interest, innovation sprints, and tailored design support.	1.1.1. Number of LVGAs led by or inclusive of women or marginalized group representatives 1.1.2. No / Percentage of LVGAs that demonstrate meaningful integration of gender equality and social inclusion (GESI) in their design, implementation, or governance.	0 0	8 20/100%		
Output 1.2: Promising pilots are financed through small-scale grants and supported to address climate risks with a focus on gender equality and social inclusion.	1.2.1. Number of innovative adaptation solutions funded	0	20		
Outcome 2: Selected adaptation innovations are strengthened and positioned for scale through tailored business development support, market testing, and identification of funding and financing pathways.	2.1 No of innovations adopted/ replicated or scaled by public institutions, private sector actors or other NGOs/CSOs	0	At least 4 or 1 per country (to be tracked through policy uptake and replication pathways)	Incubation and acceleration program reports, integration reports, market analysis, participant feedback; business plans, investment pitches Integration reports, market analysis, policy adoption records, stakeholder interviews	**Assumptions**: Business development support tailored to local innovators; Growing ecosystem of investors and funders; National and regional systems open to integration **Risks**: Limited market readiness or demand; Insufficient follow-on funding; Regulatory or institutional barriers
Output 2.1: Adaptation innovators receive tailored business development support, including incubation, acceleration, mentoring, and market testing, to strengthen implementation readiness and sustainability.	2.1.1 Number of adaptation innovators receiving business incubation and acceleration services 2.1.2. % of grantees receiving GESI integration training 2.1.3. Number of women-led or minority-led projects receiving tailored mentoring	0 0 0	20 100% 8		

Output 2.2: Scalable adaptation innovations are connected to funding and financing opportunities and supported for integration into national systems, local service delivery, or relevant markets.	2.2.1 No of business plans, prototypes, or investment pitches developed	0	20 TBD (depends on grantee capacity and BOOST outcomes)		
Outcome 3: Knowledge, evidence, and lessons from adaptation innovations are captured, shared, and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks.	3.1 Number of citation and/or adoption of shared lessons learned and codified knowledge	0	At least 10 citations / documented cases of adoption of lessons learned during the lifetime of the project	Regional collaboration platform documentation, knowledge products, dissemination reports, events	**Assumptions**: Regional collaboration supported by shared climate challenges; Effective documentation and dissemination of knowledge products; Stakeholders willing to engage **Risks**: Limited engagement in regional platforms; Inadequate documentation or communication; Contextual differences or lack of enabling policies
Output 3.1: Regional knowledge exchange platforms and collaboration mechanisms are established to facilitate peer learning, cross-border dialogue, and community-of-practice engagement among adaptation actors.	3.1.1 No of regional knowledge-sharing platforms or events organized / Number of regional knowledge-sharing events with content explicitly addressing gender and social inclusion.	0	At least 4 (1 per year of implementation) / At least 2 (50% of total events)		
Output 3.2: Insights, lessons learned, and good practices from adaptation pilots are systematically documented, synthesized, and disseminated to inform future programming and policy across countries.	3.2.1 No of knowledge products developed and disseminated	0	10		
	3.2.2 No of case studies from the target countries, highlighting women-led adaptation innovations published	0	5		
	3.2.3. Number of gender and social inclusion-focused learning briefs produced	0	3		

Core Impact Indicator Summary Table

Adaptation Fund Core Impact Indicator "Number of Beneficiaries"		
	Baseline *(absolute number)*	**Target at project approval *(absolute number)***
Direct beneficiaries supported by the project	0	40,000
Female direct beneficiaries	0	20,660

Youth direct beneficiaries Youth defined as ages 15–24; country shares use 2020 est. as latest consolidated public figures; will be updated in Year 1 using actual grantee data	0	4,730
Indirect beneficiaries supported by the project	0	100,000
Female indirect beneficiaries	0	51,650
Youth indirect beneficiaries Youth defined as ages 15–24; country shares use 2020 est. as latest consolidated public figures; will be updated in Year 1 using actual grantee data	0	11,825

Adaptation Fund Core Impact Indicator "Assets Produced, Developed, Improved, or Strengthened"		
	Baseline	Target at project approval
Sector: Multi-sector (agriculture, coastal management, disaster risk reduction, urban development, water management, food security, health) *Target sectors to be defined upon selection of grantees		
Targeted Asset 2) Physical asset (produced/improved/strengthened)	0	(a) 30 piloted; (b) 5 scaled
Changes in Asset (Quantitative or qualitative depending on the asset)	Not improved	Mostly improved

Adaptation Fund Indicator "Number of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated"		
	Baseline	Target at project approval
No. of innovative practices/tools and technologies	0	4 (at least 1 per country)
Sector: Multi-sector (agriculture, coastal management, disaster risk reduction, urban development, water management, food security, health) *Target sectors to be defined upon selection of grantees		
Status	No innovative practices	Completed innovative practices
Effectiveness	2. Partially effective	4.Effective

F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Alignment of the Project with the Adaptation Fund's Results Framework

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Estimated Budget
To accelerate locally-led adaptation innovation in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia by applying an enterprise development approach that strengthens regional collaboration, promotes gender equality and women's empowerment, supports locally-led innovation and inclusion, and enables knowledge exchange at both regional and global levels.	Number of people with increased resilience to climate change as a result of locally-led adaptation innovations supported, scaled, or replicated through enterprise development and regional collaboration. Number of supported adaptation innovations/number of adaptation assets created or strengthened that contribute to: resilience of ecosystems/ ecosystem services and climate-resilient livelihoods.	Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level Outcome 5: Increased ecosystem resilience in response to climate change and variability induced stress Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	8. Innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level. 3.2. Percentage of targeted population applying appropriate adaptation responses 5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress 6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	

AF MTS ER3, ER4 **Outcome 1:** Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Balkans countries, with particular emphasis on approaches that advance gender equality and women's empowerment, and which address priority climate risks	Number of climate adaptation, climate resilient production and consumption, and nature-based solutions piloted	~~**Output 8**: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.~~ **Output 5**: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	~~8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled up and/or replicated~~ 5.1 Number of natural resources assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	$1,381,396
		Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1. Number and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	$1,381,397
AF MTS ER2, ER4 **Outcome 2:** Selected adaptation innovations are strengthened and positioned	No of innovations adopted/ replicated or scaled by public institutions, private sector actors or other NGOs/CSOs	**Output 8**: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	$ 516,980

for scale through tailored business development support, market testing, and identification of funding and financing pathways.		Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	~~3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge~~ 3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	$ 464,676
AF MTS ER1, ER4 Outcome 3: Knowledge, evidence, and lessons from adaptation innovations are captured, shared, and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks.	Number of citation and/or adoption of shared lessons learned and codified knowledge	**Output 8**: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	8.2. No. of key findings on effective, efficient adaptation practices, products and technologies generated	$ 638,246

G. Include a detailed budget with budget notes, broken down by country as applicable, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

G.1. The Detailed Budget and Execution Costs Breakdown with Budget Notes and the Implementing Entity Management Fee

All related budget components — including the detailed budget, execution costs breakdown, budget notes, and the MIE management fee — are presented in **Annex 8** as a separate file.

Quantum Outcome (AF Component)	Quantum Output (AF Outcome)	Quantum Responsible Party	Quantum Fund ID	Quantum Donor ID	Quantum Activity (AF Output)	Quantum Budgetary Account Code	Quantum Budget Account Description	Amount Year 2026	Amount Year 2027	Amount Year 2028	Amount Year 2029	Total (USD)	Budget Note No.
Component 1. Innovation Facility for Climate Adaptation	*Outcome 1 Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Balkans countries, with particular emphasis on approaches that advance gender equality and women's empowerment, and which address priority climate risks*	*UNDP*	*62000*	*011602*	*Activity 1.1 (Output 1.1)*	*71400*	*Contractual Services-Individuals*	207,891	121,926	31,640	31,640	393,097	1
						72500	*Supplies*	4,000	4,000	4,000	4,000	16,000	2
						73100	*Rental and maintenance-premises*	1,455	1,455	1,455	1,455	5,820	3
						75700	*Training, Workshops and Conference*	30,000	30,000			60,000	4
					Activity 1.2 (Output 1.2)	*71200*	*International Consultants*	12,000	9,000	3,000	0	24,000	5
						71400	*Contractual Services-Individuals*	34,719	34,719	34,719	34,719	138,876	6
						71600	*Travel*	20,000	20,000	20,000	20,000	80,000	7
						72100	*Contractual Services-Companies*	0	750,000	250,000	0	1,000,000	8a
						72600	*Grants*	0	750,000	300,000	0	1,050,000	8b
Total Component 1								**310,065**	**1,721,100**	**644,814**	**91,814**	**2,767,793**	
Component 2. Technical assistance and capability development for scale	*Outcome 2 Selected adaptation innovations are strengthened and positioned for scale through tailored*	*UNDP*	*62000*	*011602*	*Activity 2.1 (Output 2.1)*	*71200*	*International Consultants*	17,500	42,000	42,000	14,000	115,500	9
						71400	*Contractual Services-Individuals*	7,588	7,588	0	0	15,176	10
						71600	*Travel*	15,000	25,000	25,000	24,000	89,000	6

	business development support, market testing, and identification of funding and financing pathways.					*72100*	*Contractual Services-Companies*	0	80,000	80,000	0	160,000	11
						72500	*Supplies*	0	4,000	1,000	0	5,000	2
						75700	*Training, Workshops and Conference*	0	40,000	40,000	0	80,000	12
					Activity 2.2 (Output 2.2)	*71200*	*International Consultants*	0	80,000	80,000	0	160,000	13
						71400	*Contractual Services-Individuals*	62,524	62,524	90,966	90,966	306,980	14
						73100	*Rental and maintenance costs*	1,250	1,250	1,250	1,250	5,000	3
						72100	*Contractual Services-Companies*	0	0	45,000	0	45,000	15
Total Component 2								**103,862**	**342,362**	**405,216**	**130,216**	**981,656**	
Component 3.Knowledge Management and Regional Collaboration	*Outcome 3: Knowledge, evidence, and lessons from adaptation innovations are captured, shared, and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks*	*UNDP*	*62000*	*011602*	*Activity 3.1 (Output 3.1)*	*71400*	*Contractual Services-Individuals*	134,400	102,271	91,561	72,361	400,593	16
						73100	*Rental and maintenance costs*	1,500	1,500	1,500	1,500	6,000	3
						71600	*Travel*	20,000	20,000	20,000	20,000	80,000	6
					Activity 3.2 (Output 3.2)	*71200*	*International Consultants*	14,000	9,500	9,500	9,500	42,500	17
						71400	*Contractual Services-Individuals*	25,352	16,901	8,450	8,450	59,153	18
						75700	*Training, Workshops and Confer*	0	0	0	50,000	50,000	19
Total Component 3								**195,252**	**150,172**	**131,011**	**161,811**	**638,246**	
Project Execution Costs	*Project Management Cost (PMC)*	*UNDP*	*62000*	*011602*	*Activity PMC*	*74100*	*Professional Services*	0	0	0	20,120	20,120	20
						71400	*Contractual Services-Individuals*	7,910	7,910	7,910	7,910	31,640	21

						64397	*Direct Project Cost-Staff*	25,000	35,000	23,000	23,000	106,000	22
Total Project Management Cost								**32,910**	**42,910**	**30,910**	**51,030**	**157,760**	
Total Direct cost of the action								**642,089**	**2,256,544**	**1,211,951**	**434,871**	**4,545,455**	
Indirect Costs - GMS (10%)								**64,209**	**225,654**	**121,195**	**43,487**	**454,545**	
Grand total (Direct cost and GMS)								**706,298**	**2,482,198**	**1,333,146**	**478,358**	**5,000,000**	

Budget Notes:

Budget Note No.	Project Output (Description)
1	Innovation for Adaptation - Global Technical Specialist: Overall coordination of the global team and Technical Assistance (TA) to support the WB grantees (and guidance to the PMU/COs while delivering the project). Brings all the lessons learnt, partnership platform, and know how from the global project UNDP-AFCIA. Maintaining the well established relationship with Adaptation Fund counterparts and other partners.
	Performance and Data analyst: Responsible to streamline the data collection process from all the grantees. Support with the design of impact indicators (to be included in LVGAs). Including track results progress in line with the Results Framework. Includes the capturing of lessons learned and the development of Learning Briefs, as per MEL budgeted plan)
	Regional Project Manager: Leads the implementation of Component 1 – Innovation Facility for Climate Adaptation across the four Western Balkans countries. Oversees the identification and selection of locally-led innovative climate adaptation solutions, with a focus on approaches advancing gender equality and women's empowerment and addressing priority climate risks. Coordinates the design and delivery of the regional learning programme, including design sprints, and manages the disbursement of grants. Ensures coherence across country-level activities, facilitates cross-country collaboration, and maintains strategic engagement with regional and national stakeholders to achieve project objectives.
	Project Coordinator BIH: Manages the day-to-day implementation of Component 1 – Innovation Facility for Climate Adaptation at the country level. Coordinates with local partners and stakeholders to identify, promote, and support innovative climate adaptation solutions, ensuring integration of gender equality and women's empowerment and addressing priority climate risks. Oversees in-country delivery of activities, monitors progress, and ensures timely reporting to the Regional Project Manager. Contributes to the regional learning programme and design sprint activities, and supports grant recipients in meeting project goals and compliance requirements.
	Project Coordinator MNE: Manages the day-to-day implementation of Component 1 – Innovation Facility for Climate Adaptation at the country level. Coordinates with local partners and stakeholders to identify, promote, and support innovative climate adaptation solutions, ensuring integration of gender equality and women's empowerment and addressing priority climate risks. Oversees in-country delivery of activities, monitors progress, and ensures timely reporting to the Regional Project Manager. Contributes to the regional learning programme and design sprint activities, and supports grant recipients in meeting project goals and compliance requirements.

	Project Coordinator SRB: Manages the day-to-day implementation of Component 1 – Innovation Facility for Climate Adaptation at the country level. Coordinates with local partners and stakeholders to identify, promote, and support innovative climate adaptation solutions, ensuring integration of gender equality and women's empowerment and addressing priority climate risks. Oversees in-country delivery of activities, monitors progress, and ensures timely reporting to the Regional Project Manager. Contributes to the regional learning programme and design sprint activities, and supports grant recipients in meeting project goals and compliance requirements.
2	Project office supplies
3	Rental and maintenance costs of project office premises
4	Training and workshops for grantees: Includes Learning and Design for Innovation Sprint including: virtual regional workshops, "test & refine homework", peer-to-peer learning exchanges, rapid individual mentorship. Including inception workshop as per M&E Budget
5	Safeguard specialist – International Consultant (IC): in coordination with the Performance and data analyst, provides technical support and quality assurance throughout the project lifecycle. Including Monitoring of the ESMF ($8,000 as per budgeted MEL plan)
6	Grants Associate: Supports the administration and management of grants, ensuring compliance with procedures, assisting in the selection and monitoring of grantees, and maintaining accurate financial and narrative reporting.
7	Travel for local and international consultants to attend workshops and trainings with grantees
8a	Innovation Challenge grants to MSMEs for innovation solutions, will follow UNDP policy on Innovation Challenges
8b	Low Value Grants to NGOs/CSOs for innovation solutions, will follow UNDP policy on Low Value Grants
9	"Partnerships and Investments Specialist: Brings the partnerships with the MBA schools from the Global Network for Advanced Management (GNAM) and connections with key private sector actors (e.g. BNP Paribas, Acumen, Foundations). Onboards grantees and students and ensures that each yearly TA cycle is beneficial for both students and grantees (working in their business development plans, revenue generation models, etc). Leads the research and though leadership component of this collaboration with grantees and MBA schools. Gives one on one TA to grantees around scaling, innovative finance mechanisms and investments."
10	Gender expertise: Provision of technical expertise to ensure gender-responsive and transformative project implementation, including integrating gender into activities, monitoring gender-specific indicators, and advising on stakeholder engagement and capacity building. Including Monitoring the implementation of the GAAP ($8,000 as per budgeted MEL Plan)
11	Technical assistance - business and administration
12	Training programs and workshops on business model development, financial planning, and investment readiness, include both in-person and virtual delivery formats
13	Local Consultancies for business, acceleration, and scaling technical support
14	Regional Project Associate: Provides administrative, logistical, and operational support for the implementation of the Technical Assistance and Capability Development for Scale component. Assists the Project Coordinator at the country level and the Regional Project Manager in coordinating and documenting activities related to business development support, market testing, and identification of funding and financing pathways for selected adaptation innovations. Facilitates communication and coordination between country and regional stakeholders, ensures smooth implementation of activities, and maintains accurate records to support timely delivery within scope. (based in MK)
	Project Coordinator BIH: Leads the implementation of the Technical Assistance and Capability Development for Scale component at the country level, ensuring selected adaptation innovations are strengthened and positioned for scale. Provides technical guidance on business development support, oversees market testing processes, and facilitates the identification of funding and financing pathways.

	Coordinates closely with the Regional Project Manager, engages with national stakeholders and partners, and ensures activities are delivered on time, within scope, and in alignment with project objectives.
	Project Associate BIH: Provides administrative, logistical, and operational support for the implementation of the Technical Assistance and Capability Development for Scale component. Assists the Project Coordinator in organizing and documenting activities related to business development support, market testing, and identification of funding and financing pathways for selected adaptation innovations. Ensures smooth coordination with stakeholders, maintains accurate records, and supports the delivery of activities on time and within scope.
	Project Coordinator MNE: Leads the implementation of the Technical Assistance and Capability Development for Scale component at the country level, ensuring selected adaptation innovations are strengthened and positioned for scale. Provides technical guidance on business development support, oversees market testing processes, and facilitates the identification of funding and financing pathways. Coordinates closely with the Regional Project Manager, engages with national stakeholders and partners, and ensures activities are delivered on time, within scope, and in alignment with project objectives.
	Project Associate MNE: Provides administrative, logistical, and operational support for the implementation of the Technical Assistance and Capability Development for Scale component. Assists the Project Coordinator in organizing and documenting activities related to business development support, market testing, and identification of funding and financing pathways for selected adaptation innovations. Ensures smooth coordination with stakeholders, maintains accurate records, and supports the delivery of activities on time and within scope.
	Project Coordinator SRB: Leads the implementation of the Technical Assistance and Capability Development for Scale component at the country level, ensuring selected adaptation innovations are strengthened and positioned for scale. Provides technical guidance on business development support, oversees market testing processes, and facilitates the identification of funding and financing pathways. Coordinates closely with the Regional Project Manager, engages with national stakeholders and partners, and ensures activities are delivered on time, within scope, and in alignment with project objectives.
	Project Associate SRB: Provides administrative, logistical, and operational support for the implementation of the Technical Assistance and Capability Development for Scale component. Assists the Project Coordinator in organizing and documenting activities related to business development support, market testing, and identification of funding and financing pathways for selected adaptation innovations. Ensures smooth coordination with stakeholders, maintains accurate records, and supports the delivery of activities on time and within scope.
15	Technical assistance - financing/funding: engaging specialized venture philanthropy organizations through competitive procurement processes. These experts will provide tailored guidance on impact investment strategies, social enterprise development, and innovative financing mechanisms for climate adaptation ventures.
16	Community engagement and Knowledge Management Specialist: In collaboration with the Performance and Data Analyst, produces high quality KM reports, factsheets, business cases from the WB grantees and provides inputs to KM products that are prepared by UNDP Climate teams to strengthen the visibility of the project. Maintain relationship with KM partners. Utilizing the knowledge and lessons generated, organizes peer to peer knowledge exchange sessions, prepares sessions in international conferences/webinars to showcase the grantees- impact achieved by the project, and coordinates capacity building efforts in specific matters (e.g. such as crowdfunding). Includes the capturing of lessons learned and the development of Learning Briefs and Missions, as per MEL budgeted plan)
	Innovation Specialist: Responsible for bringing lessons learned and best practices from the Boost regional programme, facilitating knowledge transfer, and supporting the design and implementation of the innovation sprint to develop locally-led adaptation solutions.

	Regional Project Associate: Provides administrative, logistical, and operational support for the Knowledge Management and Regional Collaboration component across participating countries. Assists the Regional Project Manager in coordinating activities within the Project Management Unit, ensuring smooth planning, implementation, and documentation of knowledge capture, sharing, and policy engagement efforts. Supports country teams in organizing and feeding inputs into the regional learning platform and global networks, facilitates cross-country communication, and maintains accurate records to ensure timely and coherent delivery of regional and national activities. (based in MK)
	Project Coordinator BIH: Leads the implementation of the Knowledge Management and Regional Collaboration component at the country level, ensuring knowledge, evidence, and lessons from adaptation innovations are effectively captured, documented, and shared. Provides technical guidance to leverage these insights for replication, scale, and policy engagement. Coordinates inputs to the regional learning platform and contributes to global networks, working closely with the Regional Project Manager to promote cross-country collaboration and strengthen regional partnerships.
	Project Associate BIH: Provides administrative, logistical, and operational support for the Knowledge Management and Regional Collaboration component. Assists the Project Coordinator at the country level and the Community engagement and Knowledge Management Specialist in organizing and documenting knowledge products, lessons learned, and evidence from adaptation innovations. Supports coordination with national and regional stakeholders, contributes to updates for the regional learning platform, and ensures smooth information flow to facilitate replication, scale, and policy engagement.
	Project Coordinator MNE: Leads the implementation of the Knowledge Management and Regional Collaboration component at the country level, ensuring knowledge, evidence, and lessons from adaptation innovations are effectively captured, documented, and shared. Provides technical guidance to leverage these insights for replication, scale, and policy engagement. Coordinates inputs to the regional learning platform and contributes to global networks, working closely with the Regional Project Manager to promote cross-country collaboration and strengthen regional partnerships.
	Project Coordinator SRB: Leads the implementation of the Knowledge Management and Regional Collaboration component at the country level, ensuring knowledge, evidence, and lessons from adaptation innovations are effectively captured, documented, and shared. Provides technical guidance to leverage these insights for replication, scale, and policy engagement. Coordinates inputs to the regional learning platform and contributes to global networks, working closely with the Regional Project Manager to promote cross-country collaboration and strengthen regional partnerships.
	Project Associate MNE: Provides administrative, logistical, and operational support for the Knowledge Management and Regional Collaboration component. Assists the Project Coordinator at the country level and the Community engagement and Knowledge Management Specialist in organizing and documenting knowledge products, lessons learned, and evidence from adaptation innovations. Supports coordination with national and regional stakeholders, contributes to updates for the regional learning platform, and ensures smooth information flow to facilitate replication, scale, and policy engagement.
	Project Associate SRB: Provides administrative, logistical, and operational support for the Knowledge Management and Regional Collaboration component. Assists the Project Coordinator at the country level and the Community engagement and Knowledge Management Specialist in organizing and documenting knowledge products, lessons learned, and evidence from adaptation innovations. Supports coordination with national and regional stakeholders, contributes to updates for the regional learning platform, and ensures smooth information flow to facilitate replication, scale, and policy engagement.
17	Audiovisual / graphic design
	Translation and interpretation services
18	Communications Specialist: Produces high quality stories, blogs and photo stories, about the grantees in collaboration with the KM specialist. Connects the narrative with the Climate Promise website and the overall CCA team portfolio. Produces comms materials that

	has the quality and incorporates the guidance to use the UNDP Climate channels and give international visibility to the projects, the KM products, and the grantees.
19	Show and Tell Event: in-person peer networking & learning event for grantees to network and showcase their results
20	Audit costs
21	Regional Project Manager – PMU (20%): Responsible for overall management, monitoring and supervision of project implementation across the four countries, overseeing timely delivery of activities and results. Support in the reports development.
22	Direct Project Costs - Staff costs for the services provided by IRH and CO Staff

IE Management fee:

Category	Services Provided by UNDP	IE Fee (USD)
Identification, Sourcing and Screening of Ideas	Provide information on substantive issues in adaptation and innovation associated with the purpose of the Adaptation Fund (AF).	22,727
	Engage in upstream policy dialogue related to a potential application to the AF.	
	Verify soundness & potential eligibility of identified ideas for AF.	
Feasibility Assessment / Due Diligence Review	Provide up-front guidance on converting general idea into a feasible project/programme.	68,182
	Source technical expertise in line with the scope of the project/programme.	
	Verify technical reports and project conceptualization.	
	Provide detailed screening against technical, financial, social and risk criteria and provide statement of likely eligibility against AF requirements.	
	Determination of execution modality and local capacity assessment of the executing entity.	
	Assist in identifying technical partners. Validate partner technical abilities. Obtain clearances from AF.	
Development & Preparation	Provide technical support, backstopping and troubleshooting to convert the idea into a technically feasible and operationally viable project/programme.	90,909
	Source technical expertise in line with the scope of the project/programme needs.	
	Verify technical reports and project conceptualization.	
	Verify technical soundness, quality of preparation, and match with AF expectations.	
	Negotiate and obtain clearances by AF. Respond to information requests, arrange revisions etc.	
Implementation	Technical support in preparing TORs and verifying expertise for technical positions.	204,545
	Provide technical and operational guidance project teams. - Verification of technical validity / match with AF expectations of inception report/baseline report.	
	Provide technical information as needed to facilitate implementation of the project activities.	
	Provide advisory services as required.	
	Provide technical support, participation as necessary during project activities.	
	Provide troubleshooting support if needed. Provide support and oversight missions as necessary.	
	Provide technical monitoring, progress monitoring, validation and quality assurance throughout.	

	Allocate and monitor Annual Spending Limits based on agreed work plans.	
	Receipt, allocation and reporting to the AFB of financial resources.	
	Oversight and monitoring of AF funds.	
	Return unspent funds to AF.	
Evaluation and Reporting	Provide technical support in preparing TOR and verify expertise for technical positions involving evaluation and reporting (including for the Mid-Term- and Terminal Evaluations).	68,182
	Participate in briefing / debriefing (including for the Mid-Term and Terminal Evaluations)..	
	Verify technical validity / match with AF expectations of all evaluation and other reports (including for the Mid-Term and Terminal Evaluations).	
	Undertake technical analysis, validate results, and compile lessons	
	Disseminate technical findings	
Total		**454,545**

H. Include a disbursement schedule with time-bound milestones.

Disbursement Schedule with Time-Bound Milestones

	Upon Agreement signature	**One Year after Project Start**	**Year 2**	**Year 3**	**Total**
Scheduled Date	4/1/2026	4/1/2027	4/1/2028	4/1/2029	
Project Funds	642,089	2,256,544	1,211,951	434,871	4,545,455
Implementing Entity Fees	220,344	135,392	72,717	26,092	454,545
Total	**862,433**	**2,391,936**	**1,284,668**	**460,963**	**5,000,000**

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[142]

Bosnia and Herzegovina *H.E Srdan Admizic, Minister, Ministry of Finance and Treasury B&H* *trezorbih@mft.gov.ba*	Date*: July 16, 2025*
Montenegro *Zoran Dabetić, State Secretary at the Ministry of Ecology, Sustainable Development and Northern Region Development* zoran.dabetic@mers.gov.me	Date*: July 16, 2025*
North Macedonia *H.E. Mr. Izet Mexhiti* *Deputy Prime Minister and Minister* *Ministry of Environment and Physical Planning* i.mexhiti@moepp.gov.mk	Date*: July 4, 2025*
Serbia *H.E Sara Pavkov, Minister, Ministry of Environmental Protection, Serbia*	Date*: June 26, 2025*

B. Implementing Entity certification

Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

139 Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (including National Communications to the UNFCCC, national adaptation strategies and plans, disaster risk reduction strategies and action plans etc.) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Nancy Bennet Executive Coordinator, Vertical Fund Programme Support, Oversight and Compliance Unit Bureau for Policy and Programme Support United Nations Development Programme Implementing Entity Coordinator	
Date: *(Month, Day, Year)*	Tel. and email: Nancy.Bennet@undp.org
Project Contact Person: Natalia Olofinskaya, Regional Technical Advisor, UNDP IRH	
Tel. And Email: nataly.olofinskaya@undp.org; +90 (543) 532-3046	

PART V: ANNEXES

PART V: Annexes

Annex 1: Letters of endorsement from the governments
Included as a separate file in this proposal.

Annex 2: Grant Application Format and Evaluation Criteria
Included as a separate file in this proposal.

Annex 3: Social and Environmental Screening Procedure (SESP)
Included as a separate file in this proposal.

Annex 4. Social and Environmental Management Framework (ESFM)
Included as a separate file in this proposal.

Annex 5: Gender Assessment and Action Plan
Included as a separate file in this proposal.

Annex 6: Stakeholder Mapping Matrixes
Included as a separate file in this proposal.

Annex 7: Stakeholder Consultations and Engagement
Included as a separate file in this proposal.

Annex 1. Letters of Endorsement

BOSNA I HERCEGOVINA
MINISTARSTVO FINANCIJA/
FINANSIJA I TREZORA

БОСНА И ХЕРЦЕГОВИНА
МИНИСТАРСТВО ФИНАНСИЈА
И ТРЕЗОРА

BOSNIA AND HERZEGOVINA
MINISTRY OF FINANCE
AND TREASURY

Letter of Edorsement by Government

No. 06-21-1-4303-2/25
Sarajevo, July 16, 2025

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for: *Accelerating Innovation for Adaptation in the Western Balkans / Balkan Climate Futures: A Regional Innovation Initiative for Climate Adaption*

In my capacity as designated authority for the Adaptation Fund in Bosnia and Herzegovina, I confirm that the above national project/programme proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Bosnia and Herzegovina.

Accordingly, I am pleased to endorse the above project concept with support from the Adaptation Fund. If approved, the project will be implemented and executed by UNDP.

Sincerely,

Srđan Amidžić, PhD

Minister of Finance and Treasury

Bosnia and Herzegovina

BOSNA I HERCEGOVINA
MINISTARSTVO FINANCIJA/
FINANSIJA I TREZORA

БОСНА И ХЕРЦЕГОВИНА
МИНИСТАРСТВО ФИНАНСИЈА
И ТРЕЗОРА

BOSNIA AND HERZEGOVINA
MINISTRY OF FINANCE
AND TREASURY

Pismo podrške državne vlasti

Broj: 06-21-1-4303-2/25
Sarajevo, 16.07.2025. godina

Za: Odbor Fonda za adaptaciju
Putem: Sekretarijat Odbora Fonda za adaptaciju
E-pošta: Secretariat@Adaptation-Fund.org
Faks: 202 522 3240/5

Predmet: Podrška za: *Ubrzanje inovacija za prilagođavanje klimatskim promjenama na Zapadnom Balkanu / Klimatska budućnost Balkana: Regionalna inovativna inicijativa za prilagođavanje klimatskim promjenama*

U svojstvu imenovanog tijela za Fond za adaptaciju u Bosni i Hercegovini, potvrđujem da je navedeni nacionalni prijedlog projekta/programa u skladu s nacionalnim prioritetima državne vlasti u sprovođenju aktivnosti prilagođavanja u cilju smanjenja negativnih uticaja i rizika koje uzrokuju klimatske promjene u Bosni i Hercegovini.

Shodno tome, sa zadovoljstvom izražavam podršku navedenom konceptu projekta uz podršku Fonda za adaptaciju. Ukoliko bude odobren, projekat će sprovoditi i izvršavati UNDP.

S poštovanjem,

MINISTAR
dr Srđan Amidžić

Government of Montenegro
Ministry of Ecology, Sustainable Development
and Northern Region Development

Address: Cetinjski put bb, Eko-efikasna zgrada
81000 Podgorica, Montenegro

Number: 06-322/25-614/2

Podgorica, 16th July 2025.

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Letter of Endorsement by Government

Subject: Endorsement for *Accelerating Innovation for Adaptation in the Western Balkans / Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience*

In my capacity as designated authority for the Adaptation Fund in Montenegro, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities aimed at reducing the adverse impacts and risks posed by climate change in Montenegro.

Accordingly, I am pleased to endorse this project proposal for consideration by the Adaptation Fund. If approved, we look forward to its successful implementation in collaboration with UNDP as the implementing partner.

Sincerely,

Zoran Dabetić

State Secretary at the Ministry of Ecology, Sustainable Development and Northern Region Development of Montenegro

Republic of Serbia
MINISTRY OF
ENVIRONMENTAL PROTECTION
No: 002878143 2025 14850 005 012 000 001
Date: 26th June, 2025
22-26 Nemajina Str.
Belgrade

ADAPTATION FUND BOARD SECRETARIAT

Mail stop: N 6-600
1818 H Street NW
Washington DC 20433
USA

Subject: Endorsement Letter for the regional project "Accelerating Innovation for Adaptation in the Western Balkans"

Dear Sir/Madam,

I kindly confirm that the proposed regional project/programme is in accordance with the Government's national priorities in implementing adaptation activities to reduce adverse impacts and risks posed by climate change in the Republic of Serbia and regionally.

Accordingly, I am pleased to endorse the proposed project/programme with support from the Adaptation Fund. If approved, the project/programme will be implemented by the United Nations Development Programme.

Looking forward to successful future cooperation.

Yours Sincerely,

Sara Pavkov

Minister

Република Северна Македонија
Republika e Maqedonisë së Veriut
Министерство за животна средина и просторно планирање
Ministria e Mjedisit
Jetësor dhe Planifikimit Hapësinor
Бр. - Nr 02-2831/1
04.07.2025 год. - vit
Скопје / Shkup

Republic of North Macedonia

Ministry of Environment and Physical Planning

No: 02 - 2831/1
Date: 04 -07- 2025

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for: Accelerating Innovation for Adaptation in the Western Balkans / Balkan Climate Futures: A Regional Innovation Initiative for Climate Adaption

In my capacity as designated authority for the Adaptation Fund in North Macedonia, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in North Macedonia.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by United Nations Development Programme (UNDP).

Sincerely,
National Designated Authority
Minister
Izet Mexhiti

Ministry of environment and physical planning of the Republic of North Macedonia
Square "Presveta Bogorodica" No. 3, Skopje
Republic of North Macedonia
+389 2 3251 403
www.moepp.gov.mk

Annex 8: Detailed Budget and Breakdown of the IE Management Fee
Included as a separate file in this proposal.

Annex 9: Detailed Multi Annual Workplan
Included as a separate file in this proposal.

Annex 10: Climate Change Analysis

Included as a separate file in this proposal.

Annex 11: Letter of justification for the proposed management arrangements and PMC

Included as a separate file in this proposal.

ADAPTATION FUND

Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience – Grant Selection Criteria

This document outlines the process for shortlisting and selecting applicants to receive funding through a low-value grant or another seed fund mechanisms within UNDP policies and regulations from the *Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience* (hereafter referred to as **the Regional Project**).

As the selection of a grantee is a programmatic decision under UNDP's low-value grant policy, the criteria for selection will be reviewed and discussed by the regional project team and with the Selection Committee. The Selection Committee will consist of both management and technical expertise and is described in the project document, and to be further spelled out in its Terms of Reference in the inception phase of the project. All decisions by the Selection Committee will thereafter require endorsement by the Regional Project's Steering Committee.

This grant will be awarded for the first time to support projects selected based on specific criteria. These criteria will focus on identifying projects that demonstrate the potential for innovation, adaptability, and scalability in addressing climate adaptation challenges, as well as the ability to achieve sustainability over the long term.

Social and environmental standards will be integral to the planning and use of these grants, ensuring meaningful stakeholder engagement and that social and environmental risks are properly identified, managed, and avoided wherever possible. This also includes the use of UNDP's Accountability Mechanism, which provides a platform to receive and address concerns from project-affected communities regarding potential or actual harm.

Grant agreements will be executed using appropriate modalities as per UNDP's rules and regulations, and will include Low Value Grants, Innovation Challenges, Responsible Party Agreements, and or in exceptional cases direct procurement by UNDP, to ensure maximum flexibility to adapt to changing circumstances on the ground.

LVGAs, innovation challenges or other UNDP seed funding can be awarded to civil society and (national or international) non-governmental organizations, including non-governmental academic or educational institutions. Grant recipients either represent beneficiaries of the project or can be beneficiaries themselves.

Members from the Grant Selection Committee are set up for the review and selection of grants according to the needs. Conflicts of interest during the grant selection can arise with individual members of the Regional Project Board, Technical Advisory Committee, or from the Selection Committee in some instances. Members of the Regional Project Board or the Selection Committee and their affiliated institutions are not eligible to receive grants.

Grant selection criteria play a central role in any successful grant programme and require careful consideration. Particularly in cases where the number of grant applications is expected to exceed the

resources for grants, the selection criteria must be suitable to rank grant proposals and/or to restrict the space for approving grant proposals that do not meet the minimum quality standards. Selection criteria may include issues such as feasibility of the proposal, credibility of the partner, and risks considerations. While subjective considerations are important, selection criteria cannot be arbitrary and must be defensible vis-a-vis stakeholders.

Information on the application process:

4. In terms of who will get the funding, the Grant Selection Committee will assess those that show clear thought and a clear strategy how to scale, along with a viable plan, and a probable likelihood of doing so. The Regional Project is not looking for theoretical scaling plans, but rather plans that tangibly build from achievements and clearly show a pathway to significant or complete sustainability. This can be through either additional grant funding or more market-based solutions. It is not a question of "how much" surplus they can generate going forward, but rather whether their interventions can be supported in a sustainable and enduring way.

1. It remains the case that we can only fund your existing nonprofit entities. If some of these grantees are planning to set up for profit entities, they need to be clear the relationship between the NGO, the for profit and any scaling strategy.
2. In terms of amounts, Project Management Unit would consider providing a second round of funding to the successful projects.

Shortlisting Criteria

The goal of this process is to reduce total applicants (total of proposals received: XX) to a reasonable amount for the Grant Selection Committee to shortlist. The shortlisting criteria has two parts, the first one consists of pre-screening and due diligence questions, and the second part cover overall proposal quality in terms of adaptation, impact, innovation, sustainability and scaling up potential.

A. Basic Due Diligence and Safeguard Risk Evaluation

Revision of Component 1 (General Applicant and Project information) and Component 7 (Legal Information)

The evaluation team needs to check and confirm as much as possible the organization legal status and credibility, using official documents to be provided by the applicant, as well as any online presence of organization. This component will not be scored, it is a pass/non-pass criteria.

Key questions that need to be assessed are:

- Is the NGO/CSO formally established?
- Does the NGO/CSO comply with legal requirements such as legal identity and registration?
- Date of creation and length of existence?
- Reasons and circumstances for the creation of the NGO/CSO?
- How has the NGO/CSO evolved in terms of scope and operational activity?
- Has the organization developed projects of similar scope successfully?

Revision of Component 5 (Risk analysis, Social and Environmental Risks Screening)

As mentioned above, social and environmental standards play a particularly important role when planning for the use of grants to ensure meaningful stakeholder engagement and that social and environmental risks are identified, avoided (where possible) and managed. After revision of Component 5 of the Detailed Application Format, those applications that report activities that appear in the **List of not-funded activities in Regional Project** (Annex 2) will be unfortunately dropped from selection process. This component will not be scored, it is a pass/non-pass criteria.

The Regional Project has been classified under the Social and Environmental Screening Category document as a moderate risk level. The Regional Projects SESP and ESMF hand Environmental and Social Management Plan(ESMP) have been developed. The ESMP indicates, that the Regional Project cannot fund any high or substantial risk activities because the project would need to trigger other SES management measures and processes that the Project does not have currently in place. The list of non-funded activities by Regional Project should be clearly communicated to the selected grantees, and it will be attached to the LVGA as an Annex.

B. Technical Evaluation Criteria and Scores

The technical evaluation and scoring will be based on the evaluator´s assessment of the following components from the Detailed Application Format:

- Component 2 – Objective and purpose of the Grant
- Component 3 – Target impact/results, milestone setting
- Component 4 – Proposed activities and workplan
- Component 9 – Scale-up and sustainability of the project (if there will be a second round of funding opportunity)

The evaluation criteria to assign scoring for the technical components of the proposal, are the following:

1. General Quality and Coherence Criteria (Score: 10)

The general coherence criteria will look at overall project design, covering project strategy, results framework/log frame, workplan, alignment with budget, coherence of budget, project management, implementation considerations and most importantly, scaling-up ability and potential outcomes. For additional details refer to guidance note.

2. Adaptation Criteria (Score: 20)

The project directly and clearly addresses climate change risks through the grant proposed objectives and outcomes:

- Droughts and rainfall variability
- Temperature rise, heatwaves and wildfires
- Floods
- Landslides
- Sea Level Rise and/or Salination

- Coastal erosion
- Climate induced health risk

3. Innovation Criteria[1] (Score: 15)

- If the solution/practice/business model somewhat unique? (Are the interventions/practices innovative as compared with existing practices/norms?)
- If the solution/practice/business model viable and feasible solution?
- Is the solution/practice/business model creating, testing, deploying, or diffusing of new, adapted or improved adaptation solutions, developed contextually and with the inclusion of women and the communities most vulnerable to climate change, to enable those communities to become more resilient to climate change? (bottom-up /participatory/approach).

Innovation solutions may include: approaches, technologies and mechanisms. Innovation projects differ from concrete adaptation projects in their stakeholder engagement, including with unconventional actors, and in the emphasis on iterative deployment where change, learning, and new information is embraced and can take innovation projects in different directions.

4. Socio-economic and Environmental Impact Criteria (Score: 20)

Impact criteria consists of three dimensions of the sustainable development agenda (i.e., social, economic and environmental components).

Socio-economic Criteria:

[1] Adaptation Fund´s Vision and Definition for Innovation: At the 36th meeting the Board adopted through document AFB/B.36/8 a VISION and DEFINITION for innovation within the Fund as a way towards a more concrete understanding of how the Board pursues innovation through programming (https://www.adaptation-fund.org/apply-funding/innovation-grants/).

VISIÓN: The Adaptation Fund will fund innovative practices that demonstrate potential to help the most vulnerable communities adapt to the impacts of climate change through its Innovation Facility and through other modalities. It will fund a broad range of projects and programmes underpinned by a strong innovation rationale, thus creating a portfolio of diverse and locally appropriate innovation projects and programmes. It will support projects and programmes that encourage multi-stakeholder partnerships by including e.g., youth, women, disabled people, researchers, civil society, and the private sector. It will support rolling out and scaling up successful innovations, encourage and accelerate new adaptation practices, tools and technologies, and generate evidence on the conditions that lead to successful innovation. It will encourage, as part of an innovation approach partnerships, iteration, learning and adaptive management

DEFINITION: Under the innovation pillar of the Adaptation Fund, innovation is understood as the creating, testing, deployment or diffusion of new, adapted or improved adaptation solutions, developed contextually and with the inclusion of the communities most vulnerable to climate change, to enable those communities to become more resilient to climate change. Innovation solutions may include approaches, technologies and mechanisms. Innovation projects and programmes differ from concrete adaptation projects and programmes under the action pillar in the nature of their stakeholder engagement, including with unconventional actors, and in the emphasis on iterative deployment where change, learning, and new information is embraced and can take innovation projects and programmes in different directions.

- Are gender mainstreaming and women empowerment being primary outputs of the project design? Does it have gender-related indicators and disaggregated beneficiaries?
- Does the proposed solution/business model enhance the social or economic status for women and girls, youth, persons with disabilities, Roma and other ethnic minorities, displaced populations, LGBTQI+ individuals, and people living in remote, rural, or informal settlements?
- Does project contribute to: Reduce poverty (jobs creation, skill training, other income generation opportunities); Improve food security (climate-smart agriculture solutions, enhance the climate resilience of food supply, food value chains, increased yields); Improve lifestyles (use of clean energy, cleaner transport options); enhance governance and empowerment of communities/beneficiaries (through community-based platforms for addressing their issues more effectively and promoting community participation in decision making); Improve the health and safety conditions of the community?

Environmental Criteria:

- Does the proposed solution will reduce use or protect natural resources, promote nature-based solutions, use of alternative energy, green technology, green jobs, or any other component of environmental sustainability in the climate change adaptation context?
- Does the proposed solutions contribute to safeguarding biodiversity and ecosystem services and provide climate solutions?
- Does the proposed solutions promoting/targeting sustainable consumption and production or circular economies approaches?
- Does the proposed solution aim to reduce environmental pollution (e.g., air, water, or soil) or address the environmental impacts of waste and resource mismanagement in the context of climate adaptation?

Scaling- up potential (Score: 35)

- How detailed is the budget and does it make sense at first glance?
- How strong and reasonable are the scaling plans themselves?
- How reasonable, at first glance, do the revenue numbers or the sustainability plans appear; and how reasonable does it seem the grantees can meet them?
- How has the project answered the questions asked of them?
- If there sufficient detail related to how they have spent the funds in round 1?
- With the additional funding, what different position will it put the project in after the last set of funding?

C. Budget Assessment and Technical Assistance /Business Advisory Plan

Revision of Component 6 (Budget) and Component 8 (Technical Assistance and Business Advisory Plan)
The evaluator will assess these two components of the Detailed Proposal Format to complete the overall assessment of the application:

Budget – if it is well developed, co-relates with workplan, objectives and outputs of the intervention. If there are no budget lines un-reasonably large or ineligible costs included. The budget should be elaborated within the following grant amount limits and per a 18 month project cycle:

- Between USD 15,000 USD to USD 40,000 USD micro grant - for new, pilot projects, new solutions, new technology innovations and social innovations

- Between USD 40,000 to USD 150,000 (for scaling or replicating solutions)- for organizations with an established customer/beneficiary base, to be used to scale-up or replicate solutions in different regions/spaces

Personnel costs and indirect project costs do not exceed 15% each of the total budget, respectively.

Technical assistance and business advisory plan: Candidate provided a description on how they plan to build their own capacity using the project budget and explained satisfactorily how these contribute to the achievement of the project objectives and outputs.

Annex 1: Additional Guidance to Conduct the Technical Evaluation Criteria and Scores (Part B)

Overall, applicants are ranked based on the following score: (max score:100)

- Overall coherence and quality of the proposal (0-10)
- Adaptation criteria (0-20 score)
- Impact criteria (0-15 score)
- Innovation criteria (0-15 score)
- Socio economic and environmental impact (0 – 20)_
- Scaling up potential (0-35 score)

Overall score:100

The following selection criteria will provide the technical guidance on the scoring system above.

General Quality and Coherence – total score 10	Score (0 to 10)
Project Strategy, Objectives and Purpose (max score 3)	
Results Framework/Log Frame (max score 5)	
Project management and implementation considerations (max score: 2)	

Project Strategy, Objectives and Purpose:

- Review the problem project going to address and the underlying assumptions; relevance of the project strategy (given the Regional Project scope) and assess whether it provides the most effective route towards expected/intended results.

Results Framework/Log Frame:

- Undertake a critical analysis of the project's logframe indicators and targets, assess how "SMART" project targets are (Specific, Measurable, Attainable, Relevant, Time-bound);
- Are the project's objectives and outcomes clear, practical, and feasible within its time-frame;
- Do the proposed activities and workplan contribute to a strong argument for scaling the project?

Project management and implementation considerations:

- Are budget estimates clear, realistic (given the workplan) articulated?
- Clear project implementation mechanism (direct implementation or implementation through partners)?

Guide- Generally a score of 1-4 in this evaluation criteria corresponds to a proposal that has deficient quality and coherence, a score of 5-8 is a proposal that has an acceptable quality and coherence, and 9-10 is a proposal with a good/excellent quality and coherence.

Climate Change Adaptation – total score 20	Score (0 to 20)
Are the project objectives addressing Climate Change induced risks? (max score 10)	
Are the tools/strategies/business solutions in alignment with CC risks? (max score 10)	
How clearly had the project objective identified the most impacting CC hazard, if it was comprehensive in addressing secondary CC effects and taking all such effects into account Guide- Generally a score of 1-4 has been where project addresses specific CC impact, 5-8 if impact is articulated well, and those with a comprehensive approach/analysis, scores given are 9-10. How comprehensive were the strategies/solutions in addressing the impacts, outcomes of the project to mitigate and develop needed resilience, short & long term for the community? Guide - where such solutions may address a specific hazard, and not consider related secondary impacts, a score of 1-4 is given. If it exhibits an approach such that it strengthens the overall adaptive response to the CC impacts a score of 9-10 is given.	

INNOVATION – total score 15	Score (0 to 15)
Is the solution/practice/business model viable and feasible? (max score 10)	
Is the solution/practice/business model creating, testing, deploying, or diffusing of new, adapted or improved adaptation solutions, developed contextually and with the inclusion of women and the communities most vulnerable to climate change, to enable those communities to become more resilient to climate change? (bottom-up /participatory/approach). (max score 5)	
To what extend the solution/practice/business viable and feasible? Guide- The proposed innovation solution/business model is viable now and will contribute to long-term sustainability? Is the proposal coherent and feasible to implement and sustains the innovation solution? How well thought out if the scaling around the innovation? Give a score out of 10. Is the solution/practice/business model creating, testing, deploying, or diffusing of new, adapted or improved adaptation solutions, developed contextually and with the inclusion of the communities most vulnerable to climate change, to enable those communities to become more resilient to climate change? Guide - Where the community was involved right from the design stage and was mostly participatory, that included women, youth, marginalized groups a score of 7-10 score was given. If it was a representative kind, with village/committee heads alone, then a score of 4-7 was given. Their engagement with external agencies - includes government agencies, academic and other strategic partnerships also influenced this score. The potential scalability/replicability of such a strategy and how well it had empowered the end beneficiaries also influenced this score. If there was no stakeholder engagement for the design of the intervention, then a score of 1-3 should be given.	

Socio-economic and Environmental Impact – total score 20	Score (0 to 20)
Socio-economic Criteria (max score 15): • Are gender mainstreaming and women empowerment being primary outputs of the project design? Does it have gender related indicators and disaggregated beneficiaries? • Does the proposed solution/business model enhance the social or economic status for women and girls, youth, persons with disabilities, Roma and other ethnic minorities, displaced populations, LGBTQI+ individuals, and people living in remote, rural, or informal settlements? • Does project contribute to: Reduce poverty (jobs creation, skill training, other income generation opportunities); Improve food security (climate-smart agriculture solutions, enhance the climate resilience of food supply, food value chains, increased yields); Improve lifestyles (use of clean energy, cleaner transport options); enhance governance and empowerment of communities/beneficiaries (through community-based platforms for addressing their issues more effectively and promoting community participation in decision making); Improve the health and safety conditions of the community?	
Environmental Criteria (max score 5): • Does the proposed solution will reduce use or protect natural resources, promote nature-based solutions, use of alternative energy, green technology, green jobs, or any other component of environmental sustainability in the climate change adaptation context? • Does the proposed solutions are going to contribute to safeguarding biodiversity and ecosystem services and provide climate solutions? • Does proposed solutions promoting/targeting sustainable consumption and production or circular economies approaches? • Does the proposed solution aim to reduce environmental pollution (e.g., air, water, or soil) or address the environmental impacts of waste and resource mismanagement in the context of climate adaptation?	
Was gender main streaming one of the outputs for the project? (Max score 4) Guide - Projects which are established for Gender mainstreaming in climate adaptation can get 4, projects where gender mainstreaming is an approach to achieve the final outcomes can get 3,2 and projects which haven't mention or gender mainstreaming is not a priority can get 1 If not, did the activities influence women's participation, impact them to a quantifiable measure? (max score 4) Guide - In those projects where quantifiable & qualitative inputs were available, this was evaluated based on the impacts stated. The quantifiable ones scored more (3,4), than where it was qualitative assessment (2,1)	

Does the project outcomes serve the vulnerable communities and population? (max score 7) Guide - The quantifiable/ambitious outputs helped in scoring with scores of 6-7. A reasonable and quantifiable impact is scored 3-5. Low or no social impact is scored 1- 2. Does such a strategy/solution translate to tangible and ambitious environmental impacts? Has the 'before' and 'after' scenario changed positively, for the environment? Are they quantifiable? (max score 5) Guide - The quantifiable/ambitious outputs helped in scoring with scores of 5. A reasonable and quantifiable impact is scored 3-4. Low or no environmental impact is scored 1-2.

SCALING-UP / REPLICABILITY POTENTIAL AND LONG TERM SUSTAINABILITY – total score 35	Score (0 to 35)
Has the used of previous funds indicated a high degree of probable further scaling, good stewardship and impact? Max 10	
Is there a clear scaling model? Max 10	
Is there a clear pathway to sustainability for the project itself, either though revenue generation or a clear pathway to further grant funding? This needs to be clearly laid out, and not just theoretical – max 15	
Has the used of previous funds indicated a high degree of probable further scaling, good stewardship and impact? Max 10 Guide: Projects that have met all their milestones and demonstrated a clear and impactful use of funds are scored at 8 – 10. Those that have met their milestones but have not provided a strong articulation the impact they have been able to create are scored at 6-8. Those that have not met their milestones but will highly likely do so in the next few months, 4-6; those that have not met their milestones, but have a good reason and are likely to do so in the next 6 – 8 months; 2 -4; those that have not met their milestones – 0 Is there a clear scaling model? Does the plan make sense along with the corresponding budget? Max 10 Guide : projects that have clear scaling, implementable plan with complete budget score 8-10. Those with a strong plan but some gaps, 6-8. Those with a budget that doesn't make sense, or with a weak plan, 4-6. Those without a plan or budget 0 – 4. Is there a clear pathway to sustainability for the project itself, either though revenue generation or a clear pathway to further grant funding? This needs to be clearly laid out, and not just theoretical – max 15. How is the project going to sustain itself? Its not sufficient that there is a vague plan to access additional funding, especially if its grant funding. Rather, the strategy, especially for grant fundings, needs to be clear, well thought out and implementable with a probable successful outcome. Solution has a clear strategy for ongoing sustainability, whether it's revenue generation or grant making – 12 – 15. Solution has some pathway towards sustainability, but further work/time is need to confirm this pathway – 8 –	

12. Solution has conceptually a strategy, but much more testing and experience needs to be made and done – 4- 8

Annex 2: List of not-funded activities in Regional Project

Potential adverse risks and impacts may arise from activities that are site-specific and involve physical interventions ("downstream" activities) as well as "upstream" activities involving planning, policy and/or sector reform, and capacity building.

These are activities with potential social and environmental risks and impacts on physical, biological, socioeconomic, and/or cultural resources.

Activities above a Moderate potential risk will not be permitted, those are Significant and High-risk activities. They are defined as follows:

High Risk

Defined by UNDP's SES as "Projects that include activities with potential significant and/or irreversible adverse social and environmental risks and impacts, or which raise significant concerns among potentially affected communities and individuals as expressed during the stakeholder engagement process."

Substantial Risk

Defined by UNDP's SES as "Projects that include activities with potential adverse social and environmental risks and impacts that are more varied or complex than those of Moderate Risk projects but remain limited in scale and are of lesser magnitude than those of High Risk projects (e.g. reversible, predictable, smaller footprint, less risk of cumulative impacts). Substantial Risk projects may also include those with a varied range of risks rated as "Moderate" that require more extensive assessment and management measures."

Below is the indicative list of activities that may be expected to fall into these levels of risks, called High or Significant Risk. Therefore, based on the above, the following activities/impacts are not permitted:

1) Activities with significant or high adverse social and/or environmental impacts:
    a. To local communities or other project affected parties.
    b. Which may involve displacement and/or resettlement[2]
    c. Activities which may adversely impact the rights, lands, territories and resources of indigenous peoples
    d. Activities which may adversely impact critical habitats
    e. Activities which may result in significant adverse impacts to Cultural Heritage
    f. That violate the human rights
    g. That do not comply with relevant environmental and social national/state/local regulations.

[2] Displacement and/or resettlement refers here to potential scale. projects involving physical resettlement and/or economic displacement are generally considered High Risk. However where potential displacement and/or resettlement may be minimal, UNDP may determine that its requirements could be met with application of standard best practice and mitigation measures without the need for a full ESIA.

2) Extraction and harvesting activities:
    a. Groundwater abstraction activities or artificial groundwater recharge schemes in cases where the annual volume of water to be abstracted or recharged amounts to 10 million m3 or more
    b. Industrial-scale commercial harvesting operations of tree plantations.
    c. Large-scale logging or deforestation of large areas
    d. Large-scale peat extraction
    e. Large-scale quarries and open-cast mining, and processing of metal ores or coal

3) Land, agriculture, livestock projects:
    a. Large-scale land reclamation or sea dredging operations
    b. Large-scale primary agriculture or forestation, reforestation, or afforestation involving intensification, land use change or conversion of natural habitats, priority biodiversity features and/or critical habitats
    c. Industrial plants for the production of pulp from timber or similar fibrous materials or production of paper and board
    d. Large-scale installations for the intensive rearing of poultry or livestock
    e. Plants for the tanning of hides and skins where the treatment capacity exceeds 12 tonnes of finished products per day

4) Large-scale infrastructure (construction and/or expansion):
    a. Construction of motorways, express roads and lines for railway traffic; airports; new roads of four or more lanes; realignment and/or widening of existing roads to provide four or more lanes of 10 kilometers or more in a continuous length
    b. Large-scale sea and river ports and also inland waterways and ports for inland-waterway traffic; trading ports, piers for loading and unloading connected to land, and outside ports (excluding ferry piers)
    c. Large dams[3] and complex dams and other impoundments designed for the holding back or permanent storage of water, including, for example, for hydroelectric projects, water supply for irrigation or municipal water supply and other purposes, and flood control.

5) Large-scale energy and fuel projects, including transmission/transport (construction and/or expansion):
    a. Crude oil refineries
    b. Thermal power stations and other combustion installations (w/ heat output of at least 300 MW)
    c. Extraction of petroleum and natural gas for commercial purposes
    d. Installations for storage of petroleum, petrochemical, or chemical products
    e. Pipelines, terminals and associated facilities for the large-scale transport of gas, oil and

[3] Large dams are defined as those with a height of 15 meters or more from the foundation. Dams that are between 5 and 15 meters high and have a reservoir of more than 3 million cubic meters are also classified as large dams. Complex dams are those of a height between 10 and 15 meters that present special design complexities, including an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, or retention of toxic materials.

chemicals

f. Construction of high-voltage overhead, underground or submarine electrical power lines
g. Large-scale wind power installations for energy production (wind farms)
h. Installations for the capture of CO2 streams (generally of 1.5 megatonnes or more) and construction of sites for the geological storage of CO2

6) Waste and chemicals projects:
   a. Waste-processing and disposal installations for the incineration, chemical treatment or landfill of hazardous, toxic or dangerous wastes
   b. Large-scale waste disposal installations for the incineration or chemical treatment of nonhazardous wastes (generally with capacity exceeding 100 tonnes per day)
   c. Municipal wastewater treatment plants with a capacity exceeding 150,000 population equivalent
   d. Municipal solid waste processing and disposal facilities
   e. Integrated chemical installations, i.e. those installations for the manufacture on an industrial scale of substances using chemical conversion processes, in which several units are juxtaposed and are functionally linked to one another and which are for the production of: basic organic chemicals; basic inorganic chemicals; phosphorous, nitrogen or potassium based fertilizers (simple or compound fertilizers); basic plant health products and biocides; basic pharmaceutical products using a chemical or biological process

7) Large-scale tourism and retail development

8) Other:
   a. Any activities that do not appear on the project proposal submitted by the grantee for the ISGAP will not be permitted. This is because activities listed in the project proposal developed by each grantee represent the basis for risk categorization and the applicability of this agreement.
   b. Any other activities not listed above that may be identified as High or Significant Risks along the ISGAP when the detailed information for each project are known and assessed. This is because the final categorization of each activity will depend on the nature and extent of any actual or potential adverse social and environmental impacts, as determined by the specifics of its design, operation, and location.
   c. Any activity that may not be identified as High or Significant Risk but may join and/or support through any of its means third-party initiatives/projects that fall under High or Significant Risk activities.

UNDP Social and Environmental Screening Template (v. July 2022)

*** Please note that all Social and Environmental Screening Procedures (SESPs) must be conducted (completion and approval process) in the UNDP SESP Online Tool. The offline template below can be used to facilitate information sharing among colleagues when conducting an SESP within the online platform.*

Project Information

Project Information	
1. Project Title	Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience
2. Project Number (i.e. Atlas project ID, PIMS+)	PIMS+ number is **10353**
3. Location (Global/Region/Country)	Regional: Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia
4. Project stage (Design or Implementation)	Design
5. Date	30 June 2025

Part A. Integrating Programming Principles to Strengthen Social and Environmental Sustainability

***Overall note:** All overarching principles and most standards are relevant given the project's broad scope, regional coverage, and innovation focus. The project will work with diverse grantees across multiple sectors and countries, requiring comprehensive attention to social and environmental risks. The grant mechanism's flexibility means that specific risks will vary by grantee and location, necessitating a framework that can address the full range of potential issues while allowing for adaptive management based on actual grant proposals and implementation experiences. The SES screening will be updated as part of the selection process of grantees after the initiation phase of the proposed project.*

QUESTION 1: How Does the Project Integrate the Programming Principles in Order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the project mainstreams the human rights-based approach

The project will ensure the mainstreaming of a human-rights based approach and the Sustainable Development Goal (SDGs) commitment to "leave no one behind" through its focus on locally-led innovation and inclusive participation. By providing grants to NGOs/CSOs, MSMEs, cooperatives, and community-based organizations, the project aims to enhance the adaptive capacity and leadership of vulnerable communities, particularly women, youth, and marginalized groups.

Rights holder empowerment is embedded in the project design, where attention will be given to strengthen the capacity of communities including ethnic minorities (e.g. Roma, Vlachs, Gorani, Egyptian populations), women, youth, elderly persons, persons with disabilities, socially and economically disadvantaged groups to participate meaningfully in climate adaptation processes. The project will provide access to climate information in multiple languages, builds awareness of rights and entitlements related to climate adaptation as relevant, and supports advocacy and organizing efforts by community-based organizations.

The project places emphasis on groups facing intersectional vulnerabilities in both urban and rural areas. For example, in North Macedonia and Serbia, urban air pollution and heat stress affecting low-income communities and the elderly will be addressed alongside agricultural loss and water scarcity experienced by rural smallholders. In Bosnia and Herzegovina and Montenegro, adaptation efforts will also prioritize communities with limited access to basic services and high exposure to climate-related hazards. In Montenegro, this includes remote mountain and coastal populations who rely on climate-sensitive sectors such as tourism and agriculture and face barriers to digital access and adaptation finance.

Innovation will be leveraged as a pathway for rights-holder empowerment. By targeting women-led enterprises, youth-driven start-ups, and grassroots organizations piloting context-specific climate technologies and nature-based solutions, the project enhances local ownership, voice, and agency in adaptation planning and implementation.

To ensure inclusive and accountable governance, all grant recipients will be required to conduct meaningful stakeholder consultations. The grant mechanism will incorporate social inclusion criteria to assess innovations based on their responsiveness to the differentiated vulnerabilities of affected populations.

Furthermore, the project will promote inclusive dialogue and learning among local actors and stakeholders to strengthen transparency, build trust, and support responsiveness to community needs.

All grantees will be required to conduct consultations with potentially affected stakeholders and demonstrate how their innovations address the differentiated vulnerabilities and needs of various groups. The project's competitive grant mechanism includes specific criteria to ensure equitable access to benefits and meaningful participation in decision-making processes. This approach aligns with the Universal Declaration of Human Rights (UDHR) and supports the empowerment of rights-holders to claim their rights while building the capacity of duty-bearers to meet their obligations as relevant.

Briefly describe in the space below how the project is likely to improve gender equality and women's empowerment

The project is structured to promote gender equality and women's empowerment as an objective and is fully aligned with UNDP's Gender Strategy 2022-2025 and the Adaptation Fund's Gender Policy. All grantees will be required to conduct a light gender analysis, and demonstrate how their innovations advance gender equality. The project can prioritize women-led organizations and gender-responsive solutions through its selection criteria. Specific measures include: ensuring women's equal participation in stakeholder consultations; requiring gender-disaggregated data collection and reporting; provide targeted technical assistance to strengthen women's leadership in climate adaptation as relevant; and supporting innovations that address women's specific vulnerabilities to climate change.

The selection committee will include gender expertise to guide grant selection and monitoring. Through the MBA internship program and capacity building activities, the project can enhance women's access to enterprise development support and strengthen technical and leadership skills. Regular monitoring will track progress on gender-specific indicators, and ensure that project activities do not exacerbate existing gender inequalities.

In addition to supporting women-led organizations, the project will invest in women's economic empowerment by helping them access enterprise development services such as incubation, acceleration, and market readiness training. This will be complemented by targeted mentorship and technical guidance for women innovators to strengthen their engagement in the innovation ecosystem. The project will also create spaces for regional peer learning and exchange among women leaders working on climate resilience, enabling knowledge-sharing and collaboration.

Across the region, women continue to face persistent challenges, particularly in rural and mountainous areas, including limited access to land, finance, digital infrastructure, and climate-related information. Their contributions in climate-sensitive sectors such as agriculture, water, and forestry are often undervalued, and they remain underrepresented in formal innovation and enterprise systems.

To help address these gaps, the project will promote targeted business support and capacity development aimed at enhancing women's access to adaptation finance, services, and networks. By addressing both financial and systemic barriers, the project seeks to strengthen the enabling environment for women and other underrepresented groups to play an active role in locally led innovation and climate resilience.

The project may also address women's specific knowledge and expertise in climate adaptation, particularly in areas such as water management, agriculture, and disaster preparedness, ensuring that women's traditional knowledge and practices are documented and integrated into adaptation planning if/where appropriate.

Briefly describe in the space below how the project mainstreams sustainability and resilience

Environmental sustainability is embedded throughout the project design as a core principle guiding all supported innovations. All grant recipients will undergo environmental screening using UNDP's Social and Environmental Standards (as per this template) and the Adaptation Fund's Environmental and Social Policy. The project prioritizes nature-based solutions, ecosystem-based adaptation, and climate-smart practices that deliver co-benefits for biodiversity conservation, soil and water management, and ecosystem services.

On climate resilience, the project will focus on strengthening adaptive capacity, especially at the community level. This may include support for early warning systems, climate information services, and preparedness measures to enable proactive responses to climate risks. It is expected that grantees (e.g. CSOs) will strengthen their own capabilities on climate adaptation planning, implementation, and monitoring, through their active engagement in the project.

As the breath of innovations is wide, the project may also support economic diversification and sustainability, for example exploring new entry points on climate-resilient value chains, promotion of green jobs and entrepreneurship opportunities, and integration of climate considerations into economic planning and investment decisions, if/where relevant. Innovations may also support social cohesion and collective action capacity. The project promotes cooperation and dialogue, supports community-based organizations and networks, and builds civic engagement and participation.

Innovation and learning are central to the project's sustainability approach, with systematic documentation and sharing of lessons learned, best practices, and innovative approaches that can be replicated and scaled beyond the project and its timeframe. The project establishes knowledge management systems and learning networks that facilitate ongoing exchange of experiences and continuous improvement across countries in the Western Balkans.

To ensure long-term sustainability, the project will include a clear strategy to enhance the technical and financial viability of supported solutions. This includes targeted business

development support—such as incubation, acceleration, and investment-readiness training—to help grantees sustain and scale their innovations beyond the life of the grant.

Each funded proposal will be required to include a sustainability and exit strategy, along with a risk management plan. A portion of the project's technical assistance facility will be allocated to ensure these strategies are effectively implemented.

Strong financial sustainability mechanisms will also be embedded, including transparent procurement processes, sound financial management systems, and with a possibility of periodic financial audits in accordance with UNDP and Adaptation Fund requirements.

Finally, the project will foster a multi-stakeholder innovation ecosystem, actively engaging civil society, academia, the private sector, and regional institutions. This inclusive approach is intended to reinforce social ownership, institutional continuity, and long-term resilience at both community and systemic levels.

Briefly describe in the space below how the project strengthens accountability to stakeholders

Long-term sustainability is ensured through development of sustainable financing mechanisms, establishment of permanent institutional arrangements, and creation of ongoing monitoring and evaluation systems that continue beyond project completion.

Environmental management plans will be required for grantees with moderate or high environmental risks. The project promotes innovations that reduce environmental degradation, enhance ecosystem resilience, and support sustainable natural resource management. Monitoring and evaluation frameworks include environmental indicators to track progress on ecosystem health, pollution prevention, and resource efficiency. This is also in line with the forthcoming Regional Programme Document 2026-2029 results framework. Development Technical assistance will help grantees integrate environmental sustainability into their business models and operational practices.

To strengthen accountability, all grantees will be required to conduct stakeholder consultations during project design and implementation. They will be expected to document how input from stakeholders has been considered and reflected in the design of their adaptation innovations. Safeguard monitoring and regular reporting will help ensure that project activities align with the principles of transparency, inclusion, and responsiveness to the needs of affected communities. Participatory evaluation processes may be used, where feasible, to assess the effectiveness and inclusiveness of the solutions supported.

Inclusion criteria in the grant selection process will require applicants to demonstrate how their innovations respond to the differentiated needs of women, youth, marginalized groups, and communities with heightened climate vulnerability.

Technical assistance will aim to support grantees in applying safeguards as well as conducting gender and environmental assessments, and incorporating social accountability tools where appropriate and feasible, depending on the context and capacity of the implementing partners.

The regional knowledge platform will facilitate sharing of good practices and lessons learned across the four countries around environmental sustainability, while also serving as a public-facing transparency tool to showcase funded innovations, track outcomes, and invite dialogue from stakeholders across sectors and geographies.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Complete SESP Attachment 1 before responding to Question 2.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5below before proceeding to Question 5*			**QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High**
Risk Description (broken down by event, cause, impact)	***Impact and Likelihood (1-5)***	***Significance (Low, Moderate Substantial, High)***	***Comments (optional)***	***Description of assessment and management measures for risks rated as Moderate, Substantial or High***
Risk 1: Human Rights P1.3 risks associated with the limited capacities of the right holders for claiming their rights **Event**: Grant selection and implementation processes may inadvertently exclude marginalized groups or create discriminatory impacts. **Cause**: Limited outreach to vulnerable populations insufficient capacity of rights-holders to engage effectively, or inadequate conflict sensitivity in project design. **Impact**: Marginalized groups (persons with disabilities, ethnic minorities e.g. Roma populations, poor communities) may be excluded from decision-making and benefits.	I = 3 L = 2	Moderate	The project may exclude potentially affected stakeholders, particularly marginalized groups, from participating in grant selection and decision-making processes. NGOs/CSOs/MSMEs receiving grants. Given the small grant amounts (USD 40,000-150,000), impacts are likely to be localized but could be significant for affected communities if not properly managed.	The Environment and Social Management Framework (ESMF) will contain mandatory screening criteria related to adverse impact on affected population and related conditions for the selection and implementation of the supported actions. The supported actions shall identify the stakeholders concerned (including marginalised groups or individuals) and: • inform them about proposed actions and their impacts (where relevant), • raise their awareness about their applicable rights, and • involve them in good faith negotiations on appropriate measures that avoid, minimise, or offset potentially significant adverse impacts of the proposed actions and facilitate fair and equitable share of their benefits,
Risk 2: Gender Equality and Women's Empowerment P2.10 Risk of discrimination against women **Event**: Grant-supported activities may reproduce gender discrimination and limit women's access to opportunities. **Cause**: Cultural or traditional practices that favor men in employment and decision-making, inadequate gender analysis in project design, or insufficient attention to women's differentiated	I = 3 L = 3	Moderate	The project could potentially reproduce discriminations against women regarding participation or access to opportunities and benefits through the grant selection process. Employment preferences in supported businesses might favor men due to cultural or traditional practices.	The ESMF will contain mandatory screening criteria for gender equality and women's empowerment. The grantee project supported activities under their implementation plan will be expected to: • demonstrate equal opportunities for women and men to participate in implementation of the relevant activities and benefiting from them, • inform women about these opportunities, and support women to easily access them, • collect and analyze data to measure the impact of the action on gender equality,

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roles in natural resource management. **Impact**: Women may be excluded from meaningful participation in project activities, receive unequal access to benefits and opportunities, and face restrictions in their ability to use, develop, and protect natural resources, perpetuating existing gender inequalities.				Proposals that allocate resources to implement gender-focused activities could be prioritized in accordance to the criteria in the selection.
Risk 3: Accountability P4.13 risks of potential exclusion of affected stakeholders P4.14 risks of grievances **Event**: Stakeholders may be excluded from decision-making processes or have inadequate channels to voice grievances and concerns about project activities. **Cause**: Insufficient stakeholder engagement, inadequate grievance mechanisms. **Impact**: Potentially affected stakeholders, particularly marginalized groups and persons with disabilities, may be excluded from decisions affecting them, leading to grievances, objections, loss of trust, and potential project conflicts or delays.	I = 3 L = 2	Moderate	Related to comment above under Human Rights, including given the small grant amounts - any possibly negative impacts are likely to be localized but could be significant for affected communities if not properly managed.	The ESMF will contain mandatory screening criteria reviewing whether affected stakeholders raised any concerns or grievances to the proposed actions. When supported, the actions shall be required: ▪ Consider potential impacts of the proposed interventions on the affected stakeholders (incl. vulnerable or disadvantaged groups), ▪ Provide them with information on proposal, its impacts/risks and mitigation measures in an appropriate, timely and accessible manner, language and form, ▪ Dully consider the stakeholder input obtained in the final design and implementation of the proposed interventions. In addition, the project shall establish an easy-to-access project-level Grievance Redress Mechanism (GRM) to collect, consider and respond to concerns or grievances based on the relevant UNDP requirements and supplementary guidance. The GRM will be presented during the inception phase and be operational throughout the project implementation. It will be mentioned during the stakeholder consultations and dissemination of project notification through appropriate media and/or at publicly accessible sites (including the site of the works).
Risk 4: Biodiversity Conservation and Sustainable Natural Resource Management S1.2 risks for critical habitats S1.3 biodiversity risks associated with land-use/ecosystem changes S1.4 risks to endangered species **Event**: Grant-supported innovations may adversely impact habitats, ecosystems, endangered species, or operate in	I = 3 L = 3	Moderate	It is possible some of the grant recipient businesses and social enterprises have business models that cause adverse natural resource or habitats impact.	The ESMF will contain mandatory screening criteria related to biodiversity conservation and sustainable natural resource management. The supported actions shall: • as far as possible, conduct the proposed activities in areas where natural habitats have already been converted to other land uses or that have low value for biodiversity and ecosystem services, and low sensitivity to the anticipated impacts,

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environmentally sensitive areas. **Cause**: Inadequate environmental assessment of proposed activities, impacts on endangered species, activities involving natural resource extraction or modification, or operations within or adjacent to critical habitats. **Impact**: Potential degradation of natural and critical habitats, adverse effects on ecosystem services, risks to endangered species, soil degradation, and cumulative environmental impacts that could undermine biodiversity conservation and sustainable resource management in the region.				• keep interventions in natural and semi-natural habitats to minimum in order not to disturb the existing flora and fauna, degrade the habitat and resident species populations • where possible avoid interventions that would reduce ecological connectivity in the ecosystem (e.g. restricting the free movement of species between important habitats) or changes in the important ecosystem processes (e.g. hydrological regimes and nutrient flows) that support ecosystems and their services • use cost-effective opportunities to enhance the existing habitats and ecosystem services as part of the proposed interventions. The actions that may have impacts on critical habitats shall review their management plans and consult relevant stakeholders managing the protected areas to ensure that its activities do not cause measurable adverse impacts on biodiversity values/criteria that underpin designation of the relevant critical habitats. The supported actions shall consider presence of any endangered species and any potentially significant adverse impacts on their habitats, breeding grounds, free movement, and migration needs and will be optimised to ensure that they: ▪ do not cause any reduction of any recognized Vulnerable, Endangered, or Critically Endangered species ▪ avoid adverse impacts on endemic species, restricted-range species, and migratory species, and ▪ minimize unwarranted impacts on resident species populations.
Risk 5: Climate Change and Disaster Risks S2.1 disaster and climate change risks S2.3 maladaptation risks **Event**: Grant-supported innovations may be vulnerable to climate hazards or inadvertently increase climate vulnerability through maladaptive practices. **Cause**: Project activities located in areas subject to earthquakes, floods, landslides, severe winds, or storm surges; insufficient climate proofing of	I = 3 L = 3	Moderate	The project operates in climate-vulnerable developing countries where outcomes are inherently sensitive to climate change impacts. While the project's objective is to identify and scale climate adaptation solutions, there is risk that climate impacts may occur before innovations reach sufficient scale, potentially causing supported enterprises to fail. However, the project's explicit focus on high-risk environments and experimental approaches incorporates high risk	The ESMF will contain mandatory screening criteria related to climate change and disaster risks. The supported actions shall be required to: ▪ Consider the exposure and sensitivity of the proposed interventions to the changing climatic conditions that can be reasonably anticipated during their lifetime under the SSP3-7.0 or SSP5-8.5 scenario ▪ ensure that they do not increase vulnerability of wider environmental and socio-economic systems to climate change impacts ▪ avoid activities that may exacerbate such risks ▪ avoid activities that undermine wider adaptation

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proposed innovations; or implementation of solutions that may increase vulnerability to climate change impacts in the future. **Impact**: Supported innovations may fail to deliver intended benefits if affected by climate hazards and some interventions may inadvertently increase community vulnerability to climate change through maladaptive or negative coping practices.			tolerance, accepting that some innovations may not succeed while building a diversified portfolio to maximize overall adaptation impact.	efforts or the resilience of relevant environmental and socio-economic systems.
Risk 5: Standard 5: Displacement and Resettlement S5.1 physical displacement risks S5.2 economic displacement risks Event: Grant-supported innovations may cause physical and economic displacement risks. Cause: Project activities might not anticipate and minimize adverse social and economic impacts from land or resource acquisition or restrictions on land or resource use. Impact: This would violate UNDP commitments in SES Standard 5 objective and its paragraphs 1,3,4.	I = 2 L = 2	Low		The ESMF will have screening criteria for the grant applications checking the potential physical and economic displacement risks. When such risk would be identified, the supported actions shall be required to: ▪ Include measures for avoiding, or, when avoidance is not possible, minimizing any potential displacement risks and their adverse social and economic impacts. And ▪ Consult the potentially affected stakeholders (with specific attention to vulnerable and marginalised groups) on the proposed measures and opportunities for improving their living standards and the overall socioeconomic status through the project interventions.
Risk 7: Community Health, Safety and Security S3.1 construction-related risks S3.4 risks of water/vector-borne diseases **Event**: Grant-supported activities may create health and safety risks for communities or adversely impact ecosystems that support community health. **Cause**: Non-compliance with national and international, use of new technologies or equipment without adequate safety measures, or activities that damage ecosystems providing health-related services (food production, water purification, natural flood buffers). **Impact**: Community members may face increased health and safety risks, potential accidents or occupational hazards, and degradation of ecosystem services critical for community health such as clean water, food security, and natural	I = 3 L = 2	Moderate		See the specific screening criteria and conditions for the selection of the supported grantee projects specified in the ESMF. All grantee project activities including constructions will be designed, implemented, and operated in accordance with the national law and will also respect the following UNDP requirements for construction process management: ▪ have design and management plans which were: i) prepared by suitably qualified and experienced professionals who are certified for such design process, and ii) cleared by the competent authorities for construction process management. Low-risk designs will require at least a peer-review by qualified professionals. ▪ be constructed and operated by the experienced contractor(s) having relevant certifications and permits for the relevant works. ▪ implement preventive/protective measures to

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disaster protection.				avoid/minimize the relevant health and safety risks for the construction workers and the surrounding communities based on the national law and international good practice, and ▪ be before the beginning of their actual use/operation approved (and where needed certified) by either competent authorities or independent professionals not involved in their design and construction.
Risk 8: Cultural Heritage S4.1 risks to cultural heritage sites S4.2. risks of unknown archaeological heritage damage S4.4 risks to landscapes with cultural significance **Event**: Grant-supported activities may adversely impact cultural heritage sites or lead to unauthorized commercialization of traditional knowledge and practices. **Cause**: Activities conducted adjacent to or within cultural heritage sites without proper assessment, inadequate protection of intangible cultural heritage during innovation processes. **Impact**: Potential damage to sites, structures, or objects with historical, cultural, artistic, traditional, or religious values; adverse impacts on intangible cultural heritage including traditional knowledge, innovations, and practices.	I = 3 L = 2	Moderate	The project aims to identify and scale locally-led climate adaptation solutions, some of which may incorporate traditional knowledge. Grants will be provided to registered NGOs/CSOs/SMEs.. The Regional project's investment brokering function respects grantee autonomy, as organizations retain full rights to accept or reject any commercial opportunities. While the probability of cultural heritage risks is moderate given the regional scope and traditional knowledge components, the impact is assessed as low due to these protective measures .	See the specific screening criteria and conditions for the selection of the supported grantee projects specified in the ESMF. The supported actions shall: ▪ consider any potential impacts of the project on sites and areas with cultural significance, and comply with the local requirements for their protection and preservation ▪ where Moderate risks arise, consult the relevant authorities and explore all viable and feasible alternatives for the reduction of these risks (including changes in the planned activities, in situ conservation and rehabilitation, etc.) to avoid, minimize, or offset such risks Grantees are responsible for informing UNDP of any risks related to cultural heritage to ensure appropriate actions are taken
Risk 9: Labor and Working Conditions S7.1 risks of substandard labour & working conditions **Event**: The grant recipients may not provide contracted worker with labour and working conditions that meet the relevant national labour laws and relevant ILO conventions. **Cause**: Responsible parties and project contractors may not have procedures for observance of workers' rights **Impact**: This would violate UNDP commitments in SES Standard 7, paragraphs 5-12.	I = 2 L = 1	Low		See the specific screening criteria and conditions for the selection of the supported projects specified in the ESMF. The regional project will require the implementing partners/responsible parties/contractors to provide their workers with labour and working conditions that meet the national labour laws, including the following core labor-related requirements stipulated in the relevant key ILO conventions: (a) Provide project workers with clear and understandable information on terms and conditions of their employment (e.g. payment in a timely manner, written notice of termination, and payment of all wages and benefits on termination, etc.). (b) Prevent and address violence, harassment, intimidation, or exploitation, including any form of

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				gender-based violence. (c) Ensure that workers engaged have appropriate health and social insurance.
Risk 10: Pollution Prevention and Resource Efficiency: S8.1 risks of pollutants release **Event**: Grant-supported activities may fail to meet all applicable national environmental laws and standards, and applicable international agreements and good international practices or avoiding, minimizing, and mitigating environmental and related public health risks associated with the potential release of pollutants due to routine or non-routine circumstances. **Cause**: Activities involving greywater recycling. **Impact**: This would violate UNDP commitments in SES Standard 3, paragraph 6 and SES Standard 8, paragraph 4. Also, non-compliance can result in fines, work stoppages, or other legal actions.	I = 2 L = 1	Low		See the specific screening criteria and conditions for the selection of the supported grantee projects in annexes also specified in the ESMF. The grantees supported by the regional project will be required to adhere to actions that avoid, minimize, and mitigate environmental and public health risks associated with the release of pollutants in both routine and non-routine circumstances. These actions will comply with national environmental laws and align with international best practices in the region to ensure environmental protection and public health safety.
	QUESTION 4: What is the overall project risk categorization?			
		Low Risk	☐	
		Moderate Risk	■	The overall risk categorization is **Moderate**. While individual grants are relatively small (USD15,000 to up to USD150,000) which limits the scale of potential impacts, the project involves multiple risks across social and environmental dimensions that require active management. The project's innovation focus means some activities may be untested or involve new approaches that could have unforeseen consequences. The regional scope across four countries with diverse contexts adds complexity. However, the project's strong design features for risk management, including mandatory safeguards screening, technical assistance, and monitoring systems, provide confidence that risks can be effectively managed. The means of mitigating risks have been identified and integrated into the overall project design and implementation framework.
		Substantial Risk	☐	
		High Risk	☐	

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	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)				
	Question only required for Moderate, Substantial and High Risk projects				
	Is assessment required? (check if "yes")	☐			***Status? (completed, planned)***
	if yes, indicate overall type and status		☒	Targeted assessment(s) – targeted screening of the project applications	During implementation
			☐	ESIA (Environmental and Social Impact Assessment)	
			☐	SESA (Strategic Environmental and Social Assessment)	
	Are management plans required? (check if "yes)	☐			
	If yes, indicate overall type		☐	Targeted management plans (e.g. Gender Action Plan, Emergency Response Plan, Waste Management Plan, others)	

			☐	ESMP (Environmental and Social Management Plan which may include range of targeted plans)	
			X	ESMF (Environmental and Social Management Framework)	Attached to the proposal
	Based on identified <u>risks</u>, which Principles/Project-level Standards triggered?		**Comments (not required)**		
	Overarching Principle: Leave No One Behind				
	Human Rights	☐			
	Gender Equality and Women's Empowerment	☐			
	Accountability	☐			
	1. Biodiversity Conservation and Sustainable Natural Resource Management	X			
	2. Climate Change and Disaster Risks	X			
	3. Community Health, Safety and Security	X			
	4. Cultural Heritage	X			
	5. Displacement and Resettlement	X			
	6. Indigenous Peoples	☐			
	7. Labour and Working Conditions	X			
	8. Pollution Prevention and Resource Efficiency	X			

Final Sign Off

Final Screening at the design-stage is not complete until the following signatures are included

Signature	***Date***	***Description***
QA Assessor **Estefania Asturizaga** **Communications & Reporting Analyst, IRH/RBEC**		*UNDP staff member responsible for the project, typically a UNDP Programme Officer. Final signature confirms* *they have "checked" to ensure that the SESP is adequately conducted.*
QA Approver **Tina Stoum** **Regional Programme Chief/ IRH/RBEC**		*UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA* *Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.*
SES Approver **Jiri Dusik** **Social and Environmental Standards Specialist, RBEC**		

PAC Chair **Steliana Nedera** **Hub Manager, IRH/RBEC**		*UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.*

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
INSTRUCTIONS: The risk screening checklist will assist in answering Questions 2-6 of the Screening Template. Answers to the checklist questions help to (1) identify potential risks, (2) determine the overall risk categorization of the project, and (3) determine required level of assessment and management measures. Refer to the SES toolkit for further guidance on addressing screening questions.		
Overarching Principle: Leave No One Behind **Human Rights**		**Answer (Yes/No)**
P.1	Have local communities or individuals raised human rights concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
P.2	Is there a risk that duty-bearers (e.g. government agencies) do not have the capacity to meet their obligations in the project?	No
P.3	Is there a risk that rights-holders (e.g. project-affected persons) do not have the capacity to claim their rights?	Yes
Would the project potentially involve or lead to:		
P.4	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
P.5	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities? [16]	Yes
P.6	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities?	No
P.7	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	Yes
Gender Equality and Women's Empowerment		
P.8	Have women's groups/leaders raised gender equality concerns regarding the project, (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
Would the project potentially involve or lead to:		
P.9	adverse impacts on gender equality and/or the situation of women and girls?	No
P.10	reproducing discriminations against women based on gender, especially regarding participationin design and implementation or access to opportunities and benefits?	Yes
P.11	limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	Yes
P.12	exacerbation of risks of gender-based violence? *For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.*	No

[16] Prohibited grounds of discrimination include race, ethnicity, sex, age, language, disability, sexual orientation, gender identity, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender and transsexual people.

Sustainability and Resilience: Screening questions regarding risks associated with sustainability and resilience are encompassed by the Standard-specific questions below		
Accountability		
Would the project potentially involve or lead to:		
P.13	exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them?	Yes
P.14	grievances or objections from potentially affected stakeholders?	Yes
P.15	risks of retaliation or reprisals against stakeholders who express concernsor grievances, or who seek to participate in or to obtain information on the project?	No
Project-Level Standards		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
Would the project potentially involve or lead to:		
1.1	adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	Yes
1.2	activities within or adjacent to critical habitats and/or environmentally sensitive areas, including (but not limited to) legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	Yes
1.3	changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	risks to endangered species (e.g. reduction, encroachment on habitat)?	Yes
1.5	exacerbation of illegal wildlife trade?	No
1.6	introduction of invasive alien species?	Yes
1.7	adverse impacts on soils?	Yes
1.8	harvesting of natural forests, plantation development, or reforestation?	No
1.9	significant agricultural production?	No
1.10	animal husbandry or harvesting of fish populations or other aquatic species?	Yes
1.11	significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.12	handling or utilization of genetically modified organisms/living modified organisms?[17]	Yes
1.13	utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)[18]	Yes
1.14	adverse transboundary or global environmental concerns?	No
Standard 2: Climate Change and Disaster Risks		
Would the project potentially involve or lead to:		

[17] See the Convention on Biological Diversity and its Cartagena Protocol on Biosafety.
[18] See the Convention on Biological Diversity and its Nagoya Protocol on access and benefit sharing from use of genetic resources.

2.1	areas subject to hazards such as earthquakes, floods, landslides, severe winds, storm surges, tsunami or volcanic eruptions?	Yes
2.2	outputs and outcomes sensitive or vulnerable to potential impacts of climate change or disasters? *For example, through increased precipitation, drought, temperature, salinity, extreme events, earthquakes*	Yes
2.3	increases in vulnerability to climate change impacts or disaster risks now or in the future (also known as maladaptive or negative coping practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	Yes
2.4	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	No
Standard 3: Community Health, Safety and Security		
Would the project potentially involve or lead to:		
3.1	construction and/or infrastructure development (e.g. roads, buildings, dams)? (Note: the GEF does not finance projects that would involve the construction or rehabilitation of large or complex dams)	No
3.2	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	No
3.3	harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)?	No
3.4	risks of water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	No
3.5	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.6	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g. food, surface water purification, natural buffers from flooding)?	Yes
3.7	influx of project workers to project areas?	No
3.8	engagement of security personnel to protect facilities and property or to support project activities?	No
Standard 4: Cultural Heritage		
Would the project potentially involve or lead to:		
4.1	activities adjacent to or within a Cultural Heritage site?	Yes
4.2	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	No
4.3	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	Yes
4.4	alterations to landscapes and natural features with cultural significance?	No
4.5	utilization of tangible and/or intangible forms (e.g. practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	Yes
Standard 5: Displacement and Resettlement		
Would the project potentially involve or lead to:		
5.1	temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	No

5.2	economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	risk of forced evictions?[19]	No
5.4	impacts on or changes to land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
Would the project potentially involve or lead to:		
6.1	areas where indigenous peoples are present (including project area of influence)?	
6.2	activities located on lands and territories claimed by indigenous peoples?	
6.3	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? *If the answer to screening question 6.3 is "yes", then Standard 6 requirements apply, and the potential significance of risks related to impacts on indigenous peoples must be Moderate or above.* *	
6.4	the absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	
6.5	the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	
6.6	forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources? *Consider, and where appropriate ensure, consistency with the answers under Standard 5 above*	
6.7	adverse impacts on the development priorities of indigenous peoples as defined by them?	
6.8	risks to the physical and cultural survival of indigenous peoples?	
6.9	impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices? *Consider, and where appropriate ensure, consistency with the answers under Standard 4 above.*	
Standard 7: Labour and Working Conditions		
Would the project potentially involve or lead to: (note: applies to project and contractor workers)		
7.1	working conditions that do not meet national labour laws and international commitments?	Yes
7.2	working conditions that may deny freedom of association and collective bargaining?	Yes
7.3	use of child labour?	No
7.4	use of forced labour?	No
7.5	discriminatory working conditions and/or lack of equal opportunity?	Yes
7.6	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	Yes

[19] Forced eviction is defined here as the permanent or temporary removal against their will of individuals, families or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Forced evictions constitute gross violations of a range of internationally recognized human rights.

* Note: revised July 2022 modifying presumption of risk significance from Substantial or higher to Moderate or higher.

Standard 8: Pollution Prevention and Resource Efficiency		
Would the project potentially involve or lead to:		
8.1	the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	Yes
8.2	the generation of waste (both hazardous and non-hazardous)?	No
8.3	the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?	No
8.4	the use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Montreal Protocol, Minamata Convention, Basel Convention, Rotterdam Convention, Stockholm Convention*	No
8.5	the application of pesticides that may have a negative effect on the environment or human health?	No
8.6	significant consumption of raw materials, energy, and/or water?	No

SESP Attachment 2: Targeted Social and Environmental Screening of project-supported activities (to be used during implementation)

Social and Environmental Risks Screening Questions	Y/N	Measures to be taken to avoid, minimize or offset these risks
Compliance with the Law:		
Is there a risk that the project would not comply with all applicable domestic and international law?		
Access and Equity:		
Is there a risk that the project would not provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights?		
Is there a risk that the project would exacerbate existing inequities, particularly concerning marginalized or vulnerable groups?		
Marginalized and Vulnerable Groups:		
Is there a risk that the project would impose any disproportionate adverse impacts on marginalized and vulnerable groups, including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS.		
Human Rights:		
Is there a risk that the project would not respect and, where applicable, promote international human rights?		
Gender Equality and Women's Empowerment:		
Is there a risk that the project would not be designed and implemented in such a way that both women and men (a) have equal opportunities to participate; (b) receive comparable social and economic benefits; and (c) do not suffer disproportionate adverse effects during the development process.		
Core Labour Rights:		
Is there is risk that the project would not meet the core		

Commented [MB1]: Jiri also shared this table. We need to reconfirm with him if in the SESP annexes we should leave the full SESP checklist (currently attachment 1) or only this one that is a targeted SES screening of project supported activities. This one seems simpler.

Or is this list (Attachment 2) intended to be filled out by the grantees prior to issuing the grant, and during implementation (implement the measures?). We have a very similar matrix used in AFCIA at the grantee level.

Commented [MB2R1]: Comments from Jiri:

I've done a quick analysis of our requirements vis-à-vis those of the AF (see Table 1 and the attached file) and while we should be fine with conducting our screening formats, it may be best for the projects to conduct so called targetted screening during the selection of the specific supported based on the requiorements of the AF in order to avoid any questions/misunderstadning. This is fine for the UNDP SES since they are materially equivalent to the UBNDP SES and the UNDP's targeted assessments can use flexible formats

To this end, you may use Table 2 with the targeted screening questions and ensure that the project team has the capacity to conduct these screenings and build in adequate mitigation measures into the proposed activities whenever the targeted screening identifies any potential significant risks.

labour standards as identified by the International Labor Organization?		
Indigenous Peoples:		
Is there a risk that the project would be inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples?		
Involuntary Resettlement:		
Is there a risk that the project would not be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement.		
When limited involuntary resettlement would be unavoidable, is there a risk that due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation?		
Protection of Natural Habitats:		
Is there a risk that the project would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities?		
Conservation of Biological Diversity:		
Is there a risk that the project would cause any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species?		
Climate Change:		
Is there a risk that the project would result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change?		
Pollution Prevention and Resource Efficiency:		
Is there a risk that the project would not be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants?		
Public Health:		
Is there a risk that the project would not be designed and implemented in a way that avoids potentially significant negative impacts on public health?		
Physical and Cultural Heritage:		
Is there a risk that the project would not be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national, or international level?		
Is there a risk that the project would permanently interfere with existing access and use of such physical and cultural resources?		

Lands and Soil Conservation:		
Is there a risk that the project would not promote soil conservation and avoid degradation or conversion of productive lands or land that provides valuable ecosystem services?		

SESP Attachment 3. Analysis of the consistency of the Adaptation Fund Environmental and Social Principles with the UNDP Social and Environmental Standards

Adaptation Fund Environmental and Social Principles	UNDP Social and Environmental Standards (relevant provisions only)
Compliance with the Law: Projects/programmes supported by the Fund shall be in compliance with all applicable domestic and international law.	See the See the UNDP SES Accountability Principle 4, item 30 states that 'UNDP does not support activities that do not comply with national law and obligations under international law, whichever is the higher standard (hereinafter "Applicable Law").
Access and Equity: Projects/programmes supported by the Fund shall provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. Projects/programmes should not exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups.	See the See the UNDP SES Human Rights Principle, paragraph 14 and the Social and Environmental Screening questions related to: • P1.6 Risk of restricting access to resources or basic services.
Marginalized and Vulnerable Groups: Projects/programmes supported by the Fund shall avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups, including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS. In screening any proposed project/programme, the implementing entities shall assess and consider particular impacts on marginalized and vulnerable groups.	See the UNDP SES Human Rights Principle, paragraph 16 and the Social and Environmental Screening questions related to: • P1.5 Risk of inequitable or discriminatory impacts on affected populations.
Human Rights: Projects/programmes supported by the Fund shall respect and, where applicable, promote international human rights.	See the UNDP SES Human Rights Principle, paragraph 13 and the Social and Environmental Screening questions related to: • P1.4 Risk of adverse impacts on civil, political, economic, social or cultural rights.
Gender Equality and Women's Empowerment: Projects/programmes supported by the Fund shall be designed and implemented in such a way that both women and men (a) have equal opportunities to participate as per the Fund gender policy (refer to Annex 4 for details); (b) receive comparable social and economic benefits; and (c) do not suffer disproportionate adverse effects during the development process.	See the UNDP SES Gender Equality and Women's Empowerment Principle, paragraphs 18-20 and the Social and Environmental Screening questions related to: • P2.9 Risk of adverse impacts on gender equality, • P2.10 Risk of discrimination against women, • and • P2.11 risks of limiting the women's access to natural resources.
Core Labour Rights: Projects/programmes supported by the Fund shall meet the core labour standards as identified by the International Labor Organization.	SES Standard 7, paragraphs 5-12, 20-24 and the Social and Environmental Screening questions related to: • S7.1 Risks of substandard labour & working conditions, • S7.2 Risks to freedom of workers association and collective bargaining, • S7.3 Child labour risks, • S7.4 Forced labour risks (incl. in supply chains), • S7.5 Risks of discriminatory working conditions,

	• S7.6 Occupational health and safety risks.
Indigenous Peoples: The Fund shall not support projects/programmes that are inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples.	Entire See the UNDP SES Standard 6 and the Social and Environmental Screening questions related to: • S6.1 Risks associated with activities taking place where indigenous peoples are present • S6.2 Risks associated with activities taking place on lands, territories claimed by indigenous peoples • S6.3 Risks to rights, lands, territories natural resources and traditional livelihoods of indigenous peoples • S6.4 Risk that activities will take place without meaningful, effective informed participation of indigenous peoples • S.6.5 Risk of utilizing/developing indigenous peoples resources without agreement and/or agreed benefit sharing • S6.6 Risk of forced eviction or physical/economic displacement of indigenous peoples • S6.7 Impacts on development priorities of indigenous peoples • S6.8 Risks to physical and cultural survival of indigenous peoples • S6.9 Risks of impacts on cultural heritage of indigenous peoples
Involuntary Resettlement: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement. When limited involuntary resettlement is unavoidable, due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation.	See the UNDP SES Standard 5 objective and its paragraphs 1,3,4 and the Social and Environmental Screening questions related to: • S5.1 Physical displacement risks • S5.2 Economic displacement risks • S5.3 Risk of forced evictions • S5.4 Risks of impacts on community-based rights to land, territories or resources
Protection of Natural Habitats: The Fund shall not support projects/programmes that would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities.	See the UNDP SES Standard 1, paragraph 13 and the Social and Environmental Screening questions related to: • S1.2 Risks to critical habitats
Conservation of Biological Diversity: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species.	SES Standard 1, paragraph 13 and the Social and Environmental Screening questions related to: • S1.4 Risks to endangered species
Climate Change: Projects/programmes supported by the Fund shall not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change.	SES Standard 2, paragraph 9 and the Social and Environmental Screening questions related to: • S2.4 risks of increased GHG emissions
Pollution Prevention and Resource Efficiency: Projects/programmes supported by the Fund shall be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants.	SES Standard 8, paragraph 4 and paragraphs 7-9 and the Social and Environmental Screening questions related to: • S8.1 risks of pollutants release • S8.2 risks of inadequate waste management
Public Health: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids potentially significant negative impacts on public	See the UNDP SES Standard 3, paragraphs 2,3,6, and 7 and the Social and Environmental Screening questions related to: • S3.1 construction-related risks

health.	• S3.2 Emissions, noise, traffic, hazards and effluent risks • S3.3 safety risks due to failure of project structural • elements • S3.4 risks of water/vector-borne diseases
Physical and Cultural Heritage: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national or international level. Projects/programmes should also not permanently interfere with existing access and use of such physical and cultural resources.	See the UNDP SES Standard 4, paragraphs 1, 2, and 14 and the Social and Environmental Screening questions related to: • S4.1 risks to cultural heritage sites • S4.2. risks of unknown archaeological heritage damage • S4.3 risks to tangible and intangible forms of cultural heritage
Lands and Soil Conservation: Projects/programmes supported by the Fund shall be designed and implemented in a way that promotes soil conservation and avoids degradation or conversion of productive lands or land that provides valuable ecosystem services.	See the UNDP SES Standard 1, paragraph 21 and the Social and Environmental Screening questions related to: • S1.7 risks of soil degradation

Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience

Environmental and Social Management Framework

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1 EXECUTIVE SUMMARY

The project is implemented by UNDP as the Multilateral Implementing Entity (MIE), with execution led by UNDP Country Offices and the Istanbul Regional Hub. Key partners include national governments, civil society organizations (CSOs), micro-, small-, and medium-sized enterprises (MSMEs), cooperatives, and academic institutions.

The project is structured around three interlinked outcomes:

1. **Development and promotion of locally-led adaptation solutions** through small grants and inclusive innovation sprints.
2. **Business development and scaling support** for selected innovations, including incubation, acceleration, and investment readiness.
3. **Knowledge sharing and regional collaboration** to inform replication, policy engagement, and global learning.

Potential social and environmental impacts are expected to be largely positive, including improved climate resilience, gender empowerment, and ecosystem protection. However, risks such as unequal access, environmental degradation, or exclusion of marginalized groups are acknowledged.

To manage these, the project includes a robust Environmental and Social Management Framework (ESMF) aligned with the UNDP Social and Environmental Standards (SES) and the Adaptation Fund's Environmental and Social Policy. All sub-projects undergo environmental and social screening, and where necessary, Environmental and Social Management Plans (ESMPs), Gender Action Plans (GAPs), and Stakeholder Engagement Plans (SEPs) are developed.

The project ensures inclusive stakeholder engagement through national consultations, participatory design processes, and targeted outreach to vulnerable groups, including women, youth, Roma, and persons with disabilities. A Grievance Redress Mechanism (GRM) will be established, including a web-based platform and dedicated email channel, to ensure transparency and accountability.

2 INTRODUCTION

This Environmental and Social Management Framework (ESMF) has been prepared in support of a project proposal for "**Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience**" by the UNDP to the Adaptation Fund (AF). As this project is supported by UNDP in its role as a AF Accredited Entity, the project has been screened against UNDP's Social and Environmental Standards (SES) utilizing the UNDP Social and Environmental Screening Procedure (SESP) and deemed a Moderate Risk project.

Since the project includes a range of activities and sub-projects with yet unknown design parameters and uncertain social and environmental risks that cannot be fully assessed during the project appraisal, this Environmental and Social Management Framework (ESMF) has been developed to sets out the principles, rules, guidelines and procedures for screening, assessing, and managing the potential social and environmental impacts of the forthcoming but as yet undefined interventions.

The ESMF presents:

- project context and its activities that may involve social and environmental risks

the applicable social and environmental risk management requirements based on the relevant UNDP and Adaptation Fund policies,

- the applicable country law,
- procedures for further screening of the project application based on the combined UNDP and Adaptation Fund requirements and the applicable country law,

- guidance for the social and environmental risk management for the project applicants and project selection
- the required stakeholder engagement and transparency measures.

As such, this ESMF has been prepared to guide further assessment and management of the expected environmental and social risks of the project based on the applicable UNDP and Adaptation Fund requirements and the national law.

3 PROJECT DESCRIPTION

The project will seek to. **accelerate locally-led climate change adaptation innovation** in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia by applying an **enterprise development approach** that strengthens **regional collaboration**, promotes **gender equality, women's empowerment and social inclusion**, supports **community-based innovation**, and fosters learning and **knowledge exchange** at both regional and global levels.

3.1 OVERVIEW OF THE PROJECT

The Western Balkans region is increasingly vulnerable to climate change, facing rising temperatures, erratic rainfall, droughts, floods, and wildfires. These hazards threaten agriculture, water systems, energy infrastructure, and the well-being of vulnerable populations—particularly rural communities, women, youth, and marginalized groups.

Despite progress in national climate strategies (NAPs and NDCs), implementation gaps persist, especially at the local level. Local actors such as CSOs, MSMEs, and cooperatives often lack access to financial and technical resources to develop and scale adaptation solutions. Moreover, the region's adaptation innovation ecosystem remains underdeveloped, with limited regional collaboration and knowledge exchange.

The project addresses these challenges by fostering **regional cooperation**, empowering **local innovators**, and supporting the development and scaling of **context-specific, inclusive adaptation solutions**. It aims to reduce transaction costs, enhance coordination, and promote the replication of successful practices to build long-term climate resilience across the region. 3.2 Summary of Activities

The proposed project will have the following activities:

Output	Activity	Risks and Impacts	Avoidance and Mitigation Measures
Output 1.1: innovation concepts are identified and strengthened through inclusive call for interest, innovation sprints, and tailored design support.	Innovation concepts are identified and strengthened through inclusive call for interest, innovation sprints, and tailored design support.	- Exclusion of marginalized groups (e.g., women, Roma, rural communities) - Low participation due to lack of awareness or capacity	- Inclusive outreach in local languages - Targeted engagement of women, youth, and marginalized groups - Capacity-building through innovation sprints
Output 1.2: Promising pilots are financed through small-scale grants or seed funding and supported to address climate risks with a focus on gender equality and social inclusion.	Promising pilots are financed through small-scale grants or seed funding and supported to address climate risks with a focus on gender equality and social inclusion.	- Misuse of funds - Environmental or social harm from poorly designed projects - Gender-blind project design	- Performance-based disbursement - Environmental and Social Screening Procedure (SESP) - Gender Action Plans (GAPs) and safeguards integration

Output 2.1: Adaptation innovators receive tailored business development support, including incubation, acceleration, mentoring, and market testing, to strengthen implementation readiness and sustainability.	Adaptation innovators receive tailored business development support, including incubation, acceleration, mentoring, and market testing, to strengthen implementation readiness and sustainability.	- Limited capacity of grantees to absorb support - Unequal access to services	- Tailored support based on grantee needs - BOOST acceleration program - Inclusive mentorship (e.g., MBA fellowships)
Output 2.2: Scalable adaptation innovations are connected to funding and financing opportunities and supported for integration into national systems, local service delivery, or relevant markets.	Scalable adaptation innovations are connected to funding and financing opportunities and supported for integration into national systems, local service delivery, or relevant markets.	- Failure to secure follow-on funding - Market or policy barriers to scale	- Investment readiness support - Linkages with public/private financing - Policy engagement and matchmaking events
Output 3.1: Regional knowledge exchange platforms and collaboration mechanisms are established to facilitate peer learning, cross-border dialogue, and community-of-practice engagement among adaptation actors.	Regional knowledge exchange platforms and collaboration mechanisms are established to facilitate peer learning, cross-border dialogue, and community-of-practice engagement among adaptation actors.	- Low participation or engagement from stakeholders - Knowledge sharing limited to certain groups or countries - Language or digital access barriers	- Use of hybrid (online/offline) formats - Translation and localization of materials - Inclusive outreach to ensure participation from all four countries and marginalized groups
Output 3.2: Insights, lessons learned, and good practices from adaptation pilots are systematically documented, synthesized, and disseminated to inform future programming and policy across countries.	Insights, lessons learned, and good practices from adaptation pilots are systematically documented, synthesized, and disseminated to inform future programming and policy across countries.	- Inconsistent documentation of lessons - Limited uptake of knowledge products - Risk of duplication or poor-quality outputs	- Standardized reporting templates and guidance - Peer review and validation of knowledge products - Strategic dissemination through regional and global platforms (e.g., AIM, BOOST, Tadamon)

4 APPLICABLE POLICY AND LEGAL FRAMEWORK

This section provides a preliminary review of the applicable policy, legal and institutional framework related to the potential risks and benefits of the implementation of the proposed activities. It includes a brief review of applicable national legislation, policies and regulations; and the UNDP SES.

4.1 UNDP SOCIAL AND ENVIRONMENTAL STANDARDS

The project will comply with UNDP's Social and Environmental Standards (SES), which came into effect in January 2015. The SES underpin UNDP's commitment to mainstream social and environmental sustainability in its Programmes and Projects to support sustainable development. The objectives of the standards are to:

- Strengthen the social and environmental outcomes of Programmes and Projects
- Avoid adverse impacts to people and the environment
- Minimize, mitigate, and manage adverse impacts where avoidance is not possible
- Strengthen UNDP and partner capacities for managing social and environmental risks
- Ensure full and effective stakeholder engagement, including through a mechanism to respond to complaints from project-affected people

The SES are an integral component of UNDP's quality assurance and risk management approach to programming.

Table 4-1 **Key Elements of UNDP's Social and Environmental Standards (SES)**

Overarching Policy	Project-Level Standards	Policy Delivery Process & Accountability
Human Rights Gender Equality and Women's Empowerment Sustainability and Resilience Accountability	Biodiversity and Sustainable Natural Resource Management Climate Change and Disaster Risks Community Health, Safety, and Security Cultural Heritage Displacement and Resettlement Indigenous Peoples Labour and Working Conditions Pollution Prevention and Resource Efficiency	Quality Assurance Screening and Categorization Assessment and Management Stakeholder Engagement and Response Mechanism Access to Information Monitoring, Reporting, and Compliance review

The Standards are underpinned by an Accountability Mechanism with two key functions:

- A Stakeholder Response Mechanism (SRM) that ensures individuals, peoples, and communities affected by UNDP projects have access to appropriate procedures for hearing and addressing project-related grievances; and

- A Compliance Review process tthat can investigate claims that UNDP is not in compliance with UNDP's social and environmental policies.

Through the AF Accreditation Process, the SES are acknowledged to be consistent with the Adaptation Fund's Environment and Social Policy (see section 4.2 below). The UNDP SES also require UNDP not to support activities that do not comply with national law and obligations under international law, whichever is the higher standard (hereinafter "Applicable Law"). UNDP programmes and projects, therefore, must always comply with the beneficiary countries' national law (see section 04.3 below). The supported actions will therefore have to meet not only UNDP SES and Adaptation Funds Environment and Social Policy but also any additional requirements stipulated in the national law.

4.2 Adaptation Fund Environmental and Social Policy

The Adaptation Fund had established in March 2016 its own Environmental and Social Policy to ensure that the Fund does not support projects/programmes that unnecessarily harm the environment, public health or vulnerable communities. The Policy is built on 15 principles and also provides adequate opportunities for the informed participation of all stakeholders in the formulation and implementation of projects/programmes supported by the Fund.

As part of the implementing entities' responsibilities for the project/programme, the Fund requires the implementing entities to (i) have an environmental and social management system that ensures environmental and social risks are identified and assessed at the earliest possible stage of project/programme design, (ii) adopt measures to avoid or where avoidance is impossible to minimize or mitigate those risks during implementation, and (iii) monitor and report on the status of those measures during and at the end of implementation. These requirements are fully consistent with the UNDP Social and Environmental Standards. The table below outlines the consistency of the Adaptation Fund Environmental and Social Principles with the specific requirements stipulated by the UNDP's Social and Environmental Standards.

Table 4-2 **Analysis of the consistency of the Adaptation Fund Environmental and Social Principles with the UNDP Social and Environmental Standards**

Adaptation Fund Environmental and Social Principles	UNDP Social and Environmental Standards (relevant provisions only)
Compliance with the Law: Projects/programmes supported by the Fund shall be in compliance with all applicable domestic and international law.	See the See the UNDP SES Accountability Principle 4, item 30 stateings that 'UNDP does not support activities that do not comply with national law and obligations under international law, whichever is the higher standard (hereinafter "Applicable Law").
Access and Equity: Projects/programmes supported by the Fund shall provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. Projects/programmes should not exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups.	See the See the UNDP SES Human Rights Principle, paragraph 14 and the Social and Environmental Screening questions related to: • P1.6 Risk of restricting access to resources or basic services.
Marginalized and Vulnerable Groups: Projects/programmes supported by the Fund shall avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups, including children, women and girls, the elderly,	See the UNDP SES Human Rights Principle, paragraph 16 and the Social and Environmental Screening questions related to: • P1.5 Risk of inequitable or discriminatory impacts on affected populations.

indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS. In screening any proposed project/programme, the implementing entities shall assess and consider particular impacts on marginalized and vulnerable groups.	
Human Rights: Projects/programmes supported by the Fund shall respect and, where applicable, promote international human rights.	See the UNDP SES Human Rights Principle, paragraph 13 and the Social and Environmental Screening questions related to: • P1.4 Risk of adverse impacts on civil, political, economic, social or cultural rights.
Gender Equality and Women's Empowerment: Projects/programmes supported by the Fund shall be designed and implemented in such a way that both women and men (a) have equal opportunities to participate as per the Fund gender policy (refer to Annex 4 for details); (b) receive comparable social and economic benefits; and (c) do not suffer disproportionate adverse effects during the development process.	See the UNDP SES Gender Equality and Women's Empowerment Principle, paragraphs 18-20 and the Social and Environmental Screening questions related to: • P2.9 Risk of adverse impacts on gender equality, • P2.10 Risk of discrimination against women, • and • P2.11 risks of limiting the women's access to natural resources.
Core Labour Rights: Projects/programmes supported by the Fund shall meet the core labour standards as identified by the International Labor Organization.	SES Standard 7, paragraphs 5-12, 20-24 and the Social and Environmental Screening questions related to: • S7.1 Risks of substandard labour & working conditions, • S7.2 Risks to freedom of workers association and collective bargaining, • S7.3 Child labour risks, • S7.4 Forced labour risks (incl. in supply chains), • S7.5 Risks of discriminatory working conditions, • S7.6 Occupational health and safety risks.
Indigenous Peoples: The Fund shall not support projects/programmes that are inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples.	Entire See the UNDP SES Standard 6 and the Social and Environmental Screening questions related to: • S6.1 Risks associated with activities taking place where indigenous peoples are present • S6.2 Risks associated with activities taking place on lands, territories claimed by indigenous peoples • S6.3 Risks to rights, lands, territories natural resources and traditional livelihoods of indigenous peoples • S6.4 Risk that activities will take place without meaningful, effective informed participation of indigenous peoples • S.6.5 Risk of utilizing/developing indigenous peoples resources without agreement and/or agreed benefit sharing • S6.6 Risk of forced eviction or physical/economic displacement of indigenous peoples • S6.7 Impacts on development priorities of indigenous peoples • S6.8 Risks to physical and cultural survival of indigenous peoples • S6.9 Risks of impacts on cultural heritage of indigenous peoples
Involuntary Resettlement: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement. When limited	See the UNDP SES Standard 5 objective and its paragraphs 1,3,4 and the Social and Environmental Screening questions related to:

involuntary resettlement is unavoidable, due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation.	• S5.1 Physical displacement risks • S5.2 Economic displacement risks • S5.3 Risk of forced evictions • S5.4 Risks of impacts on community-based rights to land, territories or resources
Protection of Natural Habitats: The Fund shall not support projects/programmes that would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities.	See the UNDP SES Standard 1, paragraph 13 and the Social and Environmental Screening questions related to: • S1.2 Risks to critical habitats
Conservation of Biological Diversity: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species.	SES Standard 1, paragraph 13 and the Social and Environmental Screening questions related to: • S1.4 Risks to endangered species
Climate Change: Projects/programmes supported by the Fund shall not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change.	SES Standard 2, paragraph 9 and the Social and Environmental Screening questions related to: • S2.4 risks of increased GHG emissions
Pollution Prevention and Resource Efficiency: Projects/programmes supported by the Fund shall be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants.	• SES Standard 8, paragraph 4 and paragraphs 7-9 and the Social and Environmental Screening questions related to: • S8.1 risks of pollutants release • S8.2 risks of inadequate waste management
Public Health: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids potentially significant negative impacts on public health.	See the UNDP SES Standard 3, paragraphs 2,3,6, and 7 and the Social and Environmental Screening questions related to: • S3.1 construction-related risks • S3.2 Emissions, noise, traffic, hazards and effluent risks • S3.3 safety risks due to failure of project structural elements • S3.4 risks of water/vector-borne diseases
Physical and Cultural Heritage: Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national or international level. Projects/programmes should also not permanently interfere with existing access and use of such physical and cultural resources.	See the UNDP SES Standard 4, paragraphs 1, 2, and 14 and the Social and Environmental Screening questions related to: • S4.1 risks to cultural heritage sites • S4.2. risks of unknown archaeological heritage damage • S4.3 risks to tangible and intangible forms of cultural heritage
Lands and Soil Conservation: Projects/programmes supported by the Fund shall be designed and implemented in a way that promotes soil conservation and avoids degradation	See the UNDP SES Standard 1, paragraph 21 and the Social and Environmental Screening questions related to: • S1.7 risks of soil degradation

or conversion of productive lands or land that provides valuable ecosystem services.	

As required by the Adaptation Fund Environmental and Social Policy, the above requirements will be fully respected within the project and will guide project design, implementation, and monitoring of any identified environmental and social risks.

4.3. APPLICABLE COUNTRY LAW

All four countries that will be supported by the project - Bosnia and Herzegovina, North Macedonia, Serbia, and Montenegro – shape their environmental laws in accordance with their aspirations for European Union accession. This has led to a significant harmonisation of their national legislation with the EU's environmental acquis.

Core environmental obligations are in each country often shaped by their foundational laws on Environmental Protection that define the core principles and mechanisms such as the "polluter pays" principle, requirements for environmental impact assessments (EIAs) and strategic environmental assessments (SEAs), and the frameworks for issuing environmental permits. These are typically further supplemented with environmental obligations for land-use planning and construction processes, and the sectoral laws and bylaws addressing water, waste, soil, nature and biodiversity protection.

The next section outlines key laws that will need to be considered and complied with during the project implementation.

Bosnia and Herzegovina

Law	No.	Description
The Law on Environmental Protection of Federation of BiH (Official gazette FBiH 15/21); Law on Environmental Protection of Republika Srpska ("Official Gazette of RS" no. 71/2012, 79/2015 i 70/2020) and The Law on Environment Protection of Brčko District.	See the specific issuances in each of the entities	These documents establish and define principles of environmental protection (precaution, prevention, polluter pays principle and sustainable development); regulates EIA and SEA; environmental permits and eco-labelling systems; environmental monitoring, reporting and liability mechanisms; defines responsibilities of all levels of government for their implementation. Law is applicable for all environmental components and is treating all activities that use or burden natural resources or pose a risk to pollution.
Law on Spatial Planning and Land Use of Federation of BiH (Official gazette 72/24); Law on Spatial Planning and Construction of Republika Srpska ("Official Gazette of RS"no 40/2013, 2/2015, 106/2015, 3/2016, 104/2018, 84/2019); Law on Spatial Planning and Construction of Brčko District.	See the specific issuances in each of the entities	These laws regulate the conditions and procedures for spatial planning, the use and management of land, and the construction and development of space within the respective administrative units. They establish the legal frameworks for the preparation, adoption, and implementation of spatial planning documents, as well as the supervision of their enforcement. Laws also define the principles of sustainable development and environmental protection in land use, and it also governs the protection of space as a limited and valuable resource, ensuring that land use aligns with the principles of sustainable development, environmental conservation, and the harmonization of interests between different levels of government and stakeholders.
Law on Water of Federation of BiH ("Official Gazette of FBiH" No. 70/06); Law on Waters of Republika Srpska ("Official Gazette" of RS, no. 50/06, 92/09, 121/12) and	See the specific issuances in each of the entities	These documents regulate the legal status of water, integrated water management, the management of water facilities and water land, sustainable and equitable use of water resources, protection against harmful effects of water, public participation, and economic valuation of water including cost recovery for water use, protection and infrastructure in the respective

Law on Water Protection of Brčko District.		administrative units. These documents apply to both surface and groundwater, including boundary and transboundary rivers, thermal and mineral waters and river sediments that do not contain impurities or other useful mineral raw materials.
Law on Agricultural Land of the Federation of BiH ("Official Gazette of FBiH", no 52/09); Law on Agricultural land of Republika Srpska ("Official Gazette of RS", no. 93/2006, 86/2007, 14/2010, 5/2012, 58/2019, 119/2021, 106/2022) and Law on Agricultural land of Brčko District.	See the specific issuances in each of the entities	These laws regulate planning, protection, use, management, and improvement of agricultural land, conditions under which agricultural land may be used for non-agricultural purposes, establishment of land use records and monitoring systems, procedures for land conversion and irrigation system development, protection of land degradation, contamination, and misuse in the respective administrative levels.

Montenegro

Law	No.	Description
The Law on Environment	OGM no. 52/16, 73/19	Montenegro's environmental umbrella Law. It lays down the principles of environmental protection and sustainable development, entities, environmental protection instruments and measures, access to information, public participation, access to justice in environmental matters, environmental financing and other issues relevant to the environment. Beside this Law, there are a large number of other laws and implementing acts regulating specific environmental issues. This Law enabled the establishment of the Environmental Protection Fund by a special Government Decision (OGM no. 81/18 and 5/20). In addition, numerous normative acts have been adopted in the area of environmental protection
Law on the Environmental Impact Assessment	"Official Gazette of Montenegro", No. 75/18	This Law prescribes procedures for carrying out an EIA study for projects that may have significant impacts on the environment, contents of the EIA study, participation of interested organizations and of the public, procedures for evaluating EIA studies and issuing approvals, notification of other states on projects with potential transboundary effects, supervision and other relevant issues. This law stipulates the obligation of informing the competent Ministry of Ecology, Spatial Planning and Urbanism and its competent unit – Nature and Environment Protection Agency about the planned implementation of the project, whereby this body decides on the need for carrying out an Environmental Impact Assessment (EIA) for the subject project. In case it is determined that an EIA is required, the investor must prepare the study, and submit it to NEPA, which is followed by an official public discussion, after which they shall take into account all the comments provided by the public and approve or deny the study.
The Law on Protection Against the Negative Impacts of Climate Change	OGM no. 73/19	Regulates protection against the negative impacts of climate change, reducing greenhouse gas emissions, protecting the ozone layer and other issues related to climate change. It introduces the obligation to develop a Low Carbon Development Strategy, a National Climate Change Adaptation Plan, the preparation of greenhouse gas emission inventories, obtaining special permits for emissions by industrial Infrastructure, monitoring reporting and verification of greenhouse gas emissions for aircraft operators and industrial

		and energy installations, as well as issuing permits for activities that deplete the ozone layer. The Law is designed in such a way that it does not represent an obstacle to the Montenegrin economy's competitiveness of the Montenegrin economy, while facilitating its integration into the global market. Law on the protection from negative impacts of climate change is also implemented by the set of twelve rulebooks.
Law on Protection and Rescue	OGM no. 13/07, 5/08, 86/09, 32/11, 54/1	Consists of provisions related to conducting preventive, operational and recovery activities as well as measures to mitigate and reduce risks related to hazards. Plans for protection and rescue against different types of natural and man-made hazards at the national, local, and company include preventive, operational and recovery measures which have to be carried out by protection and rescue actors. The Law establishes the legal framework for the development and strengthening of national capacities to combat the harmful effects of natural hazards, the role of regional and international cooperation with regard to prevention and mitigation activities, and the rights and obligations of municipalities in the area of protection and rescue. It also includes the collection and consolidation of data on potential risk, the establishment of information and early warning systems and the implementation of preventative activities, such as risk assessments as well as the development of protection and rescue plans.
Water Law, including the relevant bylaws	"Official Gazette of Montenegro", No. 27/2007, 32/2011, 47/2011 48/2015 52/2016, 55/16, 02/17, 80/17 and 84/2018	The Law regulates legal status and integrated water, coastal land and water facilities management, conditions and methods of water activity and other significant issues of management and water resources (regulates status and the ways for managing all types of water, water resources, as well as other matters of relevance for water resources management). Water management activities defined within the Law are assigned to Water Administration. Article 18, paragraph 3 of the Water Law stipulates that waters and water land which are of significance for Montenegro are under the jurisdiction of the Ministry of Agriculture, Forestry and Water Management and Water Administration. Activities related to water and water land management activities are stipulated within the paragraph 2 of the Article 18 whereby they are including: "activities and measures which are implemented with the aim of preservation and improvement of the water regime in a single water system, in a certain area, all with the aim of providing the following: providing the necessary quantity of water, which has the quality which is required for its specific purpose, protection of water against pollution and protection against harmful impact of water." All the water and water land management and regulation activities are implemented in accordance with the Water Management Plan (WMP), which shall be prepared by the Water Administration, proposed by MAFWM and adopted by the Government of Montenegro.
Law on Financing Water Management	"Official Gazette of Montenegro", No. 065/28; 074/10; 040/11; 082/20	This law defines sources of water management funding, the method of calculation and payment of fees for the protection and use of water and water resources, as well as other relevant matters related to the provision and use of these resources. This law is based on the principle "user pays – polluter pays". Financial resources which are allocated by the Government of Montenegro, the relevant Ministry and the Water Administration are obtained in the form of compensations/fees

		that are paid by natural and legal entities who use the waters, for water protection and protection from waters. There are four different grounds for which natural and legal entities pay fees/compensation: water use fee; compensation for the obtained water rights; compensation for leasing public water good and water objects and systems; donations and other sources in accordance with the law. The water use fee is relevant for this project since it includes compensation for use of water, protection of water against pollution and compensation for the material gathered from the watercourse (Article 5 of the Law). This Article represents the basis for EPCG to pay annual fees into the national budget, which should later be used for water management and watercourse protection activities.
Law on spatial planning and construction of objects	"Official Gazette of Montenegro" No. 064/17, 044/18, 063/18, 11/2019, 82/2020	The Law governs the system of spatial planning, manner and requirements for construction, as well as other matters of importance. Chapter 3 prescribes requirements for the construction of facilities. Additionally, it defines the requirements and obligations of the employer (investor), designer, contractor and engineering supervisors, as the main participants in construction. This law stipulates the obligation to announce a public tender for the participation of companies who wish to participate in the design and construction of objects, whereby all project activities must be carried out in a way that they protect the public interest.
Law on protection against adverse impacts of climate change	"Official Gazette of Montenegro", No. 073/19	The law mandates the development of a comprehensive set of climate policies, including a GHG inventory, a low carbon development strategy, and a national MRV system. It also sets the legal basis for a national ETS for the industry and power sectors. In accordance with the LPAICC, Montenegro adopted the Decree on activities for which a GHG permit is issued in February 2020 within which the framework was developed for implementing an ETS aligned with that of the EU including the MRV of GHG emissions. In order to aligned the national with the new EU climate acquis and ensure fulfillment of obligations under the Paris Agreement and the Energy Community (EnC) the Law is revised. The improved Law on protection against adverse impacts of climate change shall be approved.

North Macedonia

Policy	No.	Description
Law on Environmental Protection ("Law on Environment")	Official Gazette No. 53/05, with amendments through 99/18	Establishes core environmental principles: sustainable development, EIA/SEA procedures, integrated permitting, public participation, and access to information
Law on Nature Protection	Official Gazette No. 67/04	Sets out biodiversity protection frameworks and natural heritage conservation.
Law on Construction and Spatial Planning	Official Gazette No. 130/09 (amended subsequently).	Spatial planning is embedded in the Law on Environment and supported by municipal planning legislation.
Law on Urban Greenery	Official Gazette No. 11/18 and updated with 42/20	Governs the protection and planning of green infrastructure in urban areas.

Law on Waters	Original: No. 87/08, amended through 163/13.	Governs integrated water resource management, river basin plans, and flood risk management—aligned with the EU Water Framework Directive
Law on Agricultural Land	Official Gazette No. 135/07	Regulates use, protection, irrigation, and management of agricultural land.
Law on Forests	Official Gazette No. 64/09	Addresses sustainable forest management, afforestation, and conservation.

Serbia

Policy	No.	Description
Law on Environmental Protection	"Official Gazette of RS", No. 135/2004, 36/2009, 36/2009 - state law, 72/2009 - state law, 43/2011 - decision CC, 14/2016, 76/2018, 95/2018 - state law and 95/2018	This Law regulates the integrated system of environmental protection which ensures the realization of human rights to life and development in a healthy environment and balanced relationship between economic development and the environment in the Republic of Serbia, i.e. it regulates the protection of nature and the environment, measures and procedures related to the release of pollutants into the air, water and soil, defines hazardous and harmful substances arising in the process of production (exploitation) of natural resources. It determines the manner and scope of environmental impact assessment, types of facilities, i.e. works for the construction or reconstruction for which environmental impact assessment is performed, as well as the content, manner of preparation and institution that verifies the assessment.
Law on Planning and Construction	("Official Gazette of RS", No. 72/2009, 81/2009 - corrected, 64/2010 - CC decision, 24/2011, 121/2012, 42 / 2013 - decision CC, 50/2013 - decision CC, 98/2013 - decision CC, 132/2014, 145/2014, 83/2018, 31/2019 and 37/2019	This Law regulates conditions and manner of spatial planning, conditions and manner of arranging and using construction land and construction of facilities; supervising the application of the provisions of this Law and inspection supervision; as well as other issues of importance for landscaping and use of construction land and construction of facilities.
Law on Water	Official Gazette of the RS" Nos. 30/10, 93/12, 101/16, 95/18 and 95/18	This Law regulates legal status of water, integrated water management, management of water facilities and water land, sources and method of financing water activities, as well as other issues important for water management. The provisions of the Law on Waters apply to all surface and groundwater, including boundary and transboundary rivers, thermal and mineral waters as well as to river sediments that do not contain impurities or other useful mineral raw materials. Waters in Serbia are of general interest and are state-owned. Water must be used rationally and economically, and the right to special use of water is acquired by a water permit or on the basis of a contract governing the concession.
Law of agricultural land	Official Gazette of RS", No. 62/2006, 65/2008 - state law, 41/2009, 112/2015, 80/2017 and 95/2018	This Law regulates planning, protection, arrangement and use of agricultural land, as well as testing of agricultural land and water for irrigation in order to determine the amount of hazardous and harmful substances, prescribes how to build and maintain irrigation systems.

The Law on Agriculture and Rural Development	Official Gazette of RS", no. 41/2009, 10/2013 - other laws, 101/2016, 67/2021 - other laws, 114/2021 and 19/2025	This Law regulates the objectives of the agricultural policy and the rural development policy, as well as the way to achieve them, the Register of agricultural holdings, recording and reporting in agriculture, as well as the supervision of the implementation of this law. This law regulates the rules of the special procedure for the implementation and control of the IPARD program.
The Law on Climate Change	Official Gazzette of RS no. 26/2021	This Law establishes a framework for limiting greenhouse gas emissions and adapting to climate change. It aims to harmonize Serbian legislation with EU regulations and sets up a system for monitoring, reporting, and verifying GHG emissions. The law also addresses the issuance of permits for GHG emissions, approvals for monitoring plans, and reporting on climate policies and measures. This Law also regulates actions at national and local level relevant to adapting to changing climate conditions.
The Law on Forests	("Official Gazette of the Republic of Serbia", No. 30/2010, 93/2012, 89/2015 and 95/2018	This Law regulates he conservation, protection, planning, cultivation and use of forests, the disposal of forests and forest land, supervision over the implementation of this law, as well as other issues relevant to forests and forest land.
Climate Change Adaptation Programme for the period from 2023 to 2030	"Official Gazette of the Republic of Serbia", issue 119 of December 29, 2023	In order to ensure the systematic implementation and monitoring of adaptation to changing climate conditions, to which the Republic of Serbia committed itself by signing the Paris Agreement (ratified in 2017), the Law on Climate Change adopted in 2021 (hereinafter: the Law) prescribes the development of a Climate Change Adaptation Program with an Action Plan. The Programme has been developed in accordance with the principles of the European Union Climate Change Adaptation Strategy (adopted in 2021), which calls for adaptation to be implemented in a "smart", "systematic" and "rapid" manner, with an emphasis on the importance of preserving water resources, which are considered particularly vulnerable to climate change. The Guidelines on Member States' adaptation strategies and plans from June 2023 were also taken into account in the final development of the Programme.
The Spatial Plan of the Republic of Serbia from 2021 to 2035	Official Gazette of the Republic of Serbia 48/19	The Spatial Plan of the Republic of Serbia is the basic planning document for spatial planning and development in the Republic, which determines the long-term strategic framework for directing and managing spatial development.
The Law on Environmental Impact Assessment	"Official Gazette of RS", No. 94/2024	This law regulates the impact assessment procedure for projects that may have significant impacts on the environment, the content of the study on environmental impact assessment, the participation of interested authorities and organizations and the public, cross-border consultations for projects that may have significant impacts on the environment of another country, supervision and other issues of importance for environmental impact assessment. The provisions of this law

		do not apply to projects whose sole purpose is to suppress and prevent immediate danger to life and health of people or property, to save people and property, and only while the specified circumstances, which are determined by a special act of the competent authority, last, as well as to projects or parts of projects whose purpose is to defend the country.
Law on Nature Protection	"Official Gazette of the Republic of Serbia", No. 36/2009, 88/2010, 91/2010 – amended, 14/2016, 95/2018 – other law and 71/2021	This Law regulates the protection and preservation of nature, biological, geological and regional diversity as part of the environment.

5 PROJECT'S SCREENING AGAINST THE ADAPTATION FUND'S SOCIAL AND ENVIRONMENTAL PRINCIPLES

The UNDP has conducted its own screening of the proposed project against the UNDP's Social and Environmental Standards (see Annex 3 with the Social and Environmental Screening Procedure). The screening classified the projects as involving Moderate social and environmental risks based on the UNDP's risk rating methodology.

The UNDP's Moderate social and environmental risk rating coreponds to Category B (few, small, not widespread, and reversible or easily mitigated risks) in the Adaptation Fund's environmental and social risks rating approach. For sake of completeness, a detailed review of the potential risks and their mitigation measures is provided below based on the Adaptation Funds Environmental and Social Policy. Please note that the proposed mitigation measures are based on the applicable UNDP SES requirements and, as such, they have been directly integrated into the Environmental and Social Management Guidelines for the Supported Projects which are presented in sub-chapter 6.3 of this ESMF. They are therefore twice repeted - in this and the next chapter.

Adaptation Fund ESP	Adaptation Fund ESP Risk Classification	Proposed mitigation measures
Compliance with the Law:	**Category B.** The supported activities might fail to demonstrate full compliance with the applicable law.	All project-supported activities shall be screened in order to ensure that they fully comply with all applicable national law.
Access and Equity:	**Category B.** Marginalized groups (persons with disabilities, ethnic minorities e.g. Roma populations, poor communities) may be excluded from decision-making and benefits because of limited outreach to vulnerable populations because of their insufficient capacity to engage effectively, or inadequate conflict sensitivity in project design.	All project-supported activities shall be screened in order to ensure that provide fair and equitable access to benefits in a manner that is inclusive for potentially affected populations, including marginalized individuals and persons with disabilities, and not exacerbate existing inequities, particularly with respect to marginalised or vulnerable people who live in extreme poverty or face disadvantage(s) that limit their choices and opportunities relative to others in society.

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Marginalized and Vulnerable Groups:	**Category B** The supported projects might exacerbate existing inequities, particularly with respect to marginalised or vulnerable groups.	All project-supported activities shall be screened to ensure that they do not to exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups. Where risks of potential risks to access and equity arise, the supported actions shall be required to: • identify potential impact of the proposed activities on the potentially affected individuals and groups, including those who have lesser access to its benefits and/or marginalised or vulnerable groups, • Identify practical measures that avoid, reduce or offset such adverse impacts, and • uphold the principles of accountability, inclusion, non-discrimination, and participation and increase the inclusion of potentially affected groups in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle).
Human Rights:	**Category B** The project might provide support for activities that guarantee e.g. equal protection under the law; discrimination based on race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status right; etc..defined in the national law and the core international human rights treaties (e.g. Universal Declaration of Human Rights and International Covenant on Civil and Political Rights, etc.)	All project-supported activities shall be screened for potential Human Rights risks. Where the risks of Human Rights violation would rise, the project shall duly consider any such risks and assist the applicants in adequately addressing them based on standards set in international law or national law (whichever is higher).
Gender Equality and Women's Empowerment:	**Category B** The supported activities might not be implemented in a gender-responsive manner and discriminate against women or girls or reinforce gender-based discrimination and/or inequalities.	All project-supported activities shall be screened to ensure that they are gender-responsive and not reinforce gender-based discrimination and/or inequalities. The supported actions will be expected to promote a meaningful and equitable participation of both women and men in decision-making about the supported activities, allow both genders obtain comparable social and economic benefits from the proposed actions, and support women to easily access them. The project will (where relevant) promote women-led initiatives.
Core Labour Rights:	**Category C** The grant recipients and project contractors may not have procedures for observance of workers' rights and may not provide contracted worker with labour and working conditions that meet the relevant national labour laws and relevant ILO conventions.	All project-supported activities shall be screened for the potential labor risk violations. The supported organisations will be required to provide their workers with labour and working conditions that meet the national labour laws, including the following core labor-related requirements stipulated in the relevant key ILO conventions: • Provide project workers with clear and understandable information on terms and conditions of their employment (e.g. payment in a timely manner, written notice of termination, and payment of all wages and benefits on termination, etc.). • Prevent and address violence, harassment, intimidation, or exploitation, including any form of gender-based violence.

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		• Ensure that workers engaged have appropriate health and social insurance. • Exclude unsafe working practices and implement relevant occupational health and safety measures, such as: • Provide workers with introductory job- focused safety trainings before starting work; training event is properly registered in the instructions' book. • Ensure that workers' protective equipment based on the local requirements and international good practice (e.g. hardhats, masks, safety glasses, harnesses, safety boots, etc.) • Make the first aid kits available on site and fire-extinguisher easily accessible in all sections of the site. • Introduce appropriate signposting of the sites will inform workers of key rules and regulations to follow. • Record and report health & safety incidents to UNDP.
Indigenous Peoples:	**Not applicable in this project** The project area does not include any Indigenous Peoples.	N/A
Involuntary Resettlement:	**Category C** Project activities might cause adverse social and economic impacts from land or resource acquisition or restrictions on land or resource use.	All project-supported activities shall be screened for potential displacement risks. Where such risks would arise, the actions seeking project support shall be required to conduct a dedicated due diligence of any displacement activities before they take place to: • Identify and assess any potential physical and economic displacement risks • Prohibit any forced evictions. • Include measures for avoiding, or, when avoidance is not possible, minimizing any potential displacement risks and their adverse social and economic impacts. • Consult the potentially affected stakeholders (with specific attention to poor and marginalised groups) on the proposed measures and opportunities for improving their living standards and the overall socioeconomic status through the project interventions.
Protection of Natural Habitats:	**Category B** The supported activities might inadvertently cause a potential degradation of natural and critical habitats and adverse effects on ecosystem services.	All project-supported activities shall be screened for risks related to natural Habitats. They shall be generally required to: • as far as possible, conduct the proposed activities in areas where natural habitats have already been converted to other land uses or that have low value for biodiversity and ecosystem services, and low sensitivity to the anticipated impacts, • keep interventions in natural and semi-natural habitats to minimum in order not to disturb the existing flora and fauna, degrade the habitat and resident species populations • where possible avoid interventions that would reduce ecological connectivity in the ecosystem (e.g. restricting the free movement of species

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		between important habitats) or changes in the important ecosystem processes (e.g. hydrological regimes and nutrient flows) that support ecosystems and their services. • assess and manage the impacts of proposed interventions on critical, natural and modified habitats and their ecosystem services in accordance with the UNDP SES 1 requirements, • use cost-effective opportunities to enhance the existing habitats and ecosystem services as part of the proposed interventions.
Conservation of Biological Diversity:	**Category B,** The supported activities located in the proximity of critical ecosystems might cause reduction of recognized Vulnerable, Endangered, or Critically Endangered species, or have adverse impacts on endemic species, restricted-range species, and migratory species.	All project-supported activities shall be screened for biodiversity risks. They shall be generally required to consider the presence of any endangered species and any potentially significant adverse impacts on their habitats, breeding grounds, free movement, and migration needs and will be optimised to ensure that they: • do not cause any reduction of any recognized Vulnerable, Endangered, or Critically Endangered species, • avoid adverse impacts on endemic species, restricted-range species, and migratory species, and • minimize unwarranted impacts on resident species populations. They shall also be required to: • not introduce species known to be invasive into new environments, • promote the use of native species or more resilient varieties of native species as a priority, and • use any potentially suitable alien species (e.g. climate resilient crop seed varieties) only if they were duly approved as posing no risks of potential invasive behaviour by the relevant authorities.
Climate Change:	**Category B,** Some supported activities (e..g. changes in land-uses or changes in the cooling systems) might inadvertently trigger greenhouse gas emissions.	The supported actions shall screened for any potential project-related increases in emissions that may exacerbate climate change, such as GHG emissions and black carbon emissions. Where any such risks would arise (e.g. the use of cooling systems), the action shall be asked to consider and adopt technically and financially feasible alternatives for reducing proposal-related greenhouse gas emissions. Such options may include, but are not limited to: • alternative project locations, • adoption of renewable or low-carbon energy sources, or energy efficiency measures • use of low-global-warming-potential coolants for air-conditioning and refrigeration, • promote climate-smart agricultural, forestry, and livestock management practices, and ecosystem-based adaptation and mitigation measures (including potential integration of carbon sinks).

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Pollution Prevention and Resource Efficiency:	**Category B** Grant-supported activities may fail to meet all applicable national environmental laws and standards, and applicable international agreements and good international practices or avoiding, minimizing, and mitigating environmental and related public health risks associated with the potential release of pollutants due to routine or non-routine circumstances.	The supported actions shall be screened for pollution prevention and resource efficiency risks. They will be required to avoid, minimize, and mitigate environmental and related public health risks associated with the potential release of pollutants in routine and non-routine circumstances in accordance with the national law and international best practices used in the region. Where the risks of pollution release would arise, the project will: • require operators to conduct orientation training addressing relevant environmental and occupational health and safety issues prior commencement of the relevant operations, • conduct regular surveillance is conducted to avoid leaks, spills, incidents or accidents occurring during the use of equipment and during storage, • monitor, manage and remediate any chemical oil leaks or spills, and incidents/accidents occurring during the use of equipment and their effects, and undertake all necessary immediate actions to ensure they do not adversely affect water bodies/sources. Where the risks of inadequate waste management would arise, the supported actions shall be required to: • reduce the generation of any generated waste • separate waste at the source (where possible) • reuse waste in a manner that is safe for human health and the environment. • transport all waste that cannot be reused to an appropriate waste recovery-or-treatment facility that appropriately controls its emissions and residues in accordance with the national law and international best practices used in the region.
Public Health:	**Category B** Projects may create certain health and safety risks or construction-related risks to communities and workers.	The supported actions shall be screened for public health and safety risks. They will be required to be designed, implemented, and operated in accordance with the national law and will also respect the following UNDP requirements for construction process management: • have design and management plans which were: i) prepared by suitably qualified and experienced professionals who are certified for such design process, and ii) cleared by the competent authorities for construction process management. Low-risk designs will require at least a peer-review by qualified professionals. • be constructed and operated by the experienced contractor(s) having relevant certifications and permits for the relevant works, • implement preventive/protective measures to avoid/minimize the relevant health and safety risks for the construction workers and the surrounding communities based on the national law and international good practice, and • be before the beginning of their actual use/operation approved (and where needed certified) by either competent authorities or independent professionals not involved in their design and construction. Where potential impacts on public health arise, the

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		supported actions shall be required to: • use qualified health and safety experts to assess the risks to, and potential impacts on, the safety of affected communities during the project design, construction, operation, and decommissioning, • adopt preventive measures and plans to address any identified risks in a manner commensurate with their potential impacts based on good practices and standards used by the international organizations working in the region, • prepare, implement, and monitor emergency preparedness plans in collaboration with stakeholders and relevant authorities, where relevant, and • require periodic safety inspections and monitoring, and report to UNDP should any issue be found.
Physical and Cultural Heritage:	**Category B** Grant-supported activities may damage sites, structures, or objects with historical, cultural, or religious values; or adverse impacts on intangible cultural heritage (e.g. changes in landscapes with cultural significance).	The supported actions shall be screened for risks related to cultural heritage. They will be required to: • comply with the local requirements for their protection and preservation and fully respect the requirements of the World Heritage Convention (if they might affect the World Heritage sites). • Where moderate risks arise, consult the relevant authorities and explore all viable and feasible alternatives for the reduction of these risks (including changes in the planned activities, in situ conservation and rehabilitation, etc.) to avoid, minimize, or offset such risks. • Ensure that it does not lead to the destruction of unknown cultural heritage and follow national requirements and/or globally recognized good practices for field study, inventorying, and documentation of archaeological heritage.
Lands and Soil Conservation:	**Category B** The supported activities might cause adverse impacts on productivity, organic content, structure, and water-retention capacity of soils.	The supported actions shall be required to: • avoid conversion of productive lands or lands that provide valuable ecosystem services • avoid, and where avoidance is not possible, minimize adverse impacts on soils, their biodiversity, organic content, productivity, structure, and water-retention capacity • adopt appropriate measures to ensure that the supported activities promote soil conservation • support. They will also be used as a reference during the review process of the project application.

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~~5~~6 PROCEDURES FOR AADDRESSING TTHE EEXPECTED SOCIAL AND ENVIRONMENTAL RISKS

6~~5~~.1 PROJECT'S SOCIAL AND ENVIRONMENTAL RISK RATING

The project has been screened against UNDP's Social and Environmental Standards utilizing the UNDP Social and Environmental Screening Procedure and it was deemed to be a Moderate Risk project. The next section ensures that project activities once fully defined will be further screened and appropriate management measures are adopted for any potentially significant socil and environemtnal risks.

6~~5~~.2 FURTHER SCREENING AND ASSESSMENT REQUIREMENTS DURING THE PROJECT IMPLEMENTATION

The selection process of the supported activites will involve targeted screening which will combine the relevant UNDP Social and Environmental Screening criteria and the Adaptation Fund Environmental and Social Principles. The backbone of this screening system is presented below:

Table 6-1 Social and Environmental Risks Screening template for the selection of the supported activities

Social and Environmental Risks Screening	Y/N	Measures to be taken to avoid, minimize or offset these risks
Compliance with the Law:		
Is there a risk that the project would not comply with all applicable domestic and international law?		
Access and Equity:		
Is there a risk that the project would not provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights?		
Is there a risk that the project would exacerbate existing inequities, particularly concerning marginalized or vulnerable groups?		
Marginalized and Vulnerable Groups:		
Is there a risk that the project would impose any disproportionate adverse impacts on marginalized and vulnerable groups, including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS.		
Human Rights:		
Is there a risk that the project would not respect and, where applicable, promote international human rights?		
Gender Equality and Women's Empowerment:		

Is there a risk that the project would not be designed and implemented in such a way that both women and men (a) have equal opportunities to participate; (b) receive comparable social and economic benefits; and (c) do not suffer disproportionate adverse effects during the development process.		
Core Labour Rights:		
Is there is risk that the project would not meet the core labour standards as identified by the International Labor Organization?		
Indigenous Peoples:	N/A	Not applicable in this project
Is there a risk that the project would be inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples?	N/A	Not applicable in this project
Involuntary Resettlement:		
Is there a risk that the project would not be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement.		
When limited involuntary resettlement would be unavoidable, is there a risk that due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation?		
Protection of Natural Habitats:		
Is there a risk that the project would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities?		
Conservation of Biological Diversity:		
Is there a risk that the project would cause any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species?		
Climate Change:		
Is there a risk that the project would result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change?		
Pollution Prevention and Resource Efficiency:		

Is there a risk that the project would not be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants?		
Public Health:		
Is there a risk that the project would not be designed and implemented in a way that avoids potentially significant negative impacts on public health?		
Physical and Cultural Heritage:		
Is there a risk that the project would not be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national, or international level?		
Is there a risk that the project would permanently interfere with existing access and use of such physical and cultural resources?		
Lands and Soil Conservation:		
Is there a risk that the project would not promote soil conservation and avoid degradation or conversion of productive lands or land that provides valuable ecosystem services?		

Where the screening of the fully defined projects activities identifies potential social and environmental risks that could be categorized as Substantial or High Risk, these activities will be either redesigned to eliminate and/or minimize such risks or excluded from further consideration.

65.3 ENVIRONMENTAL AND SOCIAL MANAGEMENT GUIDELINES FOR THE SUPPORTED PROJECTS

The above screening shall be supplemented with guidelines that will recap the core obligations for sound management of the social and environmental risks enshrined in the UNDP's Social and Environmental Standards for the project applicants and reviewers of the applications. The guidelines will be provided to the project staff and applicants for the project support and will stipulate the following basic obligations:

Compliance with the Law: All project-supported activities shall be~~are~~ required to fully comply with all applicable national law.

Access and Equity: The project shall be required to be designed to provide fair and equitable access to benefits in a manner that is inclusive for potentially affected populations, including marginalized individuals and persons with disabilities, and not exacerbate existing inequities, particularly with respect to marginalised or vulnerable people who live in extreme poverty or face disadvantage(s) that limit their choices and opportunities relative to others in society.

Marginalized and Vulnerable Groups: The project activities shall be required not to exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups. Where risks of potential risks to access and equity arise, the supported actions shall be required to:

- identify potential impact of the proposed activities on the potentially affected individuals and groups, including those who have lesser access to its benefits and/or marginalised or vulnerable groups,
- Identify practical measures that avoid, reduce or offset such adverse impacts, and
- uphold the principles of accountability, inclusion, non-discrimination, and participation and increase the inclusion of potentially affected groups in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle).

Human Rights: Where the risks of Human Rights violation would rise, the project shall duly consider any such risks and assist the applicants in adequately addressing them based on standards set in international law or national law (whichever is higher).

Gender Equality and Women's Empowerment: The project activities shall be required ~~implemented in~~ to be a ~~gender-responsive manner~~ and not reinforce gender-based discrimination and/or inequalities. The supported actions will be expected to promote a meaningful and equitable participation of both women and men in decision-making about the supported activities, allow both genders obtain comparable social and economic benefits from the proposed actions, and support women to easily access them. The project will (where relevant) promote women-led initiatives.

Core Labour Rights: The ~~project will require the~~ supported organisations will be required to provide their workers with labour and working conditions that meet the national labour laws, including the following core labor-related requirements stipulated in the relevant key ILO conventions:

- Provide project workers with clear and understandable information on terms and conditions of their employment (e.g. payment in a timely manner, written notice of termination, and payment of all wages and benefits on termination, etc.).
- Prevent and address violence, harassment, intimidation, or exploitation, including any form of gender-based violence.
- Ensure that workers engaged have appropriate health and social insurance.
- Exclude unsafe working practices and implement relevant occupational health and safety measures, such as:
- Provide workers with introductory job- focused safety trainings before starting work; training event is properly registered in the instructions' book.
- Ensure that workers' protective equipment based on the local requirements and international good practice (e.g. hardhats, masks, safety glasses, harnesses, safety boots, etc.)
- Make the first aid kits available on site and fire-extinguisher easily accessible in all sections of the site.
- Introduce appropriate signposting of the sites will inform workers of key rules and regulations to follow.
- Record and report health & safety incidents to UNDP.

Indigenous Peoples: Not applicable in this project

Involuntary Resettlement: Generally, the project shall promote voluntary and legally recorded market land-use right transactions in which the seller is fully informed about available choices and has the genuine right to retain the land and refuse to sell it (e.g. the transaction does not rest on the threat of compulsory acquisition). Where potential displacement risks would arise, the actions seeking project support shall be required to conduct a dedicated due diligence of any displacement activities before they take place to:

~~The supported actions shall be required to:~~

- Identify and assess any potential physical and economic displacement risks
- Prohibit any forced evictions.
- Include measures for avoiding, or, when avoidance is not possible, minimizing any potential displacement risks and their adverse social and economic impacts.

- Consult the potentially affected stakeholders (with specific attention to poor and marginalised groups) on the proposed measures and opportunities for improving their living standards and the overall socioeconomic status through the project interventions.

~~Generally, the project shall promote voluntary and legally recorded market land-use right transactions in which the seller is fully informed about available choices and has the genuine right to retain the land and refuse to sell it (e.g. the transaction does not rest on the threat of compulsory acquisition). To this end, where the risk of displacement would arise, the project shall conduct a dedicated due diligence of any displacement activities before they take place.~~

Protection of Natural Habitats: The supported actions shall be required to:

- as far as possible, conduct the proposed activities in areas where natural habitats have already been converted to other land uses or that have low value for biodiversity and ecosystem services, and low sensitivity to the anticipated impacts,
- keep interventions in natural and semi-natural habitats to minimum in order not to disturb the existing flora and fauna, degrade the habitat and resident species populations
- where possible avoid interventions that would reduce ecological connectivity in the ecosystem (e.g. restricting the free movement of species between important habitats) or changes in the important ecosystem processes (e.g. hydrological regimes and nutrient flows) that support ecosystems and their services.
- assess and manage the impacts of proposed interventions on critical, natural and modified habitats and their ecosystem services in accordance with the UNDP SES 1 requirements,
- use cost-effective opportunities to enhance the existing habitats and ecosystem services as part of the proposed interventions.

Conservation of Biological Diversity: The supported actions shall be required to consider the presence of any endangered species and any potentially significant adverse impacts on their habitats, breeding grounds, free movement, and migration needs and will be optimised to ensure that they:

- do not cause any reduction of any recognized Vulnerable, Endangered, or Critically Endangered species,
- avoid adverse impacts on endemic species, restricted-range species, and migratory species, and
- minimize unwarranted impacts on resident species populations.

They shall also be required to:

- not introduce species known to be invasive into new environments,
- promote the use of native species or more resilient varieties of native species as a priority, and
- use any potentially suitable alien species (e.g. climate resilient crop seed varieties) only if they were duly approved as posing no risks of potential invasive behaviour by the relevant authorities.

Climate Change: The supported actions shall be ~~required to identify~~screened for any potential project-related increases in emissions that may exacerbate climate change, such as GHG emissions and black carbon emissions.

Where any such risks would arise (e.g. the use of cooling systems), the action shall be asked to consider and adopt technically and financially feasible alternatives for reducing proposal-related greenhouse gas emissions. Such options may include, but are not limited to:

- alternative project locations,
- adoption of renewable or low-carbon energy sources, or energy efficiency measures
- use of low-global-warming-potential coolants for air-conditioning and refrigeration,
- promote climate-smart agricultural, forestry, and livestock management practices, and ecosystem-based adaptation and mitigation measures (including potential integration of carbon sinks).

Pollution Prevention and Resource Efficiency: The supported actions shall be required to avoid, minimize, and mitigate environmental and related public health risks associated with the potential release

of pollutants in routine and non-routine circumstances in accordance with the national law and international best practices used in the region.

Where the risks of pollution release would arise, the project will:

- require operators to conduct orientation training addressing relevant environmental and occupational health and safety issues prior commencement of the relevant operations,
- conduct regular surveillance is conducted to avoid leaks, spills, incidents or accidents occurring during the use of equipment and during storage,
- monitor, manage and remediate any chemical oil leaks or spills, and incidents/accidents occurring during the use of equipment and their effects, and undertake all necessary immediate actions to ensure they do not adversely affect water bodies/sources.

Where the risks of inadequate waste management would arise, the supported actions shall be required to:

- reduce the generation of any generated waste
- separate waste at the source (where possible)
- reuse waste in a manner that is safe for human health and the environment.
- transport all waste that cannot be reused to an appropriate waste recovery-or-treatment facility that appropriately controls its emissions and residues in accordance with the national law and international best practices used in the region.

Public Health: All project-supported constructions will be designed, implemented, and operated in accordance with the national law and will also respect the following UNDP requirements for construction process management:

- have design and management plans which were: i) prepared by suitably qualified and experienced professionals who are certified for such design process, and ii) cleared by the competent authorities for construction process management. Low-risk designs will require at least a peer-review by qualified professionals.
- be constructed and operated by the experienced contractor(s) having relevant certifications and permits for the relevant works,
- implement preventive/protective measures to avoid/minimize the relevant health and safety risks for the construction workers and the surrounding communities based on the national law and international good practice, and
- be before the beginning of their actual use/operation approved (and where needed certified) by either competent authorities or independent professionals not involved in their design and construction.

Where potential impacts on public health arise, the supported actions shall be required to:

- use qualified health and safety experts to assess the risks to, and potential impacts on, the safety of affected communities during the project design, construction, operation, and decommissioning,
- adopt preventive measures and plans to address any identified risks in a manner commensurate with their potential impacts based on good practices and standards used by the international organizations working in the region,
- prepare, implement, and monitor emergency preparedness plans in collaboration with stakeholders and relevant authorities, where relevant, and
- require periodic safety inspections and monitoring, and report to UNDP should any issue be found.

Physical and Cultural Heritage: The supported actions shall be required to:

- comply with the local requirements for their protection and preservation, and fully respect the requirements of the World Heritage Convention (if they might affect the World Heritage sites).
- ~~consider any potential impacts of the project on sites and areas with cultural, historical, or spiritual significance, and comply with the local requirements for their protection and preservation~~
- ~~fully respect the requirements of the World Heritage Convention in any intervention that may affect the World Heritage sites.~~
- ~~Where moderate risks arise,~~ consult the relevant authorities where potentially significant risks would arise and engage qualified professionals for cultural heritage preservation to explore all viable and

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feasible alternatives for the avoidance, minimisation, or offsetting ~~reduction of~~ these risks (including changes in the planned activities, in situ conservation and rehabilitation, etc.) ~~to avoid, minimize, or offset such risks.~~

- ~~The project shall~~ ensure that ~~they it~~ do~~es~~ not lead to the destruction of unknown cultural heritage (chance finds) and follow national requirements and/or globally recognized good practices for field study, inventorying, and documentation of archaeological heritage.

Lands and Soil Conservation: The supported actions shall be required to:

- avoid conversion of productive lands or lands that provide valuable ecosystem services
- avoid, and where avoidance is not possible, minimize adverse impacts on soils, their biodiversity, organic content, productivity, structure, and water-retention capacity
- adopt appropriate measures to ensure that the supported activities promote soil conservation

The above guidelines will be translated and customised for broad dissemination to the project applicants to guide the development/submissions of the activities that will seek the project support. They will also be used as a reference during the review process of the project application.

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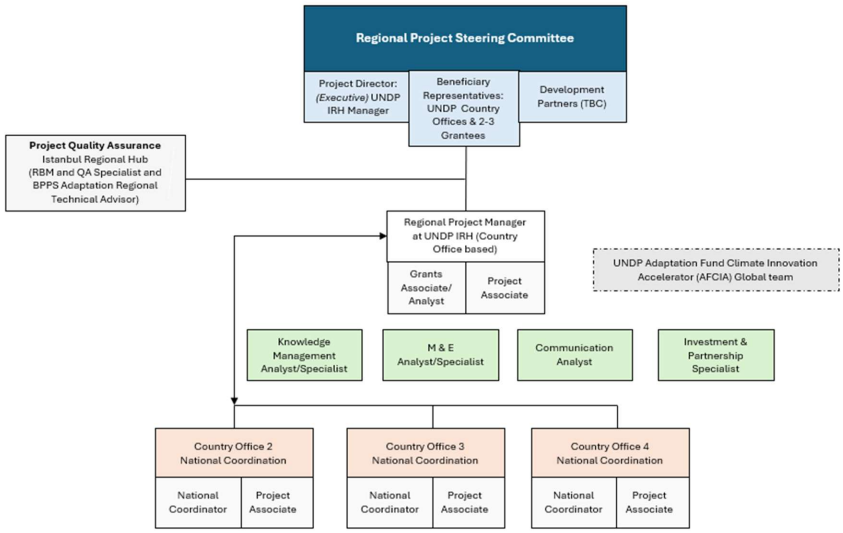
~~6~~7 IMPLEMENTATION AND OPERATION

This section gives a clear definition of roles and responsibilities of project staff and associated agencies in implementation of project activities and application of social and environmental procedures (e.g. screening, assessment, preparation of management plans, monitoring). Assess the particular institutional needs within the implementation framework for application of the ESMF, including a review of the authority and capability of institutions at different administrative levels (e.g. local, district, provincial/regional, and national), and their capacity to manage and monitor ESMF implementation. Where necessary, capacity building and technical assistance activities should be included to enable implementing agencies and involved institutions and stakeholders to implement the ESMF, including preparation, implementation and monitoring of specific social and environmental management plans/measures.

Below is an example of specified roles and responsibilities.

~~6.1~~7.1 GENERAL MANAGEMENT STRUCTURE AND RESPONSIBILITIES



A high-level PMU structure is shown in Figure 2 The key roles are discussed below. Figure 12 Project organisation structure

~~6.1.1~~7.1.1 Project Board

The Regional Project will be implemented by UNDP through its Istanbul Regional Hub under the Direct Implementation Modality (DIM). This modality ensures centralized oversight, coherent governance, and accountability, while enabling efficient delivery of technical and operational support across Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. The Istanbul Regional Hub will serve as the coordinating backbone, with strategic linkages to the UNDP Adaptation Fund Climate Innovation Accelerator (AFCIA) Technical Global Team, allowing the project to benefit from global knowledge and technical assistance.

The regional project will be steered by the Regional Project Steering Committee as per UNDP procedures and requirements. The Steering Committee's roles and responsibilities are unpacked in the standard UNDP *Terms of Reference for Project Board/Steering Committee* and will be presented and endorsed upon the Steering Committee's first meeting. The Steering Committee is the formal governance body of the project, which approves the activities in the project, reviews and clears annual workplans (AWPs) and annual progress achieved by the project through Annual Project Reviews based on the approved AWP.

The Project Board reviews and appraises the detailed project plan, including the ESMF, and provides overall guidance and direction to the project, including guidance to the Project Manager on possible management actions to address specific risks.

7.1.2 Project Management Unit and Project Manager

The project will be implemented under the forthcoming Regional Programme Document for UNDP Eurasia 2026-2029 through UNDP's Istanbul Regional Hub under the Direct Implementation Modality (DIM), ensuring efficient grant administration, comprehensive technical oversight, and robust monitoring and evaluation. The Regional Project Management Unit (PMU) will be strategically hosted within one of the four participating country offices to facilitate close coordination with national stakeholders and implementation partners.

Designated national project coordinators in each country will serve as key liaison points, ensuring strong engagement with national stakeholders and grantees while maintaining alignment with national climate policies and institutional frameworks. Despite this distributed structure, UNDP will operate as a unified project team, fostering seamless collaboration between country offices and relevant Istanbul Regional Hub colleagues to ensure coherent regional implementation and knowledge sharing.

More information on the project's coordination and governance mechanisms, and monitoring and evaluation frameworks is provided in the subsequent sections below (Part III of this proposal, Implementation Arrangements).

The PMU will include the key roles identified in the organisation chart, in particular the Project Manager.

The Project Manager will run the project on a day-to-day basis within the constraints laid down by the Project Board. The Project Manager's function will end when the final project terminal evaluation report and other documentation required by UNDP has been completed and submitted to UNDP.

The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the Project Document to the required standard of quality and within the specified constraints of time and cost.

The Project Manager is responsible for overseeing implementation of the ESMF and required environmental and social risk management actions (see below).

The 'project assurance' function of UNDP is to support the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project assurance has to be independent of the Project Manager; therefore, the Project Board cannot delegate any of its assurance responsibilities to the Project Manager. Furthermore, as the Senior Supplier, UNDP provides quality assurance for the project; ensures adherence to the DIM guidelines and compliance with UNDP policies and procedures, including its Social and Environmental Standards and implementation of the requirements of this ESMF.

A UNDP Programme Officer, or M&E Officer, typically holds the Project Assurance role on behalf of UNDP.

~~6.2~~7.2 CAPACITY BUILDING AND TRAINING

Delivery organisations (e.g. contractors, NGOs) have the responsibility for ensuring systems are in place so that relevant employees, contractors and other workers are aware of the environmental and social requirements for project implementation that have been agreed during the review of the project applications,

~~6.3~~7.3 GRIEVANCE REDRESS MECHANISM

During the design, construction and implementation of any project, a person or group of people may perceive or experience potential harm, directly or indirectly due to the project activities. The grievances that may arise can be related to social issues such as eligibility criteria and entitlements, disruption of services, temporary or permanent loss of livelihoods and other social and cultural issues. Grievances may also be related to environmental issues such as excessive dust generation, damages to infrastructure due to construction related vibrations or transportation of raw material, noise, traffic congestions, decrease in quality or quantity of private/ public surface/ ground water resources during irrigation rehabilitation, damage to home gardens and agricultural lands, etc.

Should such a situation arise, there must be a mechanism through which affected parties can resolve such issues in a cordial manner with the project personnel in an efficient, unbiased, transparent, timely and cost-effective manner. To achieve this objective, a Grievance Redress Mechanism has been included in the ESMF for this project.

The Grievance Redress Mechanism has been designed to:

- be a legitimate process that allows for trust to be built between stakeholder groups and assures stakeholders that their concerns will be assessed in a fair and transparent manner;
- allow simple and streamlined access to the Grievance Redress Mechanism for all stakeholders and provide adequate assistance for those that may have faced barriers in the past to be able to raise their concerns;
- provide clear and known procedures for each stage of the Grievance Redress Mechanism process, and provides clarity on the types of outcomes available to individuals and groups;
- ensure equitable treatment to all concerned and aggrieved individuals and groups through a consistent, formal approach that, is fair, informed and respectful to a concern, complaints and/or grievances;
- to provide a transparent approach, by keeping any aggrieved individual/group informed of the progress of their complaint, the information that was used when assessing their complaint and information about the mechanisms that will be used to address it; and
- enable continuous learning and improvements to the Grievance Redress Mechanism. Through continued assessment, the learnings may reduce potential complaints and grievances.

The GRM will be gender- and age-inclusive and responsive and address potential access barriers to women, the elderly, the disabled, youth and other potentially marginalized groups as appropriate to the Project. The GRM will not impede access to judicial or administrative remedies as may be relevant or applicable and will be readily accessible to all stakeholders at no cost and without retribution.

Information about the Grievance Redress Mechanism and how to make a complaint and/or grievance must be communicated during the stakeholder engagement process and placed at prominent places for the information of the key stakeholders.

~~6.3.1~~7.3.1 UNDP SRM and SECU

In addition to the project-level and national grievance redress mechanisms, complainants have the option to access UNDP's Accountability Mechanism, with both compliance and grievance functions. The Social and Environmental Compliance Unit investigates allegations that UNDP's Standards, screening procedure or other UNDP social and environmental commitments are not being implemented adequately, and that harm may result to people or the environment. The Social and Environmental Compliance Unit is housed in the Office of Audit and Investigations, and managed by a Lead Compliance Officer. A compliance review is available to any community or individual with concerns about the impacts of a UNDP programme or

project. The Social and Environmental Compliance Unit is mandated to independently and impartially investigate valid requests from locally impacted people, and to report its findings and recommendations publicly.

The Stakeholder Response Mechanism offers locally affected people an opportunity to work with other stakeholders to resolve concerns, complaints and/or grievances about the social and environmental impacts of a UNDP project. Stakeholder Response Mechanism is intended to supplement the proactive stakeholder engagement that is required of UNDP and its Implementing Partners throughout the project cycle. Communities and individuals may request a Stakeholder Response Mechanism process when they have used standard channels for project management and quality assurance, and are not satisfied with the response (in this case the project level grievance redress mechanism). When a valid Stakeholder Response Mechanism request is submitted, UNDP focal points at country, regional and headquarters levels will work with concerned stakeholders and Implementing Partners to address and resolve the concerns. Visit www.undp.org/secu-srm for more details. The relevant form is attached at the end of the ESMF.

~~7~~8 BUDGET FOR ESMF IMPLEMENTATION

A budget has been prepared for the implementation of the ESMF as follows:

Budget Account description	Description	Indicative cost in USD (For Y1-Y4)
Regional Project Manager	Responsible for overseeing implementation of the ESMF and required environmental and social risk management actions	$79,100.00
Gender specialist	Support the integration of gender considerations into all project activities, ensuring alignment with the ESMF and promoting gender-responsive and inclusive outcomes.	$15,176.00
Safeguards specialist	Provide guidance and backstop support to the MEL Analyst/Specialist and Regional Project Manager on environmental and social safeguards to ensure project compliance with the ESMF, mitigating risks and enhancing positive impacts.	$24,000.00
Grants Associate	Support the management, disbursement, and monitoring of grants to ensure adherence to ESMF requirements and proper documentation of safeguard measures.	$138,876.00
MEL Analyst/Specialist	Develop and implement monitoring, evaluation, and learning systems that capture environmental and social performance in line with the ESMF, including safeguards and gender indicators.	$77,602.00
Mid Term evaluation	Conduct an independent assessment of the project's progress midway through implementation, with a focus on ESMF compliance, effectiveness, and areas for improvement.	$18,000.00
Audit costs	Cover the costs of financial and compliance audits, including verification of expenditures related to ESMF activities and safeguards.	$19,940.00
Final Project Evaluation	Undertake a comprehensive evaluation at project completion to assess results, lessons learned, and adherence to ESMF principles throughout implementation.	$24,000.00
Total		**$396,694.00**

Annex 5 Gender Assessment and Action Plan

Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience

I. Introduction

This gender assessment aims to provide an overview of the gender situation in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. The analysis focuses on the intersection of gender and climate change adaptation, particularly within the context of innovation, locally-led solutions, and enterprise development. It identifies existing gender inequalities, structural barriers, and opportunities to mainstream gender considerations throughout the project's design and implementation. The assessment was developed through:

1. A desk review of national reports, statistical data, relevant studies and assessments from governments, UN agencies, civil society, and multilateral development banks.
2. A comparative analysis of gender-related indicators and framework across the four countries.
3. Alignment with national priorities and commitments to gender equality and climate action.
4. Integration of gender perspectives relevant to climate adaptation, innovation, and enterprise support.
5. Integrating gender considerations in the project indicators, targets and activities, identifying women's contribution as leaders and decision-makers.

Scope of the Gender Assessment

This gender assessment aims to:

- Examine gender-based vulnerabilities to climate change in Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia, with a focus on women and girls, youth, persons with disabilities, Roma and other ethnic minorities, displaced populations, LGBTQI+ individuals, and people living in remote, rural, or informal settlements, experience and respond to climate risks in diverse and intersecting ways.
- Assess gender gaps in access to climate-smart technologies, information and adaptation innovations, particularly for rural women, girls, LGBTQI+ individuals, persons with specific needs and also those from ethnic minorities.
- Explore barriers and enablers to women's participation in climate-related decision-making at community, local and national levels.
- Understand how gender inequalities impact women's entrepreneurship and access to finance, particularly in climate-sensitive sectors such as energy, agriculture and water.
- Analyze the existing legal and institutional frameworks for gender equality and climate governance, and their relevance to project implementation.
- Identify regional patterns and opportunities for cross-country collaboration on gender-responsive adaptation and innovation scaling.

II. Gender equality and social inclusion in the Western Balkans: Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia

This section presents a consolidated view of gender equality and social inclusion across Bosnia and Herzegovina (BiH), Serbia, North Macedonia, and Montenegro. While each

country has unique political, demographic, and governance contexts, they share structural patterns of gender inequality, particularly in labour force participation, access to economic resources, digital divides, and underrepresentation in decision-making processes. These inequalities intersect with climate vulnerabilities, especially for rural women, women from minority groups, and women-headed households.

All four countries have adopted comprehensive legal frameworks on gender equality, and most are signatories to key international conventions such as CEDAW and the Istanbul Convention. However, implementation varies significantly, particularly at the local level.

- BiH has passed three Gender Action Plans and strong legislation, but institutional fragmentation across entities hinders coordination.
- Montenegro has adopted the Law on Gender Equality (2007, amended 2015) and is developing gender-responsive approaches in climate transparency reporting under the CBIT initiative, though results remain limited.
- North Macedonia has aligned its laws with EU standards and requires gender focal points at all government levels, but limited capacity constrains execution.
- Serbia has introduced gender-responsive budgeting (GRB) nationally and has a strong legal base through the Gender Equality Law (2021) and National Strategy (2021–2030).

While legal alignment is relatively advanced, key gaps persist in monitoring, intersectoral coordination, and mainstreaming gender into climate policy and budgeting.

Gender Inequality Index

Based on recent UNDP reports, Montenegro ranks among very high development countries (50th globally), while Serbia (65th), Bosnia and Herzegovina (80th), and North Macedonia (83rd) are classified as high development countries.[1] Apart from these rankings, several indices have been developed to quantify gender inequality. The United Nations Development Programme employs two key measures: the Gender Inequality Index (GII) and the Gender Development Index (GDI). [2]

The GII is a composite measure that captures inequality in achievement between women and men across three dimensions: reproductive health, empowerment, and labour market participation. The value of GII ranges between 0 and 1, with 0 being 0% inequality, indicating women fare equally in comparison to men and 1 being 100% inequality, indicating women fare poorly in comparison to men. In contrast, the GDI measures achievement in human development across health, education, and command over economic resources, specifically considering gender gaps between men and women in these areas. The GDI values ranges between 0 and 1, where 1 indicates perfect equality between women and men, and lower values signify increasing levels of inequality. The regional performance in these indicators, according to the 2025 Human Development Report, can be seen below:

[1] United Nations Development Programme (2025). Human Development Report 2025. https://hdr.undp.org/data-center/documentation-and-downloads

[2] United Nations Development Programme (2025). Human Development Report 2025. https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII

- Bosnia and Herzegovina has a GII of 0.157 (2023) and ranks 43 out of 148 countries assessed. The GDI value is 0.967 (2023).
- Montenegro has a GII of 0.121 (2023) and ranks 40 out of 148 countries assessed. The GDI value is 0.984 (2023).
- North Macedonia has a GII of 0.112 (2023) and ranks 37 out of 148 countries assessed. The GDI value is 0.955 (2023).
- Serbia has a GII of 0.117 (2023) and ranks 38 out of 148 countries assessed. The GDI value is 0.987 (2023).

The Global Gender Gap Index (GGGI) of the World Economic Forum examines the gap between men and women in four categories: economic participation and opportunity, educational attainment, health and survival; and political empowerment.[3] Out of 148 countries, the target countries rank based on GGGI in 2025 is shown below:

Description	Bosnia & Herzegovina	Montenegro	North Macedonia	Serbia
Economic participation & opportunity	0.614 (rank 109)	0.712 (rank 56)	0.635 (rank 100)	0.700 (rank 62)
Educational attainment	0.967 (rank 108)	0.998 (rank 49)	0.988 (rank 87)	0.997 (rank 53)
Health & survival	0.976 (rank 68)	0.971 (rank 106)	0.973 (rank 89)	0.971 (rank 99)
Political empowerment	0.290 (rank 38)	0.161 (rank 91)	0.248 (rank 52)	0.276 (rank 41)
Overall Gender Gap Index 2025	0.712 (rank 69)	0.710 (rank 71)	0.711 (rank 70)	0.736 (rank 39)

* Inequality = 0.00; Equality = 1.00. Source: The Global Gender Gap Report 2025

The Organization for Economic Cooperation and Development (OECD) developed the Social Institutions and Gender Index (SIGI), a composite index that scores countries (assigning values between 0 to 100) on 14 indicators grouped into four sub-indices: discrimination in the family, restricted physical integrity, restricted access to productive and financial resources, and restricted civil liberties to measure the discrimination against women in social institutions across 179 countries. The SIGI value ranges from 0 (no discrimination) to 100 (absolute discrimination).

- The 2023 SIGI value for BiH is 27.1.
- The 2023 SIGI value for Montenegro is 13.
- The 2023 SIGI value for North Macedonia is 22.
- The 2023 SIGI value for Serbia is 14.7.

Labour force participation and Employment

All four countries exhibit significant gender gaps in labour force participation, with women consistently less likely to be active in the labour market than men. According to recent data:

[3] World Economic Forum (2025). The Global Gender Gap Report 2025

BiH has one of the widest gaps in labour force participation in the Western Balkans: only 39.4% of women are active in the labour force compared to 60.4% of men.[4] This gap is more pronounced in rural areas where gender disparities can reach up to 30 percentage points, compared to 16 percentage points in urban settings.[5] Women are more likely to be employed informally or in part-time roles, often without access to social protections such as maternity leave or pension.

Montenegro has a women's labour force rate of 41.4% and a men's labour force participation rate of 55.4%.[6] According to the Labour Force survey, unemployment is especially high among women in the northern regions, like Pljevlja, where women unemployment rates are seven times as high as in the south, and three times as large as in the central region.[7] Rural women, especially those living in mountainous and remote areas, face structural barriers to employment, including limited transportation, poor infrastructure, and lack of access to formal childcare services.[8]

North Macedonia experiences persistent gender gaps in the labour market. Although unemployment rates have decreased overall, the decline has been largely driven by reduced labour force participation rather than a significant increase in employment, particularly among women and the youth.[9] The labour force participation gap is approximately 21 percentage points, women's labour force participation for women is 41.7% and 63.7% for men.[10] Employment rates are significantly lower for Roma women, at only 8% in 2021.[11]

Women are concentrated in specific sectors such as education, health, and social protection, which tend to offer lower wages and limited opportunities for advancement. In contrast, sectors such as construction, ICT, and transport remain heavily men-dominated.[12] Employment options for rural women are particularly limited, often confined to unpaid or informal agricultural labour.

In Serbia, the gap is also pronounced. The women's labour force participation rate is about 49.9%, while men's rate is 65.4%, reflecting a gap of 15.5 percentage points.[13], with women significantly more likely to cite family care responsibilities as a reason for inactivity—97% of those who are inactive due to caregiving are women.[14] Even among employed women, domestic work constitutes a "second shift," reducing their capacity to pursue career advancement or entrepreneurship.[15]

For women in ICT and STEM careers, the country experiences a "leaky pipeline" phenomenon, as many women leave the sector early due to family responsibilities or feeling isolated in a male-sector industry.[16] In the agricultural sector, which remains a key employer in rural areas, women typically contribute as unpaid family workers rather than as landowners

[4] The World Bank (2024). Gender Data Portal – Bosnia and Herzegovina
[5] The World Bank (2024). Country Gender Assessment Bosnia Herzegovina
[6] The World Bank (2024). Gender Data Portal – Montenegro
[7] Monstat (2018). Labour force survey 2017
[8] UNDP (2024). BTR1/4NC Gender Components
[9] Government of the Republic of North Macedonia (2024). Accelerating Coal Transition Investment Plan for the Republic of North Macedonia. Pelagonia and Southwest regions
[10] The World Bank (2024). Gender Data Portal – North Macedonia
[11] UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia
[12] UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia
[13] The World Bank (2024). Gender Data Portal - Serbia
[14] UN Women (2023). Women's entrepreneurship in Serbia.
[15] Statistical Office of the Republic of Serbia (2024). Women and Men in the Republic of Serbia, https://www.stat.gov.rs/sr-cyrl/publikacije/publication/?p=15601
[16] UNDP (2023). Women in ICT sector in Serbia (UNDP Serbia & UNDP Accelerator Lab 2022-2023)

or farm managers.[17] This marginalization limits their eligibility for agricultural subsidies, training programmes, or decision-making roles within rural cooperatives and producer groups. However, it is also worth noting that there is a notable rise in women's participation in organic food production and entrepreneurship.[18]

Across the four countries, women are more likely to be informally employed or engaged in unpaid family work, particularly in agriculture. These patterns are exacerbated by demographic trends, such as rural depopulation, population ageing, and internal migration. Similarly, women are increasingly present in STEM education across the region, but remain underrepresented in ICT and STEM careers.

Entrepreneurship and Access to Resources

Women's entrepreneurship remains underdeveloped across the region. Women tend to own smaller businesses, are concentrated in service sectors, and face systemic barriers including lack of property ownership, collateral, and financial literacy.

In Bosnia and Herzegovina, ownership and management of firms are predominantly men-dominated. Only 24.9% of enterprises include women among their owners; ownership is higher among small and medium-sized firms but drops significantly in large enterprises. [19] Women face considerable barriers in starting and growing businesses, including limited initial capital, low rates of land or property ownership, and challenges in accessing credit due to lack of collateral.

Access to financial resources and credit is crucial for entrepreneurship, however, women's lower rates of enterprise ownership correlate with lower rates of financial account ownership and limited access to loans. In 2021, 70.4% of women in BiH had a financial account, compared to 88.7% of men. Although women tend to borrow more frequently from formal institutions than men, they are also more likely to face uncooperative attitudes from banks. [20] Roma women, single mothers, returnee women, and women with disabilities face additional structural barriers to financial inclusion and entrepreneurship.

In Montenegro, only 9.6% of businesses are women-led, and women entrepreneurs are heavily concentrated in traditional sectors like health and education. [21] Although the legislation provides grounds for equal opportunities for participation in the labour market and economy, obstacles regarding ownership of the land or immovable property, dominantly caused by common patriarchal norms, are present in the area of entrepreneurship: women face major barriers accessing finance due to lack of capital ownership and lack of formal employment histories. [22]

In North Macedonia, only 21% of firms are majority-owned by women, and just 20% have a woman top manager.[23] While there are near-equal rights in access to land assets and equal

[17] FAO (2021) National Gender profile of agriculture and rural livelihoods – Serbia
[18] Milojević, A., Vujicic, S., Nikitović, Z. & Radović Marković, M. (2021). Women's Entrepreneurship in Organic Production in Serbia
[19] The World Bank (2024). Country Gender Assessment Bosnia Herzegovina
[20] UN Women (2022). Bosnia and Herzegovina Gender Country Profile
[21] MONSTAT, Publication "Owners of Businesses, by sex" https://www.monstat.org/userfiles/file/registri/Analiza%20-%20Nosioci%20vlasnistva%20po%20polu,%20v_%20SB_.pdf.
[22] UNDP (2021). Gender Equality Profile of Montenegro
[23] UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia

rights in access to finance,[24] there is a wide gender gap in different aspects of access to finance: only 80% of women have a bank account at a financial institution compared to 91% of men, more men borrow from formal financial institutions than women,[25] and only about 4 per cent of women are owners of the house/property.[26] The situation in rural areas is worse, as only 5% of women hold property rights, usually after widowhood.[27]

In Serbia, women make up around 30% of entrepreneurs, and face challenges accessing capital and navigating administrative hurdles.[28] Between 2011 and 2021, women's participation in IT, communications, real estate, and especially in professional, scientific, and technical sectors increased, while their presence in trade and hospitality declined. Despite some progress, women-owned businesses still remain underrepresented in these traditionally men-dominated sectors. [29] In Serbia, rural women face severe constraints. Without land ownership, they are typically unpaid family workers rather than farm managers. Their lack of access to transportation (few hold driving licenses or own vehicles) makes them heavily reliant on inadequate public transport, marked by poor connectivity and infrequent service. They are also less likely to use information and digital technologies and face poor access to finance.[30]

While all countries have introduced measures to encourage entrepreneurship and access to finance like targeted credit lines, co-financing schemes, and entrepreneurship programmes for women, uptake remains limited due to design constraints, low outreach, and upfront capital requirements.

Education, skills and STEM

Women in all four countries tend to outperform men in terms of educational attainment at secondary and tertiary levels. However, gender segregation by field of study remains high, with women underrepresented in engineering, ICT, and other STEM-related disciplines critical to climate adaptation and green innovation.

In BiH, 49% of STEM graduates are women, significantly above the EU-27 average.[31] When looking at the fields of education in climate change, environment and biodiversity, almost equal number of men and women in Bosnia and Herzegovina graduated from these fields: 52% of women and 48% of men.[32] However, this achievement is not reflected in labour market outcomes where 27% of women are employed in these sectors.[33]

In Montenegro, women represent 58.45% of all graduates in tertiary education and the majority of master's degree holders, particularly in education and social sciences, and constitute half of the graduates in mathematics and computer sciences, as well as the agriculture and

[24] World Economic Forum (2025). Global Gender Gap Report 2025
[25] EBRD Gender SMART diagnostic tool
[26] UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia
[27] UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia
[28] UN Women (2023). Women's entrepreneurship in Serbia.
[29] UN Women (2023). Women's entrepreneurship in Serbia.
[30] FAO (2021) National Gender profile of agriculture and rural livelihoods – Serbia
[31] The World Bank (2024). Country Gender Assessment Bosnia Herzegovina
[32] Eskić-Pihljak, A. & Knežević, G. (2022) Report on Mapping the Gender Component in Data and Legislation in the area of Climate Change, Environment and Biodiversity. BiH. UNDP
[33] UNDP (2024). Empowering the next generation of STEMinists in Bosnia and Herzegovina. https://www.undp.org/bosnia-herzegovina/stories/empowering-next-generation-steminists-bosnia-and-herzegovina

veterinary medicine.[34] However, there is no evidence that these qualifications have not translated into better job outcomes or higher earnings. [35]

North Macedonia performs strongly on gender parity in education, with a value of 1 (gender parity) in the educational attainment sub-index of the Global Gender Gap Report 2025.[36] However, gender segregation remains prevalent in field of study, with women disproportionately represented in social sciences, education, and health services, and underrepresented in science, technology, engineering, and mathematics (STEM), where 65% of employees are men.[37]

In Serbia, women outnumber men in tertiary education, yet are overrepresented in the social sciences, education, and health care; areas that offer fewer opportunities for higher wages or participation in green innovation. Women's enrolment in engineering, ICT, and technical fields remains low, limiting their access to the emerging sectors most relevant to climate change adaptation and technological innovation.[38]

Access to Information, Technology, and Climate Finance

A persistent digital divide hampers women's access to information, e-services, and green technologies across all four countries. This is particularly acute among rural women, elderly women, and women from ethnic minorities.

In BiH, women in mining and rural areas lack access to renewable energy solutions and are excluded from climate technology planning and delivery.[39] Roma women, ethnic minority returnees and elderly women household heads are particularly disadvantaged. [40] In digital skills, there are apparent gender gaps and these increase with age.[41]

Montenegro's challenging geography and underdeveloped transport and digital infrastructure create significant barriers to information access for rural women.[42] Access to climate finance is only partly available to women, as many do not own property or land to use as collateral, making it difficult to meet eligibility criteria for loans or grants. Programmes that require upfront investments, with later reimbursement, often exclude women who lack capital or financial literacy.

North Macedonia reports low digital absorption among SMEs and low usage of e-commerce tools, even though ICT is one of the fastest growing private sectors in the country. This particularly affects women-led businesses, which are mainly SMEs[43]. Awareness of climate financing tools provided by municipalities and other entities is limited, especially in regions such as Struga.[44]

In Serbia, data from IPSOS reveals significant disparities in access to and use of digital technologies, particularly between urban and rural populations, and especially among women. In 2019, only 60% of rural women reporting having used a computer in the previous three

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[34] Ministry for Human and Minority Rights, Government of Montenegro (2017). Plan for Achieving Gender Equality with the Implementation Program for the 2017-2021
[35] UNDP (2021). Gender Equality Profile of Montenegro
[36] World Economic Forum (2025). Global Gender Gap Report 2025
[37] UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia
[38] FAO (2021) National Gender profile of agriculture and rural livelihoods – Serbia
[39] UNDP (2023) Blueprint for Gender Responsive Just Transition for All in Bosnia and Herzegovina
[40] UNDP (2023). Blueprint for Gender Responsive Just Transition for All in Bosnia and Herzegovina
[41] The World Bank (2024). Country Gender Assessment Bosnia Herzegovina
[42] Institute for Strategic Studies and Prognoses (2011). Istraživanje o potrebama žena u ruralnim oblastima
[43] UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia
[44] UNDP (2023). Research Report on the Perception of citizens and representatives of local government and public institutions on issues related to air pollution in Kavadarci, Strumica, Gostivarr, Kumanovo and Struga

months, compared to 67% rural men and 76% of urban women. Similarly, internet use among rural women (65%) was substantially lower than urban women (81%) and rural men (74%). Rural women also use e-banking and digital job searches far less than their male and urban counterparts.[45]

Representation in Decision-Making

Women are consistently underrepresented in formal decision-making roles across the region, especially in environmental, energy, and climate governance bodies.

In BiH, women are significantly underrepresented in political and administrative decision-making bodies; during the mandate period from 2018 to 2022, the percentage of women in state and entity parliaments/assemblies was below 25%,[46] only 2 of 13 climate-relevant ministries were headed by women in 2022, and women led only 4 of 29 relevant departments.[47]

Fragmented governance structures across the Federation of BiH, Respublika Srpska, and Brčko District contribute to inconsistent implementation of gender equality policies. Gender focal points and institutional mechanisms exist, but lack coherence and resourcing across entities and sectors.

Montenegro has made significant commitments to advancing gender equality and increasing women's leadership in political and public life, however, despite this progress, women are underrepresented in climate governance and environmental decision-making. At the national level, gender and climate are not strongly linked in policy frameworks, and women's voices are largely absent from high-level bodies such as parliament or climate negotiating teams.[48] At the local level, women from rural or minority communities—particularly Roma and Egyptian women—are often excluded from consultation processes due to language barriers, caregiving responsibilities, and a lack of information about participatory opportunities.

In North Macedonia, women remain underrepresented in political and economic decision-making, particularly in leadership positions related to climate governance.[49] As of July 2024, women were only 13% of cabinet members, however it is good to note that Sanja Bozinovska was the Minister of Energy, Mining and Mineral Resources.[50]This situation is even more pronounced for Roma and Albanian women, who are almost entirely excluded from political life.

Women's representation in the Serbian Parliament is 38.1% as of July 2024, showing significant presence in legislative decision-making.[51] In 2024, women were heads of Serbian institutions dealing with the environment, energy and innovation as Deputy Prime Minister and Minister of Environmental Protection, Minister of Mining and Energy and Minister of

[45] SORS (2015; 2019).
[46] Agency for Statistics of Bosnia and Herzegovina, Women and Men in Bosnia and Herzegovina, 2022.
[47] Eskić-Pihljak, A. & Knežević, G. (2022) Report on Mapping the Gender Component in Data and Legislation in the area of Climate Change, Environment and Biodiversity. BiH. UNDP
[48] Elezovic, S. (2021). Gender Capacity Assessment of NGOs within Climate Promise Initiative in Montenegro - UNDP
[49] WFD (2024). Increased Political participation of women in North Macedonia
[50] UNDP (2024). Equal Future Platform – North Macedonia https://www.equalfuture-eurasia.org/womens-representation-in-politics-and-public-administration/north-macedonia
[51] UNDP (n.d.) Equal Future – Serbia https://www.equalfuture-eurasia.org/womens-representation-in-politics-and-public-administration/serbia

Science, Technological Development, and Innovation.[52] However disparities remain in top leadership positions and policy influence, particularly in rural municipalities and in sectors such as agriculture, energy, and environment.[53] At the decision-making level, women's percentage in public administration was 43.2 percent in 2023. While Serbia has implemented institutional mechanisms to improve gender equality, including local gender focal points and parliamentary committees, women continue to be excluded from leadership in key climate-related institutions and processes. In rural areas, women rarely serve as heads of producer groups or agricultural cooperatives and have limited influence over local resource allocation decisions.[54]

Across all countries, women's participation in climate policy design and resource allocation remains low, despite existing institutional mechanisms.

Gender Roles, Care Work, and Social Norms

Traditional gender roles continue to shape women's opportunities and responsibilities across the region, especially in rural and minority communities.

In BiH, traditional gender norms continue to shape societal expectations and labour force dynamics. Family care responsibilities overwhelmingly fall on women, limiting their participation in paid employment. Institutional childcare is scarce, and unpaid care work remains largely invisible in public policy. According to recent data, 54.9% of men and 46.8% of women in BiH agree that women should do most of the household work even if their husbands are not employed. [55]

Roma women and other minority women face intersectional discrimination and inequalities, including early marriage, limited access to education, and poor employment outcomes. These groups are often excluded from public life and social protection mechanisms, and their specific vulnerabilities are rarely considered in climate policy design. [56]

In Montenegro, rural women, in particular, often lack access to basic social services and are more likely to be socially isolated. They are also less likely to be registered with the employment bureau, making them invisible in many social protection schemes.[57]

Older women and women living in energy-poor households are especially vulnerable, with many lacking access to adequate heating or health services. In rural areas, many women have never been employed and therefore do not have pension insurance. Demographic shifts—such as population ageing and youth outmigration—have increased the care burden on elderly women, who are among the most at risk of poverty.[58]

In North Macedonia, according to a Time Use Survey conducted by the State Statistical Office, women perform 3.4 hours of unpaid care work per day, compared to 1.1 hours for men; and

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[52] Irena Vujovic, Deputy Prime Minister and Minister of Environmental Protection
Dubravka Djedovic Handanovic , Minister of Mining and Energy
Jelena Begovic, Minister of Science, Technological Development, and Innovation
[53] FAO (2021) National Gender profile of agriculture and rural livelihoods - Serbia
[54] FAO (2021). National Gender profile of agriculture and rural livelihoods - Serbia
[55] The World Bank (2024). Country Gender Assessment Bosnia Herzegovina
[56] Spahić Šiljak, Z. & Đipa, D. (2024). Gender Equality Barometer of Bosnia and Herzegovina. UNDP, Agency for Gender Equality BiH of Ministry for Human Rights and Refugees of Bosnia and Herzegovina
[57] Elezovic, S. (2021). Gender Capacity Assessment of NGOs within Climate Promise Initiative in Montenegro - UNDP
[58] Elezovic, S. (2021). Gender Capacity Assessment of NGOs within Climate Promise Initiative in Montenegro - UNDP

women spend 2.1 hrs on food preparation, dishwashing, cleaning and childcare daily, in comparison to 0.22 hrs. for men, which significantly limits women's participation in the formal economy.[59] This imbalance is especially stark in rural areas, where childcare infrastructure is scarce and services such as early education are often inaccessible. Only 19.9% of rural children aged 36–59 months attend early education services, compared to 46.6% in urban areas.[60]

Ethnic Albanian women face particular challenges due to more conservative gender norms. Surveys reveal widespread beliefs among Albanian women that men should be the financial providers, women should only work if necessary, and men are better suited for leadership roles[61] – beliefs that reflect and reinforce structural inequalities.

In Serbia, the situation is similar as unpaid care burdens and a lack of institutional support limit women's formal economic engagement. For employed women, domestic work effectively represents a second full work shift.[62] Women living in rural communities often have weaker ties to land and household assets, which further marginalizes them economically and socially. These disparities are compounded by demographic trends such as ageing rural populations and youth outmigration, which increase the care burden on women left behind.[63]

These social norms reinforce intergenerational cycles of exclusion and limit women's participation in adaptation programmes, training, or leadership.

III. Mechanisms to address gender inequality in Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia - legal and administrative framework

All four countries have adopted comprehensive legal frameworks on gender equality, and most are signatories to key international conventions such as CEDAW and the Istanbul Convention. However, implementation varies significantly, particularly at the local level.

- BiH has strong legislation providing framework for the promotion of Gender Equality, including the Law on Gender Equality in Bosnia and Herzegovina (2003, amended in 2009) and the Law on the Prohibition of Discrimination (2026). BiH passed three Gender Action Plans and it is currently developing a fourth GAP to support operationalization. The GAP includes targeted measures such as research on women's employment in agriculture, initiatives to enhance the role of women in rural development, and the integration of gender issues into sustainable development and environmental policies. Despite a robust policy framework, institutional fragmentation across entities hinders coordination.
- Montenegro has adopted the Law on Gender Equality (2007, amended in 2015). Montenegro has also adopted the National Strategy for Gender Equality 2021–2025 and the Strategy for the Development of Female Entrepreneurship 2021–2024, aiming to increase women's political and economic participation.
- North Macedonia has enacted three key laws that refer to gender equality: Law on Equal Opportunities for Women and Men (LEO) (2006, amended in 2012), Law on

[59] SSO (2014/15). TUS
UN Women (2023). Country Gender Equality Profile of North Macedonia, Skopje, North Macedonia
[60] UN Women (2020). Investing in Free Universal Childcare in the Republic of North Macedonia
[61] Topuzovska Latkovikj et al. (2021) Women's Study for the Republic of North Macedonia, FES.
[62] Statistical Office of the Republic of Serbia (2024). Women and Men in the Republic of Serbia, https://www.stat.gov.rs/sr-cyrl/publikacije/publication/?p=15601
[63] FAO (2021) National Gender profile of agriculture and rural livelihoods – Serbia

Prevention and Protection against Discrimination (2020) and Law on Prevention and Protection from Violence against Women and Domestic Violence (2021). These laws are supported by the National Strategy on Gender Equality (2022–2027), which outline institutional mechanisms like quotas, gender-responsive reporting and the implementation of commissions for Equal Opportunities at the municipal levels. North Macedonia is also on the path to strengthening its system for collection, use, analysis, and dissemination of sex-disaggregated data with the work of the State Statistical Office (SSO).

- Serbia has a strong legal base through the Gender Equality Law (2021) and National Strategy (2021–2030). Serbia's policy framework for gender equality is established through the National Gender Equality Strategy 2021-2030, the Gender Equality Law (Official Gazette RS, No. 52/2021), and complementary anti-discrimination strategies. These policies explicitly recognize the challenges faced by women, and rural women in particular, and promote their empowerment. Serbia has also introduced gender-responsive budgeting (GRB) nationally.

Similarly, the 4 target countries are official candidates for EU membership - it is worth noting that the EU accession process plays an important role in shaping gender equality policies in the Western Balkans, acting as both a driver and a benchmark for reform. The countries are required to harmonize their legal and institutional frameworks with the EU acquis communautaire on gender equality. This includes adopting comprehensive anti-discrimination legislation, reinforcing institutional mechanisms for the promotion of gender equality, and mainstreaming gender across all sectors of public policy. The alignment process encourages the development of national strategies and action plans that promote women's rights and participation in political, economic, and social life, while also strengthening accountability mechanisms and data collection systems.

While legal alignment is relatively advanced, key gaps persist in monitoring, intersectoral coordination, and mainstreaming gender into climate policy and budgeting.

IV. Gender and social inclusion in the context of Climate Change and Innovation

Across the Western Balkans, the impacts of climate change are intensifying, particularly in sectors such as agriculture, water, and energy. The four target countries are increasingly exposed to extreme weather events, droughts, floods, and ecosystem degradation, which directly affect the livelihoods, health, and food security of rural populations. These climate threats intersect with existing structural inequalities, disproportionately affecting women, youth, ethnic minorities, and economically marginalized groups.

While climate change poses serious risks for entire communities, gender, socioeconomic status, ethnicity, geography, and age shape how individuals and households experience and respond to these risks. People with multiple and intersecting vulnerabilities—such as persons with disabilities, Roma and other ethnic minorities, displaced populations, LGBTQI+ individuals, and those living in remote or informal settlements—are often excluded from climate action and innovation ecosystems. These groups face overlapping forms of discrimination and structural barriers that limit their access to resources, technologies, skills development, and participation in decision-making. Women, particularly those living in rural areas or belonging to marginalized groups, face distinct challenges in adapting to climate change and accessing innovation ecosystems, financial services, or policy decision-making spaces.

Differentiated impact on Women and Men

Women in the region are more likely to work in climate-sensitive sectors, especially small-scale agriculture, and often do so in unpaid or informal roles. As a result, their exposure to climate shocks such as droughts and shifting rainfall patterns is both direct and acute. In all four countries, women rarely hold decision-making positions in rural households or agricultural cooperatives, limiting their control over climate-related choices and access to resources such as irrigation technology or early warning systems.

By contrast, men, who are also affected by declining agricultural yields or water scarcity, tend to have more secure land tenure, greater access to information, and better integration into formal labour markets or value chains. This structural advantage makes it easier for men to adopt new technologies, shift to alternative livelihoods, or participate in innovation networks.

Access to adaptation finance and training is also gendered. Women, particularly those from low-income or rural backgrounds, often lack the collateral, documentation, or digital literacy required to apply for subsidies, loans, or entrepreneurship programmes. The low representation of women in green innovation ecosystems across the region further limits their ability to benefit from emerging climate-smart technologies or contribute to solution design.

Social norms further exacerbate these divides. In all four countries, women shoulder the majority of unpaid care responsibilities, which restricts their time, mobility, and availability to participate in training programs, governance processes, or enterprise development initiatives. This is particularly relevant in communities where early childhood education, public transportation, or digital infrastructure are weak.

Vulnerabilities of target groups

- Rural women: Rural women across the four countries are among the most climate-vulnerable populations. They are heavily engaged in informal agriculture and natural resource management but lack access to land ownership, finance, mechanization, and decision-making. In Montenegro and Serbia, women working on family farms are rarely recognized as managers and often excluded from subsidy schemes. In North Macedonia and BiH, women registered as agricultural workers often do not receive maternity or health benefits, discouraging formalization and increasing precarity. Climate impacts such as soil degradation, floods, and droughts have direct consequences for their food security and income.

- Roma women and ethnic minorities: Roma women face systemic exclusion from education, employment, healthcare, and formal labour markets. Their exposure to climate-related risks is magnified by inadequate housing, poor sanitation, and lack of infrastructure. In Montenegro, many Roma communities live near hazardous waste sites and are exposed to environmental toxins. In North Macedonia, Roma women have the lowest employment rates and highest rates of early marriage and adolescent pregnancy. Their exclusion from formal systems means they are rarely included in adaptation planning or resilience-building programmes.
  Ethnic Albanian women in North Macedonia also experience traditional gender norms that restrict their labour market participation and limit their engagement with innovation and decision-making spaces. Their belief systems around gender roles and public engagement differ significantly from the rest of the population, necessitating culturally sensitive outreach strategies.

- Women in fossil fuel-dependent regions: In municipalities like Pljevlja in Montenegro[64] or coal-dependent regions in Serbia and North Macedonia[65], women face both economic and environmental vulnerabilities. Employment options are tied to carbon-intensive industries, where women are largely relegated to low-wage administrative or service roles. As the energy transition unfolds, these women risk being left behind unless targeted with reskilling, green entrepreneurship, or social protection programs.

- Women-headed households: Women-headed households, especially elderly widows in rural areas, are disproportionately affected by energy poverty, limited mobility, and social isolation. In BiH, 26.7% of households are female-headed, many in rural settings with limited access to services.[66] These households face increased exposure to climate risks without the means or capacity to adapt. Their reduced income, smaller support networks, and exclusion from information channels limit their resilience.

- Youth and young women: Across the region, they face higher rates of economic inactivity than young men and are less likely to pursue careers in climate-relevant fields such as STEM or green enterprise. Migration trends show that young women are increasingly moving to urban areas for education or employment, but this movement also reflects a lack of rural opportunities. Without inclusive innovation policies, these women risk exclusion from emerging adaptation markets and knowledge systems.

- Women with disabilities and elderly women: These groups are often invisible in climate and development programming. In BiH, 40% of women with disabilities and 55% of poor women report having to reduce food consumption to meet basic needs—figures that highlight extreme vulnerability.[67] Elderly women in remote areas face isolation, lack of heating or transport, and limited access to healthcare.[68] As climate shocks intensify, these groups will require targeted support to ensure equitable outcomes.

Women as agents of change

Gender and gender equality issues must be incorporated into policies related to climate change in order to ensure the equal and equitable participation of everyone in planning and decision-making. Women possess valuable local, traditional, and scientific knowledge that can drive innovative, context-specific solutions for climate mitigation and adaptation, hence they act as powerful agents of change in climate action.

In BiH, the Feminist Action for Climate Justice was launched by UNDP, in partnership with UN Women and the Gender Equality Agency of the Ministry of Human Rights and Refugees in 2022.[69] This initiative has the aim to accelerate progress in the field of gender-just climate action by involving feminist groups, grassroot activist organizations and other partners. This coalition exemplifies women-led advocacy and policy influence in climate adaptation.

Montenegro's Parliament recently adopted a historic declaration placing rural women at the center of sustainable development, recognizing their crucial role in climate adaptation and

[64] UNDP (2023). Diagnostics of the Socio-Economic Situation of Coal Region Pljevlja

[65] Government of the Republic of North Macedonia (2024). Accelerating Coal Transition Investment Plan for the Republic of North Macedonia. Pelagonia and Southwest regions

[66] FAO and UN Women (2021). National Gender Profile of Agriculture and Rural Livelihoods Bosnia and Herzegovina

[67] UNDP (2023) Blueprint for Gender Responsive Just Transition for All in Bosnia and Herzegovina

[68] https://www.skopjesezagreva.mk/

[69] UNDP (2022). Launch of the Feminist coalition for Climate Justice in Bosnia and Herzegovina: https://www.undp.org/bosnia-herzegovina/press-releases/launch-feminist-coalition-climate-justice-bosnia-and-herzegovina

rural resilience.[70] This reflects growing political commitment to empower women as agents of change in climate and environmental policies. Similarly, UNDP-supported initiatives have been key in strengthening institutional capacity for gender-responsive adaptation planning.[71]

In North Macedonia, women's leadership in climate adaptation has been fostered by the development of a gender and climate change roadmap,[72] by UNDP. This initiative shows how gender-responsive planning and integrated institutional collaboration can drive more inclusive climate policies. With UNDP's support, the Ministry of Labour and Social Policies and the Ministry of Environment and Physical Planning collaborated to embed gender equality in climate governance structures; this partnership not only mobilized women's political groups as advocates but also created a strong network of gender and climate change practitioners at both national and local levels.

In Serbia, women's networks and grassroots organizations are also highlighting women's contributions to sustainable energy and climate adaptation, like the WISE Serbia network.[73] on policy frameworks, the Climate Change adaptation programme for 2023-2030 incorporates gender considerations, with specific assessments of climate impacts on men, women, children and marginalized populations.[74]

V. Gender analysis and recommendations

The gender analysis undertaken at the onset and design of this project acts as an entry point for targeted actions depending on vulnerabilities and different experiences of various groups and genders throughout implementation. Stakeholder consultations took place in the 4 target countries, during June 2025. Results from the consultations are detailed below in the Stakeholder engagement section and Gender Action Plan and are included in full as an additional annex to this proposal.

The gender analysis, through stakeholder engagement and consultation enabled:

- Engagement, development and input into the design of the Accelerating Innovation for Adaptation in the Western Balkans project and the approach moving forward;
- Demonstration of the need for sex-, age-, disability-, ethnicity-, and location--disaggregated data and indicators to establish a baseline in which to measure improvements and identify areas of focus; and
- Establishment of recommendations to incorporate into the Gender Action Plan.
- Highlighting the importance of actively engaging women and vulnerable groups not only as stakeholders but also as key contributors to the design and implementation of innovative adaptation actions and solutions in areas such as climate resilience, sustainable agriculture and water management -ensuring that their knowledge, needs, and leadership are central to building inclusive and effective responses.

Project design and implementation

The design of the project explicitly recognizes gender equality and women's empowerment as core principles. The project's enterprise development approach aims not only to strengthen

[70] United Nations Montenegro (2025). Rural women take centre stage in Montenegro's Parliament as historic declaration is adopted. https://montenegro.un.org/en/296205-rural-women-take-centre-stage-montenegro's-parliament-historic-declaration-adopted

[71] UNDP (2024). National Adaptation Plan (NAP) Project. Final Evaluation of the project "Enhancing Montenegro's Capacity to integrate Climate Change Risks into Planning"

[72] http://gendermap.klimatskipromeni.mk

[73] https://wisesrbija.org

[74] UNDP (2023) Climate Change Adaptation Programme for the period 2023-2023

climate resilience and regional collaboration but also to ensure that innovation ecosystems and adaptation investments are inclusive and transformative.

To achieve this, gender considerations must be mainstreamed across all project components, from the identification of locally-led innovations and the provision of grants or technical assistance, to the structure of knowledge-sharing platforms and capacity-building activities. A deliberate focus on women, including those from marginalized groups such as people with disabilities or those living in rural areas will be essential to meet the objectives of climate resilience and social equity.

The project design and implementation will take into consideration the following gender implications:

- Specific strategies to include women-led adaptation innovations that integrate gender equality and social inclusion considerations.
- Gender-sensitive technical assistance, capacity building and acceleration into solutions design.
- Engage national institutions, and local authorities on gender and climate nexus.
- Identification of gaps in gender equality through the use of sex-disaggregated data enabling development of a gender action plan to close those gaps, devoting resources and expertise for implementing such strategies, monitoring the results of implementation, and holding individuals and institutions accountable for outcomes that promote gender equality.
- Inclusive knowledge management and regional collaboration, ensuring women's voices are amplified in these spaces.
- Inclusion of a Gender Specialist position / provision of advice within the project to implement gender related activities.
- Gender-responsive Monitoring and Evaluation, tracking number of women receiving grants, types of organisations supported (sex-disaggregated by ownership and management), indicators capturing intersectionality (disaggregation by ethnicity, age, disability status). Gender-responsive Monitoring and Evaluation tracking will not only track the number of women receiving grants, but also the types of organisations supported, disaggregated by sex in terms of ownership and leadership. Indicators capturing intersectionality, with data disaggregated by ethnicity, age, disability status, and other relevant dimensions.

During project implementation, qualitative assessments will be conducted on the gender and intersectionality-specific benefits that can be directly associated to the project. This will be incorporated in the annual Project Implementation Report, Mid-Term Report, and Terminal Evaluation. Indicators to quantify the achievement of project objectives in relation to gender equality and social inclusion will capture the number of individuals from diverse groups — including women, men, youth, persons with disabilities, ethnic minorities, and other marginalized populations — who have been supported through grants, training opportunities, knowledge management activities, and information dissemination. The project will also embed qualitative indicators to measure transformative change, whether the intervention contributed to closing gender gaps and how effectively it addressed gender-differentiated needs.

Stakeholder engagement

The stakeholder consultations and engagement of women's organizations promote gender equality at the local as well as the national level. The involvement of women's organizations in the project design, aided in identifying relevant gender issues within the Western Balkans

social context, and implementing and monitoring the gender aspects of the project.

In Bosnia and Herzegovina, consultations engaged key national and entity-level institutions such as the Federal Ministry of Environment and Tourism, the Federal and Republic Hydrometeorological Institutes, and several faculties of the University of Banja Luka and the University of Sarajevo. Development and business actors also participated, including the Development Agency of Republika Srpska, the Chamber of Commerce of Republika Srpska, Intera Technology Park, REDAH Regional Development Agency for Herzegovina, and the NGO Mreza Progrenih Inicijativa (MPI).

In Montenegro, consultations brought together representatives from national and local government institutions, including the Ministry of Ecology, Sustainable Development and Northern Region Development, the Agency for Environment Protection, the Ministry of Agriculture, Forestry and Water Management, and several municipal secretariats from Plužine, Cetinje, Podgorica, Nikšić, and Danilovgrad. The Eco Fund, business leaders and entrepreneurs from entities such as Berza, Entrepreneurial Nest at UDG, TravelAizer, and ICL Montenegro also contributed, alongside a national gender specialist and regional coordinators of relevant projects.

In North Macedonia, stakeholders included representatives from academia (Mechanical University), the Center for Climate Change, and a range of civil society organizations such as Six Star, Go Green, the Red Cross, and the Association for Young Lawyers.

In Serbia, the process included representatives from the Ministry of Environmental Protection, the Hydrometeorological Service, public forestry companies (Srbijasume and Vojvodinasume), National Park Tara, local self-governments, the Standing Conference of Towns and Municipalities, the National Innovation Fund, a regional development agency, civil society organizations, private sector actors, and UNDP staff including a gender expert.

In addition to external stakeholders, the consultations also benefitted from the active participation of internal UNDP specialists, including gender advisors, energy and environment specialists, and relevant project managers. Their contributions ensured that the discussions reflected not only local and national contexts but also aligned with UNDP's strategic priorities and technical expertise in gender equality and climate adaptation.

Specific issues raised in the consultations include:

- Gender imbalance is a deeply rooted challenge, particularly in agriculture and food production. Men predominantly own property and control family income, which results in women being excluded from many decision-making processes. However, women are often at the forefront of developing innovative solutions since they directly experience and manage climate-related challenges in their daily lives.
- The project must go beyond focusing solely on gender and adopt an inclusive approach that addresses the broader needs of all vulnerable groups. To effectively embed this inclusivity, involving a gender expert will be vital to guide the design and implementation of equitable interventions. Additionally, gender-disaggregated data collection and monitoring will be necessary to track progress and ensure accountability.
- In line with the National Climate Change Adaptation Progrmme (the NAPs), the initiative should particularly promote the rights of vulnerable groups (elderly people, poor people, rural population, outdoor workers) and particularly vulnerable groups (children, pregnant women, patients suffering from chronical diseases, people with disabilities) e.g. through evaluation criteria. The initiative should particularly strengthen the women-led entrepreneurship through their participation in the Challenge Calls. The Call should be widely promoted among partners and potential beneficiaries, such as:

associations of rural women, small farms, Office for Roma Inclusion in Vojvodina, Serbia (being proactive office), at the municipalities level - local Roma coordinators, as well as among the youth groups (the participants stressed the importance of understanding the relations between the mental health of young people and changing climate conditions).

- The initiative should make a concerted effort to engage vulnerable and underdeveloped sub-regions, which are often sparsely populated. While the Call does not need to exclusively target specific sub-regions, awarding additional points in the evaluation process for proposals from vulnerable or underdeveloped areas would help ensure greater inclusion.
- Finally, the initiative should align with and build on other UNDP initiatives and good practices in the region, such as EmpowerHer in Montenegro, to create synergies and amplify impact.

An additional annex to this proposal shows the full results from the stakeholder engagement and details on the participants, venue and dates. The annexes details the specific issues and difficulties that women face in responding to the increasing threat of climate change, and the need for supporting locally-led adaptation innovations.

Monitoring and evaluation

The project is situated in a context of persistent underinvestment in climate adaptation, both globally and regionally. According to UNEP, the annual adaptation finance needs of developing countries range between $215–387 billion, yet international public flows for adaptation fall short. This financing gap is acutely felt in the Western Balkans, where adaptation remains underfunded, and the climate risks (rising temperatures, erratic rainfall, water scarcity, and ecosystem degradation are escalating.

Women, youth, Roma populations, ethnic minorities, rural households and persons with disabilities are disproportionately affected by there climate risks. Yet, adaptation strategies and financing mechanisms in the region have usually failed to meaningfully account for gender-specific vulnerabilities, needs and capacities. Women, particularly the ones living in rural and fossil-fuel dependent areas are underrepresented in climate decision-making and rarely benefit from enterprise support, innovation grants, or financial services designed for climate resilience.

Baseline data on gender and climate adaptation is also weak or fragmented across the region. There is a lack of consistent sex-disaggregated data on participation in climate programs, access to finance and land, and the uptake of climate-resilient technologies.

In order to monitor and evaluate progress of the project, the following indicators can be measured:

Quantitative outcomes:

- % of women beneficiaries of innovation grants and enterprise support
- % of grants or initiatives led by women or targeting women-led enterprises.
- % of training participants who are women (disaggregated further by rural/urban, ethnic minority, youth, disability status).
- Number of new or scaled women-led climate innovations supported.

- Number of enterprise support component targeting % of rural women entrepreneur groups.

Qualitative outcomes:

- Opportunities to generate additional income. Women are more likely to respond to incentives that address climate adaptation;
- Changes in women's confidence, skills, and agency to lead or engage in adaptation solutions;
- Expanded involvement of women in public and project decision-making as a result of expanded inclusion into active participation in income generating activities;
- Increased visibility and recognition of women-led innovation in national or regional platforms.
- Impact of training and educational activities related to adaptation to climate change, leadership, innovation, finance, entrepreneurship to women
- Effectiveness of regional knowledge sharing platforms and events through awareness.

Data collection and monitoring

Monitoring will be participatory and embedded in the project learning processes:

- Regular feedback loops (surveys, focus groups, interviews) will document how women and marginalized groups are engaging with and benefiting from the project.
- A report produced annually, summarizing insights, stories, challenges and stories of change of women and other beneficiaries with intersecting vulnerabilities.
- Grantees will receive training on gender equality and implementation of initiatives with gender lens, based on gender analysis development skills.

VI. Proposed Gender Action Plan

This Gender Action Plan (GAP) provides concrete, actionable strategies for mainstreaming gender equality and women's empowerment throughout all project components. Based on the gender assessment findings, this plan goes beyond requiring grantees to consider gender by actively supporting them with tools, capacity building, and targeted interventions to ensure gender-responsive climate adaptation innovations.

Outcome 1: The development and promotion of locally-led climate adaptation solutions specifically targets women's leadership in innovation while addressing their differentiated climate vulnerabilities. Gender-responsive actions ensure that at least 40% of supported innovations are women-led and that all grantees receive comprehensive capacity building to integrate gender considerations into their solutions. The project actively dismantles barriers to women's participation through targeted outreach, simplified applications, and mentoring support.

Outcome 2: Business development and scaling support prioritizes women entrepreneurs' access to technical assistance, markets, and financing while challenging gender biases in investment decisions. Actions include prioritizing outreach to women-led enterprises, offering dedicated mentorship streams, and connecting women innovators to markets and investors through tailored incubation and acceleration programmes.

Outcome 3: Knowledge management and regional collaboration amplify women's voices in climate adaptation discourse while building networks for peer learning and advocacy. Actions ensure women representation in all regional events, showcase gender-responsive innovations, and ensure that gender and inclusion are embedded in regional learning processes. This will generate and disseminate actionable evidence on gender-responsive adaptation innovation, contributing to better-informed policies, programming, and future scaling efforts.

As a cross-cutting implementation approach, the implementation of these outcomes are supported by the recruitment of a Gender Specialist. The monitoring framework tracks both participation metrics and empowerment outcomes, ensuring that gender mainstreaming translates into measurable improvements in women's decision-making power, income, and leadership within climate adaptation initiatives.

Outcome 1: Development, promotion, and acceleration of locally-led innovative climate adaptation solutions in four Balkans countries, with particular emphasis on approaches that advance gender equality and women's empowerment, and which address priority climate risks				
Objective	**Actions**	**Indicator and Targets**	**Responsible Institutions**	**Allocated Budget ($US)**
Output 1:				
Output 1.1: Innovation concepts are identified and strengthened through inclusive call for interest,	Provide capacity-building support to women and marginalized groups on applying for and managing innovation grants.	At least 8 of LVGAs led by or inclusive of women or marginalized group representatives	Project Management Unit, Country Offices coordination teams	

innovation sprints, and tailored design support.	Include gender and inclusion criteria in LVGA application templates and scoring mechanisms Design and disseminate EOI and CFP with inclusive outreach strategies targeting women, youth, and marginalized groups, using women's networks and community events. Simplify application formats and provide pre-application webinars with gender integration guidance. Gender specialist to provide clinics for women-led and socially inclusive applicants during innovation sprints.	Gender and social inclusion criteria integrated in at least 70% of LVGA selection tools All participants receive 4+ hours gender business model training Number of women-led or minority-led projects receiving tailored mentoring	Project Management Unit, Country Offices coordination teams	$105,000
Output 1.2: Promising pilots are financed through small-scale grants or seed funding and supported to address climate risks with a focus on gender equality and social inclusion.	Conduct training on integrating GESI in innovation design for all grants applicants Offer tailored technical assistance and mentorship to women-led or minority-led innovation projects Provide templates for gender analysis and action plans. Monitor GESI outcomes bi-annually, providing feedback loops to improve implementation.	100% of grantees complete comprehensive GESI training Minimum 8 women-led or marginalized group-led projects supported Reports include sex-disaggregated beneficiary data and analysis of empowerment outcomes.	Gender specialist, CO support coordination teams Global and CO support coordination teams	
Outcome 2: Selected adaptation innovations are strengthened and positioned for scale through tailored business development support, market testing, and identification of funding and financing pathways.				
Objective	**Action**	**Indicator and Targets**	**Responsible Institution**	**Allocated Budget ($US)**
Output 2.1: Adaptation innovators receive tailored business development support, including incubation, acceleration, mentoring, and market	Prioritize outreach to women-led businesses and rural women for incubation programs Develop tailored business mentoring streams for women entrepreneurs	At least 40% of incubation participants are women, particularly from minority communities and rural areas	Project Management Unit, Country Offices coordination teams	

testing, to strengthen implementation readiness and sustainability.	Match women-led innovators with female mentors from the MBA Fellowship Programme Design flexible training schedules accommodating women's care responsibilities (evening/weekend sessions, childcare provision)	10 women-led enterprises receive customized support packages		$15,180
Output 2.2: Scalable adaptation innovations are connected to funding and financing opportunities and supported for integration into national systems, local service delivery, or relevant markets.	Support the integration of gender-inclusive innovations into policies, systems, and markets. Support grantees to integrate gender considerations into business plans, policy briefs, and investment pitches. Monitor and report sex-disaggregated results and empowerment outcomes Facilitate women entrepreneurs' participation in policy dialogues and ensure women representation in all roundtables	Number of policy or innovation frameworks influenced by supported innovations or incorporating gender-inclusive innovations At least 30% of integrated/scaled innovations are gender-inclusive. Annual reports include gender analysis and outcome narrative	M&E specialist, Gender Specialist	
Outcome 3: Knowledge, evidence, and lessons from adaptation innovations are captured, shared, and leveraged to inform replication, scale and policy engagement across the Western Balkans through regional learning platform and global networks.				
Objective	**Action**	**Indicator and Targets**	**Responsible Institution**	**Allocated Budget ($US)**
Output 3:				
Output 3.1: Regional knowledge exchange platforms and collaboration mechanisms are established to facilitate peer learning, cross-border dialogue, and community-of-practice engagement among adaptation actors.	Document and promote stories of women innovators and entrepreneurs Feature at least one gender-focused session in each regional event. Integrate gender-responsive adaptation tools into the regional digital knowledge space.	Number of regional knowledge-sharing events with content explicitly addressing gender and social inclusion. At least 5 case studies from the target countries, highlighting women-led adaptation innovations published Number of regional policy or knowledge platforms adopting gender-responsive or inclusive	Knowledge & Comms Team Knowledge & Comms Team	$55,000

		adaptation frameworks/tools developed under the project.		
Output 3.2: Insights, lessons learned, and good practices from adaptation pilots are systematically documented, synthesized, and disseminated to inform future programming and policy across countries.	Develop a regional synthesis report on gender in adaptation innovation Number of gender and social inclusion-focused learning briefs produced Facilitate webinars and podcasts focusing on gender in adaptation innovation.	1 gender and social inclusion-focused regional learning brief produced and disseminated At least 3 gender-focused webinars or podcasts hosted over project life.	Knowledge & Comms Team, Gender specialist	

UNDP CO Serbia - Stakeholder consultations

in the process of drafting the Regional Initiative aimed at accelerating Innovation for Adaptation to Climate Change in the Western Balkans

Time: June 25th 2025, 10-12 am

Venue: UN house, Belgrade, Serbia, and via zoom platform

Participants: Representatives of the Ministry of Environmental Protection, Hidromet Service, Public forestry companies Srbijasume and Vojvodinasume, National Park Tara, Local self-governments, Standing Conference of Towns and Municipalities, private companies, CSOs, National Innovation Fund, regional development agency, UNDP representatives (team dealing with CC adaptations, joined by the UNDP's gender expert).

Background

On June 25th 2025, the United Nations Development Programme (UNDP), in collaboration with the Ministry of Environmental Protection convened a stakeholder consultation workshop in order to discuss the Regional Initiative aimed at accelerating Innovation for Adaptation to Climate Change in the Western Balkans. UNDP conducted the stakeholder consultations in a hybrid format involving 17 participants (8 in person and 9 online) – list of participants provided in the Annex 1.

Key Highlights

- **Strategic Timing**: The preparation of the regional initiative coincides with start of the implementation of second phase of the Serbia's GCF funded project "Advancing medium and long-term adaptation planning in the Republic of Serbia" (NAP project). The National Climate Change Adaptation Programme (CCA Program) was adopted in December 2023, and its first three-year Action plan is in the middle of implementation. Regional Initiative carries potential for synergizing with NAP and augmenting the effects of planned adaptation measures.
- **Institutional Participation**: The event gathered 15 stakeholders, including representatives from the Ministry of Environmental Protection - focal point for climate change adaptation, representatives of public and private institutions, and CSOs. All actors carry potential to contribute to and have stakes at the CCA programming and implementation process.
- **The view of the initiative's approach**: Active adaptation measures on local level, with focus on NbSs, DRR and droughts, are needed in order to increase resilience to climate change. The participants perceived regional cooperation as very beneficial, since countries in the region experience very similar climate change patterns, while sharing

similar environmental, socio-economic, and institutional backgrounds. Solutions generated by regional initiatives could be multiplied across the region, while they could also involve regional cooperation in the implementation (either through cross border cooperation, or through cooperation of entities sharing similar jurisdictions in countries of the region).

Main points of discussion:

- Focus on **local level initiatives** should be prioritized. The initiative should support local actors, including CSOs, LSGs, public & private companies, protected area managers etc. since they know best their local needs and the effects of the climate change that are already observed.
- As identified by the National CLmiate Change Adaptation Progrmme (the NAP), the initiative should particularly promote the rights of **vulnerable groups** (elderly people, poor people, rural population, outdoor workers) and **particularly vulnerable groups** (children, pregnant women, patients suffering from chronical diseases, people with disabilities) e.g. through evaluation criteria. The initiative should particularly strengthen the women-led entrepreneurship through their participation in the Challenge Calls. The Call should be widely promoted among partners and potential beneficiaries, such as: associations of rural women, small farms, Office for Roma Inclusion in Vojvodina (being proactive office), at the municipalities level - local Roma coordinators, as well as among the youth groups (the participants stressed the importance of understanding the relations between the mental health of young people and changing climate conditions).
- The initiative should particularly involve **vulnerable sub-regions** that are often less inhabited. Call/s do not need to focus on special sub-regions of the countries, however additional points should be planned in the evaluation for vulnerable regions/ underdeveloped municipalities.
- When it comes **approaches** to adaptation measures to be solicited through public call/s, the initiative should prioritize support to **NbSs**, regional cooperation on DRR (including strengthening the inclusion of CC considerations into DRR) and dealing with droughts.
- **Regional exchange among countries** will be very valuable, since some countries have more experience in certain aspects of climate adaptation compared to others, e.g. Serbia has experience with floods management, but could benefit from approaches of other countries in dealing with droughts.
- The call/s for proposals could encourage **regional cooperation** in the implementation of the adaptation measures (e.g. cross-border cooperation, or partnerships among wetland areas, etc). Potential administrative obstacles (e.g. exemptions from VAT etc) should be taken into account.
- **Priority areas**:

    - Sectors affected by Droughts: reduction of use of groundwater e.g. for irrigation in agriculture, rational use of water across sectors, use captured atmospheric water instead of groundwater, reduce water pollution.
    - Forestry: focus on resilient composition of forests, maintenance in years after planting trees, urban forests.
    - Integrate climate change better into DRR measures.
    - Nature-based solutions for climate resilience (e.g. wetlands restauration).
    - Increased resilience of health sector to climate stress: e.g. reduce impacts on outdoor professions and socially vulnerable groups.
- The **distribution of support** (grants) should take into account the size, vulnerability and existing needs of target areas. Serbia is a country with the greatest vulnerability in the region, given the size of the population affected, dependence on vulnerable sectors like agriculture, and projected climate conditions that will aggravate the situation.
- Some of criteria for determining the adequate **size of the grant support** to be awarded to the proposed adaptation measures: minimum support to active measures should be 30k grants, with this amount CSOs are able to implement meaningful actions. The support should **plan for the fees compensating the work of grant recipients,** as well as **unforeseen costs**.
- Informal groups could be involved through promotion of partnerships with lead applicants, as appropriate (due to capacity constrains).
- The grant support should include the awareness raising actions, in addition to active measures.
- In case of support to local self-governments, the project needs to consult with the relevant institutions (e.g. The Ministry of Environment) in order to avoid overlapings while ensuring complementarity.
- **Synergy** with other relevant projects should be reconsidered: IUCN projects contributing to the implementation of the Green Agenda and NbSs, CSO projects (such as “Young Researchers of Serbia”) etc. The question about sub granting has been raised by CSOs during the discussions.
- Based on lessons learned (e.g. UNDP work on circular economy and decarbonization) the experience, **participants agreed that promotion of partnerships with academia** could bring innovation and other multiple benefits.

Conclusion

The workshop reaffirmed the importance of regional approach to implementing CCA initiatives, emphasizing the need to focus on local-level actions, vulnerable populations, and priority sectors that are particularly impacted by climate change—such as agriculture, water management, forestry, disaster risk reduction, nature conservation, and public health. The design of future calls for proposals and their evaluation criteria should reflect these priorities to ensure that the most urgently needed initiatives—especially those targeting the most vulnerable groups, sectors, and

communities—receive support. The project needs to consider a wide range of stakeholders and potential beneficiaries, including civil society organizations, local self-governments, public and private companies, managers of protected areas, and farming households. The allocation of support should be guided by considerations of the size, vulnerability, and specific needs of the targeted project areas.

Annex 1

List of participants

Name	Institution	In person /online	Contact
Ana Repac	Ministry of Environmental Protection, focal point for CCA	In person	ana.repac@eko.gov.rs
Jovana Planojević	Ministry of Environmental Protection	In person	jovana.planojevic@eko.gov.rs
Goran Pejanović	Republic Hidromet Service	Online	goran.pejanovic@hidmet.gov.rs
Ivana Lozjanin	PC Vojvodinasume	In person	ivana.lozjanin@sgsmitrovica.rs
Ivana Vasic	PC Vojvodinasume	Online	ivana.vasic@vojvodinasume.rs
Djordje Mancic	Private company Bojen	Online	djordjemancic@yahoo.com
Jana Pavlovic	Standing Conference of Towns and Municipalities	Online	Jana.Pavlovic@skgo.org
Milka Gvozdenović	Young Researchers of Serbia	Online	milka@mis.org.rs
Zvonimir Baković	PC Srbijasume	Online	
Marijana Josipović	National Park Tara	In person	majajosipovicb@gmail.com
Ivana Berić	Innovation Fund	Online	Ivana.Beric@inovacionifond.rs
Svetlana Drakul	City of Uzice	Online	svetlana.drakul@uzice.rs
Milica Živković	Fisherman Association Deliblatsko Jezero	In person	milica.zivkovic.edu@gmail.com
Zorica Korac	UNDP Portfolio Manager	In person	zorica.korac@undp.org
Emilija Orescanin	UNDP Project Assistant	In person	emilija.orescanin@undp.org
Maja Đundić	UNDP gender specialist	Online	maja.djundic@undp.org

Stakeholder consultation meeting in reference to the regional climate change adaptation and innovation project

1. Key Considerations to Influence Project Design

When designing this project, it is crucial to prioritize sectors where climate vulnerabilities are most pressing and where innovation can have the greatest impact. Agriculture, water resource management, and urban resilience stand out as primary areas for focus. The project's structure should enable not only the development of innovative ideas but also their practical implementation, even at modest funding levels.

To measure success effectively, we need to develop robust indicators and baselines that capture data disaggregated by gender, age, disability, and other vulnerability factors. This will ensure a nuanced understanding of impact across diverse groups. Flexibility is important to allow participation from a wide range of municipalities, while still making sure that underserved and vulnerable communities receive adequate support.

Local political leadership will be a key factor in project success; proactive engagement with mayors and municipal authorities is essential, particularly as leadership changes can impact continuity. Including gender expertise within the project team will help address gender imbalances and other social vulnerabilities. Additionally, actively involving youth and collaborating closely with universities and academic institutions will enhance innovation and promote sustainability.

2. Target Communities

The project's beneficiaries must be carefully chosen to include those most vulnerable to climate change impacts and often marginalized in decision-making processes. Rural women involved in agriculture and food production are a critical group; despite frequently being excluded from formal decisions, they are innovators who face and respond to daily climate challenges. Youth also represent a vital force, bringing fresh ideas and energy to adaptation efforts.

Beyond gender and age, the project should encompass other vulnerable populations such as persons with disabilities, the elderly, children, Roma, and other marginalized groups. Small-scale farmers and local food producers who are directly exposed to climate risks require focused support. Finally, urban populations, especially those living in high-risk neighborhoods prone to heat islands and pollution, must not be overlooked.

3. Key Regions to Focus On

Geographically, the North-East Region stands out as the most vulnerable and underserved area, lacking access to the cross-border funding opportunities available to other parts of the country. It requires targeted interventions to build resilience.

Skopje, the capital city, faces significant urban climate pressures including heat islands and infrastructure stress, and thus merits dedicated attention as a priority zone. Cross-border municipalities near Greece and Bulgaria are comparatively better supported through EU cooperation programs but remain important players in regional climate adaptation efforts.

Other regions like Prespa and Polog present unique environmental challenges and offer successful examples of women-led, sustainable development that can inspire broader replication. Finally, the project should prioritize municipalities with proactive leadership, ensuring that those willing and able to engage receive adequate support to maximize impact.

4. Key Gender Issues

Gender imbalance is a deeply rooted challenge, particularly in agriculture and food production. Men predominantly own property and control family income, which results in women being excluded from many decision-making processes. However, women are often at the forefront of developing innovative solutions since they directly experience and manage climate-related challenges in their daily lives.

The project must go beyond focusing solely on gender and adopt an inclusive approach that addresses the broader needs of all vulnerable groups. To effectively embed this inclusivity, involving a gender expert will be vital to guide the design and implementation of equitable interventions. Additionally, gender-disaggregated data collection and monitoring will be necessary to track progress and ensure accountability.

5. Partnerships and Stakeholders

Strong and diverse partnerships will be fundamental to the project's success. Local governments and municipal leaders—especially those who demonstrate commitment to climate adaptation—will play a central role. Civil society organizations, particularly those engaged in climate resilience, gender equality, and social inclusion, will be key partners.

Universities and academic institutions can provide technical expertise, foster innovation, and facilitate youth engagement. Regional development agencies and governmental bodies will support capacity building and infrastructure investments. The private sector, notably in agriculture, biotechnology, and green technologies, will also contribute essential resources and innovation. Finally, engaging vulnerable communities as active partners will ensure that solutions are grounded in real needs and have local ownership.

6. Innovation & Scalability

The project aims to foster innovations that are not only effective but also affordable and scalable. Examples include hydroponic systems that reduce water consumption, as well as biotechnological advances in organic food production and bio-waste processing. Training centers and capacity-building programs will empower women, youth, and marginalized groups, helping to embed ownership and ensure long-term sustainability.

All projects should be designed with strong monitoring and evaluation frameworks, enabling adaptive learning and measurement of both innovation effectiveness and social impact. Encouraging partnerships across municipalities, academic institutions, NGOs, and the private sector will maximize resource mobilization and support the replication of successful models.

Ultimately, the project seeks financial self-sustainability to facilitate scaling across regions and sectors, ensuring lasting benefits beyond the grant period.

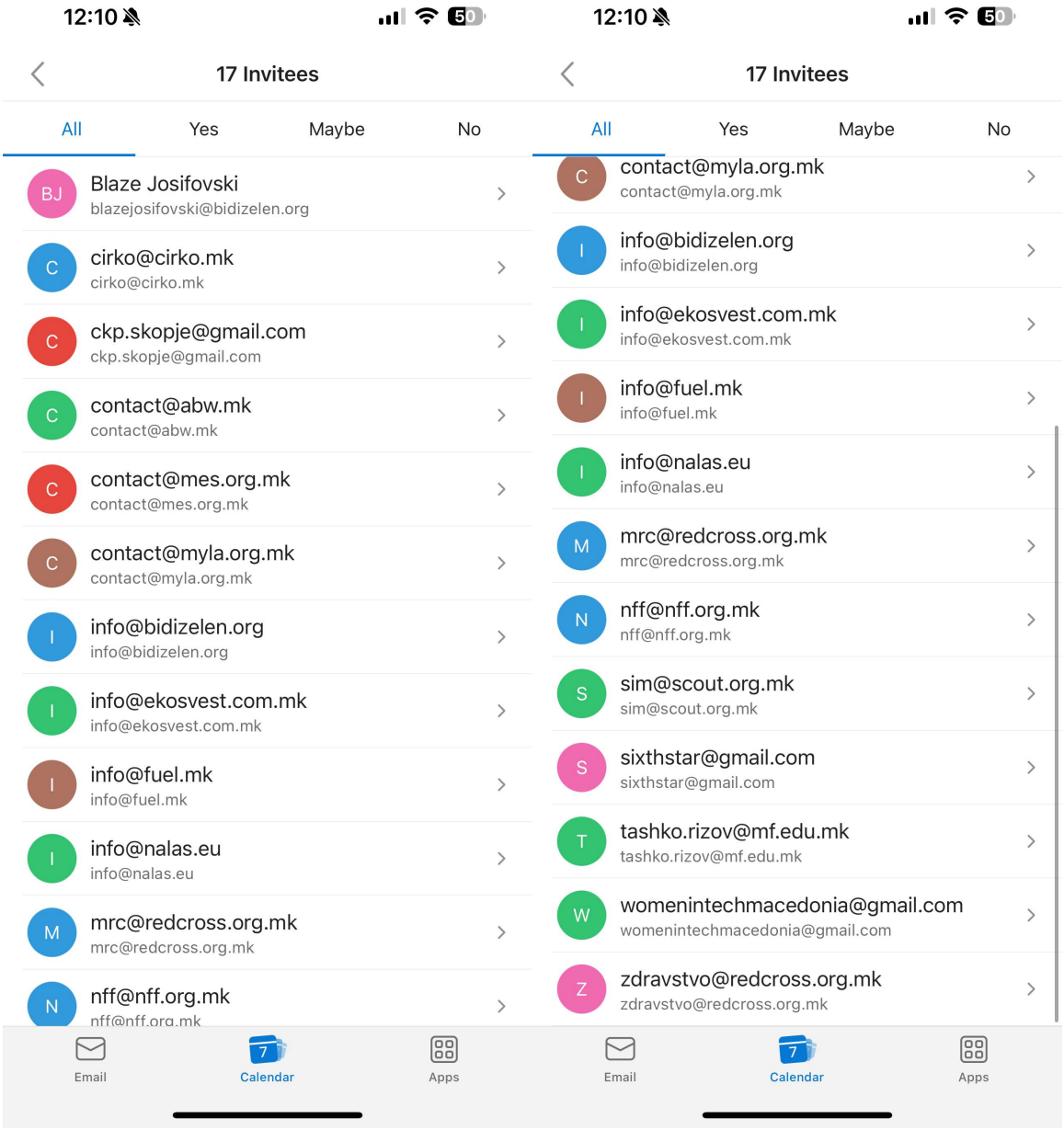
The meeting included representatives from academia (Mechanical University), the Center for Climate Change, and various civil society organizations such as Six Star, Go Green, the Red Cross, and Association for young lawyers.

The meeting was conducted by:

Aleksandra Dimova Manchevska, Project Manager

Ljubica Teofilovska, Project Manager

Kristina Plecic, Gender Specialist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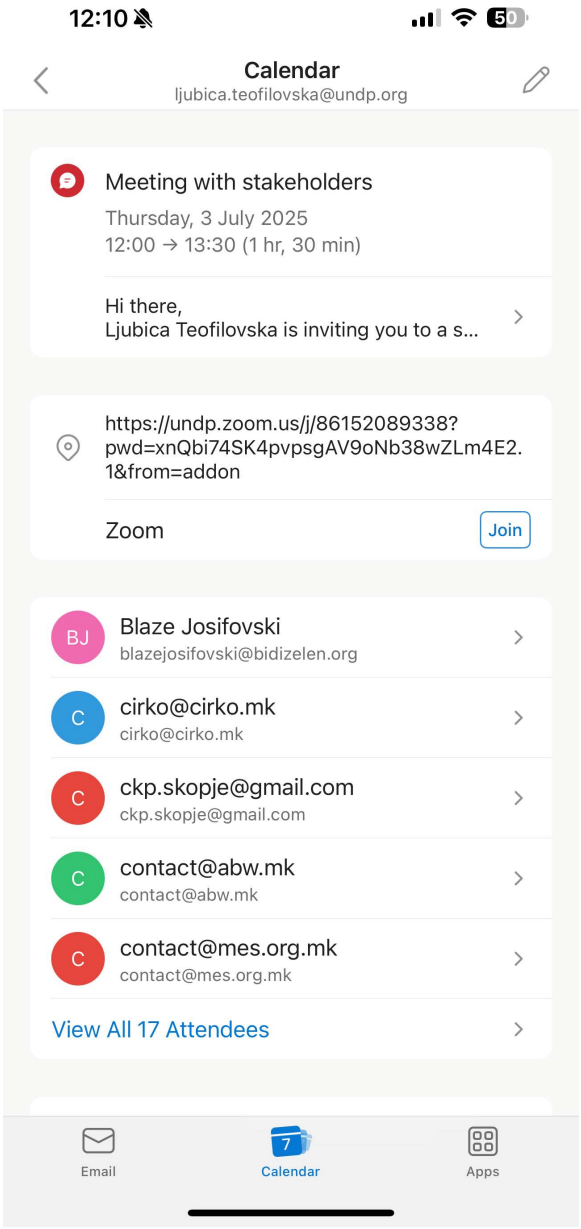
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ljubica.teofilovska@undp.org
Meeting with stakeholders
Thursday, 3 July 2025
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Consultation Summary Report

Preparation of the Regional Initiative for Accelerating Innovation for Adaptation to Climate Change in the Western Balkans

Reporting Period: Early June – 4 July 2025

During the reporting period, a series of consultations were held both in person and online. Meetings included representatives of:

- Local self-governments
- Consultancy firms specializing in business support (business planning, management, advisory services)
- Project teams implementing similar activities
- Ministry representatives
- UNDP representatives (teams working on climate change issues)

This document summarizes the key considerations, findings, and recommendations arising from these consultations.

1. Alignment with Ongoing National Processes

Participants emphasized the importance of aligning the Regional Initiative with several ongoing strategic and policy processes:

- **National Adaptation Plan (NAP)** – planned for adoption at the Government session on 3 July 2025.
- **Low-Carbon Development Strategy** – in preparation.
- **Finalisation of the National Climate and Energy Plan.**
- **Nationally Determined Contribution (NDC).**

All these frameworks include **financial needs assessments**, identify **funding gaps**, and highlight the essential role of the **private sector** in adaptation financing.

Recommendation:
Ensure the proposal is explicitly positioned to complement these processes, focusing on two critical challenges:

- **Limited capacities** to prepare high-quality project proposals to access financing.
- **Lack of funding** to pilot innovative adaptation solutions.

2. Institutional and Local Capacities

- Institutions at the national level possess some capacities for project preparation and climate change adaptation (CCA) implementation but are limited in scale and scope.
- Local governments, micro and small enterprises (MSPs), and NGOs often **lack essential skills** in proposal development, adaptation planning, and accessing funding opportunities.

Recommendation:
Design the grant program to be **paired with technical support and mentoring**, ensuring that recipients can both access and effectively implement funding.

3. Private Sector Engagement and Business Development Support

Two interviewed business consultancy companies highlighted that climate change impacts are **not systematically integrated** into their service portfolios. CC considerations arise only in **rare, specific cases** (e.g., assessing snowmobile rental business viability). The reasons cited include:

- Lack of accessible and understandable climate data (GHG inventories, projections).
- Limited demand from financial institutions to consider climate risks.
- Limited client awareness of CC-related risks and opportunities.

Recommendation:

- Target **business consultancy firms and professionals** developing business plans as a priority group for **capacity building**.
- Develop training modules on integrating climate change considerations into business development services and investment planning.

4. Local Governments' Role

Local government representatives expressed interest in **supporting small businesses**, especially in agriculture and tourism—sectors particularly vulnerable to climate change. Many municipalities already operate **local support schemes**, but these often lack climate adaptation criteria.

Recommendation:

- Engage municipal secretariats responsible for **business support** and **NGO cooperation** to build capacities in designing and delivering adaptation-focused support programs.
- Promote the integration of climate adaptation objectives into existing local funding schemes.

5. Environment Fund Involvement

The Fund for Environmental Protection is currently piloting **small-scale grants for climate change projects** and could play multiple roles in implementation:

- Service provider (grant disbursement and monitoring).
- Beneficiary of capacity building to strengthen institutional readiness and systems.

Recommendation:
Explore a partnership approach with the Fund, maximizing its reach and experience while investing in further capacity development.

6. Gender Considerations and Vulnerable Groups

The consultations emphasized the need to:

- Build on **UNDP Gender Program good practices**.
- Ensure synergy with initiatives such as the **EmpowerHer** project supporting women in rural areas.
- Align with the **Zakon o rodnoj ravnopravnosti** (Law on Gender Equality), which highlights the importance of integrating gender considerations in climate policies and actions.

Recommendation:

- Incorporate **gender-responsive approaches** in capacity building and grant schemes.

- Establish specific measures to reach **women-led businesses** and vulnerable groups.

7. Coordination with Other Initiatives

Participants highlighted the importance of coordinating closely with **local-level interventions** to avoid duplication and leverage synergies. Relevant initiatives include:

- **GORA Project** (focused on reforestation and ecosystem services).
- **GEF-7 funded projects** on biodiversity and climate change adaptation.

Recommendation:

- Develop a coordination mechanism with these and similar projects to **share lessons learned**, jointly deliver trainings where appropriate, and align outreach to target communities and businesses.

Overall Recommendations

Based on consultations, the following recommendations are proposed to guide the next phase of project design and preparation:

1. **Ensure full alignment with national policy frameworks** (NAP, NDC, Low-Carbon Strategy).
2. **Pair grant funding with technical support and mentoring** to address capacity gaps.
3. **Prioritize business development professionals and consultancies** as key capacity building beneficiaries.
4. **Empower local governments** with tools and knowledge to integrate adaptation into economic development support.
5. **Partner with the Environmental Protection Fund for** to leverage existing mechanisms and build capacity.
6. **Systematically integrate gender considerations** and target vulnerable groups.
7. **Coordinate with ongoing projects and initiatives** to enhance impact and avoid duplication.

List of consulted persons/Institutions:

1.	Slobodan Delić	Mayor of Plužine municipality
2.	Zoran Dabetić	AF NDA, Ministry of Ecology, Sustainable Development and Northern Region Development
3.	Sanja Elezović	National gender specialist
4.	Jovana Drobnjak	Project manager, Ministry of Ecology, Sustainable Development and Northern Region Development
5.	Marija Tripunović	GEF 7 project manager, Ministry of Ecology, Sustainable Development and Northern Region Development
6.	Marko Nišavić	CEO at Berza; Director of Entrepreneurial Nest at UDG
7	Miloš Ivanišević	Municipality Cetinje, project and business support unit
8	Boban Šćepanović	Co-Founder - TravelAizer

9	Marija Raspopović	Head of payment directorate, Ministry of Agriculture, Forestry and Water Management
10	Nemanja Peković	Deputy, Eco Fund
11	Milena Bataković	Agency for environment protection
12	Dražen Blažić	Co-Founder at ICL Montenegro; business support and development
13	Branka Knežević Jovana Vukčević Danijela Radeč	Podgorica, Secretariate for entrepreneurship and investments Secretariat for spatial planning and sustainable development
14	Marko Žižić	Nikšić, regional coordinator GORA project
15	Mayors team	Danilovgrad, Secretariat for economic development, Secretariat for urbanism and environment protection, Secretariat for agriculture and rural development.

Consultation meeting minutes Bosnia and Herzegovina (BIH)

Teams meeting, June 30

Accelerating Innovation for Adaptation in the Western Balkans Regional Project

The consultations on the Accelerating Innovation for Adaptation in the Western Balkans Regional Project were formally held with a group of stakeholders from Bosnia and Herzegovina.

Participants who joined the meeting represented ministries, academia, development agencies, private and NGO sector.

More precisely they come from the following institutions:

- Federal Ministry of Environment and Tourism
- Federal Hydrometeorological Institute
- Republic Hydrometeorological Institute of Republika Srpska
- University of Banja Luka - Mechanical Engineering Faculty
- University of Banja Luka - Faculty of Technology
- University of Sarajevo – Faculty of Economics and Business
- Mreza Progrenih Inicijativa (MPI) - NGO
- Razvojna Agencija Republike Srpske – Development Agency of Republika Srpska
- Privredna Komora RS – Chamber of Commerce of Republika Srpska
- Intera – Technology Park
- REDAH – Regional development agency for Herzegovina

The meeting started with a short introduction of the UNDPCO BIH team and explaining the window of opportunity for this project.

Ms. Raduska Cupac, UNDP Energy and Environment Sector Leader, presented details of the project proposal as per attached Presentation.

Special focus was given to addressing added values for BiH's involvement in this large regional project and importance of gender sensitive approach in all activities.

In addition, due attention was given to presenting the possible forms of engagement of each sector individually (government, academia, non-government and private sector) and types/ value of grants which will be available.

After the presentation Q&A session started resulting in the following feedback and questions:

Mr. Mustafa Copelj (Federal Ministry of Environment and Tourism) commended the initiative and acknowledged the complex situation in Bosnia and Herzegovina. He highlighted the need for clear administrative steps and institutional support to ensure the opportunity is fully utilized.

Ms. Raduska Cupac clarified that this initiative is based on the previous good experience between Adaptation Fund and UNDP and UNDP regional office in Istanbul decided to proceed with development of this regional project. She expressed sincere gratitude for the recognition of four countries, including BiH, and emphasized the team's strong commitment to successful implementation.

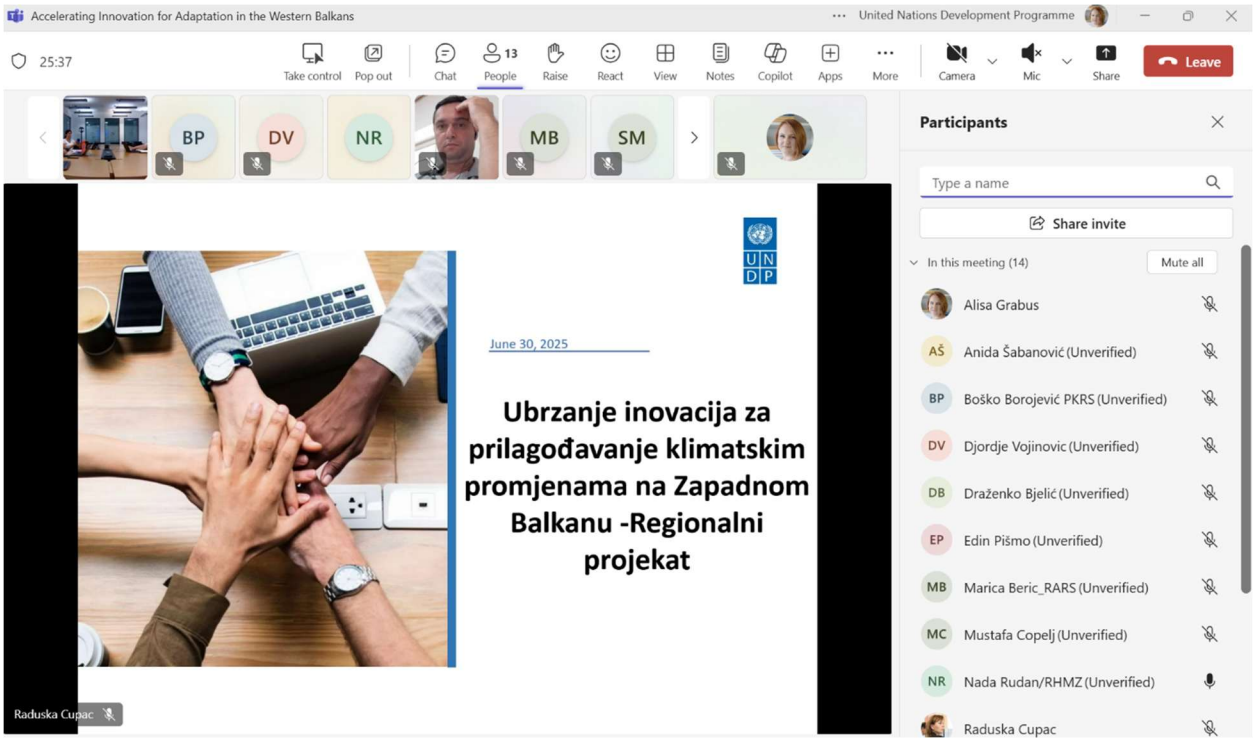
Ms. Marica Berić, Development Agency of Republika Srpska, thanked the presenters and asked if development agencies are eligible to apply. Raduska confirmed they would be.

Ms. Anida Šabanović (NGO MPI) thanked the organizers and stressed the importance of involving local actors and the broader society. She asked whether NGOs would apply through national or regional UNDP channels.

Ms. Raduska Cupac explained that the plan is to have one or more country or regional calls (still to be decided) until all funds are allocated. Regional collaboration will not be mandatory, but it might be encouraged if increases competitiveness and adds value to proposals.

Ms. Alisa Grabus added that while this is a regional project, standard UNDP procedures will still apply, and the team will ensure optimal use of funds and allocations for BIH beneficiaries.

Ms. Raduska Cupac concluded that the next step is to discuss the initiative with the Ministry of Finance and Treasury of BiH for official endorsement and confirmed that the team remains available for further questions.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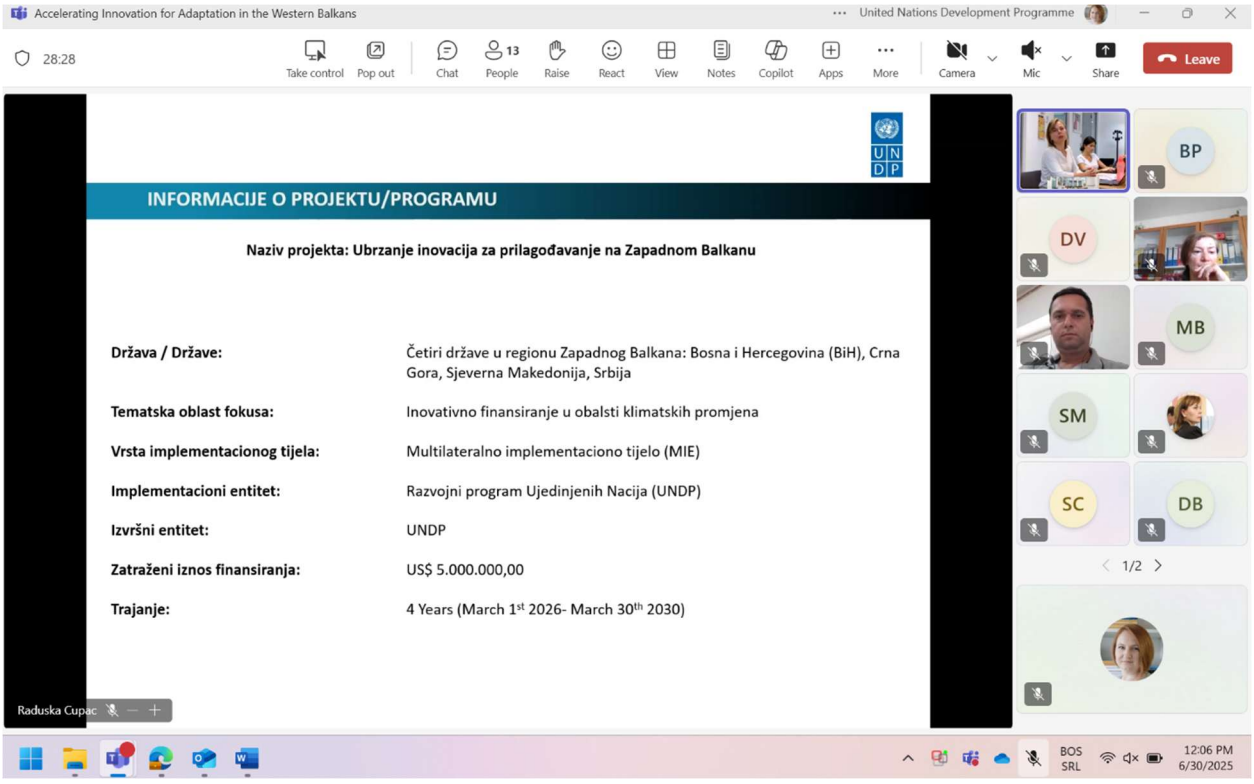
Raduska Cupac
June 30, 2025
Ubrzanje inovacija za prilagođavanje klimatskim promjenama na Zapadnom Balkanu -Regionalni projekat
Raduska Cupac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INFORMACIJE O PROJEKTU/PROGRAMU
Naziv projekta: Ubrzanje inovacija za prilagođavanje na Zapadnom Balkanu
Država / Države: Četiri države u regionu Zapadnog Balkana: Bosna i Hercegovina (BiH), Crna Gora, Sjeverna Makedonija, Srbija
Tematska oblast fokusa: Inovativno finansiranje u obalsti klimatskih promjena
Vrsta implementacionog tijela: Multilateralno implementaciono tijelo (MIE)
Implementacioni entitet: Razvojni program Ujedinjenih Nacija (UNDP)
Izvršni entitet: UNDP
Zatraženi iznos finansiranja: US$ 5.000.000,00
Trajanje: 4 Years (March 1st 2026- March 30th 2030)
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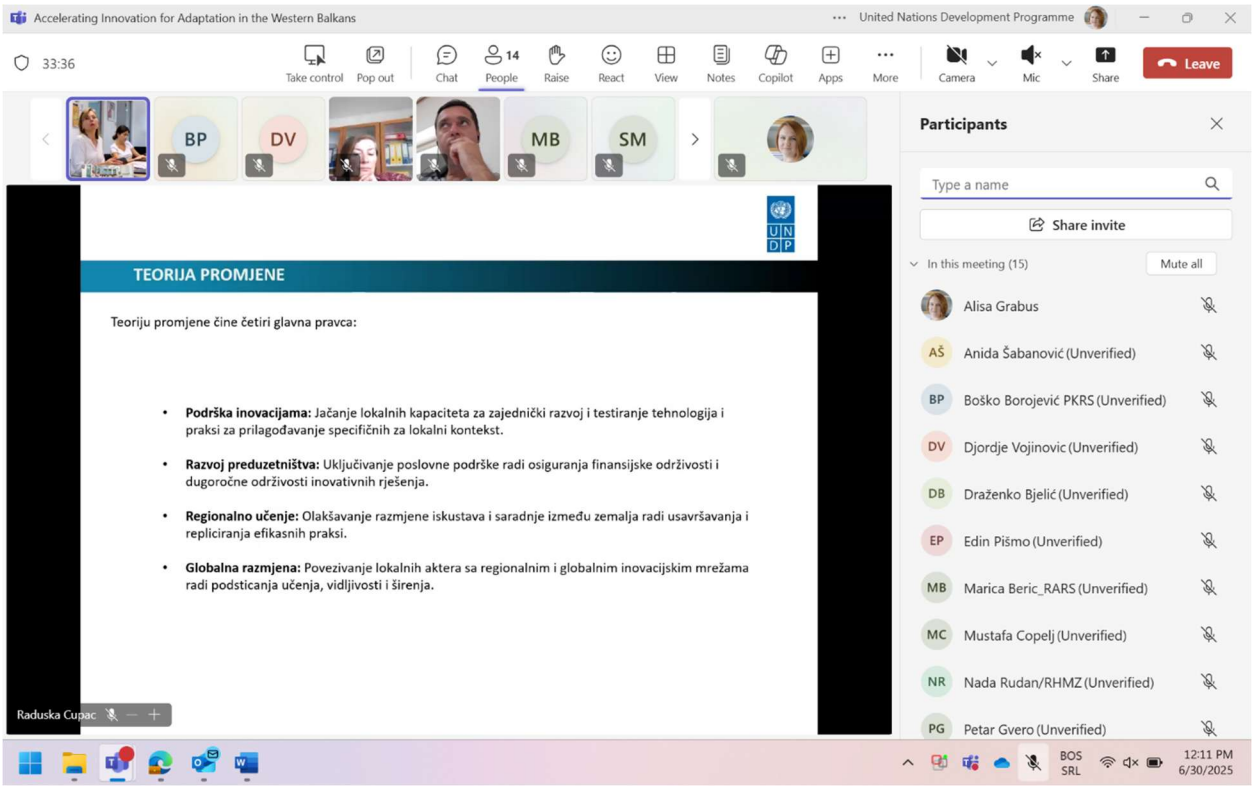
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Teoriju promjene čine četiri glavna pravca:
Podrška inovacijama: Jačanje lokalnih kapaciteta za zajednički razvoj i testiranje tehnologija i praksi za prilagođavanje specifičnih za lokalni kontekst.
Razvoj preduzetništva: Uključivanje poslovne podrške radi osiguranja finansijske održivosti i dugoročne održivosti inovativnih rješenja.
Regionalno učenje: Olakšavanje razmjene iskustava i saradnje između zemalja radi usavršavanja i repliciranja efikasnih praksi.
Globalna razmjena: Povezivanje lokalnih aktera sa regionalnim i globalnim inovacijskim mrežama radi podsticanja učenja, vidljivosti i širenja.
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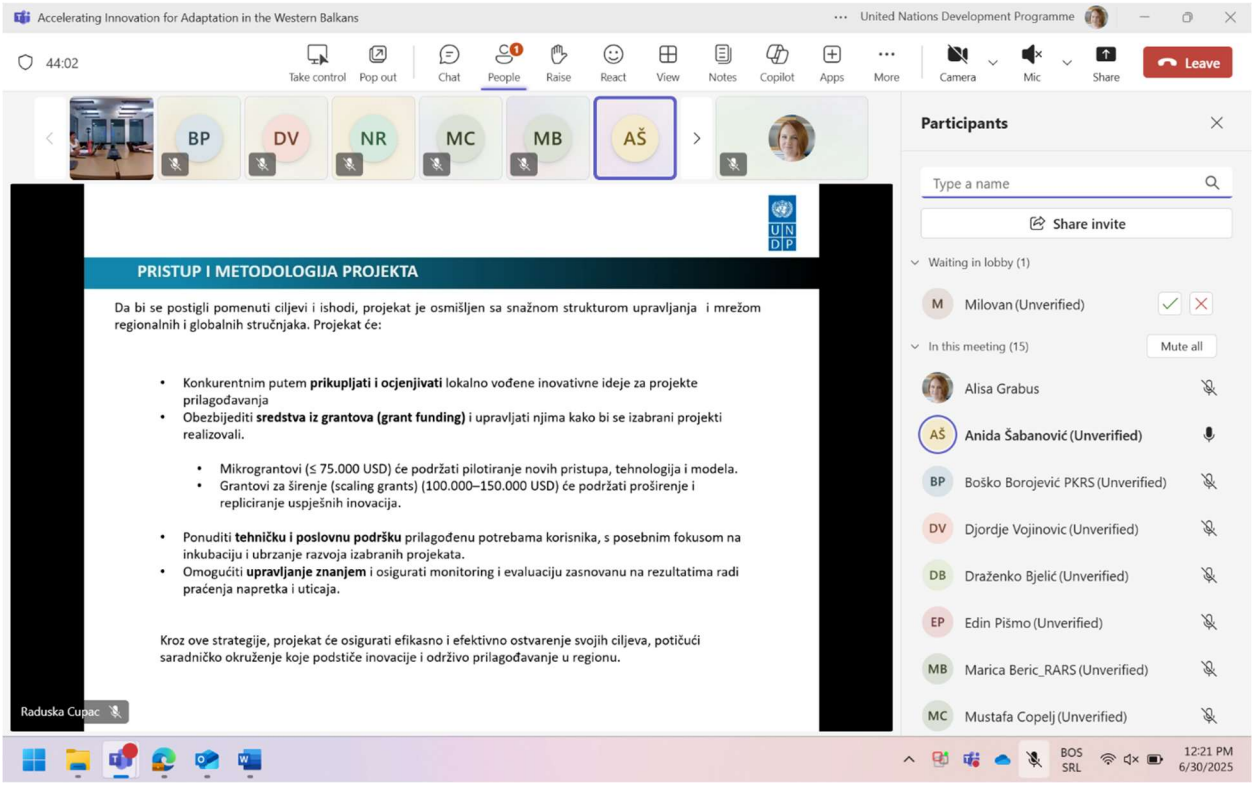
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PRISTUP I METODOLOGIJA PROJEKTA
Da bi se postigli pomenuti ciljevi i ishodi, projekat je osmišljen sa snažnom strukturom upravljanja i mrežom regionalnih i globalnih stručnjaka. Projekat će:
Konkurentnim putem prikupljati i ocjenjivati lokalno vođene inovativne ideje za projekte prilagođavanja
Obezbijediti sredstva iz grantova (grant funding) i upravljati njima kako bi se izabrani projekti realizovali.
Mikrograntovi (≤ 75.000 USD) će podržati pilotiranje novih pristupa, tehnologija i modela.
Grantovi za širenje (scaling grants) (100.000–150.000 USD) će podržati proširenje i repliciranje uspješnih inovacija.
Ponuditi tehničku i poslovnu podršku prilagođenu potrebama korisnika, s posebnim fokusom na inkubaciju i ubrzanje razvoja izabranih projekata.
Omogućiti upravljanje znanjem i osigurati monitoring i evaluaciju zasnovanu na rezultatima radi praćenja napretka i uticaja.
Kroz ove strategije, projekat će osigurati efikasno i efektivno ostvarenje svojih ciljeva, potičući saradničko okruženje koje podstiče inovacije i održivo prilagođavanje u regionu.
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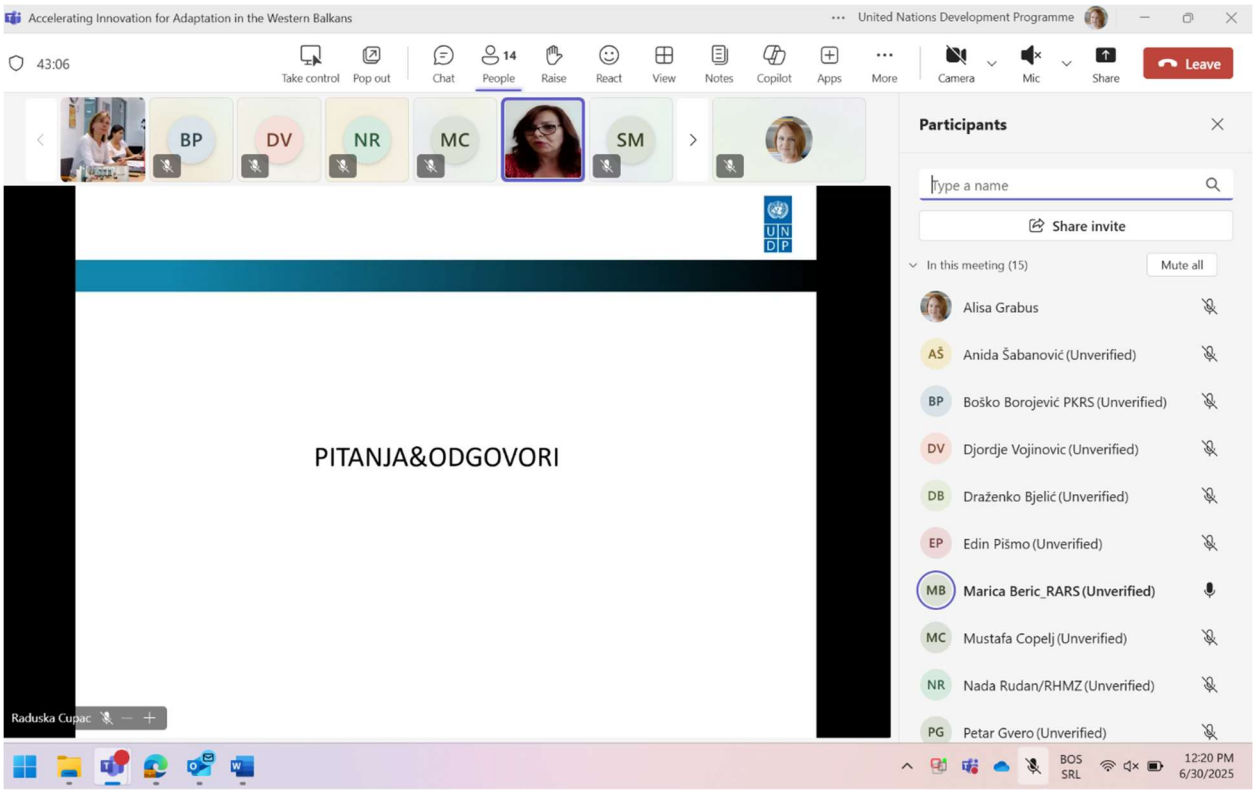
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Annex 10

Climate Change Analysis: Climate Risk and Climate Change Vulnerabilities in the Western Balkans Region

The Western Balkans region experiences a variety of climates due to its diverse, mountainous and riverine geography, including Mediterranean, continental, and alpine influences (Figure 4). Northern and central areas have cold winters and warm summers with consistent rainfall. Coastal and southern areas, particularly along the Adriatic Sea, have a Mediterranean climate with hot, dry summers and mild, wet winters. Inland, the climate is generally continental, with cold winters, warm summers, and well-distributed rainfall. Alpine climates are found in higher mountain areas throughout the region. Climate change is already impacting all four partner countries of the Regional Project,- with increasing, more intense and unpredictable severity, generating more frequent and extreme weather events, including heatwaves, drought, and heavy rain, as described in the country summaries below.

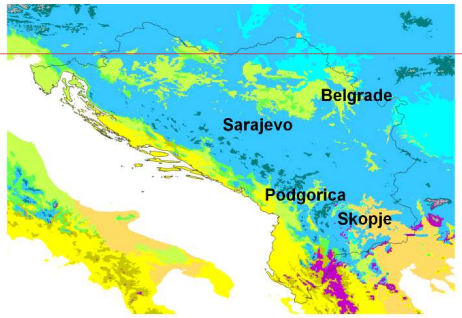

Figure 1. Climate Map of the Western Balkans Region. Present day climates (1980-2016) according to the Köppen-Geiger classification on a 1km resolution according to (Beck, et al., 2018) (adapted by ClimaProof).

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This analysis discussed the current status, observed change, and projected future status of climate change in the Western Balkans region. Values for the period 1961-2015 are analyzed, drawing extensively on the Regional Cooperation Council's (RCC)[1] landmark study of climate change in the region (hereafter, "RCC (2018)"),[2] which defines the period 1961-1980 as the "past" climate baseline period, and 1996-2015 as the "present" climate period.[3] Use of 20 years for climatological period is in accordance with IPCC AR5[4].

1 The Regional Cooperation Council (RCC) is an all-inclusive, regionally owned and led cooperation framework for South-Eastern Europe (SEE), with a view to promoting and advancing the European and Euro-Atlantic integration of the region. Available at: https://www.rcc.int/home.

2 RCC (2018). Vuković, Ana, Mirjam Vujadinović Mandić, Radovan Nikčević, Gazmend Turdiu, *Study on Climate Change in the Western Balkans Region*, Regional Cooperation Council (RCC) Secretariat, Bosne i Hercegovine, Sarajevo. Available at: https://www.rcc.int/download/docs/2018-05-Study-on-Climate-Change-in-WB-2a-lowres.pdf.

3 Ibid., p. 19.

4 RCC (2018), p. 19.

Current Climate Status

1) Temperature (12-19°C Average Annual)

Average temperature for the whole region in the present climate period (since 1996) is 10.9°C.[5] The Northern and Central Areas of the Western Balkans typically experience cold winters, warm summers, and well-distributed rainfall throughout the year. The Southern and Coastal areas experience a Mediterranean climate, characterized by hot, dry summers and mild, relatively rainy winters. Average annual temperatures range from 12°C to 19°C, generally, with significant variations depending on location, altitude, and proximity to coast **(Figure 5).**

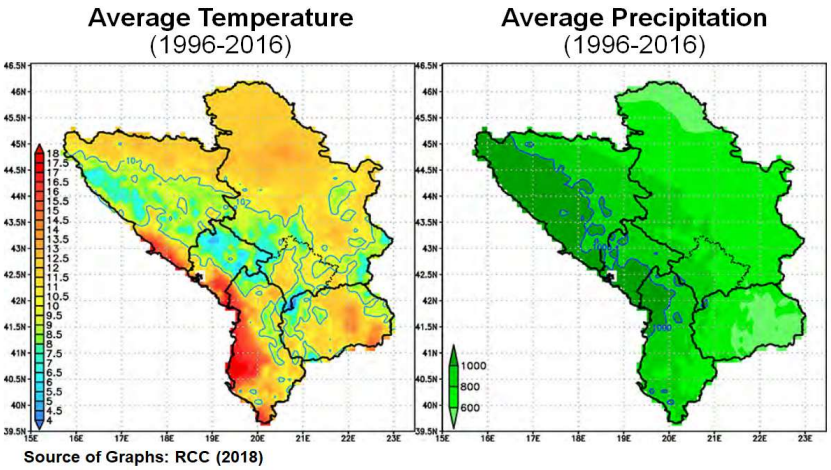


Figure 2. Current Temperature and Precipitation (1996-2016 Average) in Western Balkans Region.

In **Belgrade**, for example, at 117 meters above sea level and with the moderation of 200 kilometers of riverbanks of two rivers, the Danube and the Sava, average temperatures range from 0.4°C in January to 21.8°C in July, with the annual average about 12.2°C. In **Sarajevo**, by contrast, at 518 meters above sea level in the greater Sarajevo valley, surrounded by the Dinaric Alps and situated along the smaller Miljacka River, average annual temperatures range from -0.9°C in January to 19.7°C in July, with the annual average about 10°C. In more southerly and humid-continental **Skopje**, at 240 meters above sea level in Skopje Valley, surrounded by the Balkan Mountains and located along the Vardar River, noted for its powerful Vardaris prevailing northerly ravine wind and whose basin comprises two-thirds of the territory of North Macedonia, average annual temperatures range from 0°C or below in winter to a high of 30°C or more in the summer, with the annual average about 13°C. Finally, in low-lying, coastal **Podgorica**, at 40 meters above sea level, just north of cryptodepression Lake Skadar, at the confluence of the Ribnica and Morača rivers and of the fertile Zeta Plain and Bjelopavlići Valley, close to the Adriatic Sea and surrounded by hills, average annual temperatures range from 1°C in January to 35°C in July and August, with the annual average around 22.1°C.

5 RCC (2018), p. 19.

2) Precipitation (Variable: 800 to 5,000 mm Average Annual)

Average annual precipitation in the Western Balkans in the present climate period (since 1996) varies significantly, depending on location, altitude, and proximity to the coast, ranging from 600 mm to 5,000 mm, which greatly emphasizes the need for locally led adaptation solutions, which is the focus of this Regional Project. The northern parts of the region generally receive around 800 mm per year.[6] The drier, northern Pannonian Plain area, for example, receives average annual precipitation approximately of from 600 to 1,050 mm.[7] The southwestern coastal areas can experience up to 5,000 mm.[8] The Dinaric Mountains form a topographic barrier that affects the precipitation pattern of the Balkan Peninsula, with the west-facing side receiving large amounts of rainfall,[9] the mountainous areas, particularly the Dinaric Alps, receiving higher amounts of precipitation,[10] and the east-facing, agriculturally-endowed side semi-arid and in seasonal and increasing drought,[11] as shown in Figure 5.

Average annual precipitation in **Bosnia and Herzegovina**, for example, which has a continental climate, is approximately 1,028 to 1,250 mm,[12] while mountainous areas receive more, generally between 1,600 mm and 2,000 mm.[13] Rainfall has a slight seasonal distribution as well. Rainfall is relatively constant throughout the year, maximum rainfall often occurs in November or December. Sarajevo experiences on average 157 days per year with measurable precipitation, or consistent 13 days each month, roughly, of rain, sleet, or snow each month.[14] By contrast, average annual precipitation in **North Macedonia** is relatively light, ranging from 500 to 700 mm, though with significant regional variation.[15] Some areas, especially the southeast, with a more Mediterranean climate, receive as little as 400 mm and others, especially the western, central and northwestern mountainous areas, with a more continental climate, receive over 1000 mm.[16] Skopje, a low-lying, drier city in the rain shadow of the Dinaric Alps, experiences an average of 104

6 For example, "normal annual precipitation" for Serbia is 896 mm. Source: Milosevic, Dragan; Stevan Savic (2013). "Analysis of Precipitation Quantities and Trends from Pannonian and Peripannonian Parts of Serbia", *Dela* 39, 2013, 125–139. December 2013. DOI:10.4312/dela.39.7.125-139

7 Ibid., p. 126, 129.

8 Republic of Montenegro (2015). *The Second National Communication on Climate Change to the United Nations Convention on Climate Change (UNFCCC)*, February 2015, p. 43. "The average annual precipitation ranges from 800 mm in the far north to around 5,000 mm in the far southwest." For instance, the village of Crkvice on Mount Orjen in Montenegro is known to receive over 5,000 mm of rainfall annually, and in record years, can even reach 7,000 mm, high precipitation due to orographic rainfall, where moist air is forced upwards by mountains, leading to increased rainfall on the windward slopes. Source: Pavlović, P., Kostić, N., Karadžić, B., Mitrović, M. (2017). *Climate*. In: *The Soils of Serbia*. World Soils Book Series. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8660-7_3.

9 Pavlović, P., Kostić, N., Karadžić, B., Mitrović, M. (2017). *Climate*. In: *The Soils of Serbia*. World Soils Book Series. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8660-7_3.

10 Micić Ponjiger, Tanja, Tin Lukić, Robert L. Wilby, Slobodan B. Marković, Aleksandar Valjarević, Slavoljub Dragićević, Milivoj B. Gavrilov, Igor Ponjiger, Uroš Durlević, Miško M. Milanović, and et al. (2023). "Evaluation of Rainfall Erosivity in the Western Balkans by Mapping and Clustering ERA5 Reanalysis Data" *Atmosphere* 14, no. 1: 104. https://doi.org/10.3390/atmos14010104

11 Pavlović, P., Kostić, N., Karadžić, B., Mitrović, M. (2017). *Climate*. In: *The Soils of Serbia*. World Soils Book Series. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8660-7_3.

12 UNFCCC: Bosnia and Herzegovina, "Climate Characteristics". Available at: https://www.unfccc.ba/en/analize-en/klimatskekarakteristikebih-en

13 Vukmir, G., Stanišljević, L., Cero, M. Cacan, M., Marković, M., Rudež, M., Laganin, O., Kostić, R., Oprašić, S., Ćatović, S. and T. Lukić (2009). *Initial National Communication (INC) of Bosnia and Herzegovina under the United Nations Framework Convention on Climate Change (UNFCCC), p. 28, 77.* Available at: https://unfccc.int/sites/default/files/resource/INCBiH_ENG.pdf .

14 Climate.Top, "Rainfall/Precipitation in Sarajevo, Bosnia And Herzegovina". Available at: https://www.climate.top/bosnia/precipitation/.

15 Radevski, I., Hall, J., Gorin, S., Petrović, A., Kuzmanoski, A., Manevska, E., Ristevski, P. (2024). "Characteristics of annual and seasonal precipitation in North Macedonia: change analysis and correlation with the North Atlantic Oscillation (1951-2010)". *Időjárás* 128(1):75-98, March 2024. Available at: http://dx.doi.org/10.28974/idojaras.2024.1.5.

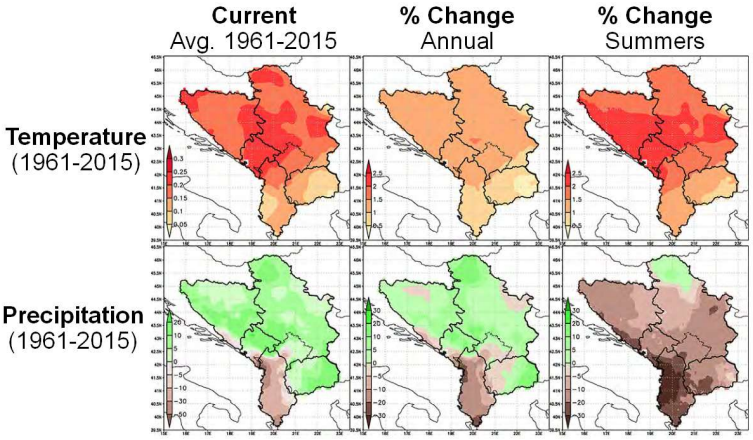
16 Ibid., p. 80. Also see: World Bank, "North Macedonia: Current Climate-Climatology", in Climate Change Knowledge Portal. Available at: https://climateknowledgeportal.worldbank.org/country/north-macedonia/climate-data-historical.

days per year with measurable precipitation, or an average 8.7 per month,[17] with October the wettest month and August the driest.

Observed Climate Change

Temperature (+1.2°C Average Rise)

1) Temperature (+1.2°C Average Rise) The Western Balkans region has already experienced a noticeable increase in average temperatures of 1.2°C,[18] compared to the baseline, pre-industrial climate period of 1961-1980,[19] with some areas experiencing a more pronounced warming trend, an increase in the number of days over 40°C,[20] and/or an increase in the frequency and severity of heatwaves. The observed mean annual temperature increase since the pre-industrial baseline period is approximately 2-2.5°C over the region, mainly in: Bosnia and Herzegovina, Montenegro and Serbia.[21] Moreover, the observed change in average *maximum* temperature increase has been far more pronounced than average minimum, with values of highest increase over 2.5°C, mostly over, in Bosnia and Herzegovina, Montenegro and some parts of Serbia (**Figure 6**).[22]



Source of Graphs: RCC (2018)

Figure 3. Observed Change in Temperature and Precipitation in Western Balkans Region (1961-2015).

This warming trend region-wide is expected to disproportionately affect sectors critical for the region's livelihoods, resilience and health, particularly agriculture, forestry, water resources, and disease, due to increased heat waves, increased cardiovascular disease, and the potential spread of vector-borne

17 Climate.Top, "Rainfall/ Precipitation in Skopje, Macedonia". Available at: https://www.climate.top/macedonia/skopje/precipitation/.

18 RCC (2018), p. 6, 19.

19 RCC (2018), p. 19. See discussion above of RCC methodology for the Western Balkans. Also see: Intergovernmental Panel on Climate Change. (2018). *Global warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways*. Available at: https://www.ipcc.ch/sr15/.

20 Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. (2015). *Outlook on Climate Change Adaptation in the Western Balkan Mountains*. United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 16.

21 RCC (2018), p. 20.

22 Ibid., p. 20.

diseases. However, the spatial distribution of temperature increase is not uniform, with southern and central areas showing a smaller increase (0.5°C to 1.0°C), though higher annual averages, compared to northern areas (1.0°C to 1.5°C).[23] The seasonal variation in observed temperature rise is also significant, with the most pronounced increases in the agriculturally critical summer months.[24]

Significant temperature increases began in the 1980s.[25] Moreover, the temperature over the whole region is increasing faster than the global average trend, with an especially pronounced change in the summer season and accelerated increase of maximum temperature.[26] This highlights the alarming patterns of temperature and climate in the Western Balkans and the need for a robust, locally-led adaptation response.

Precipitation (+0.2% to +17%).

2) Precipitation (+0.2% to +17%). The observed changes in precipitation patterns since the pre-industrial, baseline climate period (1961-1980), include a mix of increases and decreases, with some areas experiencing more frequent heavy precipitation events, particularly in the east, north, and west (e.g., 15% of river stations in spring and 17% in autumn,[27] contributing to increasing severity of floods, which is discussed below), while other areas, especially in the Dinaric Alps, northern Albania and the Pannonian Plain (a significant decrease of up to to 6% per decade[28]) have experienced a decrease in heavy precipitation. The present regional annual average is 807 mm, indicating an observed change in precipitation of 0.2% relative to the baseline period.[29] Precipitation had decreased in the 1980s and 1990s, but then began to increase and returned, at present in observed changes, to the values of the pre-industrial baseline period. This is the apparent reason for the small change of 0.2% as shown in **Figure 6**.[30]

In general, the observed changes in precipitation are not as pronounced as the observed warming, because of the complex topography of the mountains.[31] However, overall, the region has received a decreasing amount of precipitation, contributing to increasing severity of drought events, which is discussed below, with North Macedonia, among the Regional Project's four partner countries, displaying the clearest downward trend. By contrast, Bosnia and Herzegovina, Montenegro and Serbia, generally, experienced mixed or unchanging precipitation patterns, though this is not to say unchanging severity of flood events. Droughts have become significantly more common in Serbia and North Macedonia.

Within the region, the Dinaric Alps generally receive the most precipitation. The mountains in the Western Balkans are therefore central to the flow of fresh water through rivers, farmland, communities and ecosystems, as decreasing precipitation and increasing evapotranspiration are combining to make the region, and soils in general, drier. The decrease in precipitation, particularly during the summer months, has led to increased drought conditions and reduced water availability in many parts of the region.

23 Ibid., p. 19-20.

24 Ibid., p. 20.

25 Ibid., p. 19.

26 Ibid., p. 21.

27 Milosevic, D., Stojsavljević, R., Szabo, S., Stankov, U., Savic, S., Mitrović, L. (2021). "Spatio-temporal variability of precipitation over the Western Balkan countries and its links with the atmospheric circulation patterns", April 2021, *Journal of the Geographical Institute Jovan Cvijic SASA* 71(1):29-42. Available at: http://dx.doi.org/10.2298/IJGI2101029M, p. 29.

28 Ibid., p. 29.

29 RCC (2018), p. 19.

30 Ibid., p. 19.

31 Ibid, p. 20.

Moreover, shifts in the seasonal distribution of precipitation has been observed, with some areas receiving more precipitation in the winter months, creating an increased risk of flooding during spring. The observed changes in precipitation also pose significant challenges for water resource management throughout the region. Atmospheric circulation patterns, such as the Arctic Oscillation (AO) and Mediterranean Oscillation (MO), significantly influence precipitation patterns in the Western Balkans.[32]

Projected Climate Change[Error! Bookmark not defined.]

This Section presents RCC (2018)'s projected future climate change for the region for three climatological periods, in compliance with IPCC AR5 approach: 1986-2005 as the baseline period, 2016-2035 as the near future period, 2046-2065 as mid-century period, and 2081-2100 as end of the century period. Projecting the future climate in a mountainous region is notably inexact, because of the complex topography, diverse microclimates, need for high density of measurement, and need for high-resolution climate models, which are scarce.[33] RCC (2018) analyzed two Representative Concentration Pathways (RCP) scenarios: RCP4.5 (stabilization scenario, with GHG emission peak around 2040 and afterwards declining) and RCP8.5 (continuous rise scenario, where GHG concentration continues to increase by the end of the century, otherwise known as the business-as-usual scenario).[34] The RCP4.5 scenario is considered as best possible scenario (lower end) and RCP8.5 as extreme scenario (higher end), but current trends suggest RCP8.5 projections may be more likely ("business as usual"),[35] for which the region should prepare and adapt.

RCC (2018) analyzed the following 16 climate parameters and indices in four categories:[36]

1) Standard Climate Parameters:

- **Temp (Mean):** mean temperature, seasonal and annual.
- **Temp (Mean Min.):** mean minimum temperature, seasonal and annual.
- **Temp (Mean Max.):** mean maximum temperature, seasonal and annual.
- **Precipitation (Mean):** mean annual and seasonal precipitation accumulation.

2) Temperature-related Indices:

- **Frost:** number of frost days (Tn<0°C), annual
- **Icing:** number of icing days (Tx<0°C), annual
- **Very Hot:** number of very hot days (Tx>35°C), annual
- **Heat Waves (Number):** number of heat waves (at least 6 consecutive days with Tx>35°C)
- **Heat Waves (Length):** average maximum length of heat waves

3) Precipitation-related Indices:

32 Milosevic, D., Stojsavljević, R., Szabo, S., Stankov, U., Savic, S., Mitrović, L. (2021). "Spatio-temporal variability of precipitation over the Western Balkan countries and its links with the atmospheric circulation patterns", April 2021, *Journal of the Geographical Institute Jovan Cvijic SASA* 71(1):29-42. Available at: http://dx.doi.org/10.2298/IJGI2101029M, p. 29.

33 Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. (2015). *Outlook on Climate Change Adaptation in the Western Balkan Mountains*. United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 17.

34 RCC (2018), p. 7.

35 Ibid., p. 22.

36 RCC (2018), p. 23.

- **Precipitation (None):** number of days without precipitation.
- **Precipitation (Heavy):** number of days with very heavy precipitation (RR>20mm).
- **Precipitation (% Heavy):** percent of total precipitation accumulated in days with very heavy precipitation.

4) Special Climate Indicators:

- **Growing Season:** growing season duration, start and end date, for the biological minimum of 10°C.
- **Very Hot Dry Spells (HDS):** average maximum length of consecutive very hot and dry days and number of appearance of at least 6 consecutive days with Tx>35°C.
- **Maize Yield (SHC):** Seljaninov Hydrothermal Coefficient (SHC): number of when values for April-September and June-August are both <1, which shows the climate is suitable for maize growing.
- **Beech Suitability (ECQ):** Ellenberg's Climate Quotient (ECQ), which shows the climate is suitable for beech growing.

Maize Yield (SHC). RCC (2018) states that a significant reduction of **maize yield** is evident in dry years, higher than of other crops. Seljaninov Hydrothermal Coefficient (SHC) values lower than 1 show dry conditions for maize cultivation, 1-1.3 insufficiently humid, and above humid. It is calculated for the growing period of maize April-September and for the period June-August when maize needs water but is at high risk of draught. When both values are below 1 that year is considered unsuitable for maize growing without irrigation.[37]

Beech Suitability (ECQ). RCC (2018) states that **Beech** trees grow widely across the region. Its vulnerability has already been confirmed, which makes it a regionally important indicator. Ellenberg's Climate Quotient (ECQ) assesses the suitable habitat for beech and mixed forest (beech and oak). Values below 20 are considered suitable for beech forest. If values are between 20-30, beech can coexist with oak in mixed forest habitat.[38]

Temperature (+7.5°C).

1) Temperature (+7.5°C). The Western Balkans region is considered a "Warming Hotspot" with projections of significant and disruptive increased heat waves and temperature increases.[39] Mean summer temperatures could rise by as much as 7.5°C above pre-industrial times,[40] though predicting the climate in mountainous areas is difficult because of the complex topography and hydrology. Extreme heat events are expected to become more frequent and intense, particularly in spring and autumn. Climate models predict significant future warming, with temperature increases expected to be higher than the global average. Projections indicate further warming, potentially ranging from 1.7 to 4.0°C by the end of the century, depending on global efforts to reduce greenhouse gas emissions.[41] The Eastern Mediterranean is expected

37 Ibid., p. 23.

38 Ibid., p. 23.

39 World Bank (2014). *Turn Down the Heat: Confronting the New Climate Normal*, Turn Down the Heat Report No. 3, November 2014, World Bank Group, p. xix. See also: UNEP/GRID-Arendal (2015), p. 6.

40 Ibid., p. 4.

41 RCC (2018), p. 6.

to be 3.5–7°C warmer by the end of the 21st century, with the highest daytime increases in the Western Balkans and in the mountainous areas, in particular[42]. A global high-emissions scenario predicts 5–8°C of warming in the Eastern Mediterranean in summer, with the Western Balkans similarly to receive the highest warming.[43] This warming trend is expected to disproportionately affect certain sectors, including agriculture, forestry, water resources, and human health, due to increased heat waves and the potential spread of vector-borne diseases (**Figure 7).**

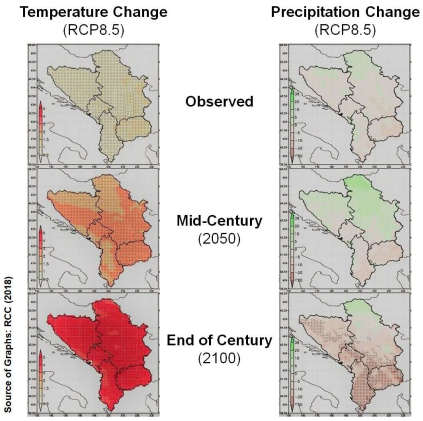


Figure 4. Projected Future Temperature and Precipitation Change in Western Balkans Region (1996-2100).

The consensus among existing models is that the Western Balkans will experience substantial warming throughout the twenty-first century, with regional warming higher than the worldwide average.[44] In Europe, generally, warming is expected to increase with altitude[45] and National Communications (including those of all four of the Regional Project's partner countries) to the United Nations Framework Convention on Climate Change (UNFCCC) also indicate that the highest warming will occur within the mountainous regions of the Western Balkans countries.

RCC (2018) calculates a definitive composite of models, which this proposal uses and references below. Extremely warm days are particularly damaging to human life. What are regarded as extremely hot summers today may become the norm by 2100. Days over 35°C are expected to increase by two weeks in the Balkan Mountains and one month in the region. The same model projects winter temperatures to rise by 3°C.[46] In accordance with RCC (2018), this section presents two categories of temperature data to describe the projected future temperature change in the Western Balkans, with reference to two climate

[42] Lelieveld, J., Hadjinicolaou, P., Kostopoulou, E., Giannakopoulos, C., Pozzer, A., Tanarhte, M., & Tyrlis, E. (2012). "Climate change and impacts in the Eastern Mediterranean and the Middle East." *Climatic Change*, 114(3-4), 667–687. Available at: https://doi.org/10.1007/s10584-012-0418-4.

43 Alfthan, B.; Krilasevic, E.; Venturini, S.; Bajrovic, S.; Jurek, M.; Schoolmeester, T., Sandei, P.C., Egerer, H, and Kurvits, T. (2015). *Outlook on Climate Change Adaptation in the Western Balkan Mountains.* United Nations Environment Programme (UNEP), GRID-Arendal, and Environmental Innovations Association (EIA). Vienna, Arendal and Sarajevo. www.grida.no., p. 17.

44 RCC (2018), UNEP-GRID-Arendal (2015), p. 17, World Bank (2014), p. 205.

[45] Kotlarski, S., Keuler, K., Christensen, O. B., Déqué, M., Gobiet, A., Goergen, K., ... & van Meijgaard, E. (2014). Regional climate modeling on European scales: A joint standard evaluation of the EURO-CORDEX RCM ensemble. *Geoscientific Model Development*, 7(4), 1297–1333. Available at: https://doi.org/10.5194/gmd-7-1297-2014

46 Lelieveld, J., Hadjinicolaou, P., Kostopoulou, E., Giannakopoulos, C., Pozzer, A., Tanarhte, M., & Tyrlis, E. (2012). "Climate change and impacts in the Eastern Mediterranean and the Middle East." *Climatic Change*, 114(3-4), 667–687. Available at: https://doi.org/10.1007/s10584-012-0418-4 in UNEP/GRID-Arendal (2015), p. 17.

change scenarios (RCP4.5 and RCP8.5) and three climate periods: Near Future (2016-2035), Mid Century (2046-2065), and End Century (2081-2100):

- A. Projected Temperature Change (Climate Parameters)
- B. Projected Temperature Change (Climate Indicators and Indices)

A. Projected Temperature Change (Climate Parameters)

The main climate parameters for temperature are: i) averaged, ii) mean maximum and iii) minimum temperatures. **Figure 7** shows a map of projected temperature change based on these parameters.

1) Near Future (2016-2035): 0.8-1.0°C. In the near-future period (2016-2035), relative to the baseline period (1986-2005), RCC (2018) calculates that the projected temperature changes are notable, noting further that significant observed changes had already occurred in the Western Balkans in the 1980s, so the change is significant, indeed: **i) RCP4.5 (0.8°C):** in the RCP4.5 scenario, temperature change is significant over the whole region, with average increase of 0.8°C, and seasonally significant change during JJA and SON, with more significant change in Tn[47] than Tx.[48] **ii) RCP8.5 (1.0°C):** in the RCP8.5 scenario, temperature change is also significant over the whole region, with an average regional increase of 1.0°C, reaching the highest increase in JJA.[49]

2) Mid Century (2046-2065): 1.6°C-2.1°C. In the mid-century period (2046-2065), relative to the baseline period (1986-2005), RCC (2018) calculates that the projected temperature changes are: **i) RCP4.5 (1.6°C):** in the RCP4.5 scenario, temperature change is significant over the whole region, with average increase of 1.6°C, and seasonally significant change in JJA and in Tx, between 2.0°C and 3.0°C over most of the region.[50] **ii) RCP8.5 (2.1°C):** in the RCP8.5 scenario, temperature change is extreme over the whole region, with an average regional increase of 2.1°C and above 2.0°C increase over most of the region most of the year.[51]

3) End Century (2081-2100): 2.0-5.0°C. In the end-of-the-century period (2081-2100), relative to the baseline period (1986-2005), RCC (2018) calculates that the projected temperature changes are: **i) RCP4.5 (2.0°C):** in the RCP4.5 scenario, temperature change is significant over the whole region, with average increase of 2.0°C, but stabilizes, and seasonally pronounced change in Tx in JJA and SON.[52] **ii) RCP8.5 (5.0°C):** in the RCP8.5 scenario, temperature change will not stabilize and will continue to significantly increase to extremes, reaching a regional average increase of 4.4°C, with the most pronounced increase in JJA of over 5.0°C increase over most of the region.[53]

B. Projected Temperature Change (Climate Indicators and Indices)

47 "Tn" denotes Temperature (Minimum). "Tx" Temperature (Maximum).

48 RCC (2018), p. 23.

49 Ibid., p. 23.

50 Ibid., p. 24.

51 Ibid., p. 24.

52 RCC (2018), p. 25.

53 Ibid., p. 25.

Projected changes in the main climate indicators and indices for temperature in the Western Balkans, as calculated by RCC (2018), include frost days, icing days, very hot days, and heat waves. RCC (2018) also calculates valuable special climate indicators, which proxy the very real impacts of climate change in the region on livelihoods, ecosystems, food security, and health, including growing season, very hot dry spells (HDS), maize yield (SHC), and beech-forest suitability (ECQ). In the three AR5 projected climate change periods, temperature change in the Western Balkans is modelled and projected as follows, as calculated in RCC (2018):

1) Near Future (2016-2035). In the near-future period (2016-2035), relative to the baseline period (1986-2005), RCC (2018) calculates the following projections in temperature-related key indices and indicators for the Western Balkans, in the RCP4.5 and RCP8.5 scenarios:[54]

- **Frost (Decrease 5-20 Days):** number of frost days is expected to decrease by 5-10 days according to the RCP4.5 scenario, but with a significant decrease (10-20 days) over the southern and higher altitude parts of the region.

- **Icing (Decrease 0-5+ Days):** number of icing days is expected to decrease by 0-5 days, with a possibly higher decrease over some mountain areas in central parts of the region.

- **Very Hot (Increase 5-10 Days):** number of very hot days will increase by 5-10 days, with significantly higher increases over some parts of the region, including coastal areas of Albania, Podgorica region in Montenegro, North Macedonia, northern and central Serbia, and some parts of Bosnia and Herzegovina.

- **Heat Waves (Increasing):** average heat waves (length and frequency) will slightly increase with a highly probable significant change over some areas in southern parts of the region, which signals the increase in probability of appearance to be more extreme than observed, especially in coastal areas of Albania, southern Bosnia and Herzegovina, Podgorica region in Montenegro and the southeast of North Macedonia.

- **Growing Season (Increase 10-20 Days):** duration of growing season is expected to increase by 10-20 days, with a somewhat more pronounced shift towards earlier dates (5-10 days) throughout the region. This change has significant impact for some parts of the region that have a higher temperature increase, namely the southern and western parts.

- **Very Hot Dry Spells (HDS: Increase):** HDS slightly increases, mainly over southern parts.

- **Maize Yield (SHC: Unsuitable):** SHC shows a shift towards dry conditions mainly over agriculturally fertile Serbia and towards insufficiently humid in other parts. Over 10 years in this 20-year period (even up to 14 years in the lowest altitudes), the region will become unsuitable for maize growing without irrigation, putting near-term water stress throughout the region as a high risk, one of the key focuses of the Regional Project.

- **Beech Suitability (ECQ: Reduction):** ECQ shows a reduction of suitable territory for beech survival over some small parts (for example in east Serbia), and in general retreatment towards

54 RCC (2018), p. 26.

higher altitudes, but potentially significant since the signals of vulnerability are already observed today in the region.

2) Mid Century (2046-2065). In the mid-century period (2046-2065), relative to the baseline period (1986-2005), RCC (2018) calculates the following projections in temperature-related key indices and indicators for the Western Balkans, in the RCP4.5 and RCP8.5 scenarios:[55]

- **Frost (Decrease 10-30 Days):** significant decrease of frost days throughout the region by 10-20 days in RCP4.5 and 20-30 days in RCP8.5 in most of the region.
- **Icing (Decrease 5-20 Days):** significant decrease of icing days throughout the region by 5-10 in RCP4.5 and 10-20 in days RCP8.5.
- **Very Hot (Increase 10-30 Days):** significant increase of very hot days in parts of lower altitudes (10-20 days), but most pronounced in coastal and near coastal areas and central to south-eastern part of North Macedonia (20-30 days);
- **Heat Waves (Increase):** duration and frequency of heat waves appearance significantly increase over low altitudes, coastal and near-coastal areas and parts of North Macedonia, reaching values of +1 heat wave each year and with increased duration of 5 days or more.
- **Growing Season (Increase 20-40 Days:** growing season is expected to significantly increase up to 20-40 days, depending on scenario, with an earlier start date in most parts of the region of up to 20-30 days; however, in coastal areas, heating may cause the disappearance of a dormant season for plants with a biological minimum of 10°C;
- **Very Hot Dry Spells (HDS: Increase):** HDS coincide with heat waves, which means that periods with hot temperatures will be combined with very dry periods.
- **Maize Yield (SHC: Unsuitable):** SHC shows wider spread of dry conditions mainly over Serbia, while in other parts of the region, an insufficiently humid climate for maize is spreading, the number of years unsuitable for maize-growing without irrigation in the 20-year period is likely to be more than 14 years over the north and central Serbia.
- **Beech Suitability (ECQ: Unsuitable):** ECQ index shows an increase in unsuitable climate conditions and further retreat to higher altitudes, for both mixed and beech forests.

3) End Century (2081-2100). In the end-of-the-century period (2081-2100), relative to the baseline period (1986-2005), RCC (2018) calculates the following projections in temperature-related key indices and indicators for the Western Balkans, in the RCP8.5 scenarios, noting that by the end of the century the RCP4.5 scenario stabilizes and more pronounced changes are expected in the RCP8.5 scenario. Therefore, RCC (2018) calculates that the following changes in temperature are expected in RCP8.5:[56]

55 Ibid., p. 26.

56 Ibid., p. 29.

- **Frost, Icing (Decrease 50+ Days):** decrease in frost days of over 50 days over the region, which makes it a rare event; icing days will appear only in mountain regions, but with a decrease of over 25 days;

- **Very Hot (Increase 20-35+ Days):** appearance of hot days in higher altitudes, an increase of 20-30 days in lower altitudes, and the most pronounced increase in coastal and near-coastal areas, and large parts of North Macedonia and Kosovo(UNSC 1244/1999), of over 35 days.

- **Heat Waves (Increase 2-5 Days):** frequency of heat waves increases up to 2 days over the region, with prolonged duration of 5-10 days; heat waves possibly will appear in high altitudes only once in 10 years, but coastal, near-coastal areas, and large parts of North Macedonia and Kosovo(UNSC 1244/1999) are expected to have 2-5 more heat waves in a year, with increased duration of over 15 days and in coastal areas even over 20 days;

- **Growing Season (Increase 50-70 Days):** growing season period will be prolonged by 50-70 days, with more pronounced change in higher altitudes, and with a larger shift of the start date, reaching over 30 days throughout the region, over 40 days in southern parts, and over 50 days in south Albania.

- **Very Hot Dry Spells (HDS: Increase 8-20 Days):** HDS have highly significant change over the region with prolonged duration throughout the region, except in the highest altitudes, of over 8 days in Serbia and over 20 days in coastal areas.

- **Maize Yield (SHC: Unsuitable):** SHC shows unsuitable conditions for maize growing, and in most productive areas almost all years during this period will not be productive.

- **Beech Suitability (ECQ: Disappearance):** ECQ index shows a high risk of forest mortality, and highly probable widespread disappearance of beech forests.

Precipitation (0% to -30% Decrease)

The Western Balkans will witness a significant decrease in annual precipitation.[57] However, projections for precipitation are not as clear or regular as predictions of temperature.[58] The expected precipitation decrease is more pronounced in high emission scenarios than low-emission scenarios and is particularly strong in the summer.[59] In winter, on the contrary, precipitation will increase in the mountains and the region in general.[60] The annual number of rainy days could decrease by 10–20 days in a medium emission scenario by the end of the twenty-first century. No increase in extreme precipitation events are expected in the

57 UNEP/GRID--Arendal (2015), p. 17.

58 RCC (2018), p. 19, UNEP/GRID-Arendal, p. 17.

59 Önol, B. and Semazzi, F.H.M (2009). Regionalization of Climate Change Simulations over the Eastern Mediterranean. *J. Climate*, 22, 1944–1961, in UNEP/GRID-Arendal, p. 17.

60 Kotlarski, S., Bosshard, T., Lüthi, D., Pall, P., Schär, C. (2011). Elevation gradients of European climate change in the regional climate model COSMO-CLM, *Climate Change*, vol. 112, pp. 189–215. doi:10.1007/s10584-011-0195-5, in UNEP/GRID-Arendal, p. 17.

region[61], however, flooding is predicted to become more frequent due to more precipitation in winter causing spring floods[62] (**Figure 4**).

In accordance with RCC (2018), this section presents two categories of precipitation data to describe the projected future precipitation change in the Western Balkans, with reference to two climate change scenarios (RCP4.5 and RCP8.5) and three climate periods: Near Future (2016-2035), Mid Century (2046-2065), and End Century (2081-2100):

- A. Projected Precipitation Change (Climate Parameters)
- B. Projected Precipitation Change (Climate Indicators and Indices)

A. Projected Precipitation Change (Climate Parameters)

The main climate parameter in RCC (2018) for precipitation is average accumulated precipitation. (**Figure 4)** shows maps of projected precipitation change based on this parameter. In the three IPCC AR5 projected climate change periods, precipitation change in the Western Balkans is modelled and projected as follows, as calculated in RCC (2018):

1) Near Future (2016-2035): 0%. In the near-future period (2016-2035), relative to the baseline period (1986-2005), RCC (2018) calculates that projected precipitation changes are negligible, though noting that significant observed changes had already occurred prior in the Western Balkans in the 1980s: **i) RCP4.5 (0%):** in the RCP4.5 scenario, no significant precipitation change in annual or seasonal values over the region. Average annual accumulation change is within a -5% and +5% interval, with decrease over most of the region in JJA.[63] **ii) RCP8.5 (0%):** in the RCP8.5 scenario, also no significant precipitation change, but with somewhat different distribution.[64]

2) Mid Century (2046-2065): 0% to -20%. In the mid-century period (2046-2065), relative to the baseline period (1986-2005), RCC (2018) calculates that projected precipitation changes are: **i) RCP4.5 (0%):** in the RCP4.5 scenario, precipitation change still does not show statistically significant change in mean annual accumulation or in seasonal values, but the annual decrease spreads over the region, and in JJA the whole region suffers a notable decrease, which has significant implications for critical snow melt for agriculture, ecosystems, health and consumption.[65] **ii) RCP8.5 (0% to -20%):** in the RCP8.5 scenario, precipitation decrease becomes significant over Albania and parts of Montenegro in JJA and, including North Macedonia, the decrease may be over -20%. However, other seasons and annual averages show no significant change.[66]

3) End Century (2081-2100): 0% to -30%. In the end-of-the-century period (2081-2100), relative to the baseline period (1986-2005), RCC (2018) calculates that the projected precipitation changes are: **i) RCP4.5**

[61] Sillmann, J., Kharin, V. V., Zwiers, F. W., Zhang, X., & Bronaugh, D. (2013). Climate extremes indices in the CMIP5 multimodel ensemble: Part 2. Future climate projections. *Journal of Geophysical Research: Atmospheres*, 118(6), 2473–2493. Available at: https://doi.org/10.1002/jgrd.50188.

62 Islami, B., Kamberi, M., Bruci, E.D., and Fida, E. (2009). *Albania's Second National Communication to the Conference of Parties under the United Nations Framework Convention on Climate Change.* Ministry of Environment, Forestry, and Water Administration: Tirana, Albania, in UNEP/GRID-Arendal (2015), p. 17.

63 RCC (2018), p. 23.

64 Ibid., p. 24.

65 RCC (2018), p. 24.

66 Ibid., p. 25.

(0% to -20%): in the RCP4.5 scenario, precipitation change has stabilized, as with temperature change, except over southern parts of the region, where precipitation decrease exceeds -20%.[67] **ii) RCP8.5 (+>0% to -30%):** in the RCP8.5 scenario, precipitation decrease is significant in annual values over most of the region, because of the severe decrease of over -20% during the JJA season, and even over -30% in southern Bosnia and Herzegovina, Montenegro, Albania, and North Macedonia, except in the northern part of Serbia, in the agriculturally rich Pannonian Plain, where a significant increase in precipitation is expected in DJF.[68]

B. Projected Precipitation Change (Climate Indicators and Indices)

Projected changes in the main climate indicators and indices for precipitation in the Western Balkans, as calculated by RCC (2018), include dry days and very heavy precipitation (number and intensity, or % of total accumulation). **Figure 4** shows maps of projected precipitation change based on these indicators. In the three AR5 projected climate change periods, precipitation change in the Western Balkans is modelled and projected as follows, as calculated in RCC (2018):

1) Near Future (2016-2035). In the near-future period (2016-2035), relative to the baseline period (1986-2005), RCC (2018) calculates the following projections in precipitation-related key indices and indicators for the Western Balkans, in the RCP4.5 and RCP8.5 scenarios:[69]

- **Precipitation (Dry Days: Increase):** change in the number of dry days is not significant, but is more pronounced in summer, and annually increase by 5-15 days over the region, mainly in JJA, except in northern parts of the region;

- **Precipitation (Heavy: Increase):** very heavy precipitation increase (in number of days and percentage of total accumulation) is not statistically significant, but is most pronounced over the northern part of Serbia (Vojvodina) according to RCP8.5, as well as an increase of very heavy rain accumulation percentage;

2) Mid Century (2046-2065). In the mid-century period (2046-2065), relative to the baseline period (1986-2005), RCC (2018) calculates the following projections in precipitation-related key indices and indicators for the Western Balkans, in the RCP4.5 and RCP8.5 scenarios:[70]

- **Precipitation (Dry Days: Increase 5-10):** increase of dry days is 5-10 days over most of the region, with significant change in southern parts (Albania and North Macedonia); change is most pronounced in JJA;

- **Precipitation (Heavy: Increase):** number of days with very heavy precipitation noticeably increases throughout the region, especially in the northern parts of Serbia (Vojvodina), while in regions which already have a large number of such days already, the increase is much less; very heavy rain percentage increases most over the region where such heavy-precipitation events are uncommon (north Bosnia and Herzegovina, Serbia, Kosovo (UNSC 1244/1999), parts of North Macedonia), even of around 30% in DJF and MAM, while in JJA the decrease is

67 RCC (2018), p. 25.

68 Ibid., p. 26.

69 RCC (2018), p. 26.

70 Ibid., p. 26.

seen over the southern part of the region, and according to RCP8.5 the increase in Vojvodina becomes significant;

3) End Century (2081-2100). In the end-of-the-century period (2081-2100), relative to the baseline period (1986-2005), RCC (2018) calculates the following projections in precipitation-related key indices and indicators for the Western Balkans, in the RCP8.5 scenarios, noting that by the end of the century the RCP4.5 scenario stabilizes and more pronounced changes are expected in the RCP8.5 scenario. Therefore, RCC (2018) calculates that the following changes in precipitation are expected in RCP8.5:[71]

- **Precipitation (Heavy: Increase 5-10 Days):** increase in very heavy precipitation days is significant, reaching 5-10 days in some northern parts of the region and southern Serbia, especially in DJF; very heavy precipitation percentage shows the same pattern of change, however over the coastal, near-coastal and southern parts of the region (Albania), the decrease is significant in JJA, with values of over 30%;

Based on the regional analysis and baseline information presented above, **Table 1** shows a summary of climate risks in Western Balkans, their vulnerabilities and potential impact.

71 Ibid., p. 26.

Summary of Climate Risks in Western Balkans Region-Related Vulnerabilities and Potential Impact		
Climate Risk	**Vulnerability**	**Potential Impact**
Temperature		
Rising Temperatures	• **Agriculture:** high exposure of crops, crop yields and agriculture productivity to a predictable temperature range • **Soil:** exposure of mountain and rural soil and top cover to manage floods and wildfires • **Biodiversity:** loss of endemic, vulnerable and rare species and habitats that are sensitive to high temperatures • **Ecosystems:** exposure of mountain and rural ecosystem functions and services to heat • **Disease:** rise in crop disease • **Net Food Importers:** the countries of the Balkans Region are already net food importers, which will further strain individual, community and national food security, budgets, and spending	• Economic and livelihood losses in agriculture sector and farming communities • Decrease in ecosystem functioning • Loss of valuable species, habitats and ecosystem services • Changes and disruption to species, habitats and ecosystems, leading to loss of ecosystem services, decrease in agricultural productivity, and change in ecosystem diversity and distribution, including migration to higher altitudes • Changes and disruption to soil moisture, productivity and health • Increased fire risk • Reduced agricultural productivity
Heatwaves and Intense Heat	• **Human Health:** exposure of rural and urban populations, especially those who must work outside (farming, construction) and the elderly to heat, respiratory, kidney and cardiovascular problems • **Animal Health:** exposure of animals and livestock to heat-related problems	• Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease • Increased heat-related illness or death, including asthma attacks, cardiovascular disease, and lung inflammation

Increase in Diseases	• **New Vectors:** exposure to appearance of new disease vectors, such as tick-born encephalitis and dengue fever in warming temperatures • **Health Systems:** limited capacities and resources of rural, remote and mountainous healthcare systems and facilities	• Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease
Precipitation		
Increased Heavy Rains	• **Agriculture:** high exposure of crops, crop yields and agriculture productivity to floods, rain patterns, and change in seasonality • **Soil:** exposure of mountain and rural soil and top cover to heavy rains and flooding	• Economic and livelihood losses in agriculture sector and farming communities • Loss of valuable species, habitats and ecosystem services
Increased Storms, Storm Intensity	• **Agriculture:** high exposure of crops, crop yields and agriculture productivity to floods, rain patterns, and change in seasonality • **Soil:** exposure of mountain and rural soil and top cover to heavy rains and flooding	• Economic and livelihood losses in agriculture sector and farming communities • Decrease in ecosystem functioning • Loss of valuable species, habitats and ecosystem services
Heavy Snow	• **Mountain and Rural Economies:** vulnerability due to poor infrastructure, housing, and access to roads and public services, especially for children and elderly • **Public Services:** inaccessible essential services, including emergency response	• Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease
Reduced Snow Cover	• **Tourism:** heavy reliance of winter economy on snow cover	• Economic and livelihood losses for mountain communities and national budget reliant on ski tourism
Drought		

Increase in Frequency and Intensity of Wildfires	• **Forests:** high exposure of forests, ecosystems, ecosystem services, protected areas • **Agriculture:** high exposure of land, ecosystem services, water availability • **Tourism:** exposure of tourism operations and appeal, in coastal and inland mountain areas • **Pollution:** exposure to smoke, particulates, fire damage	• Loss of biodiversity, habitats, ecosystem services • Land degradation • Economic, livelihood, and asset losses • Human and animal loss of life, displacement, disease
Decrease in Annual River Discharge and Flow in Summer and Drought	• **Agriculture:** high exposure of agriculture, livestock and farms to water supply, irrigation, and groundwater • **Water Infrastructure:** poor water-supply infrastructure, with high system losses • **Energy:** exposure of hydropower and thermal power facilities to decreases in discharge, river-flow seasonality, and rising river temperatures	• Loss of crops, crop yields and livestock • Water shortages in urban areas • Inability to meet energy demand during peak summer months • Decreased energy security and supply
Floods		
Increase in Frequency and Intensity of Floods	• **Agriculture:** high exposure of land, home, assets and property, rural and urban • **Energy:** energy infrastructure • **Dams:** risk of failure of mining tailings dams containing toxins • **Landmines:** risk of dislodging landmines	• Economic and livelihood losses at individual, community and national levels (budget, GDP, tax income) • Human and animal loss of life, displacement, disease • Loss of habitats, ecosystem services, clean water

Table 1. Summary of Climate Risks in Western Balkans Region and their Vulnerabilities and Potential Impact.

Country-Specific Climate Information and Adaptation Priorities

Bosnia and Herzegovina

In its National Adaptation Plan (NAP),[72] hereafter Bosnia NAP (2021), Bosnia and Herzegovina analyses two key drivers of climate change, namely, changes in air temperature and precipitation, and their impact on key sectors, and proposes 51 priority adaptation measures for the five most climate-vulnerable sectors, namely, agriculture, water resources, biodiversity and forestry, human health and tourism.

Agriculture:

1. Switch to more resistant varieties; Introduction of more tolerant species, varieties and hybrids; Proper selection of varieties; Rational fertilization; Changes in the timing and density of sowing; Increasing the share of winter crops
2. Improving disease and pest monitoring
3. Improving cultivation techniques; Conservation agriculture and agroforestry, Ecosystem-based Approaches (EbAs); Crop rotation adjustment
4. Selection, breeding and creation of tolerant genotypes
5. Change of plant species (growing modern orchards, vineyards)
6. Reconstruction, construction and maintenance of drainage systems
7. Reconstruction, construction (development) and maintenance of irrigation systems
8. Development of an early warning system for meteorological and climatic extremes
9. Development of an anti-hail protection system
10. Development of climate data collection software
11. Increased scientific research on climate change, as well as the need and measures (ways) to adapt to climate change
12. Awareness raising and education on the need to adapt to climate change

Water Resources:

1. Water management (improving riverbeds, cleaning canals, capturing springs, making studies...)
2. Alignment of the BiH flood protection system with the EU Directive 2007/60/EC on the Assessment and Management of Flood Risks (Update flood hazard maps and flood risk maps; Develop and adopt Flood Risk Management Plans)
3. Feasibility study for retentions and reservoirs
4. Adoption and analysis of implementation of new technical solutions for protection from floods, erosion and torrents, including Environment Based Solutions (EBS), for settlements and cities that did not have protective water management facilities in place and construction of new facilities
5. Preparation (of five) studies to reduce erosion in the basin through development of anti-erosion measures (torrent barriers, etc.); Sava River Basin (Brcko District, Federation BiH) and the Adriatic Watershed (Federation BiH)
6. Upgrading the hydrological forecasting system
7. Study the possible impacts of the “living with floods” concept in BiH; open up a discussion on this topic among stakeholders from different sectors and from different levels of government
8. Surface water quality and quantity monitoring
9. Water quality monitoring of groundwater bodies

72 Bosnia NAP (2021). *Bosnia and Herzegovina National Adaptation Plan and Proposed Measures 2021.*

10. Reduction of water losses in water supply systems (Phase I of study preparation)
11. Build reservoirs for multipurpose use, redistribution of large and small waters – flood protection, irrigation; hydropower as a renewable energy source, quality protection in low-water periods
12. Study into the impact of climate change on water resources (water supply, floods, etc.)

Biodiversity and Forestry:

1. Study into the impact of climate change on biodiversity and forestry
2. GIS mapping of forest areas
3. Afforestation with native and fast-growing species
4. Tree health survey and replacement of damaged trees in urban areas
5. Development of a system to monitor the impact of climate change on biodiversity
6. Revision of Red Lists with field research
7. Examining the impact of climate change on mountain lakes and ecosystems
8. Increasing the protected areas
9. Examining the impact of climate change on the endemic fauna of karst areas
10. Development of pilot studies and installation of "green roofs"
11. Study into forest fires and mapping of burned areas in BiH

Human Health:

1. Development of legislation on work in extreme climatic conditions
2. Establishing effective statistical monitoring of climate change-related pathologies (with prior training of staff)
3. Building the capacity of public health institutes and emergency departments
4. Raising awareness and informing the population about the impact of climate change on human health
5. Study into new diseases caused by climate change
6. Monitoring of the quality of drinking water in rural areas
7. Examining bioclimatic impacts on human health
8. Examining the impact of allergens on human health

Tourism:

1. Snow-making on ski slopes
2. Promoting the summer tourist season
3. Promotion of eco-tourism
4. Promotion and development of agritourism
5. Mapping and development of hiking trails
6. Development of bike trails
7. Development of tourism and recreation on rivers and lakes
8. Promotion of healthy lifestyles outdoors and in the mountains

Temperature. Analysis of climate elements for the period 1961–2018 in Bosnia and Herzegovina shows that the mean annual temperature maintains a continuous increasing trend throughout the entire country.[73] A positive linear trend in the mean annual temperature was observed, which has been particularly pronounced in the last 40 years. Trends in annual temperatures at all analyzed stations are statistically

73 Bosnia NAP (2021), p. 14.

significant, and changes are more pronounced in the continental part. The increase in air temperature on an annual level ranges from 0.4 to 1.2°C, and during the growing season (April–September) goes up to as much as 1.4°C. However, temperature increases have been even more pronounced over the last 18 years. In the analyzed period of NAP, all indices of warm temperature extremes show an upward trend, while those for cold temperature extremes indicate a downward trend. The most significant change in this period is observed in the number of cold and warm days, with the former showing a negative trend at all meteorological stations. In the central mountainous areas, the number of cold days has been reduced by four days in 10 years, while in the south of the country the reduction is somewhat smaller at two days in 10 years. The number of warm days has a positive trend and is statistically significant.[74]

Bosnia NAP (2021) projects future climate change on the basis of the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) methodology and four future concentration scenarios: RCP2.6, RCP4.5, RCP6.0 and RCP8.5, as outlined in IPCC AR5, drawing on the results of global climate models downloaded from the CMIP5 database[75]. The results indicate average changes for the entire territory of Bosnia and Herzegovina for the period 1986–2100, with the period 1985–2006 used as the reference period against which the deviations of the corresponding magnitudes were calculated.[76]

By the end of the century, the number of summer days will be increasing in all scenarios. In the RCP8.5 scenario, the change in the number of summer days increases significantly for further time horizons, and for the period 2036–2065 it is up to 40 days more, in some parts up to 50 days more, and the change is most pronounced in the last period with up to 60 days, almost throughout the country.[77]

Precipitation. In the period 1961–2018, a slight increase in annual precipitation was recorded in most parts of Bosnia and Herzegovina. Linear trends for the multi-year period 1961–2018 indicate stagnation or a marginal increase in the amount of precipitation in the total geographical area of the country. Changes in precipitation are more pronounced by seasons than annually. While no significant changes in precipitation have been observed, the pluviometric regime (annual distribution of precipitation) has been greatly affected. Due to the increased intensity and variability of precipitation, as well as the increased share of heavy rains in the total distribution of precipitation, the risk of floods increased, in particular in the central and northern parts of the country, which were hit by the catastrophic May 2014 flood.[78]

Based on previous research on climate and climate change, the biggest changes were identified in the southern, northern and north-western parts of Bosnia and Herzegovina. These include an increase in the intensity and frequency of extreme climate events (floods, droughts, violent windstorms, days with hail, prolonged heat waves, extreme temperatures, etc.). In the last two decades, some of these extremes have occurred each year, and in some places multiple extreme events have occurred. Previous research has shown increasing climate variability in all seasons in the territory of Bosnia and Herzegovina. Rapid and intense changes occur over short periods of time – from extremely cold to warm weather, or from periods of extremely heavy rainfall to very dry spells.[79]

The southern, northern and north-western parts of the country are hit the hardest by extreme events. Of the extreme weather events that have occurred in the last two decades, the hardest hit town in the south

74 Bosnia NAP (2021), p. 15.

75 Bosnia NAP (2021), p. 19. The CMIP5 Database is available at: https://cmip.llnl.gov/cmip5/

76 Bosnia NAP (2021), p. 19.

77 Bosnia NAP (2021), p. 21.

78 Bosnia NAP (2021), p. 16.

79 Bosnia NAP (2021), p. 16.

of the country is Trebinje (drought, heat waves, windstorms, heavy precipitation), in the north Zenica (floods, droughts, heat waves, windstorms) and in the northwest Laktaši and Sanski Most (drought, heat waves, windstorms, heavy precipitation, hail).[80]

Water systems. Water systems are expected to be exposed to the impacts associated with climate change, and the projected changes in precipitation and air temperature are expected to adversely affect the current water resources management system in Bosnia and Herzegovina.[81] The Climate Change Adaptation and Low-Emission Development Strategy (2020) for BiH[82] and the Initial, Second and Third National Communications of BiH under the UN Framework Convention on Climate Change (UNFCCC),[83] in addition to the full range of national and sector strategies and documents,[84] were used as a basis for developing the climate change adaptation plan for water resources in BiH, including for increases in climate-change-induced floods and drought.

Floods. In the last two decades, Bosnia and Herzegovina has been hit by several extreme floods, causing widespread damage, economic loss and death. In April 2004, severe floods struck 48 municipalities in the Una, Vrbas, Bosna and Drina river basins. About 20,000 hectares of agricultural land and 300,000 people were under threat from flooding, of whom several hundred families were evacuated. In December 2010, precipitation exceeded the 100-year record, causing floods that were particularly pronounced in the Drina River Basin and eastern Herzegovina. The towns of Goražde, Zvornik and Bijeljina, as well as some smaller communities, were inundated. In Republika Srpska and the Federation of BiH, large areas were flooded, of which a large part was agricultural land, and houses, roads and bridges were destroyed or damaged.[85] The afore-mentioned catastrophic floods of May 2014 are estimated by the European Bank for Reconstruction and Development (EBRD) to have caused damage of at least €3 billion[86] across BiH and Serbia alone, of which €1.3 billion[87] was in Bosnia, and resulted in at least 86 deaths, including at least 76 in Bosnia.[88] In October 2024, flash floods and landslides killed at least 26 and caused widespread destruction across four municipalities in the country's southern and central areas, destroying houses, roads and cutting off power infrastructure to several villages, despite record temperatures and drought in the summer just three months prior.[89]

80 Bosnia NAP (2021), p. 16.

81 Bosnia NAP (2021), pp. 33-34.

82 FBIH (2020). Federation of Bosnia and Herzegovina (FBIH), *Climate Change Adaptation and Low-Emission Development Strategy for Bosnia and Herzegovina for the Period 2020-2030*, December 2020. Available at: https://unfccc.int/sites/default/files/resource/ENG_CC.

83 Second National Communication of Bosnia and Herzegovina under the United Nations Framework Convention on Climate Change, 2013, https://www.ba.undp.org/content/bosnia_and_herzegovina/bs/home/library/energija-i-okolis/sncbih-2013.html; Third National Communication (TNC) and Second Biennial Update Report on Greenhouse Gas Emissions (SBUR) of Bosnia and Herzegovina, 2016 https://www.ba.undp.org/content/bosnia_and_herzegovina/bs/home/library/energija-i-okolis/tre_i-nacionalni-izvjetaj-bih.html. The drafting of the Fourth Communication, now complete, was in progress at the time Bosnia NAP (2021) was prepared. Available at: https://unfccc.int/sites/default/files/resource/FNC%2520BiH_ENG.

84 See the full list at Bosnia NAP (2021), p. 33.

85 Bosnia NAP (2021), p. 34.

86 Guy Carpenter & Co., LLC (2014), "Balkans Floods." Available at: https://www.guycarp.com/insights/2014/06/balkans-floods.html

87 Ibid. https://www.guycarp.com/insights/2014/06/balkans-floods.html

88 Anadolu Agency (2014). "Balkan floods cost Bosnia over 26 million Euros: At least 76 people died in the worst flooding to hit the region in 120 years." 6 October 2014. Available at: https://www.aa.com.tr/en/economy/balkan-floods-cost-bosnia-over-26-million-euros/152273.

89 EuroNews (2024). Paternoster, Tamsin (AP), "Death toll rises to 26 in Bosnia floods as rescue teams search for survivors," 15 October 2024. Available at: https://www.euronews.com/my-europe/2024/10/15/26-dead-and-one-missing-after-floods-sweep-through-bosnia.

Extreme Drought. In recent decades the country has seen an increase in the frequency of extreme droughts (2000, 2003, 2007, 2012, 2015 and 2024). The extreme drought of 2000 affected the wider region, causing damage to about 60 percent of agricultural production in BiH. In the spring and summer of 2003, the whole country was hit by a severe drought, with northern BiH being hit harder than three years earlier in 2000. There has been a deficit of precipitation in almost all parts of BiH since February 2003. This deficit is particularly pronounced in the Bijeljina region, which is one of the main production regions in Republika Srpska, where the humidity deficit in the first four months was 49 percent. The lack of precipitation in the summer of 2003 also caused a hydrological drought, resulting in a decrease in surface and groundwater supplies.[90] The drought of Summer 2024, which hit Bosnia with record temperatures of 35°C and 40°C, three heatwaves, and almost no rain for the entire summer, caused disruptive blackouts, threatened the country's agricultural industry, and is understood to have hampered the absorption of floodwaters three months later in the deadly floods of October 2024, making the damage caused by the floods more intense.[91]

Floods and droughts cause great damage in BiH; however, there is a lack of statistics in the entities of Republika Srpska and Federation BiH and at the BiH level on the total annual amounts, as this type of data are still not collected by the entity- and state-level statistical institutions.[92]

Climate-induced Health Risk. Climate change in Bosnia and Herzegovina is having an increasing impact on human health.[93] This impact is predominantly manifested through sudden changes in extreme weather conditions. These changes are closely associated with blood pressure oscillations and cardiovascular and neurological problems, especially in vulnerable groups (chronic patients, the elderly, etc.). Moreover, extreme events such as floods may cause the spread of water-borne diseases.[94]

In Bosnia and Herzegovina, very little research on the impact of climate change on human health is yet done or available, and whatever little there is has been mainly conducted at the local level. However, the deleterious effects of climate change on human health are likely to intensify in the future, especially in developing countries, including Bosnia and Herzegovina, where the ability to adapt is constrained by limited resources and technologies. Climate change impacts directly on the conditions of human life, affecting economic development, food production, water quality, and agriculture, and on human health. Therefore, there is an urgent need to identify new approaches and methods and develop new tools to increase the resilience of human health to climate-induced risks, including in Bosnia and Herzegovina.

More ominously, extreme climatic conditions may lead to more frequent changes and worsening of the health situation for the population of Bosnia and Herzegovina, especially in the elderly and ill, who may suffer from severe conditions (heart patients, people with hypertension, kidney and lung patients), but also in other vulnerable groups, including children, pregnant women, people prone to allergies, and others. Of all extreme weather events, heat waves are most commonly associated with population morbidity, the rate of disease in a population, but also with a high mortality rate, posing an important and global public health problem, including on Bosnia and Herzegovina. Intense heat waves may cause serious conditions such as heatstroke. Heat waves have a very harmful effect on heart patients, but young and healthy people can also feel the consequences of extreme heat. Other health problems can occur as well, such as food-borne

90 Bosnia NAP (2021), p. 35.

91 EuroNews (2024). Paternoster, Tamsin (AP), "Death toll rises to 26 in Bosnia floods as rescue teams search for survivors," 15 October 2024. Available at: https://www.euronews.com/my-europe/2024/10/15/26-dead-and-one-missing-after-floods-sweep-through-bosnia.

92 Bosnia NAP (2021), p. 35.

93 Bosnia NAP (2021), p. 52.

94 Bosnia NAP (2021), p. 52.

and waterborne illnesses and diseases transmitted by mosquitoes, ticks, rodents and birds (vector-borne diseases).[95]

Montenegro

Montenegro is increasingly vulnerable to a range of climate-related hazards that threaten its natural ecosystems, socio-economic sectors, and the well-being of its population. The country's mountainous terrain, Mediterranean-continental climate, and high biodiversity intensify the complexity of its climate vulnerabilities.

One of the most critical and rapidly intensifying risks is the increased frequency, intensity, and duration of heatwaves. Podgorica, the Montenegro capital for instance, now experiences over 70 tropical days annually, with maximum temperatures surpassing 40°C becoming increasingly common—an elevenfold increase compared to historic norms. These temperature extremes have grave implications for public health, energy systems, and labor productivity, especially affecting vulnerable groups such as the elderly, outdoor workers, and people with pre-existing health conditions.

Droughts pose a chronic and expanding risk to agriculture, forestry, and water supply systems. Severe drought events in 2003, 2011, 2017, and 2020 demonstrated Montenegro's limited capacity to absorb such shocks. These events reduced crop yields, led to livestock mortality, diminished hydropower output, and triggered significant economic losses across rural communities. Future climate patterns indicate that droughts will become more frequent, longer lasting, and spatially widespread.

Flooding and flash floods, driven by erratic and intense precipitation events, increasingly damage infrastructure, disrupt transportation, and contaminate water supplies. Regions such as the Zeta-Bjelopavlići plain and the Lim River valley have been especially affected. These events often result in landslides, erosion, and significant economic loss, highlighting the need for climate-resilient infrastructure and improved land management practices.

Forest fires have become a seasonal hazard, particularly in the south and central parts of the country. Driven by prolonged droughts, high temperatures, and strong winds, wildfires have destroyed thousands of hectares of forest, affecting biodiversity, air quality, and tourism assets. Montenegro has witnessed a staggering number of large forest fires, with 1,001 recorded between 2010 and 2020, and additional 420 from 2020 to mid-2023. These fires have devastated over 50,000 hectares of forests and damaged wood mass exceeding 900,000m3. In 2017, 21,216 hectares of forest area were engulfed by fires. These alarming statistics place Montenegro among the most affected countries in Europe, leading to forest degradation.

Sea-level rise, while more gradual, poses a critical long-term threat to Montenegro's coastal infrastructure and tourism industry. Key tourist hubs such as Budva, Bar, and the Bay of Kotor are at risk of inundation, saltwater intrusion, and coastal erosion. Combined with extreme weather events and storm surges, the threat to Montenegro's valuable coastal zone is substantial. Montenegro's future climate is expected to be significantly warmer and drier, with extreme events occurring more frequently and with greater intensity. Climate modeling using Representative Concentration Pathways (RCPs) 4.5 and 8.5 forecasts the following trends:

95 Bosnia NAP (2021), p. 52.

Temperature Increases: Annual average temperatures are projected to rise by 2°C under RCP4.5 and over 4°C by the end of the century under RCP8.5. Summer temperatures could rise by up to 5°C, particularly in lowland and coastal areas

Increased Heat Extremes: By mid-century, the number of summer days (T >25°C) could increase by 40 to 65 days, while tropical nights could expand by 20 days or more, especially in urban coastal regions. Heatwave duration is projected to extend by over 90 days annually in southern zones

Changes in Precipitation: Annual rainfall is expected to decrease, especially during the summer months. Simultaneously, precipitation events are expected to become more extreme, increasing the likelihood of flash floods, especially in mountainous and poorly drained areas

Sea-Level Rise and Coastal Flooding: Sea-level rise projections range from 29 to 56 cm by 2100 under RCP8.5, threatening critical coastal assets and necessitating the urgent implementation of shoreline management and coastal defense systems.

These projections confirm that Montenegro's climate trajectory aligns with high-risk pathways, requiring comprehensive and urgent adaptation measures across all sectors and regions.

As part of the preparation of Montenegro's first National Adaptation Plan, which is currently in the final phase of adoption by the Government of Montenegro, key priority sectors for climate adaptation have been identified based on vulnerability assessments and national consultations. These include water resources, agriculture, health, and tourism, with cross-cutting priorities in institutional capacity building, data systems, and gender-sensitive policy integration.[96]

Water Resources: Adaptation in this sector focuses on enhancing the resilience of water supply systems, improving water use efficiency, and expanding monitoring infrastructure. These actions include: rehabilitation of damaged and outdated infrastructure; implementation of integrated watershed management; establishment of early warning systems for drought and flood risk; and strengthening institutional coordination for water governance.

Agriculture: Climate-smart agricultural practices are a national priority to safeguard food security and rural livelihoods. Key interventions include: promotion of drought-tolerant crop varieties; improved irrigation systems and soil conservation techniques; development of early warning systems for pests, drought, and market shocks; capacity building for farmers, especially women and marginalized communities.

Health Sector: Climate change impacts public health through heat stress, vector-borne diseases, and degraded air and water quality. Adaptation priorities include: upgrading health infrastructure for climate resilience; strengthening surveillance for climate-sensitive diseases; public awareness campaigns and risk communication strategies, and training of health personnel to respond to climate-related health emergencies.

Tourism: The tourism sector must transition from a low-value, seasonal model to a sustainable, diversified, and climate-resilient industry. Priority measures include: Promoting eco-tourism and off-season nature-based tourism; Retrofitting infrastructure in coastal areas to withstand sea-level rise; Investing in

96 Montenegro Draft NAP

sustainable transport and water systems; Strengthening local capacities for climate risk management in tourism.

Cross-Cutting Adaptation Measures: to support sectoral adaptation, Montenegro must also implement cross-cutting reforms:

- Legal and Institutional Reform: Establish a national climate adaptation framework and harmonize responsibilities across ministries and local governments.
- Monitoring and Evaluation: Develop an MRV-E (Monitoring, Reporting, Verification, and Evaluation) system to track climate actions and outcomes.
- Gender Mainstreaming: Integrate gender-sensitive indicators and strategies to address the differentiated impacts of climate change on women and marginalized groups.
- Data and Research: Invest in climate modelling, vulnerability assessments, and public data platforms to inform policy and adaptation planning.

North Macedonia

The average annual temperature in North Macedonia ranges between 11 °C and 15 °C, depending on topography. In January, the average monthly temperature is around 0–1 °C, while in the lowlands like Skopje, typical January highs reach 5 °C and lows dip to –3 °C. During July and August, the monthly average across the country hovers around 22–23 °C, with summer peaks in Skopje averaging a daily high of approx. 31 °C and low of approx. 16 °C.[97]

Driven by differences in elevation, two basic rainfall regimes exist in North Macedonia, the Mediterranean and continental. Regions in the Mediterranean regime experience high levels of rainfall in October through December, while regions in the continental regime see most of their rainfall in the months of May and June. Annual precipitation totals about 1,000 mm in the wettest areas and 400 mm in the driest. The mountain ranges in the west have the largest amount of precipitation, with the summit of Baba Mountain receiving around 1,000 mm annually. Regions in central and southern areas of the country are the driest, receiving less than 400 mm of precipitation annually.

Due to the diversity of the landscapes, there are considerable variations in the climate. The eastern areas tend to have milder winters and hotter, drier summers and the western (more mountainous) regions have more severe winters. Research conducted on the decadal averages of the annual air temperature shows that the last decade (2011-2020) was the warmest decade since the beginning of meteorological measurements in the country. Moreover, the largest change in the annual number of frost days, icing days, summer days and tropical nights compared to the reference period is observed for the same decade.

The largest increase in the frequency and in the number of days with heat spells annually compared to the reference period is in the period 1991-2020 and in 2011-2020. In 2011-2020 the increase for the entire territory of the country is more than 14 days with heat spells.

Analysis of precipitation indices shows a change in the precipitation regime with an increase in the frequency of heavy and very heavy precipitation[98].

97 https://climateknowledgeportal.worldbank.org/country/north-macedonia/climate-data-historical

98 https://www.worldbank.org/en/country/northmacedonia/overview

Climate projections include[99]

- Increase in annual average temperature of 1.0 – 3.3°C by 2050, and 2,5 °C - 5 °C by the end of the century
- Temperature increases are expected to be higher in summer months.
- An increase in the number of hot days, hot nights, and heat waves.
- For mid-emissions scenario annual precipitation decrease is up to -20% with decrease for summer precipitation of 30%, and for high emissions scenario decrease in annual precipitation is up to -30%, and -40% for summer precipitation, by the end of the century
- Likely increase in precipitation variability.
- Likely increase in frequency and intensity of droughts, with the probability of projected change in annual severe drought.
- Hot extremes are expected to increase in the future. For the end of the century, the simulated increase in summer days is between 20 and 30 days, under a low emissions scenario, while for high emissions scenario the increase will be between 50 and 60 days per annum, over most of the country.

North Macedonia is vulnerable to the increasing impacts of climate change due to its geographical location, economic dependence on climate-sensitive sectors, and limited adaptive capacity. The country experiences rising temperatures which leads to more frequent and intense weather events, forest fires, droughts, and floods, all of which threaten its socio-economic stability, public health, and natural ecosystems. While both urban and rural areas are affected, the nature and scale of challenges differ significantly between them. Urban centres face issues related to infrastructure, pollution, and governance, while rural regions, in addition to this, struggle with agricultural resilience, ecosystem degradation, and water scarcity.

In urban centres such as Skopje, Bitola, Strumica, Kavadarci, Kumanovo and Tetovo, air pollution and related public health risks pose a major adaptation challenge. With high levels of particulate matter from traffic, combustion of oil and mazut, mineral dust, open fire burning, and household heating, cities often exceed WHO air quality limits. Climate change intensifies this situation by increasing heatwaves and reducing air dispersion, which leads to an elevated risk of respiratory and cardiovascular diseases. The Western Balkans Regional Air Quality Management Report estimates that about 1,600 deaths occur every year due to diseases caused by ambient air pollution in North Macedonia,[100] highlighting the urgent need for integrated climate and health planning in urban areas.

Recent studies emphasize that exposure to environmental risks and vulnerability are deeply influenced by gender and intersecting factors. Men are more exposed to outdoor air pollution due to their higher representation in occupations such as construction, transport, and agriculture. In contrast, women, particularly in low-income or rural households, face greater risks from indoor air pollution, primarily due to their responsibilities in cooking, heating, and caregiving within the home.

Moreover, unemployed women, elderly women, and single mothers often live in low-income households that use highly polluting fuels like firewood, plastic, or waste oil. These women are also less likely to access information or benefit from clean energy subsidies and are underrepresented in decision-making at both household and municipal levels.

99 Climate Risk in North Macedonia: Country Risk Profile. USAID 2018 Report on climate change projections and changes in climate extremes for the Republic of North Macedonia. Available at: https://api.klimatskipromeni.mk/data/rest/file/download/5e8046fa4761fb1b91d41c7fa0a0f34b621b19acc537ff9f45b79af5b623255e.p

100 https://documents1.worldbank.org/curated/en/116521576516981237/txt/Air-Quality-Management-in-North-Macedonia.txt

Intersectional vulnerabilities are pronounced among Roma women, rural women, and persons with disabilities, who face compounded exclusion due to poor housing, lack of infrastructure, and limited mobility. These patterns reflect deeper structural inequalities and must be central to climate resilience planning. Another pressing concern linked to heatwaves is the urban heat island effect. Dense construction, asphalt surfaces, and limited green spaces trap heat, particularly affecting the elderly, children, and low-income residents. As summer temperatures continue to rise, urban areas are experiencing heightened thermal discomfort and heat-related health emergencies. Expanding green infrastructure, improving building standards, and increasing tree canopy coverage are essential adaptive measures that remain underutilized.

Flooding and stormwater management also represent a significant challenge for cities in North Macedonia. Aging drainage systems are ill-equipped to manage the growing volume and intensity of precipitation events. Urban flash floods have disrupted transport, damaged properties, and burdened public services. It is necessary to have climate-resilient urban planning that integrates flood risk assessments and sustainable drainage systems.

The shift toward renewable energy and climate-resilient infrastructure in urban areas is slow, hindered by financial limitations, outdated infrastructure, and weak regulatory enforcement. Most municipalities still rely heavily on fossil fuels, particularly lignite, for electricity and heating. Investments in renewable energy solutions such as solar panels, energy-efficient buildings, and public transport upgrades are increasing but remain insufficient given the scale of the transition required.

Finally, urban governance and institutional capacity are key constraints. North Macedonia is in a process of development of national climate policies aligned with EU standards, but it's important to emphasize that implementation at the municipal level is often fragmented. Limited technical expertise, insufficient data for planning – especially data disaggregated by sex, age, geographical areas etc, and weak policy integration challenge the ability of local governments to respond effectively to climate risks.

In rural areas, where a large portion of the population depends on agriculture for their livelihood, agricultural vulnerability to climate change is the most critical adaptation challenge. Recurrent droughts, record-breaking wildfires, hailstorms, and temperature extremes have reduced crop yields and affected food security. Smallholder farmers, who dominate the sector, often lack access to modern irrigation systems, crop insurance, drought-tolerant seeds, and access to extension services for sustainable agriculture. This structural vulnerability places a heavy economic burden on farming households and increases their exposure to climate shocks. Furthermore, poverty rates among rural women remain significantly higher than among men, driven by limited access to land, formal employment, and social protection measures.

Closely linked to agriculture is the issue of water scarcity and mismanagement. Rural areas increasingly suffer from declining water availability, particularly during the growing season. Climate-induced changes in precipitation patterns, poor infrastructure for water storage and distribution, and implementation of water use law and regulation exacerbate this challenge. In many communities, irrigation relies on outdated systems or manual methods, reducing efficiency and leaving crops unprotected during dry spells.

Biodiversity and ecosystem degradation are also acute in rural landscapes, especially in forested and mountainous regions. Rising temperatures and human activity, including deforestation, waste management, tourism, and limited financial resources with managers of national parks and protected areas, are altering ecosystems and threatening wildlife. For instance, the growing brown bear population in Mavrovo National Park has led to increased human-wildlife conflicts. Simultaneously, Lake Ohrid, a UNESCO World Heritage site, faces pollution and habitat loss, highlighting the need for integrated land-use planning and environmental protection.

Women represent 64% of unpaid family workers in agriculture and are heavily involved in planting, picking, processing, and livestock care, yet only 10% hold individual agricultural land and 20% are managers of agri-business entities. Women's participation in decision-making, particularly in land-related matters, is limited, with only 9.65% in leadership positions. Their limited access to resources such as inputs, technology, training, and financing hinders their ability to effectively adapt to climate risks.

Rural populations are further constrained by limited access to basic services such as healthcare, education, emergency response, and early warning systems. This increases their vulnerability to climate-related hazards like floods or wildfires, increasing disaster risk. Moreover, there is often a lack of targeted adaptation programs that are tailored to the specific needs and knowledge of rural communities.

Forest fires are becoming more frequent and severe, damaging ecosystems, farmland, and infrastructure, while landslides, often triggered by intense rainfall and enabled by erosion and slope instability, threaten rural settlements and transport routes. Adaptation remains limited due to weak landscape management, limited early warning systems, lack of risk mapping, heavily fragmented governance structures, and insufficient local capacity. However, opportunities exist through governance support, reforestation, slope stabilization using nature-based solutions, community-based fire prevention, and better integration of climate risks into local planning and land management.

In forest-based livelihoods, women often derive a greater proportion of household income from forest products compared to men, yet face insecure land tenure, poor access to credit, and exclusion from forest governance structures. Gender-sensitive forest management contributes to better environmental outcomes, conflict reduction, and equitable benefit-sharing.

Serbia

Serbia has a moderate, warm-humid continental climate and continental precipitation regime, influenced by the Adriatic and Mediterranean Seas, with highest monthly precipitation in June, lowest in February and October, and snow cover from November to March.[101] All four seasons are well pronounced, in each of Serbia's three geographical regions (northern plain, central hilly landscapes, and southern mountains). Current average monthly temperatures range from 0°C in January to 23°C in July.[102] Average annual air temperature for the baseline period 1961-1990 was 10.9°C[103] in lower-lying central plains. In the northern plains, the climate is more continental, with cold winters, and hot, humid summers. In the central and southern hilly landscapes and southern mountains, the climate is more alpine, though with Mediterranean influences, with cold winters, drier summers and autumns, and heavy snowfall, especially in the mountains. Northwest and west winds prevail in the warmer part of the year, while east and southeast winds (notably the cold, renowned Košava, see below) characterize the colder part of the year.[104] The lowest recorded temperature in Serbia was −39.5 °C on 13 January 1985, in Karajukića Bunari in the harsh Pešter Plateau.

101 Republic Hydrometeorological Service of Serbia (RHMSS). "Basic Climate Characteristics for the Territory of Serbia". Available at: https://www.hidmet.gov.rs/eng/meteorologija/klimatologija_srbije.php.

102 Republic Hydrometeorological Service of Serbia (RHMSS). "Temperature Regime in Serbia". Available at: https://www.hidmet.gov.rs/eng/meteorologija/klimatologija_temp_rezim.php and https://www.hidmet.gov.rs/data/klimatologija_static/eng/Klimatske_karakteristike_Srbije_prosirena_verzija.pdf.

103 Republic Hydrometeorological Service of Serbia (RHMSS). "Basic Climate Characteristics for the Territory of Serbia". Available at: https://www.hidmet.gov.rs/eng/meteorologija/klimatologija_srbije.php.

104 Republic Hydrometeorological Service of Serbia (RHMSS). "Basic Climate Characteristics for the Territory of Serbia". Available at: https://www.hidmet.gov.rs/eng/meteorologija/klimatologija_srbije.php.

The highest was 44.9°C, on 24 July 2007, in Smederevska Palanka in Podunavlje District in the humid-subtropical central region of Šumadija.[105]

Serbia's geographic diversity shapes its climate and local context for adaptation, including variations in elevation, proximity to the Adriatic Sea and large river basins, and exposure to winds. The Dinaric Alps and other mountain ranges cool air flows from the sea and South. Winters are harsh in the Pešter Plateau, for example, a karst plateau in southwestern Serbia, in the Raška (or Sandžak) region, because of the mountains which encircle it[106]. As with all of the Western Balkans countries, Serbia faces high risk of natural hazards, notably from earthquakes, storms, floods, and droughts[107], which underpins the strong need for locally-led adaptation and resilience. Moreover, one of Serbia's unique climatic features, the Košava[108], a cold, strong, gusty southeastern wind, formed by the meeting of low-pressure cells over the warm Adriatic Sea and high pressure cells in colder southern Russia, which starts in the Carpathian Mountains and blows rapidly northwest up the Danube River valley through the noted "Iron Gates" narrowing, a gorge and rocky narrowing on the Danube that forms part of the boundary with Romania and separates the Carpathian Mountains from the foothills of the Balkan Mountains,[109] where the wind gains a gusty, sharp, jet effect from the narrowing, and continues to Belgrade and can spread as far south as Niš.[110]

Climate Hazards and Climatic Impact-drivers in Serbia. In the Serbia NAP (2023), Serbia prioritizes six "climatic impact-drivers", or climate hazards, in four "climate hazard groups": Too Warm, Too Wet, Too Dry, and Storms, which represent the main drivers and risks of climate change and climate-change impact in Serbia.[111] **Six climatic impact-drivers** are: (1) increased climate variability, (2) increase in temperature and heat waves, (3) change in the annual-precipitation distribution, (4) change in precipitation-intensity distribution, (5) change in droughts, and (6) change in climate aridity/dryness.

The six climatic impact-drivers contribute to one or more of **four climate hazard groups**, which Serbia identifies as follows (with number of impact-drivers in that group in parentheses):[112]

- **Too Warm (2):** two impact-drivers: variability, temperature: i) Increased climate variability, ii) Increase in temperature and heat waves
- **Too Wet (3):** three impact-drivers: variability, precipitation, intensity: i) Increased climate variability, ii) Change in annual precipitation distribution, and iii) Change in precipitation distribution by intensity.
- **Too Dry (4):** four impact-drivers: variability, precipitation, drought, dryness: i) Increased climate variability, ii) Change in annual precipitation distribution, iii) Increased droughts, iv) Increased aridity/dryness.

105 Republic Hydrometeorological Service of Serbia (RHMSS). "Temperature Regime in Serbia". Available at: https://www.hidmet.gov.rs/eng/meteorologija/klimatologija_temp_rezim.php.
106 Radovanović, M and Dučić, V, 2002, *Variability of Climate in Serbia in the Second Half of the 20th century*. Archived 3 July 2019 at the Wayback Machine, EGS XXVII General Assembly, Nice, 21 to 26 April 2002, abstract #2283, 27:2283–, provided by the Smithsonian / NASA Astrophysics Data System.
107 Alliance Development Works (2013). "World Risk Report 2013 – Exposure to natural hazards", pp. 3-4. Archived from the original on 16 August 2014.
108 Republic Hydrometeorological Service of Serbia (RHMSS). "Basic Climate Characteristics for the Territory of Serbia". Available at: https://www.hidmet.gov.rs/eng/meteorologija/klimatologija_srbije.php.

109 The Iron Gates region is notably also the location of one of Europe's most important archaeological sites: the Lepenski Vir, the oldest planned settlement in Europe and site of the Lepenski Vir culture, which features artifacts from the Mesolithic Iron Gates hunter-gatherers and marks a transition to the Early-Neolithic Early-European Farmers period of the Balkans. Source: Sormaz, Andela (5 May 2020). "Lepenski Vir". World History Encyclopedia. Retrieved 29 July 2020.

110 "Kossava". Glossary of Meteorology, Second Edition. American Meteorological Society. Available at: http://amsglossary.allenpress.com/glossary/search?id=kossava1.

111 Serbia NAP (2023). *Republic of Serbia: Climate Change Adaptation Program for the Period 2023-2030*, referred to informally as the National Adaptation Plan (NAP) or "Serbia NAP 2023".

112 Serbia NAP (2023), pp. 22-25.

- **Storms (1):** one impact-driver: precipitation: i) Change in precipitation distribution by intensity

Precipitation. Serbia's annual maximum of monthly accumulated precipitation has shifted towards an earlier period of the year (from late MAM and early JJA season to earlier periods in the MAM season). The number of days with very heavy (daily precipitation 20mm-30mm) and extreme (daily precipitation over 30mm) precipitation and the amount of precipitation accumulated during such events have increased, while the events with light and moderate precipitation have decreased. **2) Observed Change (100% Increase).** The proportion of precipitation falling in the form of extreme precipitation has increased by over 100% in 2001-2020 compared to 1961-1990. Moderate risk of extreme precipitation in 2001-2020 covers 45% of the territory of Serbia, with high risk covering 7% (central/western Serbia, parts of Vojvodina and eastern Serbia). **3) Projected Future Change.** The extreme precipitation risk will increase in the future and high risks will affect larger areas. In the 2041-2060 period, 34% of the country is expected to be under moderate and 56% under high and very high risk of extreme precipitation. Increasing of values of river discharge is expected with higher river flows, as well as an increase in the maximum flows. The risk of soil degradation due to soil erosion caused by extreme precipitation is increasing.[113]

Temperature Increase. Serbia's average annual temperature increased by +1.4°C in 2001-2020 (+1.8°C in 2011-2020) compared to 1961-1990. On average, the increase of mean maximum temperature is higher than of the mean minimum temperature. The largest increase in mean temperature is found in the JJA season, i.e., +2.0°C (+2.4°C). The increase in mean maximum temperature for JJA is +2.2°C (+2.6°C). In 2021-2020, the expected increase is +2.2°C, in 2041-2060 +2.5 and more likely +3.1°C, and in 2081-2100 approximately +3.1°C under RCP4.5 and + 5.8°C under RCP8.5, compared to 1961-1990.[114]

Drought and Dryness. Serbia's average annual accumulated precipitation will not change significantly until the second half of the 21st century, and in the 2081-2100 period, it is expected to decrease under RCP8.5 by 8% to 14% compared to 1961-1990. The decrease in precipitation during the JJA season in 2001-2020 is 10% to 20% in a large part of Serbia, a further decrease is expected in the future, in 2041-2060 over 20%, and in 2081-2100 under RCP8.5 even over 40%, compared to 1961-1990. The percentage of years with drought, on average, increased by +30% in 2001-2020 (+40% in 2011-2020) compared to 1961-1990. In 1961-1990 the frequency was 10%. In 2041-2060, every year is expected to be a year with drought, on average for the territory of Serbia.[115]

An increase of the level of aridity of the climate in Serbia is expected, meaning increasingly drier average climate conditions. In 2001-2020, Serbia's average climate categorization was "humid climate", while lowland areas (Vojvodina, central Serbia, eastern and south-eastern Serbia and locally in other areas) were "dry sub-humid climate". Due to the unfavorable distribution of precipitation during the year, in the largest part of the country, except in the high mountains of the western Serbia, the JJA season is "semi-dry". The other seasons belong to the "wet" category. In 2041-2060, on average, Serbia will have a "dry sub-humid" climate, and in RCP8.5 it will be "semi-arid" in 2081-2100. The increased climate variability means more frequent occurrence of years with drier conditions, as well as the afore-mentioned increase in droughts. The projected temperature increase significantly impacts drier conditions.[116]

Landslides. Landslides in Serbia are a significant risk to life, livelihoods, and the environment[117], and are increasing, particularly in the central and eastern parts of the country, due to a combination of factors,

113 Serbia NAP (2023), p. 24.

114 Serbia NAP (2023), p. 24.

115 Serbia NAP (2023), p. 25.

116 Ibid., p. 26.

117 Lukić, T.; Bjelajac, D.; Fitzsimmons, K.E.; Marković, S.B.; Basarin, B.; Mlađan, D.; Micić, T.; Schaetzl, R.J.; Gavrilov, M.B.; Milanović, M.; et al. Factors triggering landslide occurrence on the Zemun loess plateau, Belgrade area, Serbia. Environ. Earth Sci. 2018, 77, 1–15.

including climate change, extreme weather events, particularly heavy precipitation (rain and snow) and floods, and human activities. The primary triggers for landslides include the key natural, human and climate impact-drivers present in Serbia, including precipitation variability, including heavy rainfall, snowmelt, and prolonged drought, earthquakes, soil erosion, underground water levels, changes in land use, inadequate drainage, and human activities.[118]

Serbia is prone to landslides triggered by heavy rainfall, snow thaws, and earthquakes, for example the earthquakes in Mionica and Kraljeva. In recent years, several unusual, massive landslide episodes have occurred, often coinciding with climate-related factors, notably floods and flash floods, for example, the floods in the watersheds of the Danube, Sava, Tamiš and other rivers and subsequent landslides, and most notably the landslides after the floods of 2014 in Serbia and neighboring countries, which caused enormous loss to life, livelihoods and the economy. Urban development, industrial activities, and inappropriate construction practices on unstable slopes have also contributed to the increased landslide risk. Landslides in Serbia have caused significant economic losses and human casualties. Recognizing the severity of the issue, Serbian authorities have initiated projects and legislative campaigns to better understand landslide-rainfall interaction patterns and improve preparedness. Efforts are also focused on historical landslide inventories and data collection to better understand and address the problem.

Health Vulnerability by Climate Hazard. The climate hazards that threaten human health and safety are increasing and they will continue to increase in the future in Serbia. The climate change impacts and consequences that are known to have or may have a significant impact in Serbia include the following, categorized by **Serbia's four climate hazard groups** framework: **Too Warm:** Heatstroke and exhaustion, reduced availability of food and drinking water. Increased risk of diseases, allergies and chronic illnesses. Increased risk of fire leading to increased air pollution. **Too Wet:** Increased risk of diseases and other health problems. Increased risk of injuries and deteriorated living conditions due to floods and flash floods. Reduced availability of drinking water and reduced availability and quality of food. Reduced capacity to provide emergency medical assistance. Infectious diseases outbreaks due to deteriorated hygiene conditions. **Too Dry:** Reduced availability of water for drinking and maintaining hygiene, reduced availability and quality of food. **Storms:** Increased risk of injuries and damages to properties, i.e., deteriorated living conditions. Reduced capacity to provide emergency medical assistance. The consequences of the above include: Worsening of health conditions, premature deaths. Deteriorated living conditions. Healthcare system overload due to climate hazards and inadequate public health care and rescue services overload. Reduced functionality of emergency health services.[119]

Priority Adaptation Sectors

Priority Adaptation Measures. The Serbia NAP (2023) proposes the following 25 priority adaptation measures in eight climate-vulnerable sectors on the basis of estimated climate change threats to individual sectors, as well as on the basis of climate models and expected climate change by the end of the 21st Century.

The eight priority sectors (with number of proposed adaptation measures in parentheses) are: Cross-Cutting Measures (9), Agriculture (6), Forestry (3), Road Infrastructure (1), Urban Planning (2), Energy Sector (2), Health Sector (1), Biodiversity (1). The priority adaptation measures are listed below:[120]

118 Alimohammadlou, Y.; Najafi, A.; Yalcin, A. Landslide process and impacts: A proposed classification method. Catena 2013, 104, 219–232.

119 Serbia NAP (2023), p. 28.

120 Serbia NAP (2023), P. 52.

Agriculture:

1. Improving the protection of perennial plantations against extreme weather conditions
2. Increasing the resilience of livestock production to climate change
3. Increasing the resilience of meadows and pastures to climate change
4. Optimizing irrigation in line with needs and resources
5. Capacity strengthening and awareness raising for adaptation of agricultural production to climate change
6. Improvement of agrometeorological services to provide the necessary information for increasing the resilience of agricultural production to climate change

Forestry:

1. Strengthening the capacity to ensure forest ecosystems resilient to climate change
2. Improving knowledge and information for the assessment of the development of specific forest types under future climate conditions
3. Revising the forest planning and management regulatory framework with regard to climate change adaptation

Road Infrastructure:

1. Road infrastructure climate change vulnerability and risk assessment

Urban Planning:

1. Providing support to local self-government units in implementing climate change adaptation through green infrastructure strengthening
2. Increasing the resilience of urban areas to climate change through strengthening of green infrastructure

Energy Sector:

1. Assessment of the climate change impact on hydrological parameters relevant for planning in the energy sector
2. Assessment of the changes in the distribution of heating and cooling degree days under climate change and development of the monitoring and forecasting system for heating and cooling degree days, to improve planning of capacities for energy production

Health Sector:

1. Improving the prevention and monitoring of the climate change impact on human health.

Biodiversity:

Developing a methodology for monitoring the biodiversity and its climate change vulnerability.

Cross-Cutting Measures:

1. Monitoring the implementation of measures with benefits in the climate change adaptation process when integrating green aspects in public policy documents
2. Monitoring green expenditures in the budget of the Republic of Serbia that contribute to the climate change adaptation process
3. Establishing a system for monitoring climate change, its impacts, implementation and success of climate change adaptation measures

4. Developing climate change adaptation research programme
5. Improving disaster risk assessment by including changes in climate hazards frequency and intensity caused by climate change
6. Integrating drought as a multidimensional climate hazard in the system for monitoring, timely alerts and impact assessment, including damages and losses
7. Strengthening capacities to satisfy the increased needs for timely information dissemination on climate and weather conditions
8. Improving the preparedness of the citizens of the Republic of Serbia for weather and climate extremes
9. Addressing regulatory issues regarding land use to mitigate and prevent the degradation Process

United Nations Development Programme

12 August 2025

Subject: Implementation and Management Arrangements for the Regional Large Innovation Project "**Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience**", Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia (UNDP 10353)

Dear Mr. Ollikainen,

Reference is made to the regional project proposal submitted by UNDP for the consideration of the Adaptation Fund Board "Balkan Climate Adaptation Futures: A Regional Innovation Initiative for Resilience".

This regional project will be implemented by UNDP through the Direct Implementation Modality. The UNDP Direct Implementation Modality is a regular practice applied for UNDP regional projects and programmes where more than one beneficiary country is engaged and where a strong regional coordination effort and leadership is required. The project implementation will be led by the UNDP Istanbul Regional Hub (IRH) with four UNDP Country Offices in the target countries. A regional project coordination mechanism – the Regional Steering Committee – will be established. There is a full understanding among the beneficiary governments of Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia regarding the proposed UNDP implementation modality.

The Regional Project Management Unit (PMU) will be established and placed in one of the target countries of the Western Balkans sub-region in order to reduce operational costs and facilitate communication with the national governments and local beneficiaries. The Regional PMU will receive technical advice and inputs, including on gender mainstreaming and safeguards management, from the Adaptation Fund AFCIA Global Programme Team. Country-level operations will be supported by part-time national staff. PMU might engage national and local Responsible Parties to deliver specific project activities.

Notably, the nature of this Large Innovation Project involves distribution of grants to the local beneficiaries to promote adaptation innovation through two UNDP operational modalities: the Low Value Grants (LVG) targeting local CSOs and NGOs; and the Innovation Challenge Grants targeting local MSMEs. The grant delivery mechanism is presented in detail in the project proposal. The effective implementation of the grant instruments will require an adequate support structure to secure a high level of transparency, inclusion and accountability. A grants review and selection committee/s will be established; IRH will provide quality assurance and oversight over the project execution.

Mr. Mikko Ollikainen
Head, Adaptation Fund
Washington, D.C.

Given the complexity of this multi-country initiative and the strong regional coordination required, the proposed Project Execution and Management cost of 3.1% is essential to ensure effective delivery. The need for the additional 1.6% is being driven by minimal costs for Terminal Evaluation, audit, a small percentage of project management and operations support/staff, while travel costs, site visits for safeguards and technical assistance are folded into the project component costs. The Regional Project Manager will be responsible for the overall supervision of the project, including the preparation and quality assurance of annual reports and evaluations, leading supervision missions, facilitating Regional Steering Committee meetings, and ensuring full compliance with audit and fiduciary requirements. These functions are critical to maintain the quality, transparency, and accountability of project implementation, as well as to secure timely coordination between the Regional Project Management Unit, the four participating Country Offices, and the Istanbul Regional Hub. The proposed level of resources reflects the scope and intensity of management efforts needed to achieve the project's regional objectives and adaptation outcomes.

The proposed project management resources are important to secure effective execution of this regional project, knowledge management, and delivery of regional and national adaptation benefits sought from the Adaptation Fund project.

Yours sincerely,

DocuSigned by:
Nancy Bennet
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