



ADAPTATION FUND

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Project and Programme Review Committee
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Agenda item 10 c)

**FURTHER ANALYSIS ON ELEMENTS RELATED TO INNOVATION:
MAPPING FINANCE FOR INNOVATION, RISK APPETITE, AND
OPTIONS FOR THE INNOVATION ADVISORY BODY**

I. Introduction

1. The Adaptation Fund Board (the Board) at its thirtieth meeting adopted its first Medium-Term Strategy (MTS) in order to guide the work for the Adaptation Fund (the Fund) until 2022. MTS outlined three pillars of work: Action, Innovation, and Learning and Sharing. Currently the Fund is embarking on its next strategic period and is developing a new Medium-Term Strategy for 2023-2027 (MTS II), in which the innovation pillar has the opportunity to be reviewed in order to support the development and diffusion of innovative adaptation practices, tools, and technologies.

2. The Innovation Facility for implementation under the Fund innovation pillar was approved at the Board's thirty-first meeting (Decision B.31/32). The Facility offers small and large grants through three different windows. It builds on the Fund's core strengths and comparative advantage as a highly functioning and innovative fund established to finance concrete adaptation projects in developing countries that are particularly vulnerable to climate change.

3. The Board at the second session of its thirty-fifth meeting requested the secretariat to prepare a document that further clarified the definition and vision for innovation under the Fund, as well as to establish a task force composed of Board members to guide the Fund's work on innovation (Decision B.35.b/9).

4. At its thirty-six meeting the Board decided to adopt the vision and definition for innovation contained in document AFB/B.36/8, as well as the innovation review criteria contained in its annex I. According to that document, 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". Additionally, the Board decided:

(c) To request the secretariat to develop, in line with decision B.35.b/9, under the continued guidance of the task force for innovation, an updated document that further refines the elements related to innovation and adaptation outlined in document AFB/B.36/8, which contains the elements below, and to present it to the Board for its consideration at its thirty-eighth meeting:

- (i) Analysis of the global landscape of finance for innovation in climate adaptation, along with any gaps; AFB/B.36/9 23
- (ii) Identification of potential types of risks related to innovation projects funded by the Adaptation Fund, with recommendations on the flexibility on acceptable levels specific to the type of risk;

- (iii) A proposal on the piloting of the establishment of an advisory body to support the Adaptation Fund's work on innovation on an ongoing basis.

(Decision B.36/39)

5. This document, as requested by the Board through Decision B.36/39, further develops previous work of the Adaptation Fund Board Secretariat related to innovation. It provides an analysis of the global landscape of finance for innovation in climate adaptation; identifies potential types of risks with recommendations and provides a proposal on the piloting of the establishment of an advisory body to support the Adaptation Fund's work on innovation.

II. Intersessional work of the Secretariat and Innovation Task Force

6. The secretariat, under the guidance of the Innovation Task Force, worked between the Board's thirty-sixth and thirty-eight meetings, to further refine the elements related to innovation and adaptation outlined in document AFB/B.36/8, according to Decision B.36/39. The secretariat also organized a virtual workshop for the Task Force, which was focused on seeking responses to each of the elements that the Board detailed in Decision B.36/39.

7. Regarding each one of the items requested in Decision B.36/39, the following issues were researched:

- a. **Global Landscape:** The secretariat explored and analyzed the global landscape of finance for innovation in climate adaptation. The preliminary findings were presented to the Innovation Task Force at the workshop, to receive further guidance, and collect its inputs on the observed gaps. The Secretariat also conducted several meetings with TERG, to consider their ongoing research on the general landscape of innovation.
- b. **Risk Appetite:** The Secretariat reviewed and collected information on potential types of risks related to innovation and relevant to adaptation. The process included literature research, internal interviews with staff, as well as the members of the Innovation Task Force. The latter were consulted during the virtual workshop, during which the Task Force members had the opportunity to provide recommendations on principles concerning acceptable levels of risk for innovation.
- c. **Advisory Body:** Several interviews took place to gather examples of successful advisory bodies, which complemented the literature review conducted by a short-term consultant. During the virtual workshop, several questions regarding the advisory body were shared with the Task Force to

collect their views. Their inputs are summarized in a later section of this document.

8. In what follows, the report summarizes the outcomes of this process, to further inform the work under the innovation pillar of the Medium-Term Strategy and support future work in innovation by the Adaptation Fund.

III. Landscape of finance for innovation in adaptation

9. Access to finance to support climate change adaptation innovation is a challenge in many low income and developing countries. Mapping key multilateral and national sources, as well as their approaches to financing innovation (instruments and programs) provides a view of the current financing opportunities, trends and gaps, which, in turn, allows a clearer view into the comparative advantage of the Adaptation Fund, particularly as it embarks on its next strategic period (MTS II).

10. There is a global stagnation in innovation for climate adaptation (Dechezleprêtre, A. et al., 2020). Emergence of innovations is constrained by risk perceptions and access (Wilson, 2015; Green Climate Fund, 2021). This situation increases the barriers for innovators based in developing countries, where lack of funding creates a dependency on international flows. As a result, innovation tends to be concentrated within a limited number of developed countries (Dechezleprêtre, A. et al., 2020; European Union, 2021, WIPO, 2021). Furthermore, there is much potential for countries to increase their innovation rating in the climate change arena, according to the Global Innovation Index (GII) Report (2021). However, this is primarily in clean technologies and innovation for mitigation, including support for start-ups and international engagement across the cleantech ecosystem, with low systemic attention given to innovation for adaptation explicitly. Yet, this does not necessarily mean that there is no interest in investing in adaptation innovation.

11. Despite the capacity of the private sector to innovate and produce new technologies (UNEP, 2021; CPI 2021), there are several barriers to reaching the volume of finance required, especially in developing countries. According to a 2021 World Bank study, the barriers can be classified in three categories: 1) Lack of country-level climate risk and vulnerability data and information services that can be used to guide investment decision-making; 2) Limited clarity on the government's capital investment gaps to achieve adaptation goals, and/or on where private investment is needed; and 3) Low perceived or actual returns on investment (Tall, et al., 2021).

12. These challenges make private investment gravitate towards opportunities where revenues are highest and risks are lowest, avoiding vulnerable Least Developed Countries (LDCs) or non-market sectors (UNEP, 2021; CPI 2021). Moreover, due to a

lower risk perception, private capital tends to remain in the country of origin, provoking a funding gap for climate innovators outside developed countries (Green Climate Fund, 2021; European Union, 2021).

13. Encouraging international investment in innovation requires a balance between expected investment returns and the portfolio risks. It is generally observed that large sources of finance for innovation display a flexible approach, combining instruments and blending public with private finance to address barriers and de-risk private investment (for example, seed funding, concessional lending, guarantees and equity) (UNEP, 2021). An additional strategy to reduce the funding gap for low-income economies is supporting local capacity building, encouraging changes in the policy, and regulatory framework, and fostering technical and operational capabilities at a national level. Developing enabling environments for local innovation has been a key concern for the global adaptation community actors, looking to unlock funds in emerging and developing countries (Tall, et al., 2021; GCF, 2021).

14. Strengthening entrepreneurial ecosystems is one of the most popular models used by Development Financial Institutions to fund and support innovators (GCF, 2021). According to the International Development Innovation Alliance (IDIA), a favorable innovation ecosystem supports productive relationships between different actors and other parts of an ecosystem. It comprises enabling policies and regulations, accessibility of finance, informed human capital, supportive research markets, energy, transport and communications infrastructure, a culture supportive of innovation and entrepreneurship (IDIA, 2021). These ecosystems can be supported by providing funds, mentoring, and allowing an interface between public and private actors. Among the new trends, the creation of networks composed of different actors jointly contributing to new solutions appears as an alternative to more traditional innovation processes driven by the push of science and technology (European Union, 2021). UNFCCC evidence suggests that countries with a stronger entrepreneurial ecosystem are better at generating climate technology entrepreneurs (UNFCCC, 2018).

15. Several global initiatives have been launched in recent years to increase investment in adaptation innovation around the world, in addition to the financing opportunities under the Adaptation Fund's Innovation Facility, including the Adaptation Fund Climate Innovation Accelerator (AFCIA). These include the Coalition for Climate Resilient Investment, the International Development Innovation Alliance, the Global Adaptation and Resilience Investment Working Group, and the Global Environment Facility's Challenge Program for Adaptation Innovation (Tall, et al., 2021). These

international initiatives support the efforts to expand outside developed countries, the countries that contribute to the development of innovations¹.

16. Developing countries greatly benefit from incubation and acceleration models to enlarge the pool of climate innovators and entrepreneurs in their developing markets. Incubators are early-stage support that can range from short-term workshops to long-term support hubs, focused on developing an idea into an innovative product. Accelerators, on the other hand, are relevant at an innovation deployment phase, and focus on speeding up and scaling the growth of existing products that already have a minimum viability with an established product-market fit. In some cases, accelerators can operate profitably due to the small equity stake they take in each start-up they admit to their program, without the public financing that typical incubators rely on. In 2018, there were estimated to be around 2,000 technology incubators and more than 150 accelerators worldwide. However, less than 70 are estimated to be climate technology incubators and accelerators. Due to fiscal constraints, just 25 of these are in developing countries (UNFCCC, 2018).

17. Multilateral Climate Funds (MCFs), along with some specialized United Nations Agencies, have a critical role to play in the adaptation related finance landscape, given their exclusive focus on supporting climate goals. MCFs' main financing instrument to allocate resources is grants (85% of total funds) (CPI, 2021). Some of the reviewed MCFs also have blended finance instruments that can support mobilization of additional resources towards sustainable development goals.

18. Multilateral Development Banks (MDBs) offer a larger range of financial instruments, in comparison to other multilateral entities. As development finance institutions, they use a combination of instruments to deliver finance, such as grant funding through call for proposals, venture capital funds, conditional loans, equity, direct and indirect investments, among others. When investing, MDBs may channel funds directly to Small and Medium Enterprises (SME) and start-ups, or indirectly, by providing resources to microfinance institutions and local commercial banks.

19. United Nations Agencies, similar to MCFs, use their resources to achieve specific development goals outlined in their respective mandates. They work mostly through project grants; however, they also provide relevant non-financial support through the technical assistance of international specialists. Several of these institutions have complementary capacity-building programs, such as incubators and accelerators, and offer policy and advisory services to governments. It is also common to use crowdsourcing, piloting, and scaling-up strategies to facilitate the emergence of innovation.

¹ The Global Innovation Index Report 2021, identifies the highest-ranked countries per region, including those beyond Europe and North America. These countries present the highest performance indicators, and offer favorable conditions to develop hubs for innovation in adaptation.

20. Governmental entities develop mostly programs that encourage cross-sectoral innovation, harnessing lessons learned to achieve greater impact across their national development portfolio. They work in partnerships with national and multilateral actors, encouraging private sector participation. Some national-level relevant actors for finance are local development finance institutions, impact investors and corporations, philanthropic institutions, NGOs, angel investors, and government authorities (Restle-Steinert, et. al., 2019). The increasing share of flows from nationally-owned banks is also indicative of the growing role debt plays in financing the climate transition (CPI, 2021).

21. Private-led initiatives are key to supporting innovation. Most of the international philanthropic work of the private sector is conducted through foundations. Crowdsourcing is the predominant approach observed among the reviewed entities. This takes the form of public challenges, to which innovators and start-ups can present solutions to address different climate problems. This approach allows a larger pool of candidates, in which bold and bankable innovations are awarded mentoring and resources for piloting and scaling-up. Among the profitmaking Financial Service Providers (FSP) we can find traditional solutions such as loans, money transfers, and financial options to innovators. An alternative to venture capital and angel investors is provided by impact investing platforms. These online marketplaces connect potential investors with companies that have a positive impact on climate adaptation. Moreover, at a household level, it is important to acknowledge the potential of remittances to finance climate adaptation. However, recent studies suggest that higher transfer costs and lack of public incentives may limit remittances' impact in developing countries (Maduekwe & Adesina, 2022).

22. Annex I displays a non-exhaustive list of both international and national sources that direct financial flows into climate adaptation. The selection focuses intentionally on those entities that have programs supporting innovation in climate change. To organize this landscape, identified entities were grouped into five categories: Multilateral Climate Funds, Multilateral Development Banks, United Nations Agencies, Governmental Entities, and Private-led Initiatives. Next to each source, a partial list of relevant programs and financial instruments is presented, including blended finance, grants, guarantees, loans, and policy-based lending (for further information refer to Annex I).

Gaps observed within the landscape of finance for innovation

23. Most of the reviewed entities promote innovations with a positive socio-environmental impact, but there are very few that specifically target innovation in adaptation. Climate finance is mostly directed towards mitigation programs, limiting the emergence of adaptation initiatives. There is also an observed lack of information and clarity about current opportunities to fund innovation in adaptation, which increases the general perception of a financial gap. Finally, the development of bold and disruptive technological solutions is associated with higher risks and early-stage deployment costs, limiting the interest of financial actors to invest in innovative climate solutions.

24. There is a lack of continuous financial support for innovators to unlock full potential of their ideas. This is due to the fact that few sources provide funds that follow a complete innovation cycle, from design and piloting, to scale-up and adoption. Therefore, it is important to create alliances that can ensure continuity in finance after successful piloting, aiming to achieve an unbroken, sustained financial flow. Incubators and accelerators offer an excellent environment to start connecting start-ups to potential business partners, as well as safe spaces for providing mentoring tailored to reach future market goals. There is, however, a clear gap in incubator programs to offer capacity building to potential investors, being mostly oriented to train and support early-stage innovators.

25. Selection mechanisms among funders are mostly supply-driven, favoring general calls for proposals, without limiting the scope of solutions to concrete adaptation problems. This approach has created a broad and cross-sectorial portfolio, especially among multilateral funders. Moreover, from the beneficiary perspective, governmental entities face difficulties when defining their own country-level projects, affected by general lack of information and specific funding requirements. Therefore, assistance in the selection of locally appropriate solutions is key to facilitating a match between adaptation needs and financial mechanisms.

26. Differentiated instruments for financing innovation in adaptation have the potential to increase flows. Considering the success of blended strategies to attract non-public funds to climate change, there is an opportunity for multilateral actors to adopt novel financial tools, that can increase private investments towards climate adaptation. Crowdsourcing platforms are also a broadly used mechanism to channel funds from individuals for impact investment or philanthropy. It is important to acknowledge that debt-based financial solutions may not be appropriate for all actors and countries, due to the economic burden they represent. Moreover, grants tied to co-financing requirements can limit access to funds in developing countries and increase its adaptation gap in comparison to more developed markets.

27. Adaptation needs are highly contextual, making it challenging for international entities to offer financial solutions tailored to local contexts. In general, local financial institutions are in a more favorable position to fulfill this role, based on their understanding of local conditions. However, it has been observed that in developing countries, the financial sector does not adequately invest in projects with a climate change focus, likely due to a lack of technical understanding of innovative measures to properly assess the creditworthiness of projects. Moreover, micro, small and medium-sized enterprises (MSMEs) face additional challenges when dealing with national financial service providers (FSPs) from emerging and developing countries.

IV. Analysis of Risk Appetite

28. The Board at the second session of the thirty-fifth meeting endorsed the document AFB/PPRC.26.b/17 which defined “risk appetite” as the amount of risk an organization is willing to accept in pursuit of its strategic objectives. The Fund applies a risk management framework, approved at the twenty-fourth meeting of the Board (Decision B.24/24), and has well-established policies and procedures for assessing environmental, social and other risks through its Environmental and Social Policy, and Gender Policy. Further, all project and programme proposals must describe risk assessment and management plans relating to project-level risks.

29. It is worth noting that the risk management framework was developed mostly with “action pillar” projects in mind, and the Fund has also most practical experience from the consideration of those projects. Innovation calls for a new approach both at the level of policy and in practical implementation. Therefore, the question remains what level or kind of risk is acceptable and, indeed, desirable in the pursuit of the strategic objectives under innovation specifically.

30. At its thirty-sixth meeting, the Board *considered Document AFB/B.36.8, Further Clarification of Vision and Definition of Innovation under the Adaptation Fund, which discussed* the importance of normalizing trial and error. *including the understanding* that, in order to enable and support innovation, there will be some uncertainty in the outcomes of an innovation project.

Defining a risk appetite

31. Regular project modalities and conventional risk appetites can lead to incremental innovation. Intolerance for failure results in conservative goal setting (modest and achievable targets) and risk aversion (reliance on proven, established approaches), resulting in strong disincentives to innovate (*as cited in Document AFB/PPRC.26.b/17, Options for Further Refining Innovation in Adaptation Projects and Programmes*). The incentives, for both agencies and countries, are to fall back on tried and tested solutions. But innovation funding can play a specific role, pushing the risk envelope to activities with higher risk as “no regret” and “low regret” measures do not require innovation funding. It also needs to take into account the risks of not being innovative enough, such as supporting innovations that are not the most effective or will need to be leapfrogged at a later date, or missing opportunities for systemic or transformative change possible with high potential innovations. The short-term nature of private finance can lead to breaks in the innovation chain that public finance can help bridge.

Types of risks

32. Adaptation projects face various kinds of risks, some of which are specific to the project and some that are not.

33. Non-project-specific risks: country risks (including political and security risks), macro-economic risks, currency risk, natural/man-made disasters, etc.

34. Project-specific risks may include operational and management risks, governance risks, and environmental and social risks. The Fund has in place processes for identifying them and policies, such as its Environmental and Social Policy, for avoiding or mitigating such risks. *The Innovation Task Force of the Fund has previously* indicated that the Fund's review cycle and its Environmental and Social Policy and Gender Policy are appropriate ways to filter out innovation interventions that could cause harm (AFB/B.36.8, Further Clarification of Vision and Definition of Innovation under the Adaptation Fund).

35. However, with innovation-focused projects, there is another class of risk, which relates to creating and testing solutions, or deployment and diffusion of new or innovative and adapted solutions. There are no guarantees, for instance, that a superior solution will be created, and that testing will produce the desired results. This is because, unlike with the most conventional development project, the outcome is not known in advance. Deployment and diffusion may be less risky, as they entail existing solutions, i.e., that have already been developed and tested, and yet there are risks pertaining to the whether there will be the expected uptake for innovations in the particular context that is being targeted by the intervention, i.e., the outcome is not fully known.

36. Finally, it should be highlighted that, with innovation, there is another specific type of risk, which is "the risk of not taking risk." Interventions that are too similar to those that are well understood, tried and tested actions with predictable results, are unlikely to lead to radical improvements in the achievement of desired adaptation outcomes.

37. In terms of the relationship between risk and returns for traditional versus innovative investments, there are a few considerations that bear highlighting.

38. Barriers to private sector investment in adaptation include concerns from private sector actors about the bankability of adaptation activities and limited internal capacity to identify and develop adaptation project pipelines (CPI, 2021).

39. Start-ups are prone to failure by nature as they explore new solutions for new market. An often-cited statistic is that nine out of ten start-ups will fail (Start-up Genome, 2019), and the rate of failure is higher for green start-ups (Gaddy et al, 2016).

40. Green and climate friendly sectors share some common features that set them apart from other sectors. Most climate ventures deliver physical products to market and require a full supply chain to service a fragmented customer base. This results in higher upfront capital needs and a longer payback period for prototyping, developing, testing, and financing the distribution of physical products. Furthermore, climate ventures compete in commodity markets (energy, water, waste, etc.) that do not adequately price

the benefits of their products in terms of reduced climate and health risks, affecting their growth and return potential (World Bank, 2017).

Risk management

41. According to the secretariat's assessment of the innovation proposals received by the Fund, the general risk level tends towards low. For instance, the Adaptation Fund Climate Innovation Accelerator expects most of the projects funded by it to be successful. Among the small innovation grants provided to NIEs for testing and piloting something new, the ideas are often still within conventional assumptions and models of incremental innovation.

42. While the reasons for the apparent risk aversion are not fully known, given that the innovation portfolio is young, the IEs of the Fund that have submitted innovation proposals tended to put forth proposals that fell short of being significantly more innovative than their regular adaptation proposals. The secretariat's assessment suggested that at least a third of the proposals being submitted for funding under the Large Innovation Project/Programme or Small Innovation Grant funding windows might qualify for funding under the regular single-country or regional proposals. This may reflect, at least in part, the IEs' lack of capacity or willingness to put forth "transformational" or riskier proposals. There is a notable lack of proposals that are structured around "iterative deployment", or implementation that involves adaptive management. As the vision for innovation at the Fund states, "[the Fund] will encourage, as part of an innovation approach partnerships, iteration, learning and adaptive management." Adaptive management entails designing projects whose outcomes are not known. Yet at this time, the majority of received proposals have a conventional structure with conventional components, many of which could be found in Fund's portfolios of single-country or regional adaptation projects under the Action rather than Innovation Pillar.

43. In addition, the PPRC and Board have not yet determined a minimum level for innovation proposals to be considered sufficiently innovative, which may reflect a need to continue developing a common understanding or standards in this area.

44. The Fund has a number of options to diversify the current risk profile of the innovation portfolio. These include: 1) Explicitly calling for more transformative or "breakthrough" innovations; 2) Supporting proposals across the risk envelope (i.e., a mix of medium- to high-risk projects); 3) Encouraging small-grant schemes, competition- and challenge-based approaches; 4) Working with existing mechanisms (i.e., AFCIA) to define levels of risk and encourage diverse portfolios of AFCIA grants among the IEs; etc.

Risk appetite with innovation projects

45. The Innovation Task Force considered what level of risk is acceptable in the pursuit of the strategic objectives under innovation specifically and concluded that higher

levels of risk would be acceptable for smaller grants, whereas for large grants, there would be an expectation that there should be a lower risk of failure, given how this may affect the perception or reputation of the Fund. Along these lines, large projects or programmes that function as small grant mechanisms can tolerate higher levels of risk for individual small grants, provided that this would be balanced out by the other small grants issued by such project or programme.

V. Options for an Innovation Advisory Body

46. As the Adaptation Fund continues to support the development of adaptation-focused innovation projects, the Board have requested that the possibility of creating an advisory body to support this area of work through external expertise and contacts.

47. Many organizations developing innovation strategies and programs create advisory bodies, such as boards and panels, to provide a range of different technical knowledge in the design of the programs, awareness of the latest trends and new developments in their fields, as well as support in engaging the wider community of practice. They are generally defined as a body (typically 5-10 members) that provides non-binding strategic advice to the management of a corporation, organization, or foundation. The informal nature of these advisory bodies gives greater flexibility in structure and management compared to the board of directors, are not encumbered with general governance responsibilities and are free to challenge approaches and thinking in the organization where appropriate.

48. An advisory body could potentially support the Adaptation Fund in the following areas:

- a. Providing guidance and support on the design and development of innovation program funding windows, based upon specialized approaches to innovation programming and new developments in the field,
- b. Identification potential barriers that may be restricting the ability of the Adaptation Fund to deploy existing funding at the level desired for innovation projects, including internal processes and structures, and propose potential solutions
- c. Assistance in the identification and evaluation of innovation projects, including supporting eligibility entities (such as NIEs) to develop new project ideas,
- d. Engagement with external organizations and donors, helping to increase the scale of the resources available for funding innovative adaptation projects.

- e. Horizon-scanning for the latest developments relevant to innovation in the adaptation field, new solutions and changing needs of the Adaptation Fund's stakeholders,
- f. Coordination and alignment with the UNFCCC and peer institutions to improve effectiveness and impact of innovation programming.

49. The Innovation Task Force discussed broadly the purpose and general characteristics of such an advisory body. The design and composition of members of an advisory body would determine its effectiveness in achieving different types of goals, such as strategy development or outreach, as well as the level of responsibility it is able to take on. As such, it is imperative to be clear on the priorities and objectives the advisory body should focus on.

50. Successful advisory bodies tend to follow a general set of principles that helps ensure their effectiveness. These recommendations are based upon general good practice guides for advisory body composition, as well as the perspectives of external organizations such as EIT Climate-KIC, Imperial College and New York State Energy & Research Development Agency (NYSERDA) that employ advisory bodies to guide their innovation programs. According to Galia et al. (2012), general principles for advisory bodies include:

- a. Overseen by a Chair with a schedule of meetings and activities, ideally with a charter and set roles/term limits for members,
- b. Possess a clear set of goals, focused upon providing support in defined areas, and separate from those of the Governing Board,
- c. Have between 6-10 members – larger numbers tend to be counterproductive for effective discussion and maintaining focus,
- d. The members are recruited on the basis of their ability to deliver against the defined goals of the advisory body, with clearly defined individual roles and objectives,
- e. There is a diversity of members and ideally include representation from communities served by the organization,
- f. For innovation-focused advisory bodies, it is advisable to include members of diverse backgrounds and ages, including individuals that may be more likely to be abreast of the latest developments and thinking.

51. Examples of organizations that employ advisory bodies include:

- a. **The GEF:** Scientific and Technical Advisory Panel of the GEF (STAP): <https://stapgef.org/> - The Scientific and Technical Advisory Panel (STAP) provides independent scientific and technical advice to the GEF on its

policies, strategies, programs, and projects. It is comprised of 10 panel members, split between leading academics and NGO representatives across several environmental themes. Its focus is upon screening GEF projects from a technical perspective and provide quality assurance on the projects, which is shared with the GEF Councils, Agencies and Secretariat.

- b. **EIT Climate-KIC / Climate-KIC Australia:** Innovation Advisory Board: Climate-KIC and its Australian sister organization are publicly-funded innovation agencies focusing on climate mitigation and adaptation across multiple countries, including providing funding for new innovation projects by local governments, universities, NGOs and some private sector organizations. Both organizations have established advisory boards to strengthen their innovation strategy, with different results;
 - i. EIT Climate-KIC: A large advisory board with 15+ members recruited from across a range of organisations and fields, with an open remit to develop new ideas from strengthening innovation.
 - ii. Climate-KIC Australia: A smaller advisory board (8 members) with a strong structure and processes, narrowly focused on specific goals regarding strategic focus of the organisation, project selection/review and outreach to key stakeholders.
- c. **NYSERDA:** Investor Advisory Board: To help develop new and commercially viable solutions in energy efficiency technology where NYSERDA felt current solutions were ineffective, an Investor Advisory Board was created to direct these efforts. Comprised of a mixture of investors and energy efficiency technical experts to review NYSERDA's current strategy, the Board cancelled existing plans and proceeded to design a new innovation program with staff that was successful in its goals.

52. The advisory body would need a clear mandate and set of goals in order to ensure its success. This will also determine the composition, competencies and institutional arrangements. The advisory body could focus on one or more of the following areas of work, though to deliver all of them may be challenging without significant resourcing and support invested in the advisory body itself;

- a. **Technical - Innovation Strategy, Project Reviews & Operational Strengthening:** Technically-focused Advisory Body, concentrating on strengthening the Adaptation Fund's innovation direction, reviewing and providing quality assurance for project selection, as well as reviewing and recommending improvements to design of funding windows and processes.

- i.* **Direction** – Providing expert guidance in the implementation of the innovation pillar of the MTS, design and balance of the portfolio of projects, including suggestions for future strategic directions.
 - ii.* **Projects** – Support the reviewing of projects to aid the identification and selection of the most innovative proposals, as well as conducting quality assessments,
 - iii.* **Processes** – Seek to improve the effectiveness of operations and processes to encourage and support more innovation projects, including the design funding windows,
- b. **External - External Engagement & Alignment, Project Pipeline Development & Horizon Scanning:** Focus on driving the Adaptation Fund's external engagement to grow the pipeline of projects, scan the horizon of new developments, improve the visibility of the innovation program and ensure alignment with the UNFCCC and peer organisations.
 - i.* **Project Pipeline** – Attracting more diverse and higher quality projects through engagement with Implementing Entities & supporting organisations, in collaboration with the Readiness team.
 - ii.* **Driving Mission** – Scanning the horizon for new innovation thinking and solutions as well as the changing needs and context-specific challenges of the communities the Adaptation Fund seeks to support.
 - iii.* **Visibility** – Help to increase the visibility of the innovation work with international stakeholders and partners.
 - iv.* **Complementarity & Coherence** – Help to ensure alignment with the UNFCCC and other international climate funds to maximize effectiveness.
- c. All of these potential mandates are possible for an Advisory Body to focus on, though feedback from the TERG and external organizations/experts consulted for their perspectives have suggested that **Strategy, Projects, Processes** and **Driving Mission** are especially useful areas to focus upon due to the added value their expertise and contacts can bring. The Task Force endorsed all the potential mandates listed above, except for Visibility.

53. Proposed composition: The mandate of the Advisory Body will determine its composition, though it is envisaged that it will include diverse representation including regional representatives of the Adaptation Fund's main geographies, and possibly specific stakeholders such as youth representative(s) from supported countries, a

beneficiary with understanding of how NIEs operate, as well as technical experts and practitioners from the fields of climate change technologies and innovation. The diversity will help to provide a much broader range of perspectives, expertise and contacts that will help to challenge, strengthen and improve the work of the Adaptation Fund in supporting innovation in the field of climate adaptation. At the same time, the challenge will be to keep the Advisory Body nimble and to avoid ineffectiveness due to a lack of focus, structure and large number of participants, potentially resulting in extensive discussions but little in the way of outputs.

VI. Recommendation

54. Having considered Document AFB.39/10, the PPRC may wish to recommend to the Board to:

- (a) Request the secretariat to develop a draft risk framework for innovation projects and programmes, along with desired risk-tolerance targets for the Fund's innovation projects portfolio, taking into account the differences among the innovation funding windows;
- (b) Request the secretariat to, in conjunction with (a) above, to indicate and clarify the project design elements that are encouraged in innovation, elaborating on the concept of acceptable or desirable risk, with a view of providing such guidance to IEs;
- (c) Request the secretariat to, in consultation with the Innovation Task Force, further develop principles for the advisory body for innovation referred to in document AFB/B.39/10, including a draft TOR, taking into account the developments with the Medium-Term Strategy 2023-2027;
- (d) Request the secretariat to present its analyses and recommendations related to subparagraphs a-c above to the Board at its thirty-first meeting.

ANNEX I:

Sources of finance for innovation in climate adaptation

Multilateral Climate Funds	Program focus and beneficiaries	Funding Instruments
Climate Investment Funds	CIF is pioneering investments in five areas: transition from coal, climate-smart cities, nature-based solutions, industry decarbonization and renewable energy integration. It works exclusively with MDBs as implementers.	Non reimbursable grants and pioneering investments. Its budget amounts to USD 8.5 billion, It has channeled USD 61 billion from co-financing.
Innovation Fund	The Fund finances cross-cutting projects on highly innovative technological solutions that lead to emission reductions in multiple sectors (renewable energy, energy-intensive industries, energy storage, and carbon capture, use and storage). It offers support to all Member States of the European Union, Norway and Iceland.	Co-financing through large (capital expenditure above EUR 7.5 million) and small sized grants (below 7.5 million). Project applicants need to cover part of the costs through other financing sources. Its total budget amounts to EUR 25 billion for 2020-2030.
Food Securities Fund	Investment Fund focused on financing sustainable value chains. It provides capital to agricultural companies that want to operate in emerging markets.	Provides conditional loans. It mobilizes capital from private investors through blended finance. It has a USD 1 billion budget.
Global Environment Facility	Its Challenge Program for Adaptation Innovation supports models for scalable and bankable solutions for adapting to the adverse impacts of climate change. Open for direct submission from private sector innovators.	Grants between USD 440,000 and USD 1.3 million each. The total budget per Challenge round is USD 10 million.
Global Innovation Fund	Investment fund that acts as a venture capital, it accepts proposals on any sector benefiting a developing country. Available for any organization (non- and for-profit firms, NGOs, Academia, Government, etc.)	Open-window application. Offers grants, loans (including convertible debt), and equity investments. It funds Pilots (up to USD 230,000); Test and transition (up to USD 2.3 million) and Scale-up (up to USD 15 million).
Global Innovation Lab for Climate Finance	Public-private partnership that identifies and launches ideas that have the potential to mobilize private investment in developing countries. It targets proposals that can finance mitigation and adaptation, with special call for sustainable energy access and sustainable cities.	Crowdsourcing through open call for ideas, winners are piloted and accelerated to develop bankable financial instruments that can reduce private investors' risks at a scale. It has mobilized USD 2.08 billion.
Green Climate Fund	It promotes innovation through funding technologies, business models, and innovative financial	Grants, piloting, scale-up, investment to unlock private capital (through de-risk strategies such as

	instruments. It targets both mitigation and innovation to climate change.	equity, guarantee, anchor investor). It offers incubators and accelerators for innovation. It has a 15 billion climate adaptation portfolio.
WWF's Wildlife Adaptation Innovation Fund	WWF's Wildlife Adaptation Innovation Fund supports the testing of new ideas. Projects piloted through this fund must address climate vulnerability of one or more target species and be implemented in one year or less with plans to monitor results in following years. While this opportunity is primarily intended for WWF offices, external organizations are welcome to apply. In partnership with UNIDO has developed the Global Cleantech Innovation Index (GCII), that identifies the countries with enabling environments for cleantech start-ups.	Small project grants for piloting, up to USD 15,000. WWF accepts co-financing from other sources.

Multilateral Development Banks	Program focus and beneficiaries	Funding Instruments
African Development Bank	Youth Entrepreneurship and Innovation Multi-Donor Trust Fund (YEI MDTF). It finances bankable business by youth and women-led start-ups and micro, small and medium enterprises (MSMEs). It also supports countries in implementing economic and social reforms. Open to private sector, academia and local government from African countries.	Open call to allocate grants. It also provides project preparation and co-financing. Its current budget amounts to USD 40 million.
Asian Development Bank	Unlocking Innovation for Development Technical Assistance, and Open Innovation and Crowdsourcing Platform. Funds are accessible to any individual.	Open Challenge through an online platform. Winners receive mentoring and funds for piloting.
European Bank for Reconstruction and Development	Early-Innovation Facility (ESIF) is a dedicated facility through which the bank selectively invests in commercially-oriented early-stage venture capital funds.	Venture capital, as well as debt financing and direct and indirect equity investments. It also offers policy and advisory services. EUR 100 million budget.
European Investment Bank	Through the European Investment Fund (EIF), EIB aims to advance innovation and address current social and economic challenges. The bank is the largest provider of	Long-term capital and investment advisory support. Since 2000, the Group has invested EUR 210 billion in innovation.

	venture capital in the European Union. Open to European firms.	
KfW Development Bank	It has a broad climate portfolio. It invests in sustainable agriculture, infrastructure, transport, renewable energy, water management, among others.	Uses innovative instruments such as green bonds; and acts both as issuer of bonds and investor. Its climate portfolio is EUR 4.3 billion.
Inter-American Development Bank	IDB Lab is an innovation laboratory that sources development finance and expertise for Latin America and the Caribbean. IDB finances innovative projects that generate opportunities through private sector led-solutions. The Climate Change and Sustainable Development Sector (CSD) is supporting innovative adaption finance through grants and concessional climate finance.	Calls for proposals for venture capital funds, and cohort-based investment applications for direct equities, combined with grants. Financing windows are Prototype Projects (up to USD 150,000); Spark Projects (from USD 250,000 to USD 700,000); and Ecosystem Projects (USD 1 million or more). The financial instruments provided include blended finance, grants, guarantees, loans, and policy-based lending.
World Bank	The Bank supports innovation and adaptation through partner organizations; and specific projects. Some examples: -Multilateral Investment Guarantee Agency (MIGA) -Global Facility for Disaster Reduction and Recovery (GFDRR) -Adaptation Fund (AF)- Innovation Facility -International Finance Corporation (IFC)	Project Grants, Loans, IFC Investments for all innovation cycle (e.g., venture capital, piloting, diffusion), MIGA Guarantees, Business Incubators.

United Nations Agencies	Relevant programs	Funding Instruments
Food and Agriculture Organization (FAO)	-International Innovation Award for Sustainable Food Systems. Targets innovations on the supply chain; and those that empower youth in agriculture and food systems.	Grants of USD 20,000 to winning proposals.
International Fund for Agricultural Development (IFAD)	IFAD supports research, innovation, institutional change and new technologies. In partnership with the Global Innovation Lab hosts a contest to crowdsource ideas and unlock investments into sustainable agriculture in West and Central Africa.	Regional, and country-specific grants. Open crowdsourcing contest.
United Nations Children's Fund (UNICEF)	UNICEF has a diversified innovation portfolio (from AI to frugal innovations). It follows the innovation cycle and aligns both technical and financial resources to	Piloting, accelerating and scaling up. It de-risks investing by funding rolling out proven innovations.

	accelerate projects that benefit children.	
United Nations Development Programme (UNDP)	<ul style="list-style-type: none"> -UNDP Innovation Facility -Accelerator Lab initiative -Adaptation Fund Climate Innovation Accelerator (AFCIA) -UNDP's Global Centre for Innovation Technology and Sustainable Development and its Cultivate program 	Project grants, finance to, start-up and scale innovation labs, crowdsourcing ideas. Its innovation facility has channeled over USD 10 million.
United Nations Environment Programme (UNEP)	<p>Through eco-innovation methodology, UNEP supports SMEs to access new markets, increase productivity, attract investment, increase profitability across the value chain, and help them stay ahead of regulations and standards. Another initiative is CityAdapt, it promotes climate resilience in urban areas through the implementation of Nature-based Solutions (NbS) for adaptation.</p> <ul style="list-style-type: none"> -Adaptation Fund Climate Innovation Accelerator (AFCIA) - Executed jointly with CTCN: Funds to test, evaluate, roll out and scale up innovative adaptation practices, products and technologies. 	Supports capacity building and implements required transformations to make ecosystem-based adaptation changes. Finance of piloting and deployment of technologies through collaboration with CTCN.
UNFCCC- Climate Technology Centre and Network (CTCN)	<ul style="list-style-type: none"> -Incubator Programme: Offers support for Least Developed Countries (LDCs) to implement the climate change actions included in their Nationally Determined Contributions (NDCs). -Youth Climate Innovation Labs in Africa Asia and Latin America: Provides young people with training and tools to develop solutions to various climate change challenges. -Adaptation Fund Climate Innovation Accelerator (AFCIA) - Executed jointly with UNEP: Funds to test, evaluate, roll out and scale up innovative adaptation practices, products and technologies. 	Finance of piloting and deployment of technologies. Incubator labs, small-grants. Technical assistance for technology identification and prioritization.
United Nations Human Settlements Programme (UN-Habitat)	It promotes innovation in all stages of a project by providing advice on tools, methodologies, technologies and partnerships. It also provides direct support to incubation projects, such as the United Nations Innovation Technology Accelerator for Cities, and the	Accelerators, Open challenges to crowdsource solutions. Project grants and capacity building.

	Climate Smart Cities Challenge by NESTA.	
United Nations Industrial Development Organization (UNIDO)	Its Global Cleantech Innovation Programme (GCIP) promotes affordable and scalable solutions. It has an annual competition-based accelerator, which identifies the most promising SMES and startups. The winners participate in an acceleration programme that trains, mentors, promotes, and connects them to potential investors, customers and partners.	Competition-based accelerator. Winning companies gain training and mentoring, as well as exposure to investors and the media.
United Nations Office for Project Services (UNOPS)	UNOPS hosts a Global Innovation Challenge to bring together entrepreneurs, corporations, academia, investors, start-up businesses and other innovators to harness creative ideas and identify solutions for building climate-resilient infrastructure. The chosen ideas join UNOPS S3i Innovation Programme, where start-ups can advance their solution to the marketplace and connect with communities in need.	Open challenge, winners enter an incubator program, are mentored and connected with relevant stakeholders to enter the marketplace.
United Nations World Food Programme (WFP)	WFP is deploying bold new tools and approaches across its global operations to help solve hunger. It explores disruptive innovations, technologies and business models driving change. WFP Innovation Accelerator sources, supports and scales high-potential solutions to end hunger worldwide. H2Grow is one of its key programs, that brings innovation through financing locally adaptable and affordable solutions. Another is SheCan, a digital financing platform that enables users to invest in social causes that go beyond charity.	Provides multiple services to accelerate innovations, build partnerships, provide a space for knowledge, connect public and private sector entities. It also pilots innovations to address COVID-19 and exploring game-changing frontier innovations.
World Meteorological Organization (WMO)	Its Global Hydrometry Support Facility (WMO HydroHub) makes the portfolio of expertise among WMO Members available to support access to end-users of hydrometeorological data from various economic sectors. These connections help to increase the base of hydrometeorological data catalyzed by innovative technologies and approaches to support WMO Members in water-related decision-making.	Support through an open data platform the development of innovative technologies and approaches and support countries in water-related decision-making.

Governmental Entities	Relevant programs	Funding Instruments
Australia - Australian Department of Foreign Affairs and Trade (DAFT)	-Scaling Frontier Innovation	Incubators and accelerators, grants.
Canada - Government of Canada	-Grand Challenges Canada -Strategic Innovation Fund	Open challenge to crowdsource ideas. Grants and investment.
Chile - Chilean Economic Development Agency (CORFO)	-Jump in to innovate -Consolidate and Expand	Funds to pilot and scale up start-ups and MSMEs.
Denmark -Ministry of Foreign Affairs (DANIDA)	-Innovation Fund Denmark	Grand Challenge, piloting and scale up of start-ups.
European Union - Horizon	Through Horizon Europe, III Pillar: -The European Innovation Council (EIC) -European Innovation Ecosystems (EIE) -European Institute of Innovation (EIT); -Climate KIC (part of EIT) Its programs support European start-ups, SMEs and research teams; as well as national governments.	Total Horizon budget is EUR 95 billion. EIC focuses on scaling up game-changing solutions. Its budget is EUR 10 billion EIE budget is EUR 527 million EIT budget is EUR 2.9 billion
Finland -Department for International Development Cooperation (FINNIDA) -Finnish Agency for Innovation (TEKES).	-Global Learning Innovative Hub -Global Innovative Finance Hub Finland partners with UNICEF to support Innovation	Incubators and Accelerators, Grants to support piloting and scaling-up. Direct unconditional funding, and guaranteed loans.
France - French Facility for Global Environment (FFEM)	-FISP Climat	Seed capital and guarantees for private investment abroad. Encourages blending with private funds.
Germany - -German Development Agency (GIZ) -German Federal Ministry for Economic Cooperation and Development (BMZ)	-GIZ Innovation Fund -Make-IT Alliance -Make-IT in Africa -National Program for Space and Innovation	Project grants, Incubator and Accelerators, Funds for Technological research.
India - National Bank for Agriculture and Rural Development (NABARD)	-Rural Innovation Fund	Grants and Loans. It also offers incubator programs.
Japan - Ministry of Economy, Trade and Industry (METI)	-Green Innovation Fund	Start-up seed capital, piloting, long-term continuous funding to support research and development.
Jordan - Central Bank of Jordan	-Innovative Start-ups and SMEs Fund (ISSF)	Private investment, co-investment, and indirect investment (Funding other funds).
Kenya - Kenya Climate Innovation Center	-AgriBiz -GreenBiz	Incubators and Accelerators

Mexico - Mexican Innovation Centers for Clean Energy (CEMIEs)	-Energy Sustainability Fund	Incubators and accelerators, creating enhanced partnerships between academia, private and public sector.
Saudi Arabia - Kingdom of Saudi Arabia	-Saudi Green Initiative -Middle East Green Initiative	Direct investment and channeling of private investment
Singapore - Government of Singapore	-Cultiv@te (in alliance with UNDP)	Open calls to pitch innovative technological solutions to specific challenges
South Korea - Ministry of SMEs and Startups (MSS)	-MSS public funds	Finance product development for start-ups and middle-standing companies.
Sweden -Swedish International Development Cooperation Agency (Sida) -Sweden's Innovation Agency (Vinnova) -Stockholm Resilience Centre	Some examples of programs: -BioInnovate Africa -SwedBio -Vinnova investments	Unconditional grants, grants required of co-financing, incubators, open calls.
Switzerland - Swiss Innovation Agency (Innosuisse)	- NTN Innovation Boosters	- Fund novel innovation ideas and scale-up projects
United Kingdom -Department for Business, Energy and Industrial Strategy -UK Innovation Agency (NESTA)	-UK Innovation & Science Seed Fund -Climate Adaptation and Resilience Research Programme (CLARE) -Seed Camp	-Competitive calls for proposals. -finance front-line innovations to design, test and scale -Early-stage venture capital -Incubators and accelerators for Start-ups, SMEs
United States -United States Agency for International Development (USAID) -Agriculture Innovation Mission for Climate (Aim4C)	-Development Innovation Ventures -Agriculture Innovation Mission for Climate (Aim4C) (Joint initiative by the United States and the United Arab Emirates)	Innovation sprints grants. Accelerates, funds development, demonstration, and deployment of innovative products. Funds national agricultural research extension systems.

Private-led initiatives	Program focus	Funding Instruments
Adelphi - SEED	Hosts SEED – Program founded by UNEP and UNDP -SEED Awards: Annual scheme for innovative locally led start-ups.	SEED Incubator, Accelerator and Catalyser programs.
Arcadia Fund	Protect endangered ecosystems and promote access to knowledge	Grant funding
Autodesk Foundation	Find innovative solutions to the world's most pressing social and environmental challenges	Grant funding, software, technical training, and industry expertise
Bill and Melinda Gates Foundation	Grand Challenges Program is a family of initiatives fostering innovation to solve key global health and development problems.	Grant funding, open challenge call
Coalition for Climate Resilient Investment	Transform infrastructure investment by integrating climate risks into decision-making. Enables	Project valuation and investment appraisal

	investors to better predict longer-term cash flows.	
Conservation X Labs	Grand Challenges global competitions reward cash prizes to the best solutions for specific conservation problems.	Open challenge competition, cash rewards
Ethex	Connects individuals and empowers them to fight climate change	Impact investing platform for private capital
Google for Startups Accelerator SDGs	Empower technology start-ups to build and scale viable social impact companies.	Accelerator for product, design, growth (including fundraising), and leadership training.
Grameen Crédit Agricole Foundation	It supports financial service providers (FSPs) with better conditions to provide financing.	Indirect funding, it provides financial, technical and technological support to FSPs
IKEA Foundation	Supports the initiative: What Design Can Do (WDCD)	open challenges, connections and resources to pilot, test and scale new innovations.
MAKE-IT Alliance	The Make-IT Alliance is a co-innovation network that supports exchange of experience and practical knowledge between international and local partners. Financed by BMZ	Incubators that support a co-innovation network to exchange experience and practical knowledge between international and local partners.
McKnight Foundation	Collaborative Crop Research Program (CCRP)	Fund agroecological systems research and knowledge-sharing
Omidyar Network Fund	Global network of innovators, it cofinances the Global Innovation Fund	open call for ideas, piloting and business accelerator
Rockefeller Foundation	Data.org is a platform to help governments to use data science tools and techniques to promote the common good.	An open digital platform, catalyze private capital to bridge public funding gaps.
Skoll Foundation	Funds social entrepreneurs and other social innovators who can advance climate change in critical geographies.	Investing in, connecting, and championing.

References

Bright Anna (2017). Ingredients for Climate Innovation Clusters: The UK Case. CLIMATE INNOVATION INSIGHTS | Series 1.4 Accelerating the Evolution of Climate Innovation Clusters

Climate Policy Initiative. (2021). Global Landscape of Climate Finance 2021. London, United Kingdom, Climate Policy Initiative.

Dechezlepretre, Antoine; Fankhauser, Sam; Glachant, Matthieu; Stoeber, Jan; Touboul, Simon. (2020). Invention and Global Diffusion of Technologies for Climate Change Adaptation: A Patent Analysis. World Bank, Washington, DC. © World Bank.

European Union. (2021). Report of the European Innovation Scoreboard 2021. doi:10.2873/725879

Galia, F and Zenou, E. (2012) Board composition and forms of innovation: does diversity make a difference? F Galia, E Zenou - European Journal of International ..., 2012 - inderscienceonline.com

Galia, F; Zenou, E; and Ingham, M. (2015) Board composition and environmental innovation: does gender diversity matter? F - International Journal of ..., 2015 - inderscienceonline.com

Green Climate Fund. (2021). Accelerating and scaling up climate innovation How the Green Climate Fund's approach can deliver new climate solutions for developing countries, GCF working paper No.4

IDIA (2021). Strengthening Innovation Ecosystems. Prepared By IDIA and the Ecosystem Strengthening Working Group. The International Development Innovation Alliance (IDIA)

Maduekwe, Nnamdi & Adesina, Francis. (2022). Can remittances contribute to financing climate actions in developing countries? Evidence from analyses of households' climate hazard exposure and adaptation actors in SE Nigeria. Mitigation and Adaptation Strategies for Global Change.

OECD. (2021). Development Co-operation Profiles. OECD Publishing, Paris, <https://doi.org/10.1787/a2166f28-en>.

Restle-Steinert, Jonas and Tobias Hausotter (2019). Bottom-Up Innovation for Adaptation Financing. New Approaches for Financing Adaptation Challenges Developed through the Practitioner Labs Climate Finance. Berlin: adelphi.

Sworder, C., L. Salge, and H. Van Soers (2017). The global Cleantech innovation index 2017." Cleantech Group and WWF.

Tall, Arame; Lynagh, Sarah; Blanco Vecchi, Candela; Bardouille, Pepukaye; Montoya Pino, Felipe; Shabahat, Elham; Stenek, Vladimir; Stewart, Fiona; Power, Samantha;

Paladines, Cindy; Neves, Philippe; Kerr, Lori (2021). Enabling Private Investment in Climate Adaptation and Resilience : Current Status, Barriers to Investment and Blueprint for Action. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/35203> License: CC BY 3.0 IGO.”

UNFCCC (2018). Climate Technology Incubators and Accelerators. Bonn: United Nations Framework Convention on Climate Change.

United Nations Environment Programme (2021). Adaptation Gap Report 2021: The gathering storm – Adapting to climate change in a post-pandemic world. Nairobi.

Wilson, K. E. (2015), "Policy Lessons from Financing Innovative Firms", OECD Science, Technology and Industry Policy Papers, No. 24, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/5js03z8zrh9p-en>

WIPO (2021). Global Innovation Index 2021: Tracking Innovation through the COVID-19 Crisis. Geneva: World Intellectual Property Organization.