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**PROPOSAL FOR THE CIF CLIMATE VENTURES (CCV)
WINDOW**



Table of Contents

Section 1 – The Climate Innovation Need	2
Section 2 – What is Climate Innovation?	5
2.1. Why is Finance for Climate Innovation Needed?.....	5
2.2. Concessional capital can play a critical role to ensure that climate finance supports higher levels of climate innovation in developing countries.	7
Section 3 – Concept Proposal	10
3.1. The CIF’s Climate Ventures (CCV) Window	10
Section 4 – Implementation of the CIF Climate Ventures, the role of the CIF business model, and rationale for concessional finance	17
4.1. The CIFs programmatic approach will play a central role in the delivery of CIF Climate Ventures Windows	18
4.2. Implementation of CIF Climate Ventures.....	21
4.3. Relationship with CIF Investment Planning and the Dedicated Private Sector Program (DPSP)	22
4.4. Complementarity to other early-stage technology and innovation initiatives	25
Section 5 – Theory of Change and Expected Impacts and Outcomes	26
5.1. The Theory of Change for Supporting Early-Stage Low-GHG, Climate-Resilient Technologies and Innovations	30
Annex 1: Example Case-Studies showing Climate Innovation Approaches across CIF partner MDB client countries	32
Annex 2: Investment Round Definitions	34
Annex 3: Example calendar for CIF AU coordinated knowledge platform	35

Section 1 – The Climate Innovation Need

- 1. Arguably, the greatest innovation challenge humankind has ever faced is staring humanity in the face: the world has 10 years to halve global greenhouse gas (GHG) emissions and avoid global warming of above 1.5 degrees or 2 degrees Celsius, a level beyond which scientists warn of catastrophic impacts to the planet.** To achieve this, all countries, globally, need to transform the way they produce, transport and consume energy¹. Every economic sector needs to aggressively decarbonize its activities and achieve net-zero GHG emissions before 2050, and at the same time, build resilience and adapt to the negative impacts of climate change that are already being felt globally – and will continue to intensify, especially in developing countries². Yet some of the technologies and solutions critical to enabling deep decarbonization (i.e., net-zero GHG emissions) and climate resilience in developing countries are at an early stage of development, or have not been engineered yet³.
- 2. Deploying climate finance to support climate innovation approaches (described in Section 2) can be catalytic in driving large-scale GHG mitigation and climate resilience and adaptation in developing countries.** On the GHG mitigation side, large-scale renewable energy technology uptake has consistently beaten forecasts over the past decade, i.e., due to improved market opportunities for wind and solar power in developing regions and the reduced cost of technologies. Between 2012 and 2018, the levelized cost of energy (LCOE) of solar PV fell by 77%, concentrated solar power (CSP) by 46%, onshore wind by 35% and offshore wind by 20%⁴. These cost reductions were a contributing factor to renewables accounting for over 80% of all new electricity capacity in 2020 (with solar and wind accounting for 91% of all new renewables)⁵. In the transportation sector, most GHG emissions reductions achieved to date have been enabled through innovations in vehicle fuel efficiency, public transport and urban planning, (e.g., transit-oriented development and safer non-motorized transport routes⁶). Likewise, innovation in resilience and adaptation could significantly reduce climate risks to vulnerable communities and natural ecosystems. Left unaddressed, the negative impacts of climate change (e.g., natural disasters) could push more than 100 million people into poverty by 2030,⁷ and these negative impacts could be further

¹ IEA (2021). “Net-zero by 2050: A roadmap for the global energy sector”

² United Nations (2019). “Unprecedented Impacts of Climate Change Disproportionately Burdening Developing Countries, Delegate Stresses, as Second Committee Concludes General Debate”. Available at: un.org/press/en/2019/gaef3516.doc.htm (link accessed: December 26th, 2020).

³ PwC (2020). The State of Climate Tech. Available at: <https://www.pwc.com/gx/en/services/sustainability/assets/pwc-the-state-of-climate-tech-2020.pdf> (link accessed: December 28, 2020).

⁴ IRENA (2021). “Global Renewables Outlook: Energy Transformation 2050”

⁵ Reuters (2021). Record 260 GW of new renewable energy capacity added in 2020: research. Available at: <https://www.reuters.com/article/us-climate-change-renewables/record-260-gw-of-new-renewable-energy-capacity-added-in-2020-research-idUSKBN2BT0UL> (link accessed: May 4th, 2021)

⁶ Transformative Climate Finance Report, June 2020, p95. Available at: <https://openknowledge.worldbank.org/handle/10986/33917> (link accessed: December 3rd, 2020).

⁷ Hallegatte, S. A. Vogt-Schilb, M. Bangalore, and J. Rozenberg. 2017. Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters. Climate Change and Development. Washington, DC: World Bank.

exacerbated by the COVID-19 pandemic, which is estimated to push up to 150 million people into extreme poverty by 2021⁸.

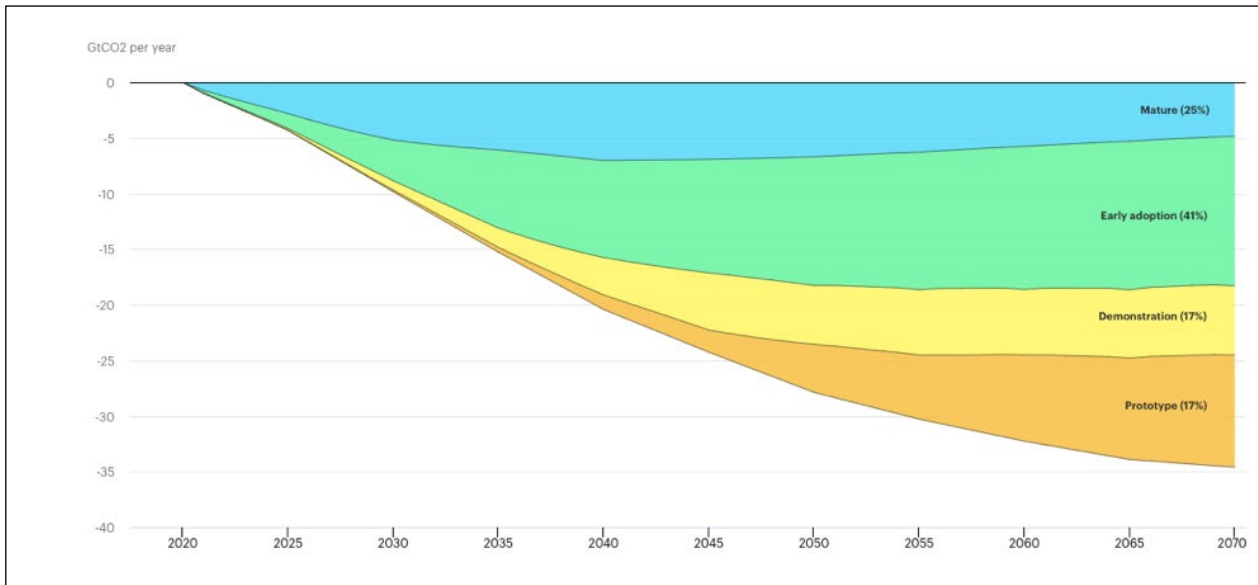
- 3. Realizing ambitious climate change goals will require diverse portfolios of early-stage innovations to be developed, deployed, tested and scaled across multiple sectors and regions.** In the immediate and long terms (i.e., by 2025 and 2050), ensuring that innovative technologies and business models reach maturity at a much faster rate and greater scale will be critical. Using the energy sector as an example, mass adoption of existing and more established technologies for decarbonization, e.g., renewable-powered grid electricity or electric vehicle deployments, can only achieve up to 70% of what needs to be done to reduce GHG emissions. But to get all the way to net zero GHG emissions globally, additional innovation in the hard to abate industries (e.g., transportation and industry) will be imperative⁹. According to the IEA's "Sustainable Development Scenario"¹⁰ (a scenario which in itself is ambitious and goes beyond current stated policies), by 2035, 17% of the cumulative carbon-dioxide (CO₂) emissions reductions needed to shift the world to a sustainable path will come from technologies currently at the prototype phase (see Figure 1). An even higher percentage (58% of cumulative CO₂ emissions reductions) will rely on technologies that are in the early-adoption and demonstration phase. These estimates highlight the urgent need to prioritize investments in climate innovation (especially in developing countries, see Section 2). Therefore, providing finance for technologies and business models in the crucial demonstration and early adoption phases of development (as shown in Figure 1) are the focus area for climate innovation programs like the one proposed for the CIF Climate Ventures Window (see Section 2).

⁸ World Bank (2020). "COVID-19 to Add as Many as 150 Million Extreme Poor by 2021". Available at: <https://www.worldbank.org/en/news/press-release/2020/10/07/covid-19-to-add-as-many-as-150-million-extreme-poor-by-2021#:~:text=The%20COVID%2D19%20pandemic%20is,severity%20of%20the%20economic%20contraction>. (link accessed: December 26, 2020).

⁹ <https://www.ft.com/content/7f0da74a-c3e7-484b-8c85-524a4bd87260> (link accessed: December 27, 2020).

¹⁰ IEA (2021). "Energy Technology Perspectives 2020: Special Report on Clean Energy Innovation – Accelerating technology progress for a sustainable future"

Figure 1: Cumulative CO₂ emissions reductions in the energy sector between 2020 and 2070 (globally) by technology development phase¹⁰.



4. **Concessional finance can provide the much-needed early-stage capital to support a wide-range of technology and business model innovations.** Historically, securing “bankable” pipelines of early-stage technologies and business models that can attract private sector investment and support to rapidly scale up activities has remained a challenge. However, the benefits of strategic capital deployment into early-stage innovations have recently been shown in the global response to the COVID-19 pandemic, where the development of multiple vaccines in record time was spurred through large amounts of early-stage capital deployed by governments and the private sector¹¹. Similar outcomes could be realized in the case of climate innovation. Success would require the commitment of all stakeholders (e.g., public and private donors, policymakers, and entrepreneurs/companies) to foster and build innovation markets and ecosystems in developing countries (see Section 3) and the recognition that, while a smaller pool of investments will ultimately scale and support significant mitigation or adaptation benefits over time, successful investments can drive outsized and truly transformational impact.

¹¹ Miller (2020). The Case for a Climate Change Operation Warp Speed. Available at: <https://alanmiller-64880.medium.com/the-case-for-a-climate-change-operation-warp-speed-850b3124266c> (link accessed: December 27, 2020).

Section 2 – What is Climate Innovation?

- 5. Broadly, the term “innovation” defines a process to create, develop and implement a new product or process (or combination thereof), with the aim to improve efficiency, effectiveness or advantage^{12,13}.** In the context of climate action, innovation – or “climate innovation” – extends to new products, processes, services, or business models (including digital solutions) that (1) accelerate progress toward climate mitigation and adaptation goals, (2) contribute to a just and equitable transition towards low-carbon and climate-resilient development, and (3) focus on the demonstration and early-adoption phases of development (Figure 1). At the same time, climate innovation approaches need to consider and address key barriers to developing and transferring different technologies and business models to developing countries (e.g., alleviating financing and technology risks due to limited market conditions in these regions, see Section 2.2).
- 6. Even through actions to foster climate innovation in developing countries will be country and context-specific, countries would require strong enabling environments in the implementation of innovative technologies and business models (e.g., supporting policy and regulations, local capacities, and adequate infrastructure, including access to electricity, transportation, and other basic services).** In addition, one country may define a technology or business model as “innovative”, “breakthrough” or “game-changing”, even though the same technology or business model may be widely established and adopted in another, e.g., micro-finance schemes to support improved farming practices, or micro-grid technologies to support rural electrification. Therefore, innovation in this context is demonstrated in the transfer or adoption of already established technologies or business models from one country to a new or untapped one. Innovation could also be demonstrated through activities to deploy and test early-stage technologies, where opportunities to accelerate or “leapfrog” towards wider market adoption are more present in developing country contexts. Both approaches may require that targeted financing instruments (e.g., concessional loans, grants, or equity, among other instruments), as well as technical assistance (e.g., support to firms/entrepreneurs, community awareness raising, capacity building, or policy support) are deployed alongside these innovative technologies or business models to incentivize and enable their adoption.

2.1. Why is Finance for Climate Innovation Needed?

- 7. To achieve net-zero 2050 (and a 50% reduction by 2030), developing and advancing early-stage technology and innovations is unequivocal.** To achieve these goals, every sector of the global economy needs to transform in just over two business cycles or one investment cycle¹⁴. And while many of the technologies and solutions critical to enable this transformation are

¹² <https://www.slhd.nsw.gov.au/innovation/about.html> (link accessed: December 26, 2020).

¹³ The OECD’s “Oslo Manual” similarly defines innovation as “a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)”. See: <https://www.oecd.org/sti/inno/oslo-manual-2018-info.pdf> (link accessed: April 27, 2021).

¹⁴ <https://www.pwc.com/gx/en/services/sustainability/assets/pwc-the-state-of-climate-tech-2020.pdf>, p1

beginning to be proven, the distribution of these innovations and their rapid demonstration and commercialisation is imperative.

8. **While most global GHG emissions have been attributed to economic activities in developed regions, this trend is expected to change in the coming decades.** Developing countries will account for an ever-greater proportion of global emissions. For example, data from global cities shows that resource requirements to build infrastructure in developing countries would emit up to 226 giga-tons (Gt) of CO₂ by 2050 (equivalent to four times the amount used to build existing developed world infrastructure)¹⁵. To avoid these projected GHG-intensive pathways of growth, there is even greater urgency to support climate innovation to accelerate their transitions to net-zero.
9. **While the envelope of climate finance funding is steadily growing over time, with USD 579 billion achieved in 2017-2018, a small fraction is currently attributable to activities that could be explicitly linked to early-stage low-carbon technologies¹⁶.** The primary destinations for climate finance are renewable energy and low carbon transport, accounting for 82% of all investments and deployed into large scale renewable installations, and rail and transit projects. Energy efficiency, agriculture and land use each account for under 5%¹⁷. It is well recognized that the private sector will be critical to reaching the USD 1.6 - 3.8 trillion/annually required up to 2050 to align with the 1.5-degree scenario, but the vast majority of climate finance deployed by the private sector (currently accounting for 56% of total climate finance), is directed towards later stage technologies and infrastructure development projects. Only a tiny sum can be attributed to earlier stage low carbon technologies, though exact amounts are difficult to identify.¹⁸ Without strategic public sector interventions to stimulate early-stage technology and innovations and drive private sector engagement in these markets, the GHG emission gap will continue to widen.
10. **Investments in climate innovation (e.g., investing in entrepreneurs, start-ups, and research and development (R&D) activities) can drive significant economic and development benefits, including increased productivity and job creation¹⁹.** For example, the European Union's (EU) Finance for Innovator's program ("InnovFin") has deployed approximately over EUR €14 billion in investments to 110 innovative projects and companies, and 11,000 innovative early-stage enterprises, small medium enterprises and mid-cap companies²⁰. These investments have supported nearly 600,000 jobs in 42 countries across the EU (and other countries). Similarly, the U.S. Department of Energy's Advanced Research Project Agency-Energy ("ARPA-E") has provided approximately \$2.6 billion in R&D funding to more than 1,000 "potentially transformational" energy technology projects. Of these initial

¹⁵ Bai et al. (2018), "Six research priorities for cities and climate change". Nature Climate Change.

¹⁶ Climate Policy Initiative (2019). Global Landscape of Climate Finance. Available at: <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2019/> (link accessed: December 28, 2020).

¹⁷ <https://www.climatepolicyinitiative.org/wp-content/uploads/2019/11/2019-Global-Landscape-of-Climate-Finance.pdf> (link accessed: December 28, 2020).

¹⁸ Estimated to be less than USD 0.2 billion (< 0.03%) of the USD 579 billion; see CPI data.

¹⁹ [Low Carbon Technology Transfer and Innovation Report](#), World Bank, 2020, p19.

²⁰ <https://www.eib.org/en/publications/innovfin-eu-finance-for-innovators.htm> (link accessed: May 24, 2021)

investments, 88 new companies have formed, 237 have partnered with other government agencies, and 177 teams have together raised more than \$4.9 billion in private-sector follow-on funding²¹. While evidence of technology innovation funds such as InnovFin and ARPA-E are generally lacking in developing countries, other research shows a positive and significant relationship between innovation and economic growth in developing countries, where innovation is often enabled through the growth of small firms or entrepreneurial activity. For example, one study²² sampled 49,370 small and large firms across 104 developing countries, and examined their overall contribution to employment, job creation, and economic growth. Compared to large firms, the study shows that smaller firms (<20 employees) are fastest growing and have higher job creation rates across all country income groups sampled. Likewise, from a climate change perspective, other estimates show transitioning towards a low-GHG or low-carbon path could deliver a direct economic benefit of USD 26 trillion (globally) between 2018 and 2030. Compared to business as usual, these economic gains could generate 65 million new low-carbon jobs (equivalent to the entire workforce of the United Kingdom and Egypt combined), support higher female employment and labor participation, and avoid over 700,000 premature deaths from air pollution²³. Investments in climate innovation in developing countries can accelerate progress towards low-carbon development, and at the same time, foster local talent and catalyze market opportunities in commercial and industrial sectors.

2.2. Concessional capital can play a critical role to ensure that climate finance supports higher levels of climate innovation in developing countries.

11. Concessional capital can be instrumental in addressing key barriers to climate innovation in developing countries, including:

12. Lack of capital to support technologies or business models at the early stage of the product or process life cycle (e.g., capital to support climate tech and green start-ups, local SMEs, or the deployment of concepts and ideas developed through R&D). Private investors operating in global markets may be reticent to support early-stage technologies and business models (especially in the climate tech sector) in developing countries. This hesitance may be due to the perceived higher technology risk, longer timelines for technologies to reach scale, and poor enabling environments (e.g., limited governance frameworks, enabling policies, or market opportunities) to deploy or scale climate innovation approaches in developing countries. This lack of investments often results in a “valley of death”, where local companies or entrepreneurs run out of critical cash flow to support their innovations or business models²⁴. Concessional capital could be deployed to provide access to capital for these local companies or support other market enabling activities (e.g., technology transfer approaches, or policy development) focused on strengthening and building

²¹ <https://arpa-e.energy.gov/about/our-impact> (link accessed: May 24, 2021)

²² Ayyagari, M., Demirguc-Kunt, A. & Maksimovic, V. (2014). “Who creates jobs in developing countries?”. *Small Bus Econ* 43, 75–99. <https://doi.org/10.1007/s11187-014-9549-5>

²³ <http://newclimateeconomy.report/2018/executive-summary/> (link accessed: December 26, 2020).

²⁴ [Study on Scaling access to early-stage finance](#), Dutch Good Growth Fund report, p11.

the marketplace for climate innovation in developing countries. Possible areas of support are further detailed in Section 3 (paragraph 28 onwards).

13. **Limited enabling environment for climate technology and venture capital investment in developing countries, including insufficient capital, market development and technical assistance to advance innovative products/processes through the prototype, demonstration and early adoption phases.** Therefore, many technology and venture-focused companies and organizations, including technology transfer offices, often fail to survive. There is an urgent need to ensure that such companies have access to the right support mechanisms to ensure that innovations are “investment ready”. Concessional capital could be directed towards these support mechanisms – for example, technical assistance to support the rapid transfer and adoption of technologies in local markets, or capacity building through business accelerator and incubator programs to support local entrepreneurs and their business ideas.
14. **Few business models or limited expertise to facilitate the rapid transfer and adoption of different technologies – particularly those that are largely rooted in developed (high-income) countries, e.g., electric vehicles – into newer and often untapped developing country markets.** Developing markets are often considered to be a more complex environment to develop early-stage technologies and innovations. This could be due to local factors that are often specific to certain country markets or regions, e.g., limiting policy and/or regulatory environment, few local companies or entrepreneurs operating within the local market, or limited investor appetite to invest in climate innovation approaches for mitigation and adaptation at the country or regional level. Therefore, concessional capital could be deployed to support innovative approaches to de-risking technology transfer, e.g., through North-South or South-South collaborations to overcome initial challenges of deploying and scaling technologies in developing countries.
15. **Lack of knowledge between the public and private sector on how best to identify, assess and scale up early-stage technologies and innovations together.** While pockets of initiatives and investments can be found both in public and private sector entities in developing markets, the deepening of knowledge on best practices, as well as the sharing of learnings between public sector actors, is not available, reducing the appetite from some organisations to take new risks. Furthermore, the deepening of engagement between the public sector and private sector organisations active in this early stage remains absent, and as such, opportunities for more transformative programs are missed.

16. **Lack of specialized ecosystems (e.g., venture capital²⁵, accelerators, incubators²⁶ and technology transfer offices) to identify, channel, and accompany green_early-stage technologies and innovations.** While there are venture capital funds specialized in investing in early-stage technology-based businesses in developing countries, very few of them understand business models that positively contribute to climate change mitigation or adaptation. These businesses are also known as “climate techs” or “green techs”²⁷. Strengthening the “climate tech” ecosystems in developing countries by supporting specialized accelerators, incubators, funds with different instruments (such as grants for accelerators and incubators and equity for funds) or even their associations is another alternative to optimize connections, deal and capital flows.
17. **The Climate Investment Funds (CIF) Climate Ventures (CCV) window aims to address the above-mentioned key barriers to climate innovation in developing countries. The window aims to deploy CIF concessional capital – in a programmatic fashion – to enhance markets for climate innovation in developing countries.** Specifically, CIF’s concessional capital could provide the much-needed, risk bearing patient capital to test and scale an array of new technologies and business models with the potential for transformation. The concept proposal for the CCV window is outlined in Section 3.

²⁵ “Venture capital is a special type of equity finance for typically young, high-risk and often high-technology firms.”
Source: OECD.

²⁶ Accelerators usually accelerate the growth of an existing company (that is revenues positive) in exchange of a fee. Their programs are short-term (three to six months) and focused on mentoring, marketing, legal and HR consulting. Incubators, as the name says, incubate nascent companies that still are after their minimum viable product. Their programs are long-term (one to three years) and also include services such as mentoring, marketing, legal and HR consulting against a fee or a minority portion of the company’s equity.

²⁷ Green techs are early stage and low-carbon/environment-friendly technology businesses. These companies include new renewable energy technology solutions, residential and commercial energy efficiency storage solutions, climate prediction methodologies, optimal irrigation systems biotechnologies that make use of sustainable nature-based inputs (example, biodegradable packaging, cosmetics, organic foods, etc).

Section 3 – Concept Proposal

18. **Spearheading climate innovation approaches in developing countries to accelerate their transition towards low-carbon and climate-resilient development could stimulate investor appetite to enter these largely untapped markets earlier, faster, and at a greater scale.** The CIF’s role in deploying concessional capital to foster climate innovation in developing economies could attract greater private sector investment in the future and strengthen investor appetite to enter new markets. Concessional capital could also inject funding and expertise during the early and often riskier stages of project or technological development and allow countries to rapidly “leapfrog” into more advanced technologies and innovations.

3.1. The CIF’s Climate Ventures (CCV) Window

19. **The CIF’s Climate Ventures (CCV) window is a first-of-its-kind venture facility aiming to foster and advance climate innovation in developing countries through CIF.** The CCVs will bring together a complete suite of investments and support mechanisms into a single window for the first time, to ensure that early-stage technology and innovation becomes a core feature of the CIF’s new programs. Overall, the CCV window will support CIF-partner MDBs²⁸ to develop and implement programmatic package of innovation interventions that could be transformative in local and developing country markets (additional details in Section 4.1).

20. In practice, the CCVs are not standalone CIF programs; rather, they follow a model similar to the Clean Technology Fund’s Dedicated Private Sector Programs (DPSP), in that they are proposed to exist as dedicated funding windows under each respective program under the CIF Strategic Climate Fund (SCF) – Global Climate Action Programs (see paragraph 59).²⁹ As such, the CCVs will be fully aligned with the CIF’s new strategic programming on renewable energy integration, climate-smart cities, low-carbon industry, nature, people, and climate³⁰ and are designed to systematically address the key barriers to climate innovation in developing countries as described above.

21. The CCVs will be structured to support four components. CIF partner MDBs can structure CCV projects or programs to address one or more of the four components, in line with the CIF’s priority areas, to ensure activities support a programmatic approach to climate innovation in the target developing countries or regions³¹.

²⁸ The CCV window will be available to all CIF partner MDBs, i.e., the World Bank, IFC, EBRD, AfDB, IDB and ADB.

²⁹ The new CIF programs include: 1. **CIF RE Integration:** Integration of Renewable Energy into Power Systems; 2. **CIF Smart Cities:** Climate-Smart Urbanization; 3. **CIF Industry Decarbonization:** Accelerating Low-Carbon, Climate-Resilient Transition in Industry; and 4. **CIF Nature Solutions:** Nature, People and Climate Investments.

³⁰ Details on the CIF new SCF programming is available in the document, *Operational Modalities for the Climate Investment Funds’ New Strategic Programs*: <https://www.climateinvestmentfunds.org/documents/operational-modalities-climate-investment-funds%E2%80%99-new-strategic-programs> (date accessed: November 20th, 2020).

³¹ Please note that the components simply provide insight to the types of activities CIF-partner MDBs could support through the CCVs. Each project supported through the CCV window would align with MDB-specific areas of focus and country specific needs.

- **Component 1:** (A) Direct investments into innovative technologies and business models, and (B) Indirect investments into strategically aligned venture capital and technology innovation funds (public or private).
- **Component 2:** Support mechanisms to build and/or strengthen ecosystems for climate innovation in developing countries.
- **Component 3:** Technical assistance to support enabling technology, financing and policy capacity to strengthen climate innovation ecosystems in developing countries.
- **Component 4:** Convening/knowledge platform to support capacity building and integration of learning outcomes among CIF partner MDBs, companies, and other stakeholders.

Component 1-A: Direct investments into climate innovation technologies and business models

22. Under this component, CIF partner MDBs could deploy CCV funds in two ways: (1) to pilot and test new technologies and business models at their early stage of development (e.g., green hydrogen for energy storage), or (2) to identify scalable and more established climate-smart technologies or business models in developing or developed countries that can penetrate untapped markets across the developing world (e.g., electric vehicles), e.g., through South-South or North-South collaboration. In both cases, ensuring the successful transfer of technologies to local markets will be critical. Therefore, CIF-partner MDBs could couple direct investments with technical assistance (see Component 3) to support the technology transfer process.
23. Concessional capital deployed under this component aims to reduce market entry risks and allow CIF partner MDBs to operate in newer and untapped markets. CCV funds would allow CIF partner MDBs to ramp up the testing and scaling of innovative technologies and business models in their client countries, while also creating new market opportunities for significant private sector investment in the future.
24. Direct investment into technologies and innovations is important because, as detailed in paragraph 3, without targeted intervention at this early stage, reaching net zero GHG emissions and climate-resilient development by 2050 will not be possible. The practice of channelling direct investments towards innovative climate change technologies is already established among CIF partner MDBs (see Annex 1 for various project examples). However, given the risk profiles and transaction costs of these investments, they generally account for a small fraction of an MDB portfolio.
25. CIF partner MDBs may invest in technologies and business models being developed by both early-stage or established companies (e.g., from start-ups, SMEs, through to medium and large corporations). MDBs may consider investments in mitigation technologies and business models to accelerate pathways to net-zero GHG emissions, or likewise develop ecosystems for innovative adaptation technologies as they have severely lagged those for mitigation³². Support could be provided to technologies or business models either the idea stage (e.g., for

³² World Bank: <https://www.worldbank.org/en/news/feature/2021/03/04/unlocking-private-investment-in-climate-adaptation-and-resilience> (link accessed on May 11th, 2021).

the deployment of early-stage products and services that are otherwise under- or un-fundable by non-concessional capital), through to later investment stages (e.g., Series A or B stages; see Annex 2 for a list of investment round definitions, which may vary by geography and sector).

Component 1-B: Indirect investments into strategically aligned venture capital and technology innovation funds

26. The term “indirect” under this sub-component means that CCV funds could be channeled to strategically aligned venture capital and/or climate technology innovation funds (e.g., independently managed funds that invest in climate change technologies or “climate tech” in developing countries, or MDB’s own such venture-focused technology and innovation funds such as ADB Ventures). While the venture capital or technology fund supported by the CCVs does not need to be solely focused on climate, CCV funds will only support climate tech investments within the fund. The use of CCV funds in this context is important because while the climate tech sector is growing, it remains dramatically under-funded and investments are concentrated intensely around US and European-based firms, or firms that are supporting investments focused on developed country markets³³.
27. Therefore, in the context of ongoing venture capital and climate technology innovation fund activities, CCV funds under this component aim to increase the amount of risk-appropriate capital available to CIF partner MDBs to support their ambitions to scale up venture capital funding for climate technology deployment in developing countries. In addition, deployed CCV funds could (1) allow CIF partner MDBs to support “best-in-class” entrepreneurs and companies in their operations across different developing country markets, (2) allow selected entrepreneurs and companies to test and scale their early-stage technologies and business models (i.e., linking back to Component 1-A), (3) enhance markets for climate tech innovation and entrepreneurship at regional and local levels; and (4) providing necessary risk capital to support the potentially significant technology and infrastructure adaptation and reconfiguration costs associated with technology transfer.

Component 2: Support mechanisms to build and/or strengthen ecosystems for climate innovation in developing countries.

28. CCV funds under this component aim to finance a suite of “support mechanisms” aimed at building the marketplace for the development and technology transfer of climate innovation in developing countries, which are currently devoid or in critically low supply. These support mechanisms could include the following activities:

Challenges and Hackathons

29. A “challenge” in this context is a dedicated business competition to source, select and finance early-stage technology companies in the context of a specific climate change or sustainability challenge that may also align with national development or investment planning processes.³⁴

³³ <https://openknowledge.worldbank.org/handle/10986/33917>, p95.

³⁴ Example competitions to date include DFID’s “[Ideas to Impact: Off-Grid Refrigeration Challenge in Africa](#)” and Conservation X’s “[Agricultural Research Service Challenge 2020](#)”.

Similarly, hackathons can create space for local entrepreneurs to innovate solutions to specific business problems (e.g., problems specified by local or national governments in line with country or regional investment plans), and likewise generate targeted solutions that can support MDB market discovery/business development efforts under the new CIF programs. Challenges and hackathons can also incentivize collaboration between accelerators and incubators with the “triple helix” (academia, industry and government), promoting technology innovation that is responsive to the local economic and industrial context. Under the CCVs, the MDBs could deploy funds towards challenges or hackathons to support early-stage companies and entrepreneurs with starting capital (e.g., grants, or cash prizes) to launch their business ideas and technologies into a viable product or service. Challenges could also highlight selected early-stage businesses with “prize-winning” plans via an online platform.³⁵

30. Challenges and hackathons could be developed and coordinated by MDBs at the country or regional level, or through an investment into, or partnership with, a trusted institution with demonstrated expertise in planning challenges in developing countries. These activities would also align with broader CIF strategic objectives, as well as national climate change goals (e.g., linking to national development planning, NDCs, sector policies, or SDG-aligned targets).

Accelerators, Incubators, and other early-stage funding models (e.g., digital solutions)

31. CCV funds deployed towards accelerators and incubators (including hardware accelerators³⁶ and innovator to innovator (I2I) exchanges) could support ongoing challenges and hackathons (as described above) or provide opportunities to deploy larger and more diverse pools of starting capital (e.g., grants, equity, debt), and mentorship (e.g., shared professional resources and educational components) to early-stage companies and entrepreneurs. Successful accelerators and incubator models tend to culminate in a public pitch event or a demo day to attract further funding, or investment and market interest.³⁷ It is possible that support to accelerators and incubators may overlap with component 1-B (support to venture capital and technology innovation funds), which aligns with the integrated nature of investments under the CCV Window. Therefore, as noted previously, CIF partners MDBs may structure projects that cut across one or more of the four CCV components described in this section.
32. Furthermore, CCV funds could be deployed to (1) support existing national, regional, or local accelerators/incubators, (2) develop a new one, depending on country-specific needs, or (3) explore the potential of new digital solutions such as blockchain technologies to create transparency and reduce transaction costs of clean energy and climate change investments

³⁵ Structuring competitions to provide online visibility to winning businesses could offer multiple benefits – for example: (1) attract additional private sector interest and capital into companies as they improve and test their solutions over time, and (2) incentivize other companies to test their technologies/business models in new regions or adapt their existing solutions to a particular country or community context.

³⁶ Examples of hardware accelerators include: <https://hax.co/> and <https://greentownlabs.com/>

³⁷ Example accelerator labs include the CTF-supported “ADB Ventures” investment fund (for clean energy, sustainable food production, climate resilience and sustainable water management³⁷), the Lightsmith Group's “[Adaptation SME Accelerator Program \(ASAP\)](#)”, and IUCN/GEF’s “[Nature + Accelerator Fund](#)”, and the U.S. founded “SOSV” accelerator program (<https://sosv.com/>) among others.

(e.g., enabling innovative carbon and emissions trading schemes, or automating and tracing financial flows underlying portfolio investments).^{38,39,40} In the immediate term, channeling CCV funds to the above-mentioned activities could offer several market benefits, for example: providing evidence to investors and policy makers of what dedicated support to early-stage companies can do to transform markets in developing countries; demonstrating the viability of specific technologies and business models; and providing the much-needed enabling environment to transfer and scale the most viable technologies and business models into and across different countries and regions.

33. To ensure greater impact at the country level, accelerators and incubators should complement broader country or sector specific low-carbon plans to ensure that innovations align with existing sustainability and climate change goals.

Component 3: Technical assistance (TA) to support enabling technology, financing and policy instruments to strengthen climate innovation approaches in developing countries

34. Under the CCV window, CIF partner MDBs could deploy technical assistance for activities such as:

35. Capacity building focused on venture capital and technology innovation fund management and opportunities for engagement in developing country markets. Activities may include trainings/workshops that are specific to projects led by CIF partner MDBs, among others.

36. Technical support to early-stage technology companies via funds, accelerators or incubators to ensure that their business have the capacity grow scale and therefore attractive to both local and international investors. For example, TA funds could be deployed to support the review and development of engineering designs, early-stage prototypes, or market entry and development strategies (including technology transfer approaches), among other technical areas.

37. CIF partner MDBs could also direct TA support to address various market and technology transfer challenges. For example, (1) identifying and supporting early-stage technology companies operating within specific sectors such as integrated renewable electrification and energy storage, sustainable transportation, or climate-smart agriculture, (2) providing targeted policy support or capacity building to ensure that companies and/or entrepreneurs are able to scale their technologies and business ideas, (3) supporting the transfer of established technologies into the local markets (e.g., re-designing/configuring technologies or business models to align with the local market or country-context), or (4) providing strategic support to innovators

³⁸ Examples of these blockchain technology platforms include, among others, Climate Trade (<https://climatetrade.com/>), Moss Earth (<https://moss.earth/en/home/>), and ECO2 Ledger (<https://www.eco2.cc/>).

³⁹ Schletz, Marco; Cardoso, Ana; Prata Dias, Gabriela; Salomo, Søren. 2020. "How Can Blockchain Technology Accelerate Energy Efficiency Interventions? A Use Case Comparison" *Energies* 13, no. 22: 5869. <https://doi.org/10.3390/en13225869>

⁴⁰ <https://unepdtu.org/accelerating-climate-change-action-through-blockchain-technology/> (link accessed: May 25, 2021)

in developed country markets who are looking to transfer and deploy their technologies and business models in CIF countries.

38. Technical assistance could also be deployed in tandem with other CCV window components to ensure that companies receive a comprehensive package of support.

Component 4: Convening a knowledge platform to support multi-MDB knowledge generation, peer-to-peer exchange and integration of learning outcomes among CIF partner MDBs and other stakeholders

39. Given that the climate ventures space is relatively new for most MDBs and other DFIs, the CCVs can play a key role in the generation and dissemination of knowledge for this high-impact, though nascent, sector. Activities under Component 4 will ensure the effective integration of knowledge and learning across the entire CCV window, and building on the success and learnings of similar knowledge programs already deployed by the CIF (e.g., CIF/Climate Policy Initiative Geothermal Dialogue Series⁴¹ and the Transformational Change Learning Partnership⁴²), the platform will be coordinated by the CIF Administrative Unit (CIF AU) and partner MDBs, and support knowledge generation and sharing among stakeholders through various technical trainings and workshops, as well as knowledge products.
40. Structurally, the purpose of the platform will be two-fold:
 41. To identify relevant, complementary stakeholders (e.g., venture capital firms, crowd funders, entrepreneurs, government agencies, and technology companies) and create a platform that enables continued engagement and dialogue to build meaningful relationships among the stakeholder group, while generating opportunities for additional climate innovation investments.
 42. To create space for shared learnings between CIF partner MDBs and other stakeholders. Activities may include events to share technologies and innovations of common interest for potential co-investment (e.g., partnering with MDBs to plan local or regional hackathons), identifying technology transfer opportunities, or exploring new areas of targeted analytical work (e.g., country-specific case-studies, other analytical reports).
43. Over time, the knowledge platform could be a key resource for MDBs to access regular and expert information on the latest climate innovation technologies and business models and tap into ongoing MDB investment events and activities⁴³ (see Annex 3 for an example of activities for the proposed knowledge platform).
44. Components 1 – 4 are not expected to be supported in isolation. Rather, building off of CIF's demonstrated programmatic approach, it is expected that MDBs will deploy a range of complementary investments and TA under the CCVs (Figure 2), leveraging a number (though not necessarily all) of the Components to support comprehensive venture initiatives that

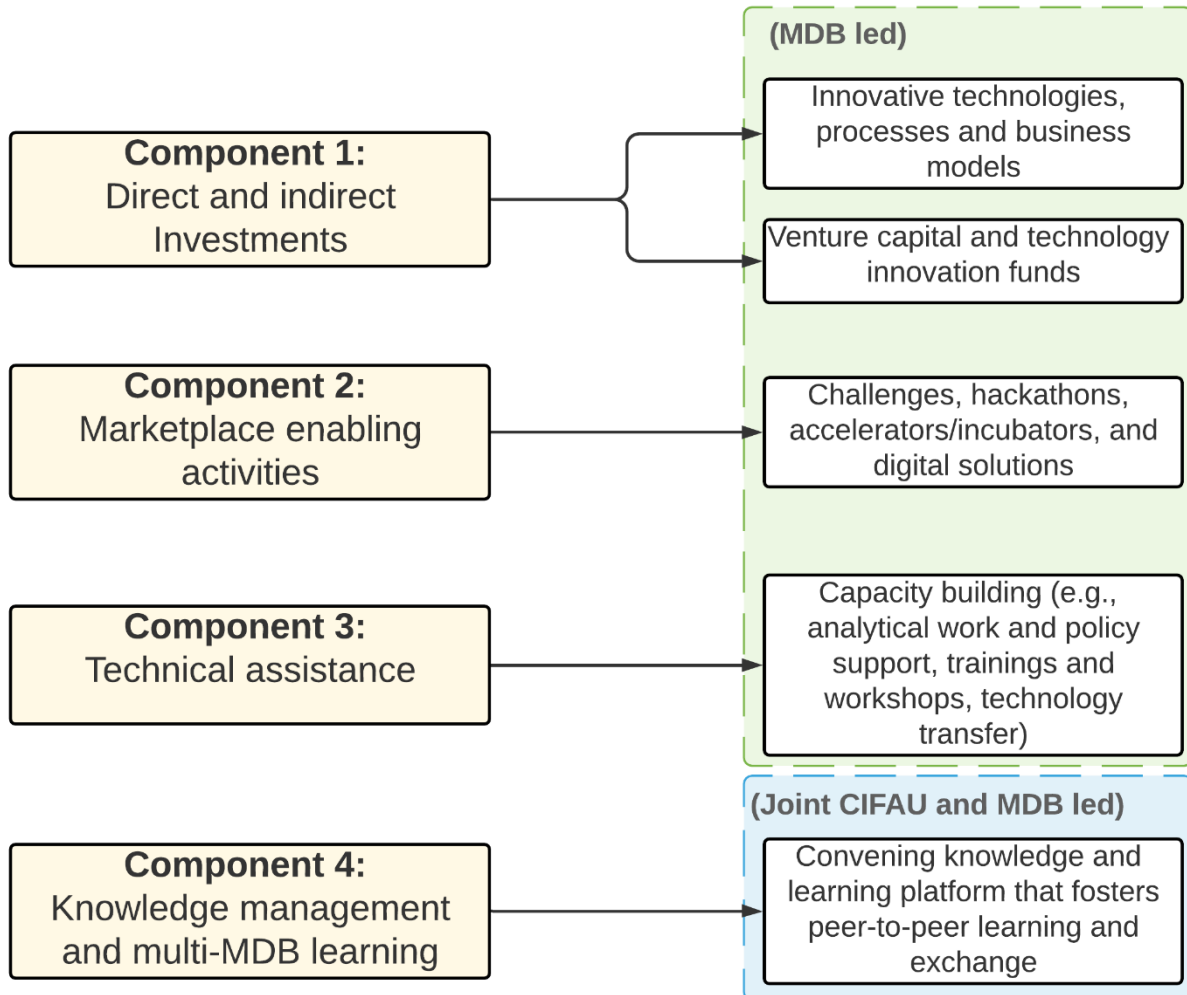
⁴¹ <https://www.climateinvestmentfunds.org/theme/geothermal> (link accessed: December 28, 2020).

⁴² <https://www.climateinvestmentfunds.org/tclp> (link accessed: December 28, 2020).

⁴³ One area of synergy includes the African Development Bank's Annual Africa Investment Forum: <https://www.africaninvestmentforum.com/> (link accessed: December 30, 2020)

have a potential for transformational change. See details on how this can be done in Section 4 and how it contributes to transformational change in Section 5.

Figure 2: CCV Window Components and Investment Activities



Section 4 – Implementation of the CIF Climate Ventures, the role of the CIF business model, and rationale for concessional finance

45. The flexible, adaptive and swift nature of the CIF business model makes it ideal to support investments into early-stage low-GHG, climate-resilient technology and innovation. CIF can move at a pace matching the private sector and thereby enable the MDBs to engage more dynamically and responsively to strategically aligned opportunities as they arrive.
46. The CCVs align with, and build off of, the key strengths of the CIF business model and priorities under the new CIF programs/strategic directions⁴⁴. Specifically, the CCVs are expected to:
 47. Provide a predictable and flexible envelope of concessional resources to support CIF partner MDB ambitions to enhance markets for climate innovation in their client (developing) countries.
 48. Strengthen markets and attract private capital, into innovative technologies/business models and venture funds.
 49. Support country-led, participatory climate innovation investments that align with national priorities. For example, through the provision of technical assistance to support innovation activities (e.g., business competitions or hackathons) during the investment plan development process.
 50. Enable MDBs and other public and private stakeholders to share learnings more effectively and work together in a coordinated manner (i.e., through an integrated knowledge platform).
 51. Enhance opportunities for cross-sectoral collaboration on climate innovation projects and interventions in line with country-specific development and climate change goals.

⁴⁴ Strategic Directions for the CIF (2019). Available at: https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting_documents/joint_ctf_scf_21_3_strategic_directions_for_the_cif.pdf (date accessed December 4, 2020)

The CIF is uniquely equipped to deploy concessional capital towards climate innovation.

52. As leading global development institutions, CIF partner MDBs are well positioned to advance high-impact programs that foster climate innovation markets in developing countries. MDBs have a deep understanding of local market complexities and are well placed to provide tailored support to early-stage companies, investors, or ecosystems where others could not. MDBs can maintain a finger on the pulse of the prospects of early-stage companies in their region and leverage their network of companies, entrepreneurs and co-founders to accelerate their work to drive climate action.
53. MDBs have significant experience in deploying a range of flexible financial instruments, including equity, investment loans, investment grants and convertible notes, as well as policy and technical advisory support, that early stage and innovative ventures require. Furthermore, innovation-focused units within the MDBs, such as IDB Lab, IDB Invest Equity & Mezzanine Unit, IFC Disruptive Technologies, and ADB Ventures, are already working in early-stage innovation and technology investments, and the CCV window can provide the resources required to accelerate their ongoing work or create opportunities for other MDBs interested to scale up their work in climate innovation.
54. The convening power of the CIF platform and partner MDBs can attract and maintain a strong network of enabling organizations and co-investors to support early-stage innovation and technology to scale. The CIF platform provides a unique mechanism to share learnings on innovative climate investments across developing country regions, as well as to identify opportunities that create new market opportunities for technologies or business models in largely untapped regions.

4.1. The CIFs programmatic approach will play a central role in the delivery of CIF Climate Ventures Windows

55. **From many decades of climate action, it is now widely understood that progress will require action across multiple sectors, at different scales, and in a manner that addresses multiple barriers or constraints.** This point is especially relevant when considering investing into early-stage low-carbon technologies and innovation in developing countries, where there is often a need to strengthen market conditions to effectively enable companies to scale.
56. **The CIF's operating model – based on a programmatic approach that combines technical assistance and a suite of complementary investments – can drive transformational change.**^{45,46} The CCV window will be designed to support a range of early-stage investments in different sectors in a highly targeted way. The CCVs will demonstrate the ability to scale the CIF programmatic approach across a diverse portfolio of early-stage projects and enable CIF partner MDBs to advance climate innovations initiatives at a range of stages in the project

⁴⁵CIF (2020). Signals of Transformational Change. Insights from the evaluation of transformation change and the Climate Investment Funds. Available at: https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/tc_signals_brief.pdf (accessed: December 27, 2020)

⁴⁶ CIF/IIED/LTS (2019). Evaluation and Learning Partnership on financing forest-related enterprises. Available at: https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/elpfre_final_report_12_3_19.pdf (link accessed: December 28, 2020)

development cycle (e.g., from the design, piloting, to implementation stages). The CCVs effectively respond to recent calls to re-allocate and re-prioritize programming of climate finance towards more innovative and “transformative climate actions” in developing countries⁴⁷. In addition, in May 2021, the G7⁴⁸ committed to increasing investments in innovation to fuel job creation and economic growth in cities, energy, transportation, and land systems (and especially in developing countries)⁴⁹, sectors that are fully aligned with the new CIF programs. In line with these global priorities, the CCV window will leverage the tried and tested logic of strategically-linked investments and other enabling and support activities to foster markets for early-stage climate innovation in developing countries.

57. **Providing predictable and flexible envelope of concessional resources in the context of investing in early-stage technology and innovation is especially important as breakthrough technologies and innovations can come from many different sources and locations (e.g., mobile technology and banking).** In all cases, the CCV window will encourage investment into local technologies⁵⁰, business models or support mechanisms as the ideal. However, in the event of a comparable technology, business model or support mechanism, not being available in a client (developing) country, the CCV window could support cost associated with the transfer and adaptation of investments outside of the client countries, as long as a clear case for how CCV funds will benefit the client country/region is made.
58. **The CCVs will encourage programs that go beyond standalone investments into a single technology or innovation, but rather provide investments and support in a more systematic manner (i.e., using a programmatic approach).** As such, the CCVs are expected to support the creation of small portfolios of strategically linked investments built upon a transformative intent, together with readiness activities to help them scale. While this is a well-practiced approach in other areas of climate finance, this type of early-stage venture portfolio approach will be the first-of-its-kind.

⁴⁷ Vivid Economics (2020). Transformative Climate Finance: Framework to enhance international climate finance flows for transformative climate action.

⁴⁸ The G7 is an informal grouping of seven of the world's advanced economies: Canada, France, Germany, Italy, Japan, the United Kingdom, the United States and the European Union (Details at: https://en.wikipedia.org/wiki/Group_of_Seven).

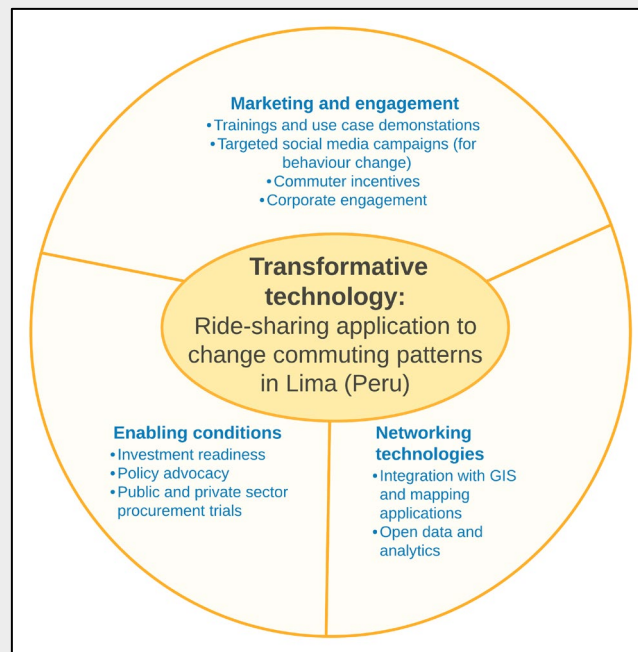
⁴⁹ LSE (2021), G7 leadership for sustainable, resilient and inclusive economic recovery and growth – An independent report requested by the UK Prime Minister for the G7. Available at: <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2021/05/G7-leadership-for-sustainable-resilient-and-inclusive-economic-recovery-and-growth.pdf> (linked accessed: May 11, 2021)

⁵⁰ Local technologies include technologies, products or services that are developed in a developing country by a local resident or national innovator or entrepreneur.

CASE-STUDY: The case of a ride-sharing application deployed to change commuting patterns in Lima Peru.

The need for programmatic approaches to early-stage venture finance can be demonstrated in the case of urban transport in Lima, Peru where innovative ride-sharing applications are being deployed to change commuting patterns in the city. Under the CCV window, a CCV proposal that demonstrates “transformative intent” to change commuting patterns in and around the central business district of Lima, for example, could include a portfolio of investments and interventions including pilot technologies or innovations (such as a ride-sharing app), an open data platform or city commuting patterns tool, along with a series of support investments around them that dramatically improve the chances of scaling. Support investments could include a hackathon to identify local investment opportunities, a marketing and engagement campaign, supportive policy and regulation innovation, other support or enabling technologies, or the testing of alternative disseminating business models.

An example of a programmatic approach to supporting diverse portfolios of innovations and technologies built around a transformative intent under the CCV window



These CCV investments would complement wider investments for public transportation and urban planning in the city. Finally, this program could integrate a knowledge and learning component to ensure lessons learned are synthesised and disseminated to other cities in order to accelerate this new practice area.

4.2. Implementation of CIF Climate Ventures

59. **CCV Launch and Funding Allocation:** A decision will be required by the Global Climate Action Programs (GCAP) Sub-Committee⁵¹ on whether to include a CCV window under each respective new CIF program. As noted in Section 4.3 of the *Operational Modalities* document, there will be a proposed cap – currently 5% – of total program funds allocated to the CCVs. The exact allocation of CCV funds per CIF program will be determined by the Global Climate Action Programs (GCAP) Sub-Committee, based on future contributions to each respective program. But it is expected that a minimum funding allocation across all of the CCV windows (for example, \$100 million combined across all of the CCV windows) will be required to launch the CIF Climate Ventures initiative⁵².
60. **Country Eligibility:** Eligibility criteria for accessing CCV funds is described in the *Country Selection Process for the CIF New Strategic Programs*⁵³ document. In general, all countries that submit an expression of interest (EoI), as dictated by the terms and conditions outlined in the *Country Selection* document, will be automatically eligible to receive funding under the CCVs⁵⁴.
61. **Financial Products, Terms, and Conditions:** The full suite of CIF financial instruments will be available for deployment under the CCVs, including concessional loans, grants, subordinated loans/mezzanine instruments, guarantees, and equity.⁵⁵ The terms and conditions of the deployment of such instruments are described in the *Climate Investment Funds Financial Terms and Conditions* policy.⁵⁶ The policy also describes the principles and guidelines for using CIF concessional resources, including minimizing the risk of market distortion and strategy to phase out concessional support over time to achieve long-term financial sustainability and market viability. Given the innovative nature of CCV investments, two important considerations should be noted:
62. The CCVs are expected to support new technologies, ventures, and models that are generally more untested, less mature, and with a longer timeline of product development and reaching scale than what the MDBs can support on their own, and therefore performance and repayment uncertainty of the CCV investments may be

⁵¹ The Global Climate Action Programs (GCAP) Sub-Committee will be the governing body for the new SCF programs: 1. **CIF RE Integration:** Integration of Renewable Energy into Power Systems; 2. **CIF Smart Cities:** Climate-Smart Urbanization; 3. **CIF Industry Decarbonization:** Accelerating Low-Carbon, Climate-Resilient Transition in Industry; and 4. **CIF Nature Solutions:** Nature, People and Climate Investments.

⁵² See Section 2 of the Operational Modalities paper – “*Relevant CIF governing body to...determine, based on CIF Administrative Unit’s and MDB Committee’s recommendations, the allocation of resources for dedicated innovation windows – “CIF Climate Ventures” (where relevant)*”

⁵³ https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/country_selection_process_for_the_climate_investment_funds_new_strategic_programs_scf.pdf

⁵⁴ See Section 5 and Annex A of the Country Selection document

⁵⁵ The full list of these instruments is included in Section 6.2 of the Operational Modalities paper. Any revisions of updates to the list of financial instruments will be made in the CIF Financial Terms and Conditions policy, which will be updated annually.

⁵⁶ This document will be updated annually. The November 2020 policy is available here - https://climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/joint_ctf_scf_cif_financial_terms_and_conditions_nov_10_0.pdf

high. This approach is aligned with the CIF model of pushing the frontier in sectors and markets that have high impact potential but require concessional resources to overcome risk and barriers; as noted in the CIF Operational Modalities paper, *'the degree of CIF's risk appetite and tolerance will influence its ability to deliver transformational change. Higher risk appetite and tolerance enhances the potential to achieve higher transformational outcomes and impacts.'* More information on CCV impacts and theory of change is included in Section 5.

63. Given these considerations, it is expected that a limited number of CCV investments may be deployed as standalone funds, without an MDB co-investment, for public and private sector projects. In these instances, MDBs will need to demonstrate a strong rationale as to how the CCV investment will mobilize additional capital, in particular private sector capital, in the near to mid-term. This standalone investment provision will also require an addendum or adjustment to the relevant provision under the Operational Modalities policy.⁵⁷

64. **Project Submission Process:** The CCV project development and submission process will follow a similar approach employed for the Dedicated Private Sector Programs (DPSP) and the Global Energy Storage Program (GESP) under the Clean Technology Fund. Following a decision by the GCAP Sub-Committee to capitalize the CCV windows CIF partner MDBs will be invited to develop a pipeline of potential projects to be funded under the CCV window. Projects will be prioritized by the CIF MDB committee based on readiness of the program proposal, and their overall fit with the approved themes of the respective program. Projects are then submitted to the GCAP Sub-Committee for approval. While meant to be complementary to country investment plans, CCV operations are not tied to the timing of country Investment Plan (IP) approvals (see Section 4.3).

4.3. Relationship with CIF Investment Planning and the Dedicated Private Sector Program (DPSP)

65. **CCV support for country-level Investment Plans (IP):** As described in the CIF Operational Modalities paper⁵⁸, CIF's new strategic programs present an opportunity for CIF and the MDBs to raise the bar on engagements at the country-level and start piloting innovative approaches (such as those identified as critical zones of opportunity in the "Future of Climate Action Map"⁵⁹) that can be mainstreamed over the next phase of CIF operations. The CCVs

⁵⁷ The policy currently states: *To maximize the impact of CIF concessional resources, they must be implemented alongside an adequate volume of MDBs' own resources and with additional co-financing from other public and/or private entities. In exceptional circumstances (e.g., for countries in debt distress / at risk of debt distress), a stand-alone CIF funded program or project may be allowed for public sector operations, subject to justification from the country and relevant MDB.* See paragraph 36 of the policy [here](#).

⁵⁸ For additional information on CIF Investment Plans and Dedicated Private Sector program, see Section 4 of the [Operational Modalities for the Climate Investment Funds' New Strategic Programs](#) document.

⁵⁹ The Future of Climate Action Map represents one of the outcomes of work that CIF initiated in 2018 in partnership with Institute for the Future and in consultation with a range of experts and executives from academia, design, tech, finance, and media ad hoc co-convened partner MDBs and the World Bank's Technology and Innovation Lab to advance discussions on how to ensure the MDBs stay at the forefront of climate innovation and

can be a useful tool to drive innovation under the country-led CIF Investment Plans,⁶⁰ and therefore, MDBs may request CCV TA funds to help drive innovation in the IP development process and help integrate and craft innovative approaches into IPs. Example TA support to the IP process may include:

66. Supporting hackathons to identify innovative, locally driven solutions to enhance market discovery and business development under the IPs.
67. Leveraging, or creating, local innovation hubs and accelerator/incubator programs to stimulate low-carbon innovation under an IP.
68. Piloting innovative approaches and programs under the IPs, including programmatic investments, technical/policy support for innovative projects, and other methods that have proven to be effective in identifying innovative climate solutions.
69. Engaging a wider range of stakeholders, including youth, circular economists, local entrepreneurs, and innovators, in the shaping of investment plans and interventions.

70. Dedicated Private Sector Programs: The CCV Window will complement and add value to the work of the DPSPs as follows:

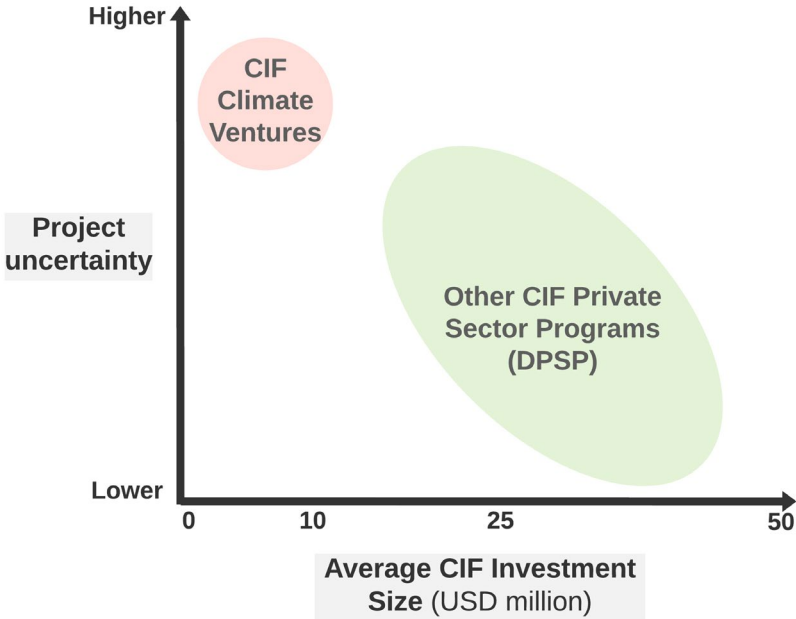
- 71. Supporting more untested and less mature projects:** As noted above, the CCVs aim support new technologies, ventures, and models that are generally more untested, less mature, and with a longer timeline of product development and reaching scale than what the MDBs can support on their own. This focus will ensure that innovation (deployed through a programmatic approach) becomes a core feature of the CIF's new programs. The CCV Window will provide CIF partner MDBs with a targeted funding window to support technologies or business models that have a high potential for impact and scaling but are generally smaller and/or more untested than existing projects that are supported under the DPSPs. Furthermore, investments envisaged under the CCV Window generally have smaller ticket sizes than those supported through the DPSPs, where current DPSP funding averages approximately USD \$25 million per project. In comparison, the average program size under the CCV Window is expected to be between USD \$2 to \$10 million (Figure 3), with the ability to support innovations and technologies that may have a deal size bracket of anything from USD \$100 thousand to several million each, and packaged to include other supporting mechanisms, e.g., challenges, hackathons, accelerator/incubator programs, or technical assistance, as outlined in Section 3.

integrate the identified zones of opportunity in CIF's new programming. Available at:

<https://www.climateinvestmentfunds.org/news/mapping-future-climate-action> (accessed: December 28, 2020)

⁶⁰ Investment Plans (IP) that (1) justifies the set of investments to be supported under the new program and (2) showcases how investments will ultimately lead to transformational change within the country, along with how the program will accelerate transitions towards low-carbon and climate-resilient development. Specifically, IPs should describe the wider climate change mitigation and adaptation context of the country, describe how CIF resources will be deployed under the program, and identify the co-finance that will be leveraged through the lead MBD and other development partners, where relevant. The IPs will then be submitted to the relevant CIF governing body for approval.

Figure 3: Comparing the CCV Window investment size with other CIF private sector programs (illustrative). The CCV window will support projects aimed at fostering new markets for climate innovation in developing countries and lay the foundation for larger "DPSP-like" investments in the future.



- 72. **Scaling Potential:** The CCV Window will provide CIF partner MDBs access to a dedicated pool of resources to deploy and test climate innovation technologies and business models. Over time, CCV Window activities may help generate pipelines of more breakthrough or “leapfrogging” technologies and solutions which could then potentially be scaled-up under future DPSP investments.
- 73. **Market creation and knowledge sharing:** The CCV marketplace support mechanisms, technical assistance/policy support, and knowledge platform are all intended to build markets for the ‘early adoption’-type technologies and business models that could lay the foundation for larger, DPSP-type investments in the future. The CCV Knowledge Management Platform (Component 4) will also be available as a complementary resource to MDBs to create space for engagement and collaboration among MDBs and other stakeholders (e.g., the private sector, civil society institutions, or local entrepreneurs). The CCVs can also support efforts and events focused on market creation to help partner MDBs develop a robust pipeline of climate-innovation projects.

4.4. Complementarity to other early-stage technology and innovation initiatives

74. The competitive advantage of the CCV window lies in its ability to avail a package of flexible concessional capital, technical support, dedicated private sector relationship building, and an action-focused knowledge platform – all aimed at strengthening markets for climate innovation in developing countries – from a single demonstrated platform. While institutions, including CIF partner MDBs, are already implementing programmatic approaches to climate finance, no other climate finance institutions are applying the programmatic approach to climate-focused venture funding, making this a new-to-market innovation for the sector at large. Table 1 provides an example of the breadth of innovation initiatives available to support developing countries to date.

Table 1: Selected existing initiatives supporting early-stage climate technology and innovation

Initiative	Business Plan Competitions	Accelerators	Technical Assistance	Direct Investments into Technologies	Indirect Investments into Venture Funds	Multi-MDB convening Knowledge Platform
<i>ADB Ventures</i>			Yes	Yes	Yes	
<i>IFC Tech Emerge</i>		Yes	Yes	Yes	Yes	
<i>IDB Lab/IDB Invest</i>	Yes	Yes	Yes	Yes	Yes	
<i>World Bank InfoDev</i>	Yes	Yes	Yes	Yes	Yes	
<i>Conservation X</i>	Yes					
<i>Global Innovation Lab</i>			Yes		Yes	
<i>Adaptation Fund Innovation Grant</i>			Yes	Yes		
<i>Fundacion Chile</i>		Yes				
<i>Lightsmith Group</i>		Yes	Yes			
<i>Google AI for the Earth</i>	Yes					
<i>EBRD</i>	Yes	Yes	Yes	Yes	Yes	
<i>CIF CCV Window</i>	Yes	Yes	Yes	Yes	Yes	Yes

75. To enhance its effectiveness and transformative impact, the CCV Window will build upon and complement existing initiatives and partnerships supporting early-stage low-carbon technology and innovation. Across the early-stage technology and innovation and investment space, there are several types of players: private sector financiers (regional and specialist), development finance institutions (MDBs, national development banks, etc), government agencies, Civil Society Organisations, and others, and these organizations can play a key role in the success of the CCVs. For example, a number of these groups could be engaged through the convening knowledge platform (Component 4) that would bring stakeholders together to exchange information and learnings from projects and initiatives being implemented in developing countries.

Section 5 – Theory of Change and Expected Impacts and Outcomes

76. **The four-Component structure of the CCV Window represents a unique opportunity for CIF to pave the way for a whole new area of high impact, coordinated climate action for the MDBs and their client countries.** By providing a strategic combination of targeted investment resources, market strengthening activities, technical assistance, and knowledge-sharing focused on climate innovation and the deployment of early-stage or established technologies with the potential to scale, and working alongside CIF partner MDBs, the Program is well positioned to help accelerate progress towards low-carbon and climate-resilient development along high-risk but high-impact development pathways. This theory of change is illustrated in Figure 4 below.
77. **The CCV Window leverages concessional climate finance to strengthen the chronically under-funded early-stage venture space in developing countries.** The early-stage venture market in developing countries is slowly emerging,⁶¹ but ongoing support to developing countries has not yet spurred sufficient “market signals”⁶² to attract large venture finance and investment growth at the regional or country level. Therefore, concessional resources deployed through the CCV Window could play a role in de-risking early-stage venture finance in developing countries and build stronger market signals over time, as has been demonstrated across other CIF programs and investments at a larger scale (e.g. the wind sector in Mexico and solar power markets in Morocco).
78. **At the same time, the CCV Window has the potential to trigger signals of transformational change across dimensions⁶³ by:**
79. Deploying concessional capital directly into technologies at the early-stage and most vulnerable time of their development, and indirectly into venture funds that support the effective search, selection and management of innovative climate change approaches;
 80. Ensuring relevance to strategic climate goals and promoting systemic change through support to nascent but high-potential technologies, business models or processes, including challenges, incubators, and accelerators;
 81. Facilitating the replication and localization of proven climate technologies, business models, and innovations into new markets through both financial and technical support;
 82. Increasing project sustainability through technical assistance and capacity building;

⁶¹ Transformative Climate Finance Report, June 2020, p9 - <https://openknowledge.worldbank.org/handle/10986/33917>

⁶² Market signals act like traffic light signals to external investors and other private sector who can see when opportunities are ripe (or not) to invest or develop more in a specific market, region, or innovation space.

⁶³ The working definition, dimensions, and signals of transformational change are currently being revised by the CIF Transformational Change Learning Partnership (TCLP) and are expected to be finalized in 2021.

83. Supporting MDBs as they experiment and develop early-stage venture practices, especially in markets or regions where they have previously not been possible due to various technological, financing or policy constraints;
84. Embracing risk and the potential for failure and/or uncertainties associated with some CCV Window activities in the recognition that transformational change is not likely to be catalyzed in a linear or uniform fashion;
85. Employing a flexible approach to defining, monitoring, and reporting results that respects the timescales needed for market growth and climate outcomes beyond the initial financing cycle; and
86. Synthesising and widely disseminating key elements and early lessons of the CCV Window through the integrated knowledge component to ensure broader public and private sector uptake.

87. Potential impacts and outcomes for each of the four CCV Window Components are shown in Table 2. A comprehensive monitoring and reporting framework with a streamlined set of indicators will be further developed in the future.

Table 2: Envisioned impacts and outcomes for the four CCV Window Components on investments, building the marketplace, technical assistance and knowledge management⁶⁴.

Component	Impact
<p>All Components - Underpinning Programmatic Approach: Developing integrated portfolios of strategically linked investments built upon a transformative intent and including market creation activities across CCV countries and markets</p>	<p>(I.1) Reduction or avoidance of GHG emissions through innovative technologies and business models</p> <p>(I.2) Increased climate resilience among households/consumers of innovative technologies and business models</p> <p>(I.3) Strengthened economic growth, social inclusion and environmental sustainability</p> <p>(I.4) Advanced signals of transformational change in targeted countries and markets</p> <p>(I.5) Improved viability for select high risk early-stage technologies and innovations to scale up successfully</p> <p>(I.6) Increased climate-responsive market creation through combinatory effects of investment portfolios</p>
Component	Outcome
<p>Component 1: Direct and Indirect Investments</p> <p>(a) Direct investments into innovative technologies and business models</p> <p>(b) Indirect investments into strategically aligned venture funds</p>	<p>(O.1) Increased level of climate finance catalyzed to deploy and test innovative technologies and business models in developing countries</p> <p>(O.2) Enhanced pipeline of projects (in developing countries) that incorporate transformative approaches to climate innovation</p> <p>(O.3) Increased investor appetite to support climate innovation in developing countries</p> <p>(O.4) Increased venture fund investments and interest to support climate innovation in developing countries</p>

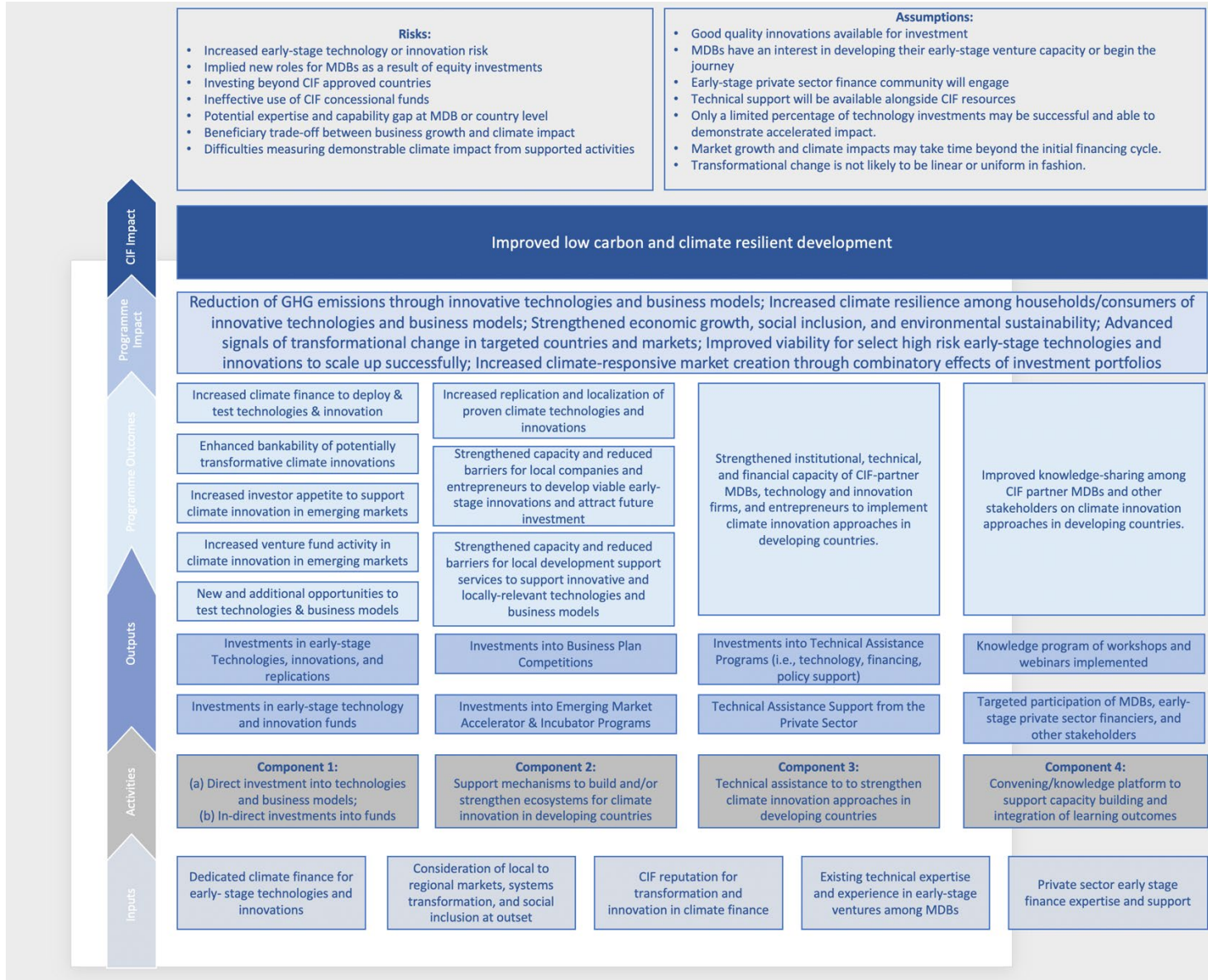
⁶⁴ Note that the outcomes and impacts stated in Table 2 will not translate directly to the monitoring and reporting framework for the CCV. It is expected that the implementation approach will allow CIF partner MDBs to align activities and investments with a few core indicators and wider menu of optional indicators based on the types of activities funded.

	(O.5) New and additional opportunities for private sector companies and entrepreneurs to test their technologies and business models in developing countries
<p>Component 2: Marketplace enabling activities Technology/innovation support mechanisms to build and/or strengthen ecosystems for climate innovation in developing countries</p>	<p>(O.6) Increased volume and improved quality of CIF partner MDBs’ support to innovative and locally-relevant technologies and business models that align with country-specific development and climate change goals in developing countries</p> <p>(O.7) Strengthened capacity and reduced barriers for local companies and entrepreneurs to develop viable early-stage projects and innovations that can attract large-scale investments in the future</p> <p>(O.8) Strengthened capacity and reduced barriers for local development support services (e.g., accelerators/ incubators) to support early-stage technologies and innovations in developing countries</p> <p>(O.9) Strengthened capacity and reduced barriers for firms and entrepreneurs to replicate and localize proven climate technologies and innovations in developing countries</p> <p>(O.10) Strengthening and deepening of the market for carbon credits, which in turn provide increased incentives for more investment in private sector climate change initiatives</p>
<p>Component 3: Technical assistance to support enabling technology, financing, and policy capacity to strengthen climate innovation approaches in developing countries</p>	<p>(O.11) Strengthened institutional, technical, and financial capacity of CIF-partner MDBs, technology and innovation firms, and entrepreneurs to implement climate innovation approaches in developing countries</p>
<p>Component 4: Convening/knowledge platform to support capacity building and integration of learning outcomes among CIF partner MDBs, companies, and other stakeholders</p>	<p>(O.12) Improved knowledge sharing among CIF partner MDBs and other stakeholders on climate innovation approaches in developing countries</p>

5.1. The Theory of Change for Supporting Early-Stage Low-GHG, Climate-Resilient Technologies and Innovations

88. The theory of change for the CCV window aligns with CIF's overarching impact objective – to help shift developing countries toward a low carbon and climate resilient path. The CCV Window will focus its attention on supporting early-stage technologies and climate innovation in the critical early adoption and demonstration phase – as illustrated in Figure 1 and detailed in paragraphs 3 and 4 – without which a timely and just transition to net zero by 2050 will not be possible. The program will demonstrate the performance potential of these innovations in developing countries, as well as the important role of concessional capital in bridging the finance gap for potentially high impact technologies and innovations. It will further work as a catalyst to crowd in further private sector capital in order to dramatically improve the chance of scaling. Finally, it will demonstrate the connection between early-stage technology and innovation development and adoption in-country, through integration with country investment plans and applying CIF's programmatic approach to climate finance in a venture context.

Figure 4: Diagram of the CIF's Climate Ventures Program Theory of Change



Annex 1: Example Case-Studies showing Climate Innovation Approaches across CIF partner MDB client countries

In recent years, the CIFs and partner MDBs have funded several projects that have demonstrated innovation in sustainable energy, land, infrastructure, cities and industrial systems - key areas that also align with the CIF's five new programming directions⁶⁵. Some examples of such innovation are demonstrated. Building on these ongoing initiatives, the CCV window will enhance support to similar innovative projects and programs in a more dedicated and programmatic way, while welcoming new portfolios of higher-risk and early-stage projects.

The “Innovative Instruments for Investments in Zero Carbon Emissions (“i3-0”) Phase I” project is among the CIF's most ground-breaking projects in the Latin America and Caribbean (“LAC”) region. The project is being implemented in partnership with the Inter-American Development Bank (“IDB”) and the private sector, where a diverse portfolio of low-carbon interventions is being developed across the LAC region and its cities (e.g., focusing on energy efficiency, renewable integration and sustainable transport). Innovation in the project is demonstrated from both a technological and financing perspective. To start, the project structures financing to attract significant private sector capital⁶⁶. Secondly, urban sector investments proposed include a suite of innovative technologies and processes in the transport sector, e.g. 1.) replacing diesel and gasoline buses with hybrid or electric models, 2.) strengthening capacity of local transport agencies to implement energy efficiency measures (e.g. battery leasing initiatives or pay per miles approaches) and 3.) improving the value chain for clean transportation, (e.g. strengthening markets for battery charge providers and integrating renewable electrification to the grid mix to reduce emissions upstream (e.g. at the electricity plant).

Globally, the CIF is also partnering with the IFC and its “InfraVentures” facility to support early-stage private sector project development and energy storage investments in 11 countries, across 5 regions⁶⁷. The project will deploy a range of innovative financing instruments to attract private sector investments, such as subordinated loans, equity and quasi-equity, structured to reflect specific project-related risks, macro-economic conditions and sectoral dynamics. In Africa, the Regional Off-Grid Electrification Project (ROGEP) – which received CTF resources under the Dedicated Private Sector Program (DPSP) – is supporting the development of new business models among entrepreneurs in West Africa (19 countries, including the Sahel region). The project has a business development component that aims to transfer and share knowledge of

⁶⁵ The CIF AU and partner MDBs have developed four program areas that aim to deliver “far-reaching transitions in energy, land, urban and infrastructures and industrial systems” i.e., 1. Integration of Renewable Energy into Power Systems; 2. Climate-Smart Urbanization; 3. Accelerating Low-Carbon, Climate-Resilient Transition in Industry; and 4. Nature, People and Climate Investments. Details on this programming is available in the document, *Operational Modalities for the Climate Investment Funds' New Strategic Programs*.

⁶⁶ CIF provided \$35 million in funds to the i3-0 project through the Clean Technology Fund. The project is leveraging \$270 million in co-finance: IDB Group: \$60 million; Private Sector: \$150 million and Bilateral: \$60 million. Available at: <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

⁶⁷ The IFC Global Energy Storage Program aims to support investments in SSA: Burkina Faso, Mali, South Africa, Nigeria; EAP: Philippines, Indonesia, Vietnam; ECA: Ukraine; LAC: Brazil, Mexico; and MENA: Egypt.

technological innovations and new business models across the region, and provides grants to start-ups with new off-grid (solar) energy service delivery models. Meanwhile, in Tanzania, the World Bank's Tanzania Urban Resilience Program is supporting sustainable water management and flood resilience in the country's largest city, Dar es Salaam; where an estimated 210,000 people are vulnerable to sea level rise and coastal flooding⁶⁸. Innovative elements of the World Bank's Program include, 1.) Deploying hydrological models and new tools such as, open data, drone imaging and crowd sourcing platforms, to map flood risks in vulnerable areas of Dar es Salaam, 2.) equipping over 1,000 Tanzanian students and community members with participatory flood mapping skills through the "Rumani Huria" initiative; and 3.) working with the private sector to improve drainage infrastructure.

⁶⁸ Kebede and Nicholls, 2012. Exposure and vulnerability to climate extremes: Population and asset exposure to coastal flooding in Dar es Salaam, Tanzania', Regional Environmental Change.

Annex 2: Investment Round Definitions

Figure 5: Investment Round Definitions (guidance only, specific definitions vary by geography and sector)

Definitions	Average Investment	
Idea	>\$50k	The Idea Stage is the earliest stage. This could be an idea created at a hackathon or submitted by an entrepreneur through a business plan competition. It involves the development of the basic concept and value proposition to be tested
Pre-Seed	\$50k-\$250k	The Pre-Seed stage can also be called the "friends & family" round. This is because the idea is typically too small or risky for institutional investment. At this stage entrepreneurs may be seeking to test their basic proposition /build a lean prototype.
Seed	\$500k-\$2m	The Seed Stage is often considered to be the first stage in venture capital financing. Seed funding usually provides a small amount of funding to dedicate to product development, market research or building a management team etc.
Series A	\$2m-\$15m	The Series A Stage is for when the business has developed a track record (i.e., an established clients, consistent revenue, or another important KPI). Such funding may help to optimize capability or product, or reach new markets
Series B	Av. Valuation \$30-\$60m	The Series B Stage is for when the company has developed substantial user/client base and demonstrated they are ready for larger scale. Investments help prepare for scale with (i.e.) talent acquisition, sales, infrastructure etc refinement etc
Series C	Av. Valuation \$120m	The Series C Stage is for companies who are already quite successful. Series C funding enables the company to build new products, expand into new markets, acquire other capabilities or IP etc
IPO/ Acquisition	Av. Valuation \$450m	The IPO stage is when a company is mature enough to be listed on a public stock exchange. "Going public" provides the company with a flood of incoming capital to rapidly expand the company, across products and / or regions

Annex 3: Example calendar for CIF AU coordinated knowledge platform

The convening knowledge platform (Component 4, Section 3) is designed to enable the MDBs and their client countries to: (1) develop high quality proposals to the CCV window; (2) share learnings between all parties to improve the overall health and performance of the early-stage technology and innovation investment programs, and (3) deepen relationships with the private sector to provide stronger, more actionable relationships in the long term.

In the short term, higher quality proposals to the CCV Window as well as improved performance of investments through targeted knowledge sharing and capability building will be achieved. In the medium to long terms, this platform will enable a purpose-built community of public and private sector actors engaged in early-stage technology and innovation investments to be cultivated to support developing countries.

Figure 6: Example Knowledge Program

EXAMPLE EVENT	
1	Direct investing into technology and innovations: Three private sector investors share experiences and learnings
2	Optimising country-investment plan linked business plan competitions
3	Investor marketplace: MDBs and Private Sector investors share best technologies and innovations
4	Developing a programmatic approach to venture portfolios: Technical assistance
5	In-direct investing into strategically aligned funds: Funds from 5 continents share experiences and opportunities
6	Partnering for impact: An overview of the early-stage technology and innovation landscape and partnership opportunities
7	Investor marketplace: MDBs and Private Sector investors share best technologies and innovations
8	Working with accelerators and incubators: successful strategies for countries and regions
9	MDBs lessons learned in early-stage technologies and innovations