



Final Evaluation Report

# Evaluation of Transformational Change in the Climate Investment Funds

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Submitted by Itad  
In association with Ross Strategic and ICF

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The evaluation report was written by the core evaluation team. All errors are our own.

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## List of Acronyms

<b>ADB</b>	Asian Development Bank
<b>AfDB</b>	African Development Bank
<b>AU</b>	CIF Administrative Unit
<b>BNEF</b>	Bloomberg New Energy Finance
<b>CIF</b>	Climate Investment Funds
<b>COP</b>	Conference of Parties
<b>CSEF</b>	Commercializing Sustainable Energy Financing
<b>CPI</b>	Climate Policy Initiative
<b>CSP</b>	Concentrated Solar Power
<b>CTF</b>	Clean Technology Fund
<b>DGM</b>	Dedicated Grant Mechanism
<b>DPSP</b>	Dedicated Private Sector Programs
<b>DRC</b>	Democratic Republic of Congo
<b>E&amp;L</b>	Evaluation and Learning
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>FIP</b>	Forest Investment Program
<b>GCF</b>	Green Climate Fund
<b>GDI</b>	Global Delivery Initiative
<b>GGCA</b>	Global Gender and Climate Alliance
<b>GHG</b>	Greenhouse Gas
<b>GW</b>	Gigawatt
<b>IDB</b>	Inter-American Development Bank
<b>IEA</b>	International Energy Agency
<b>IFC</b>	International Finance Corporation
<b>IFI</b>	International Financial Institution
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPLCs</b>	Indigenous Peoples and Local Communities
<b>IRENA</b>	International Renewable Energy Agency
<b>IUCN</b>	International Union for Conservation of Nature
<b>KII</b>	Key Informant Interview
<b>MDB</b>	Multilateral Development Bank
<b>MENA</b>	Middle East and North Africa
<b>NAP</b>	National Adaptation Plan
<b>NAPA</b>	National Adaptation Program of Action
<b>NDC</b>	Nationally Determined Contributions
<b>NGO</b>	Non-Governmental Organization
<b>ODI</b>	Overseas Development Institute
<b>OECD DAC</b>	Organization for Economic Co-operation and Development Assistance Committee
<b>ORR</b>	Operational and Results Report
<b>PPCR</b>	Pilot Program for Climate Resilience
<b>PV</b>	Photovoltaic
<b>RBMM</b>	Roads and Bridges Management and Maintenance Program
<b>REIPPPP</b>	Renewable Energy Independent Power Producer Procurement Program
<b>SCF</b>	Strategic Climate Fund
<b>SME</b>	Small and Medium-Sized Enterprise
<b>SPCR</b>	Strategic Program for Climate Resilience
<b>SREP</b>	Scaling up Renewable Energy in Low-Income Countries Program
<b>TCLP</b>	Transformational Change Learning Partnership
<b>tCO<sub>2</sub>eq</b>	metric tons of carbon dioxide equivalent
<b>TuREEFF</b>	Turkish Residential Energy Efficiency Financing Facility
<b>UNDP</b>	United Nations Development Program
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>WRI</b>	World Resources Institute

# Executive Summary

## Introduction to the evaluation

- E1. This report provides the results of an independent evaluation of the transformational change that has been supported by the Climate Investment Funds (CIF).** With US\$8 billion contributed since 2008, the Climate Investment Funds (CIF) were established to scale up finance for climate change mitigation and adaptation, filling urgent financing gaps and demonstrating the viability of emerging solutions. CIF's goal is to support transformational change toward low-carbon, climate-resilient development in the areas of mitigation, resilience, and forests. It does this through four programs: The Clean Technology Fund (CTF), the Pilot Program for Climate Resilience (PPCR), the Forest Investment Program (FIP), and the Scaling Up Renewable Energy in Low-Income Countries Program (SREP). Under these programs, 300 projects across 72 countries have been supported.<sup>1</sup>
- E2. This evaluation, part of CIF's Evaluation and Learning (E&L) Initiative, is primarily a learning exercise.** CIF's E&L Initiative established the Transformational Change Learning Partnership (TCLP)<sup>2</sup> in 2017 to facilitate a collaborative, evidence-based learning process on transformational change with key CIF stakeholders. This evaluation complements a parallel evidence synthesis; together, these two studies share primary responsibility for gathering and analyzing evidence on transformational change in the CIF. This evaluation does not seek to evaluate CIF's overall performance but rather to understand how, and to what extent, CIF has been able to contribute to transformational change. It answers four key questions:

### BOX ES1. KEY QUESTIONS FOR THE TRANSFORMATIONAL CHANGE LEARNING PARTNERSHIP (TCLP)

- 1. Definitions:** How is transformational change conceptualized in the international field of climate finance?
- 2. Process and design:** To what extent and how does CIF's approach to planning, designing, and implementing its investments work to advance transformational change?
- 3. Results:** To what extent, how, and under what conditions are CIF-supported investments and activities contributing to transformational change?
- 4. Learning:** How can CIF and others increase their contributions to transformational change?

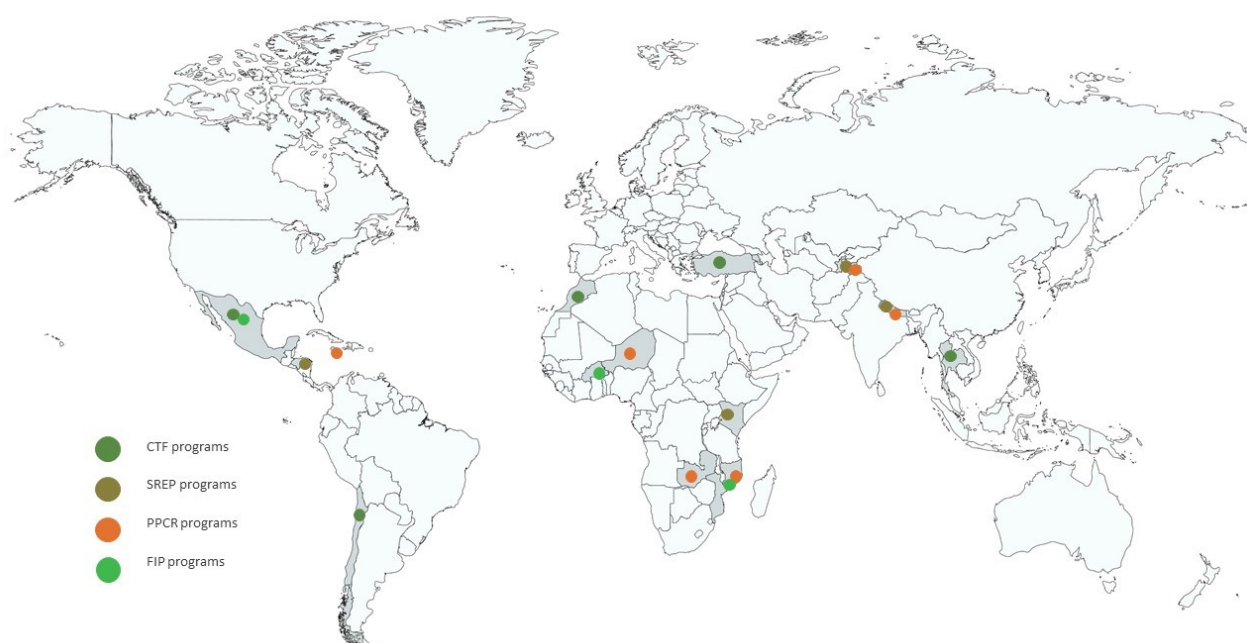
- E3. The evaluation aims to be useful to a broad audience and to bring about more transformative climate programming,** both in CIF and externally, by providing findings to improve the design and delivery of existing CIF programs; inform the operation of other climate funds; help design future climate finance initiatives; and aid those engaged in monitoring, evaluation, and learning for climate funds.
- E4. The evaluation approach involved analyzing CIF's contribution by testing certain hypotheses using a theory-based approach.** A theory-based approach for this evaluation was deemed the most appropriate and feasible method for analyzing the contribution that CIF has made toward transformational change within such complex and diverse environments. This approach focused the evaluative inquiry on exploring the mechanisms of how and under what circumstances transformation change takes place and identifying the role that CIF has played in these changes.<sup>3</sup>

<sup>1</sup> According to the CIF website, 72 countries are included, which encompass also regional programs (e.g. Caribbean, Mediterranean). However, some countries do not have active projects under implementation.

<sup>2</sup> The overall purpose of the TCLP is to increase the transformative impact of CIF investments and those of other funds by establishing a more systematic and robust understanding of transformational change in the CIF context.

<sup>3</sup> As data was gathered from a limited sample, the findings do not necessarily represent the entire CIF portfolio this was also not the purpose of the evaluation design.

**FIGURE ES1: EVALUATION FOCUS COUNTRIES**



**E5. Data collection for this evaluation was extensive.** Data was collected across the CIF country programs, including more detailed review of CIF programs in 23 countries based on (1) visits to five countries; (2) remote research and interviews in ten countries; and (3) light-touch desk research on eight countries. As the gathering of primary evidence focused on 15 countries (see Figure ES1 and Box ES2), reported evidence and comparisons are focused particularly on this group. Data was also collected from other sources, including the Portfolio Analysis of program and project documentation from 43 CIF programs across 37 countries (including programs from 14 countries not covered by the evaluation case studies); key informant interviews (KIIs) with multilateral development banks (MDBs), government, the private sector, and civil society; additional secondary sources; and an e-survey distributed to CIF stakeholders.

**BOX ES2. EVALUATION FOCUS COUNTRIES**

The evaluation findings focus on:

**CTF programs** in Chile, Mexico, Morocco, Thailand, and Turkey.

**SREP programs** in Armenia, Honduras, Kenya, and Nepal.

**PPCR programs** in Jamaica, Mozambique, Nepal, Niger, Tajikistan, and Zambia.

**FIP programs** in Burkina Faso, Mexico, and Mozambique.

Light-touch case studies were prepared for an additional eight countries based primarily on desk-based research. Additional country data was drawn upon (from secondary data and the Phase 1 and 2 Portfolio Analysis) for illustrative purposes, where relevant.

**E6. The evaluation applies the following working definitions and concepts of transformational change:<sup>4</sup>**

- *Transformational change*: “Strategic changes in targeted markets and other systems, with large-scale, sustainable impacts that shift and/or accelerate the trajectory toward low-carbon and climate-resilient development.”
- *Dimensions of transformational change*: relevance (strategic alignment), scale, systemic change, and sustainability. Transformation occurs when all dimensions are (to some extent) present. (See box ES3)

- *Signals of transformational change:* To ascertain if transformational change has taken place, the evaluation identifies illustrative signals of change across the above four dimensions, classified in terms of maturity—early signals (creating conditions for change), interim signals (change underway, but outcomes not yet clear), and advanced signals (transformation well established).

#### BOX ES3. DIMENSIONS OF TRANSFORMATIONAL CHANGE

##### Dimensions of transformational change in climate action

- *Relevance* refers to the strategic focus of CIF investments—impacting low-carbon and climate-resilient development, with sustainable development co-benefits.
- *Systemic change* refers to fundamental shifts in system structures and functions.
- *Scale* refers to contextually large-scale transformational processes and impacts.
- *Sustainability* refers to the robustness and resilience of changes.

## CIF's contributions to transformational change

### Contribution to low-carbon energy through CTF and SREP

- E7. CTF and SREP share a strong thematic overlap (low-carbon energy provision) and several change mechanisms, but also differ in several key ways.** CTF is a significantly larger program, more advanced in implementation, operating in middle-income countries, and using large-scale concessional finance in flexible ways to change perceptions of risk among investors around low-carbon technologies (renewable energy, energy efficiency, and transport). SREP is a smaller program, with a differentiated focus (energy access), is at an earlier stage of implementation, is operating in lower-income countries, and uses funds to achieve systemic change by piloting new approaches to clean energy generation and access while strengthening the enabling environment.

### CTF

- E8. The scale, flexibility, and concessionality of CTF finance have been key drivers in supporting transformation, successfully changing risk perceptions among investors and driving down costs.** CTF represents a large-scale deployment of clean energy and other low-carbon technologies to emerging markets, often in the form of first-time investments.
- E9. All five CTF country programs evaluated in greater depth demonstrate a high degree of relevance - both thematically and in terms of their integration with national strategies and priorities.** The selection of interventions was timely and well targeted at those opportunities with the highest chance of transformational impact. Country programs typically focused on addressing financing costs and risk barriers, with some attention to other enabling environment needs, such as institutional capacity, market and supply chain development, and increasing the certainty and predictability around regulatory and legal frameworks. Some (e.g., Morocco) were also part of the wider development and implementation of economic development strategies.
- E10. CTF programs have generated advanced signals of systemic change. There is evidence of large investments changing behaviors, and strong results from policy and institutional interventions.** Recipient country and MDB representatives from all five CTF country programs evaluated in-depth indicated that this scale of financing was of sufficient size and importance to catalyze partner interest to engage in discussions regarding potential projects (such as in Mexico and Morocco) and to enable bankable blended finance solutions to be developed. In these five countries, CTF contributed to multiple first-mover and early-stage renewable energy and energy efficiency projects that helped catalyze systemic changes that made it easier and more cost-effective for investors to pursue follow-on projects.

<sup>4</sup> The concepts of transformational change and definitions were formulated in Phase 1 of the TCLP.



- E11. There are advanced signals of scaling across CTF-relevant markets—specifically increases in non-CIF investment, installed capacity, and engagement by financial intermediaries.** In all five CTF countries reviewed in depth, the evaluation found evidence that CTF-supported projects contributed in indirect ways to supporting broader renewable energy implementation. In countries such as Mexico, South Africa, Thailand, and Turkey, CTF investments have contributed to accelerating market take-off of technologies—such as wind and solar PV energy. There is less evidence of scaling for CSP and geothermal energy, as their potential contribution to national energy systems (e.g., the provision of baseload power) is often not adequately recognized or compensated for in the policy and enabling environment.
- E12. Signals of sustainability are advanced in all the CTF markets that were analyzed in detail.** In all five in depth case studies there was evidence of falling technology deployment costs (including financing risk premiums, and project development costs at the local level), a shift to non-concessional and balance-sheet finance, and strengthening policy commitments. However, challenges remain in complex and contested areas, such as transport, and ongoing concessional support remains important for higher capital cost technologies.
- E13. CTF programs that demonstrated the viability of low-carbon technologies and deployment models served as the basis for further systemic change and scaling, under certain conditions.** The demonstration effect can play a key role in reducing perceptions of risk during the initiation phase of renewable energy or low-carbon technology deployment in a country, lowering project costs, and fostering public and/or private sector interest to pursue future development and investment. It can also facilitate policy maker interest in supporting subsequent policy reform. However, a key challenge is that a single (or small number of) initiation-phase demonstration project(s) in a country may not be sufficient to catalyze enough systemic change to move deployment into a market take-off phase. For example, despite CTF progress in supporting early-stage geothermal projects in Chile, the future of geothermal energy development in Chile remains uncertain.

## SREP

- E14. SREP is delivering impacts primarily through the delivery of demonstration/first-time projects,** supported by strengthening of the enabling environment (policies, institutions, and knowledge).
- E15. All four SREP country programs analyzed in detail demonstrated a high degree of relevance and alignment with national priorities.** The majority of SREP programs set out clear ambitions for scaling, systemic change, and sustainability, and they were well designed to address multiple barriers to transformation and the most likely transformational opportunities available at the time.
- E16. Interim signals of systemic change were also visible in all four SREP country programs assessed in more depth.** These arise primarily as a result of direct engagement by the country programs on a wide range of enabling environment barriers (policy frameworks, institutional capacity, knowledge, and behaviors)—a reflection of the challenging and lower-capacity operating context in these countries. Although a smaller program, SREP has also been able in some cases to influence risk perceptions among investors as the size of SREP investments are generally significant in relation to the size of the energy sector.
- E17. There are some interim signals of scaling across the SREP countries reviewed, although the evidence remains limited.** Some individual SREP investments are themselves large-scale in relation to overall national energy demand. SREP is creating business models and demonstration projects that can serve as the basis for future scaling (e.g., mini-grid programs). However, as many SREP countries retain significant off-grid populations the economics remain challenging and returns have not yet been sufficient to mobilize private capital at scale.
- E18. Signals of sustainability in SREP are yet to emerge, reflecting the early stage of implementation of the portfolio, and the pilot nature of many of the projects.** Overall, challenges related to weaker country contexts, investment climate barriers, and ongoing constraints around affordability are likely to result in longer timeframes to achieve transformation in SREP countries.



## Contribution to resilience through PPCR

- E19. PPCR has played a major role in supporting national resilience planning and investment activities in its participating countries as part of a broader international effort to address the impacts of climate change.** It aimed to provide financing to pilot new development approaches or scale-up activities aimed at a specific climate change challenge or sectoral response.
- E20. PPCR investments have generally been well designed, are aligned with national change processes, and are very relevant.** All PPCR programs analyzed were developed and implemented on the basis of comprehensive, nationally-led stakeholder engagement processes, and were particularly effective where this engagement formed part of a broader strategic national or sector-level planning process.
- E21. There are interim and advanced signals of systemic change being created by many of the PPCR programs reviewed,** mostly where they have successfully engaged on mainstreaming and capacity building. PPCR has also changed mindsets by demonstrating the feasibility of sector-led approaches to resilience through the piloting of small-scale interventions (in Zambia, Tajikistan, Mozambique, Niger, Jamaica, and Nepal).
- E22. There are interim signals of scaling for both public and private sector interventions,** particularly in follow-on programs where governments or international financial institutions have expanded existing PPCR programs or replicated them across geographies (e.g., Nepal, Tajikistan). PPCR's financial and supply chain intermediation with private sector companies has also mobilized lending and advisory services (e.g., Mozambique, Nepal, Jamaica, and Tajikistan).
- E23. In five of the six PPCR countries evaluated there is evidence that transformational change can be sustainable.** Examples include government commitment to follow-on programming (Nepal, Niger); increased willingness to commit national budgetary resources, and ownership over national structures (Zambia); and new approaches to funding resilience (Jamaica). While public sector initiatives continue to rely primarily on ongoing external funding support, private sector lenders are providing lending from their own resources (Tajikistan).
- E24. The provision of integrated climate mainstreaming and investment support, alongside the programmatic approach, has helped create strong incentives for national stakeholder engagement.** Integrated technical assistance and investment programming have proved very effective in facilitating engagement and buy-in from a range of sector ministries. Large-scale investment funds provided by PPCR have often created competition between ministries for access to/ownership of resources.
- E25. There have been successful feedback and learning loops from investment into policy, but these could be strengthened further.** Evaluation survey results and country case studies show that CIF investments have provided practical learning opportunities to inform more effective planning, programming, and policymaking in some instances. However, there is also evidence that such linkages can be impeded by siloed approaches to implementation, thus limiting the potential for cross-learning and systemic change.

## Contribution to forestry through FIP

- E26. The FIP design is very relevant to achieving transformation, employing integrated solutions to address a broad range of barriers and creating a platform for future transformational change.** The majority of evaluation survey respondents feel that FIP has been effective in bringing together the necessary stakeholders and interests to change mindsets in order to address unsustainable land use and forestry practices—an important incremental step toward systemic change. The value of this approach was supported by the three FIP countries assessed in greater detail.
- E27. FIP's approach of aligning incentives and creating common understanding has helped lay the foundations for systemic change, but signals are thus far at interim-level only.** FIP has helped to strengthen high-level government commitments to forest protection (e.g., Burkina Faso, Mexico, and Brazil). Forest policy reforms, new financing approaches, and cross-departmental working are also in

evidence (e.g., Mexico and Lao PDR). FIP has also engaged on integrating forestry into broader climate policy (e.g., Mozambique). Nevertheless, as disbursement remains at an early stage in many country programs, signals of systemic change are not yet well advanced.

- E28. Limited evidence was found of scaling, although the FIP approach of demonstrating new incentive models could form the basis for further replication.** Signals of scaling are particularly noticeable where pilot projects are private sector-led (e.g., Mexico and Ghana), with expansion in both the scale of finance and the area under sustainable management. However, the continuing absence of large-scale financing and prevailing perverse economic incentives are both major constraints to achieving scale and delivering sustainable change.
- E29. In terms of sustainability, FIP has been successful in demonstrating the potential viability of new business models and in aligning stakeholder interests and understanding around a common vision.** However, entrenched interests and long timelines make it difficult to determine the overall likelihood of transformational change, and to what extent and which of the change models developed under FIP are likely to be most successful over the long term.

## Overarching findings on CIF's contribution to transformational change

- E30. CIF has contributed to shifting development trajectories in its target countries.** Over the ten years of CIF's operation, there have been significant changes in the development dynamics associated with climate change. CIF's programs have, in many cases, made a significant contribution to this dynamic, as explored in detail in this report, and they have been implemented in the context of a much larger financing and development effort mobilized by governments, international agencies, private sector actors, and non-governmental organizations (NGOs).
- E31. All four CIF programs have incorporated strategic thinking about transformational change (relevance dimension), with their interventions often adopting design features that maximized likely impact.** These included consideration of transformational change at the design phase the use of extensive stakeholder dialog and national planning processes, incorporating political economy considerations, gaining the support of influential champions, flexibility in implementation, and alignment of programming with highly relevant national or sub-national initiatives. These features helped CIF nest programs that were country-led and strategically aligned with national ambitions on sustainable development.
- E32. There are signals of transformation across all four programs,** with early and interim signals (evidence that transformational change processes are underway) more common than advanced signals (evidence of transformational change actually being delivered). Early and interim signals are common in less developed country contexts (where capacity and governance can be key issues) and in more complex and contested thematic areas with strong socio-economic linkages (e.g. forests, community resilience, low-carbon transportation). They indicate that transformation may be possible, but over longer timescales. Advanced signals exist around the shift toward non-concessional market-based approaches for low-carbon energy (particularly in more developed CTF markets, such as Mexico, Turkey, Thailand, and Morocco) and fundamental shifts in stakeholder behaviors, knowledge, and capacity for resilience and forest programming (e.g., Zambia, Mozambique, and Tajikistan).
- E33. As shown in Figure ES2, the signals of transformation across the dimensions differ depending on the thematic and programmatic area.** Strong signals of scaling and sustainability are more present in CTF and to some extent in PPCR than in the other programs, reflecting the development of private investment and developer markets in the former, and the mainstreaming of climate change into government structures, decision making, and budgeting processes in the latter. All programs show interim or advanced signals of systemic change, with these being particularly strong in CTF and PPCR, also reflecting to some extent relative maturity of these two programs in terms of implementation.

FIGURE ES2: SIGNALS OF TRANSFORMATIONAL CHANGE BY DIMENSION AND PROGRAM<sup>5</sup>

Signals of transformational change by CIF program		CTF	SREP	PPCR	FIP
Relevance					
Systemic change					
Scaling					
Sustainability					
Key					
	Advanced signals: Strong evidence of signals of transformation related to the dimension				
	Interim signals: Evidence of transformational change underway				
	Early signals: Emerging evidence of transformational change				
	No evidence				

**E34. Some investments do not yet show signals of transformational change, partly due to the timescales needed for transformation to emerge and partly due to country-level barriers to transformation.**

The nature of many CIF investments means that even early signals of transformational change take time to be evident (often four to seven years from project approval). Portfolio analysis, case studies, and survey results indicate a range of barriers to transformational change at the project level: Lack of sufficient finance and limited institutional capacity, ongoing weaknesses in the policy and regulatory environment, subsidies for non-sustainable alternative agendas, institutional rivalry for ownership of resources (including climate finance), sudden political change and instability, lack of community buy-in, unforeseen external shocks (e.g., environmental, climate, and financial market), and low levels of awareness.

**E35. The differences in transformational change signals between programs are influenced by a range of factors,** including the change pathways implicit in program design, and the complexity and level of resources available. It is potentially also easier to capture advanced signals of change on technology deployment, investment, and finance (e.g., CTF), compared to indicators of resilience or measures of systems change (e.g., policy, institutions, and knowledge).

**E36. Anchoring CIF programming in a narrative of wider co-benefits has helped create transformational change in local contexts.** Such benefits include reducing poverty (a key driver for many low-income country governments, particularly concerning the community adaptation, forest livelihoods, and energy access agendas), economic development and greater productivity (a focus for resilience programs, particularly in agriculture), and the development of industrial green-growth strategies that boost manufacturing capacity and create jobs.

## The role of the CIF business model and approach in supporting transformational change

**E37. CIF's business model is unique among climate funds and has supported transformational change.**

The model involves a country-led programmatic approach, delivery of financing through MDBs, investments at scale, and a range of financing tools, including grants, loans, and other instruments.

- **The programmatic approach**—through the investment planning process—helped ensure that programs support transformational change. The scale, concessionality, and predictability of CIF resources helped engage MDBs, government, and private sector actors in the planning process, influencing the type of projects CIF could support.
- **The flexibility and predictability of CIF funding** made it possible to develop transformative or first-of-a-kind projects, to address barriers to change and to negotiate changing country and market conditions.
- **Coordination among MDBs around key national objectives** contributed to the design of large-scale, coherent investment packages to move markets, particularly in CTF. In PPCR and FIP

<sup>5</sup> This graphic reflects the balance of evidence collected through this evaluation across the countries covered. It is not an assessment of the overall portfolio.

especially, the programmatic approach (support for readiness activities, coordination by a government institutional structure, and programmatic monitoring and reporting) has produced signals of systemic change.

- E38. The transformational impact of CIF's programmatic approach was enhanced where interventions gained the support of influential political champions who were able to mobilize commitment and engagement across a wider range of stakeholders.** By aligning with and building on relevant initiatives and policy processes, CIF was often able to achieve the backing of influential national champions and agents of change. Where this occurred, such support allowed programs to achieve momentum, build wider engagement, and maintain progress even during periods of political and economic dislocation. National government leadership and visible commitments and targets helped create sustained favorable implementation environments for CIF programs. Partnership and national ownership have proved important concepts in creating buy-in and embedding transformational change.
- E39. Through its timing, scale, and concessionality, CIF has supported the scaling up and mainstreaming of climate finance initiatives within its partner MDBs.** Launching in 2008, CIF helped build awareness of climate change in MDBs at a critical time. By demonstrating that climate change could be a viable part of their core business it promoted behavior change in the MDBs. CIF's concessionality also gained buy-in from MDBs and opened up discussions with country clients, as well as enabling MDBs to test new concepts, pursue riskier projects, and deploy resources sooner, when MDB credit departments were not ready to take on such risks—vital in scaling up the MDBs' climate change portfolios. According to survey responses, CIF's most important impact on MDBs was increased climate finance, which increased by more than 50 percent from 2011 to 2017. In 2017, CIF's six partner MDBs committed about US\$27 billion in climate finance, or about 25 percent of total MDB operations from their own accounts.<sup>6</sup>
- E40. CIF's approach of piloting innovative instruments and concepts helped MDBs develop and test new products and learn lessons that were later replicated with their own resources, thus amplifying CIF's transformational impact.** CIF helped MDBs "learn by doing" in relation to blended finance structures. Its business model also created a collaborative platform for MDBs to work and learn together at the global level, with some spill-over effects on other joint initiatives, such as climate finance tracking.
- E41. CIF has improved its mainstreaming of gender considerations and is advancing women's voice, skills, and livelihoods in ways that are starting to bring about systemic change.** CIF has moved toward equal participation in, and benefits from, CIF interventions, with the strongest results in Strategic Climate Fund (SCF) programs. CIF investment plans and projects increasingly include in-depth gender analysis, women-specific activities, and sex-disaggregated monitoring and reporting. There are interim signals of systemic change regarding gender-responsive design and institutional changes, as well as market-related outcomes, which might lead to scaling. Although there is potential for transformative gender impacts in the short to medium term, CIF projects currently provide little evidence on how gender-responsive programming enhances transformational change. A positive signal for the future is that CIF partners are starting to design more gender-responsive interventions, including projects submitted to the Green Climate Fund (GCF).

## Learning around transformational change

- E42. The dynamics of transformational change differ by program/thematic area,** falling into two main models. *Model 1* applies a *scaling lens* and focuses on large-scale investment. By 'spending big', programs aim to change perceptions of risk (among investors and policymakers), lower technology costs (through economies of scale), and lead to fundamental changes in supporting markets. This model is common in CTF, but also in SREP (relative to overall market size). *Model 2* applies a *systemic change lens*. In less developed markets, this involves building awareness, capacity, institutions,

<sup>6</sup> Inter-American Development Bank (IDB), African Development Bank (AfDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), European Investment Bank, World Bank 2012–2018.

governance, and policy. In more developed markets, it involves a focus on incentives, the private sector, risk reduction, and competitiveness. The aim is to stimulate a sustainable scaling response, usually over long timescales. SREP, PPCR, and FIP often apply this systemic change model. CIF programs often seek to incorporate elements of both models of change but as they are implemented, they emphasize one model over the other.

**E43. Transformation occurs when a broad range of factors align, with the combination of factors being highly context-specific to the thematic area and market in question.** Change is more likely to occur when a number of factors align. These factors can be internal (e.g., effective program design, implementation structures, and programmatic approach) and external (e.g., positive investment climate, supportive political economy, and improving global technology cost curves). However, the exact combination of factors required to generate change is highly context-specific and varies according to the thematic area and market in question. As a result, transformational change can appear to occur in chaotic and often unpredictable ways when comparing different interventions.

**E44. Similarly, timescales for transformational change are highly dependent on the country context and thematic area, and incremental changes from individual projects can cumulatively make future tipping points more likely.** Transformational change generally takes longer to emerge in less developed or lower-capacity contexts, or in more complex and contested systems (e.g., forestry). In such cases, incremental changes from individual projects can cumulatively make future tipping points more likely. Realistic expectations should be applied regarding timescales for transformation.

## Recommendations to CIF and other climate finance stakeholders

### Mainstreaming transformation in CIF processes

- *Develop tools to support transformative programming:* In light of the challenges of translating concepts of transformation into practical programming guidelines, it would be useful for CIF and the TCLP to develop accessible tools and frameworks to help integrate transformation into project design and implementation targeting the role of climate finance, in order to maximize strategic and transformational impact.
- *Support the role of national champions in program design and delivery:* Interventions with strong political backing and the explicit support of national champions are more likely to deliver transformational change. CIF might further prioritize engaging with potentially influential stakeholders as part of project design and delivery. Political capital can be leveraged to encourage commitment from a wider group of stakeholders and facilitate course correction where barriers to transformational change emerge.
- *Approach transformation from a portfolio perspective:* The timescale of transformation is highly dependent on the sector and the market context in question. CIF should explicitly adopt a differentiated approach to transformation, avoiding bias toward projects that offer early wins and ensuring sufficient resources and realistic expectations for those projects addressing more complex barriers and requiring longer-term support. Maintaining perspective on the balance and expected timescales of transformation at the portfolio level may be useful in this regard.
- *Further explore and refine concepts of transformational change:* In particular, the evaluation found the conceptualization of the sustainability dimension challenging. The TCLP could further explore this dimension as part of its work. Efforts should also be made to align understanding of transformation within CIF and across the climate finance arena more broadly.
- *Reflect transformation better in measurement, reporting, and learning:* Working with others in the climate finance community, the CIF Administrative Unit (AU) should explore how transformational change can be better captured in monitoring and reporting frameworks and better explored through evaluation processes (in terms of understanding barriers, change mechanisms, and interaction with the contextual environment).

## Improving transformation in CIF delivery

- *Maximize incentives for national stakeholders to engage on transformation:* CIF should actively seek to pair investment funds with technical assistance that allows barriers to be addressed, or actively align/partner with other initiatives that are doing so. The availability of adaptive technical assistance can be effective in addressing roadblocks to transformational change, particularly in dynamic political economy contexts.
- *Enhance the benefits of the programmatic approach and ensure sustained coordination among stakeholders throughout implementation:* CIF should continue to use the country-led investment plan model, but with an increased focus on flexibility (to address rapidly changing technology and policy arenas), shortening planning and approval periods (to maintain relevance), and differentiating between country contexts (the programmatic approach is potentially less crucial in more developed markets). CIF should find ways to sustain coordination processes between all relevant stakeholders across the project lifecycle to avoid silos, improve programmatic learning, and support linkages with other climate funds
- *Continue to promote and expand the use of private sector approaches:* Private sector-oriented initiatives can be particularly effective across all dimensions of transformational change (including sustainability). Engagement with the private sector should be supported through market development and financial intermediation—especially in resilience and forestry, where these approaches are more emergent.
- *Strengthen the inclusion of gender-responsive actions:* CIF should continue to promote programming that leverages gender-responsive actions by ensuring that gender-transformative elements are included in the design stage, are implemented, and are monitored and evaluated. The CIF Gender Policy should be implemented in full and be sufficiently resourced.

## Identifying emerging programming areas for transformational impact

- *Focus the use of concessional finance on the most challenging and emerging areas:* CIF has proven that having access to large tranches of concessional climate funds can enable MDBs and recipient countries to take on early-stage risk and cost barriers in ways that demonstrate economic viability and crowd-in investment. CIF should continue to use concessional funds where they are needed most, including emerging and challenging technology and market areas, such as energy storage and offshore wind (e.g., as in the CTF Dedicated Private Sector Program III), and in complex contexts (e.g., forestry). This recommendation would support an enhanced portfolio approach to transformation.
- *Build global ‘supply side’ expertise in selected technology or thematic areas:* While CIF remains country-led in terms of programming and prioritization, there is scope for more global technology, market, or thematic learning-focused programs (e.g., around innovation in resilience or forestry). CIF could develop a more ‘supply side’ approach, bringing together a range of stakeholders (including financing and private sector expertise), with a view to addressing issues common to a range of country contexts. These might include emerging technologies (e.g., storage, electric vehicles) or themes (e.g., cities, intermediated finance, or private sector forestry). To do this, CIF could convene international expertise, and explore how innovative thinking can be promoted at a global or regional level within the constraints of the existing country-led MDB delivery model.



# Management Response to the Independent Evaluation of Transformational Change in the Climate Investment Funds

## I. Introduction

1. The Climate Investment Funds (CIF) was established in 2008 to provide scaled-up climate finance to developing countries to initiate transformational change towards low carbon, climate resilient development. The CIF represents one of the first efforts by the international community to place a significant amount of resources in a dedicated funding vehicle to support developing and emerging economies in adopting a low-carbon and climate-resilient development trajectory. Channeled through the multilateral development banks (MDBs), the CIF encompass two funds: the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF). The SCF includes three targeted programs – the Forest Investment Program (FIP), the Pilot Program for Climate Resilience (PPCR) and the Scaling-Up Renewable Energy Program in Low Income Countries (SREP). To date the CIF has received contributions of more than USD 8.3 billion to fund strategic investments in 72 countries.
2. The CIF was established to fill a gap in the international climate finance architecture. It was intended by design to support the scaling-up of investments, pilot approaches and learn lessons in delivering climate finance through MDBs. Notably, the CIF has adopted a programmatic approach by adopting a country led investment plan to initiate transformative results in developing countries.
3. This document outlines a response by management—which includes the CIF Administrative Unit (CIF AU) and MDBs—to key findings and recommendations from the evaluation report on Transformational Change in the CIF by Itad. We look forward to taking these findings and recommendations forward in future programming strategy, decision-making processes, and

implementation in support of continued transformational impact in recipient countries.

## II. Management response to findings

### a. General remarks

4. Management welcomes and is very grateful for the opportunity to learn from an independent evaluation of Transformational Change in the CIF. This evaluation is an important global public good offering knowledge and evidence on how to make effective use of concessional climate finance for transformational outcomes. It comes at an opportune time. In recent years growing scientific evidence has reinforced the pressing time horizon for climate investment and the need for emerging lessons to inform future investment strategies. In this context, the evaluation brings conceptual clarity on a very complex topic and fulfills one of the key strategic objectives of the CIF – to drive enhanced learning from a wide range of pioneering climate investments.
5. We agree that these findings on transformational change and related analyses are relevant for a wide body of stakeholders. Findings from this evaluation can inform future strategic choices and delivery models of various actors involved in the international climate finance architecture, including the CIF, MDBs, the Green Climate Fund, the Global Environment Facility and other funds, where appropriate. We also acknowledge that data for this analysis relied heavily on a case studies approach and findings do not comprehensively represent the entirety of the CIF portfolio, as this was outside of the scope and purpose of this evaluation. Findings should be interpreted with this in mind.
6. Going forward, maintaining and deepening knowledge and evidence in this area is important and management sees this review as a solid foundation upon which to build further analyses.



## **b. Response to overall findings**

7. Overall, the evaluation highlights that the CIF's business model is unique among climate funds and has supported transformational change in several areas and country programs. Management strongly agrees with this finding. Notable features of the CIF business model include a country-led programmatic approach, the delivery of financing through MDBs, and the scale, flexibility and predictability of CIF resources. The evaluation finds that these enabling features have resulted in CIF programs that achieve, or have the potential to achieve, transformational change through intervention design and implementation. We also agree that coordination among MDBs around key national objectives contributed to the design of large-scale, coherent investment packages designed to move markets. And, that the flexibility and predictability of CIF funding made it possible to develop transformative and first-of-a-kind projects to address barriers to change and to successfully respond to changing country and market conditions.
8. Management appreciates the development of a conceptual framework to define and measure transformational change in this evaluation. Transformational change is defined as "Strategic changes in targeted markets and other systems, with large-scale, sustainable impacts that shift and/or accelerate the trajectory toward low-carbon and climate-resilient development." Its examination through the four dimensions of relevance, scale, systemic change and sustainability allow for a systematic analysis of outcomes.
9. Management notes that all four programs demonstrate signals of transformational change, with compelling evidence and examples of all four dimensions provided throughout the report. We also note some variability between early, interim and advanced signals across programs. These variations are expected given that the contextual complexities, implementation status of the portfolio, level of resources and measurement challenges vary substantially by program. Management appreciates the recognition that interim signals are common in more complex and challenging contexts and indicate that transformational change processes are underway.
10. We also agree that there are many barriers to transformational change that can prevent it from occurring or slow it down. We recognize that the extent to which different barriers impact results vary by program and country but are largely related to financial, macroeconomic, institutional, policy or knowledge/ information related impediments. We are encouraged by the fact that more than 80% of the 150 key CIF stakeholders who responded to Itad's survey thought that CIF had addressed the main barriers to transformational change to a great or moderate extent. At the same time, we are cognizant that in many cases systemic changes at the country and regional levels take time and program delivery or country context risks can cause delays or other challenges that lessen the transformational impact of projects.
11. With this in mind, we appreciate the evaluation's recognition of the critical role of national champions—from government, private sector, or other areas—with the ability to influence decisions. We agree that it is important to align CIF investments in national planning and development processes to help empower these champions with resources to drive a reform agenda. The most successful CIF programs are those where CIF has aligned with national champions and development plans, ensuring relevance and leveraging key national strategies and resource opportunities. Anchoring climate change programs in wider development co-benefits, building on inherent MDB focus areas such as poverty reduction or job growth, has also helped support wider buy-in for these investments in local contexts.
12. Management agrees that the CIF has contributed successfully to the mainstreaming and uptake of climate financing initiatives within MDBs. The CIF's approach of providing concessional financing for piloting innovative instruments and

concepts helped the MDBs develop and test new products and learn lessons that were later replicated with MDBs' own resources, thus amplifying the CIF's transformational impact. This support also contributed to strengthening the links between public and private sector programming. We also agree on the importance of continued concessional resources to maintain and further accelerate MDB's efforts to pursue innovative technologies and approaches in difficult sectors or markets.

13. Finally, management appreciates the progress noted on enhancing gender mainstreaming considerations across CIF investments, including advancing women's voice, skills and livelihoods in ways that are starting to bring about systemic change. Promoting gender-sensitive and gender-transformative climate investments continues to be a major priority for the CIF and its implementing partners, and we look forward to generating further evidence of gender transformative change in countries as the recent CIF Gender Policy and Phase II Action Plan are fully implemented.

#### **c. Response to key findings per program**

14. **CTF and SREP:** We agree that both CTF and SREP have been successful in supporting transformational change, in different ways and with different stages of advancement, by focusing on investment and development approaches and windows of opportunity with the most likely chance of transformational impact. Scaling-up access to long-term flexible concessional finance and grants for renewable energy investments has been one of the key success factors to de-risk investments and drive systemic transformational change through CTF and SREP. This is particularly the case for technologies which otherwise would not have been bankable. Importantly, engagement on systemic change intervention areas (such as policy, institutional capacity and technical knowledge) has been able to reduce perceived risks and lower costs to unlock public and private investment in renewable energy. Moreover, management is pleased to note the strong signals of

sustainability and market change, particularly in CTF with falling costs and an increasing role for non-concessional finance, although support remains required for higher-cost technologies and in more difficult market contexts.

15. We note and agree that the timing of CTF financing has been particularly important in helping to initiate or accelerate broader market change. We appreciate the important role of a conducive enabling environment to scale up near-commercial projects and technologies and believe that it is equally important to pursue innovative, first-of-its kind projects in environments with persistent barriers as well to help instigate potential future change pathways. In this sense, we acknowledge that SREP has helped lay the foundations for transformational change through systemic interventions, and that more time is needed to achieve bigger and more durable financial flows into renewable energy and energy efficiency investments given complex and more challenging market or country contexts.
16. Management also appreciates the efforts to distinguish the different program objectives and associated change pathways between CTF and SREP, with CTF focusing on climate change mitigation goals and low-carbon transitions in middle-income countries while SREP emphasizes creating economic opportunities and improving energy access through low-carbon technologies in low-income countries. We believe that further recognition of these and other key differences in analyzing and interpreting transformational results within the report would have helped to better situate and understand the unique challenges and successes within each program.
17. Management also notes the success of the Dedicated Private Sector Program (DPSP) to address technology or other market barriers.
18. **PPCR:** We strongly agree that PPCR has played a major role in supporting national resilience planning and investment activities in its participating countries. The report highlights several advanced and interim

signals of systemic change achieved through comprehensive stakeholder engagement and by supporting the climate resilience mainstreaming agenda across sectors. This has led to changes in mindsets and behaviors related to climate action and higher capacity to provide improved climate information. Moreover, management agrees with the broad findings in the report with regard to interim signals of scaling and sustainability for both public and private sector interventions through PPCR, including through evidence of wider uptake and mainstreaming, national budgetary allocations and scaling up of PPCR-funded pilot programs.

19. Management agrees with the finding that the combination of CIF support for climate mainstreaming and resilience investments has proved an effective incentive to secure the commitment of sector ministries to transformational change. Predictable investment funding was also key to securing ownership from ministries with the highest influence and convening power at the national level. This has led to both indirect and direct feedback loops in which lessons or models tested through PPCR are scaled up. Management acknowledges that more work can be done to ensure that these lessons are fully leveraged across the PPCR portfolio and beyond. We note and appreciate the findings on mainstreaming increased use of climate information services in recipient countries and the challenges in increasing accessibility and use of such services among end-users. We also appreciate the promising models of intermediated finance to reach smaller scale actors. These findings and lessons will help inform ongoing and future investments in the respective areas.
20. Management acknowledges challenges identified related to private sector investment in climate resilience, which from an investment perspective includes the overarching challenge of identifying climate adaptation products and services with a clear business case and commercial return that can attract private sector finance, thus contributing to scaling and replicability.

21. **FIP:** Management strongly agrees that FIP programs have a high degree of relevance, built around strong stakeholder engagement processes that bring together various groups and interests to engage productively in REDD+ and other processes and to trigger wider forestry investments. We also agree with the characterization of the forestry sector as one with complex, multi-faceted challenges and a history of deep-rooted, systemic failures, which make investments in this area particularly challenging. As the report makes clear, transformational change may require longer time horizons in light of these challenges, particularly given the early implementation status of most of the FIP portfolio.

22. Management agrees that FIP has started to address these inherent challenges through coordinated multi-level and multi-sector efforts. These have involved supporting the development of suitable policy, social and governance frameworks, and testing models through use of concessional finance to help create economic and financial incentives. This has led to the demonstrated viability of some new business models and aligned stakeholder interests for future action – all foundational steps for future transformation to reduce deforestation and degradation.

#### **d. Response to findings on learning about transformational change**

23. Management strongly agrees that transformational change is dynamic and unpredictable, and that incremental change represents a valuable contribution in progressing toward future transformation, with realistic framing required around scale and timing in many contexts. Activities such as demonstration projects, capacity building, changing mindsets and altering behaviors can have a cumulative transformational effect, the results of which only become clear when change processes that rely on these foundations later occur. Sufficient timescales and flexible programming are also important to address persistent country-level barriers and adapt to unforeseen changes in country contexts or global conditions.

24. Management acknowledges that understanding and measuring sustainability presents a complex challenge. It agrees with the assertion that there is not yet a standard way to understand or measure sustainability in the context of transformational change in climate finance. Methods are more likely to rely on a deeper analysis of market data, statistics and trends than might be found in typical evaluation approaches. This is an area of work that needs to be further explored.

25. As pointed out by the report, the complex and diverse environment in which CIF operates presents some methodological limitations that had to be overcome through the triangulation of evidence. Management appreciates the extra effort that this entailed to present findings that can be stated with confidence. We would like to highlight the need to incorporate evaluation frameworks and methodologies at the outset of similar programs in the climate finance landscape, to help facilitate evaluation of transformation in future publicly-funded climate finance interventions.

### **III. Management response to key recommendations**

26. This section reflects on and responds to key recommendations, as presented in the evaluation report.

#### ***Mainstreaming transformation into CIF processes***

27. Management strongly agrees that CIF should build on the work of the Transformational Change Learning Partnership (TCLP) and the findings of this evaluation to further explore concepts of transformational change, including approaches that facilitate continued and increased incorporation of these concepts at the design stage.

28. Management agrees that recipient country government backing and support of national champions should be promoted in program design and delivery, as it contributes to the overall success of the implementation of CIF programs.

29. Management also strongly agrees and finds valid the caution that a desire for transformational results should not create a bias towards selecting only those projects that appear to offer the quickest route to short-term success. A diversified portfolio with a range of projects that deliver both quick wins as well as longer-term transformation challenges is critical for the overall progress to combat climate change and its negative impacts.

#### ***Improving transformation in CIF delivery***

30. We strongly agree with the recommendation to enhance the benefits of the programmatic approach. In our view the programmatic approach is critical to help governments with the adoption of transformational measures and to ensure enduring participation and engagement from key stakeholders. To increase the success of CIF programs, it is important to have leadership, capacity and resources to fully apply programmatic approaches with government partners and other stakeholders, and to anchor country coordination mechanisms and/or focal points in a strong ministry. The CIF will continue to use and strengthen its programmatic approach. Management is also committed to finding increased ways to maintain active stakeholder dialogue and collaboration, including between MDBs, government officials, local stakeholders and with other climate funds throughout project implementation to facilitate cross-program synergies and learning.

31. The report rightly validates that transformational change most likely occurs when a full range of barriers that inhibit change are addressed in parallel. Therefore, management agrees that CIF should continue to actively pair investment funds with technical assistance that allows multiple barriers to be addressed, including actively aligning or partnering with other initiatives or institutions in this endeavor.

32. Management acknowledges the broad recommendations made to encourage use of private sector and market-development approaches. This includes use of financial

intermediation where relevant and appropriate, which is not necessarily limited to small-scale climate services as stipulated earlier in the report but applies to larger-scale investments as well, particularly in the energy sector. We also agree with the recommendation to continue our work to strengthen and generate increased evidence on gender-transformative actions. We are strongly committed to both of these areas, including the full implementation of the recently approved CIF Gender Policy and a continued focus on leveraging increased private sector action across CIF programming areas.

***Identifying emerging programming areas for transformational impact***

33. Management agrees with the recommendation to focus the use of concessional public finance on the most challenging and emerging technologies and thematic areas. However, we see the continued justification for concessional finance to scale up some untested business models or markets, even if the underlying technologies are “proven”. Management is committed to using concessional finance to continue to push new technologies, create new markets and crowd in private sector financing. Concessional finance continues to be necessary to support investments in climate resilience and adaptation, especially in the most vulnerable countries.
34. Similarly, we acknowledge and agree with the recommendation to build global ‘supply side’ expertise in selected technology or thematic areas, as has already been done in certain areas such as CSP and mini-grids. In addition, building investor and country demand for these technologies also continues to be important. Management believes that thematic programming of this nature can effectively co-exist with country-led models, as evidenced in the current thematically-driven programming areas as well as experience with dedicated private sector programs
35. While the report was not intended to focus on new programming opportunities for CIF or

other climate finance mechanisms, we support on-going efforts by all stakeholders to identify the most promising financial instruments, programming priorities, technologies and/or sectors for future publicly-funded climate finance interventions.

36. In summary, management appreciates the efforts of the evaluation team in conducting this challenging analysis in a thoughtful, robust and thorough manner. This study is an important milestone in the CIF learning journey. Management remains fully committed to the CIF model of learning-by-doing and looks forward to ensuring active consideration and use of the findings and recommendations from this report in on-going CIF activities and in the broader climate finance landscape.

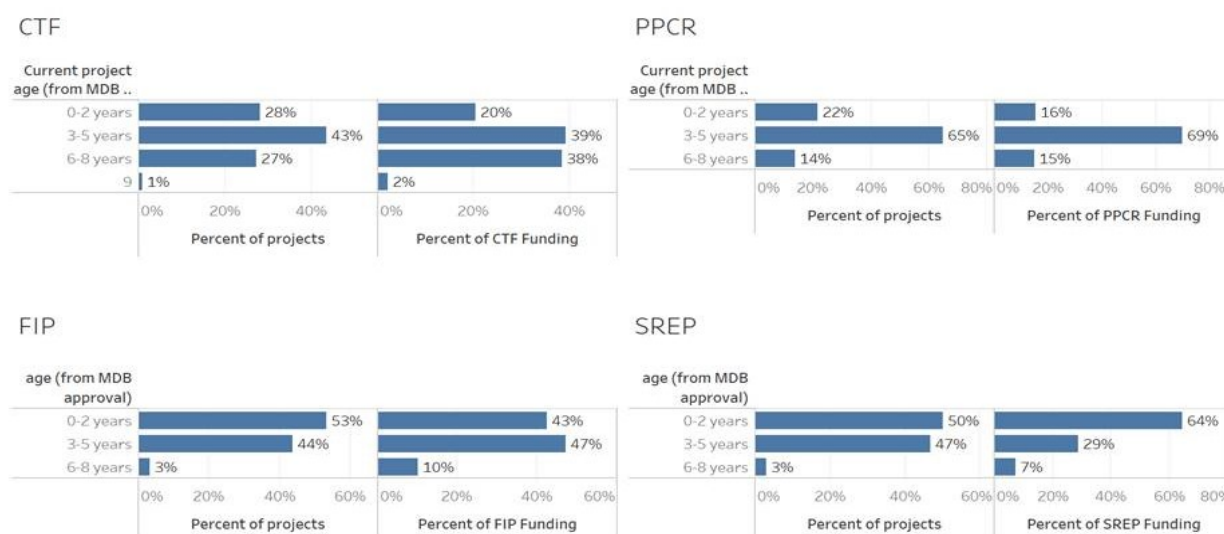
## 1 Introduction

- This report provides the results of an evaluation of transformational change in CIF.** The evaluation forms an important component of CIF's E&L Initiative, which established the TCLP.<sup>7</sup> The TCLP was launched in 2017 to facilitate a collaborative, evidence-based learning process on transformational change with key CIF stakeholders. The partnership includes approximately 60 CIF stakeholders; this includes representatives of recipient countries, donors, MDBs, observer civil society organizations, and the CIF AU—as well as representatives from other climate funds, think tanks, and independent experts. The TCLP is on a joint evidence-based learning journey, and this evaluation and the evidence synthesis (a parallel and complementary study) have the primary responsibilities for gathering and generating the evidence.

### 1.1 Overview of CIF

- In 2008, six MDBs, recipient low- and middle-income countries, donor countries, and other development partners reached an agreement on the establishment of CIF through two CIF trust funds: CTF and SCF.** CIF was established to provide a new business model to address gaps in the climate finance architecture and provide new and additional financing to complement existing bilateral and multilateral mechanisms. CTF and SCF also aim to promote international cooperation on climate change, to foster the environmental and social co-benefits of sustainable development, and to promote learning-by-doing. Further details of CTF and the three SCF programs are provided in Annex 1.
- Of the four programs under CIF, the CTF portfolio is the most advanced in terms of implementation, with 70 percent of projects having been approved between three and nine years ago.** While PPCR is also becoming more mature, with 60 percent of the portfolio approved in the past three to five years, part of this portfolio is still at an early stage of implementation, with 31 percent of projects approved in the past two years.<sup>8</sup> By comparison, over 50 percent of the SREP and FIP projects are only one to two years old, with some generating results but most still being either at design or early implementation stage. These differences must be factored in when assessing progress toward transformation, as a certain degree of implementation progress and success is required for this to materialize. Further details are provided, by program, in Figure 1.

**FIGURE 1: STATUS CIF PROGRAMS**



<sup>7</sup> CIF's E&L Initiative established the TCLP in 2017. The overall purpose of the TCLP is to increase the transformative impact of CIF investments and those of other funds by establishing a more systematic and robust understanding of transformational change in the CIF context.

<sup>8</sup> CIF2018a, 26.

## 1.2 The global context for CIF

4. **CIF operates as a small part of a wider ecosystem of efforts seeking to address the challenges of climate change.** Despite its large size (approximately US\$8 billion across its operating lifetime), CIF represents only a small fraction of efforts by the development community, national governments, the private sector, and civil society to address climate change. This ecosystem includes a range of public and private finance initiatives, together with institutional support and capacity-building activities aimed at supporting developing economies to transition to a low-carbon, climate-resilient growth pathway. For example, MDBs reported climate finance flows of more than US\$35 billion in 2017 alone.<sup>9</sup> Bilateral climate finance in 2016 (as reported through the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) system) was of a similar magnitude (US\$30 billion).<sup>10</sup> However, these flows are small in comparison to private sector finance flows—estimated at US\$280 billion in 2015–16.<sup>11</sup>
5. **CIF has contributed to shifting development trajectories in its target countries.** Over the ten years of CIF's operation, there have been significant changes in the development dynamics associated with climate change. CIF's programs have, in many cases, made a significant contribution to this dynamic, as explored in detail in this report, and they have been implemented in the context of a much larger financing and development effort mobilized by governments, international agencies, private sector actors, and NGOs.

## 1.3 Purpose, scope, and audience for the evaluation

6. **The purpose of the evaluation is to better understand and assess transformational change in the context of the countries, programs, and partnerships through which CIF operates.** The evaluation aims to provide systematic, evidence-based learning on CIF's role with regard to transformational change, rather than a judgment on its overall performance. The key audiences for and users of this evaluation include CIF recipient countries, CIF donors, MDBs, the CIF AU, the Trust Fund Committees, local CIF stakeholders, the broader climate finance community, and others, such as private sector representatives. This evaluation is structured to address four key questions identified by the TCLP, as set out in Box 1 below.

### BOX 1. KEY QUESTIONS FOR THE TCLP

1. **Definitions:** How is transformational change conceptualized in the international field of climate finance?
2. **Process and design:** To what extent and how does CIF's approach to planning, designing, and implementing its investments work to advance transformational change?
3. **Results:** To what extent, how, and under what conditions are CIF-supported investments and activities contributing to transformational change?
4. **Learning:** How can CIF and others increase their contributions to transformational change?

## 1.4 Approach and methodology

7. **The evaluation team applied a mixed-method theory-based approach using contribution analysis and comparison across cases.** A theory-based approach to this evaluation was deemed the most appropriate and feasible method for analyzing the contribution that CIF has made toward transformational change within such complex and diverse environments. This approach focused the evaluative inquiry on exploring the mechanisms of how and under what circumstances transformation change takes place and identifying the role that CIF has played in these changes.<sup>12</sup>

<sup>9</sup> See: Inter-American Development Bank (IDB), European Bank for Reconstruction and Development (EBRD), World Bank (WB), African Development Bank (AfDB), IDB Invest, Asian Development Bank (ADB); European Investment Bank (EIB), Islamic Development Bank (IDB) 2018.

<sup>10</sup> OECD 2018.

<sup>11</sup> Trabacchi, C., Brown, J., Boyd, R., Wang, D., Falzon, J. (2016).

<sup>12</sup> As data was gathered from a limited sample, the findings do not necessarily represent the entire CIF portfolio, which was also not the purpose of the evaluation design. The details of the approach, including a discussion of limitations, is included in Annex 2 on evaluation methods.



8. **Data collection involved four data collection tools: 1) portfolio analysis, 2) KIIs and focus group discussions, 3) secondary research on the external context, and 4) an e-survey.** Data was gathered from an extensive range of sources across the CIF countries<sup>13</sup> with a more in-depth review of 23 of

#### BOX 2. EVALUATION FOCUS COUNTRIES

The evaluation findings focus on:

**CTF** programs in Chile, Mexico, Morocco, Thailand, and Turkey.

**SREP** programs in Armenia, Honduras, Kenya, and Nepal.

**PPCR** programs in Jamaica, Mozambique, Nepal, Niger, Tajikistan, and Zambia.

**FIP** programs in Burkina Faso, Mexico, and Mozambique.

Light-touch case studies were prepared for an additional eight countries based primarily on desk-based research. Additional country data was drawn upon (from secondary data and the Phase 1 and 2 Portfolio Analysis) for illustrative purposes, where relevant.

these countries, based on 1) country visits to five countries, 2) remote research and interviews in ten countries, and 3) light-touch desk research on eight countries. As the gathering of primary evidence focused on 15 countries (see Box 2), comparison of evidence is focused particularly on this group. Data was also collected from other sources, including the Portfolio Analysis of program and project documentation from 43 CIF programs across 37 countries (including programs from 14 countries not covered by the evaluation case studies). Data was also collected from high-quality secondary sources, analysis of the existing portfolio,<sup>14</sup> over 250 KIIs with MDBs, government, private sector, and civil society, as well as an e-survey distributed to over 1,000 CIF stakeholders, with approximately 150 respondents representing a wide range of the CIF countries and geographic regions.<sup>15</sup>

9. **The chosen approach and methodology had its limitations, including difficulties in isolating the CIF influence, generalizing findings from a small sample of cases, and potential confirmation bias stemming from the selection of more advanced programs and projects.** Mitigation actions were taken to limit potential sampling bias through the triangulation of evidence 1) utilizing secondary literature, 2) an e-survey across all CIF programs, and 3) adding remote and light touch cases to contextualize observations and findings in the broader CIF context. The evaluation also sought to identify positive, neutral or negative transformative dynamics across the total sample, as well as within individual case studies, by actively probing for positive and negative experiences and changes and identifying interviewees external to CIF, such as civil society and private sector representatives, each group representing approximately 10-16% of the respondent pool, in the interviews and e-survey, respectively<sup>16</sup>.
10. **The evaluation was guided by and coordinated with the broader E&L Initiative, members of the TCLP, as well as the related work areas, with a view to disseminating learning.** The evaluation team's analytical work was closely aligned with and integrated with a simultaneous evidence synthesis on transformational change in CIF, conducted by the Overseas Development Institute (ODI). As with the design of the evaluation, the findings have been presented and discussed through a series of workshops with the CIF E&L Advisory Group and TCLP community.<sup>17</sup>

<sup>13</sup> According to the CIF website, 72 countries are included. However, some countries do not have active projects under implementation. While e-survey data was gathered from respondents affiliated to some degree with almost all of the 72 countries, data collection efforts concentrated on the more in-depth review of 23 countries.

<sup>14</sup> See the Methodology Annex (Annex 2) for a description of the Phase 1 and 2 Portfolio Analysis activities, which included desk reviews of country program and project documentation and CIF monitoring and reporting information for 43 CIF country and regional programs across 37 countries (including the MENA region). The Portfolio Analysis information was particularly useful to inform evaluation findings addressing the relevance dimension and barriers.

<sup>15</sup> Please see Annex 2 for further details on the methodology, including the country sample. Annex 3 includes a list of stakeholders interviewed. Annex 4 provides a full bibliography for the evaluation.

<sup>16</sup> See Annex 2 for a more in-depth analysis of limitations and mitigation actions taken.

<sup>17</sup> Further details are available in Annex 2.

## 1.5 Concepts of transformational change

11. The evaluation is structured around the following conceptual framework, building upon early thinking by the TCLP around the concepts of transformational change. Further details are available in Annex 2.

### **Definition of transformational change**

12. For the purposes of the evaluation, transformational change in climate action is defined as *“Strategic changes in targeted markets and other systems with large-scale, sustainable impacts that accelerate or shift the trajectory toward low-carbon and climate-resilient development.”*<sup>18</sup> In framing transformational change, the emphasis is on identifying links to changes occurring beyond the program boundaries of CIF-funded activities and outputs—i.e., that a CIF intervention has contributed to changing and shaping the wider environment.

### **Hypotheses**

13. The evaluation involved the robust testing of a set of carefully formulated hypotheses to understand CIF’s contribution to transformational change and to learn how change works and in what context. These hypotheses were developed and refined in a participatory manner in the early stages of the evaluation work, including with the CIF AU and TCLP members, and were iteratively refined and tested through the desk review and fieldwork. The hypotheses represent a set of major change pathways in CIF.

#### **BOX 3. TCLP HYPOTHESES**

- H1. The provision of long-term concessional finance at scale can be a crucial factor in changing perceptions of risk among investors, particularly in the context of infrastructure projects with high capital costs, complex supply chains, or innovative technology profiles. (CIF & SREP)
- H2. Combining climate mainstreaming with investment programming creates incentives for policymakers to engage on the climate agenda, while also providing learning opportunities to inform the better development of relevant policies, planning, and institutional frameworks across sectors. (PPCR)
- H3. Coordinated, multi-level efforts that strengthen policy, institutional, social, and market capacities are needed to address fundamental market and policy failures to value natural capital and wider environmental externalities. (FIP)
- H4. It is possible to create market tipping points for (near) cost-competitive low carbon technologies by combining policy reform with support for market development, incentive frameworks, and other innovative approaches to mitigate investor and developer risk. (CIF & SREP)
- H5. Working through intermediaries and supporting value chain development is an effective way to deliver transformation in the context of smaller-scale investments in climate goods and services. (all)
- H6. Working through the MDBs has enabled the CIF to influence the climate orientation of much larger development finance institutions and funding flows. (all)
- H7. Gender equality efforts in institutional, policy, and investment processes help the CIF support transformational change. (all)

### **Dimensions of transformational change**

14. The evaluation used the four dimensions developed by the TCLP to categorize types of transformational change. All four elements were expected to occur (to a greater or lesser extent), in order for transformation to be likely to happen.
  - *Relevance* refers to the strategic focus of CIF investments—impacting low-carbon and climate-resilient development, with sustainable development co-benefits.
  - *Systemic change* refers to fundamental shifts in system structures and functions.

<sup>18</sup> The working definition of transformational change was developed during Phase 1 of the TCLP, to provide a conceptual framework for its work.

- *Scale* refers to contextually large-scale transformational processes and impacts.
- *Sustainability* refers to the robustness and resilience of changes.

### **Signals of transformational change**

15. Signals of transformational change are those types of evidence that indicate that transformation is underway across the four dimensions. Recognizing that transformational change occurs as a process, and that signals of transformational change become more robust over time, the evaluation identifies three stages of signals:
- *Early signals* are evidence that programs are not only thematically relevant but have been designed and implemented in such a way as to promote transformational impact (e.g., integrating political economy considerations, engaging national support from key champions, and aligning with regional initiatives likely to support change processes.)
  - *Interim signals* are those that indicate that external change processes linked to direct program outputs are underway and that these are likely to result in future climate benefits (e.g., GHG mitigation, improved resilience, sustainable forests), but have not yet been fully realized.
  - *Advanced signals* are those that indicate that climate impacts core to the mandate of the CIF programs are being delivered at scale, with systemic underpinning and in a sustainable manner beyond the CIF program boundary.

## **1.6 Structure of the report**

16. The report is broken down into three main sections, which are followed by a set of recommendations. Each section refers to one of the TCLP questions, as set out earlier in Box 1:
- a. *Section 2* explores how and to what extent CIF investments have contributed to transformational change. This is done through a thematic lens (energy, resilience, forests) reflecting the core program areas. This section responds primarily to TCLP Question 3: *To what extent and how does CIF's approach to planning, designing, and implementing its investments work to advance transformational change?*
  - b. *Section 3* looks at the role of the CIF business model, processes, and policies in supporting transformation through three separate lenses. First, it reviews the role of the CIF business model in supporting transformation. Second, it assesses the relationship between CIF and the partner MDBs. Finally, it reviews the role of gender in transformational change. This section responds primarily to TCLP Question 2: *To what extent, how, and under what conditions are CIF-supported investments and activities contributing to transformational change?*
  - c. *Section 4* presents comparative learning regarding, and insights into, the nature of transformational change. It explores typical pathways of transformational change through the dimensions in the context of the CIF theory of change and discusses issues such as incremental change and change at different scales. It also identifies relevant insights for the work of the TCLP.

## 2 How Do CIF Investments Contribute to Transformational Change?

17. This section seeks to answer TCLP Question 3: “To what extent, how, and under what conditions are CIF-supported investments and activities contributing to transformational change?” The section takes a thematic perspective, examining how and in what context CIF has contributed to transformational change in key thematic areas: energy, resilience, and forests. Each section uses the four transformational change dimensions—relevance, systemic change, scaling, and sustainability—to frame the findings from CIF country case studies and evaluative analyses to explore key hypotheses relevant to the thematic area.

### 2.1 Low-carbon energy programs (CTF and SREP)

#### Key findings<sup>19</sup>

##### CTF

- CTF provides a large-scale deployment of clean energy and other low-carbon technologies to emerging markets, often in the form of first-time investments.
- The scale, flexibility, and concessionality of CTF finance have been key drivers in supporting transformation, successfully changing risk perceptions among investors and driving down costs.
- All five CTF country programs evaluated in greater depth demonstrate a high degree of **relevance**, both thematically and in terms of their integration with national strategies and priorities.
- CTF programs have generated advanced signals of **systemic change**, with evidence of large investments changing behaviors, and strong results from policy and institutional interventions.
- There are also advanced signals of **scaling** across in CTF-relevant markets, with growing non-CIF investment, increases in installed capacity, and increased investment by intermediaries.
- Signals of **sustainability** are advanced in all CTF markets, with falling technology costs, a shift to non-concessional and balance-sheet finance, and strengthening policy commitments.
- However, challenges remain in complex and contested areas, such as transport, and ongoing concessional support remains important for higher capital cost technologies (geothermal, concentrated solar power (CSP)).

##### SREP

- SREP is a smaller program than CTF, with a differentiated focus (energy access). It is at an earlier stage of implementation and is operating in lower-income countries, which have more limited capacity.
- SREP is delivering impacts primarily through the delivery of demonstration/first-time projects, supported by strengthening of the enabling environment (policies, institutions, and knowledge).
- All four SREP country programs evaluated demonstrate a high degree of **relevance** and alignment with national priorities, by identifying the most likely transformational opportunities available at the time.
- Interim signals of **systemic change** were also visible in all four country programs assessed in more depth, with evidence of attempts being made to strengthen the enabling environment for low-carbon energy access.

<sup>19</sup> The evaluation team conducted in-depth case study analyses of five CTF countries (Chile, Mexico, Morocco, Thailand, and Turkey) and complemented these analyses with a lighter-touch case study of South Africa (which included several remote interviews) and detailed desk reviews of five other CTF country programs (Colombia, Egypt, Kazakhstan, India, and Indonesia) and one Dedicated Private Sector Program (DPSP) country (Dominica). The evaluation team conducted in-depth case study analyses of four SREP countries (Armenia, Honduras, Kenya, and Nepal), and complemented these with lighter-touch case studies of Ethiopia and Maldives (which included several remote interviews) and a detailed desk review of Mali. Additional data was collected on CTF and SREP programs through KIIs, and online survey and desk-based portfolio review.

- There are some interim signals of **scaling** in three SREP country programs evaluated (e.g., in utility-scale solar photovoltaic (PV) and geothermal), with the mini-grid programs also creating models for future scaling.
- Signals of **sustainability** in SREP have yet to emerge, reflecting the early stage of implementation of the portfolio and the pilot nature of many of the projects.
- Overall, challenges related to weaker country contexts, investment climate barriers, and ongoing constraints around affordability are likely to result in longer timeframes to achieve transformation in SREP countries.

## Contributions to transformational change by CTF and SREP

**18. The global context for low-carbon energy in 2008, when CIF was founded, looked quite different than it does now.** Technology costs were high, penetration in low- and middle-income countries was limited, and the enabling environment not conducive to scaling. Over the intervening decade, globally there have been large-scale investments in renewable energy technologies—notably wind and solar PV—with rapidly falling technology costs and increasing penetration in emerging markets. Deployment costs have fallen due to technology improvements, competitive procurement policy frameworks, and a growing base of experienced, internationally-active project developers. At the same time, developing countries have made strong commitments to GHG emission reductions (in large part through the decarbonization of energy systems) as part of the United Nations Framework Convention on Climate Change (UNFCCC) process and through national policy commitments.

**19. CTF and SREP have contributed to transformational change in the energy sector in substantial ways that reflect the unique and differing focus of the two CIF programs.** In considering CIF’s contribution to transformational change, it is important to recognize the different programmatic objectives, delivery structures, and countries targeted by CTF and SREP (see summary in Boxes 4 and 5).

- In the context of *CTF*, desired transformational change focuses on catalyzing a “transformed low-carbon economy” through the accelerated deployment of low-carbon technologies, such as renewable energy generation, energy efficiency, and low-carbon transportation.<sup>20</sup>
- In the context of *SREP*, the desired transformational change aims “to pilot and demonstrate, as a response to the challenges of climate change, the economic, social, and environmental viability of low-carbon development pathways in the energy sector by creating new economic opportunities and increasing energy access through the use of renewable energy.”<sup>21</sup> The SREP portfolio has a clear focus on building foundational systems and capacities that can enable accelerated renewable energy deployment in low-income countries, leveraging both public and

### BOX 4. CTF

Country/regional programs:	16
Total donor contributions/pledges:	US\$5.4 billion
Total MDB approved funding:	US\$4.6 billion
Total disbursed funding:	US\$2.2 billion

Note: CTF started out with 12 country investment plans and a regional program. During 10 years of operation, programming grew to cover 15 country investment plans and one regional program in Chile, Colombia, Egypt, India, Indonesia, Kazakhstan, Middle East and North Africa (MENA), Mexico, Morocco, Nigeria, Philippines, South Africa, Thailand, Turkey, Ukraine, and Vietnam  
Resource availability figures as at September 20, 2018 in US\$.  
Source: draft CIF ORR 2018.

### BOX 5. SREP

Country/regional programs:	21
Total donor contributions/pledges:	US\$745 million
Total MDB approved funding:	US\$421 million
Total disbursed funding:	US\$82 million

Note: The initial six SREP countries were *Ethiopia, Honduras, Kenya, Maldives, Mali, and Nepal*. In 2012, six new pilots (seven countries) were added: *Armenia, Liberia, Mongolia, Pacific region (Solomon Islands and Vanuatu), Tanzania, and Yemen*. In 2014, the SREP Sub-Committee agreed to select another 14 countries: *Bangladesh, Benin, Cambodia, Ghana, Haiti, Kiribati, Lesotho, Madagascar, Malawi, Nicaragua, Rwanda, Sierra Leone, Uganda, and Zambia*. To date, of these 27 countries, 21 (those in italics) have approved Investment Plans  
Resource availability figures as at September 20, 2018 in US\$.  
Source: draft SREP ORR 2018.

<sup>20</sup> CIF 2012a, 5.

<sup>21</sup> CIF 2009b, 3.

private sector strategies to speed up or deepen market penetration of on-grid and off-grid energy resources.

## Relevance

**20. All nine CTF and SREP country programs analyzed in detail have showed relevance signals at the design phase, with ambition and a well-developed approach to addressing multiple barriers to transformation.** The CTF and SREP investment criteria appear to support such systems thinking, which is evident in country investment plans and project documents, recognizing the different unique features and differences of the CTF and SREP programs.

- In *CTF* countries, country programs have typically focused on addressing financing costs and risk barriers, with some attention to other enabling environment needs, such as institutional capacity, market, and supply chain development, and increasing the certainty and predictability around regulatory and legal frameworks.
- In *SREP* countries, such as Ethiopia, Honduras, Kenya, Mali, and Maldives, investments have focused on strengthening the enabling environments to advance systemic changes through technical assistance grants addressing institutional capacity, regulatory framework development, technical analyses and information sharing, and market development. In Honduras, one of the projects established a national clean cook stove quality standard, created an effective coordination unit to coordinate a diversity of value chain stakeholders, and reinvigorated local cook stove manufacturing and implementation.<sup>22</sup>

**21. All nine CTF and SREP country programs evaluated in greater depth also featured CIF programming that was well aligned with relevant national strategies, needs, and resource potential for clean energy deployment.** Interviewees from at least four of these countries attributed the strength of alignment between CIF programming and national development plans and implementation to the CIF programmatic approach process. A wider review of seven CTF and eight SREP country investment plans indicates that country programs are shaped by assessments of the wind, solar, and geothermal resource potentials.<sup>23</sup> For example, in Morocco, the CTF investment (both CSP and wind/hydro) was undertaken as part of a national public renewable energy program to help meet the government's target of installing 6 GW of renewable energy by 2020. CTF support formed the basis on which the strategy was implemented, and projects were selected and structured.

**22. CTF and SREP country programs have generally been successful in focusing on investment and development approaches and windows of opportunity that appeared to have the most likely chance of transformational impact at the time (irrespective of their eventual outcomes).** Examples include the promotion of grid-scale solar PV in Honduras and promoting larger bio-gas systems in Nepal. According to one Nepal SREP interviewee, "the World Bank biogas project is a breakthrough."<sup>24</sup> Due to reduced load shedding in Nepal, the interest shown by sub-project developers in investing in a bio-gas-based electricity generation system has shifted to generating bio-gas for thermal application.<sup>25</sup> In South Africa, CTF investments in renewable energy coincided with the early stages of the country's new competitive bidding process, facilitating some of the first private sector developments of CSP, solar PV, and wind energy projects.

<sup>22</sup> CIF 2018h.

<sup>23</sup> Programs in countries with geothermal and CSP development potential typically include a focus on these renewable energy resources due to their ability to serve as reliable baseload power supply in ways that intermittent wind and solar PV capacity cannot without scaled energy storage.

Programs in middle-income countries typically include programmatic attention to demand-side strategies, with at least 12 CTF country programs including energy efficiency projects. At least 14 SREP country programs include mini-grid projects as a key strategy to address energy access issues, recognizing the limitations of national power transmission grid infrastructure (see CIF 2017c).

<sup>24</sup> KII 98 Civil Society

<sup>25</sup> CIF 2018h.



## Systemic change

- 23. The scale of CIF finance has been a significant driver of systemic change, catalyzing investor interest and changing perceptions of risk toward investing in low-carbon technologies.** Recipient country and MDB representatives from all five CTF country programs that the evaluation team conducted interviews for indicated that this scale of financing was of sufficient size and importance to catalyze partner interest in engaging in discussions regarding potential projects (such as in Mexico and Morocco), and to enable bankable blended finance solutions to be developed.<sup>26</sup> According to one interviewee, “co-financing from CIF played a vital role in validating our renewable energy and energy efficiency program in the eyes of other investors. There is something powerful about being able to say that a global climate finance program supports what we are doing. It gives other investors confidence”<sup>27</sup>.
- 24. The private sector is the largest source of co-financing, followed by MDBs and bilateral/other sources.** Across the 35 renewable energy financing projects for which CTF concessional financing had been approved by mid-2018, the average CTF investment per project was US\$71 million.<sup>28</sup> CTF funding approved by the Trust Fund Committee is expected to mobilize over US\$46 billion in co-financing from private and public sectors, MDBs, bilateral agencies, and other sources.<sup>29</sup> This represents a leverage ratio of approximately 1 to 9.4, meaning for every US\$1 invested by CTF, over US\$9 is invested by other sources of finance<sup>30</sup>. The private sector is the largest source of co-financing, followed by MDBs and bilateral/other sources.
- 25. The concessionality of CIF finance has also been a key motivating factor in persuading MDBs and recipient countries to consider innovative projects that would not otherwise be viewed as bankable.** The availability of CTF and SREP long-term concessional finance has played a major role in enabling MDBs and recipient countries to pursue projects that might not otherwise have been considered bankable, and that were otherwise unlikely to have been pursued at all (or within a reasonable timeframe). CIF concessional funds were identified by CIF stakeholders and secondary literature as having been catalytic in unlocking investments in geothermal (Chile, Indonesia, and Kenya, see also Box 6 below on the CTF and SREP geothermal energy portfolios), CSP (Morocco, South Africa, and Chile) and solar PV/wind projects (Chile, Mexico, Morocco, and Thailand).<sup>31 32</sup> Concessionality helped address early-stage technology, market, and financing risks that would otherwise have prevented other investors from engaging. A few CIF stakeholders indicated that even with CIF’s large levels of concessional finance, important project opportunities have likely been missed due to constraints around the availability of concessional resources.
- 26. While the scale of concessional financing is important, the flexibility of concessional finance resources has also helped unlock investor interest by allowing the most important risks to be addressed.** Across a range of CIF investment projects, concessional finance has been tailored and blended with co-financing resources in ways that aim to address specific risk factors. Most MDB and recipient country representatives interviewed indicated that the flexibility of CTF and SREP resources—in terms of financial instruments (loans convertible to grants, guarantees, concessional hard or soft loans), tenor (often 30–40-year terms, with a grace period for loan payment), and interest rates (as low as 0.25 percent in the case of CTF)—has been valuable for enabling blended finance structures to address different types of barriers and risks.<sup>33</sup>

<sup>26</sup> Bloomberg New Energy Finance (BNEF) 2019.

<sup>27</sup> KII 61 Government

<sup>28</sup> Evaluation team calculations include data for all approved CTF renewable energy projects using CIF project approval data as at June 30, 2018; the analysis excludes a US\$200 million project in South Africa that was cancelled in 2018 and aggregates investments targeting the same projects through multiple MDBs.

<sup>29</sup> Based on CIF data, shared by CIF AU staff on December 3, 2018.

<sup>30</sup> Based on information shared by the CIF Administrative Unit

<sup>31</sup> BNEF 2019.

<sup>32</sup> Rakhmadi, R. and Sutiyono, G., 2015.

<sup>33</sup> Note that these terms are public sector. Private sector terms offer higher rates and shorter tenors, although they are still concessional in comparison to market terms



- 27. CTF and SREP engagement on arenas of systemic change intervention (policy, institutional capacity, and technical knowledge) was able to reduce perceived risks and lower costs in ways that “unlocked” public and private investment in renewable energy.** CIF technical assistance grants have supported the development of policy, regulatory, and licensing frameworks to support geothermal development in several countries, such as Ethiopia and Kenya, while also helping key government agencies to build staff and technical capacity. Geothermal project developers interviewed in three CTF and two SREP countries indicated that first-mover projects supported by CIF are helping to “test and strengthen” policy, regulatory, and legal frameworks guiding geothermal development (see Box 6).

#### **BOX 6. ADDRESSING UPSTREAM EXPLORATION RISKS TO UNLOCK GEOTHERMAL ENERGY INVESTMENT**

MDB and recipient government officials widely recognize the important, supportive role that CTF and SREP concessional financing has played in equipping MDBs to build a broad portfolio of initiation-phase, large-scale geothermal energy projects across multiple countries. CIF invested more than US\$235 million across multiple countries to support the MDB investments in geothermal power such as the World Bank’s Global Geothermal Development Plan. This plan aims to transform the geothermal sector by shifting more MDB and climate finance to support higher-risk, upstream, exploration, and drilling activities to open site development opportunities that the public and private sector investors would be willing to pursue. Since 2013, multilateral financing for upstream activities grew from only 6.7 percent to 29.2 percent, with projects in more than 30 countries. According to World Bank officials, the projects currently underway are expected to mobilize an additional US\$1.5 billion from other sources. CIF investments in highly concessional loans, loans convertible to grants, and guarantees across the countries listed below, complemented by technical assistance grants, are widely recognized as having played a key role in enabling this broader, growing transformation of geothermal energy development.

However, progress varies across CIF countries, as outlined in the table below. While Indonesia and Kenya show signals of scaling, Armenia and Mexico are facing challenges in attracting sustained geothermal investor and developer interest. Experts in both countries indicate that one factor may be that the baseload reliability characteristics of geothermal power are currently not sufficiently recognized in policy and contracting frameworks so as to enable geothermal power to compete against new lower-cost wind and solar PV energy sources.

*Selected examples of CIF supported MDB geothermal programs:*

Country	CIF funding/ co-financing	Approval date (MDB)	CIF-supported geothermal project status/progress (through June 2018)
Armenia (SREP)	\$8.55M/ \$108.6M	June 2015	Capacity and technical support; drilling results indicated field not commercially viable; no current plans for additional geothermal development
Chile (CTF)	\$78M/ \$500M	Oct 2016	Capacity and technical support; 48 MW Cerro Pabellon plant was first in South America; facility expansion plans; no signals of scaling to other sites in Chile
Dominica (DPSPs)	\$9.95M/ \$35.5M	Nov 2017	Capacity and technical support to state-owned development company; construction to begin on 7 MW pilot plant in early 2019, first new geothermal plant in Caribbean in 30 years; potential to expand pilot plant to 40–100 MW
Ethiopia (SREP)	\$26M/ \$304.5M	May 2014	Development of national geothermal strategy, legislative framework, licensing regulations, design of new public sector institution; drilling planned; signals of potential scaling with non-CIF 1,000 MW private sector agreement
Indonesia (CTF)	\$174M/ \$498.7M	2010 and 2017	Facilitating commercial lending to develop at least five geothermal projects (750 MW, including the 330 MW Sarulla plant, which is fully operational); support for exploration and drilling on additional private sector projects
Kenya (SREP)	\$25M/ \$478M	2011	Capacity and technical support to state-owned development company; three 35 MW plants under construction by independent power producers at Menengai; scaling possible; 7,000 MW estimated potential in Kenya
Mexico (CTF)	\$54.3M/ \$65.8M	May 2014	Capacity and technical development for the national development bank; new financing facility being launched with tendering process; no signals of broader scaling but substantial interest in long-term development

*Sources:* Evaluation interviews; World Bank 2018; CPI 2015. World Bank (2018) Feature Story: Geothermal Energy is on a Hot Path. Accessed at <https://www.worldbank.org/en/news/feature/2018/05/03/geothermal-energy-development-investment>

**28. When CIF energy country programs have been successful in building institutional capacity, this has sometimes led to further development of renewable energy transition at the national level.** In at least three of the nine CTF and SREP country programs evaluated in detail, interventions to build capacity have gone on to facilitate further sector strengthening.

- In Morocco, CTF played an important role in supporting early capacity building for MASEN—the state agency for solar energy—allowing it to evolve into a highly effective financing and project management structure with overall responsibility for renewable energy.
- In Mexico, CTF resources had a positive impact on a national development bank’s (NAFIN) capability to invest in renewable energy and wind in the early years of its development, by developing human and organizational capital.
- In Armenia (SREP), the Utility-Scale Solar Project improved the capacity of local institutions to manage a competitive bidding process for solar power contracts and to complete the necessary financial transactions.

**29. CIF support in targeted countries has helped address investment risks, such as those stemming from lack of certainty about contractual payments and revenues to power providers, predictability of regulatory and permitting processes, and technology performance in new contexts.** A predictable regulatory and policy environment in support of low-carbon technologies is necessary to provide market certainty to attract private investment, and nascent evidence suggests that CIF support has aided in developing such an environment.

- For example, in Chile, Mexico, and Thailand, the de-risking of early solar PV and wind energy projects by CTF and MDBs was identified as vital in driving down investment risk perceptions, which lowered costs and attracted commercial investors.<sup>34</sup>
- In Armenia (SREP), legal risk mitigation approaches, such as power purchase agreements, guarantees, and licenses were used to reduce perceived risks. In Armenia, higher payment certainty has resulted in lower risk premiums, while in Honduras risk premiums have grown due to instances of non-payment or delayed payment for provided power.

**30. The case of Mexico (CTF) illustrates the potential for the demonstration effect of CTF programs to incentivize policymakers to strengthen policy and institutional frameworks.** There is broad-based stakeholder agreement that the demonstration effect of early wind energy projects (and a solar PV project) co-financed by CTF helped to lay the groundwork for Mexico’s Energy Policy Reforms in 2014. These reforms further incentivized renewable energy, helped drive down investment risk perceptions and costs, and enhanced government agencies’ capacities to support renewable energy deployment.

**31. Country context and enabling conditions play a vital role in determining whether, and the extent to which, large-scale investments are successful.** In some countries, enabling conditions may not be immediately ripe for accelerating deployment of low-carbon technologies, although longer-term prospects appear to be promising.<sup>35</sup> For example, subsidized electricity rates can weaken demand for more costly renewable energy resources, such as geothermal and CSP. In other countries, rapidly changing country contexts and enabling conditions (e.g., falling technology costs and competitive market environments supported by predictable policy frameworks) can mean that concessional finance resources are not needed to drive deployment of technologies, as in current wind and solar PV markets in Chile and Mexico.

**32. CIF-supported programs have successfully enabled financial intermediaries—including national development banks, commercial lenders, and leasing companies—to support deployment of both utility-scale and distributed clean energy and energy efficiency projects by providing institutional capacity-building support and flexible concessional financing.** Support for financial intermediaries is crucial for enabling donors and MDBs to reach market segments with higher transaction costs due to larger volumes of smaller projects. CTF investments to advance energy efficiency (totaling at least

<sup>34</sup> BNEF 2019.

<sup>35</sup> Enabling conditions have slowed progress on deploying geothermal energy in Ethiopia and Mexico: evaluation findings and BNEF 2019.

US\$615 million as at June 30, 2018) have supported financial risk mitigation mechanisms, such as credit lines and guarantees, along with capacity-building support for financial intermediaries, to support energy efficiency market development in countries including India, Kazakhstan, Mexico, Philippines, and Turkey.<sup>36</sup> SREP is supporting development of financial and supply chain intermediaries in at least 14 countries, with more than US\$200 million in allocated funding and technical assistance grants, to develop markets for renewable energy mini-grid systems that can efficiently address energy access needs—although several evaluation interviewees indicated that the economics can be challenging for scaling.<sup>37</sup> One important challenge identified by some CIF stakeholders lies in determining when and how to transition to growing intermediated markets off concessional finance.

- 33. CIF-supported supply chain development activities have helped intermediaries leverage innovative financing mechanisms to forge and grow new business models to deploy distributed low-carbon technologies and services.** CTF energy efficiency projects in Mexico and Turkey are using on-lending, guarantees, on-bill financing, leasing, loan securitization for impact investors, and other financial instruments and business models to leverage new flows of private investment to energy efficiency projects.<sup>38</sup> In SREP, projects focused on off-grid lighting solutions (Ethiopia) and cook stoves (Honduras) also demonstrate successful efforts to engage intermediaries for distributed energy technology diffusion.<sup>39</sup> (For more detail on CIF's intermediation approach and transformational change, see Highlight 1 further below.)

## Scaling

- 34. Deployment of renewable energy technologies and installed capacity has increased at the national level in most of the nine CTF and SREP countries examined in detail by the evaluation, and, in most cases, there is good evidence that CTF and SREP have played both direct and indirect roles in contributing to these increases.** Figure 2 shows how wind energy capacity has changed in selected CTF countries over the past decade. In almost all of these countries, CTF concessional finance and/or grant support has directly contributed to at least some new operational renewable energy capacity.<sup>40</sup> In all five CTF countries reviewed in depth, the evaluation found evidence that CTF-supported projects contributed in indirect ways (e.g., systemic changes) to supporting broader renewable energy implementation. SREP has directly supported new renewable energy projects (that are completed or under construction) in four of the SREP country programs examined. Across the entire CTF portfolio, according to the CTF ORR, this has resulted in over 12 million tCO<sub>2</sub> in GHG emission reductions annually, mobilizing close to US\$22 billion in co-financing so far, and contributing to over 7 GW of installed renewable energy generation capacity across CTF countries.<sup>41</sup> Similar data is in the process of being finalized for the SREP program.<sup>42</sup> See Annex 5 for examples and data on renewable energy capacity expansion in CTF and SREP countries.

<sup>36</sup> Carbon Trust 2018. CTF energy efficiency investments based on data provided by CIF for CIF-approved projects as at June 30, 2018.

<sup>37</sup> CIF 2017b.

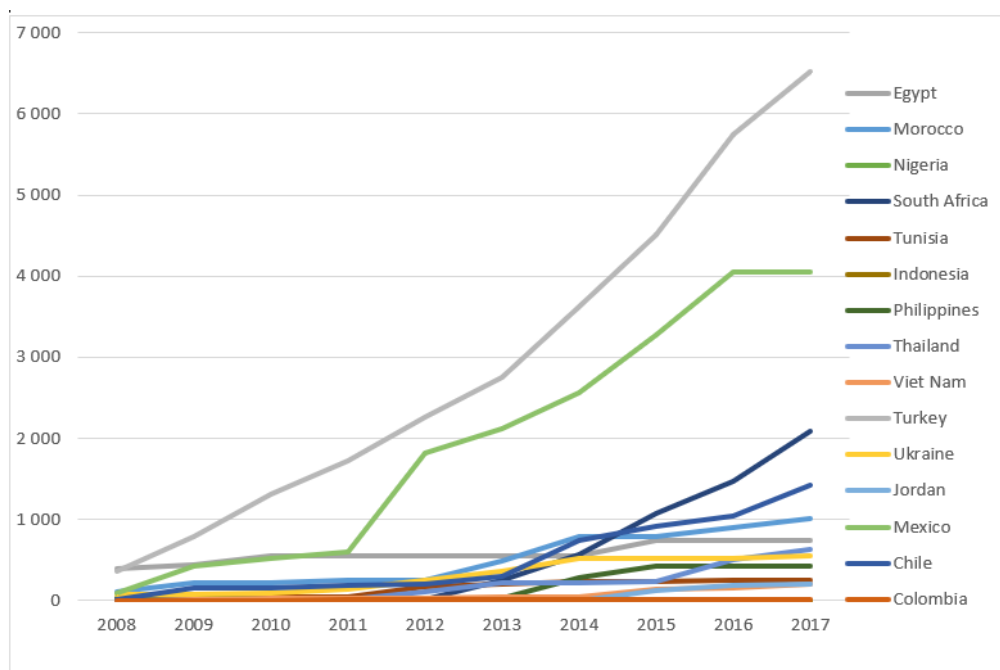
<sup>38</sup> Carbon Trust 2018, Inter-American Development Bank (IDB) 2015.

<sup>39</sup> De Baets, N. 2018.

<sup>40</sup> BNEF 2019, World Bank 2018c.

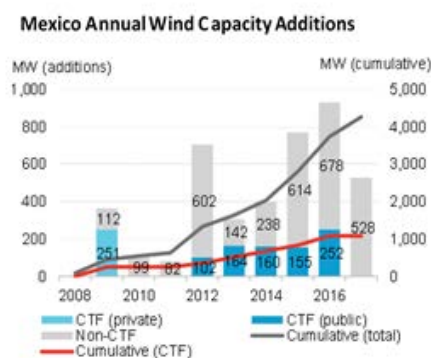
<sup>41</sup> CIF 2018g, 4.

<sup>42</sup> CIF 2018h (158.8 MW, 32,776 tons of GHG emissions reductions).

**FIGURE 2: WIND ENERGY CAPACITY FOR SELECTED CTF COUNTRIES 2008–2017 (MW)<sup>43</sup>**

**35. In many SREP countries, even smaller renewable energy projects can have large-scale impacts on a country's energy system, contrasted with a need for substantial scaling of renewable energy deployment to transform the power sector in many CTF countries.** For example, in Mali (SREP) the CIF-supported Segou 33 MW utility-scale solar PV plant will supply approximately ten percent of the country's current electric generation capacity.<sup>44</sup> The relative scale of most SREP country power systems means that the addition of even a single utility-scale intermittent wind or solar PV plant can have substantial implications for the sophistication of power system integration and operations, requiring the need for additional technical expertise, capacity, and energy storage and grid management systems before they may be implemented in larger power systems.<sup>45</sup> In Dominica (DPSP), the CIF-supported 7 MW geothermal plant in the Wotten Waven-Laudat field, construction of which is planned to begin in early 2019, is expected to supply about one-third of the country's energy needs.<sup>46</sup> By contrast, even with the surge of wind energy development in Mexico, cumulative installed wind capacity of more than 4,000 MW in 2017 translates into only about 6 percent of the country's total generation capacity.<sup>47</sup>

**36. Where low-carbon technologies are nearing cost competitiveness with conventional alternatives, a combination of approaches can lower the costs and investment risks sufficiently to spur investors to pursue additional projects if the institutional, policy, and market development enabling environment is conducive.** The development of the wind energy sector in Mexico, supported by CTF, provides a compelling example of how this transformation can occur (see Figure 3 and Box 7). Interviewees universally noted that concessional financing of early- to mid-stage projects at sufficient scale to overcome cost and risk premiums is key, as is

**Figure 3: MEXICO WIND CAPACITY**

**Source: Bloomberg NEF (2019)**

<sup>43</sup> Evaluation team analysis of International Renewable Energy Agency (IRENA) data.

<sup>44</sup> AfDB 2017.

<sup>45</sup> World Bank 2018c.

<sup>46</sup> DGDC 2018.

<sup>47</sup> BNEF 2019, Government of Mexico 2017.

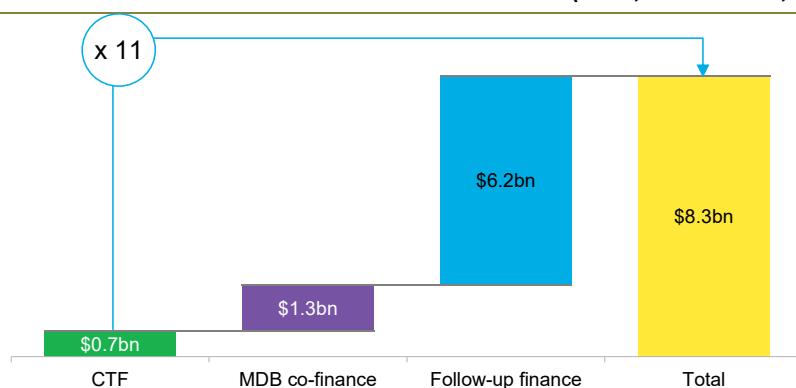
demonstrating policy and regulatory certainty and predictability through a series of successful projects.

#### BOX 7. TRANSFORMATION OF THE MEXICO WIND ENERGY SECTOR

Following CTF support for two large private sector wind energy projects in 2009–10 that are widely regarded by Mexican government officials and wind energy experts as “seminal projects in the development of the Mexican wind energy sector,” CTF provided US\$70.6 million through IDB in 2011 to help further develop the wind sector. The investment helped establish a renewable energy financing facility in a Mexican national development bank to provide blended financing to scale up investment in renewable energy, which supported six wind energy projects in the 2012–16 period. These projects helped to crowd in private investment, as new wind projects received around US\$11.8 billion from 2011 to 2017, of which 45 percent came from project developers and 23 percent came from commercial banks and the national development bank (NAFIN) complementing MDB and CTF investments. Energy policy reforms have enabled further rapid scaling of wind energy projects—with about 4.3 GW of new wind capacity commissioned—without concessional finance.

- 37. CTF and SREP have been able to mobilize significant co-financing within their low-carbon portfolio, indicating an increase in public and private sector investor appetite for investing in low-carbon technologies.**<sup>48</sup> For example, in Chile, Kazakhstan, Mexico, Morocco, and Thailand alone, CTF investment of US\$749 million in 2.3 GW of new-build, utility-scale clean energy projects through the end of 2017 has leveraged US\$1.3 billion in co-financing from MDBs, contributing to total investment worth US\$6.2 billion, with capital from project developers, commercial banks, and other development banks (as shown in Figure 4 below).<sup>49</sup> Public and private sector co-financing and leveraged capital have also been mobilized in SREP countries, including Armenia, Kenya, and Maldives.<sup>50</sup>
- 38. CIF energy programs have been successful in mobilizing follow-on and/or additional developer and financing interest in renewable energy markets.** Follow-on investment has occurred in all five CTF countries for which case study analyses were conducted.<sup>51</sup> At least three of the four SREP countries examined in greater detail had evidence of private sector development pipelines. Interviewees familiar with at least one CTF project and four SREP projects where there have not yet been signals of pipelines of developer or investor interest in follow-on projects suggested that in these cases early projects are either at too early a stage of implementation or were not successful in demonstrating that the perceived risks and costs were sufficiently low to attract interest at this time. Lack of predictability of regulatory and contracting frameworks was noted as a key barrier to building private sector project pipelines in at least two SREP countries.

Figure 4: NEW-BUILD INVESTMENT IN CTF PROJECTS BY INVESTOR (CHILE, KAZAKHSTAN, MOROCCO, MEXICO, AND THAILAND)



Source: BNEF, CTF. Note: follow-up finance refers to additional investment provided (other than by CTF and MDB) to projects that received CTF concessional financing.

<sup>48</sup> de Nevers 2017.

<sup>49</sup> BNEF 2018b, 70 DRAFT.

<sup>50</sup> Van Den Akker, J. (2018). World Bank 2018c.

<sup>51</sup> BNEF 2019.

- 39. There is some international interest in replication and learning on a regional and global basis, supported by multi-country peer learning and knowledge-sharing activities.** Recipient countries representatives who were interviewed widely noted the value of pilot country meetings and regional and thematic learning events and study tours supported by CIF as being helpful to grow interest and capacity across countries. Middle East and North Africa (MENA) countries originally targeted by the regional CSP program but prevented from engaging by a range of issues are now starting to revisit the potential for CSP as part of their energy mix, spurred by successful CSP development in Morocco. There is also evidence of global learning, with Chinese engineers undertaking a number of site visits to Morocco to learn about CSP (with Shanghai Electric going on to participate in the recent Dubai tender alongside the main CSP developer in Morocco, ACWA Power). Several CIF stakeholders praised CIF's support for supporting cross-country learning and knowledge-sharing events and products around technologies such as renewable energy mini-grids and geothermal power, highlighting the value in pairing climate finance with knowledge-sharing and learning networks, activities, and products.
- 40. There is reasonable evidence that CIF has provided the necessary financing increment, market infrastructure, and policy support to mitigate risk and to tip markets in favor of renewable energy projects in several countries studied for this evaluation.** Analyses by BNEF, which were corroborated by this evaluation, found evidence of renewable energy tipping points in several middle-income CTF countries, such as Mexico and Thailand.<sup>52</sup> The Turkey Private Sector Renewable Energy Project is another example. In other cases where there was already an established favorable policy, CIF support has helped to mitigate market barriers by providing concessional financing, guarantees, and/or technical assistance.
- 41. CIF has been able to maximize the opportunity for developing countries to take advantage of rapidly falling global prices for low-carbon technologies (particularly solar PV and wind energy) by simultaneously addressing local market risks and other project development barriers that might otherwise prevent their adoption and scaling.** Levelized costs of electricity for solar PV and wind power technologies have declined relative to fossil fuel power since 2010, largely due to technology innovation and competition driven by large investments in these technologies by China, Germany, and other developed countries.<sup>53</sup> However, interviewees identified non-technology costs, including financing risk premiums, insurance costs, project development costs as a significant share of the overall costs of renewable energy projects, particularly during early stages of market development in a country. Case study analyses of wind and solar PV programs across all five CTF countries reviewed in detail demonstrate how concessional finance played a key role in offsetting and driving down non-technology costs, building market momentum and attracting commercial financing.<sup>54</sup> See Annex 5 for a further discussion on the role of CTF in promoting scaling in key countries.
- 42. However, evidence of scaling was less visible for other technologies (particularly geothermal and CSP) due to ongoing barriers in many country enabling environments.** While CTF has contributed to development of geothermal and CSP projects in several CIF countries—including Chile, Indonesia, Kenya, Morocco, and South Africa—and to lowering perceived risks and costs that can support future scaling, the evaluation did not find evidence of that same rapid market take-off for these technologies. Several interviewees indicated that while these technologies have substantial future deployment potential in some countries, there are remaining barriers to scaling in many current country enabling environments.
- 43. Successful cases of market tipping points being achieved are associated with a multi-pronged CIF programmatic approach, with the timing and sequencing of interventions being critical to success.** CIF country experiences indicate significant evidence of the need for a combination of policy, institutional, and financial levers to advance markets for low-carbon technologies. SREP recognizes that it may take more direct support and time to develop these enabling environment factors in low-income countries. Successful early-stage projects are often needed to calibrate risk perceptions, test and improve policy and regulatory frameworks, and to cultivate developer and supply chain

<sup>52</sup> BNEF 2019.

<sup>53</sup> IRENA 2018.

<sup>54</sup> Evaluation case study analyses; BNEF 2018b, c; BNEF 2019; World Bank 2017b. See Annex 5 for more information.

experience in the country. These early projects may take longer to develop and implement, but they often create pathways for accelerated scaling and deployment. Early wind and solar PV projects in Chile, Mexico, and South Africa helped to enable rapid acceleration tipping points through competitive long-term power supply auctions.<sup>55</sup>

- 44. CIF programs that demonstrated the viability of low-carbon technologies and deployment models have served as the basis for further systemic change and scaling, under certain conditions.** The demonstration effect can play a key role in reducing perceptions of risk during the initiation phase of renewable energy or low-carbon technology deployment in a country, lowering project costs, and fostering public and/or private sector interest in pursuing future development and investment. It can also facilitate policy maker interest in supporting subsequent policy reform. However, a key challenge is that one or a few initiation-phase demonstration projects in a country may not be able to catalyze enough systemic change to move deployment into a market take-off phase. For example, despite CTF progress in supporting early-stage geothermal projects in Chile, the future of geothermal energy development in Chile remains uncertain.<sup>56</sup> Examples of CIF-supported demonstration projects are highlighted in Box 8.

**BOX 8. EXAMPLES OF FIRST-MOVER DEMONSTRATION PROJECTS SUPPORTED BY CIF**

Armenia (SREP)	First large-scale solar PV plant in Armenia (the 55 MW Masrik plant)
Chile (CTF)	First utility-scale geothermal power plant in South America (48 MW plant)
Kazakhstan (CTF)	First large-scale wind and solar projects in Kazakhstan (two 50 MW plants)
Kenya (SREP/DPSP)	Some of the first large geothermal power plants in Kenya (in the Menengai field)
Maldives (SREP)	First commercially-financed solar PV system (the 1.5 MW Hulhumalé project)
Mali (SREP)	First utility-scale solar PV plant in West Africa (the planned 33 MW Segou plant)
Mexico (CTF)	Two of Mexico's first large-scale wind projects (Eurus and La Ventosa projects)
Morocco (CTF)	First utility-scale solar project in Morocco (the 500 MW Noor CSP complex)
South Africa (CTF)	First CSP projects in sub-Saharan Africa (Xina, KaXu, Khi Solar One projects)
Thailand (CTF)	One of the first utility-scale wind projects in Thailand (the 7.5 MW Theppana plant)

- 45. There are some energy efficiency examples of scaling where intermediaries have gone on to build larger market positions.** In Turkey, one of the initiatives supported by CTF was the International Finance Corporation (IFC) Commercializing Sustainable Energy Finance program (CSEF). CSEF blended approximately US\$21 million of CTF funds with US\$100 million of IFC funds with a view to scaling industrial energy efficiency finance through leasing. This facility supported three leasing companies in Turkey. Following a US\$25 million loan in 2010, one of these three companies - YapiKredi leasing - was highly successful in scaling its energy efficiency lending business. It was expected that the YapiKredi leasing portfolio would reach US\$750 million by 2015. In Mexico, the EcoCasa program has gone through successive rounds of program development of energy-efficient housing, exceeding its 2019 goal of 27,600 energy-efficient houses in 2016. Evaluation interviews suggest interest among Mexican mortgage lenders, developers, and homebuilders in the EcoCasa program and energy-efficient housing is growing and the program is being expanded and replicated.

## Sustainability

- 46. CTF has helped support improvements in the economics of renewable energy, with the need for concessional finance decreasing and markets shifting to a more commercial basis.** In CTF, this dynamic has played out in Chile, Mexico, South Africa, Thailand, Turkey, and other countries.<sup>57</sup> In Morocco (CTF), large-scale funds have supported reductions in the benchmark for CSP due to economies of scale and supply chain efficiency improvements (see Box 9). However, it should be noted that the headline cost of power for CSP in Morocco is not the full cost due to the ancillary services (land acquisition, permitting, grid connection, utilities, security, water) provided at no or below cost by the Government of Morocco. In South Africa (CTF), the Renewable Energy Independent

<sup>55</sup> BNEF 2018b; IRENA 2018; MIREC 2018.

<sup>56</sup> BNEF 2018b.

<sup>57</sup> BNEF 2019.



Power Producer Procurement Program (REIPPPP) has seen reduced prices for CSP, solar PV, and wind technologies during reverse bidding for projects as part of its effort to develop the private sector market for renewable energy (CTF supported some of the early CSP projects in the REIPPPP).<sup>58</sup>

**47. However, where technologies are not yet cost-competitive (e.g., CSP, geothermal power), and deployment is still at the initiation stage, long-term scaling pathways may be more vulnerable without sustained public sector support.** While these technologies have the capacity to provide non-intermittent baseload power, their costs are becoming increasingly more expensive than rapidly falling wind or solar PV generation costs, with geothermal also incurring significant early-stage exploration and drilling risks, requiring some form of subsidy or guarantee. In Morocco, despite significant success in scaling CSP projects with CTF concessional support, a range of public and private stakeholders consulted remained unsure to what extent CSP would form part of Morocco's energy plans going forward given the low costs of alternatives and the potential emergence of other storage technologies in the medium term.

**48. Changes in country political, economic, and policy contexts and enabling environments can also affect the trajectories of low-carbon technology deployment.**

In South Africa (CTF), the solar PV manufacturing industry experienced a slowdown, with some local plants closing due in part to implementation delays in the REIPPPP, indicating that market tipping points can be ephemeral, depending on the depth at which policy changes, investments, and other factors are operating. In Nicaragua, CIF stakeholders indicated that national political and economic situations appear to have stalled geothermal program development. Ensuring that market changes are sustained is a challenge, especially in countries where energy sector reforms are ongoing, such as in Honduras.

**49. Climate impacts, severe weather, and natural disasters pose significant challenges in some countries, affecting the sustainability of accelerated deployment of low-carbon technologies.** For example, a hurricane destroyed the first utility-scale solar PV plant in Mexico that had been developed with CTF co-financing. In Dominica, damage from a hurricane has delayed the development of a geothermal energy plant. Changing weather and precipitation patterns can also affect the availability of hydro and wind resources, as is being considered in CIF countries such as Ethiopia and Tajikistan.

**50. Many CTF Investment Plans reviewed indicate that curbing overall GHG emissions will require significant scaling of low-carbon transportation technologies over the coming decade, but countries face major challenges that will require new thinking and experimentation on scaling pathways.** Box 10 outlines several challenges facing low-carbon urban transportation initiatives identified in

#### BOX 9. INFLUENCING THE GLOBAL COSTS OF CSP TECHNOLOGY

In certain technology areas, such as CSP, CTF programs have been able to support improved technology scaling and cost reduction at a supra-national and/or global scale. For example, the large-scale CSP investments in Morocco have supported a lowering of costs elsewhere. ACWA Power, contracted to provide CSP for all three phases of the Moroccan tenders, has gone on to deliver larger and more cost-efficient plant elsewhere in the region. In 2017, ACWA Power, with Shanghai electric, was contracted to provide CSP in Dubai for a 700MW for US\$3.9 billion, with a winning bid of US\$0.073/kWh—significantly lower than costs for Morocco. ACWA indicated to the World Bank that they had achieved significant learning from their participation in Morocco Noor 1 and particularly Noor II+III, the latter of which was the largest CSP plant at the time. This learning centered on procurement, supply-chain management, engineering design, and plant optimization. The Dubai plant has set a global benchmark for CSP costs.



Source: Evaluation interviews

<sup>58</sup> World Bank 2014b, 17.

evaluation interviews with stakeholders and experts familiar with the CTF US\$200 million Mexico Urban Transport Transformation Project.

**BOX 10. BARRIERS TO TRANSFORMATIONAL CHANGE IN THE LOW-CARBON URBAN TRANSPORTATION SECTOR**

In many middle-income countries, including Colombia, Mexico, Philippines, and Vietnam in the CTF portfolio, transportation sector energy use is a major and growing share of overall GHG emissions. Approximately 15 percent of the CTF portfolio (more than US\$540 million) is being invested in projects to deploy low-carbon urban transportation technologies, such as bus rapid transit (BRT) systems, low-emissions bus and vehicle fleets, and metro and rail lines. While the evaluation team only focused on one CTF country program (Mexico) with a transportation portfolio, several CIF stakeholders interviewed indicated that they believe it is very challenging to drive transformational change in the transportation sector, with barriers including:

- the complexity of working at the sub-national/municipal level (particularly for MDBs) due to higher transaction costs and multiple layers of overlapping institutions and jurisdictional authorities;
- the reliance of many municipalities on direct national government transfers and funding, making concessional finance a less attractive and less familiar means of supporting transport systems;
- constrained windows of local political support for investments due to short political term cycles;
- a lack of formalization and rationalization of local bus concession systems and procurement processes, combined with weak financial standing of private sector transport service providers; and
- the fact that GHG emissions reductions can be difficult to quantify for project due to many assumptions about modal shifts and other factors.

While stakeholders noted some successful or promising CIF co-financed transport sector projects in countries such as Colombia and Mexico, they indicated that many CIF-supported projects are not likely to catalyze broader systemic changes or replication. Several stakeholders suggested that more knowledge and learning work is needed around transformation in low-carbon transportation systems. Despite the challenges in advancing low-carbon urban transportation, there appear to be some innovative approaches which could support transformation in the future, such as innovative energy service company green bond project financing models for private bus fleet conversions that are being piloted in Mexico. In addition, promising global technology market headwinds may grow as technology costs for electric buses with batteries are expected to fall substantially over the coming decade, and industry analysts estimate that 84 percent of municipal bus sales globally will be electric by 2030.

Sources: CIF 2017h, IDB 2015; BNEF 2018b

## 2.2 PPCR

### Key findings

- The evaluation identifies strong **relevance** in the PPCR portfolio, with evidence of comprehensive stakeholder engagement and alignment with national planning processes.
- There are also advanced signals of **systemic change** as the projects engage with the mainstreaming agenda across sectors and build capacity to provide climate information and better understand risk.
- Interim evidence of **scaling** is also emerging, particularly in relation to replication and expansion of projects by government, as well as in the private sector and through financial intermediaries.
- The integration of mainstreaming and investment support has proved an effective incentive in securing the commitment of sector ministries to transformational change.
- Some programs, however, have experienced challenges in ensuring the effectiveness of linkages between investments and policy makers—which could have made systemic change more effective.

### Contributions to transformational change by PPCR

**51. Awareness of the urgency of investing in climate resilience has grown over the last 20 years as it has become clear that the impacts of climate change cannot be avoided.** PPCR was established as part of a wider international architecture to provide lessons that could be taken up by countries, regional groupings, the development community, and the future climate change regime. It has operated in the context of a wide range of funds (e.g., Adaptation Fund, Least Developed Country Fund, Special Climate Change Fund) and UNFCCC-supported processes (National Adaptation Plan (NAP) processes, NAPAs for least developed countries, Local Adaptation Plans of Action, and Nationally Determined Contributions (NDCs)). Together, these initiatives have sought to build capacity, raise awareness, and make investments in better use of climate information and improved sector planning. However, overall funding for resilience remains significantly below that which is required to mitigate emerging climate change impacts.

**52.** PPCR (see Box 11) supports 28 developing countries<sup>59</sup> and two regions “to pilot and demonstrate ways to integrate climate risk and resilience into core development planning, while complementing other ongoing activities.”<sup>60</sup> PPCR is designed “to strengthen capacities at the national levels to integrate climate resilience into development planning” and “to scale-up and leverage climate-resilient investment” in participating countries and regions.<sup>61</sup>

#### BOX 11. PPCR

Country/regional programs:	30
Total donor contributions/pledges:	US\$1.14 billion
Total MDB approved funding:	US\$981 million
Total disbursed funding:	US\$447 million

Note: Program totals include country/regional programs. Resource availability figures as of September 20, 2018 in US\$. Source: draft CIF & SREP ORRs 2018

**53.** PPCR’s unique combination of supporting transformational change through mainstreaming while at the same time investing in thematically linked projects has the potential to offer strengthened opportunities to contribute to transformational change.

### Relevance

**54. All six PPCR programs evaluated in detail set out clear ambitions for aspects of transformational change (relevance, scaling, systemic change, and sustainability) at the design phase, with a well-developed approach to addressing multiple barriers to transformation.** This is to some extent the

<sup>59</sup> Note that while the first 18 PPCR countries were fully funded, the more recently approved ten additional countries remain limited in terms of their ability to access investment funds, and are therefore very different in terms of being able to demonstrate transformational change.

<sup>60</sup> CIF 2011a, 3.

<sup>61</sup> CIF 2009a, 3.

product of the CIF investment criteria, which reference the need for a “transformational shift from the business as usual sector-by-sector and project-by-project approaches to climate resilience.”<sup>62</sup> There is strong evidence across the portfolio review of investment plans and related project documents that PPCR projects are thematically relevant and have responded to barriers to transformation.

- 55. PPCR has generally been successful in focusing on investment and development approaches and windows of opportunity that had the most likely chance of transformational impact at the time, in all six PPCR countries evaluated.** A key lesson learned across the PPCR portfolio is the importance of the program’s ability to evolve and be responsive to country capacities, political structures, and the overall development regime—all of which are pivotal for program acceptance.<sup>63</sup> In Zambia, Nepal, and Niger, PPCR interventions were strongly aligned with national policies and even mainstreamed into local institutions (in Niger and Zambia). Several country programs also benefited from aligning with influential political champions and change agents (Zambia and Tajikistan).

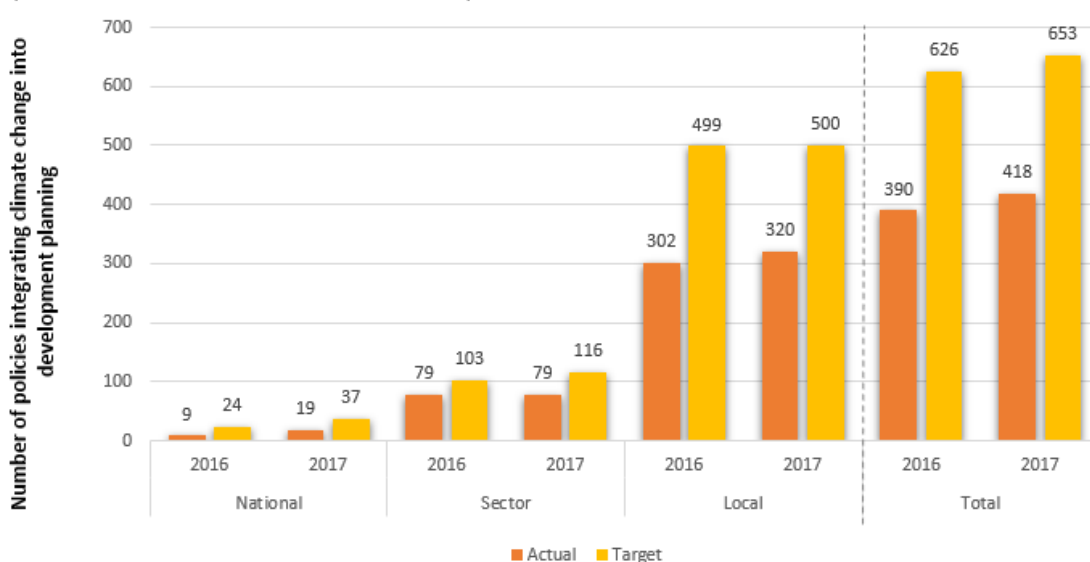
### Systemic changes

- 56. PPCR support for climate mainstreaming is yielding interim and advanced signals of systemic change in resilience policy, planning, institutions, project implementation, and monitoring in all six PPCR country programs studied in detail.**<sup>64</sup> According to the PPCR ORR, as at December 31, 2017, PPCR had contributed to the integration of climate change in 320 local/community development plans or strategies, 79 sectoral plans or strategies, and 19 national development plans or strategies (see Figure 5).<sup>65</sup> Based on project documentation and interviews, in Zambia, there has been strong momentum to continue to build the importance of resilience as a core component in the national development plans (see Box 12). In Niger, climate change is now mainstreamed in 225 communal plans, out of a total of 266 (up from 38 communes originally), as confirmed in the most recent annual results report,<sup>66</sup> and by government and civil society actors. PPCR support in Mozambique also facilitated the incorporation of resilience into the national development planning process.

**FIGURE 5: INTEGRATION OF CLIMATE CHANGE IN DEVELOPMENT PLANNING BY LEVEL**

#### Integration of climate change into development planning by level

(cumulative as of December 31, 2017; P=27; C=15)



<sup>62</sup> CIF 2011a, 3.

<sup>63</sup> World Bank nd; Trujillo et al. 2014.

<sup>64</sup> Trujillo et al. 2014, 3; World Bank nd.

<sup>65</sup> CIF 2018a, 31.

<sup>66</sup> Ministère du Plan du Niger 2017e, 14.

- 57. Some countries are already advanced in formalizing the institutional structures for dealing with climate change** (a role formerly played by PPCR coordination units) and centralizing functions to deal with different climate funds (e.g., GCF) as well as to coordinate climate finance more generally (e.g., Zambia, Tajikistan). Government representatives from Bangladesh also indicated that while progress had been made in some areas, such as the climate change adaptation knowledge management network and institutional architecture,<sup>67</sup> in others significant additional time and resources would be required to scale PPCR pilot projects and incorporate lessons learned in national policy and planning (e.g., for climate-smart agriculture and climate-resilient housing). In particular, longer-term (e.g., ten years plus) evidence of the resilience benefits of interventions would be needed to establish their value for significant investment of domestic resources.
- 58. There have also been moves to establish formal structured budgeting for resilience in government, supported by increasing budget allocations.** For example, in Zambia, budget tracking indicates that between 2013 and 2018 resilience budgets more than doubled. PPCR has also been able to support the development of national climate change monitoring and evaluation systems in Jamaica, Samoa, and Nepal in the context of increasing volumes of adaptation finance and activities.
- 59. In at least three of the six country programs evaluated, PPCR was able to strengthen the transformational effects of providing access to predictable, scaled-up, and flexible resources by also gaining the support of key change agents within government or the private sector.** In Tajikistan, the success of PPCR was significantly strengthened by the role of the Deputy Prime Minister, who led the institutional process and mobilized support and responsibility among a range of sector ministries and other institutions. In Zambia, having a prominent individual champion in the government helped to secure strong ministry support for moving program implementation forward. In Nepal, strong government leadership, particularly among National Project Directors in the Departments of Hydrology and Meteorology and of Soil Conservation and Watershed Management, facilitated successes. The country case studies (e.g., Mozambique, Nepal, Samoa, and Zambia) confirmed the broader lesson of the importance of PPCR leadership from a powerful ministry, such as the ministry of planning or finance. Dedicated project implementation units (e.g., Niger) can also sustain momentum, but require political backing. Some concern was noted over potential program capture by ministries not directly responsible for technical implementation, more generally across the PPCR portfolio.<sup>68</sup>
- 60. Improvements in climate data and early warning systems are increasing the capacity of national governments to respond to extreme events (e.g., Nepal, Niger, and Jamaica), although there remain challenges in making data accessible to end users.** By the end of 2017, PPCR had built or rendered functional 75 hydrological stations and 69 meteorological stations. However, this was only 11 percent of the targeted figure,<sup>69</sup> with substantial delays recorded in the implementation of related projects. Hydromet and climate services are a key enabler of a broad range of adaptation decisions.<sup>70</sup> The PPCR portfolio overall,<sup>71</sup> as well as a number of the case studies, demonstrated the ambitious introduction of innovative technologies (e.g., Jamaica, Nepal, and Niger). According to one civil society representative in Niger, “all of them [farmers] are now interested in climate information in order to undertake any actions.”<sup>72</sup> However, at least in Nepal and Niger, there were concerns about implementation delays and the sequencing of the hydromet interventions in relation to the rest of the PPCR portfolio. In Jamaica, investments in climate information services are already impacting upon the resilience of local populations. Improved early warning systems have led to more timely use of flood control gates by the Jamaican authorities and have resulted in no rescue or disaster events being experienced over the last 1.5 years since systems were upgraded, as confirmed by all interviewees and

<sup>67</sup> CIF 2018a, 62.

<sup>68</sup> World Bank nd.

<sup>69</sup> CIF 2018a, 41.

<sup>70</sup> CIF 2017a, 40.

<sup>71</sup> Trujillo et al. 2014, 3.

<sup>72</sup> KII 7 Civil Society.

reporting from Jamaica.<sup>73</sup> As technological solutions come on-stream, similar results may be expected in other countries.

- 61. PPCR has also supported changes in mindsets and behaviors relating to climate action**, whether in terms of encouraging proactive engagement through demonstrating co-benefits of climate action in the agricultural supply chain (e.g., PPCR intermediary firms in Nepal) or by engaging with a broad range of political stakeholders (e.g., parliamentarians in Niger). According to a civil society representative from Niger, “ministries, local government, experts, and civil society are acting in synergy.”<sup>74</sup> According to one respondent in Jamaica, “working collaboratively has been transformational,”<sup>75</sup> though coordination remains “work in progress, as not all of the individuals have the requisite knowledge and expertise,”<sup>76</sup> according to another interviewee. An advanced signal of systemic change in this arena was observed in Nepal, where, with PPCR support, the government successfully mainstreamed climate change into secondary and university curricula, which can support increased awareness of climate change among the Nepali people over the next decade. There were similar curriculum mainstreaming experiences in Tajikistan.<sup>77</sup> The Jamaican case demonstrated, through a knowledge, attitude, and behavioral practice survey, that general awareness about climate change grew substantially through personal experience with extreme climate events, but was more restricted in regard to the ability to influence climate change through personal actions. The study pointed to the multiple influences on public awareness and behavior, and the challenges of isolating any related PPCR influence. Evidence therefore remains indicative in the country programs explored.
- 62. The PPCR approach of incorporating both climate mainstreaming and investment support in an integrated way—in combination with the overall CIF programmatic approach—helped facilitate systemic change.** In the planning phase, during Strategic Program for Climate Resilience (SPCR) preparation, this approach catalyzed stakeholder engagement and set the stage for future systemic change in terms of knowledge, mindsets, and institutions. More than three-quarters of survey respondents believe that the combination of CIF support for mainstreaming with investment in resilience created an environment that engaged key decision-makers, to a great or moderate extent.

#### **BOX 12. SIGNALS OF MOMENTUM TOWARDS MAINSTREAMING IN ZAMBIA THROUGH PPCR**

In Zambia, PPCR helped mainstream climate resilience into the government’s Sixth National Development Plan (2011–15), through support to the Ministry of Finance and National Planning. Climate change adaptation, mitigation, and disaster risk management principles were mainstreamed into priority programs in crops, livestock, fisheries, natural resources, transport, energy, information and communications technology, housing, water supply and sanitation, mining, tourism, and local government and decentralization. These principles are also featured prominently in the environment and disaster risk management cross-cutting themes.

This provided a critical mandate for government ministries to allocate staff and budgetary resources to climate resilience programs. This momentum was carried forward to the Seventh National Development Plan (2016–20.) This mainstreams climate change across all relevant sectors and strategies and across all districts, and takes a programmatic approach to development planning similar to that taken by PPCR for climate change response. National guidance has also recently made clearer that all provinces and all districts must align their efforts with strategies in the Seventh National Development Plan.

Consequently, all provincial and district development plans across the country will now be required to mainstream climate change and make plans to reduce climate change risks. Translating these broad goals into actionable initiatives will require that an overarching strategy be developed, as well as detailed programs and projects. The National Policy on Climate Change (2016) is a first step in that direction, and climate finance for adaptation is increasing.

*Source:* Evaluation interviews

<sup>73</sup> CIF 2017a.

<sup>74</sup> KII 10 Civil Society

<sup>75</sup> KII 201 Government

<sup>76</sup> KII 213 Government

<sup>77</sup> CIF 2018a, 36.



According to ODI, PPCR was a “game changer” due to the committed volume of funds.<sup>78</sup> The country case studies and the programmatic approach evaluation<sup>79</sup> also showed that formal MDB collaboration and the expectation of linked and leveraged funds facilitated through the programmatic approach were instrumental for country buy-in. For example, in Tajikistan, government representatives confirmed that PPCR’s programmatic approach was crucial in raising awareness and getting buy-in. Each main development sector had at least one project and this created a high level of awareness and commitment at ministerial level. In Niger and Mozambique, the large scale of PPCR investment relative to existing adaptation initiatives was also a key incentive for institutional ownership and engagement on the broader mainstreaming agenda, particularly for non-environment sector ministries. In some instances, however, there were examples of unintended consequences of competition for resources among ministries. A number of qualitative responses to the e-survey also pointed to the weaker engagement of civil society and communities in the planning and implementation process<sup>80</sup>.

- 63. More than 80 percent of PPCR-relevant survey respondents believe that the combination of CIF support for climate mainstreaming with resiliency investments had, to a great or moderate extent, provided practical learning opportunities that informed more effective climate resilience planning, policymaking, programming, and project implementation.** In some cases, PPCR has explicitly supported the uptake of insights into national planning and programming. In Mozambique, PPCR is supporting road improvement in parallel with the development of national road standards (see Box 13). In Samoa, PPCR’s investments and participatory planning model fundamentally shaped the approach of local governments toward community-level resilience planning, with 320 (out of 500) local and community plans accounting for climate change<sup>81</sup> and PPCR providing engagement around supporting community integrated management plans, which had previously been top-down. The Enhancing the Climate Resilience of Coastal Resources and Communities Project created strong vertical linkages between the target beneficiary villages and district- and national-level planning and investment processes. The approach is being replicated across the rest of the districts with United Nations Development Program (UNDP) funding.

#### **BOX 13. INTEGRATING INVESTMENT AND MAINSTREAMING IN MOZAMBIQUE**

In Mozambique, PPCR is co-financing the Roads and Bridges Management and Maintenance Program (RBMMP), together with World Bank. With a combined investment of nearly US\$110 million, the initiative is working to rehabilitate flood-damaged roads and vital infrastructure in the southern province of Gaza, where an estimated 70 percent of transportation networks have been impacted by floods.

The RBMMP is supporting Mozambique’s efforts to build back better using climate-smart approaches that will better withstand future disasters. As part of the project, nearly 300 kilometers of roads and other vital infrastructure will be fitted with climate-resilient upgrades. These upgrades include the use of geocells, or high-density plastic webbing, which more evenly distributes road stresses while reducing cracking and water seepage.

The RBMMP has served as a learning platform for understanding and proposing improved approaches to road design that might be adopted more broadly as part of the national roads program in Mozambique. In parallel, PPCR has been financing a set of country-appropriate standards, which are expected to be adopted by the government. This model, which uses investments to demonstrate feasibility and then inform and support mainstreaming, can be a highly effective approach to bringing about fundamental changes in systems and scaling.

*Sources:* Evaluation team interviews; CIF 2018, Paving the way to a resilient future in Mozambique; PPCR ORR 2018

- 64. In other cases, these feedback loops have been more indirect, with governments taking on lessons and models developed through participation in PPCR and scaling them more broadly.** In Nepal, the government is using the PPCR watershed resilience approach as the basis for a nationally funded program, initially through small-scale replication but with a view to further scale-up. According to

<sup>78</sup> Trujillo et al. 2014, 2.

<sup>79</sup> ICF 2018.

<sup>80</sup> TCLP Evaluation e-survey.

<sup>81</sup> CIF 2018a, 36.



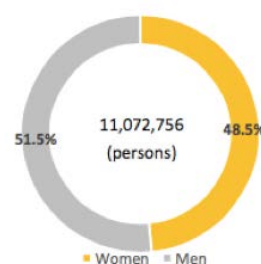
reporting and interviews, government representatives in Bangladesh identified PPCR support to developing investments in the World Bank-implemented Coastal Embankment Improvement Project as being a catalyst for informing wider approaches for coastal protection in terms of the standards and approach to be taken forward by government, and this is now being scaled through World Bank funds. Government representatives also made clear, however, that significant additional time and resources would be required to scale other PPCR pilot projects and incorporate lessons learned in national policy and planning (e.g., for climate-smart agriculture and climate-resilient housing). A key criterion identified was the need for investments to demonstrate clear success before lessons might be taken seriously in a broader planning context, and that such judgments required more time and evidence of success.

- 65. Some programs, however, have experienced challenges in ensuring that the linkages between investments and policy makers were effective, which could have made systemic change more effective.** In some cases, there was a strong perception that projects were being pursued in parallel, with little cross-fertilization. For example, in Niger, stakeholders saw limited thematic or process connection between mainstreaming activities and the investment program, which was seen primarily as sectoral in nature by both national and international stakeholders. This was also the case in Nepal. Generally speaking, interviews and survey responses also reflected mixed views on the understanding and implementation of feedback loops, with only slightly more than half of respondents agreeing strongly or moderately that these feedback loops had been effective. The qualitative responses to the e-survey were also largely critical of the effectiveness of these learning loops.
- 66. In four of the six PPCR country case studies, the effectiveness of potential learning and feedback opportunities that could enhance systemic change were to some extent impeded by a range of barriers.** At times, these included established and project-specific MDB implementation modalities, limited leadership by lead MDBs, as well as lack of coordination between MDBs during implementation. Other issues included poor alignment between stakeholders (e.g., rival institutional mechanisms), the weak role of ministries of environment and climate change, staffing issues and the use of international consultants, the effect of ministerial institutional silos in terms of project implementation, the timing and sequencing of activities within PPCR, and a lack of sufficient resources to facilitate inter- and intra-program learning and cooperation. While the PPCR investment planning process was generally strong (as also reflected in the CIF Programmatic Approach Evaluation),<sup>82</sup> these barriers tended to arise during implementation.<sup>83</sup>

## Scaling

- 67. Overall, PPCR has been slow to scale and replicate activities but there are interim signals that replication and expansion are underway.** The emphasis has been on institutional strengthening, coordination, and mainstreaming. Nevertheless, up to the end of 2017, approximately 11 million people had benefited from PPCR, over 50 percent being women. As demonstrated in Figure 6, between 2014 and 2017, this number has increased tenfold, from less than 1 million to 11 million.<sup>84</sup> PPCR has also transformed more than 137,928 hectares of land through sustainable land and water management practices.<sup>85</sup>

**FIGURE 6: PPCR BENEFICIARIES AS OF DECEMBER 31, 2017**



- 68. Country stakeholders are making efforts to scale and replicate pilots developed under PPCR across new geographies, although such efforts are often dependent on securing new sources of finance.** Such initiatives are being funded by both government budgets and donor resources, and less by the private sector.<sup>86</sup> There is indicative evidence, namely through interview data, to support this finding. Examples

<sup>82</sup> ICF 2018.

<sup>83</sup> They were also evidenced in key secondary literature, such as the top ten PPCR lessons, CIF documentation, as well as numerous interviews across government and civil society. See CIF 2015, Key lessons from the Pilot Program for Climate Resilience.

<sup>84</sup> CIF 2018a, 31.

<sup>85</sup> CIF 2018a, 42.

<sup>86</sup> Interviews, Trujillo *et al.* 2014, 3.

include Nepal, where PPCR's watersheds programming has attracted additional government funds and also informed the basis for a larger application to the Least Developed Countries Fund across multiple watersheds, and Zambia, where the government has invested its own budget funds alongside a US\$32 million GCF grant in a UNDP-led project, and is concurrently developing a new World Bank operation—both building upon PPCR's piloted community adaptation approaches. However, several countries reported that resource constraints prevented the scaling of successful pilots (e.g., Nepal, Niger), and that such efforts are largely dependent on securing additional development finance (e.g., through applications to the GCF or from domestic and international sources.)

- 69. Stakeholders are also looking to scale successful PPCR approaches regionally and internationally, with evidence of lesson sharing and replication.** EBRD is replicating elements of the successful ClimAdapt program in Tajikistan with GCF support across ten countries in Eastern Europe, Central Asia, and MENA, as part of a US\$1.4 billion financing package. In Jamaica, government representatives have identified that Jamaica has a unique opportunity to influence change at scale, by leveraging PPCR learning through its regional leadership role in Caribbean institutions, according to interviews conducted with stakeholders in Jamaica.
- 70. There is evidence of private sector scaling, particularly through financial institutions and supply chain intermediaries.** PPCR is piloting climate adaptation financing facilities in three countries (Tajikistan, Jamaica, and Saint Lucia), and was supporting more than 3,146 entities at the end of 2017.<sup>87</sup> Working through financial intermediaries, several PPCR programs are seeking to diffuse climate-resilient practices to a wider audience through financial institutions. In Tajikistan, for example, the ClimAdapt project was able to use intermediation to provide finance to smaller-scale farmers through both banks and microfinance institutions. As at July 2018, the banks had provided more than US\$9.8 million in commercial loans to approximately 3,400 small and medium-sized enterprises (SMEs) and farmers for a range of investments, such as water and energy efficiency technologies.<sup>88</sup> (For more detail on CIF's intermediation approach to supporting private sector development, see Highlight 1.) Other programs have sought to scale up through supply chain intermediaries—for instance, in Nepal, where agribusiness intermediaries are exploring the potential to scale best practices across a larger set of sugar mills. This is contingent on additional financing.

## Sustainability

- 71. Across the PPCR portfolio, there is evidence that transformational changes can be sustainable, and that stakeholders are demonstrating a practical commitment to addressing resilience over the long term.** This is reflected in at least five of the six PPCR countries evaluated in detail. These have gone on to develop new and/or expanded resilience programs, and have demonstrated willingness to commit budgetary resources, an emerging openness to new forms of development assistance (discussions around the shift from resilience grants to the possible use of loans and green bonds), and increased local ownership of climate finance coordination and mainstreaming (Zambia, Tajikistan, Jamaica, and Nepal). However, financial sustainability remains a challenge across a range of areas, including sustaining capacity-building efforts, institutional development, scaling pilot programs, and ensuring operations and maintenance for activities such as climate and weather information networks (e.g., Jamaica and Nepal). Developing countries may face borrowing constraints or other competing development priorities.

<sup>87</sup> CIF 2018a.

<sup>88</sup> ClimAdapt 2018.

## **HIGHLIGHT 1: USING FINANCIAL AND SUPPLY CHAIN INTERMEDIATION TO SUPPORT PRIVATE SECTOR DEVELOPMENT**

**The CIF has used an intermediated approach – working through other national financial institutions and partners – to deliver transformational change for climate goods and services that fall below the typical value threshold for individual MDB investments.** Examples range from the small scale (e.g., household/SME-scale renewables or energy efficiency, forest goods), through to more substantial investments in industrial energy efficiency or farm-level resilience. Such projects are typically implemented through intermediaries (financial, commercial, NGOs) to achieve sufficient reach and scale. This recognizes that the transaction costs of engaging with decentralized markets to reach large numbers of beneficiaries are prohibitively high for the MDBs, whether in terms of distributing goods, delivering services, or providing access to finance. Such projects may also seek to establish supporting value chains and undertake market-building activities to allow these distribution models to become self-sustaining over time.

**CIF has made extensive use of intermediated approaches in its portfolio across all four programs.** The CIF has regularly explored the opportunity to use intermediated finance and supply change interventions to facilitate transformation, particularly in relation to private sector market development. Examples reviewed include CTF (Mexico, Thailand, Turkey), SREP (Kenya), PPCR (Jamaica, Mozambique, Nepal, Tajikistan) and FIP (Mexico). Although varying by scale, these projects have common features, providing concessional finance alongside technical assistance to intermediaries and beneficiaries alongside market awareness/demand creation activities.

**Intermediation represents an effective way for MDBs and international financial institutions (IFIs) to engage in smaller-scale markets where transaction costs would otherwise be too high.** Typically, MDBs place minimum thresholds on their direct investments, below which the transaction costs make the economics of structuring challenging. Direct investment projects will usually not go below \$10 million unless there is a significant developmental benefit or if donors are covering some of the additional costs and risk. Intermediation allows the pass through of costs to intermediaries who have established distribution and client networks as well as the potential to deliver larger number of smaller investment projects at scale. For example, in Nepal (PPCR), the IFC value-chain intermediation project was able to work with more than 5,000 farmers by engaging with three lead firms, who together worked through 60 lead farmers to support climate-resilient agriculture in a way that would not have been possible under a direct delivery model.

**Intermediated approaches appear to work better when tailored to the challenges of specific markets and conditions.** In Jamaica (PPCR), JM Bank was acting as an intermediary for PPCR funds. These were targeted at both the agricultural and tourism sectors. However, of the 52 loans granted, only five have been for the tourism sector. This was due to a loan ceiling amount that did not match the needs of the sector. While the interest rate is attractive, one respondent indicated that the loan ceiling was too low for most tourism operators on the island given the type and scale of investments that they might envisage. In Nepal (PPCR), an in-depth and participatory market system analysis was instrumental in helping to develop tailored approaches for maize and sugarcane and adjusting the project to start working on non-knowledge barriers.

**Intermediated finance may have greater chance of becoming sustainable where partner financial institutions can demonstrate a range of characteristics around management commitment and institutional capacity.** For example, in Tajikistan (PPCR), those financial institutions that were willing to act as change agents in the market and increase market penetration of climate-resilient technologies shared several key characteristics:

- a. A Good market presence and distribution network;
- b. An interest in gaining market share in a potentially large and growing sector;
- c. Commitment from senior management to invest in building internal capacity and products; and
- d. An understanding that investment in climate was an opportunity to diversify portfolios.

**In all cases, the provision of technical assistance support alongside financial investment to address a range of barriers has proved crucial to helping intermediaries to pursue new markets.** In Mexico (FIP), the project benefited from (a) relatively intensive technical assistance and follow-up work from both FINDECA and FMCN (enabled by FIP grant funding), plus (b) the availability of government credit guarantee funds. These features of the project have been important in allowing FINDECA to take on the significant risks of working with ejidos, which are not legally allowed to provide land as collateral for a loan. The combination of these factors raises questions as to the feasibility of taking the model to scale without significant public funds to finance these supporting functions. In Nepal (PPCR), the IFC project originally focused more narrowly on knowledge barriers around climate-smart agricultural practices. As implementation went on, the project adapted to take a more comprehensive approach by promoting demonstration plots to generate interest in the trainings and show the business case, as well as by addressing non-knowledge related barriers in the value chain by introducing mechanization in sugarcane and an aggregation model in maize.

**While there has been some success using financial (e.g. banks, micro-credit organizations) and supply chain intermediation to broaden program reach to SMEs and household/community level beneficiaries, these models require a clear market opportunity and strong short-term business case to be successful.** They are also approaches that depend on standardization of process, economies of scale and lowering transaction costs. As such, intermediation may not offer the

most suitable structure for piloting innovative or differentiated approaches to small scale stakeholder resilience, or be suitable where the commercial opportunity for the intermediary is likely to be limited.

**The use of financial and supply-chain intermediation is a robust approach to influencing changes in attitude and behavior, in intermediaries as well as the wider market.** In Mexico, many stakeholders commended the way in which the FIP has shifted opinion in Mexico from considering forestry to be an area entirely dependent on subsidies, to one in which the extension of credit lines is possible. FINDECA has achieved 100 percent repayment rates on loans, thereby significantly improving perceptions around the viability of providing credit to community forest enterprises in Mexico. This suggests that, even if some degree of subsidy is required in the immediate future, there is scope for tackling the access to finance problem in the forestry sector in the medium term.

**There are some indicative examples of scaling where intermediaries have gone on to build larger market positions, suggesting a sustainable business model is possible in some markets.** In Turkey, the CTF supported Commercializing Sustainable Energy Finance program (CSEF) blended approximately \$21 million of CTF funds with \$100 million of IFC funds with a view to scaling industrial energy efficiency finance through leasing in Turkey. Following a \$25 million loan in 2010, one of these three companies supported—YapiKredi leasing—was highly successful in scaling its energy efficiency lending business, with the expectation that the portfolio would reach \$750 million by 2015. In Mexico, four full-time forestry staff funded under the FIP project in FINDECA are now being retained beyond the life of the FIP investment, having built a forestry portfolio of almost \$1 million in addition to the \$1.8 million disbursed under FIP. In Nepal (PPCR), value-chain intermediation (working through agribusinesses and lead farmers) appears sustainable with one lead firm retaining its extension workers.

**Some financial intermediaries have also transitioned from concessional to commercial basis where the market opportunity has been proven attractive.** In Turkey, IFC negotiated a follow-on loan with YapiKredi in 2013 at 60 percent lower concessionality to that supported by CTF in 2010, and in 2014 went on to agree a fully commercial loan for a further \$96 million. This was IFC's largest global loan to the leasing sector globally at the time. In Mexico, FINDECA, while drawing the bulk of its capital from IFIs and national development banks, has begun to deploy commercial funds from associated banks for on-lending to community forest enterprises.

**CIF appears to have had more success in creating intermediated financing models in markets where there is a culture of private sector intermediation and higher levels of market awareness and affordability.** In Tajikistan, the ClimAdapt project was able to use intermediation to provide finance to smaller-scale farmers by extending the reach beyond banks to microfinance institutions, which were relatively robust and well established within the agricultural community. In this case, both the financial system and the understanding of resilience were relatively mature. By contrast, in Mozambique PPCR, IFC explored the development intermediated finance structures through banks and microfinance institutions. However, this process proved difficult due to a weak culture of repayment (also experienced in Zambia), high levels of poverty and a non-supportive legal basis to recover debts (creating a cap of 30% of repayment with no threat of incarceration).

**Intermediation only works where there is a potential market that can offer a profitable opportunity to justify investment by the intermediary.** In Mexico (FIP), while scaling is occurring, there remain a number of concerns relating to the relative size of the market. Barriers that potentially constrain the number of borrowers include the limited coverage of forest certification in Mexico with 90 percent of FINDECA loans going to certified enterprises. Nepal (PPCR), the supply-chain intermediation model in the IFC project was effective and sustainable where both farmers and agribusinesses recognized the business case (economic incentive) for implementing the climate-resilient practices.

**While there have been several examples of banks continuing and scaling their efforts after CIF funds have been used, there is as yet limited evidence of replication by competitor banks or others.** While there are good, indicative examples of scaling and sustainability (e.g. Mexico, Tajikistan, Turkey), there is less evidence to date to suggest crowding in and replication by other financial institutions in these markets, suggesting that more time may be required to the attractiveness of the intermediated lending model in climate finance, or that other banks require similar levels of technical assistance to enter these markets.

**The use of intermediated models across a broad range of sectors (energy, resilience, forestry) has helped broaden understanding among IFIs about what is possible.** Intermediated financing models have typically been used to support the development of energy efficiency and sustainable energy financing, but are being expanded to resilience and forestry. EBRD has taken the learning from the successful Tajikistan PPCR ClimAdapt model and is replicating it in neighboring countries (e.g., Kyrgyzstan) with plans to provide loans to 30 banks in 2018. The ClimAdapt model has also become the basis for EBRD's successful application for funds from the GCF. The 'Evaluation and Learning Partnership on Financing Forest-Related Enterprises' (ELPFRE) identified a range of insights into the role of intermediation, with the examples of successful use of supply chain intermediaries, aggregators, and financial institutions supporting community level and private sector development.

## 2.3 FIP

### Key findings

- FIP programs have a high degree of **relevance**, built around strong stakeholder processes that bring together competing interests in what is a complex, multi-sector challenge.
- To date, the most successful FIP outcomes appear to have been the laying of foundational steps, including interim signals of **system change**, for future transformation to reduce deforestation and degradation.
- Key successes include demonstrating the viability of a number of new business models, enhancing a shared understanding, and aligning stakeholder interests for future action.
- However, entrenched and differing interests in forestry, as well as the long timelines for the realization of results, make it difficult to determine the overall likelihood of **sustainable** transformational change and which change models are likely to be most successful.
- Overall, the complexity of changing the way forest systems are managed is likely to require long-term funding and support for transformational change over multiple project cycles.

### Contributions to transformational change by FIP

**72.** The complex and deep-rooted systemic failures in the forest sector make them particularly challenging to reform. Despite deforestation and degradation now accounting for up to 20 percent of annual global GHG emissions, forests and forest governance have been insufficient for decades.<sup>89</sup> As a response, the REDD+ mechanism was developed by Parties to the UNFCCC. REDD+ is a framework that covers a range of coordinated activities aimed at reducing emissions from deforestation and forest degradation in developing countries, *and* the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks. However, the challenges of developing functioning carbon markets and the ongoing reliance on constrained donor funds have limited the potential for achieving reform at scale. However, this is beginning to change, with the Democratic Republic of Congo (DRC), for example, having just received its first Emissions Reduction Purchase Agreement from the Forest Carbon Partnership Facility. Other major forest climate finance actors alongside FIP include the Global Environment Facility, GCF, and Biocarbon Fund.

**73.** FIP has sought to address these challenges through coordinated multi-level efforts that involve supporting the development of suitable policy, social, and governance frameworks, using concessional finance to create economic and financial incentives that counteract prevailing market dynamics, and changing mindsets among key constituencies. FIP recognized that valuing carbon was not in itself sufficient to drive transformational change (see Box 14 for FIP summary).

#### BOX 14. FIP

Country/regional programs:	14
Total donor contributions/pledges:	US\$736 million
Total MDB approved funding:	US\$434 million
Total disbursed funding:	US\$183 million

Note: FIP started out working in eight countries: Brazil, Burkina Faso, Democratic Republic of Congo, Ghana, Indonesia, Lao People's Democratic Republic, Mexico, and Peru. In 2015 FIP added six new countries (Congo Republic, Côte d'Ivoire, Ecuador, Guatemala, Mozambique, and Nepal). Nine additional countries have approved Investment Plans with no funding envelope (Bangladesh, Cambodia, Cameroon, Guyana, Honduras, Rwanda, Tunisia, Uganda, and Zambia), therefore these are not included in the set of 14 countries that receive FIP funding for projects. Program totals include country/regional programs. Resource availability figures as at September 20, 2018, in US\$. Source: draft CIF & SREP ORRs 2018

### Relevance

**74.** FIP has been able to bring together integrated solutions to address a broad range of barriers, which offers more potential to support transformational change. FIP investment plans have typically undertaken rigorous analysis of the drivers of deforestation and degradation, and have developed

<sup>89</sup> Pachauri R., and Meyer L., 2015.



multi-sector intervention packages. They are designed along holistic, landscape-level lines, targeting fundamental shifts in socio-economic incentives and norms. For example, in Mozambique, FIP supports the development of a comprehensive program, including analytical work on the drivers of deforestation, improved law enforcement and governance (using enhanced technology), better monitoring of deforestation rates, the establishment of certification schemes, and piloting community models for both timber and non-timber products.

- 75. FIP programs have also sought to reframe forestry as a more mainstream component of the rural socio-economic development agenda.** This is seen by the majority of FIP stakeholders surveyed (58 percent) as being moderately or very effective—Burkina Faso and Mexico are good examples, and the latter has been praised by various stakeholders for encapsulating the needs of agriculture, livestock, energy, and other economic activities in a landscape approach, while also increasing returns to forestry through sustainable forest management. Moreover, FIP has looked beyond the REDD+ lens of rewarding reduced emissions to also emphasize the value of sustainable forest management in terms of water and soil protection and commercial forestry as an income-generating activity independent of subsidy.
- 76. FIP has supported the change process by bringing together a wide range of stakeholders to begin to change mindsets**—an important incremental step toward systemic change. Recognizing the multi-faceted challenge associated with forestry, FIP programs have sought to bring together a wide array of stakeholders both within and outside of the forestry sector. Across all FIP countries evaluated in depth, programming has involved multiple national government departments, different levels of government, and several MDBs, as well as representatives from the private sector, civil society, and indigenous peoples and local communities (IPLCs). The large majority of FIP survey respondents (78 percent) feel that FIP had been effective in bringing together the necessary stakeholders and interests to address unsustainable land use and forestry practices. This evidence supports the importance of building consensus to effect change, particularly where forestry departments lack power in relation to other sectors (e.g., agriculture, energy, industry, and mining) that serve as the primary drivers of deforestation. The Dedicated Grant Mechanism (DGM), in particular, has been commendable in its efforts to engage with and empower a wide range of IPLC representatives (Box 15).

#### BOX 15. THE DGM

Established in 2009, the DGM is intended to enhance the ability of IPLCs to engage with the REDD+ process within the overall FIP architecture. The DGM is managed by the World Bank, and provides a combination of grant funding and capacity building to IPLC groups. As at August 2018, the DGM included 13 countries, eight of which had approved funding.

An independent learning review of the DGM found that most stakeholders considered the time taken to set up the DGM to be important for 1) establishing working relationships with IPLCs and 2) ensuring that the DGM design is relevant to different country contexts. Procedural delays at times slowed the roll-out process in specific countries; but sufficient buy-in from IPLCs and World Bank stakeholders allowed the mechanism to continue in all but one country.

The review found significant progress had been made in building trust and human capital in communities that are often excluded from financial, policy, and planning processes. IPLC capacity has been built in grant governance, project planning, and, to a lesser extent, financial management—areas few groups had substantial prior experience of. Overall, the DGM is demonstrating the ability of IPLC groups to engage directly with IFIs, and IPLCs reported a strong feeling of ownership of the DGM in all countries reviewed.

More time is required to fully assess the contribution the DGM local-level sub-projects make to reforestation and livelihoods. The learning review identified the need to ensure that inclusion continues to expand beyond the actors or regions that are involved in its initial set-up. CIF is now discussing options to scale up, replicate, and sustain the DGM, and to ensure that these are matched by the efforts of IPLCs at the global level and in each country.

Source: Itad 2018. See also [www.dgmglobal.org](http://www.dgmglobal.org)

## Systemic change

- 77. Engagement and capacity building of governments, IPLCs, service providers, and forest enterprises have helped to lay the foundations for change.** By the end of 2017 FIP has helped to mainstream landscape approaches, strengthen understanding of socio-economic drivers of deforestation, build monitoring, reporting, and verification capacity, and support policy design in forest departments in 23 government institutions.<sup>90</sup> Support has also been given to forest enterprises and related service providers. While it is hoped that capacity-building efforts will ensure lasting change, the large number of stakeholders involved and their various contested interests mean that the sustainability of outcomes is still unknown.
- 78. FIP has helped to strengthen high-level government commitments to forest use.** FIP has been able to change how forests are viewed by key stakeholders, including ministries of finance, shifting the profile of the sector from one viewed primarily as a net cost to one that can potentially be self-sustaining and provide economic value. In Burkina Faso, the impact of FIP on government commitment to sustainable forestry has been strong, with FIP being a key driver in supporting the national approach to the creation of a REDD+ strategy. FIP has also strengthened existing institutions in other larger middle-income countries (e.g., Mexico and Brazil) where there were already established forestry programs and long histories of government and multi-donor support. In Mexico, the forestry authority, CONAFOR, has successfully coordinated a wide-reaching program of forestry interventions, including structuring the largest loan for forestry in the World Bank's history, as part of a package of investments that include FIP. In Brazil, the Ministry of Finance has played a vital cross-departmental coordinating role, helping to settle disputes among line ministries—a positive sign of high-level commitment.
- 79. Other signals of systemic change in FIP exist around forest policy reforms and improved cross-departmental working.** Some early signs of change have been observed in relation to governance and forestry-related policies, following the work of FIP. In Mexico, inter-departmental agreements for improved information sharing and subsidy targeting have been developed between the forestry commission (CONAFOR) and the Ministry of Agriculture. In Lao PDR, a new law has been introduced to tackle illegal logging, with joint support from the World Bank and IFC—although it remains to be seen whether these policy developments will lead to the desired outcomes and lasting change in the sector.
- 80. In all three FIP programs evaluated in greater detail, FIP has been catalytic, supporting the development of a more integrated strategy and financing approach for forests, as well as broader climate policy.** For example, Burkina Faso did not have a REDD+ strategy in place prior to FIP, and REDD+ strategy development has run in parallel with, and been supported by, FIP since the outset of the program. FIP is also credited in Burkina Faso with contributing to a critical shift in the country's approach to forestry from a top-down, single-sector approach to one that considers communities, multi-sector drivers, and value chains. In Mozambique, FIP has provided the cornerstone investment for a broader US\$47 million multi-donor trust fund to address the drivers of deforestation. FIP is also supporting Mozambique's National Designated Authority in the development of the NDC as part of a joined-up process facilitated by Mozambique PPCR, bringing together a range of stakeholders to strengthen long-term climate policy and planning (both adaptation and mitigation). Similarly, in Mexico the strongest signals of systemic change relate to: (a) the shift in thinking toward the increased feasibility of extending credit to forest enterprises (as opposed to a wholly subsidy-driven approach), and (b) strengthened institutional coordination between different government departments and levels.
- 81. However, only indicative evidence was found of advanced signals of systemic change.** Building consensus and changing behaviors and attitudes can be a slow and often bureaucratic process, which can stretch timelines for implementation—and for transformational change. There are also often constituencies with vested interests in maintaining the status quo. The stakeholder engagement processes for designing and delivering FIP interventions can be protracted and labor-intensive (see

<sup>90</sup> CIF 2018b, 36.



Box 16). Tradeoffs appear to exist between the speed of program implementation and the likelihood of stakeholder buy-in and future success.

#### BOX 16. THE FIP PROCESS IN BRAZIL

The 18-month development of Brazil's FIP investment plan culminated in the 2012 approval of the largest single FIP country allocation to date, some US\$95 million across six projects, plus additional DGM and private sector set-aside elements. However, six years later, just 11 percent of allocated funds have been disbursed, and 2018 will mark the first year that all six projects and the DGM are simultaneously operational. Reasons cited for this delay include complex relationships between four participating ministries and the long-term challenge of changing attitudes and perceptions around the role of forests within the economic and policy landscape.

As a result, while the program featured a rigorous planning process, few interim or advanced signals of transformational change are found. In the words of Brazil's World Bank FIP focal point, Bernadete Lange: *"The most important legacy of the Brazil FIP program has been the way it placed everyone working together towards a common set of goals."*

Source: World Bank, Climate Investment Funds (CIF) 2018.

82. In addition, changing behaviors over the longer term is an incremental process. For example, while the Brazil FIP interventions in the Brazilian Cerrado have yet to produce many of their desired outcomes, much greater efforts in the neighboring Amazon took decades to show signs of change.<sup>91</sup> The time required to achieve such changes is often longer than that available within the timeframe of an individual project, and transformation will likely be the product of sustained support over the long term.

#### Scale

83. **Some interim signals of scale were found in FIP.** By the end of 2017, according to the FIP ORR, interventions had covered at least 9,437,831 hectares of forest, generating benefits to 551,006 people.<sup>92</sup> In Mexico—the most advanced FIP country in terms of disbursement, building on over a decade of prior work by the World Bank and others, according to interview data. This corresponds to a 5 percent reduction in CO<sub>2</sub> equivalent emissions due to deforestation and forest degradation in the pilot states. A total of 265,632 people have benefited, of which 56,424 were women, and 93,577 were indigenous, with a reported US\$7 million dollar increase in income to landholders in 2016.<sup>93</sup> However, it is important to recognize that the scale of FIP funding remains relatively limited in relation to commercial interests engaged in unsustainable forest practices.
84. **The FIP approach of demonstrating new incentive models could form the basis for replication and scaling, particularly where pilot projects are private sector-led.** For example, in Mozambique, support is being given for greater enforcement of action against illegal logging at the local level through two pilots. This has supported a more focused dialog among stakeholders and may act as the basis for national-level scale-up. In Burkina Faso, FIP is seen by the Ministry of Environment as a laboratory to test transformative approaches and behavioral models. In Mexico, credit lines have been successfully extended to community forest enterprises for the first time, working through a local private finance institution. In Ghana, AfDB has undertaken its first-ever private sector project in the forestry sector and demonstrated a new financing model for catalyzing private sector involvement in commercial teak plantations in degraded forest reserves. Building on the potential of this model, AfDB is exploring the possibility of other financial intermediary vehicles to replicate it.

<sup>91</sup> World Bank, Climate Investment Funds (CIF) 2018.

<sup>92</sup> CIF 2018b, 21. The hectares covered data is based on reporting from four FIP countries (Brazil, Burkina Faso, DRC, and Lao PDR). It does not include Mexico or Brazil, which will be reporting only at mid-term. Based on interviews and data from CONAFOR, increased coverage in Mexico alone may lead to a doubling of the cumulative coverage, once data is reported to the CIF.

<sup>93</sup> This interview data could not be fully verified.

## Sustainability

- 85. The absence of large-scale financing to counteract existing economic incentives (and the challenges in removing them) remains a constraint to supporting scaling and sustainable change.** The market and governance failures that underpin the drivers of deforestation and forest degradation are deeply entrenched. There are few ready opportunities that exist to promote technologies or innovative incentive structures that might correct for this in the short term. Large-scale carbon finance delivered through REDD+ was (and arguably remains) one potential solution, as does removing perverse incentives that promote deforestation and forest degradation. The absence of functioning carbon markets has left the sector dependent on limited government and donor subsidies.
- 86.** Change therefore remains incremental, and it is still to be seen to what extent the FIP approach will be effective. This also means that transformational change is more likely to occur in environments where there are relatively strong governance and enforcement institutions (e.g., Mexico), where rules-based systems are more likely to be observed. Where these strong institutions are not in place, transformational change is likely to involve incremental strengthening over time.

## 2.4 Key findings on the four CIF programs' contributions to transformation

- 87. Different thematic and programmatic areas generate different profiles of transformational change,** as shown in Figure 7. This is true both in relation to the *type of signal* (as classified by dimension: systemic change, scaling, sustainability) as well as the *maturity of signal* on the change continuum (e.g., early, interim, advanced).

FIGURE 7: SIGNALS OF TRANSFORMATIONAL CHANGE BY DIMENSION AND PROGRAM<sup>94</sup>

Signals of transformational change by CIF program		CTF	SREP	PPCR	FIP
Relevance					
Systemic change					
Scaling					
Sustainability					
<b>Key</b>					
	<b>Advanced signals:</b> Strong evidence of signals of transformation related to the dimension				
	<b>Interim signals:</b> Evidence of transformational change underway				
	<b>Early signals:</b> Emerging evidence of transformational change				
	<b>No evidence</b>				

### Types of signal by program

- 88. There were strong signals of relevance across the CIF portfolio and early work in CIF in particular was, in many senses, groundbreaking in its target countries.** In the 15 programs that were evaluated in greater depth through primary data gathering,<sup>95</sup> all appeared to have been developed in ways that are not only thematically relevant (e.g., low-carbon, adaptation, sustainable forests) but also strategically relevant (e.g., aligned with core political priorities and implemented in such a way as to deliver maximum impact). This was a finding supported by a wider portfolio review of investment plans. Programs shared a range of features, including consideration of transformational impact at design phase, the use of extensive stakeholder dialog (including with civil society and marginalized groups), framing projects as part of national development planning, incorporation of political economy considerations, alignment with influential champions, flexibility in implementation, and alignment of programming with relevant national or sub-national initiatives. It should be noted that early work in CIF was in many senses groundbreaking in its target countries, and project design decisions were made against a high level of uncertainty (e.g., around the future trajectory of technology costs and supply chains).

<sup>94</sup> This graphic reflects the balance of evidence collected through this evaluation across the countries covered; it is not an assessment of the overall portfolio.

<sup>95</sup> Note that the evaluation did not undertake a full review of the portfolio as the objective was focused around learning rather than benchmarking. See Annex 2 on methods for more information.

- 89. In terms of transformational outcomes, all the programs evaluated in greater detail demonstrated signals of change across the dimensions, but with scaling and sustainability more likely to be present in CTF, and SREP, PPCR, and FIP more likely to provide evidence of systemic change.** This in part reflects the different change pathways within program design, but also the types of country environments and markets in which they are operating. For example, CTF tends to operate in higher-capacity, middle-income markets with relatively strong regulatory and policy frameworks. Higher levels of wealth and better access to finance can create more sustainable market demand for technologies. Global trends in renewable technology costs also appear to have supported an acceleration of scale and created robust underpinnings.
- 90. In contrast, PPCR and FIP programs tend to operate in less developed country contexts and in market structures that are not yet fully commercial, or which have strong social development and poverty considerations.** They are also more multi-sectoral in nature and require much greater attention to the reform of underlying systems before they can shift to scaling. Finally, it may be that scaling in low-carbon energy markets is potentially easier to identify and measure than in other areas. Data concerning sales, capacity, connections, or private investment can be easier to capture than data on the extent of adoption of climate-friendly land-management and resilience practices. Reporting on systems change (particularly around institutional capacity, awareness, and skills) is also more challenging (although this is beginning to change, with new reporting formats adopted by CIF).
- 91. In terms of sustainability, a range of signals were identified, although these tended to be fewer than found across other dimensions. Sustainability is the most difficult dimension to achieve,** and it is challenging to define and then identify and measure related signals. For example, in PPCR, many of these signals of sustainability were associated with governments taking on responsibility for new programming, funding, and monitoring, using approaches and structures developed during PPCR project implementation. In CTF (but also across other programs, including FIP and PPCR), there were encouraging signs that market-based approaches had been successful in facilitating the commercial provision of goods and services in such a way that these markets were likely to be sustainable without further financial or technical support.

### Maturity of signals by program

- 92. In terms of maturity of signals, CTF demonstrated more advanced signals of change than other CIF programs (e.g., evidence of scaled and sustainable climate outcomes).** Interim signals are those which indicate that transformational change is underway, while advanced signals indicate that climate outcomes are already being delivered at scale and in a sustainable manner. The differences among the signals identified for different programs to some extent reflect their distinct change pathways, the stage of disbursement, as well as the fact that it is potentially easier to capture advanced signals of change in the area of low-carbon technology deployment compared to resilience or forests:

For *CTF*, there was strong evidence of advanced signals across all dimensions. Key signals were identified around a shift to non-concessional finance, scaling, and replication by private investors, large-scale capacity increases, reduction of deployment costs, and, to a lesser extent, evidence of policy response.

For *SREP*, signals of transformational change were more interim in nature, but with some exceptions. This reflects an approach that is more focused on systemic change, and that is applied in less developed countries and markets, and with significantly smaller scale of resources through which to drive stakeholder interest and create large demonstration effects in the market.

For *PPCR*, while most of the evidence pointed to interim signals of transformation (particularly around systems change), there was some indicative evidence of advanced signals across the dimensions (particularly around financing models), demonstrating that resilience outcomes were being scaled and sustainable. The weighting toward interim signals is perhaps indicative of the long lead times required for capacity building, developing consensus around planning and sectoral allocation, and the weaker development profile of PPCR countries.

Within *FIP*, while there is reasonable evidence of interim signals (particularly around systemic change), there are fewer advanced signals, with less evidence of scaling or sustainability than witnessed in other programs. This may reflect the fact that with only a quarter of allocated funds disbursed across the pilot country portfolio, many FIP programs are still in their early stages and have yet to display signs of transformational change being meaningfully underway. It also reflects the fact that the types of transformational change being targeted in the sector will likely take many years, if not decades, to come about at any significant scale, due to the complex socio-economic and environmental systems associated with forestry.

### Anchoring change through co-benefits

**93. The evaluation identified a range of signals of transformation relating to the co-benefits of mitigation, resilience, clean energy access, or sustainable forestry benefits.** Such signals can help anchor climate action in wider social and economic development narratives. There is strong evidence that the climate benefits of CIF programs are often perceived as secondary to the other real and perceived co-benefits associated with low-carbon, climate-resilient development. This is particularly true in the energy access, resilience, and forestry sectors. Examples of co-benefits identified in discussion with national stakeholders include the following:

*Poverty reduction:* In Zambia, the PPCR approach is closely linked to the government's decentralization and social protection agenda. In Ethiopia and Kenya (SREP), programs are focused on expanding energy access to support livelihoods in underserved communities.

*Economic productivity:* In Nepal (PPCR), the IFC project was struggling until it refocused the narrative and business case onto economic co-benefits (increased agricultural productivity, cost savings on sourcing, higher quality crop inputs for production).

*Industrial strategy development and employment:* In Morocco (CTF), the scale of resources supporting CSP and wind development has proved sufficient to underpin the development of a national industrial strategy supporting green supply chain industries (see Box 17).

#### BOX 17. EXAMPLES OF CO-BENEFITS IN CIF INVESTMENTS IN MOROCCO

CTF in Morocco has supported large-scale investment in CSP, wind, and solar PV capacity, alongside a range of other IFIs and development partners. These investments bring a range of co-benefits that are regarded by national stakeholders as being equally important to, if not more important than, Morocco's commitment to renewable energy as a means of bringing about decarbonization. Co-benefits include the following *reserves*. Large-scale investments in renewable energy are helping Morocco transition towards energy security, with import dependency falling from 98 percent to 93 percent between 2008 and 2016.

*Subsidy reduction.* Morocco pays large subsidies to offset the costs of fossil fuel imports and to protect consumers. Renewable energy costs are now lower than wholesale generation prices, with renewable energy substitution supporting a reduction in budget subsidies for imports by 50 percent since 2012.

*Industrial development:* Morocco is building domestic supply chains around renewable energy development. CSP investments report 35 percent local content, with the latest wind projects reaching 75 percent. This is supported by the scale-up of indigenous manufacturing.

*Employment:* Investments in renewable energy can create jobs, particularly in the construction phase and along the supply chain. For example, the Noor CSP plants have created thousands of jobs over the construction period.

*Foreign direct investment.* The scale-up of renewables and the reputation of Morocco as a leader in renewable energy development is leading to foreign investment in the sector, including the recent opening of a wind turbine manufacturing facility in Tangiers by Siemens.

*Supporting influence and export strategy.* The key renewable energy institution, MASEN, is expanding its influence in regional markets and has already established links across a range of countries—including Senegal, Mali, Côte d'Ivoire, Gabon, Guinea, and Mauritania—to develop assets.

## 2.5 Barriers to transformation

### 94. The evaluation identified several common types of barriers that CIF programs sought to address.

Through the Phase 1 and 2 Portfolio Analysis, the evaluation team reviewed planning documents associated with 43 CIF country and regional programs and found variations (summarized in Figure 8 below) in the emphasis and prevalence of barriers that were identified and targeted by CIF-supported programs.<sup>96</sup> Identified barriers typically relate to the arenas of intervention, including finance, institutional capacity and governance, policy, and knowledge and information.

**FIGURE 8: PREVALENCE OF BARRIERS IDENTIFIED IN CIF PROGRAMS AND PROJECTS**

Barriers identified in program and project plans	CTF	SREP	FIP	PPCR
<b>Financial barriers</b>				
High capital or project costs				
High investment risk				
High technology risk				
Fossil fuel/energy subsidies that distort market signals				
<b>Institutional barriers</b>				
Insufficient institutional capacity to support implementation				
Insufficient governance and coordination capacity				
<b>Policy barriers</b>				
Inadequate policy, regulatory, or legal framework				
<b>Knowledge and information barriers</b>				
Limited technical knowledge or expertise				
Data and information gaps				
Lack of awareness among targeted consumers or groups				
Lack of demonstrated successful projects or models				

Key	
	<b>Major and pervasive barrier:</b> More than 75 percent of reviewed country programs identify this as a major barrier in program and project planning documents
	<b>Moderate and/or common barrier:</b> 50–75 percent of reviewed country programs identify this as a major or moderate barrier in program and project planning documents
	<b>Lesser and/or occasional barrier:</b> 20–50 percent of reviewed country programs identify this as a major or moderate barrier in program and project planning documents
	<b>Minor and/or limited barrier:</b> Less than 20 percent of reviewed country programs identify this as a major or moderate barrier in program and project planning documents

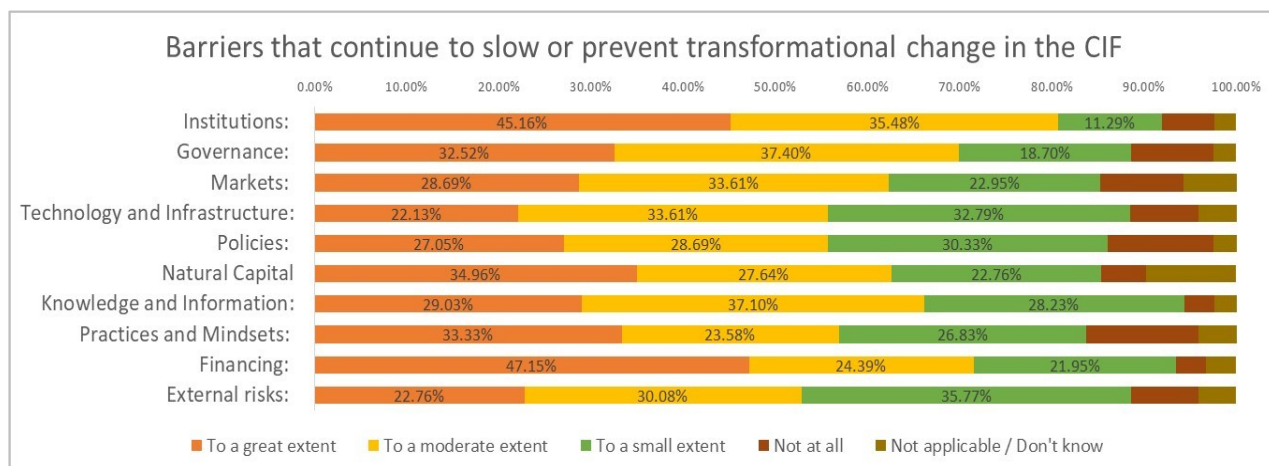
### 95. The evaluation team found evidence from CIF stakeholders that while many barriers had been addressed through programming, others slowed or prevented progress toward transformational change.

More than 80 percent of respondent to the survey indicated that they thought CIF had addressed the main barriers to transformational change to a great or moderate extent (see Figure 9). Among the most challenging ongoing barriers to transformation were a lack of access to finance (identified in the country case studies as a particular challenge for PPCR countries looking to scale pilots), as well as ongoing institutional and other capacity constraints (reflected broadly across SREP, PPCR, and FIP country case studies). These capacity constraints affected not only a broad range of national and sub-national institutions, but also reflected weaknesses in inter-agency relationships, and poorly developed coordination/communication mechanisms. Capacity constraints may require resources to be channeled toward building the foundations for transformational change, with the result that outcomes arise over the longer term. In the survey, practices and mindsets, technology costs and availability, and knowledge and information were seen as less significant barriers, suggesting that progress is being made in certain arenas.

<sup>96</sup> See Annex 2, section 7.1 for discussion on the Phase 1 and 2 Portfolio Analysis activities. Ross Strategic 2018.

96. In addition, the country case studies also showed, in some cases, that interventions may be insufficient to overcome identified barriers, or that making systemic changes in these arenas may take more time or investment. Program delivery risks can also cause delays or other challenges that weaken the transformational impact of projects.

FIGURE 9: STAKEHOLDER VIEWS ON BARRIERS PREVENTING OR SLOWING TRANSFORMATIONAL CHANGE



97. The progress of transformation can also be impacted by a number of exogenous risks (social, political, natural disasters). Several programs have been impacted by wider political, social, and environmental events. Political and social examples include the disruption of the MENA CSP program by the political events of the Arab Spring, the impact of the political decentralization process on Nepal PPCR and SREP implementation, and political changes in Armenia resulting in changes in key political champions of SREP implementation. The impacts of natural disasters that have impacted on CIF operations and slowed transformational effects include Hurricane Odile (disrupting the Mexico CTF Aura Solar I plant), the 2017 Hurricane Maria (delaying the Dominica DPSP geothermal project), the 2017 Mexico earthquake (requiring restructuring of the CTF urban transportation project), and the 2015 Nepal earthquake (redirecting government resources and attention toward reconstruction and recovery).



### 3 Role of the CIF Business Model and Approach in Supporting Transformational Change

**98.** This section reviews evidence of the role played by CIF processes and structures in supporting transformational change. It begins by exploring the linkages between key elements of CIF's business model and transformational change. It then looks in more detail at two aspects of transformational change associated with the CIF model: 1) it reviews the extent to which CIF has facilitated change in MDBs themselves by strengthening their approach to climate action, and 2) it reviews CIF's experience in supporting women and girls as agents of transformational change and improving outcomes both for women and girls and for climate action.

#### Key findings

- CIF's business model—including its programmatic approach and delivery of financing through MDBs—is unique among climate funds and has supported transformational change.
- CIF supported—through its timing, scale, and concessionality—the scaling up and mainstreaming of climate finance initiatives within its partner MDBs.
- CIF's approach of piloting innovative instruments and concepts helped MDBs develop and test new products and learn lessons that were later replicated with their own resources, thus amplifying CIF's transformational impact.
- CIF has improved its mainstreaming of gender considerations and is advancing women's voice, skills, and livelihoods in ways that are starting to bring about systemic change.
- Overall, evidence is not yet available of outcomes that could demonstrate how gender-responsive programming contributes to or enhances transformational change at scale—due in part to the timing of the CIF Gender Program, resourcing, and the enormity of the challenge.

#### 3.1 The CIF business model

**99. Key features of the CIF business model include: the use of a programmatic approach, delivering financing through MDBs (see also the next sub-section), supporting investments at scale, and the use of both grant and non-grant resources.** The programmatic approach is one of the core design elements of CIF and is seen as integral to CIF's ambition to achieve transformational change.<sup>97</sup> CIF's programmatic approach focuses on the development and implementation of country investment plans that are associated with a predictable and flexible resource envelope. These plans set out strategically linked investments built around a transformative vision, are supported by MDB collaboration, and are informed by multi-stakeholder consultation. "The CIF has been unique in providing an opportunity to engage client countries and stakeholders in a long-term discussion about sector-wide transformation to address climate change. This raises the level of dialogue to a different level all together. It is truly helpful to have discussions with a longer, ten year plus horizon. We don't get this through regular project discussions."<sup>98</sup>

**100. CIF's programmatic approach - through the investment planning process—made a substantial contribution to ensuring that programs were designed to support transformational change (the relevance dimension).** This finding is supported by strong evidence from the portfolio analysis, survey, country case studies, and programmatic approach evaluation showing that the programmatic planning process generally yielded investment plans/SPCRs that were linked to national strategies and priorities, and that addressed transformational change concepts, including through taking a wider system perspective to investment planning. More than three-quarters of survey respondents believe

<sup>97</sup> CIF's programmatic approach has recently been the subject of a separate, independent evaluation commissioned by the CIF E&L Initiative. This section draws on the findings and evidence from that evaluation, as well as additional evidence gathered and analysis conducted for this evaluation of transformational change in CIF.

<sup>98</sup> KII 236 MDB



that the CIF approach of developing investment plans has been an effective process for supporting transformational change to a moderate or great extent.

- 101.** For example, Morocco's CTF program was designed and implemented to support transformation, linked to a national program to help meet the government's target for renewable energy. In Mexico, the FIP investment plan was carefully tuned to Mexico's needs, was well aligned to national priorities, and piloted innovative models. In Kenya and Armenia, the investment planning process helped select SREP projects that targeted strategic barriers to developing new renewable energy sources and aligned with national goals for their energy sectors. In Zambia, the community-based adaptation interventions that emerged from the planning process were well aligned with the need for greater connection between national policies on climate change and the local institutional situation, working through local government and NGOs.
- 102. The scale, concessionality, and certainty of CIF resources helped to effectively engage MDBs, government, and private sector actors in the planning process, which also influenced the types of projects CIF was able to support.** In interviews and secondary literature, the scale and concessionality of CIF financing for country programs was cited as an important driver for engaging high-level actors in strategic dialog (see also Section 2.1 for more detail).<sup>99</sup> Across all CIF programs, MDB interviewees pointed to this enhanced dialog as positively influencing the types of projects that CIF was able to move forward, especially in CIF's early days (e.g., through convincing MDBs and countries to pursue new and riskier low-carbon and climate resilience projects). Country case studies also provided evidence for this finding. For example, in Turkey, the joint convening power of the World Bank, IFC, and EBRD helped convince the government and banks to move forward with sustainable energy finance for SMEs. The recent evaluation of CIF's programmatic approach also found that later round SCF pilot countries and MDBs were, in some cases, less interested in preparing investment plans without the certainty of available resources.<sup>100</sup>
- 103. The flexibility and predictability of CIF funding was conducive to the development of innovative or first-of-a-kind projects, and to addressing multiple barriers to change. This finding is supported by evidence from** the portfolio analysis, programmatic approach evaluation, interviews with MDBs, and country case studies, including Morocco, Mexico, Turkey, and Chile. In addition, more than 75 percent of survey respondents believe that CIF's approach of providing a predictable and flexible resource envelope helped support transformational change to a moderate or great extent. The long tenor of CTF resources also allowed for flexible structuring and blending, making the costs acceptable for governments. In Turkey, the risk-sharing mechanism for the Turkey geothermal project will be the first of its kind in the World Bank's portfolio in Turkey.<sup>101</sup> In Ghana, the flexibility of FIP finance (tenor, grace period) secured an unprecedented clearance from the AfDB credit committee to undertake the first AfDB private sector project in the forestry sector. The access to both grant and non-grant instruments—and the ability to design packages of support using both concessional finance and technical assistance—was also important to address a range of barriers to transformational change, such as in Mexico (FIP) and Chile (CTF).
- 104. The flexibility of CIF resources further helped support the potential for transformation in changing country and market conditions.** In CIF, if a project is no longer viable, associated resources are not forfeited but instead can be reassigned to another project in a country's investment plan. Particularly in energy markets, the ability to re-program resources to follow evolving needs has allowed delivery partners and countries to keep pushing toward the frontier, as shown by country case studies and interviews with MDBs. Thailand's original CTF Investment Plan was revised after two years to reallocate resources from public to private sector projects, to reflect newly available public finance at low rates that reduced the need for concessional finance. This flexibility helped CTF leverage favorable policy conditions in Thailand to develop markets for solar PV and wind. In Honduras (SREP), the

<sup>99</sup> Vivid Economics nd and; ICF 2018.

<sup>100</sup> ICF 2018.

<sup>101</sup> See Turkey Geothermal Development Project. <http://documents.worldbank.org/curated/en/276131478224869921/pdf/P151739-TurkeyPADfinal-10132016.pdf>

investment plan was revised given changing country conditions and barriers, to take advantage of emerging opportunities. In Zambia (PPCR), reallocation of resources from IFC to the World Bank project (along with an additional loan component) is helping to scale up a community-based adaptation approach that was strongly supported by the government.

- 105. Delivering finance through the MDBs, using a coordinated approach, contributed to designing large-scale, coherent intervention packages that can help move markets, particularly in CTF (the *scaling dimension*). MDBs had the capabilities and relationships to help coordinate stakeholders and deliver finance at scale.** This coordination enabled CIF interventions to target multiple barriers and contribute to interim and advanced signals of transformational change, especially in the scaling dimension. In Turkey (CTF), for example, the joint MDB planning process helped design a mix of public and private investments that are being used effectively to implement energy efficiency programs through different business models, with observed progress toward the scaling up of sustainable energy finance to SMEs, improved market positions for financial intermediaries, and even transitioning toward commercial terms. In Mexico (CTF), a coordinated approach between IFC and IDB to address multiple barriers and support financing and market infrastructure, and reduce information asymmetries, helped the market for wind to reach a tipping point. As a further example, a coordinated approach between AfDB and the World Bank in Morocco (CTF) was useful in the early stages of program development of Noor 1 and the provision of technical assistance to the government. The CTF business model enabled the World Bank and AfDB to co-invest in CSP, but also to operate complementary CTF programs on other renewable energy technologies in parallel. In Thailand (CTF), the coordinated combination of IFC and ADB investment programs, along with the supportive enabling environment, is credited with contributing to advanced signals of scaling in renewable energy installations.
- 106. In PPCR and FIP especially, key features of CIF’s programmatic approach—including support for readiness activities, coordination by a government institutional structure, and programmatic monitoring and reporting—contributed to early signals of systemic change (*systemic change dimension*).** The planning process supported the emergence of more climate change awareness among government officials, especially in countries where climate change had not yet received much attention in the early days of CIF.<sup>102</sup> Investment planning and readiness work funded through the SPCR preparation grants in PPCR countries also contributed to mainstreaming climate change into countries’ policies and strategies, such as in Zambia. CIF support for a government institutional structure to coordinate national efforts was important for building capacity to monitor and manage climate change programs in countries like Zambia, Tajikistan (PPCR), and Burkina Faso (FIP). PPCR and FIP support for national monitoring and reporting processes helped support continued stakeholder engagement, multi-sector collaboration, and learning—and even helped mainstream indicators into national systems in a few countries.<sup>103</sup> For instance, in Jamaica, PPCR helped catalyze stakeholder relationships on climate change and sustain them through the annual monitoring and reporting workshop.
- 107. Partnership and ownership have proved to be important concepts in creating buy-in and embedding transformational change, and were enhanced through CIF’s programmatic approach to climate finance.** Combining strong ownership and partnership with predictable, flexible, and scaled-up resources was effective in supporting transformational change. In the investment planning phase, the programmatic approach contributed to increased government ownership and supported partnerships among MDBs and with other development partners.<sup>104</sup> By aligning with and building on relevant initiatives and policy processes, and working with national champions and agents of change, many CIF programs maintained momentum, even during periods of political and economic dislocation (see, for example, the discussion on key change agents in PPCR programs in Section 2.2). National government leadership and visible commitments and targets helped create sustained favorable implementation environments for CIF programs, such as in Mexico, Morocco, and Thailand (CTF) (see Section 2.1).

<sup>102</sup> ICF 2018.

<sup>103</sup> ICF 2018.

<sup>104</sup> ICF 2018, Bird, N., Watson, C., and Schalatek, L. 2017.

During project implementation, institutional partnerships have helped bring sectors together, promote ownership, and support local economic gain.<sup>105</sup> Where MDBs have partnered closely and effectively in country programs, they have helped catalyze transformational change, such as in Mexico, Morocco, Turkey, and Tajikistan. According to the qualitative responses to the e-survey, the CIF has also influenced climate monitoring at the banks.<sup>106</sup>

- 108. CIF has faced some challenges with its business model.** The operating model of the MDBs (with a focus on larger investment projects) can make it difficult to engage with micro-or smaller scale actors in forestry, resilience, and access to energy. And while MDB coordination proved to be successful during the investment planning period, it has in several cases proved difficult to sustain this and some other features of the programmatic approach throughout implementation.<sup>107</sup>

### 3.2 Influence of CIF on MDB climate operations

- 109.** Working through the MDBs was one of the key pillars of CIF's unique business model and was envisioned to support transformational change.<sup>108</sup> The unique catalytic position of the MDBs—complementing governments' limited resources, leveraging private investment, and assisting client countries from planning, to policy, to finance—continues to be recognized by the international community.<sup>109</sup> The architects of CIF hoped that the model would support systemic changes within MDBs and encourage the institutions to become more climate-mainstreamed funders.<sup>110</sup>
- 110. Over the last decade MDBs have made major strides to integrate climate change into their core business.** MDBs have moved from discrete climate change analysis and initiatives (particularly focused on clean energy) to the establishment of climate change departments, divisions, or crosscutting solution areas, and the build-up of important technical expertise. They have approved climate strategies or action plans, integrated climate change into their overarching strategies, and begun to integrate climate mitigation and resilience into key sectoral strategies, as well as country partnership work. MDBs have also set targets for climate finance, which they have begun to achieve or even exceed. Climate finance from MDBs' own accounts has increased by more than 50 percent from 2011 to 2017. In 2017, CIF's six partner MDBs committed about US\$27 billion in climate finance, or about 25 percent of total MDB operations, from their own accounts.<sup>111</sup>
- 111. Overall, CIF made a recognized contribution to MDBs' progress in mainstreaming climate change into their institutions and operations.** This finding is supported by strong evidence from interviews with all six partner MDBs, who acknowledged CIF's role in supporting and accelerating the climate change agenda within their institutions, as well as from other studies.<sup>112</sup> According to one MDB representative: "CIF has been unique in providing an opportunity to engage client countries and stakeholders in a long-term, ten-year plus horizon discussion about sector-wide transformation to address climate change...We don't get this through regular project discussions."<sup>113</sup> Other important internal institutional factors, such as corporate targets and initiatives, senior management backing, and accountability, were also identified as key drivers of change within the MDBs, along with external drivers such as decisions of the international community.

<sup>105</sup> Bird, N., Watson, C., and Schalatek, L. 2017.

<sup>106</sup> TCLP Evaluation e-survey.

<sup>107</sup> ICF 2018.

<sup>108</sup> World Resources Institute (WRI) 2008. The important role of MDBs in supporting transformation toward low-carbon and climate-resilience development was recognized in the historic Gleneagles G8 summit in 2005 that helped lay the groundwork for the formation of CIF.

<sup>109</sup> Wright, H., Hawkins, J., Orozco, D., and Mabey, N. 2018; Brookings Institution 2018.

<sup>110</sup> WRI 2008; Vivid Economics nd.

<sup>111</sup> IADB, AfDB, ADB, EBRD, EIB, World Bank 2012–2018.

<sup>112</sup> Houzir M., Mokass M., and Schalatek L. 2016.; Vivid Economics nd.

<sup>113</sup> KII 200 MDB.

- 112. The timing and scale of CIF finance helped accelerate the process of mainstreaming climate change into MDBs' core business.** More than 15 interviewees in the six partner MDBs indicate that, by launching in 2008, shortly after the G8 Gleneagles Summit, CIF was catalytic in accelerating MDBs' process of internally mainstreaming climate change. Providing climate finance to MDBs helped increase awareness of and build expertise on climate change among task teams and government clients at a crucial time. Having a partnership of six MDBs helped show MDB management that climate finance was becoming a major agenda, according to interviews with MDB representatives involved in the early days of CIF. The scale of CIF finance was also important to demonstrate to MDBs' management and operational staff that climate finance was an agenda to take seriously. CIF was the largest source of external concessional climate finance for its six MDBs, providing about 45 percent of such finance managed by MDBs in 2013–14.<sup>114</sup>
- 113. CIF's concessionality also helped accelerate the climate change agenda in the partner MDBs.** In the early days of CIF, concessionality encouraged MDB investment and country staff, as well as management, to see climate finance as an emerging opportunity. It also opened up discussions with country clients, particularly around high-risk and high-reward projects (see also Section 2.1.). CIF's concessionality allowed MDBs to test new concepts, pursue riskier projects, and deploy resources sooner, when their credit departments were not ready to take on such risks—all important steps toward scaling up the MDBs' climate change portfolios. More than two-thirds of MDB survey respondents believe that CIF's concessionality played a major role in unlocking MDB finance resources for investment operations to a great or moderate extent. Today, MDBs still point to the importance of concessionality to complete transitions in certain sectors, to innovate and promote frontier technologies, and to overcome the risks and costs of newly emerging significant opportunities.
- 114. Blended finance has had a particularly important influence, especially for energy projects.** Combining MDBs' own capital with concessional climate finance is a form of blended finance; another form is combining concessional climate finance with private sector commercial funds. Interviews and other reports show that, over time, CIF made a significant contribution to building up MDBs' experience in this area, and contributed to more sophisticated approaches to calibrating concessionality within blended finance.<sup>115</sup>
- 115. CIF's approach of piloting innovative instruments and concepts helped MDBs to develop and test new products and learn lessons that have been replicated in subsequent operations with their own resources—amplifying the potential transformational impact of CIF.** More than two-thirds of MDB survey respondents believe that lessons learned from CIF investments had been applied to other investments by their MDB to a great or moderate extent, and nearly three-quarters of respondents believe that working with CIF had increased the scale of climate finance at their MDB. Interviews suggested that replication was especially supported when new products or strategies could be taken up by private sector actors, and when the CIF project approach was closely aligned with the implementing unit's core business (see Box 18).

#### BOX 18. SELECT EXAMPLES OF MDB REPLICATION

- With PPCR funding, EBRD developed a gender toolkit on district heating that it has since mainstreamed in its own processes.
- AfDB piloted the bank's first public-private partnership project in the forest sector, using FIP concessional resources in Ghana, and is now undertaking subsequent work to understand barriers and risks for investors and to design a fund that would provide debt or equity support to commercial forestry plantations in Africa.
- IDB's NDC Invest Platform incorporates a programmatic approach, based partly on learning from CIF. IDB is also replicating an innovative energy savings insurance scheme piloted with CTF financing in Colombia in nine other countries.

Sources: Evaluation interviews, verified with desk research

<sup>114</sup> Houzir M., Mokass M., and Schalatek L. 2016.

<sup>115</sup> Brookings Institute 2018; Vivid Economics, nd.

**116. CIF's concerted effort around certain technologies has helped grow MDB portfolios in these areas.**

For instance, led by CIF investment, multilateral financing for upstream activities in geothermal development rose to around US\$100 million per year in 2013–17, representing at least a four-fold increase in the share of MDB financing for early-stage development, from only 6.7 percent in 1978–2012 to 29.2 percent of their geothermal investments in 2013–17. The projects currently underway are expected to mobilize an additional US\$1.5 billion from other sources.<sup>116</sup> MDB officials interviewed indicated that they are actively working to take geothermal development models supported by CIF to new countries.

**117. The CIF business model also created a collaborative platform for MDBs to work and learn together at the global level, with some spill-over effects into other joint initiatives. There is strong evidence that CIF has fostered a cooperative partnership model at the MDB focal point level. This global cooperation supported other joint IFI initiatives, such as on climate finance tracking and GHG accounting. The country case studies suggest that the influence of CIF on MDBs was less evident at the task team or operational level. Because task team leaders change over time, and because of the modalities of implementing through the MDBs and of blended finance, awareness of CIF does not always trickle down.**

**118. The extent and nature of CIF's influence on MDBs varies by MDB and sector. Across MDBs, CIF's influence has been shaped by several factors, including the composition of each MDB's CIF portfolio, the MDBs' institutional arrangements for managing CIF resources, and the complexion of the MDBs' climate change programming at the time of CIF engagement.**

- Regarding the **ADB**, interviewees point to adaptation as the area in which CIF had the most significant catalytic effect—at the time that CIF launched, ADB was seeking to further its thinking and knowledge on this emerging area of investment, to push beyond climate proofing, and PPCR was available to support that process. Multiple ADB staff also credit PPCR with changing the scale of adaptation programming in their bank and supporting an internal dynamic that allowed the introduction of climate risk screening at ADB in 2014. In contrast, interviewees noted that FIP has had limited influence on the ADB as a financing institution, owing in part to the smaller number of FIP pilot countries in the Asia region.
- Regarding the **AfDB**, CIF had the most systemic influence on the bank's energy portfolio, given the dominance of energy investments overall in the AfDB and the institutional set-up (the CIF focal point is located within the Power, Energy, Climate Change, and Green Growth Complex.) Interviews and AfDB reports also credit CIF with a keystone role in contributing to the AfDB's institutional transformation and helping initiate its increased lending toward mitigation and adaptation finance. The AfDB's commitment to reach a lending target of US\$5 billion per year by 2020 for climate change-related projects would not have been possible without CIF's strong contribution.<sup>117</sup>
- Regarding both the **AfDB** and **IDB**, interviewees also point to the critical role of CIF in transitioning renewable energy from an outlier investment area in 2008/9 to a mainstream one by 2018. CIF facilitated learning-by-doing in this area, building confidence and understanding around these newer project types. Interviews with IDB staff also point to PPCR and FIP as important in building the bank's understanding of how to address climate risk and resilience, and establishing a proof of concept that forest financing can work.
- Interviewees at the **EBRD** point to CIF's role in helping to get complex and challenging climate change operations moving, by using concessionality to get clients interested, and through the provision of MDB fees that could be used for additional preparatory and supervision work necessary for new and riskier interventions.

<sup>116</sup> World Bank 2018c.

<sup>117</sup> AfDB 2016.

- Regarding the **World Bank Group**, interviewees discussed the importance of the timing of CIF funds—to open opportunities for discussions with clients, finance preparatory work for the SCF programs, and provide concessional funding to enable projects to move forward—which together helped mainstream climate change in the bank. Regarding the **IFC**, CIF is credited with contributing to developing the climate finance machinery, including the blended finance approaches (see also discussion above on blended finance).

### 3.3 Gender as a driver of transformational change

- 119.** Over the past decade, the broader international community has increasingly recognized the need for gender-responsive climate actions and the role of women as effective agents of change, including the Intergovernmental Panel on Climate Change (IPCC), Conference of Parties (COP), 2030 Agenda for Sustainable Development, and MDBs.<sup>118</sup> A mounting number of studies assert that gender-responsive climate action is more effective, supports long-term viability, and can drive transformation.<sup>119</sup> CIF's own Gender Policy asserts that "[t]he CIF's goal of catalyzing transformational change toward climate-resilient, low-carbon development in developing countries cannot be achieved in a sustainable manner without due attention to the participation, contribution, and equitable outcomes for both women and men."<sup>120</sup>
- 120.** In line with this broader context, CIF has demonstrated an increasing attention to gender over its ten years of operation. At the outset, CIF did not have explicit gender requirements. Following a 2013 Gender Review of CIF,<sup>121</sup> CIF hired a senior gender specialist (2014), launched a Gender Action Plan (with Phase 1 and Phase 2 starting in 2014 and 2016), and approved a Gender Policy for CIF (2018). Phase 2 of the Gender Action Plan sets an ambitious gender-transformational goal of "women's improved asset position, voice, and livelihoods status through access to benefits from CIF-funded investments."<sup>122</sup>
- 121.** CIF investment plans and projects show improvement over time in terms of attention to gender. The overall CIF portfolio shows the increasing application of in-depth gender analysis to newly endorsed CIF investment plans and approved projects. Of 21 newly endorsed investment plans, 20 (or 95 percent) have included sector-specific gender analysis and women-specific activities, compared to a pre-2015 baseline of 44 and 41 percent. Similarly, the percentage of CIF projects with gender analysis has grown from a pre-2015 baseline of 24 percent to 59 percent in 2017. A greater proportion of new CIF projects also include women-specific activities, from a baseline of 31 percent to 63 percent in 2017 (20 of 32 projects approved).<sup>123</sup> Slightly more than half of the survey respondents (53 percent) feel that CIF's gender initiatives had a great or moderate influence on the extent of in-depth gender analysis and specific activities in investment plans and projects.
- 122.** CIF investment plan and project monitoring and reporting are also progressively becoming gender-specific, with sex-disaggregated indicators established at the program level. To date, about 50 percent of SCF beneficiaries are women (approximately 4.5 million women across 29 PPCR, seven FIP, and two SREP projects reporting).<sup>124</sup> CTF is still lagging behind the SCF programs in terms of reporting data that is disaggregated by gender, although this may be a data reporting issue and should soon be rectified for new projects<sup>125</sup> by CIF's new Gender Policy, which mandates reporting on indicators that are sex-disaggregated. In addition, CIF has also been laying the groundwork for better gender equity design

<sup>118</sup> Pachauri 2014; World Bank 2016; ADB 2016; EBRD 2015. For recent reviews of the gender and climate change literature, see for instance Global Gender and Climate Alliance (GGCA) 2016, and International Union for Conservation of Nature (IUCN) and GGCA 2015.

<sup>119</sup> GGCA 2015; Aguilar, L., Granat, M., Owren, C. (2015).; UNDP 2016; World Bank 2011; CIF 2013.

<sup>120</sup> CIF 2018d.

<sup>121</sup> CIF 2013. This study concluded that significantly more effort could be made to mainstream gender within CIF and ensure that women are not excluded from the benefits of CIF investments in mitigation and resilience.

<sup>122</sup> CIF 2016n.

<sup>123</sup> CIF 2018c.

<sup>124</sup> CIF 2018c.

<sup>125</sup> Existing projects are unable to change indicators and results frameworks until mid-term, and it is unlikely that this data will become available in the short term.

and outcomes with its sector and technology-oriented analytical work, learning products, and activities.

- 123. Changes in the individual and community spheres, in terms of advancing women’s voice, skills, or livelihoods, are evident in SCF countries.**<sup>126</sup> Field work, desk analysis, and interviews show change at these levels, primarily around women’s participation and representation: for instance, in trainings, planning processes, and construction work. In several countries, evidence was found of women holding leadership positions in water user or community development groups. In Nepal (PPCR), the ADB watersheds project has been successful in ensuring that at least one woman holds a position at the executive decision-making level in the community development groups governing the watershed plans. In Cambodia, 32 percent of management positions in farmer water user communities are held by women. During evaluation fieldwork in Niger, one focus group discussion offered anecdotal evidence of women increasing their income through PPCR project interventions and gaining access to land.
- 124.** These changes offer the potential for dynamic shifts in aspirations for women’s participation and leadership, and influencing community gender norms over time, as part of a longer incremental process toward empowerment. In Nepal, for instance, subsequent gender analysis has shown that the most powerful community development group positions in the project are still occupied by men, reflecting the deep patriarchal realities of rural Nepal, the magnitude of the challenge, and the importance of incremental improvements.
- 125. The evaluation found some instances of gender-responsive design contributing to institutional changes (interim signals of systemic change), as well as to market-related outcomes, that could help lead to scaling.** For example, in Cambodia (PPCR) and in Mexico (FIP), CIF is working at national policy levels with gender-transformative objectives. ADB’s PPCR Cambodia program is collaborating with the Ministry of Women’s Affairs to further integrate gender and a climate approach in their national planning. In Mexico, FIP-funded interventions contributed to thinking around gender in policymaking by CONAFOR, the forestry authority. In 2017, CONAFOR launched Proyectos Productivos Forestales para Mujeres, an incentive program targeting women specifically. Also, in Mexico, women have begun working in the forestry sector, challenging gender norms in a wood products company in Oaxaca, thanks to FIP-supported increased mechanization and training. Other strategies include developing gender-differentiated loan products and marketing techniques for female-headed households and businesses, which has shown potential for improving the performance of financial facilities in Turkey (CTF) and Tajikistan (PPCR). In several countries, national and local government staff were trained on gender-sensitive approaches that aligned with national gender initiatives, such as in Zambia (PPCR) and Nepal (SREP). In most countries, however, it is too early to see whether these efforts could lead to long-term systemic changes.
- 126. Overall, however, evidence is not yet available of outcomes that could demonstrate how gender-responsive programming contributes to or enhances transformational change at scale.** Across the 23 country studies, the evaluation found little evidence of interventions that specifically described designs for gender-transformative impacts or explicitly described how gender-responsive design would help achieve project impacts (the *relevance* dimension), or contribute to the scaling, systemic change, and sustainability dimensions of transformational change in climate-relevant sectors, systems, and markets—with some exceptions, as detailed above. Interviewees across MDBs pointed to the potential for transformative gender impacts in the short to medium term, while acknowledging that projects are not yet producing evidence that shows how gender-responsive programming contributes to or enhances transformational change. Some survey respondents (43 percent) believe that gender actions in CIF projects in the countries that they work in had increased the likelihood that outcomes would be replicated or scaled up to a moderate or great extent. Box 19 provides an example of this

<sup>126</sup> Two of the five CTF country programs evaluated showed some limited evidence of gender-sensitive outcomes; in Thailand, the utility-scale renewable energy projects hired approximately 20 percent women during construction, and in Turkey, gender analysis was done to inform EBRD’s work on loan products for women.



potential. Similarly, 44 percent feel that gender actions in CIF projects in the countries that they work in had increased the likelihood that outcomes would be sustained.

**127. The timing of the CIF Gender Program, resourcing, and the enormity of the challenge are explanatory factors for the limited evidence.**

Most projects that are in the later stages of implementation—and producing outcomes—were approved earlier in CIF’s lifetime, prior to the start of the CIF Gender Program (2014/15) and the very recent adoption of CIF’s Gender Policy (2018). Resourcing also matters. When asked about gender activities in CIF, several MDB interviewees pointed to the importance of sufficient resources to design and implement gender-responsive elements.

- 128.** The scope of the challenge also plays a role—and points to the importance of incremental change. In the words of one survey respondent: “In most countries, these are long-standing, deep-seated cultural issues. CIF financing can raise awareness and make some progress, but [is] unlikely to shift the whole game based on the few million dollars that CIF is making available in each country. It’s a step in a long process.” Addressing climate change and achieving gender equality will require societal transformation across themes, sectors, and levels.<sup>127</sup> It is an undertaking that will likely not be achieved through a single climate finance intervention.

- 129. A positive signal for the future is that CIF partners seem to be learning from their CIF-funded interventions and plan to design, or have already designed, more gender-responsive interventions building on this experience.** For example, based on gender analysis of its experience working on district heating interventions in Ukraine and Kazakhstan, EBRD prepared a district heating and gender toolkit that has been mainstreamed into EBRD’s own processes and is informing new country operations. In addition, the learning from the gender assessment of the Turkish Residential Energy Efficiency Financing Facility (TuREEFF) informed green economy financing facilities that EBRD will be rolling out in ten countries, financed by GCF. In another example, in Samoa, subsequent project work has been able to establish a strong gender baseline, building on earlier work that PPCR and other development partners contributed to, and to seek partnerships with the Ministry of Women, Communities, and Social Development and women’s groups to diversify women’s livelihood opportunities.

**BOX 19. HOW GENDER-RESPONSIVE IMPLEMENTATION COULD SUPPORT BROADER ADOPTION IN NEPAL**

In Nepal (PPCR), project staff observed that women farmers were more likely to work with the female extension officers in IFC’s climate resilient agriculture project. The findings of Development Impact Evaluation (DIME) studies in Malawi and Mozambique give weight to these observations: these studies found that women are at least as good as men as agricultural extension partners and can benefit the broader population of women in terms of technology awareness and adoption. Data were unavailable for the Nepal intervention to validate these findings. Strategies to engage women farmers will be particularly important in the context of significant outmigration of men and the increasing role of women in agriculture in Nepal, where transformation is unlikely to happen without female participation.

*Sources:* Ben Yishay *et al.* 2016; Kondylis *et al.* 2014. I2i Fund.

<sup>127</sup> Aguilar, L., Granat, M., Owren, C. 2015.

## 4 Learning on Transformational Change

- 130.** This section sets out a series of conclusions and learning relevant to the work of the TCLP, with many lessons being potentially applicable to other climate funds.

### 4.1 Reflections on the dynamics of transformational change

- 131. Signals of transformational change appear to emerge in at least a partially sequential manner.** Signals within the relevance dimension are associated with the design and implementation phase and are correlated with early signals in terms of the maturity axis (i.e. creating the conditions for change). Systemic change and scaling signals tend to arise towards the end of and/or following implementation with signals of sustainability emerging later as the resilience and robustness of other dimensions are tested. It is therefore not surprising that the evaluation has found more advanced signals of relevance and only earlier signals of sustainability for three of the four programs, particularly given the fact that many country programs (particularly SREP and FIP) remain in early implementation.
- 132. There appear to be two basic delivery models for transformational change within the CIF portfolio: namely, scale-to-systems change and systems-to-scale change.**
- The first model (more prevalent in CTF) uses a *scaling-based approach*, deploying large volumes of concessional finance to demonstrate technology feasibility, increase transparency around costs and operational performance, and reduce the costs of delivery (through economies of scale). It is expected that systemic change and further replication will then follow as policy makers, developers, and investors adjust their risk perceptions and mobilize further large-scale finance. Sustainability is achieved through subsequent adjustments in the policy environment and sustained investor interest.
  - The second model (more prevalent in SREP, PPCR, and FIP) is one delivered through a *systems change lens*. This model is structured around capacity building, awareness raising, strengthening the enabling environment, institutional strengthening and governance, and piloting smaller-scale interventions to deliver proof of concept. It is hoped that by improving the underlying system, scaling then follows as the enabling environment becomes more supportive of change, pilot projects prove successful, and other investors and project developers choose to move into the investment space. The focus of this model may depend on the stage of market development, with low-income countries requiring more attention toward awareness, capacity, and governance, and middle-income countries more oriented toward private sector incentives, risk reduction, and competitiveness
- 133. Transformation is more likely to occur quickly where a broader range of project outcomes and contextual factors align, making transformational change a dynamic and unpredictable process.** For example, in clean energy markets (e.g., Mexico, Morocco, Thailand, and Turkey), influencing factors have included a facilitating regulatory environment, a robust investment climate, access to affordable finance, an increase in the availability of cost-competitive technologies, strong consumer awareness and demand, and clear political will to shift toward a clean development trajectory. The absence of a single element can lead to delayed take-off where transformation only becomes apparent after several years of modest results (Ethiopia, Mozambique, Tajikistan, and Turkey) or is delayed altogether (e.g., geothermal in Mexico). Transformation appears to occur more quickly in middle-income countries with stronger enabling environments and markets that are closer to tipping points, with examples of countries leap-frogging to bypass existing support mechanisms (e.g., Chile CSP and solar PV developed without recourse to concessional finance). In less developed markets (with lower capacity and financing constraints), or in more contested sectors (e.g., forestry and community-level resilience), timescales for transformation can be much longer.
- 134. Incremental change represents a valuable contribution in progressing toward future transformation, with realistic framing required around scale and timing in many contexts.** Given the timescales and uncertainty associated with transformation, incremental change is important in terms of laying the

groundwork for future change and potential tipping points. The evaluation suggested that activities such as capacity building, changing mindsets, and altering behaviors can have a cumulative transformational effect, the results of which only become clear when change processes that rely on these foundations later occur. Often incremental change will be the most likely pathway for a time-limited program due to significant weaknesses in the operating environment (e.g., development challenges, political instability, resource constraints), or where technologies remain far from commercialization. Realistic expectations are therefore required regarding the likelihood of transformation during program implementation cycles.

- 135. A portfolio approach offers a balance of both short-term and longer-term transformational change programs, focusing on pathways relevant to different sectors and contexts in appropriate ways.** The CIF portfolio has supported a range of projects, some of which have reached tipping points (with scaling and sustainability likely in the short term), and some of which prepare the ground for much longer-term systemic change. While there may be some value in prioritizing scarce resources toward early action (both from a mitigation and adaptation perspective), this should not be at the expense of projects which are equally important over the medium to long term, but which may face greater challenges, whether from a technology, sector, or country-context perspective. Investing in such projects creates an ‘options value’ for future transformation. A broad climate finance portfolio, such as CIF, also allows winners and best practices to emerge, and can generate lessons that may be fed back into other projects. From this perspective, there is value in ensuring good portfolio diversification (e.g., across themes, country contexts, and technologies), and using learning for course correction and improved programming.

## 4.2 Relevant insights for the work of TCLP

- 136. Several insights arising from this evaluation may inform the work of the TCLP going forward, and can help shape the understanding of transformational change.** Part of the rationale for convening the TCLP was to explore concepts of transformation within CIF and broader climate finance context. As part of the TCLP Phase 1 work, a set of concepts of transformational change was developed. This was accompanied by a set of updated theories of change covering CIF as a whole and the individual programs. On the basis of the current evaluation, there are a number of reflections around the concepts and theories of change that may be useful for further work going forward (see Box 20 for a summary):

*Dimensions and arenas.* The evaluation found that the elements underpinning transformation (the four dimensions and nine arenas of transformational change developed under the first phase of the TCLP and through the subsequent portfolio analysis) were sufficiently comprehensive to capture key features and drivers of transformational change. Only minor amendments might be considered to the arenas in terms of clarifying the differences between certain categories (e.g., practices and mindsets vs. knowledge and information). It should be remembered that the relevance dimension is crosscutting in relation to the other three dimensions (in that it includes the extent to which other aspects of transformation are embedded during the design and implementation phase).

*Emerging concept of sustainability.* The evaluation finds that understanding and measuring sustainability presents a complex challenge. Sustainability should ideally reflect an assessment of whether changes are likely to be sustainable within the context of dynamic and evolving systems, rather than their robustness at a single point in time. One consideration might be evidence that resources are becoming less exploited, and that relationships between the social, environmental, and economic domains have become reinforcing, rather than competitive. A second consideration relates to resilience—for example, whether the system is becoming more robust against environmental or economic external shocks and stresses (e.g., to climate change, economic disruption, migration). Such assessments are complex, and there is not yet a standard way to understand or measure sustainability in the context of transformational change. Methods are more likely to rely on a deeper analysis of market data, statistics, and trends than might be found in typical evaluation approaches, and this is an area that might be considered in more detail going forward.

*Signals of change.* In order to apply a structured method of capturing what transformation looks like in practice this evaluation adopted a *signals of transformation* framework. This framework was used to classify different types of signals by dimension and also by stage of maturity (early, interim, advanced). This process-oriented perspective is particularly important for those programs (e.g., PPCR or FIP) that tend to pursue transformation through systemic change, and where evidence or scaling and sustainability are likely to emerge only over the longer term. One key learning is that different types of programs (e.g., energy, resilience, forests) might expect to see different patterns of signals, and therefore programs should not be judged against a uniform benchmark of progress.

*Theories of change.* At a high level, the theories of change developed in Phase 1 of the TCLP were considered useful ways of framing the key objectives and pathways associated with CIF and its individual programs. The evaluation identified a number of factors that could inform the further development of the theories of change that might be taken forward. Key among these is the recognition that transformation is highly sector- and context-specific, with varying timescales of transformation. Influencing factors include the complexity of the system undergoing transformation, the underlying level of capacity and development, and the relative costs of/incentives for alternative approaches. Other influencing factors include the level of alignment with the political economy, the role played by co-benefits, and adaptive approaches to deal with exogenous risks. Revisiting the theories of change might be an area of future work—in particular, seeking to capture how transformational change happens through the interaction between dimensions.

- 137. Understanding the dynamics of change across the portfolio:** The evaluation team has identified that the dynamics between dimensions of transformation (particularly between scaling and systems change) differs according to CIF program, driven primarily by differences in the complexity of the sector and the level of country development. Sustainability can be reached both through a scaling pathway (e.g., economies of scale) as well as a systems pathway (e.g., more robust standards and enforcement). This dynamic between dimensions is an area that the TCLP could further explore going forward (see Box 20).

#### **BOX 20. AREAS OF POTENTIAL FUTURE RESEARCH FOR TCLP**

##### *Strengthening conceptual understanding:*

- *Dimensions:* Further explore the dimension of sustainability in transformational change (reflecting its dynamic and evolving nature) and examine the varying interaction between the different dimensions in different thematic and country contexts.
- *Signals:* Develop more systematic categorization of signals of transformation across different thematic programming areas to facilitate understanding within program design teams/and help capture transformation more effectively in M&E processes.

##### *Building the evidence base:*

- *Key thematic areas:* Continue to identify and understand the mechanisms for transformational change in early stage/contested programming areas such as urban transportation, mini-grids, private sector intermediation (particularly in forestry and resilience).
- *Role of gender:* As more evidence emerges in the medium term, further research on the contribution of gender-responsive actions to transformational change could help inform more effective climate change interventions as well as improve outcomes for women and girls.

##### *Understanding effective programming approaches:*

- *Delivery models:* Understand how innovation and flexibility might be further encouraged within the CIF country-led/MDB-managed structure to ensure that country programs remain forward-looking and politically relevant in the context of changing technology and policy environments.
- *Learning processes:* Explore in what ways different learning and knowledge transfer models have been effective (at the investment, country and international level) in terms of changing wider behaviors, altering perceptions of risk and encouraging transformational change across the dimensions.

## 5 Recommendations to CIF

- 138.** The evaluation identifies several recommendations for CIF going forward. These recommendations may also be of relevance to the wider climate finance community.

### Mainstreaming transformation into CIF processes

- a. **Develop tools to support transformative programming.** Concepts of transformational change can be relatively high-level in design documents, with detailed pathways to achieving scaling or systemic change not well elaborated. Specific risks to transformational impact at the project or investment level are often poorly explored. CIF should equip practitioners in recipient countries and partner MDBs to consider transformational change concepts during program and project planning. Simple tools can help ensure that practitioners ask the right questions to consider all four transformational change dimensions, including scaling and sustainability, in project designs and planning documents.
- b. **Support the role of national champions in program design and delivery:** The most successful CIF interventions (particularly public sector) are those that have been deeply embedded in national planning and development processes, that have been facilitated by key ministries and institutions, or that have gained the political support of influential national champions. CIF should consider prioritizing interventions that are able to demonstrate these features, and deprioritizing those that may be thematically relevant but which may lack systemic relevance in the country context. While these elements are already present, CIF might consider increasing the focus on identifying and building constituencies of national champions and other change agents during the design and approval stages, and maintaining engagement during implementation to maximize the likelihood of transformational change.
- c. **Approach transformation from a portfolio perspective:** Given the varying scale and speed of transformation across different sectors and country contexts, it is important that CIF and other large climate funds adopt a diversified portfolio approach to transformation. This should involve supporting a range of projects likely to deliver both quick wins (i.e., to generate momentum in markets where tipping points are near), as well as pursuing longer-term transformation challenges (e.g., around emerging technologies, making high-cost options more viable). A desire for transformational results should not create a bias toward selecting only those projects that appear to offer the quickest route to short-term success.
- d. **Further explore and refine concepts of transformational change:** CIF should build on the work of the TCLP and the findings of this evaluation to further explore concepts of transformational change, particularly around the concept of sustainability, which proved to be a challenging signal to identify and assess during the evaluation. Communicating an understanding of how dimensions, signals, and pathways of transformation are likely to differ between different programs and country contexts might also help to inform and align views on transformational change within CIF and across the climate finance community.
- e. **Reflect transformation better in measurement, reporting, and learning.** CIF should continue its efforts to integrate transformational change concepts into MDB and climate finance measurement and reporting frameworks. This could include exploring a more robust use of signals of transformational change in logical frameworks, while being cognizant of measurement and reporting burdens, as well as ensuring robust ex-post assessments of transformational impact at the country program level. The TCLP initiative has been an important vehicle for this work, as have the thematic evaluations under the E&L Initiative. Learning dialogs have proved valuable in the CTF/SREP context, and these could be used further in other areas to look at transformational change. Transformational change concepts could also be included in ex-post assessment at the project level for the CIF AU and implementing partners (e.g., MDBs).



## Improving transformation in CIF delivery

- f. **Maximize incentives for national stakeholders to engage on transformation:** Investments become transformational when a full range of barriers that inhibit uptake are addressed in parallel. The availability of flexible and adaptive technical assistance can be particularly effective in addressing roadblocks, especially in dynamic political economy contexts. The pairing of investment and technical assistance can also provide increased incentives for stakeholder engagement. CIF should actively seek to pair investment funds with technical assistance to address key barriers, build the engagement of a broader range of important stakeholders, or actively align/partner with other initiatives that are doing so.
- g. **Enhance the benefits of programmatic approach:** The evaluation found strong evidence of the transformational value of key elements of the programmatic approach, particularly in terms of supporting relevance (creating programming approaches aligned with national priorities and processes) and in terms of addressing systemic change (by bringing together different stakeholder groups and supporting buy-in). CIF should continue to promote this approach, but with an increased focus on flexibility and adaptability (to address rapidly changing technology and policy arenas), shortening planning and approval periods (to maintain relevance), and differentiating between country contexts
- h. **Ensure sustained coordination throughout implementation.** One key feature of CIF is that its programs are often designed by applying strong stakeholder engagement processes, but the dynamic of engagement can slow during implementation as projects become siloed within individual ministries or MDB teams, and as dedicated project resources are discontinued. Ways should be explored to maintain active stakeholder dialog (including between MDBs and with other climate funds) during implementation, and to facilitate cross-program learning. This would not only improve the effectiveness of program delivery but would also maximize the learning and innovation opportunities that arise, inform future programming opportunities, and support innovative programming approaches recognizing political economy environments. Consideration might also be given to providing longer-term ‘bridging’ support where it is clear that capacity remains a constraint and momentum is likely to be lost on program completion without ongoing external facilitation.
- i. **Encourage use of private sector and market development approaches.** Among the most impactful examples of transformation in CIF are those where market-based approaches (particularly those working through financial institutions and supply chain intermediaries) have allowed significant crowding in and scaling of finance. Such approaches have been used for renewable energy, energy efficiency, and resilience technologies. While they only work where there is a relatively robust business opportunity and clear market demand, the potential for scale and sustainability are potentially large. They are particularly useful in situations where barriers are mostly related to awareness and perceptions of risk, and potential tipping points are close. Such models could be more actively explored in the context of resilience and forestry.
- j. **Strengthen the inclusion of gender-responsive actions:** It is very important to ensure that gender-transformative elements are included in the design stage—and supported by good diagnostic and baseline analysis—and implemented as intended and with adaptive management. These actions could be supported by fully implementing the recently approved CIF Gender Policy and sufficiently resourcing it. This evaluation has also shown that there is room for improvement in terms of generating evidence of the contribution that gender-responsive project elements can make to enhancing transformational change in climate action. Developing a stronger evidence base through monitoring and evaluating the contribution of gender-responsive actions to transformational change could provide an important impetus for further global support to these areas.



## Identifying emerging programming areas for transformational impact

- k. ***Focus the use of concessional finance on the most challenging and emerging areas:*** As some technologies have become fully mainstreamed (e.g., solar PV, wind), new opportunities are emerging (e.g., energy storage, diffusion of new energy efficiency technologies) and others remain challenging (e.g., low-carbon transportation, scaling geothermal). While the marginal benefits of supporting large-scale investments in more established renewable technologies are rapidly disappearing, there remains scope to work on the enabling environment for improved energy access and technology demonstration in less developed markets. Opportunities also exist around exploring innovative technology and infrastructure approaches for resilience, or emerging business models for community forestry. Having access to large tranches of concessional climate funds can enable MDBs and recipient countries to take on early-stage risk and cost barriers in ways that demonstrate economic viability and crowd-in investment.
- l. ***Build global ‘supply side’ expertise in selected technology or thematic areas.*** CIF is well placed to address global challenges from a sector- or technology-specific perspective. While CIF remains country-led in terms of programming and prioritization, there is scope for more global technology-, market-, or thematic learning-focused programs (e.g., around innovation in resilience or forestry). CIF could develop a more ‘supply side’ approach, bringing together a range of stakeholders (including financing and private sector expertise) with a view to addressing issues common to a range of country contexts. This would to some extent reflect the model used in the CSP program. CIF could then seek regional or country-level engagement around certain opportunities, or build parallel structures (e.g., to undertake innovation activities outside the MDB structure). This would have to be carefully managed alongside a country-led approach, to address potential conflicts and divergence of views.



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