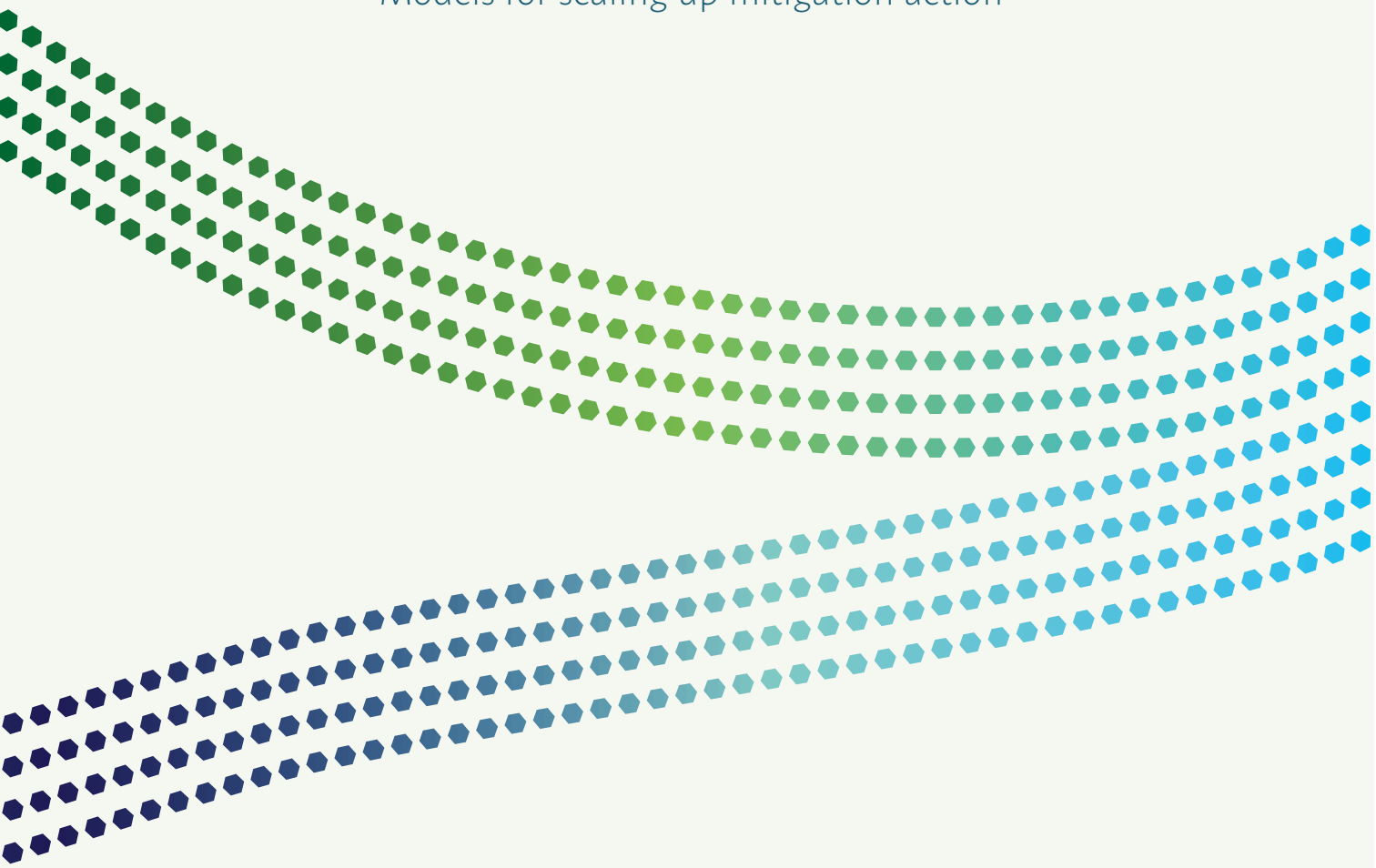
Linking the Clean Development Mechanism with the Green Climate Fund

Models for scaling up mitigation action



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Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

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Acronyms

CAPEX	Capital Expenditure
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
COP	Conference of the Parties
CPA	Component Project Activity
DNA	Designated National Authority
DOE	Designated Operating Entity
ERPA	Emission Reduction Purchase Agreement
ETS	Emission Trading Scheme
EUR	Euro
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
IRM	Initial Resource Mobilisation
IRR	Internal Rate of Return
LDC	Least Developed Country
LoA	Letter of Approval
MRV	Monitoring, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Action
NPV	Net Present Value
NDA	National Designated Authority
NDC	Nationally Determined Contribution
ODA	Official Development Assistance
PDD	Project Design Document
PoA	Programme of Activities
PSF	Private Sector Facility
SBI	Subsidiary Body for Implementation
SIDS	Small Island Developing State
SME	Small and Medium Enterprise
SPV	Special Purpose Vehicle
TAP	Technical Advisory Panel
tCO_2e	Tonnes of Carbon Dioxide Equivalent
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar

Foreword

Over the past decade, African nations have undertaken significant efforts to foster the development of the Clean Development Mechanism (CDM). As the mechanism has evolved to include programmatic approaches and new project types, the African pipeline of registered activities has grown at an unprecedented rate. Today, the continent hosts one-third of all registered Programmes of Activities, delivering a framework for scaled-up mitigation action ranging from large-scale on-grid renewable energy generation projects to de-centralised, domestic energy access initiatives.

Although we have made significant progress towards bringing mitigation activities to the CDM, monetising realised emission reductions is challenging in today's market. As a result, many programmes have had to stall operations. Others are on the verge of doing so as low carbon prices persist. We recognise the important role the Green Climate Fund can play in sustaining and scaling-up these mitigation activities whilst also inspiring new initiatives, especially in the less developed parts of Africa. At the same time, the CDM can support the Fund to reach its objectives by delivering a tested and recognised framework for measuring and verifying emission reductions.

Leveraging the synergies that exist between the CDM and the Green Climate Fund is an opportunity to scale up mitigation action on the African continent, and beyond. We hope that the Fund recognises the value of the institutional capacities and private sector engagement fostered through the CDM. By doing so, the Fund can rapidly unlock credible and verifiable emission reduction activities at scale and directly support sustainable development. These characteristics are engrained in many of the African programmes present in the CDM pipeline.

To push this discussion forward, African market negotiators requested the CDM Executive Board to organise a workshop on financing the CDM through international climate finance institutions, such as the Green Climate Fund. This meeting took place in May 2016 during the Bonn Climate Change Conference, but only marks the start of collaborative efforts that need more urgency and attention. Formal discussions should be initiated between board members of the respective institutions, showing commitment from both sides to progress on this front and communicating confidence to market participants. The present report, which sheds light on the possibilities for linking both institutions, is a vital contribution to this much needed debate.

El Hadji Mbaye Diagne

Lead negotiator for carbon markets of the African Group of Negotiators and the Least Developed Countries and Delegation of Senegal

Executive Summary

Many stakeholders have put forward the idea of linking the Clean Development Mechanism (CDM) with the Green Climate Fund (GCF or Fund). The topic has been discussed within the secretariats and governing boards of both institutions but so far has not delivered documented analysis or conclusive results. At the Climate Change Conference held in Paris in December 2015, the discussion has been elevated to a formal issue on the agenda as Parties to the Kyoto Protocol encouraged the CDM Executive Board to explore new opportunities for financing of the CDM through international climate finance institutions such as the GCF. This report seeks to contribute to this debate by offering a systematic analysis of how linkages between the two institutions can be achieved and why this should be considered.

The CDM – one of the flexible mechanisms introduced under Kyoto Protocol – has evolved significantly over time, broadening its applicability to a large number of sectors, while introducing programmatic and standardised approaches. The mechanism has successfully attracted private sector investments for mitigation actions in developing countries in a transparent and verifiable manner. It is also beginning to serve as a framework for results-based climate finance, thereby moving beyond its original role as a crediting mechanism that generates transferable mitigation outcomes for Annex-I countries under the Kyoto Protocol.

The GCF is poised to become the key vehicle for large-scale international climate finance under the United Nations Framework Convention on Climate Change (UNFCCC). However, it is still at an early stage of its institutional development. Capitalising on the opportunities for collaboration between the CDM and the GCF serves to benefit both parties. On the one hand, the Fund can make use of the CDM's monitoring, reporting and verification (MRV) framework to enhance its results-oriented approach to financing mitigation action. By reverting to the use of an internationally recognised standard for quantifying and tracking greenhouse gas (GHG) mitigation results, the CDM can furthermore support the GCF in leveraging private capital from investors seeking investment opportunities in green asset classes. On the other hand, the CDM stands to gain an important source of demand for CERs. The mechanism offers a large pipeline of high-quality, investment-ready mitigation activities that can be mobilised rapidly. In addition, while the mitigation ambition of the Paris Agreement may lead to renewed demand for project-based credits in the mid- to long-term, climate finance can already today make the difference by supporting high-quality CDM activities.

This report explores potential linkages between the CDM and the GCF to enhance global mitigation ambition. We argue that the value of a CER goes beyond the market rate governed by compliance demand, and that the Fund can benefit from this value proposition. By incentivising entities accredited to the GCF and project implementers to use the CDM's established framework, or by having the Fund directly support high-quality CDM activities with

clear sustainable development benefits, the GCF can achieve the following objectives:

1. **Strengthen the results-based approach to climate finance** by applying the CDM's MRV framework to quantify the mitigation impacts of GCF funded activities in a transparent and verifiable manner;

2. **Leverage the existing CDM pipeline to rapidly mobilise mitigation action** by providing support to additional, high-quality CDM activities at risk of discontinuation as well as incentivising replication and scale-up of already registered projects;

3. **Attract new sources of (private) climate finance** including institutional investors that see value in tracking GHG mitigation results;

4. **To deliver a pipeline of projects** that can be used in the future to deliver mitigation outcomes for use under the Paris Agreement; by providing CER price guarantees and bridging the period until compliance demand incentivised by the Paris Agreement materialises.

To serve a practical purpose and contribute to the discussion of how to connect the GCF to the CDM, this report offers six engagement models. These translate the identified synergies into financing arrangements that can be applied in practice. The models include:

Grant financing, where grant disbursements are linked to GHG impacts either indirectly (when delivered upfront) or directly (via results-based payments);

Debt funding, where the Fund pegs its debt terms and conditions to GHG mitigation results tracked under the CDM;

Green bond financing, where the Fund offers credit enhancement by extending a credit guarantee to cover a portion of the debt marketed through a green bond;

Equity financing, where the Fund pegs its equity terms and conditions to GHG mitigation results tracked under the CDM;

Guarantees, whereby the Fund offers revenue support through price guarantees linked to CERs;

A non-financial engagement model which applies CDM methodologies to streamline MRV activities within GCF funded activities.

These models introduce approaches in which GHG mitigation action (represented by issued CERs) is directly linked to: a) the terms and conditions of the extended financial support, or b) results-based payments.

The engagement models offer different opportunities and should be evaluated further in light of the overarching goals. For example, the non-financial engagement model may be sufficient if one only seeks to strengthen the results-orientation of climate finance. Grant and debt financing as well as equity investments can all play a part in reviving or scaling-up the existing CDM pipeline. The green bonds model holds promise for enticing institutional investors to commit financing to CDM activities. Finally, the guarantees can play a crucial role in directly linking climate finance with other sources of demand for compliance-grade credits. As already pioneered by the World Bank's Pilot Auction Facility, climate finance can provide a CER floor price to project developers that is sufficient to incentivise GHG mitigation action. However, the guarantees do not necessarily have to be executed if other sources of demand become available in the mid- to long-term. This has the advantage that climate finance can stimulate investments by enhancing certainty

on returns without having to actually be disbursed. In turn, building up a pipeline of compliance-grade projects can enable greater ambition on the side of compliance buyers as they are presented with a transparent and executable option. Just as intended by Article 6.1 of the Paris Agreement, governments could raise the ambition of their Nationally Determined Contributions (NDCs) through international cooperation mechanisms by making use of the generated portfolio of credits. All the while climate finance would be freed up to stimulate further action.

This report serves as a foundation for the broader discussion that needs to take place between national governments, Accredited Entities, project developers and other stakeholders. Recognising that further thinking is needed to put any of the models into practice, the following preliminary observations can be made:

OBSERVATION 1

The CDM's MRV framework can be applied by the GCF to demonstrate the GHG mitigation impacts of funded activities, both in terms of underlying funding terms and conditions as well as performance-based payments.

OBSERVATION 2

The GCF's engagement with the CDM should not be limited to only one funding model. Grants, debt and equity finance, and price guarantees should all be evaluated and tested to deliver tailored solutions and maximise learning.

OBSERVATION 3

GCF involvement with the CDM could contribute significantly to overall global GHG mitigation results by cancelling purchased credits.

OBSERVATION 4

The CDM can 'de-risk' the GHG mitigation tracking outcome, helping to attract private capital by addressing a concern of private investors interested in understanding the impact of invested funds.

OBSERVATION 5

A distinction can be made between existing CDM activities that require revenue support to sustain operations or revive stalled operations, and new activities that need support in financing capital expenditures.

OBSERVATION 6

A distinction can be made between individual CDM activities requesting GCF funding directly through an Accredited Entity, and pools of CDM activities that are aggregated by specialised investment vehicles.

OBSERVATION 7

The Fund should not only step in to fill the short-term gap created by the demand vacuum for CERs, but should strategically position its engagement with the CDM with a longer-term outlook as countries prepare for a post-2020 climate framework.

OBSERVATION 8

The GCF could start its engagement with the CDM by offering price guarantees on CERs from high-quality projects and programmes. Using auctions as a price discovery mechanism can maximise the cost-effectiveness of resources.

OBSERVATION 9

Building on the established and familiar CDM infrastructure can assist the Fund with realising its ambition to rapidly disburse resources. This reduces the risk that donors will opt for other multilateral or bilateral routes to channel climate finance.

OBSERVATION 10

Formal discussions should be initiated between the CDM Executive Board and the GCF Board, showing commitment from both parties to progress on this front and communicating confidence to market participants and project developers.

1 Setting the scene

WHAT'S PAST IS PROLOGUE

The Paris Agreement has redefined the global climate policy architecture. It delivers a new, universal legal framework to strengthen the global response to the threat of climate change by establishing the obligation of all Parties to contribute to climate change mitigation and adaptation. At the same time, it builds on the vast landscape of existing institutions and experience that have evolved within the United Nations Framework Convention on Climate Change (UNFCCC) process. To achieve the deep ambition of the Paris Agreement, rapid implementation of climate action is urgently needed. Leveraging carbon markets and existing climate finance institutions will be vital to achieve the scale of finance needed to trigger the transition towards low carbon development.

"Building on the established and familiar CDM infrastructure can assist the GCF to speed up implementation action"

Recognising this, Parties decided that successful elements of existing mechanisms such as the Clean Development Mechanism (CDM) would serve as the foundation for future carbon market mechanisms established under Article 6 of the Paris Agreement. The CDM has evolved significantly over time, broadening its sectoral scope and introducing programmatic and standardised approaches. It is also beginning to serve as a framework for results-based climate finance in which Certified Emission Reductions (CERs) are cancelled. Hence, the potential for harnessing synergies between carbon markets and climate finance is emerging.

The CDM is the first international crediting scheme that has attracted considerable sums of finance for emission reduction projects in developing countries. The mechanism offers years of experience on implementing mitigation action in developing countries in a transparent, verifiable and internationally recognised manner. Over 220 methodologies have been approved under the CDM, with 150 being applied in projects or programmes that have issued CERs. To date, 1.7 billion tonnes of CO_2e have been verified and issued in the form of CERs from nearly 10,000 CDM activities[1], illustrating the popularity of the mechanism within the private sector.

The experience gained through the implementation of CDM activities across sectors and in different geographical regions has yielded a comprehensive database of performance metrics that today informs national governments, international financial institutions, private sector investors and donors in structuring greenhouse gas (GHG) mitigation programmes globally. However, demand for CERs has dropped precipitously in recent years as a

1 Composed of over 7,600 registered regular projects and close to 300 Programmes of Activities (PoAs) hosting over 2,000 Component Project Activities (CPAs), as of August 2016

result of insufficient mitigation ambition, and the CDM is struggling to continue to deliver significant mitigation impacts as a result. Low CER prices are often insufficient to cover monitoring and verification costs and are unable to attract the development of new activities. Lack of demand under the second commitment period of the Kyoto Protocol, coupled with uncertainty about the future of CDM activities under the Paris Agreement, is likely to keep market prices depressed in the short to mid-term.

"The CDM can serve as a framework for results-based climate finance, whereby CERs are cancelled"

The CDM's rise and fall is well documented, but its legacy remains unwritten. While uncertainty regarding the post-2020 climate landscape impairs the marketability of CERs, it also presents new opportunities for the CDM. During the 21st Conference of the Parties (COP21) held in Paris in late 2015, the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP11) encouraged the CDM Executive Board (EB) to explore new opportunities for financing the CDM through international climate finance channels.[2] Meanwhile, the UNFCCC Secretariat identified four new areas where the CDM can contribute to global efforts to reduce GHG emissions:[3]

1. Support implementation of Nationally Determined Contributions (NDC), whereby the CDM can provide a means for realising domestic targets or support the achievement of higher conditional targets proposed by Parties;
2. Encourage voluntary offsetting by corporations, governments or sectors that are likely to face compliance targets in a post-2020 environment;
3. Increase the number of market-based carbon pricing policies intended to utilise CERs by linking to emerging Emissions Trading Schemes (ETS) worldwide;
4. Serve as an effective Monitoring, Reporting and Verification (MRV) tool to enable credible and transparent results-based payments using both public and private climate finance.

The CDM's robust MRV system and ongoing efforts to standardise and simplify its methodologies and procedures can help unlock mitigation potential in developing countries going forward. This report serves to contribute to the discussion around linking the GCF and the CDM, and how the CDM's MRV framework can support with strengthening the Fund's results-oriented approach to climate financing. We argue that collaboration between the GCF and the CDM can contribute to leveraging new sources of private capital and pave the way for future demand for CERs. The ambition of this report is therefore to strategically position engagement between the two institutions in support of unified efforts to stimulate GHG mitigation action and test funding models that can support the realisation of mitigation targets both leading up to 2020 as well as in a climate framework that will follow thereafter .

2 UNFCCC. Guidance relating to the clean development mechanism. FCCC/KP/CMP/2015/L.4

3 CDM. Options for using the clean development mechanism as a tool for other uses. CDM-EB-88-AA-A01

IT TAKES TWO TO TANGO

The CDM's overall objectives and institutional design are closely aligned with the Fund's mandate and operational framework. Both the GCF and the CDM promote a bottom-up approach to climate action and exist under the premise of 'common but differentiated responsibilities', whereby developing countries are assumed to be beneficiaries. Projects or programmes need to demonstrate additionality, require formal national endorsement from designated national institutions, and are required to comply with MRV standards. Both the GCF and the CDM strive to promote climate action while contributing to sustainable development in host countries.

"The CDM features as one potential financing instrument that the Fund could use to leverage private sector capital"

Given such aligned aspirations, it is not surprising that linking the GCF with the CDM has already been put on the agenda. In Paris, the CMP11 encouraged the CDM Executive Board to explore new opportunities for financing of the CDM through international climate finance channels, and report back on existing possibilities in Marrakech.[4] The UNFCCC Secretariat in the meantime identified four areas mentioned above where the CDM can contribute to global efforts to reduce GHG emissions, including positioning the mechanism as an MRV tool to enable credible and transparent results-based payments using climate finance, including GCF funding.[5] In March 2016, the CDM Executive Board issued a call to receive input on the identified options for using the mechanism as a tool for other uses. Further to this, a workshop on financing and use of the CDM by international climate finance institutions was held during the 44th session of the Subsidiary Body for Implementation (SBI 44). Linking the CDM with the GCF was one of the topics discussed during this workshop, and the potential for the CDM to support climate financing activities was noted.[6] The CDM Executive Board will continue to deliberate this issue based on the inputs received during this workshop.

Beyond the confines of the UNFCCC negotiations, stakeholders have also voiced their support to encourage cooperation between the two institutions. The CDM Policy Dialogue – an independent high-level panel established to take stock of the CDM – reported that the mechanism is well-positioned to support the rapid operationalisation of the GCF by strengthening its performance measurement through using sector-specific CDM methodologies.[7] A recent submission to the GCF Board by a group of civil society organisations expressed support for GCF engagement with CDM activities as long as funds are used to support new projects that have high sustainable development potential and clear evidence of additionality.[8] East and Southern African non-state actors have furthermore voiced the importance of establishing a link between climate finance and carbon markets during a dialogue on Article 6 organised by the Kampala regional collaboration center. [9]

While market observers and project implementers recognise the benefits of linking the GCF with the

4 UNFCCC. Guidance relating to the clean development mechanism. FCCC/KP/CMP/2015/L.4

5 CDM. Options for using the clean development mechanism as a tool for other uses. CDM-EB-88-AA-A01

6 UNFCCC. Report on the workshop on financing and use of the clean development mechanism by international climate finance institutions. Version 01.0.2016

7 Report of the High-Level Panel on the CDM Policy Dialogue. Climate Change, Carbon Markets and the CDM: A call To Action. September 2012

8 Submission endorsed by 28 civil society organizations. Lessons learned from the CDM for the approval of GCF's funding proposals Submission to the Board of the GCF. October 2015

9 UNFCCC, RCC Kampala. East and Southern African non-State actor dialogue on Article 6 of the Paris Agreement Summary Report. July 2016

CDM, the Fund itself has been cautious in taking a formal position. This reservation is surprising as the Fund's Governing Instrument, adopted during the COP17 in Durban in 2011, clearly acknowledges the value and necessity of building on established UNFCCC mechanisms. Specifically, it calls on the Board to "develop methods to enhance complementarity between the activities of the Fund and the activities of other relevant bilateral, regional and global funding mechanisms and institutions, to better mobilise the full range of financial and technical capacities".[10]

Following the COP17 request[11] to actively collaborate with other UNFCCC bodies – including the CDM – the Fund acknowledged the need to develop an engagement strategy with relevant thematic bodies established under the Convention to draw on expertise and lessons learned to date. While its initial communication, released in June 2013, explicitly mentioned the CDM as a relevant entity, the mechanism was broadly omitted from formal discussions in later board meetings.[12] At the same time, the CDM features as one of the four[13] potential financing instruments that the Fund's Private Sector Facility – the Fund's arm mobilising private sector action – could use to leverage private sector capital. The Private Sector Facility's Business Model Framework proposed in June 2013 recognises that the CDM has created a "credible and transparent framework for results-based (pay-for-performance) financing of low cost mitigation activities".[14] The guidance document lists the use of CER price guarantees for certain types of CDM activities (e.g. energy access) as one way in which the Fund could instil confidence in the CDM and encourage private sector investors to support low carbon development on a larger scale. Further to this, during the SBI 44 the topic of linking the CDM and the Fund was also explicitly discussed. A report summarising the main outcomes of this workshop prepared by the CDM Secretariat notes that the GCF invites proposals on the use of the CDM, and that the Fund does not preclude any type of project from funding. [15]

THE VALUE OF A CER

The value of a CER goes beyond the market rate that is governed by compliance demand, and the GCF can benefit from this value proposition. By incentivising project implementers to apply CDM rules and modalities, or directly supporting high-quality CDM activities with scale-up potential and clear sustainable development benefits, the Fund can achieve the following objectives:

1. **Strengthen the results-based approach to climate finance** by applying the CDM's MRV framework to quantify the mitigation impacts of GCF funded activities in a transparent and verifiable manner;

2. **Leverage the existing CDM pipeline to rapidly mobilise mitigation action** by providing support to additional, high-quality CDM activities at risk of discontinuation as well as incentivising replication and scale-up of already registered projects;

10 GCF. Governing Instrument for the Green Climate Fund. December 2011

11 UNFCCC. Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011. FCCC/CP/2011/9/Add.1. March 2012

12 GCF. Relationship with UNFCCC and External Bodies. GCF/B.04/14

13 The other three instruments include: 1) tariff support and guarantees for small scale renewable energy; 2) viability-gap support for low carbon power sector infrastructure; and 3) country risk insurance for low carbon infrastructure in risky country business environments

14 GCF. Business Model Framework: Private Sector Facility. GCF/B.04/07

15 UNFCCC. Report on the workshop on financing and use of the clean development mechanism by international climate finance institutions. Version 01.0. 2016

3. **Attract new sources of (private) climate finance** including institutional investors that see value in tracking GHG mitigation results;

4. **To deliver a pipeline of projects** that can be used in the future to deliver mitigation outcomes for use under the Paris Agreement; by providing CER price guarantees and bridging the period until compliance demand incentivised by the Paris Agreement materialises.

In the report six engagement models are presented that translate the linking of the CDM with the GCF into practice. These include:

Grant financing, where grant disbursements are linked to GHG impacts either indirectly (when delivered upfront) or directly (via results-based payments);

Debt funding, where the Fund pegs its debt terms and conditions to GHG mitigation results tracked under the CDM;

Green bond financing, where the Fund offers credit enhancement by extending a credit guarantee to cover a portion of the debt marketed through a green bond;

Equity financing, where the Fund pegs its equity terms and conditions to GHG mitigation results tracked under the CDM;

Guarantees, whereby the Fund offers revenue support through price guarantees linked to CERs;

A non-financial engagement model which applies CDM methodologies to streamline monitoring activities within GCF funded activities.

The engagement models offer different opportunities and should be evaluated in light of the overarching goals. For example, the pure non-financial engagement model may be sufficient if one only seeks to strengthen the results-orientation of climate finance. Grant and debt financing as well as equity investments can all play a part in reviving or scaling-up the existing CDM pipeline. The green bonds model holds promise for enticing institutional investors to commit financing to CDM activities. Finally the instrument of guarantees can play a crucial role in directly linking climate finance with other sources of demand for compliance-grade credits. As already pioneered by the Pilot Auction Facility, climate finance can provide a CER floor price to project developers that is sufficient to incentivise GHG mitigation action. However, the guarantees do not necessarily have to be executed if other sources of demand become available in the mid- to long-term. This has the advantage that climate finance can stimulate investments without having to actually be disbursed. In turn, building up a pipeline of UNFCCC compliance-grade projects can enable greater ambition on the side of compliance buyers as they are presented with a transparent and executable option. Just as intended by Article 6.1 of the Paris Agreement, governments could raise the ambition of their Nationally Determined Contributions by making use of the generated portfolio of mitigation outcomes, while stimulating new investments by drawing on both market- and non-market sources of climate finance.

"The value of a CER goes beyond the market rate that is governed by compliance demand, and the GCF can benefit from this value proposition"

2 Operational modalities of the GCF and CDM

Similarities between the objectives of both institutions serve as the starting point for collaborative engagement. This chapter reviews the GCF's institutional, operational, and funding frameworks and relates these to the modalities and procedures governing the CDM. The observed complementarities also inform the formulation of the engagement models presented later on in this report. Table 1 summarises the comparison between the scope and modalities of the GCF and the CDM.

Table 1: Comparison between the operating modalities of the GCF and the CDM

	The GCF	The CDM
Mission	To expand collective human action to respond to climate change by mobilising funding at scale to support a paradigm shift towards low-emission and climate-resilient development	To allow countries that have an emission reduction commitment under the Kyoto Protocol to meet these commitments by supporting cost-effective mitigation activities in Non-Annex I countries, whilst contributing to sustainable development
Institutional framework	Governed by a Board, administrated through a Secretariat, supported through Committees and implemented through Accredited Entities and Executing Entities	Governed by an Executive Board, administrated through a Secretariat, supported through panels and working groups, with independent auditing conducted by Designated Operational Entities (DOEs), implemented by Project Participants
Approval cycle	Proposal submission through Accredited Entities, endorsed by National Designated Authorities (NDA). First review by the Secretariat, final funding decision by the Board	Project Design Document (PDD) validation through DOEs, endorsement by Designated National Authorities (DNAs). First review by the Secretariat, registration by the Board. Successful monitoring by Project Participant, and verification by DOEs is prerequisite for issuance of CERs by the Board
Funding instruments	Direct through grants, concessional loans, equity and price guarantees	CERs serve as assets that can receive financing by carbon market or non-market climate finance sources

MISSION

Both the GCF and the CDM are governed by the UNFCCC

Both institutions share the objective to stimulate GHG mitigation action in developing countries while contributing to sustainable development

The GCF is a funding vehicle through which international climate finance pledges are disbursed and accounted for, whereas the CDM represents a baseline and crediting scheme

The Green Climate Fund

The GCF has been established with the ambition to mobilise international climate finance and streamline investments into mitigation and adaptation projects and programmes. The Fund was introduced in the Copenhagen Accord adopted in 2009 and formally established one year later during the COP16 held in Cancun. In 2011, the Fund and the UNFCCC adopted its Governing Instrument, in which it recognised its objective to "promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their GHG emissions and to adapt to the impacts of climate change".[16] The Fund aims to realise this goal by "channelling new, additional, adequate and predictable financial resources to developing countries and [catalysing] climate finance, both public and private, and at the international and national levels".[17]

Given its ambitious scope and mandate to act as one of the two operating entities of the Financial Mechanism of the UNFCCC, the Fund is expected to become the main financing vehicle in the context of mobilising USD 100 billion per year in climate finance by 2020. The Paris Decision reiterates the key role the GCF is to have in a post-2020 framework, formally designating the Fund as a key provider of predictable financial resources and requesting the GCF to support developing countries with the formulation and implementation of NDCs and national adaptation plans.[18] The GCF may also provide financial support to the Technology Mechanism that was introduced in Cancun. This mechanism is implemented by the Technology Executive Committee and the Climate Technology Centre and Network, and has been established to promote and facilitate enhanced action on technology development and transfer.

"The Fund is expected to become the main financing vehicle in the context of mobilising USD 100 billion per year in climate finance by 2020"

As illustrated in Figure 1, the GCF aims for a balance between mitigation and adaptation over time, seeking geographic balance and a fair allocation across a broad range of countries. Specifically, the Fund strives for a minimum allocation of fifty percent of its resources for adaptation in climate vulnerable countries, including Least Developed Countries (LDCs), Small Island Developing States (SIDS) and African States.[19] The Fund also stresses the importance of promoting environmental, social and economic benefits and taking a gender-sensitive approach.

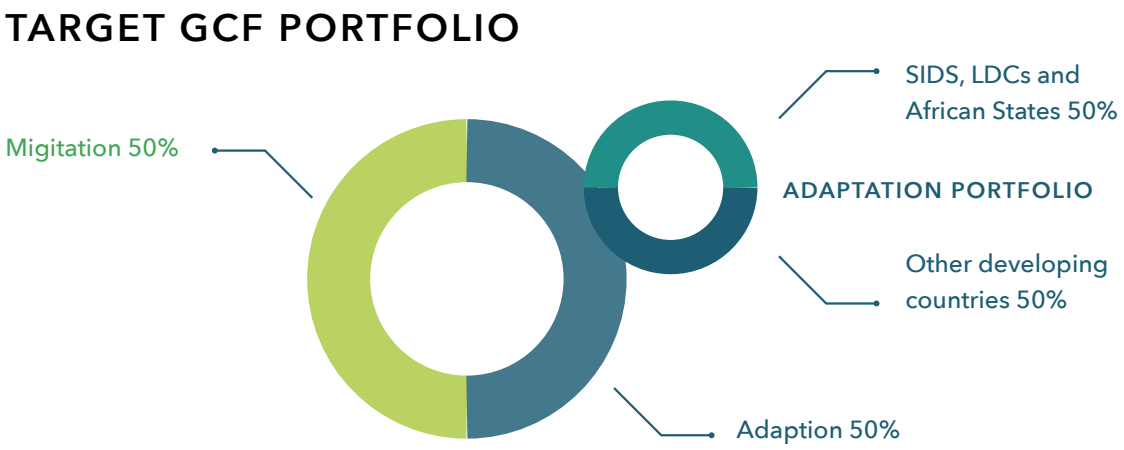
16 GCF. Governing Instrument for the Green Climate Fund. December 2011

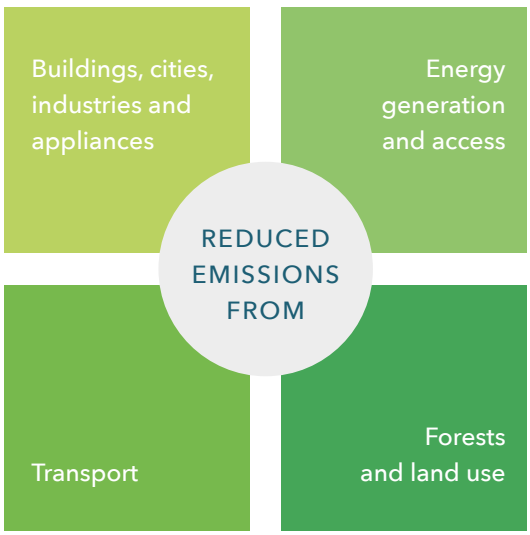
17 GCF. Governing Instrument for the Green Climate Fund. December 2011

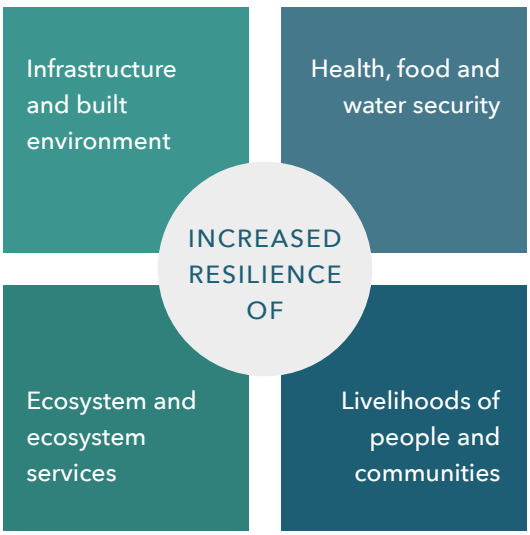
18 UNFCCC. Adoption of the Paris Agreement. Paris 2015

19 GCF. On Funding. August 2016 [online] Available at: http://bit.ly/2c2Evd9

Figure 1: GCF portfolio allocation and investment scope







Adapted from: GCF. Infographics (website). August 2016 Available from: http://bit.ly/1nbwXca

The Clean Development Mechanism

The CDM was established under the Kyoto Protocol. It was conceived as a flexible cooperation mechanism that supports sustainable development, while allowing Annex I countries to meet their compliance obligations with CERs. The overall scope of the GCF extends beyond the breadth of the CDM. The Fund has a broader target portfolio, focuses on transformational investments, and has a more pronounced emphasis on sustainable development impacts. The two institutions also fulfil distinctly different roles: the GCF is a funding vehicle through which international climate finance is channelled, while the CDM is a baseline and crediting scheme.[20]

"The CDM can support the GCF in measuring the mitigation impact of its investment portfolio"

Given its strong MRV framework, the CDM is however naturally positioned to support the Fund with measuring the mitigation impacts of its investment portfolio. As the Paris Agreement also requires developing countries to report progress on their Nationally Determined Contributions to the UNFCCC, the importance of a harmonised, transparent and comparable reporting approach is paramount. The CDM's UNFCCC-approved methodologies offer well-tested monitoring tools for more than 200 activity types. These fall under the four GCF mitigation sub-groups: energy generation and access, forests and land use, transport, and interventions in the urban and industrial sector.

While CERs can be used as offsets, they can also be used to demonstrate mitigation impacts by retiring them in designated UNFCCC-administrated cancellation accounts in the CDM registry. As such, the CDM is well placed to assist with channelling climate finance to developing countries based on mitigation outcomes achieved. In addition, by functioning as a partnership between Annex I and non-Annex I countries, the CDM has generated a wealth of experience in promoting sustainable development activities in developing countries.

Box 1: Pledges to the GCF

A total of 43 governments have made a pledge to the GCF as of August 2016, including nine representing developing countries. Together, these pledges amount to USD 10.3 billion, of which USD 9.9 billion have been signed. The largest confirmed contributors to date include the United States (USD 3 billion), Japan (USD 1.5 billion), the United Kingdom (USD 1.21 billion), France (USD 1.04 billion) and Germany (USD 1 billion).[21] The Fund's Initial Resource Mobilisation (IRM) period started in June 2014 and lasts until 2018, during which new pledges will be accepted on an ongoing basis. The Fund aspires to disburse USD 2.5 billion in 2016.

20 The original Kyoto Protocol Article 12.6 actually demands that the CDM should mobilise finance for projects, although this was never explicitly pursued in practice

21 GCF. Contributors. August 2016 [online] Available at: http://bit.ly/2bup8Pd

INSTITUTIONAL FRAMEWORK

The GCF and CDM share similarities in their institutional design

Both are governed by boards that make the final funding or registration decisions

Accredited Entities perform initial proposal appraisals under the GCF. Under the CDM, third-party DOEs are mandated to evaluate eligibility

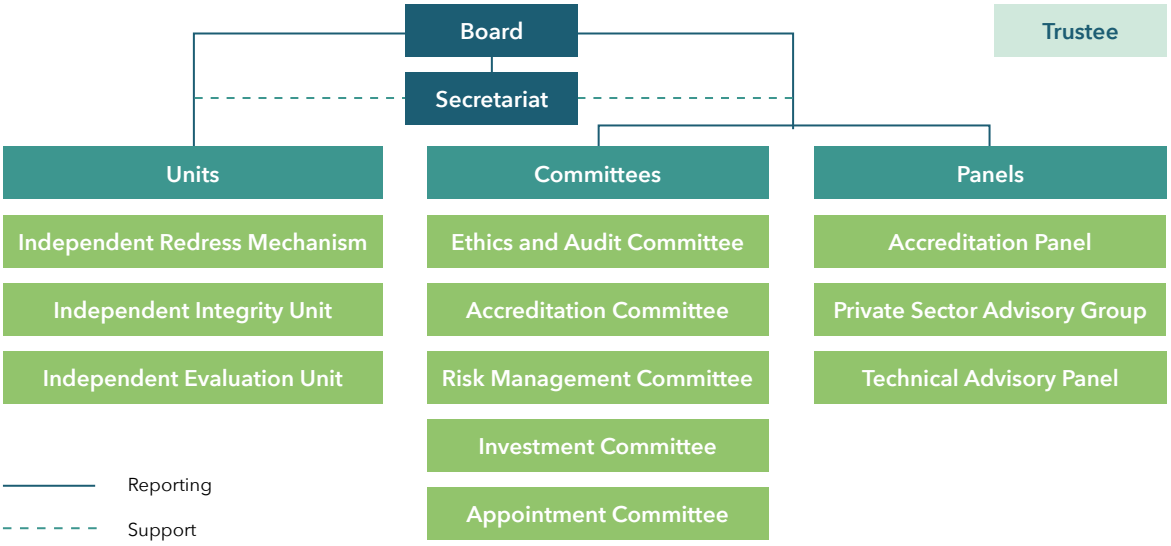
The Green Climate Fund

The GCF is a legally independent institution headquartered in Incheon, South Korea. It is governed by a board that supervises the Fund's operations and makes final funding decisions. It is composed of 24 members, with equal representation from developed and developing country Parties. The Board's tasks are supported by a secretariat, which executes the day-to-day operations of the Fund.

The Secretariat is accountable to the Board and provides the necessary technical, administrative and logistical support, including evaluation of submitted funding proposals. Aside from these entities, specialised expertise is provided through so-called independent accountability units, which assist the Fund with the elaboration of standards, MRV guidelines, accountability and compliance. A number of committees also guide further development of the GCF's modalities and operations, including an Ethics and Audit Committee, Accreditation Committee, Risk Management Committee, Investment Committee, and an Appointment Committee. Finally, teams of experts support the Fund with matters relating to the accreditation process, private sector engagement and proposal evaluation (see Figure 2).

The World Bank serves as the Interim Trustee of the Fund and is responsible for managing the financial

Figure 2: Institutional framework of the GCF[22]



22 Adapted from: GCF. Comparison of salary levels for comparable positions at other specialized global funds for the Heads of the Accountability. GCF/B.11/13

assets of the GCF.[23] The institutional arrangement of the GCF – similar to other large funds such as the Global Environment Facility (GEF) – prevents it from disbursing capital directly to project implementers. Contributions overseen by the GCF are instead channelled to beneficiary countries through Accredited Entities.[24] These entities can be represented by private, public and non-governmental organisations and may include national ministries, international development banks, or institutional investors.

The accreditation procedure is in place to ensure counterparties can meet fiduciary standards and principles and implement effective social and environmental safeguards to protect the integrity of the funding process. Depending on the type of organisation, accreditation can be handled through a 'direct-access' modality or an 'international access' modality. The first track allows countries to gain direct access to GCF funding through national or sub-national Accredited Entities that have been nominated by respective NDAs. NDAs are typically national ministries or facilities that are mandated to act as the national focal point for the GCF. NDAs are mandated to endorse project ideas by issuing 'no-objection' letters, thereby acknowledging that funding proposals are consistent with the national climate or development policies. This process is comparable to the CDM, where DNAs issue Letters of Approval (LoA) confirming a project's contribution to the sustainable development of the host country.

The ability of beneficiary countries to gain 'direct access' to GCF funds is an important component of the Fund's operating modalities. The feature retains the function of funding oversight and management in the hands of domestic institutions, rather than multilateral or external agencies. During its tenth Board Meeting held in July 2015, the GCF went a step further and agreed to pilot 'enhanced direct access', which would also transfer the final funding decision to the country level.[25] Enabling this form of enhanced direct access will further support the Fund's aim to promote country ownership.

Under the 'international track', international organisations including United Nations agencies, multilateral development banks, and international financial institutions can pursue accreditation without the formal endorsement of NDAs.[26] While NDAs have no formal say in the accreditation process of such international entities, they do maintain the right and responsibility to communicate their 'no-objection' for each funding proposal submitted by these entities.

As of August 2016, a total of 33 organisations were accredited to the Fund, with close to another 100 entities awaiting approval. The list of approved Accredited Entities includes multilateral development agencies (e.g. UNDP, UNEP), national ministries (e.g. Ministry of Natural Resources of Rwanda), regional development banks (e.g. Africa Finance Corporation), non-profits (e.g. Conservation International Foundation) and private financing institutions (e.g. Deutsche Bank AG), amongst others.[27] Readiness funds for the 'direct access' track have been made available through the GCF and donors to further support developing country applicants with the accreditation process.[28]

23 The Bank will be subject to a review three years after the operationalisation of the Fund

24 Also referred to as Implementing Entities (IEs)

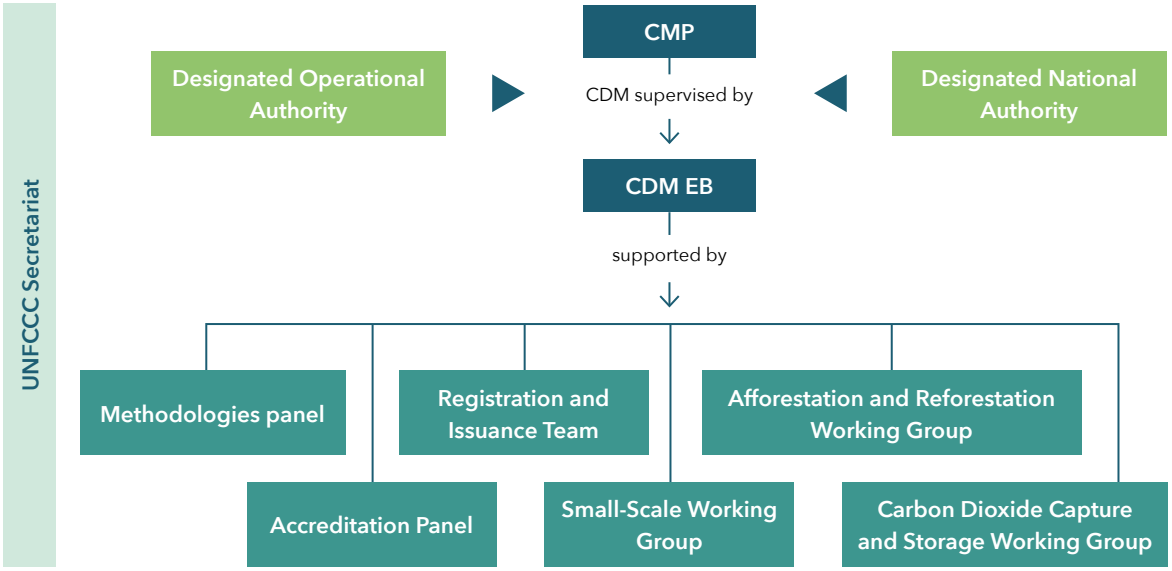
25 To pilot 'enhanced direct access', the GCF plans to implement a five-year pilot programme worth up to USD 200 million. The programme will target the development of ten pilot schemes, with at least four pilots to be implemented in Small Island Developing States, Least Developed Countries and African States

26 GCF. Guiding Framework for Accreditation. GCF/B.07/02

27 GCF. List of Implementing Entities. August 2016 [online] Available at: http://bit.ly/2aea9rK

28 GCF. Readiness support. August 2016 [online] Available at: http://bit.ly/2bUqmSf

Figure 3: Institutional framework of the CDM[29]



The Clean Development Mechanism

The CDM is governed by the CDM Executive Board, which operates under the authority and guidance of the CMP. The Board is tasked with the operationalisation of the modalities and procedures of the CDM and its continuous evolution, and has the final say over the registration of projects and the issuance of CERs. It is supported by various panels, including the Methodology Panel and the Accreditation Panel to develop recommendations on MRV-related matters and streamline the accreditation process of DOEs (see Figure 3).

While the Executive Board has the authority to register projects, it has little influence on the type of activities that enter the project pipeline, as long as proposed activities are developed in line with the CDM's methodologies, are successfully validated and receive host country approval. This differs from the GCF, where its board plays a more prominent political role and can exert influence over the types and locations of projects that are funded. This feature has raised concerns amongst certain developing country Parties. De-politicising the eligibility to receive funding is one important factor that has helped to encourage the private sector's interest to engage with the CDM.

29 Illustration based on the governance structure reported on: https://cdm.unfccc.int/EB/governance.html

PROJECT APPROVAL PROCESS

The GCF targets project sizes starting from < USD 10 million to larger than USD 250 million. Under the CDM, categorisation is linked to the mitigation outcome of the activity

Both institutions relate to national entities for project endorsement and at times, NDAs and DNAs can be represented by the same organisations

Approval processes overseen by both institutions require stakeholder consultations

The Green Climate Fund

An established National Designated Authority and Accredited Entity pave the way towards the submission of funding proposals to the GCF. The amount and type of funding that can be requested by project implementers is dependent upon the Accredited Entity through which the proposal is submitted. This, in turn, is defined by the form of accreditation granted by the GCF. Organisations canbe accredited by the Fund to undertake activities of a certain funding size (e.g. micro (< USD 10 million), small (USD 10 - 50 million), medium (USD 50 - 250 million), or large (> USD 250 million) per submitted project or programme). Next to this, the fiduciary standards of applicants also govern the type of activities that organisations can be involved in, differentiating between basic, project management, and on-lending and/or blending. Finally, a track record in overseeing project implementation in areas exposed to a certain level of environmental and social risk also plays a role in defining the accreditation form. Once an Accredited Entity is identified, funding proposals can be submitted to the Fund either through calls for funding proposals initiated by the GCF Secretariat or on an ad-hoc basis.

The GCF proposal preparation and appraisal process consists of the following steps:[30]

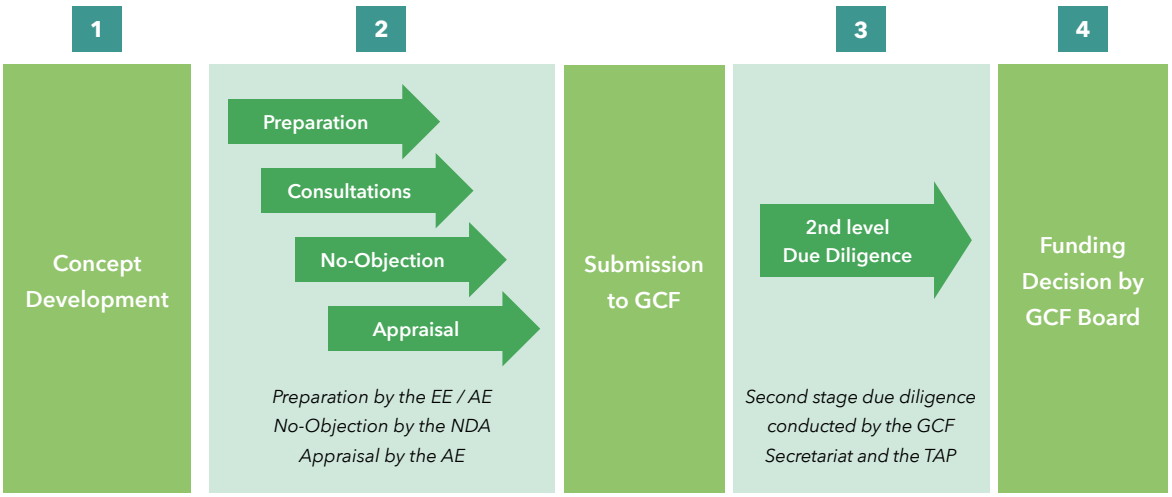
1. *Concept development stage*: Prior to elaboration of funding proposals, Accredited Entities are encouraged to share a project concept note with the GCF Secretariat to seek feedback and recommendations on whether the concept is broadly aligned with the Fund's objectives. This is a voluntary step but presents beneficiaries with the opportunity to seek feedback on projects in the early development stage.

2. *Proposal preparation stage*: Investment-ready funding proposals are subsequently elaborated in a GCF proposal template, which considers the Fund's investment criteria. The proposal preparation process needs to be complemented by a comprehensive set of supporting documents, including feasibility studies, Environmental and Social Impact Assessments, stakeholder consultations as well as a formal endorsement from the National Designated Authority through the issuance of a 'no-objection' letter.

3. *Appraisal stage and submission*: Draft proposals are initially appraised by Accredited Entities, which evaluate the project's performance against the GCF investment criteria and determine the grant and/or concessional loan element needed to make the investment viable. Other forms of funding support may also be applicable, including equity and guarantees. Successful projects are then submitted to the GCF Secretariat, which carries out a second due diligence focusing on the project's compliance to the Fund's gender policy and

30 GCF. Initial Proposal Approval Process. GCF/B.07/03

Figure 4: Simplified GCF funding approval process[31]



environmental and social safeguards. Another technical review is conducted in parallel by an independent Technical Advisory Panel (TAP). Both recommendations are submitted to the Board for consideration.

4. *Funding decision*: The final funding decision is taken by the GCF Board, based on the insights generated in the previous appraisal stage. Projects that are rejected by the Board have the opportunity to improve their submission and re-apply for funding. Once a proposal is approved, the Fund and the Accredited Entity agree on the legal arrangements and funding can be disbursed.

31 Authors' visualisation of the approval process

Box 2: The Private Sector Facility[32,33]

The GCF recognises the importance of directly engaging the private sector and aims to mobilise funds from institutional investors such as pension funds, sovereign wealth funds, impact investors and commercial banks. For that purpose, the Fund is in the process of designing modalities for a Private Sector Facility. The objective of the Facility will be to address barriers to private sector investment in mitigation and adaptation projects, including market failures, insufficient capacity and lack of awareness. In a preparatory document, the GCF Secretariat has outlined possible objectives for the Private Sector Facility, including to:

- 'De-risk' investments, such as through exchange-rate risk management;
- Scale up investment opportunities, by aggregating many small project activities under one investment vehicle;
- Fund innovative climate-related technologies, by for instance reducing barriers of entry and facilitating access to market;
- Build technical and financial capacity, including raising awareness about climate investment opportunities.

By addressing these issues the Fund could mobilise private capital and expertise at scale. An initial 'Micro-, small- and medium-sized enterprise pilot programme' has been launched at the thirteenth Board Meeting held in June 2016, earmarking a funding volume of USD 100 million for high-impact projects and programmes involving SMEs.[34] This marks the first financing activity announced by the Facility.

32 GCF. Private Sector Facility. August 2016 [online] Available at: http://bit.ly/2c3DC4k

33 GCF. Private Sector Facility: Potential Approaches to Mobilizing Funding at Scale. GCF/B.09/11

34 GCF. Request for funding proposals. FP 2016/PSF/001

The Clean Development Mechanism

The CDM project cycle consists of seven steps from project design according to approved baseline and monitoring methodologies to final issuance by the CDM Executive Board.

This bottom-up approach has made the mechanism a success amongst private sector participants. Similar to the GCF, to become eligible CDM activities need to receive host country endorsement published by the Designated National Authority confirming that the activity is of a voluntary nature and contributes to the sustainable development of the host country. At times, National Designated Authorities and Designated National Authorities can even be represented by the same government institutions.

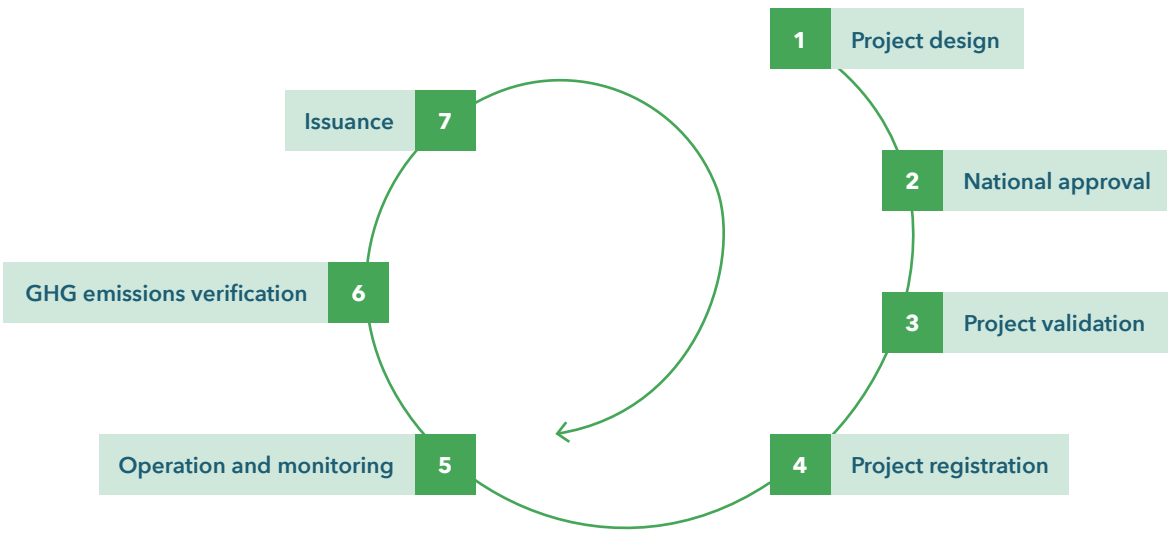
Importantly, the CDM has introduced Programmes of Activities (PoAs). This enables adding an unlimited number of similar activities into a programme once it has been registered by the CDM Executive Board, which significantly lowers transaction costs.

Employing programmatic approaches is a key objective of the GCF, and PoAs offer valuable lessons on bundling project activities and monitoring. Moreover, CDM methodologies have become increasingly standardised over time, making it easier for project participants to navigate the project cycle. In particular standardised baselines have a high potential to be used beyond the CDM context, such as for establishing mitigation impacts by GCF funded activities.

The CDM applies different requirements to micro, small, and large scale activities. Small-scale activity types are further classified according to output capacity (Type I), energy savings potential (Type II), or the amount of emission reductions produced (Type III).

A requirement that both mechanisms share is the need to conduct stakeholder consultations to ensure that proposed activities do not adversely impact local populations and other stakeholders.

Figure 5: The CDM project cycle[35]



35 Illustration based on the project cycle graphic reported on: http://cdm.unfccc.int/Projects/diagram.html

FUNDING INSTRUMENTS

The GCF currently offers grants, concessional debt, equity finance, and price guarantees

The CDM does not provide any particular guidance or eligibility criteria on finance, aside from avoiding diversion of ODA

The Private Sector Facility recognises the CDM as a credible and transparent framework for results-based financing of low cost mitigation activities, and could offer price guarantees

The Green Climate Fund

The type and design of financial instruments extended through the GCF is governed by the initial investment framework and related investment policies, which stress that concessional forms of finance need to minimise market distortions and potential disincentives to public or private investment. Another important factor determining the applicability of funding is its purpose. The Fund offers funding in cases where the support a) covers incremental cost; b) facilitates access to sources of private capital or reduces its cost; or c) addresses a key risk at a specific point of the financing cycle.[36]

"The GCF is open to utilising various financing mechanisms to maximise the effectiveness of the funds"

The GCF is open to utilising various financing mechanisms to maximise the effectiveness of the funds. Currently, the following four funding instruments are made available through the GCF:

Grants: Grants represent non-repayable funds that target high-risk, early stage project development activities or are tailored to cover incremental cost. Under certain conditions, grants extended to private sector entities may contain a repayment contingency in order to maximise the effectiveness of the granted resources. All GCF grants are repayable in cases evidencing corruption or other non-compliance with integrity or fiduciary standards.

Concessional loans: Concessional loans are loans extended at below-market interest rates characterised by longer tenures and grace periods, less stringent covenants, and lower seniority. The degree and type of concessionality depend on the nature of the proposed investment and are structured by the Fund in a way so that it does not displace commercial sources of finance. For loans extended to public sector entities, the Fund differentiates between "vulnerable countries" that qualify for deeply concessional terms, and "other countries" that are more developed and can afford less concessional terms. Table 2 outlines the concessionality terms for both types of loans as approved during the ninth Board Meeting held in March 2015.[37,38] The repayment terms on loans extended to the private sector are defined on a case-by-case basis, and are adapted to sufficiently cover the incremental cost or risk premium required to make the investment viable. In general, the interest rates charged to private sector participants include a credit risk premium on top of the rate made available to the public sector.

Equity: Equity represents paid-in capital by the Fund into a project or programme in exchange for partial ownership. The contributed equity investment can be used by the project implementer to invest in capital expenditures or cover early-stage operating expenses. By taking a direct stake, the GCF shares

36 GCF. Business Model Framework: Terms and Criteria for Grants and Concessional Loans. GCF/B.05/07

37 The terms and conditions of GCF's funding are to be reviewed on an annual basis

38 GCF. Decisions of the Board – Ninth Meeting of the Board, 24 - 26 March 2015. GCF/B.09/23

Table 2: Concessionality terms for loans extended by the GCF to the public sector[39]

Funding instrument	Currency	Maturity	Grace period	Annual principal repayment	Annual principal repayment[40]	Interest
To vulnerable countries	Major convertible currency	40	10	2%	4%	0.25%
To other recipients	Major convertible currency	20	5	6.7%	N/A	0.75%

both the risk and reward associated with future cash flows generated by the activity. The Fund can contribute equity on concessional terms, meaning it may accept lower returns than other investors or deliver a higher risk-bearing tranche.

Guarantees: Guarantees attract investors by reducing or eliminating exposure to specific financing or operational risks. Loan guarantees can support the credit-worthiness of the borrowing entity to enable or facilitate access to capital markets. Such instruments can mitigate the lack of collateral that is often experienced by greenfield projects. Price guarantees can provide security in terms of future earnings by, for instance, securing feed-in tariffs in power-purchase agreements for renewable energy generation projects. Broader insurance products also fall into this category, including hedges against currency risks and credit defaults.

When allocating funding to projects or programmes, the Fund needs to consider the terms and conditions of the pledged contributions. As of August 2016, of the USD 10.3 billion pledged, USD 381.3 million was pledged in the form of loans, with the remaining USD 9.8 billion representing grants.[41] The fact that the loans will need to be returned to the lenders (including a return on the funds) constrains the Fund in the type of risks and concessionality it can afford.

The Clean Development Mechanism

As a crediting mechanism through which emission reductions are verified and issued, the CDM does not provide any particular guidance or eligibility criteria when it comes to financing structures. Project developers do not face restrictions when structuring financing from private sources, and combinations of commercial debt and equity often make up the complete funding package. However, CDM activities above a certain scale need to demonstrate financial additionality, i.e. that they need CER revenues to become financially viable.

Moreover, CDM rules are explicit about the degree to which public funding earmarked for Official Development Assistance (ODA) can be used to (co-) fund CDM activities. Activities supported by ODA diverted from other development areas are not eligible for registration under the CDM. In practice, project developers are required to demonstrate in their project documentation that public funding received for the project "does not result in a diversion

39 GCF. Financial Terms and Conditions of the Fund's Instruments. GCF/B.09/08

40 Annual principal repayment: 11–20/6–20 (% of initial principal), and then Annual principal repayment years 21–40 (% of initial principal)

41 GCF. Financial Terms and Conditions of the Fund's Instruments. GCF/B.09/08

of [ODA] and is separate from and is not counted towards the financial obligations of those Parties".[42] From the perspective of donor countries, it is therefore not permitted to classify public money used to purchase CERs as ODA.

This condition is relevant to the engagement models presented in this report, as funding disbursed by the GCF may contain ODA for two reasons. First, ODA and climate finance flows from developed to developing countries often overlap. To ensure that financial resources are not diverted from other areas, Article 4.3 of the Convention states that developed countries shall provide "new and additional" financial resources to developing countries. Parties to the UNFCCC however neither agreed on a definition of 'additionality' nor adopted common accounting rules for tracking such financial flows. Second, the GCF "may receive financial inputs from a variety of other sources, public and private, including alternative sources".[43] In the absence of a common accounting methodology, once again donor countries may report 'other' public resources as ODA.

This uncertainty regarding the source of the funding pledged to the GCF implies that if the Fund is to request CERs in return for financial support, the credits would need to be cancelled. Allowing donor countries to claim such CERs and use them for own compliance would present both a risk for CDM eligibility and a deviation from the Fund's ambition to contribute to net GHG mitigation action. Generating and cancelling CERs can provide a highly robust approach to disbursing results-based climate finance, with mitigation impacts measured according to UNFCCC-approved methodologies.

42 UNFCCC. Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol. FCCC/KP/CMP/2005/8/Add.1. March 2013

43 GCF. Governing Instrument for the Green Climate Fund. December 2011

3 GCF investment criteria and the CDM

The GCF aims to support high-quality, bankable projects and programmes that contribute to a paradigm shift towards low carbon development and climate resilience. Funding proposals are evaluated against several overarching investment criteria that link to the Fund's mission, gender policy and environmental and social safeguards.[44] According to the Fund's Initial Investment Framework updated in March 2015, there are six key investment criteria that the GCF considers when evaluating funding proposals:

Impact potential: potential of the activity to contribute to the shift to low-emission sustainable development pathways or increased climate-resilience;

Paradigm shift: degree to which the activity can catalyse a wider impact and contribute to global low-carbon development in line with a temperature increase of less than 2 degrees Celsius above pre-industrial levels;

Sustainable development: degree of environmental, social, economic, and gender-related benefits resulting from the activity;

Needs of recipient: technical, institutional, and financing needs of the beneficiary country or project implementer;

Country ownership: country ownership of the activity, as well as alignment with national development or climate policies; and

Efficiency and effectiveness: economic and financial soundness of the activity, including the cost of tonne of carbon dioxide equivalent (tCO_2e) reduced.

This chapter introduces the Fund's investment criteria in more detail and reflects on the implications these evaluation principles can have for CDM activities pursuing GCF funding. Important to note is the evolving nature of the investment criteria put forth by the Fund, as the title of its guiding document implies ('initial'). The same applies for the minimum benchmarks that underlie these criteria, which have not yet been adopted but shall be decided upon no later than at the seventeenth Board Meeting.[45] As such, the benchmarks presented in this chapter should be treated as indicative only. Nevertheless, the scope of future assessment criteria may build on the assessment framework that is already in place and has been tested during the first two appraisal round conducted in late 2015 and early 2016.

44 GCF. Further Development of the Initial Investment Framework: Sub-Criteria and Methodology. GCF/B.09/07

45 GCF. Decisions of the Board – 13th Meeting of the Board, 28-30 June 2016. GCF/B.13/32. Decision 13/02

IMPACT POTENTIAL

Relates to the quantified climate mitigation or adaptation impact

The GCF currently does not prescribe specific approaches to MRV

The CDM offers an MRV framework that can allow the GCF to track the mitigation impact of invested funds over time

The GCF defines impact as the potential of the activity to contribute to the achievement of the Fund's objectives and result areas, distinguishing between mitigation and adaptation impacts. Funded projects are expected to contribute to low carbon development, which is to be evidenced by linking the activity to an expected lifetime emission reduction potential and argumentation that the activity avoids the lock-in of long-lived, high-emission infrastructure. The criterion is further defined by linking it to sector-specific indicators, such as the "expected increase in the number of households with access to low-emission energy" or "expected increase in the use of low-carbon transport".[46]

Activities eligible under the CDM are positioned to perform well on this assessment criterion, particularly from the mitigation side. An analysis of the UNEP DTU CDM pipeline reveals that when considering the entire pipeline of registered CDM projects as of August 2016, the average annual emission reduction potential per project is 130,000 tCO_2e. From the 7,700 registered activities, over 4,000 projects forecast emission reductions exceeding 50,000 tCO_2e per year and 2,350 of these deliver more than 100,000 tCO_2e annually.[47]

The indicative benchmarks for investment criteria outlined in the Initial Investment Framework mention that mitigation projects located in LDCs, SIDS and African States would need to offer a mitigation potential of at least 150,000 tCO_2e over their lifetime. A higher target of 750,000 tCO_2e is proposed for activities implemented in other developing countries. While this indicative threshold would rule out some small-scale standalone projects, CDM's programmatic approach offers opportunities for smaller activities to bundle together and reach a scale that can deliver the impact potential the GCF is seeking. Once again, these benchmarks have not yet been adopted by the Fund, and therefore only serve as indicative benchmarks only.

GCF guidance on how to measure and report realised emission reductions is currently lacking, and project proponents are expected to suggest their own methodology for demonstrating mitigation results. This makes the objective comparison of *ex-ante* appraisal and *ex-post* evaluation challenging. The CDM's methodologies offer UNFCCC-approved MRV tools that are widely tested, cover a wide array of project types and categories, and are increasingly standardised. The requirement to verify emission reductions by third-party auditors (DOEs) further strengthens the case for funding activities applying CDM's MRV procedures.[48] The CDM therefore offers a recognised MRV framework that allows the GCF to identify promising mitigation activities and subsequently track the GHG impact of invested funds over time.

46 GCF. Further Development of the Initial Investment Framework: Sub-Criteria and Methodology. GCF/B.09/07

47 UNEP DTU Partnership. CDM Pipeline Analysis. August 2016 [online] Available at: http://bit.ly/1pYDBUx. Calculation based on cumulative reported emission reduction potentials by 2020 divided by the amount of crediting years per project.

48 While CDM's focus is on GHG mitigation, certain CDM activities deliver obvious adaptation spin-off effects, such as Afforestation and Reforestation projects or programmes

PARADIGM SHIFT POTENTIAL

Relates to impact beyond the funded activity, taking into account transformative effects and contribution to the creation of an enabling environment

Funded activities are expected to offer potential for scale-up and replication

CDM's programmatic approach delivers a framework for scaling up GHG mitigation activities that can also be replicated across regions

The GCF promotes activities that deliver more than just GHG emission reductions. Paradigm shift potential relates to the degree to which proposed projects can catalyse impact beyond a one-off investment, thereby including elements of scalability and replication into the assessment framework. The rationale for this criterion is that the Fund seeks to identify scalable activities that over time can transform entire sectors or economies into low carbon development pathways with long-lasting effects.

The interpretation of 'paradigm shift' is not strictly defined, but the Initial Investment Framework includes a number of coverage areas on which project proposals should build. These include:

- Potential for scale-up and replication;
- Potential for knowledge sharing and learning;
- Contribution to the creation of an enabling environment;
- Contribution to the regulatory framework and policies;
- Contribution to climate resilient pathways.

The ambition level integrated in these coverage areas as such exceeds the requirements of the CDM. However, many activities eligible under the CDM extend beyond the basic notion of reducing GHG emissions as they represent initiatives that would not have taken place under a business-as-usual scenario. For CDM activities to demonstrate additionality, identification of barriers that prevent the activity from being implemented is required. These often include the lack of an enabling environment or adequate regulatory frameworks supporting the proposed action. Furthermore, while the GCF proposal template dedicates more attention to the wider impacts CDM activities can deliver, many CDM activities actively promote alternative technologies and deliver tangible co-benefits across social, environmental and economic spheres.

Not all project categories eligible under the CDM may be deemed attractive by the Fund. Industrial gas projects (HFC-23 and N_2O), which score strongly on the mitigation impact potential, are less likely to impress on the paradigm shift front. Such activities represent a relatively simple intervention that does not generate significant spin-off effects beyond the project boundary, thereby lacking true transformational character. Many renewable energy interventions on the other hand, representing a dominant proportion of registered CDM activities, do directly contribute to low carbon development by avoiding the lock-in of high-emission infrastructure. These transformational impacts need to be made more explicit than is currently reported in PDD documents. The case for scale-up and replicability, a key element of paradigm shift, will require particular attention in the case of stand-alone projects, which will underperform on this criterion if only the continuation of existing activities is proposed. PoAs, on the other hand, build upon the rationale of scalability by establishing a framework for replicating similar activities and thus align well with GCF's funding ambitions.

SUSTAINABLE DEVELOPMENT POTENTIAL

Relates to expected environmental, social and health, and economic -benefits generated by the funded activity

Aligns with the Fund's ambition to deliver impact beyond GHG mitigation and adaptation only

Inherent to many mitigation activities eligible under the CDM but not actively monitored under the scheme

The Fund evaluates the degree to which proposed projects or programmes contribute to sustainable development objectives. The rationale is that supported interventions should go beyond GHG mitigation and adaptation, and that potentially negative impacts are mitigated and positive benefits are maximised. The Initial Investment Framework considers the following four sustainable development criteria:[49]

Environmental benefits: including air quality, soil quality, conservation, biodiversity;

Social benefits: in areas such as health and safety, low-emission energy access to vulnerable groups, access to education, improved regulation and/or cultural preservation;

Economic benefits: including expanded and enhanced job markets, job creation for women and men; increase in private funding sources; improved sector income-generating capacity; contribution to an increase in energy security; increase in water supply and agricultural productivity in targeted areas; and

Gender-sensitive development impacts: explanation of how supported activities address the needs of women and men in order to correct prevailing inequalities in climate change vulnerability and risks.

Much of the mitigation action spurred by CDM activities also yields positive externalities in the areas covered by the GCF. The CDM was designed to meet the dual objective of assisting developed countries fulfil their mitigation commitments while supporting developing nations in achieving sustainable development. How sustainable development is defined was left to host countries to consider, resulting in the CDM lacking a coherent framework of assessing benefits. As a result, contributions to sustainable development are evaluated by host country DNAs and confirmed through the issuance of a LoA for each activity. Despite the lack of agreed monitoring approaches for tracking sustainable development impacts, many activities eligible under the CDM deliver significant positive impacts that go 'beyond carbon'.

When elaborating on these positive externalities in funding proposals, CDM activities can draw on a number of ongoing initiatives to strengthen their case. The CDM Executive Board has issued a Sustainable Development Tool which enables project developers to showcase the development impacts of implemented activities. Increasingly more CDM activities, especially PoAs implemented in LDCs, are also pursuing certification by the Gold Standard to highlight their contribution to broader sustainable development goals. Activities certified under both the CDM and the Gold Standard must follow an MRV framework that targets both GHG mitigation and sustainable development impacts, thereby offering a tested approach to linking capital with impact. This can serve both the GCF as well as specialised private sector investors, such as impact investors.

49 GCF. Further Development of the Initial Investment Framework: Sub-Criteria and Methodology. GCF/B.09/07

NEEDS OF THE RECIPIENT

Describes the degree of vulnerability of the target country and beneficiary groups

Activities should contribute to strengthening domestic institutions and implementation capacities

The CDM's additionality tool can guide the demonstration of access-to-finance barriers

This investment criterion assesses the vulnerability and financing needs of the beneficiary country, and covers a number of areas that can be explored in funding proposals. Activities can demonstrate that beneficiaries represent a particularly vulnerable group, either from the economic (e.g. households living below the poverty line) or social standpoint (minority groups or women and children, in particular). Other relevant areas include contribution to strengthening domestic institutions and implementation capacities, or explanation of how existing barriers create absence of alternative funding sources and how the proposed activity addresses this issue.

There are many angles through which projects eligible under the CDM can approach this evaluation criterion. For certain initiatives – especially PoAs targeting the distribution of household level appliances such as efficient cookstoves, solar cookers or water filters – the link to strengthening the position of vulnerable social groups is strong. Larger-scale projects targeting renewable energy deployment or energy efficiency measures within broader development missions may in turn build upon novel approaches to addressing shortfalls in institutional capacities, such as strengthening the role of electricity feed-in tariffs within a domestic energy policy regime. More generally, part of CDM's additionality assessment also incorporates a barrier analysis that argues why the proposed activity would not have been realised in a business-as-usual scenario. This often relates to technology- or geography-specific hurdles that evidently discourage private sector investors from contributing finance.

Project implementers may also consider proposing project designs to become more inclusive. For example, PoAs applying a common price for efficient cookstoves disseminated under the programme could channel part of the requested GCF funding into a subsidy scheme offering discounts to less privileged groups of society. Activities importing novel technologies to host countries could in turn offer to dedicate part of the funding to capacity building within national ministries or relevant regional authorities to promote uptake of the technology and facilitate replication.

COUNTRY OWNERSHIP

Ensures that proposed activities are supported on the country-level

Linkage to NAMAs or NDCs can serve to indicate alignment with national climate strategy and priorities

The CDM requires a national approval process of projects prior to registration that follows a similar rationale

Country ownership looks at the degree of host country involvement in terms of implementation of the funded project or programme. This criterion reflects the Fund's aim to pursue a country-driven approach that encourages engagement at the country level through the involvement of relevant institutions and stakeholders.[50] To indicate beneficiary country ownership, proposed projects are expected to address domestic climate priorities and align with national development plans. Linkage to Nationally Appropriate Mitigation Actions (NAMAs) or other national development policies are one way of demonstrating national ownership. Another way is showcasing previous experience and track record in successfully implementing similar activities in the national context. Finally, funding proposals need to be developed in consultation with civil society groups and relevant stakeholders and should highlight areas where domestic institutions and authorities have decision-making power influencing project design or its implementation.

Many activities eligible under the CDM operate in sectors that have been identified as strong candidates for NAMA development or are listed as priority interventions in Intended Nationally Determined Contributions. In particular CDM activities initiated by public entities can demonstrate that they build upon existing national or regional plans to promote action in certain sectors, such as municipal wastewater, urban landfill or energy efficiency in the building sector. The degree of consultations included in the original project design is likely to vary between projects, but all CDM activities are required to undergo both local and global stakeholder consultations prior to registration. The first consultation should be a physical meeting, but guidance on the scope and nature of attendees is not detailed and project developers have discretion in defining the participant group. The CDM Executive Board is considering defining additional guidelines for stakeholder consultations as well as incorporating a grievance mechanism to allow for post-registration stakeholder feedback.

For GCF proposals, coherence with existing policies is to be demonstrated through the issuance of a 'no-objection' letter from the country's NDA. The CDM requires a similar national approval process of projects prior to registration. DNAs, often represented by environment ministries or respective climate departments, need to pre-approve and authorise participation in CDM activities. Issuance of LoAs represents official endorsement of proposed activities and acknowledgement that they contribute to the country's sustainable development goals. CDM DNAs sometimes represent the same entities that have been appointed as GCF NDAs. Under such arrangements, activities eligible under the CDM and approved by DNAs may face lower hurdles when applying for 'no-objection' letters as part of their GCF proposal preparation efforts.

50 GCF. Governing Instrument for the Green Climate Fund. December 2011

EFFICIENCY AND EFFECTIVENESS

Determines the cost-effectiveness of the activity in terms of estimated cost per tCO_2e

Accounts for the value-added of GCF funding and the potential to crowd-in other sources of (private) finance

Demonstrating the need for financial support lies at the heart of the CDM's additionality assessment

The final GCF investment criterion targets efficiency and effectiveness, which covers economic and – if applicable – financial soundness of the project or programme. This evaluation criterion measures the cost-effectiveness of GCF's intervention. Whether activities request grant funding, concessional loans or equity finance, funding proposals must clarify the financial adequacy and appropriateness of the requested support. The degree of co-funding requested from the GCF is also important, indicating the added value of the GCF as well the potential of the allocated public resources to leverage other sources of capital. While the degree of leverage is dependent on the type of intervention and the targeted sector, proposals offering higher leverage potential in a particular sector will stand out. Cost-effectiveness in terms of the price per tCO_2e abated is another important measure evaluated by the GCF. Finally, the application of best practices and the use of best available technologies also serve as important indicators of effectiveness.

Activities eligible under the CDM have strong potential to deliver on this evaluation aspect. Demonstrating the need for financial support and lack of alternative sources of capital lies at the heart of the CDM's additionality assessment. Large-scale activities following the CDM's additionality tool need to provide evidence that the economic or financial rate of return without carbon revenues is insufficient to attract investors. Building on the original intention of qualifying for carbon revenues, registered projects in pursuit of GCF funding should provide updated details on their financial situation to ensure that funding is only allocated to projects that run a real risk of halting operations (or have stopped operations already). In particular, many PoAs operating in today's low carbon price environment struggle with attracting CER buyers, thereby impeding scaled-up mitigation potential which could be achieved by adding new CPAs.

Critics of the CDM have voiced concern about the true degree of additionality of certain project types registered by the CDM Executive Board, and these comments should be considered when assessing the eligibility of existing CDM activities. New CDM projects, on the other hand, should build on the most recent CDM guidelines on the determination of additionality to present their investment case towards the GCF.

"The CDM has to date leveraged ten times the amount of public funds invested in private finance"

Aside from offering an approach for determining additionality, the mechanism has also shown to be effective at leveraging other sources of finance. The UNFCCC reports that the CDM has to date leveraged ten times the amount of public funds invested in private finance.[51] Analysis also indicates that investment of USD 2 billion per year into CER purchasing programmes could leverage up to USD 120 billion of additional climate finance over the period 2015 to 2020 and contribute to the elimination or prevention of 1.8 billion tCO_2e.[52]

51 UNFCCC. CDM Fact Sheet: Leveraging private finance, delivering verified results Finance v1. January 2014

52 UNFCCC. CDM Fact Sheet: Leveraging private finance, delivering verified results Finance v1. January 2014

Regarding abatement costs, the CDM has also been effective: from the data reported in the UNEP DTU CDM pipeline, the average abatement cost across all project categories is USD 12 per tCO_2e.

One element of efficiency and effectiveness that is less apparent under the CDM is the evaluation of the financial soundness of the funded activity beyond the GCF's intervention. With CDM projects having a lifetime of 10 to 21 years, and PoAs operating for 28 years, project proponents need to demonstrate that GCF interventions targeting only several years will enable the project activity to sustain its operations over the long term. One way is to position the GCF as a bridge financing instrument that supports struggling CDM activities until demand from other sources arises. If the mitigation ambition of the Paris Agreement is realised, demand from the NDCs could stimulate new investments into market mechanisms. Another approach could be to tie GCF's engagement to average pay-back periods of underlying investments, allowing projects to continue operations once GCF's support has ended.

4 GCF engagement models with the CDM

The analysis so far targeted complementarities and synergies between the GCF and the CDM. This chapter introduces six engagement models between the two institutions, which translate our findings into conceptual financing arrangements that build on the CDM's MRV character. The proposed models are inspired by the different types of GCF funding, including grants, concessional debt and equity finance, and price guarantees. In each one of the models, financing terms and conditions or performance-based payments are linked to CERs, which represent a transparent, credible and internationally recognised proxy for GHG impact. At the heart of each model lies the premise of the delivery of net GHG mitigation, implying that at least a proportion of generated CERs can no longer be traded and should be cancelled upon issuance. As such, we build on the notion that going forward, the value of a CER is not its financial worth in a compliance setting, but that it acts as a performance metric to which financial conditions or payments are pegged.

The following models for engagement are presented:

Grant financing, where grant disbursements are linked to GHG impacts either indirectly (when delivered upfront) or directly (via results-based payments);

Debt funding, where the Fund pegs its debt terms and conditions to GHG mitigation results tracked under the CDM;

Green bond financing, where the Fund offers credit enhancement by extending a credit guarantee to cover a portion of the debt marketed through a green bond;

Equity financing, where the Fund pegs its equity terms and conditions to GHG mitigation results tracked under the CDM;

Guarantees, whereby the Fund offers revenue support through price guarantees linked to CERs;

A non-financial engagement model which applies CDM methodologies to streamline MRV activities within GCF funded activities.

"Each model links financing terms and conditions to CERs, which represent a transparent, credible and internationally recognised proxy for GHG impact"

The models offer generic financing arrangements that serve illustrative purposes and can be applicable to existing CDM activities as well as new projects or programmes. Linking two or more models can provide tailored solutions addressing multiple barriers throughout the project development and operational phases. To be applicable in practice, the models also need to be adapted to meet the specific funding needs required to make proposed activities bank-

able. As such, financial support offered by the GCF can serve to cover incremental costs, unlock access to private finance, reduce cost of capital, or address key risks in specific points of the financing cycle.[53]

The models also relate to the CDM's ability to deliver robust reporting of GHG mitigation results that meet expectations of private sector financiers. Institutional investors, including commercial banks, insurance companies and pension funds, are increasingly more interested in understanding the impact their funds have on GHG emissions. This interest is motivated by the need to manage exposure to regulatory and market risk, but can also stem from investor demand for thematic, green asset classes, such as access to energy or energy efficiency. Willingness to participate in green investment opportunities, however, often fails to materialise into active investments. One reason for this is the lack of internationally accepted definitions and unified standards for green investments and underlying GHG mitigation results.[54] The proposed models refer to the CDM's MRV framework as one way to decrease the knowledge gap that exists in the broader financial sector and capital markets relating to the link between invested capital and GHG mitigation impact.

MODEL 1: GRANT FUNDING

Principal GCF funding structure that can easily be linked to CER issuance success

Targets early-stage project development or enables financial closure

Can be paid upfront but also delivered ex-post through results-based payments

Can be convertible into debt- or equity-like instruments

The GCF defines grants as non-repayable financing instruments that are tailored to cover identifiable additional costs to make a proposed investment viable. Grant financing is likely to be a principal funding instrument as the Fund aims to maximise the use of grant funding and has requested donors to prioritise grant contributions over loans, especially during the Fund's Initial Resource Mobilisation round.[55] To qualify for grant funding, project implementers must be able to demonstrate that the support does not displace private sector investments and that commercial financing is not crowded out.[56]

This first model represents a financing arrangement between the GCF and CDM project implementers, whereby grant disbursements are linked to GHG impacts either indirectly (when delivered upfront) or directly (resulting in results-based payments). Given the non-repayable nature of GCF grants, this funding support is most applicable to the early project development stage where risks are the highest and other sources of funding may not be available (see model 'A' in Figure 6). Under this arrangement, the Fund delivers grant finance upfront, channelled

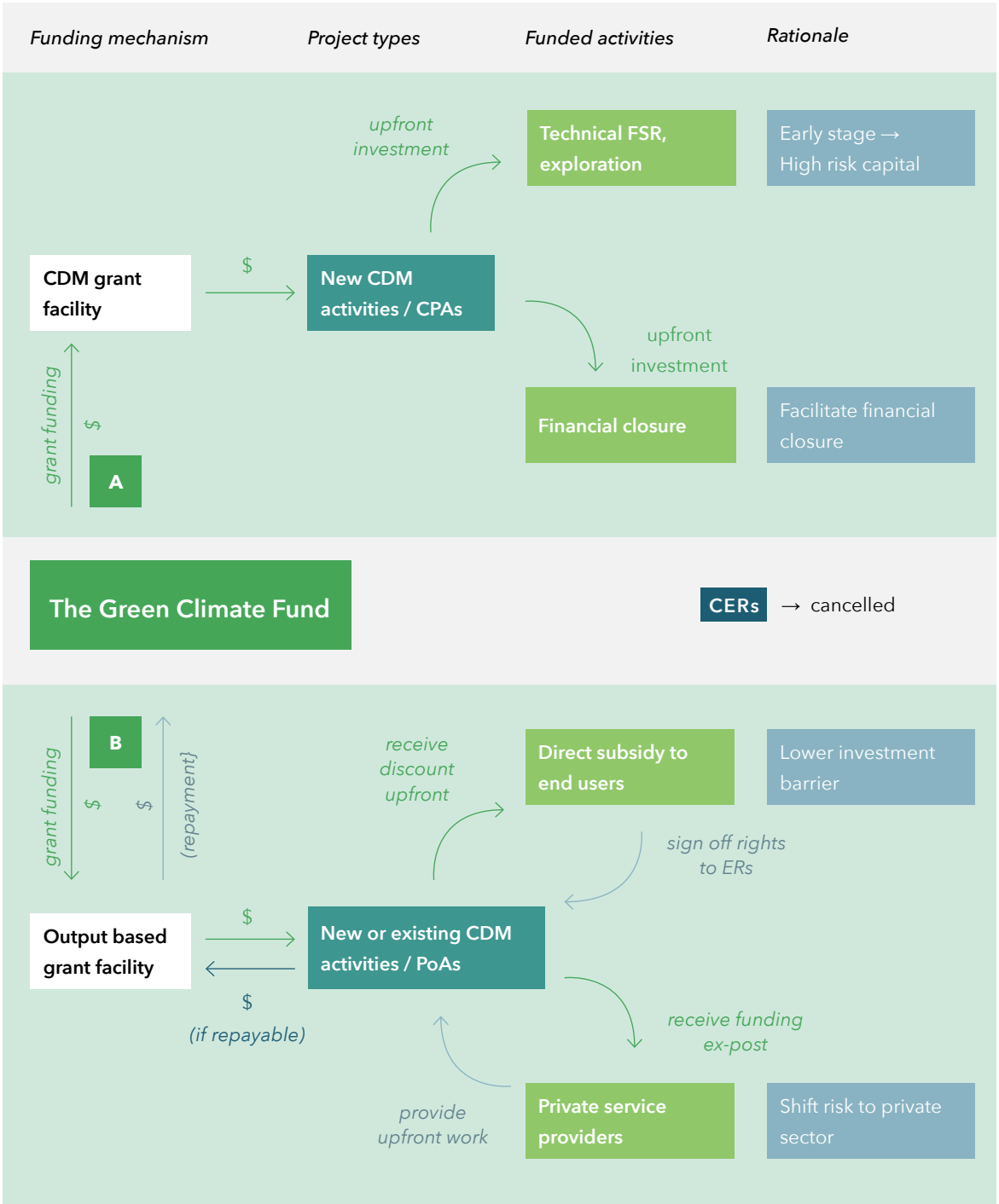
53 GCF. Business Model Framework: Terms and Criteria for Grants and Concessional Loans. GCF/B.05/07

54 Inderst, G., Kaminker, Ch., Stewart, F. 'Defining and Measuring Green Investments: Implications for Institutional Investor's Asset Allocations'. OECD Working Papers on Finance, Insurance and Private Pensions, No.24. 2012.

55 GCF. Policies for Contributions to the Green Climate Fund: Recommendations by Interested Contributors. GCF/B.08/16

56 GCF. Financial Terms and Conditions of the Fund's Instruments. GCF/B.09/08

Figure 6: Illustration of linking GCF grant finance with CDM activities



either directly to one CDM activity or through a grant facility that supports numerous activities. Upfront costs that can be covered by grants include business plan preparation, surveying, feasibility study development, environmental impact assessments, permitting or contractual negotiations (such as Power Purchase Agreements). *Ex-ante* emission reduction calculations presented in PDDs – an initial forecast on the activity's impact potential – can serve to define the scale of the grant funding made available by the GCF. To ensure ownership, a minimum amount of co-finance by the project implementer should be requested by the GCF before committing funds.

This 'plain-vanilla' grant funding model is most suitable to new CDM activities that are in early development stage. Implementation of new CPAs into an existing PoAs is another potential candidate, as the inclusion of new CPAs may be associated with new project development costs. While representing a barrier for many cash-strapped project implementers, early-stage project development costs are likely to be contained and not exceed USD 10 million (although for certain project types, such as geothermal, costs may be significantly higher).

"Grant disbursements can be linked to GHG impacts either indirectly (when delivered upfront) or directly (via results-based payments)"

Further down the project development pathway, grants can also be used effectively during the financial structuring of the activity, where a funding gap prevents the project implementer from reaching financial closure. Financial closure marks a critical point in the project development cycle: resolved financing agreements allow for funds to start flowing and the construction phase to commence. Grants, which come at no cost to the beneficiary and can be directly earmarked for co-funding fixed assets, are attractive to external financiers as they reduce the amount of debt or equity funding needed and thereby raise the Internal Rate of Return (IRR) on invested capital. By extending such support, the Fund can trigger new private sector investments in CDM activities. Both forms of upfront grant funding can work well in combination with the remaining models covered in this report, whereby grants are used to cover initial development expenses and other forms of funding (debt or equity) are introduced at a later financing stage.

In both examples presented above, GCF support is used upfront to help push project development forward, whereby *ex-ante* emission reduction estimates can be linked to payments. This is comparable to an upfront payment for future CERs, one form of payment structure applied in the earlier years of the scheme's existence. The consequence of the Fund's claim on future emission reductions is that generated CERs will have to be cancelled by the Fund, resulting in net GHG mitigation.

Under an alternative arrangement, GCF grant funding can also be structured to directly link payments with CER issuance *ex-post* (see model 'B' in Figure 6). Through the application of an output-based grant payment method, the funding support can take up results -based finance characteristics whereby GCF payments are associated with issued CERs. This type of support can be extended to both existing and new CDM activities. The benefit of this arrangement is alignment of incentives and the security for the Fund that payments are linked to real GHG mitigation results.

Application of output-based grant payments triggered by CER issuance can be particularly relevant for supporting PoAs, which typically target many small and geographically dispersed mitigation activities. In the context of household level programmes – such as efficient cookstoves, solar cookers, water filters, or biogas digesters – private

sector companies can internalise initial upfront expenses. Upon proof of delivery of a product or service, providers can then qualify for repayment through a grant mechanism operationalised under the GCF-supported programme. As such, the grant succeeds in incentivising mitigation action and private sector engagement, while shifting at least part of the performance risk to private sector service providers. Although this is attractive from the Fund's point of view, this alternative grant model is only applicable to situations where targeted service providers are capable of pre-financing activities through internal cash flow or ancillary credit facilities. Another important design consideration is how actual usage of the installed devices (and the resulting emission reductions) is encouraged post-installation. Adapting the disbursement schedule by linking a proportion of the grant funding to after-sales services, guarantees and maintenance support can be one effective way to ensure the distributed technologies are continued to be used by households over time.

A second variation to the 'plain-vanilla' grant model is the inclusion of convertibility. Grant funding can be disbursed to project implementers under the condition that if the project or programme succeeds in achieving commercial success (pre-defined in terms of return on equity, sales or other metrics), the full grant amount or a proportion of the funding is converted into a loan or an equity stake. Under this scenario, the GCF shares the upside potential of engaging its funds. Incorporating convertibility into the grant provides scope for the Fund to recoup a portion or full amount of its investment, allowing for capital to 'revolve' and be assigned to support new mitigation activities in the future. This is in line with the GCF's ambition to – under certain conditions – extend grants targeting private sector entities with repayment contingencies in order to maximise the effectiveness of the granted resources.[57] As in model 'A', issued CERs also serve solely to evidence mitigation impact, and are therefore to be cancelled upon issuance.

57 GCF. Financial Terms and Conditions of the Fund's Instruments. GCF/B.09/08

MODEL 2: DEBT FINANCING

Concessional loans are one of the core funding instruments of the GCF

Debt repayment terms and conditions can be tied to the CER issuance success rate

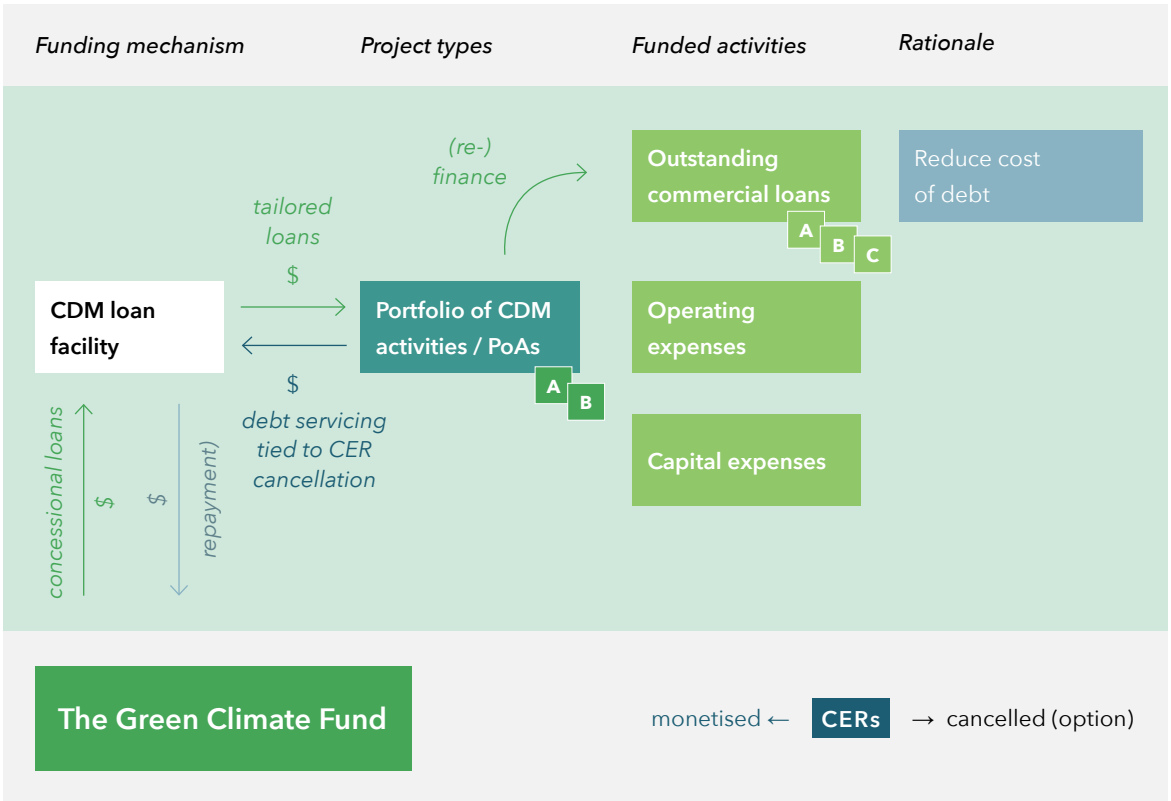
Low-interest debt can help CDM activities re-finance more expensive loans, improve the working capital position, or fund new capital expenditures

GCF loans can be channelled through a dedicated CDM loan facility that pools debt from various sources and disburses capital to eligible CDM activities

Debt plays a fundamental role in project finance and refers to loans extended by development banks, commercial banks, micro-finance institutions or other financial intermediaries. Terms and conditions define the loan characteristics, including interest payments and repayment schedules of the principal. The Fund recognises concessional debt finance as vital in supporting developing countries' investments in climate resilience and low carbon development. The Fund is mandated to provide deeply concessional loans to beneficiaries operating in vulnerable countries, offering low interest rates, long repayment schedules and attractive grace periods.

This model proposes to peg the terms and conditions of the offered debt to GHG mitigation results tracked under the CDM (see Figure 7). The most relevant financing term that can be linked to the issuance rate of CERs is the interest rate, which can

Figure 7: Illustration of the GCF debt (re-)financing model



consist of a base rate with an added credit spread to account for the risk of the underlying investment. The Fund can extend loans to CDM activities with a variable spread that is linked to GHG mitigation results and affects the concessionality of the finance. Under this arrangement, following an initial grace period, the offered interest rate is adjusted annually based on the amount of carbon credits that are cancelled by the project implementer. This creates a 'win-win' situation whereby the project implementer can use the option provided by the Fund to monetise carbon credits through a discounted interest rate, but can also revert to selling CERs on the market in case the monetary benefit exceeds the deepened concessionality of GCF's funds. The level of the base rate, as well as other terms and conditions of the loan, are to be defined on a case-by-case basis to offer tailored financing solutions to funded activities.

The use of the disbursed funding can be controlled by the Fund through covenants. Covenants stipulate the types of activities funding can be used for, as well as minimum liquidity conditions or target debt-to-equity ratios. One designated use of GCF's concessional loans can be to re-finance current debt obligations, allowing the supported activity to benefit from reduced debt servicing costs. Projects that contracted loans at commercial lending rates can thereby transfer to reduced periodic debt servicing payments. This would improve cash liquidity by strengthening the working capital position. Funds can also be used to cover specific operating expenses. Both applications can help project implementers sustain GHG mitigation activities. Finally, funds can finance expansion by covering a proportion of the capital expenditures associated with added capacity, new machinery, or a new production site. The enabled scale-up should lead to increased GHG mitigation performance of the supported activity.

Large scale programmes that rely on capital-intensive technology may qualify for direct loans channelled through the Fund, if accredited. Smaller activities that target the dissemination of low-cost equipment are more likely to access GCF debt finance through pooled debt products, whereby a dedicated facility extends small loans directly to the end-users of the technology (much as microfinance institutions function). In the latter case, a specialised CDM loan facility accredited to the Fund could be envisioned which pools the GCF's concessional debt with other sources of public and private capital and subsequently allocates loans to eligible applicants. This facility could be a stand-alone vehicle or be incorporated and managed by an experienced debt fund or multilateral funding agency.

The Fund may support both existing CDM activities as well as new projects and programmes eligible under the scheme. For existing activities, the concessionality of the GCF's loans should be tailored to allow project implementers to make up at least a portion of the anticipated yet unrealised carbon revenues. Concessional debt extended from the GCF through a CDM loan facility can be allocated to activities based on a number of valuation metrics, such as the initially forecasted CER price, agreed but unpaid Emission Reduction Purchase Agreement (ERPA) price, projected required rate of return (IRR), or benchmark net present valuation (NPV). As such, loans channelled through such a facility would only be made available to projects that a) have stalled operations due to lack of a price incentive, or b) can demonstrate financial struggle and a high likelihood of halting operations if carbon revenues do not materialise. Requests for re-financing could be verified through third-party auditors or accountants to ensure credibility and transparency in the loan disbursement process. Loan tenures, grace periods, and other repayment terms and conditions should also be tailored to the project's repayment capabilities. The degree and type of concessionality will depend on the nature of the proposed investment, and will need to be structured so that extended loans do not crowd out commercial financing.

MODEL 3: GREEN BOND FINANCING

The GCF can provide partial credit guarantees to support the structuring of a green bond and boost its credit rating to investment grade

The bond's coupon rate can be tied to the CER issuance success rate

Covenants can be introduced by the GCF to ensure only activities linked to GHG mitigation are supported

Green bonds can leverage funds from the capital market, which otherwise would not be accessible to individual CDM activities

Whereas the previous model describes a direct debt placement to a single activity or channelled through a CDM loan facility, the Fund can also contribute to leveraging debt capital from capital markets by assisting with the structuring of a green bond. Bonds, unlike regular loans, are fixed-income financial instruments linked to capital markets. They require the borrower to pay periodic interest rate payments and return the full value of the loaned amount on the date of maturity. Given their securitised form and linkage to capital markets, bonds are tradable in nature and can be exchanged between investors.

Green bonds are a specific type of debt security issued to finance environmentally-friendly investments. While the use of bonds is widespread in capital markets, the concept of green bonds is relatively novel. The first green bond was the EUR 600 million Climate Awareness Bond issued by the European Investment Bank in 2007, targeting renewable energy and energy efficiency projects. The green bond market has grown rapidly since and reached USD 40 billion by 2015, with issuers ranging from multilateral and development banks to utility firms and national governments.[58] Frequent oversubscriptions on green bond issuances indicate investor appetite for this asset category, suggesting that green bonds can play a significant role in funding low carbon development worldwide. The idea of linking green bonds to CDM projects was also raised during the workshop on financing and use of the CDM by international climate finance institutions held during the SBI 44, where it was noted that the CDM already offers projects that could be eligible under a green bond scheme. It was also suggested that the CDM could serve as a standard to certify green bond-generated climate finance, providing international tracking of mitigation outcomes and giving reassurance to investors and donors.[59]

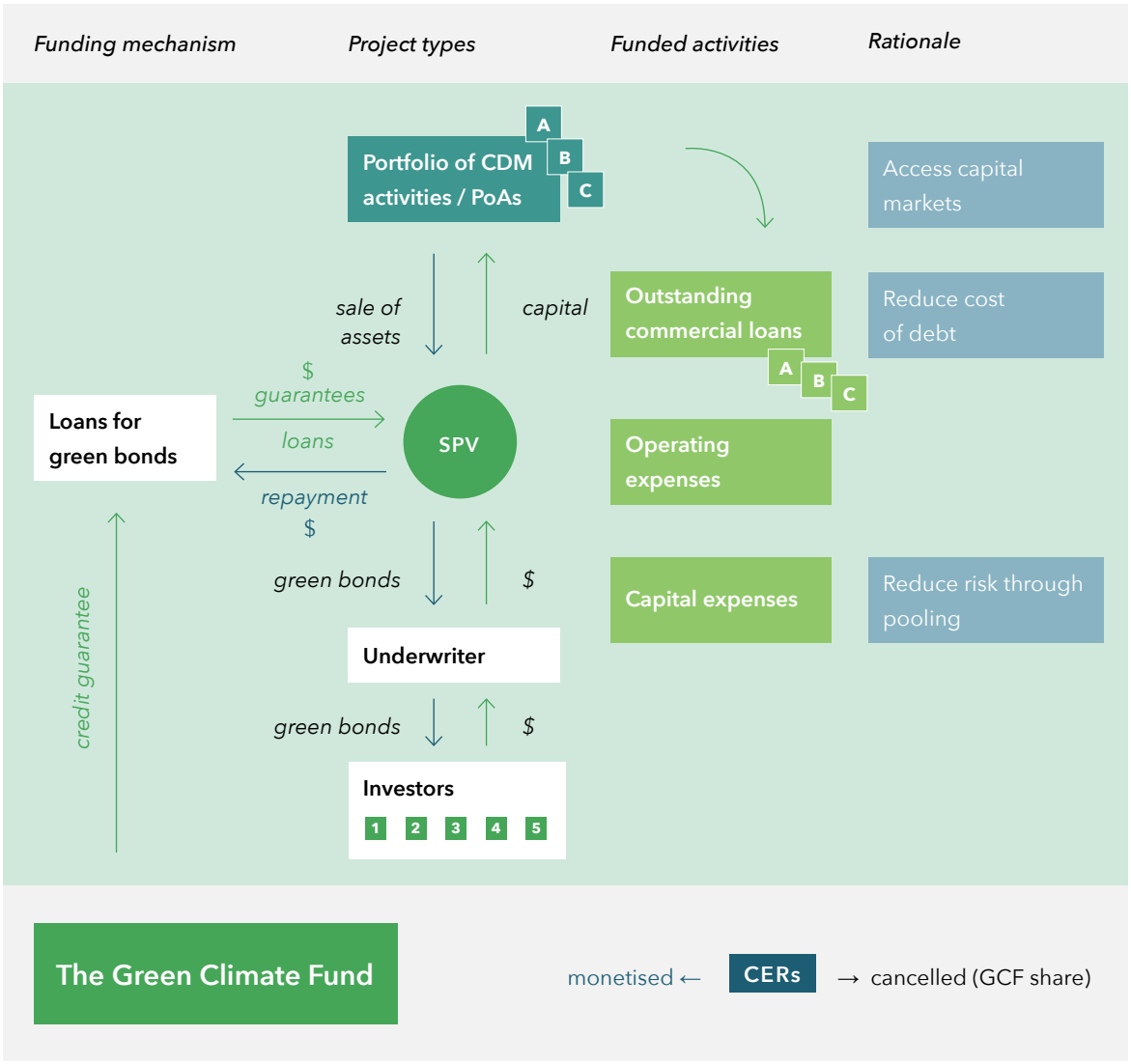
"The GCF can offer credit enhancement by extending a credit guarantee to cover a portion of the debt marketed through a green bond"

This model proposes the GCF to offer credit enhancement by extending a credit guarantee that covers a portion of the debt marketed through a green bond. As a result, the risk of default is reduced and the credit rating of the bond can be improved. Credit rating agencies assessing the creditworthiness of the bond would reflect the credit guarantee by boosting the rating to a level (A or AA) that will enable institutional investors to step in. Higher marketability of the green bond, in turn, reduces the interest rate or coupon payment. Similar to the standard debt model, the issuance success rate of CERs can be used to determine the level of

58 Climate Bonds Initiative. 2015 Year End Review. January 2016. [online] Available at: http://bit.ly/2bUrsgK

59 UNFCCC. Report on the workshop on financing and use of the clean development mechanism by international climate finance institutions. Version 01.0. 2016

Figure 8: Illustration of the GCF green bond (re-)financing model



a floating coupon rate. Project implementers can benefit from reduced interest payments in a scenario where issued carbon credits are cancelled. As typical institutional investors are unlikely to accept a variable coupon rate linked to GHG mitigation results, the GCF could step in to 'top-up' the coupon payments in the event of CER cancellation. When monetised on the market, issued carbon credits would not impact the coupon rate and the Fund's involvement would be restricted to the original credit guarantee.

By tying the repayment obligations to the GHG impact of an underlying pool of activities, the model incentivises project implementers to maximise GHG mitigation efforts while also informing green bond investors on the impacts of invested funds. Under the

proposed arrangement, the credit guarantee of the GCF does not target individual activities but supports a special purpose vehicle (SPV) that serves to accumulate, standardise and finance a pool of CDM activities (see Figure 8). This SPV transfers debt from a pool of CDM projects and subsequently securitises it, thereby creating a tradable debt product represented by the green bond. Securitisation represents the act of pooling debt into a uniform or tiered investment product that can be marketed to investors, and represents an effective way of bringing down borrowing costs.

Partial credit guarantees extended by a well-capitalised vehicle like the GCF are critical to enable the structuring of a green bond. Experience with corporate green bond issuances illustrate that most bonds are issued by blue chip companies with strong credit ratings that can approach investors on their own behalf.[60] Project implementers working on small- to medium-sized mitigation projects and with smaller balance sheets cannot attract such funders and may only reach the market by pooling activities through entities capable of structuring and enhancing the credit rating of the offered debt product. Pooling of assets into a centralised facility represented by a SPV is vital as it: a) is more cost-effective for lenders b) reduces the non-performance risk on the portfolio level, c) reduces bankruptcy risk as the underlying assets are removed from the balance sheet of the original project owner, and d) facilitates market access, as certain investors (such as pension funds) require minimum issuance sizes and credit ratings to be able to engage. Due to the complexity of the process, an underwriter (i.e. a financial institution) can support the SPV in structuring and marketing the bond to investors. Box 3 illustrates the setup of the Fund's first green bond initiative announced in November 2015.

60 GCF. Consideration of funding proposals – Addendum. GCF/B.11/04/Add.06

In conclusion, credit enhancement offered by the GCF can be a powerful tool to attract private capital to CDM activities that would otherwise not be in the position to access affordable debt finance. The scale of funding triggered through a green bond issuance (at least USD 100 million to USD 200 million) also presents the Fund with an opportunity to leverage significant resources from capital markets and increase the scope of its investment portfolio.

Box 3: GCF-supported Energy Efficiency Green Bond in Latin America and the Caribbean

One of the first programmes awarded GCF funding is the 'Energy Efficiency Green Bond in Latin America and the Caribbean' approved in November 2015. Under this initiative, the Inter-American Development Bank will use green bonds to finance energy efficiency investments at small and medium enterprises (SMEs) in a number of countries in the Latin American and Caribbean regions. The pooled debt of participating SMEs presents the basis for the issuance of Asset Backed Securities. Creating a pool of similar projects backed by their revenues will help to significantly reduce the risk and costs associated with a single project that otherwise would not be in the position to access capital markets. The resulting debt assets are to be sold to an SPV, which in turn will re-package the loans and issue them as green bonds. The GCF commits USD 217 million in funding, of which USD 2 million is in the form of grants. The Fund also offers support in definition of the legal requirements and structuring of the issuance. The remaining amount is channelled in the form of a concessional loan that will be used for financing underlying energy efficiency projects.

MODEL 4: EQUITY FUNDING

Early stage equity is recognised as an effective financing tool by the Private Sector Facility

CDM's ability to track GHG impact through issued CERs can attract impact investors

By foregoing on cash dividend in acceptance of CERs, the GCF can improve the risk-return profile for private investors

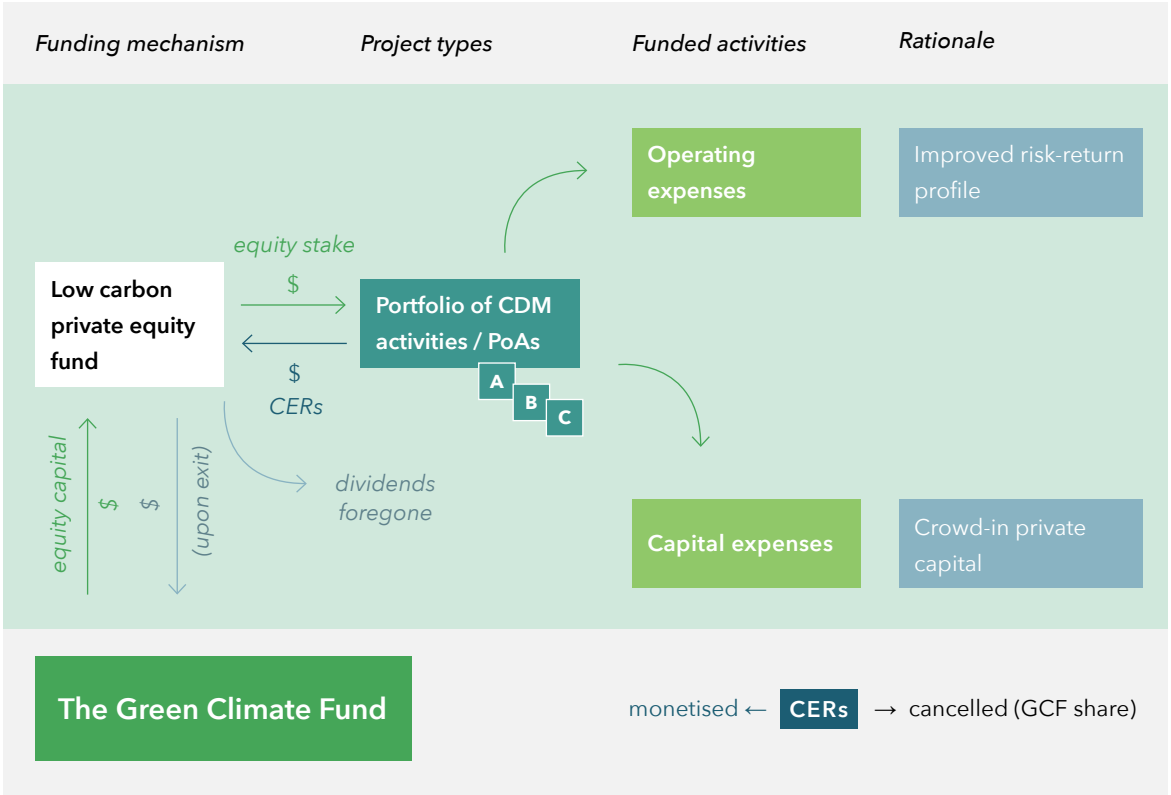
Private equity firms accredited to the GCF can act as aggregators

Investment horizons of seven to ten years align well with the CDM's crediting periods

Equity refers to share capital provided by investors that receive a proportionate claim on a venture. Shares include the project developer's own invested capital as well as funds received from external financiers, such as venture capitalists, private equity investors, or other financial institutions. Equity investors can claim periodic dividends if the funded venture is profitable and can benefit in the long run by appreciated value of the share capital. As equity represents a residual claim, it can only realise a return once other providers of finance have been satisfied.

Availability of equity capital is crucial as it plays an essential role in the start-up phase of a project, where risks associated with the activity are high and debt funding may be limited or expensive. Lack

Figure 9: Illustration of a GCF capital injection into a PE fund targeting CDM activities



of equity finance is a major barrier for new project development, and is particularly relevant for low carbon investments in developing countries. The proposed model aims to overcome this barrier and illustrate the instrumental role the Fund can play when delivering equity capital at a significant scale. Under the proposed arrangement, the Fund contributes equity on concessional terms to a pool of CDM activities, and accepts a lower return than other investors or delivers a higher risk-bearing tranche. A direct injection of equity capital is already considered as one of the operating modalities of the Fund's Private Sector Facility, which describes "early stage equity" as one of the ways projects can crowd-in other sources of equity capital and achieve full bankability.[61] The equity model is likely to accommodate GCF funding in the range of USD 5 million to USD 50 million, which aligns well with what impact investors target (with the high end of the range also matching the needs of classic private equity funds).

"The GCF can offer 'concessional equity' by foregoing on dividend payments in exchange for CERs, which are cancelled upon issuance"

Although the GCF may invest directly into one large activity, the model proposes GCF funding to flow through a private equity (PE) firm that structures and manages a portfolio of mitigation activities, including those eligible for registration under the CDM. The advantage of pursuing equity investments through specialised PE funds is twofold:

- PE funds represent investors experienced with overcoming the access-to-finance barrier that GHG mitigation projects often face in developing countries, especially in the field of clean technologies;
- PE funds in developing countries often include impact investors. This segment of the private equity industry aligns strongly with the financing ambitions of the GCF, especially in the areas of sustainable development and impact potential.

In a typical arrangement, a PE firm establishes a thematic fund that targets specific investment categories, such as renewable energy in West Africa or energy efficiency in Southeast Asia. Capital from investors is pooled and subsequently invested in underlying projects, with the PE firm taking up a controlling or substantial minority position in a venture with the aim of maximising profitability over a pre-defined period (typically seven to ten years).

GCF equity capital should target projects that are either unable to raise start-up equity or are struggling to re-finance their equity at a mature stage. The struggling nature of targeted projects may be defined by the level of IRR underperformance, qualifying projects below a certain benchmark rate (for example 10%).

The proposed engagement model establishes several links between the CDM's MRV framework and GCF's equity investment strategy. Firstly, CER issuance can influence the dividend payout plan. A dividend is a distribution of a portion of a company's or portfolio's earnings, and is generally proportional to the ownership stake in the underlying initiative. The GCF can offer its equity contribution on 'concessional terms', whereby it foregoes on its portion of the dividends paid out and in turn accepts payment in CERs, which are cancelled upon issuance. The ratio of carbon credits claimed by the GCF needs to be defined according to a CER valuation metric, which delivers a price level that satisfies the dividend return expectations of other investors. This implies

61 GCF. Private Sector Facility: Potential Approaches to Mobilizing Funding at Scale. GCF/B.09/11/Rev.01

that the share of carbon credits claimed by the Fund would not be directly proportional to its ownership stake but would depend on the level of dividend available each year and the agreed CER valuation. Any remaining carbon credits can in turn be sold to the market.

Under this arrangement, dividend payout (and therefore the return on invested capital) to other investors is elevated. The higher return can attract private capital into thematic asset classes that under a business-as-usual scenario would be deemed as too risky. Given the difficulty in achieving adequate returns in many developing economies, funds operating in these regions often try to increase returns by blending ODA funding with private sector capital. The role of the ODA is to reduce risk for private investors, increasing the attractiveness of the offering, and enabling PE funds to raise capital. Such support is especially important for firms operating in renewable energy and energy efficiency, which are still considered relatively new asset groups for PE investors targeting underdeveloped regions and as such require higher returns on equity than the norm in more conventional sectors. By foregoing on its dividends, the GCF can fulfil a similarly powerful role.

Next, CER issuance success can be linked to the Fund's exit strategy. To maximise impact of invested capital, the GCF can invest its funds under the condition that it can withdraw its contribution if CER underdelivery on the portfolio level exceeds a certain percentage. Following an initial grace period to allow activities to get on track with CER issuance, the Fund's position in the fund can be re-evaluated on an annual basis. In the event of long-term underperformance or lack of issued carbon credits, the GCF could use an exit clause to avoid a situation where its funds are tied to an investment that fails to deliver on the promised impact potential. This model proposes to limit the Fund's contribution to no more than 25% of the total amount raised within a PE fund in order to a) ensure the GCF contribution achieves a sufficiently high leverage potential of alternative sources of capital, and b) enable 'early exit' by the Fund in the event of underperformance. Limiting GCF's equity contribution to 25% is beneficial as any amount larger than this would be difficult to replenish from other concessional sources, jeopardising operations of the entire PE fund. Assuming regular exit, the GCF's funds should be committed for the same duration as other investors' contributions, and can be aligned to the average crediting period of the supported CDM activities. A timeframe of seven to ten years is both favourable from a PE industry standpoint as well as from the CDM's mode of operating.

A final benefit of actively monitoring GHG impacts is that transparency in reporting mitigation results can attract specialised investors that seek exposure to green asset classes, such as impact investors. So not only can the link between the GCF and the CDM improve the risk-return profile by enabling payment for results (in the sense of foregone dividend income), it can also attract investors that may otherwise not express interest in engagement. Using PE funds accredited with the Fund as vehicles to channel financing to a pool of CDM activities that can deliver cost-effective mitigation results can therefore have a transformational effect on the way impact investors and larger PE firms view their engagement with CDM activities.

MODEL 5: CARBON CREDIT PRICE GUARANTEES

Transparent, results-based financing approach linked to mitigation action

Offers revenue support through provision of a price floor for CERs

Recognised by the GCF as one approach for mobilising investment under the PSF

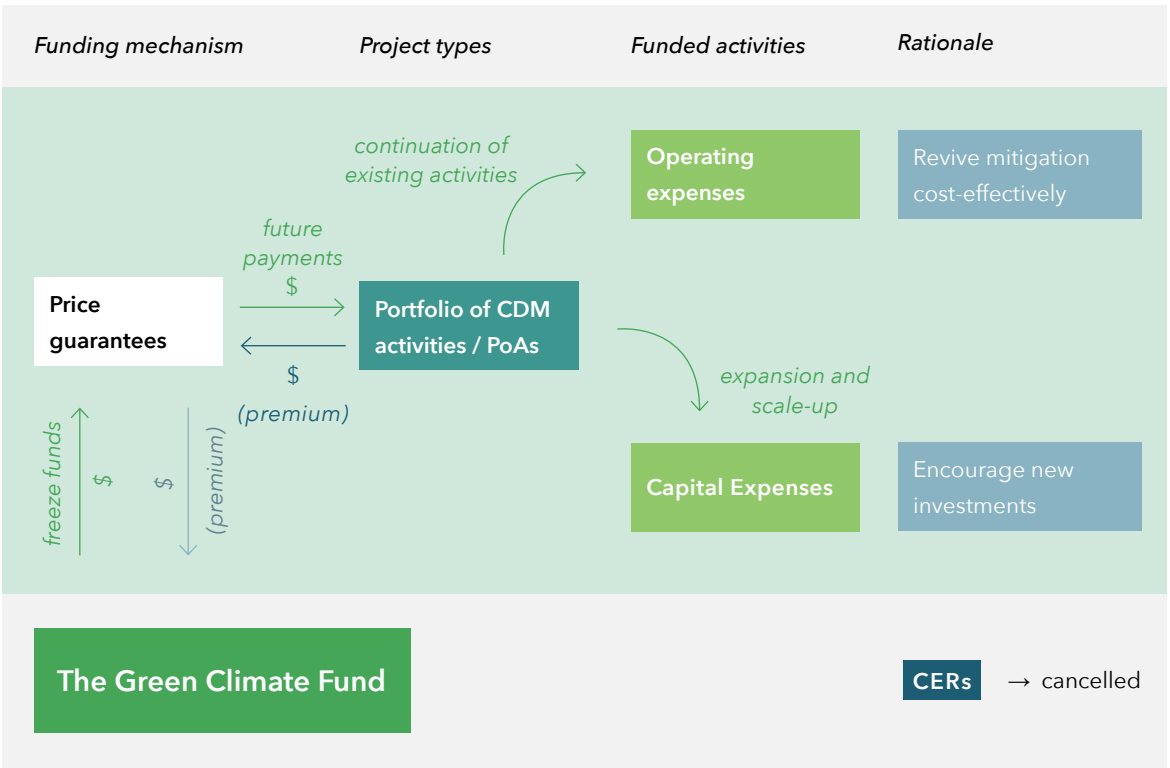
Cost-effective by minimising GCF's committed funds

Applicable to all other engagement models as an 'add-on'

The GCF refers to the application of guarantees as an effective tool to attract investors by reducing or eliminating exposure to specific financing or operational risks. Loan guarantees can support the credit-worthiness of borrowers and enable access to debt finance. Such instruments can mitigate the lack of collateral often experienced by greenfield projects. Price guarantees can provide security in terms of future earnings by, for instance, securing feed-in tariffs in power-purchase agreements for renewable energy generation projects. This model introduces the possibility of the Fund to support CDM activities by providing price guarantees on future CERs (see Figure 10).

In this engagement model the Fund enters a forward contract for CERs generated by a particular project or bundle of projects over a pre-defined period of time, thereby giving project implementers a long-term price signal for generated GHG mitigation results. The main difference between a traditional

Figure 10: Illustration of the GCF providing CER price guarantees to support CDM activities



forward contract and the price guarantee offer is that the project implementer has the option to use the guarantee to monetise carbon credits at a given price level, but is not obliged to do so. This offers two advantages to the seller, namely a) that in case of underperformance the project implementer is not obliged to deliver the contracted amount of CERs from other sources (a common clause applied in forward purchase arrangements); and b) that the seller is able to forego on exercising the price guarantee if better offers can be secured in the market. As such, the price guarantee delivers a price floor for the project developer and represents a minimum future payout, thereby enhancing investment certainty.[62]

"Price guarantees for carbon credits can revive stalled activities or kick-start new mitigation activities"

While from the point of view of a private actor interested in investing in carbon credits for compliance or re-sale purposes such uncertainty on the delivery will be unattractive, this model's characteristics are appealing from the GCF's standpoint. The Fund neither operates from a compliance nor a commercial viewpoint, but is driven by the premise of stimulating cost-effective mitigation action. By offering price guarantees on future vintages of CERs, project implementers will obtain the price signal necessary for them to commit to either developing new GHG mitigation activities or to continue existing or revive stalled activities. CERs purchased by the Fund will subsequently need to be cancelled to eliminate the possibility of double-counting and ensure net GHG mitigation is achieved.

62 Price guarantee offered by the GCF could come at a price, called a 'premium'.

At the same time, if project implementers succeed in attracting higher bids for generated carbon credits from other sources, they will forego on the GCF's price offer. Such optimistic development delivers a 'win-win' scenario, whereby the Fund incentivises investment in mitigation projects at no real cost. In cases of underperformance and underdelivery of scheduled CERs, the GCF can call upon terms and conditions allowing the Fund to terminate the agreement if, for example, underdelivery exceeds 50%. This can be compared to the 'early exit' clause introduced in the equity model above. Such an option is valuable for the Fund as it needs to earmark the granted guarantee contracts in its books and 'freeze' dedicated funds over time, imposing an opportunity cost of the funds and decreasing its financial capabilities.

While this arrangement works well on its own, it can also be regarded as an 'add-on' to other models presented in this report. In the case of the equity funding model, adding the price guarantee on top of the existing dividend structure can further strengthen the investment case for private investors. Price guarantees covering any remaining carbon credit volumes can enable PE funds to price in the value of CERs into their financial models. This is especially relevant since price guarantees can be offered in euros, dollars, or yen (so-called 'hard currencies'), reducing project exposure to currency exchange rate fluctuations. As such, the model offers a straightforward and cost-effective approach for stimulating investments in GHG mitigation activities that monitor performance.

Another practical consideration is how to determine the level of the price guarantee. Mitigation activities across different sectors and project categories offer investment opportunities at variable abatement costs. Projects in LDCs and SIDS will likely require a premium over mitigation interventions in more developed, emerging economies. Project-specific factors, such as technical, financial and regulatory

risks also significantly impact an activity's viability. The level of price guarantees defined by the Fund must weigh these different factors in order to create a level-playing field and enable project developers operating in more challenging environments to have equal chances to secure support, albeit at higher cost. At the same time, offered guarantees should not be excessive and incentivise market distortion.

One way the GCF may determine cost-effective price levels is through the launch of a tender targeting specific project types in particular regions. Price guarantees can be allocated by selecting projects with the lowest abatement costs to ensure only the most competitive participants are supported within a specific tranche of activities. Another method for allocating guarantees is through an auctioning method, whereby the GCF makes available a pre-defined amount of capital to support particular CDM activities. Project implementers are invited to bid for the price guarantees, allocating winning contracts to activities that can achieve emission reductions most cost-effectively. An auction delivers an effective price discovery mechanism for abatement costs and as such can serve well to optimise GCF resources (see Box 4). Its application has also been recognised by the GCF as a possible engagement model with the CDM, mentioning reverse auctions as one way through which the Fund's Private Sector Facility can catalyse and leverage private capital for mitigation action.[63]

63 GCF. Business Model Framework: Private Sector Facility. GCF/B.04/07

Box 4: Auctioning price guarantees through the World Bank's Pilot Auction Facility

The Pilot Auction Facility (Facility) of the World Bank is an innovative financing model that seeks to demonstrate a new, cost-effective climate finance mechanism that 1) incentivises private sector investment in mitigation projects in developing countries by providing a guaranteed floor price on carbon credits, and 2) uses auctions to allocate resources. The Facility builds on the infrastructure of the CDM and takes advantage of the readily available low cost emission reduction opportunities in its pipeline. Via an auction mechanism the Facility rewards the most competitive bidders with a minimum price guarantee for their CERs in the form of tradable put options.[64] Project developers have the flexibility to exercise the option, trade it, or sell their CERs on the market in case the market price exceeds the price guaranteed through the Facility.

The first pilot auction was held in July 2015 and targeted CDM projects in the methane sector. It resulted in the award of price guarantees covering 8.7 million CERs at USD 2.40 each. A second auction followed in May 2016, broadening the scope to include activities certified under the voluntary Gold Standard. With a capitalisation of USD 53 million, the Facility is testing this new results-based financing approach and seeks to provide lessons learned for future climate finance flows. The World Bank is currently assessing ways in which the auction model can be scaled up across other sectors, and how it could be applied by other donors, national governments, or private sector actors.

64 A put option provides holders with the right but not the obligation to sell future emission reductions at a predetermined price.

MODEL 6: CDM TOOLS AND METHODOLOGIES (NO FINANCE)

The transparency introduced through CDM's institutional independence and third-party verification system can offer confidence to impact investors, 'de-risking' the GHG mitigation tracking outcome

The CDM offers a robust MRV framework with 228 approved methodologies across all of the GCF's strategic mitigation impact areas

Issued CERs represent legitimate proof of GHG mitigation action, minimising the chance for double-counting

This model proposes the use of CDM tools and methodologies to streamline MRV activities within GCF-funded projects and programmes. It stands out from the other models presented in this report as it does not involve any funding from the Fund. The rationale behind this engagement is to demonstrate the benefit the existing CDM infrastructure offers in terms of MRV and how this can help to: a) address the current lack of guidance on how to measure GHG impact in GCF-funded activities, and b) attract interest from impact investors and thereby contribute to leveraging private sources of capital.

The CDM offers internationally recognised and tested monitoring approaches to mitigation outcomes for each one of the four GCF mitigation sub-groups: energy generation and access, forests and land use, transport, and interventions in the urban and industrial sector. The scheme's institutional independence combined with a third-party verification system delivers legitimate reporting of GHG mitigation results, combined with a central registry that ensures results are unique and no double-counting occurs.[65] To date, over 2,800 project activities have successfully issued CERs, illustrating the success of the mechanism and international acceptance by the private sector.

This model argues that the Fund can benefit from encouraging supported activities to undergo registration under the CDM, regardless of whether financing terms or payments are tied to issued carbon credits (Models 1 through 5). In May 2014 the Fund approved its Initial Results Management Framework[66], which lays the foundation for the Fund's MRV requirements and includes a set of indicators to measure progress toward results. The framework is intended to act as an important tool for performance-based funding allocation under the GCF, but currently does not deliver concrete methodologies for quantifying these parameters. The Fund only defines high-level performance indicators in the field of mitigation and guidance at the output, activity or input levels are lacking. This implies that project proponents will be expected to propose their own monitoring approaches. By drawing upon the CDM's MRV toolkit (consisting of baseline methodologies, standardised baselines, default values for grid emission factors, etc.) the Fund can standardise monitoring requirements across funded mitigation activities. This is particularly important as Nationally Determined Contribution reporting requires comparable, UNFCCC-approved methodologies. Furthermore, as the Fund is an operating entity of the Financial Mechanism of the UNFCCC, consolidating monitoring requirements with the CDM's will also respond to the COP's request to actively collaborate with other UNFCCC bodies.

The application of CDM methodologies to GCF-funded projects or programmes can yield numerous benefits to project implementers. Table 3 outlines the key advantages of introducing CDM methodologies into the GCF.

65 The value of issuing CERs as a tool to ensure that double counting does not occur for avoided emissions in the future international climate landscape was underlined during the SBI 44 meeting held in May 2016

66 GCF. Initial Results Management Framework. GCF/B.07/04

Table 3: Benefits of utilising CDM methodologies in GCF-funded mitigation activities

Type of benefit	Rationale
Availability of a large set of monitoring methodologies	Over 220 methodologies have been approved to date under the CDM. 150 of these have been successfully applied in projects that have issued carbon credits. The experience gained through the application of these methodologies across sectors and geographical regions presents the Fund with a valuable set of tools that the Fund can apply within its Results Management Framework.
Streamlined and consolidated approaches to MRV	The lack of a pre-defined monitoring framework exposes the GCF to a plethora of approaches used to track and report mitigation results. This makes comparability of results across the Fund's investment portfolio challenging. The CDM offers streamlined and consolidated approaches to MRV that fit well with the Fund's four mitigation sub-groups.
Transparency and integrity	The CDM has a robust verification system in place, involving DOEs that are accredited by the CDM Executive Board. The third-party verification approach ensures transparency, credibility, and environmental integrity of the implemented monitoring framework. This is currently lacking under the GCF.
Open process	CDM methodologies allow project proponents, as well as other stakeholders, to suggest updates and deviations from approved methodologies. This ensures continuous improvements as well as flexibility towards incorporating alternative monitoring approaches. This can be especially beneficial for project implementers in LDCs or SIDS, where certain data may not be accessible.
Standardisation	Standardisation allows the monitoring focus to be extended from a single project level to a broader scope (e.g. sectoral). This is enabled through introduction of standardised baselines that apply default values, benchmarks and simplified monitoring requirements.[67] These in turn add flexibility as MRV approaches can be adjusted depending on the funding proposal size. Standardisation of existing methodologies is commonly applied under the CDM.

Besides providing a framework for MRV, the CDM also offers approaches to defining additionality. With the Fund recognising "additionality of funding" and "value added for GCF involvement" as areas where further guidance needs to be developed, existing CDM modalities can serve as the basis for defining the GCF approach.[68] The CDM permits projects that can demonstrate that generated emission reductions would not have occurred in the absence of the carbon revenues derived from CER sales. Its 'Tool for the demonstration and assessment of additionality' defines several

67 The summary report on the workshop on financing and use of the CDM by international climate finance institutions held during the SBI 44 mentions that further simplicity and standardisation of the CDM is important to make it competitive as a climate finance instrument.

68 GCF. Agenda item 11: Consideration of funding proposals. B.11/11

approaches to evidencing additionality for large scale activities, including: a) an investment analysis to determine that the proposed activity is not the most economically or financially viable one; b) a barrier analysis that looks at access-to-finance barriers or technological barriers, and c) a common practice analysis. In addition, positive project lists for small-scale activities and automatic additionality for micro-scale activities have been introduced over the years to simplify the demonstration of additionality for specific project types.

Once a project is operational, issued carbon credits deliver proof that the claimed GHG mitigation results are real and verified. This is relevant to the GCF, which strives to build a portfolio of projects and programmes that can credibly report on realised mitigation impacts. The current lack of clarity concerning the Fund's MRV standards are likely to hamper the Fund's evaluation of performance over time. Furthermore, if fragmented approaches to tracking GHG impact results are allowed and the link to internationally recognised MRV standards is non-existent, impact investors may be discouraged from engaging. Such a scenario would lead to missed funding opportunities and lower GCF's potential to leverage additional sources of private capital. As such, the CDM can 'de-risk' the GHG mitigation tracking outcome and contribute to crowding-in private investors interested in understanding the impact of invested funds.

Box 5: Institutional investors and GHG measurement metrics

Linking invested capital to GHG emissions impacts is becoming increasingly common amongst commercial banks, insurance companies, pension funds and other institutional investors. There are two main motivations driving this interest.

Firstly, exposure to CO_2 intensive investments presents a risk in an environment where carbon pricing legislation is likely to be introduced over time, or already exists. To effectively manage this carbon risk, investors require effective GHG measurement metrics to gain insight into the amount of CO_2 emissions tied to invested capital, as well as exposure over time. Once such data is available, investors can make portfolio allocation decisions favouring less carbon-intensive assets, or charge a higher cost of capital to companies that are not proactive at mitigating their climate impact. The Carbon Disclosure Project[69] is one initiative assisting investors in understanding the GHG emissions impact tied to sectors or specific companies.

Secondly, interest in tracking GHG impacts can also originate from investor demand for thematic, green asset classes. Demand for climate-friendly investments can come from public funds (e.g. donors or sovereign funds) as well as private investors (e.g. impact investors). One way to identify appropriate investment opportunities is through negative screening, whereby certain project categories are excluded from investment consideration based on social and environmental criteria. Another approach is the 'best-in-class' or positive screening, which channels investment capital to initiatives that evidently contribute to specific sustainable development benefits. The CDM can represent an effective MRV tool that enables impact investors to understand the GHG impact of invested capital over a defined investment horizon.

69 See Carbon Disclosure Project [online] Available at https://www.cdp.net/

5 Conclusions

Linking the CDM with the GCF has the ability to capitalise on substantial synergies, improve the working of both institutions and as a consequence enhance mitigation action as a whole. The value of a CER goes beyond the market rate governed by compliance demand, and the Fund can benefit from this value proposition. By incentivising entities accredited to the GCF and project implementers to use the CDM's framework, or directly supporting high-quality CDM activities with scale-up potential and clear sustainable development benefits, the Fund can achieve the following objectives:

1. **Strengthen the results-based approach to climate finance** by applying the CDM's MRV framework to quantify the mitigation impacts of GCF funded activities in a transparent and verifiable manner;

2. **Leverage the existing CDM pipeline to rapidly mobilise mitigation action** by providing support to additional, high-quality CDM activities at risk of discontinuation as well as incentivising replication and scale-up of already registered projects;

3. **Attract new sources of (private) climate finance** including institutional investors that see value in tracking GHG mitigation results;

4. **To deliver a pipeline of projects** that can be used in the future to deliver mitigation outcomes for use under the Paris Agreement; by providing CER price guarantees and bridging the period until compliance demand incentivised by the Paris Agreement materialises.

To serve a practical purpose and aid discussion on how to connect the Fund with the CDM, this report offers six engagement models that translate the identified synergies into financing arrangements that can be applied in practice. The models introduce approaches whereby GHG mitigation action (represented by issued CERs) is directly linked to either: a) the terms and conditions of the extended financial support, or b) results-based payments. To be implementable in practice, these generic models must be further elaborated and tailored to real activities on the ground.

This report serves only as a foundation for the broader discussion that needs to take place between national governments, Accredited Entities, project developers and other stakeholders on this topic. It seeks to inform the debate by formulating the reasons for linking the two institutions and offering a technical analysis of how this can be done. Recognising that further analysis is needed to put any of the models into practice, the following preliminary observations can be made:

OBSERVATION 1

The CDM's MRV framework can be applied by the GCF to link financing with GHG mitigation impacts, both in terms of underlying funding terms and conditions as well as performance-based payments.

One common denominator underlying the presented models is the role of CERs, which affects the type of finance that can be disbursed by the GCF. The Fund can peg its financing terms to forecasted (in the case of upfront grants) or realised GHG

emission reductions backed by issued carbon credits (applicable to the debt and equity models). As such, successful GHG mitigation actions are rewarded through lower interest or coupon payments, or cash dividend payouts. Carbon credits can also serve to structure results-based payments, whereby issued CERs are directly linked to payments by the Fund.

OBSERVATION 2

The GCF's engagement with the CDM should not be limited to only one funding model. Grants, debt and equity finance, and price guarantees should all be evaluated and tested to deliver tailored solutions and maximise learning.

The six GCF engagement models explored in this report translate synergies into financing arrangements that can be applied in practice. The proposed models reflect different types of funding that the GCF offers, including grants, debt and equity finance, and guarantees. The applicability of each financing arrangement depends upon the supported activity's development phase, financial structure, and cash flow needs. Grants can best cover expenses associated with early-stage, high-risk activities such as feasibility assessments and resource exploration. Early-stage equity contributions can be applied at a later stage, while debt and green bond financing present the most mature stage of financing that can be applied to operational projects in need of re-financing. While each model is presented separately, there is merit in proposing hybrid models that combine two or more financing instruments.

OBSERVATION 3

GCF involvement with the CDM could contribute significantly to overall global GHG mitigation results by cancelling purchased carbon credits.

As the Fund is committed to delivering impact through the financing of GHG mitigation projects, CERs paid for indirectly (Models 1 through 4) or directly (Model 5) by the Fund should be cancelled upon issuance. This is necessary due to the requirement for climate finance not to be used for compliance purposes by the provider, as well as the trend to move away from offsetting. Some models do retain the option of (partial) monetisation of CERs if there is a market for them. From the project implementer's standpoint, pursuing the market route is only advantageous when the market value of the carbon credits exceeds the concessionality offered by the Fund.

OBSERVATION 4

The CDM can 'de-risk' the GHG mitigation tracking outcome, helping to attract private capital by addressing a concern of private investors interested in understanding the impact of invested funds.

There is rising investor demand for thematic, green asset classes. The CDM is an effective MRV tool that enables impact investors to understand the GHG impact of invested capital over a defined investment horizon. By delivering transparency on mitigation impact, the CDM can assist the Fund with de-risking the GHG mitigation tracking outcome, increasing the opportunities to leverage private finance from impact investors and other parties interested in tracking mitigation performance.

OBSERVATION 5

A distinction can be made between existing CDM activities that require revenue support to sustain operations or revive stalled operations, and new activities that need support in financing capital expenditures.

The funding models proposed in this report are applicable to both new and existing CDM activities. For instance, grant finance and equity contributions align well with the needs of new project activities. Debt finance can support projects in achieving financial closure as well as offer re-financing options for existing investments. Price guarantees may offer a solution to existing CDM activities at risk of stalling

due to insufficient operating cash flows needed to sustain the GHG mitigation activity.

OBSERVATION 6

A distinction can be made between individual CDM activities requesting GCF funding directly through an Accredited Entity, and pools of CDM activities that are aggregated by specialised investment vehicles.

Most models can be applied to a single CDM activity. Under this arrangement, individual project implementers need to take the initiative to submit a funding application through an affiliated Accredited Entity, or pursue their own accreditation in a scenario where the developer manages several projects or programmes. Given the potential scale of funding that can be delivered through the Fund, it may be more practical to target pools of CDM activities that have been pre-selected and are overseen by an aggregator. Such aggregators could include private equity firms actively engaged in clean energy projects in particular regions, credit facilities overseen by multilateral finance institutions, SPV's in charge of pooling and securitising debt, or national authorities managing revenue-support facilities.

OBSERVATION 7

The GCF should not only step in to fill the short-term gap created by the demand vacuum for CERs, but should strategically position its engagement with the CDM with a longer-term outlook as countries prepare for a post-2020 climate framework.

The uncertainty surrounding the post-2020 climate landscape impairs the marketability of CERs but also presents new opportunities for the CDM. The mechanism offers years of experience in implementing mitigation action in developing countries in a transparent, verifiable and internationally recognised way. Its track record and resources can support the implementation of NDCs, whereby the CDM can provide a means of realising domestic targets or support the achievement of higher conditional targets proposed by Parties. The Fund can play a leading role in supporting the CDM's transformation into a mechanism that can help achieve the ambitions presented in Paris by testing new engagement models with CDM activities that offer scalability, replicability, and abatement potential while delivering sustainable development benefits.

OBSERVATION 8

The GCF could start its engagement with the CDM by offering price guarantees on CERs from high-quality projects and programmes. Using auctions as a price discovery mechanism can maximise cost-effectiveness of resources.

Initial guidance documents on the Private Sector Facility mention reverse auctions as one way through which the Fund could catalyse and leverage private capital for mitigation action. Following the example of the Pilot Auction Facility model, the Fund can structure a cost-effective climate finance mechanism that a) incentivises private sector investment in climate change by providing a guaranteed floor price on carbon credits; and b) uses auctions to allocate scarce public resources for mitigation action in the most efficient manner. As the guarantees do not necessarily have to be executed if other sources of demand become available in the mid- to long-term, GCF's support can stimulate investments without having to actually be disbursed.

OBSERVATION 9

Building on the established and familiar CDM infrastructure can assist the GCF with realising its ambition to rapidly disburse resources. This reduces the risk that donors will opt for other multilateral or bilateral routes to channel climate finance.

To achieve the deep ambition of the Paris Agreement, rapid implementation of climate action is urgently needed. Leveraging carbon markets and existing climate finance institutions will be vital to achieve the scale of finance needed to trigger

the transition towards low carbon development. CDM's infrastructure can support the Fund by a) offering a pipeline of mitigation activities that can be rapidly mobilised; and b) delivering standardised approaches to MRV that can facilitate the proposal appraisal process and expedite *ex-post* evaluation. Without intensifying the disbursement rates the GCF runs the risk that donors will opt for other multilateral or bilateral routes to channel future climate finance.

OBSERVATION 10

Formal discussions should be initiated between the CDM Executive Board and the GCF Board, showing commitment from both parties to progress on this front and communicating confidence to market participants and project developers.

The CMP11 held in Paris in 2015 encouraged the CDM Executive Board to explore opportunities for financing CDM activities through the GCF and report back to the COP on existing possibilities. In response to this, the UNFCCC Secretariat proposed a strategy to identify new financing opportunities for the CDM, including a bottom-up approach allowing project activities to access finance through the Fund. At the same time, following the request from the CMP to actively collaborate with other bodies under the UNFCCC, the Fund acknowledged the need to develop an engagement strategy with relevant thematic bodies established under the Convention to draw on expertise and lessons learned to date. A formal discussion between CDM and GCF board members would deliver valuable insights into the views both sides have on collaborative approaches.

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