



G20 CLIMATE FINANCE STUDY GROUP

Report to the Finance Ministers

September, 2015

EXECUTIVE SUMMARY

The Climate Finance Study Group was established by G20 Finance Ministers, in April 2012, and was welcomed by Leaders in the Los Cabos Summit, in June 2012, with a view “to consider ways to effectively mobilize resources taking into account the objectives, provisions and principles of the UNFCCC”. In November 2012, Finance Ministers agreed to continue this work, recognizing that the “UNFCCC is the forum for climate change negotiations and decision making at the international level”. G20 Finance Ministers and Central Bank Governors reaffirmed in their April 2015 Communiqué “the importance of [...] continued discussions on climate finance” with the “contributions of IOs” and asked the Group to “finalize this year’s work and report back to [them] at [their] September meeting”.

The CFSG reaffirms in 2015 that all its work and discussions held are **respectful of the principles, provisions and objectives of the United Nations Framework Convention on Climate Change – UNFCCC**. The Group **focused on sharing national experiences between G20 countries**, in particular on initiatives that countries are undertaking, best practices and lessons learned, **to provide non-exhaustive approaches on climate finance for the consideration of member countries, to take-up on a voluntary basis in accordance to their national circumstances and preferences, recognizing that there is no “one-size fits all” policy and that country ownership is a key element to guide the enhancement of climate finance.**

The CFSG worked throughout 2015 to fulfill its mandate, building on CFSG 2014 Report, looking into the following areas and discussing for each issue experiences, barriers for deployment and different possible approaches:

- a. **Improving the collaboration, dialogue and cooperation between climate funds** to ease the understanding of the global climate funds landscape and better address developing countries’ demand in mitigation and adaptation finance;
- b. **Adaptation financing for developing countries**, especially those that are particularly vulnerable to the adverse effects of climate change, with a view to helping them overcome their capacity problems to access finance and also unlock an adequate amount of financing;
- c. **Sharing experiences on public finance mobilization** to unlock an adequate amount of financing for both mitigation and adaptation actions, with a focus on (i) provision of international public finance to support developing countries mitigation and adaptation investments; (ii) public interventions that mobilize private finance, including drivers and barriers to improve leveraging effect;
- d. **Promoting effective financial instruments and approaches to enhance climate finance and stimulate climate-friendly private investment**, such as (i) Green bonds; (ii) Risk-sharing instruments; (iii) GHG emission pricing approaches.

On the first two topics, the CFSG welcomes the *Inventory Study on Climate Funds* prepared by the Organisation for Economic Co-operation and Development (OECD) to better capture the climate funds landscape and the *Toolkit to Enhance Access to Adaptation Financing* prepared by the OECD with support from the Global Environment Facility (GEF).

The Global Environment Facility (GEF), the Climate Policy Initiative (CPI), the Organisation for Economic Co-operation and Development (OECD), the Inter-American Development Bank (IDB) and the World Bank’s Partnership for Market Readiness (PMR) provided technical inputs on their experience to the CFSG. The CFSG notes with appreciation the support of the organizations and looks

forward to continued engagement with a broad range of institutions with experience in climate finance issues.

To improve the collaboration, dialogue and cooperation between climate funds, the CFSG highlighted the **need to clarify the global climate funds landscape and enhance synergies** between climate funds, so as to **facilitate access to resources by developing countries and effective and efficient use of resources for both developing countries and contributor countries**. Regarding the resources, the CSFG reaffirmed the importance that developed countries, in the context of meaningful mitigation actions and transparency on implementation, make progress towards the fulfilment of their commitment under the UNFCCC to mobilize jointly USD 100bn per year by 2020, from “*a wide variety of sources, public and private, bilateral and multilateral, including alternative sources*”¹.

The active engagement of recipient countries was also underlined as a key factor to strengthen coherence across multilateral and bilateral delivery channels and programmes, while enhancing country ownership. Particularly relevant is **improving country-level planning processes and strengthening the role of national focal points or national designated authorities** to define priorities and ensure consistency between climate flows and recipient countries’ national strategies and policies.

On adaptation financing, the CFSG underlined the **critical need for context-specific measures adopted through engagement with the different stakeholders**, and thus the **continued need for readiness support and capacity building to improve the capacity of national and sub-national institutions to identify, prioritize, design, implement, monitor and evaluate adaptation strategies and measures**. Enabling environments made of robust and stable policies also play a role in this topic.

There is an urgent need to scale up financing for adaptation – public and private, taking into account the principles of UNFCCC – especially in developing countries that are particularly vulnerable to the adverse effects of climate change. **New approaches to mobilizing financing for adaptation could be explored** to address this need.

Regarding public finance mobilization, the CFSG recognized that **public finance continues to be an important driver to climate finance flows in accordance with the principles of the UNFCCC**. The CFSG discussed the importance of **transparency of climate action and of financial support** to help showcase successful contributions, ensure demonstration effects, increase accountability and improve our common understanding of results achieved.

Mainstreaming climate change considerations into public financing was also discussed, recognizing that this should not hamper the fundamental development mandate of the corresponding institutions. Climate change considerations should complement and reinforce the role of institutions in carrying out their mandate to promote poverty reduction and sustainable development, acknowledged by the risk that climate change may jeopardize the gains obtained by countries in their development efforts.

Resources from the private sector will also be necessary to support investments in mitigation and adaptation to climate change. **Enhanced dialogue between public and private sectors**, nationally and globally, could contribute to identify and remove barriers to climate-friendly investments.

¹ UNFCCC, Cancun Agreements (Decision 1/CP.16), paragraph 99.

With the view to promote effective financial instruments and approaches to enhance climate finance and stimulate climate-friendly private investment, green bonds and risk-sharing tools have been identified by several countries as ways to deepen and scale up markets and investments. Furthermore, in-depth analysis of the country and sector context and market is an essential first step in tailoring the instrument to the particular country, sectors, beneficiaries, and project types and stage. However, some barriers still exist that hinder a wider enlargement of the investor base, especially in developing countries. Regarding green bonds notably, the supply-side of bond markets is a main issue in developing countries as they are dominated mostly by government and banks, private sector corporates representing only a small part of the market.

Moreover, some countries have chosen from a broad variety of policy options including market and non-market based approaches to address greenhouse gas emissions. **While many GHG emission pricing policies may be economically efficient, depending on the context, the most effective policy options will ultimately be determined by national circumstances and policy design.** When considering such approaches, the objectives, provisions and principles of the UNFCCC should be taken into account. The application of **GHG emissions pricing** approaches has been considered by some countries, in their domestic circumstances and preferences, as a cost-efficient means of achieving emission reductions and uncovering opportunities for GHG mitigation. **On the other hand, some countries have indicated that GHG emissions pricing would not be an appropriate policy option for implementation in their national circumstances.**

As next steps for 2016, if so requested by the Finance Ministers and Leaders, and taking into account the priorities of next year's Presidency of the G20, the following options could be considered:

- Continuing the work of the CFSG on general climate finance-related issues, considering the perspectives for climate finance that arise as a result of the COP21;
- Continuing the work of the CFSG with a focus on more specific topics;
- The CFSG may consider further work with interested parties to improve the content and the practicability of the Inventory Study on Climate Funds based on feedback of final users.

The status of the CFSG could also be revisited.

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INTRODUCTION

Objectives of the G20 CFSG

The CFSG was established by Finance Ministers, in April 2012, and was welcomed by Leaders in the Los Cabos Summit, in June 2012, with a view “to consider ways to effectively mobilize resources taking into account the objectives, provisions and principles of the UNFCCC”. In November 2012, Finance Ministers agreed to “continue working towards building a better understanding of the underlying issues among G20 members taking into account the objectives, provisions and principles of the UNFCCC”, and also recognized that the “UNFCCC is the forum for climate change negotiations and decision making at the international level”.

The CFSG reaffirms in 2015 that all its work and discussions held are **respectful of the principles, provisions and objectives of the United Nations Framework Convention on Climate Change – UNFCCC**.

Since 2013, consistent with the Los Cabos mandate, **the work of the Climate Finance Study Group has been mainly focused on sharing national experiences between G20 countries**, with a focus on initiatives that countries are undertaking, best practices and lessons learned. The purpose of this exercise is **to provide inputs for the consideration of member countries, to take-up in accordance to their national circumstances and preferences**.

In this context, G20 Finance Ministers and Central Bank Governors reaffirmed in their April 2015 Communiqué that:

“Recognizing the importance of our continued discussions on climate finance, we will work to reach favorable outcomes in the determined areas of the Climate Finance Study Group’s work this year with the contributions of IOs. We ask the Group to finalize this year’s work and report back to us at our September meeting.”

Areas of focus 2015

The CFSG worked throughout 2015 to fulfill its mandate, building on its 2014 Climate Finance Study Group report, looking into the following areas and discussing for each issue experiences, barriers for deployment and different possible approaches.

- The CFSG worked first on **Improving the collaboration, dialogue and cooperation between climate funds** to ease the understanding of the global climate funds landscape and better address developing countries’ demand in mitigation and adaptation financing. The CFSG welcomes the **Inventory Study on Climate Funds** prepared by the Organisation for Economic Co-operation and Development (OECD) to better capture this climate funds landscape.
- The CFSG focused then on **Adaptation financing for developing countries**, especially those that are particularly vulnerable to the adverse effects of climate change, with a view to helping them overcome their capacity problems to access finance and also unlock adequate amount of financing. The CFSG welcomes the **Toolkit to Enhance Access to Adaptation Financing** prepared with this regard by the OECD with support from the Global Environment Facility (GEF).
- More generally, to unlock adequate amount of financing for both mitigation and adaptation actions, the CFSG worked on **Sharing experiences on public finance mobilization**, with a

focus on (i) provision of international public finance to support developing countries mitigation and adaptation investments; (ii) public interventions that mobilize private finance, including drivers and barriers to improve leveraging effect.

- To enhance the leveraging effect of public funding on private sector investments, the CFSG focused on **Promoting effective financial instruments and approaches to enhance climate finance and stimulate climate-friendly private investment**: (i) Green bonds; (ii) Risk-sharing instruments; (iii) GHG emission pricing approaches.

Modalities of work

The CFSG has held two meetings this year, the first in Washington, United States in April and the second in Ankara, Turkey, in July. The present report builds on discussions held during these meetings as well as answers provided voluntarily by the members on a questionnaire circulated by the co-chairs.

The Global Environment Facility (GEF), the Climate Policy Initiative (CPI), the Organisation for Economic Co-operation and Development (OECD), the Inter-American Development Bank (IDB) and the World Bank's Partnership for Market Readiness (PMR) were invited to present their inputs and experience to the CFSG during the 1st Group meeting. They also provided inputs to support the work of the co-chairs in consolidating the report. The CFSG notes with appreciation the support of the organizations and looks forward to continued engagement with a broad range of institutions with experience in climate finance issues.

Following the mandate of the group, recognizing that there is no “one-size fits all” policy and that country ownership is a key element to guide the enhancement of climate finance, this report aims to present to the G20 Finance Ministers the result of the discussions on the aforementioned topics, with a view to deepen the analysis on relevant issues related to climate finance and identify areas of interest for further dialogue.

1 IMPROVING THE COLLABORATION, DIALOGUE AND COOPERATION BETWEEN THE CLIMATE FUNDS

Since 1992, the date UNFCCC was negotiated, the number of climate change funds has increased rapidly. Today, there are around 100 international public funds, including the Global Environment Facility (GEF), the Adaptation Fund, the Climate Investment Funds (CIFs), and most recently the Green Climate Fund (GCF) and also a great amount of private funds². There is merit in investigating further whether harmonization and coordination of funds could be improved, given the establishment of the GCF as a major fund for climate financing, in accordance with the mandates, objectives and Governing Boards of the funds concerned. Improving the effectiveness and comprehensiveness of climate funds and enhancing synergies is crucial for maximizing their contribution to financing low-GHG emission and resilient development, in the context of sustainable development, as the availability and accessibility of climate finance remains a major challenge in light of the corresponding needs of developing countries.

1.1 Current landscape: a diversified network of climate funds with efficiency and coordination challenges

1.1.1 A variety of climate funds addressing the variety of recipient country specificities and needs

The network of international climate funds has evolved and grown to address a variety of needs in response to countries' specificities and strategies. They tend to cover different areas and work at different scales (international, regional and national), while trying to complement each other. This diversity of funds comes with the advantage that both contributors and recipients have the choice and the flexibility to decide which ones serve best their needs and priorities. In addition to the climate-dedicated funds, the climate funds landscape also includes climate-related funds.

Thus, a variety of climate funds can present advantages when funds are specialized and have individual, unique areas of expertise. Several benefits can be attached to having a variety of climate funds: (i) prospect to utilize a wide range of financial instruments, with different conditions, terms and modalities; (ii) potential to engage a variety of implementing agencies; (iii) funds may work in different scales, time horizons and involve different constituencies (private and public sector, local governments, non-governmental entities, civil society, etc.); (iv) multiple funds also foster innovation as they present more flexibility and adaptability to tackle "niche" issues and markets; (v) regional specialization of funds .

A diverse network like this can also favor emulation if Governing Bodies encourage good communication, coordination/division of labor, and sharing of knowledge and best practices. In addition, there may be positive effects of competition between funds, if this competition is directed to better meet the different demands from recipient countries.

² UN, Report of the Intergovernmental Committee of Experts on Sustainable Development Financing, 2014

1.1.2 Lack of coordination and efficiency in the climate funds landscape resulting in difficulties for recipient countries to access climate finance

However, proliferation of climate funds may also result in a lack of a clear, coherent overarching approach.

Climate funds are under various frameworks with different provisions and missions. For instance, among multilateral funds, the GCF is an operating entity of the financial mechanism of the UNFCCC, while the GEF is an operating entity of the UNFCCC, as well as several other environmental conventions. The CIFs have no link to the UN architecture but were developed by a group of governments in consultation with the Multilateral Development Banks (MDBs) as an interim fund to provide on a temporary basis scaled-up climate financing on concessional terms.

There is potential for funds to simplify their procedures, within their mandate, looking at ways to better harmonize forms and guidelines for reporting, operational and administrative processes for accessing funds and even the terminology used. Such a simplification could result in reduced duplication of work, transaction, administrative and operational costs – including the waste of resources spent on application processes – and on learning how to navigate between the procedures of different funds.

Improving funds' processes could also facilitate communication between funds, recipient countries and contributor countries, improving transparency and collective accountability.

It is difficult to estimate the costs induced by proliferation and overlapping of funds with precision. The existence of administrative and operational costs seems obvious but they are difficult to quantify. Other costs also include long-term development costs incurred by lower country ownership and piloting, and also political costs on contributors' side to take part in the support and management of a complex and intricate system.

Overall, the advantages and disadvantages of the presence of a plurality of climate funds can be perceived very differently by countries, depending on their preferences for the governance of funds and priority areas for investments in mitigation and adaptation. In that sense, no single solution will ever satisfy all parties involved, and efforts could be made to enhance synergies and investigate further whether overlaps of funds could be reduced, also considering the potential for reducing administrative costs and improving the effective use of funds.

1.2 Key objectives for improving collaboration between climate funds

The overarching objective regarding any effort to improve climate funds efficiency and collaboration shall be to **ensure growing impact of climate finance flows in developing countries**.

Efforts should in particular focus on:

- Sharing experiences and lessons learned between climate funds to favor replication of best practices and avoid inconsistencies or inefficient methods, thus building quickly on successes and failures in a collaborative and not competitive fashion.
- Climate finance architecture clarification and coordination to improve country-ownership as well as efficiency, readability and transparency, especially from the perspective of recipient countries.

The two deliverables prepared for the CFSG in 2015 provide useful inputs to inform dialogue on improving the collaboration between climate funds and sharing lessons to facilitate developing countries' access to climate finance: the **Inventory Study of Climate Funds** prepared by the OECD and the **Toolkit to Enhance Access to Adaptation Financing**, prepared by the OECD with support from the GEF.

1.2.1 Sharing experiences and lessons learned between climate funds

At the program/project level, as well as in organizational and institutional matters, there is obvious gain to increased exchange of experience between different funds and institutions. Tackling climate change mitigation and adaptation involves trials and errors, risk taking and following new avenues: the larger the amount of experience one can build on, the more efficient and to-the-point one's actions can be.

More broadly, enhanced dialogue and collaboration between climate funds should facilitate access to resources by developing countries and more effective and efficient use of resources for both developing countries and contributor countries. In particular, efforts should aim at reducing transactional, administrative and operational costs and thus minimizing the burden on recipient countries and expanding the amount of finance that actually reaches final beneficiaries.

In this purpose, through better communication and coordination between Secretariats and Governing Bodies, climate funds should work on (i) avoiding duplication of efforts and (ii) simplifying and looking at harmonizing procedures and standards, notably by agreeing on simple, efficient and practical standard approaches on issues such as application procedures, monitoring, reporting and evaluation of projects and results, where appropriate, and (iii) learning from each other's experiences.

These efforts to foster coordination and coherence between climate funds should however remain at an informal level, and avoid explicit, potentially burdensome, institutional linkages.

1.2.2 Clarifying the global climate funds landscape and enhancing synergies

With an existing architecture for international climate finance seemingly overly complex and fragmented, a more holistic approach could be beneficial. Key questions include:

- Where are the gaps and 'hot spots' in current provision?
- What are the unique 'selling points' and comparative advantages of existing funds to fill these gaps or tackle these hot spots?

Building upon this analysis of the existing architecture, key efforts should then focus on (i) increasing funds complementarity building upon each funds' strengths; and (ii) making the international climate finance architecture more coherent and navigable for all countries.

As mentioned before, G20 country members share the idea that a variety of funds can present advantages when funds are specialized and have individual, unique areas of expertise. Climate funds could collaborate and strive to enhance their expertise in specific areas or specific regions while ensuring their complementarity to collectively meet developing countries' needs and priorities.

Strong dialogue and interactions will be needed, within and between developing countries and developed countries, in order to consider ways to improve the current architecture and avoid

harmful competition between climate funds for countries' financial contributions in a context of scarce public resources available.

Further work seems necessary to **promote the collaboration between climate funds**, in order to avoid duplication and unnecessary proliferation of funds. As an example of ongoing efforts in this direction, the work of the Standing Committee on Finance of the UNFCCC should be noted. The Standing Committee has the mandate to assist the Conference of Parties (COP) in improving the coherence and coordination in the delivery of climate finance, including through the rationalization of the financial mechanism³.

It is enshrined in the GCF's Governing Instrument that the fund will be a 'continuously learning institution'. With this mandate, and as a new major fund to implement the work of the UNFCCC Financial Mechanism, G20 country members reaffirm that the GCF shall take the opportunity to build upon experiences, lessons learned and best practices of the existing climate funds, by working very closely with them, to generate the evidence and learning needed to improve the economic efficiency and effectiveness of the Fund itself – and climate change programming more broadly.

Besides, some G20 countries point out the **lack of predictability in the provision of climate finance** by developed countries and express their worry on the limited and possible shortfall of resources in certain climate funds. They highlight that there is a **need for a long-term perspective for the provision of climate finance from developed countries to meet their commitment to mobilize 100 billion USD target annually by 2020, from "a wide variety of sources, public and private, bilateral and multilateral, including alternative sources"**⁴ and in the context of meaningful mitigation action and transparency on implementation. This would allow the consolidation of the structures for coordinating engagement with climate funds at the national level, as well as gradually building up the capacity to prepare, implement and evaluate projects supported by climate funds.

1.2.3 Enhancing country ownership and improving country-level planning processes

The overall complexity and fragmentation of the climate change architecture constitutes in itself a strong constraint that can impede developing countries', especially Least Developed Countries (LDCs), access to climate finance. Attention shall be paid to avoiding in particular a competition between climate funds resulting in creating barriers for country ownership and favor contributor country preferences over the actual needs and priorities of developing countries.

1.2.3.1 Capacity building and improving country-level planning processes

Another key element to success is the establishment of a **country-driven and well-designed national climate strategy** and its implementation by the government with the help of the different stakeholders. To guarantee stakeholders' commitment, a best practice is **meaningful outreach and engagement with a broader range of stakeholders**, including civil society organizations and indigenous communities

In developing countries, professional knowledge or capabilities related to climate funds' activities is often insufficient. To improve country ownership, a first step is to tackle this issue through 'readiness' activities at scale. For example, organizations or bodies that have extensive experience of administrative procedures in international organizations and funds can help developing countries in

³ Decision 2/CP.17 – UNFCCC.

⁴ UNFCCC, Cancun Agreements (Decision 1/CP.16), paragraph 99.

their requests for funds or strengthen related capabilities by providing technical assistance and technological support.

Besides, several evaluations of climate funds⁵ report that there is a need to strengthen coherence across multilateral and bilateral delivery channels and programmes and implement a common, country-level planning process and tracking system. This could be achieved by improving transparency, reporting and communication of multilateral funds so that recipient countries understand how the fund is operating in these areas. This would allow assessing against one country's national priorities the scale of incoming climate flows, their sources, the delivery channel, the instruments used, the sector and activities supported and the results achieved. This would then help inform national policies and priorities, could potentially help identifying any funding gaps, any duplication of work and the need for increased cooperation.

Experience shows that when countries do not define their own priorities, they are replaced by the priorities from the Funds, which is not recommendable. Exercises of prioritization coordinated by national focal points could be a suitable solution to this challenge.

The means to enhance country ownership varies by country and can also vary at the project level depending on the identity of the project sponsors and implementing agency. It is therefore important to further strengthen the role of national focal points or designated authorities to ensure consistency with recipient countries' specificities.

1.2.3.2 Further strengthening the role of national focal points or designated authorities to ensure consistency with recipient countries' national strategies and policies

Current arrangements for international climate funds all seek to support country ownership. Both the GCF and the GEF have national focal points that coordinate and endorse their country's projects, confirming they are in line with national climate strategies and plans. At the GEF, developing countries can choose what agency to work with, or whether to access GEF resources directly for enabling activities (e.g., preparing National Portfolio Formulation Exercises (NPFs) or Convention Reports). At the CIFs, countries develop Investment Plans, with the support of and in partnership with MDBs.

Recent progress of the GEF and the Adaptation Fund to ease finance access to developing countries is also noted, in particular the increase in the number of implementing agencies in developing countries accredited for direct access. Progress in the context of the accreditation of national implementing agencies for direct access to the GCF provides another encouraging sign for strengthening developing countries' own capacity to manage and disburse climate finance in an effective manner.

The GCF is striving to have the most advanced arrangements to support country ownership as recipient countries can choose their mode of access to resources, which will be through sub-national, national, regional and international implementing entities. **National Designated Authorities (NDAs) can take a central role in ensuring country ownership** of the support received from international climate funds. They are responsible for providing the non-objection to project proposals, interacting with implementing agencies and overseeing the preparation and implementation of a national

⁵ ICAI (Independent Commission for Aid Impact), 2014, [Evaluation of the UK's International Climate Fund](#); the [Independent Evaluation of the Clean Investment Funds](#), 2014, section 5.1.

strategy for engaging with the GCF. A national strategy requires, at minimum, the identification of priority areas, balancing the different needs and considering the potential of projects to complement ongoing initiatives. The establishment of NDAs for coordinating the relationship with the GCF thus provides an opportunity to consolidate national arrangements for international climate finance, building on a stronger understanding of the capabilities and comparative strengths of different agencies. Through this process, opportunities for better cooperation between sources of climate finance could be identified, and successful experiences could be disseminated.

Box 1. Enhancing Climate Finance Readiness for the GCF and further international climate finance

The **Climate Finance Readiness Programme** (CF Ready) provides support to 15 developing countries to better access and effectively use climate finance –in particular in the context of the GCF. The programme is financed by the German Ministry for Economic Cooperation and Development (BMZ) and since 2014 has received co-financing from the US Agency for International Development (USAID) and the Ministry for Environment of the Czech Republic.

The programme supports national climate finance institutions and NDAs to coordinate in the area of climate finance and has already assisted two national institutions in becoming an Accredited Entity of the GCF. Furthermore, the programme provides support in developing strategic frameworks, i.e. country programmes for the GCF, to identify those programmes that contribute best to climate-resilient low-GHG development paths of the country. In close dialogue with partner countries, the services are customised to best respond to these countries' needs, to optimally supplement existing programmes in this field and to build expertise in each country. In addition to this programme, GIZ also supports climate finance readiness as part of a large climate change support programme, and currently work in more than 40 countries on climate finance.

2 ADAPTATION FINANCING FOR DEVELOPING COUNTRIES, ESPECIALLY THOSE THAT ARE PARTICULARLY VULNERABLE TO THE ADVERSE EFFECTS OF CLIMATE CHANGE

Awareness of the need to adapt to climate change came much later than the first international efforts to tackle climate change. The Intergovernmental Panel on Climate Change (IPCC)'s Fourth and especially Fifth Assessment Reports raised the issue at political level by alerting on the adverse effects of climate change that will strike the different regions of the world even if we succeed in maintaining global warming under 2°C, and on the social, environmental and economic costs they will induce if no action is taken to enhance resilience and adaptation capacity. Consequently, despite the fact that the amount of public finance directed to adaptation in developing countries has increased in past years⁶, climate finance remains to date mostly directed towards mitigation actions.

2.1 An urgent need to increase adaptation financing in developing countries, especially those that are particularly vulnerable to the adverse effects of climate change

Urgent action is needed to reduce current and future losses due to climate change. **Current adaptation efforts need to be accelerated and scaled up considerably if future development goals are to be met, and if past development gains are to be safeguarded.**

Studies suggest that there is a large gap between the need for adaptation and the funds available to support adaptation action, particularly in developing countries, especially those that are particularly vulnerable to the adverse effects of climate change. According to estimates referenced in the Fifth Assessment Report (AR5)⁷ of the IPCC the costs of adaptation in developing countries will range between USD 70 billion and USD 100 billion a year globally by 2050. The UNEP Adaptation Gap Report (2014)⁸, however, argues that these values “are likely to be a significant underestimate, particularly in the period after 2030. At a minimum, the costs of adaptation are likely two to three times higher than the estimates reported thus far, and plausibly much higher than this towards 2050”. It should be pointed out, however, that adaptation cost estimates are still evolving and some have questioned the methodology behind these estimates. AR5 notes that “studies estimating the global cost of adaptation are characterized by shortcomings in data, methods, and coverage”.

Current estimates of actual financing for adaptation remain incomplete, even on public finance flows, due to definitional issues and major data gaps. The Climate Policy Initiative (CPI, 2014)⁹ estimates that global public finance towards adaptation amounted to USD 25 billion in 2013, or 7 per cent of all climate finance, but these figures need be taken with great caution, and CPI found no

⁶ OECD DAC (OECD Development Assistance Committee) (2014a), “OECD DAC Statistics, Aid to Climate Change Adaptation”, www.oecd.org/environment-development/Adaptation-related%20Aid%20Flyer%20-%20March%202014%20v2.pdf

⁷ IPCC (2014a), “Summary for policymakers” in *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., et al. (eds.)], Cambridge University Press, Cambridge (the United Kingdom) and New York, pp. 1-32.

⁸ UNEP (2014), *The UNEP Adaptation Gap Report 2014*, United Nations Environment Programme, Nairobi, www.unep.org/climatechange/adaptation/gapreport2014/

⁹ CPI (2014), *The Global Landscape of Climate Finance 2014*, <http://climatepolicyinitiative.org/wp-content/uploads/2014/11/The-Global-Landscape-of-Climate-Finance-2014.pdf>

reliable data source for private finance flows towards adaptation. While estimates vary, it is generally recognized that the amount of public climate finance directed to adaptation in developing countries has increased in the past years.

Beyond the limited finance flows that have currently been identified as addressing adaptation, it is important to consider the need and the opportunity to ensure that broader public and private investments adequately identify the risks associated with climate change and other natural hazards, and incorporate appropriate risk reduction measures within their activities, including into disaster risk reduction and risk management frameworks¹⁰ – thus contributing to resilient investments in the economy as a whole.

Experience suggests that demand for adaptation finance in developing countries, especially those that are particularly vulnerable to the adverse effects of climate change including LDCs, SIDS and African States is growing rapidly, and countries are demonstrating increasing levels of readiness to access and effectively deploy such financing. For example, since 2006, the Global Environment Facility (GEF), through the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) has provided some USD 1.3 billion in grant resources towards more than 300 adaptation projects and programs in 128 countries, with 80 per cent of that financing targeting LDCs and SIDS. The GEF has seen countries become increasingly aware of the need for adaptation, and many have effectively overcome initial technical and institutional challenges to identify and implement their adaptation priorities.

Some countries are now transitioning from project-based adaptation efforts to more programmatic approaches; and towards continuous, progressive and iterative national adaptation plan (NAP) processes that identify and address medium- and long-term adaptation needs. As a result, demand for adaptation finance – and the capacity of countries to effectively absorb finance – is now much larger than the resources available.

In a nutshell, to overcome the significant and time-sensitive adaptation needs of developing countries, especially those that are particularly vulnerable to the adverse effects of climate change including LDCs, SIDS and African States, there is an urgent need to (i) integrate climate risks into public and private investment decisions at all levels; (ii) further increase finance flows towards adaptation, taking into account the principles of UNFCCC, and (iii) identify and overcome the challenges that vulnerable countries face in accessing financing for adaptation. These actions should take into account national circumstances and sustainable development.

2.2 Integrating climate risks into public and private investment decisions at local, national and international levels

Climate change adaptation is necessarily context-specific. Countries' efforts to integrate climate risks into investment decisions at all levels reflect their unique national circumstances, including their governance structures, institutional capabilities, and their exposure and vulnerability to the adverse effects of climate change. Some of the lessons learned by G20 members from the integration of climate risks into national and sub-national policies, plans and investments – and from financing such integration – are also shaping their engagement internationally, including in some of the developing countries, especially those that are particularly vulnerable to the adverse effects of climate change.

¹⁰ <http://www.unisdr.org/we/advocate/climate-change>

2.2.1 Lessons from domestic and international efforts to integrate climate risk into investment decisions

The **integration of climate risk into investment decisions is a shared responsibility**, and it **necessitates sustained partnerships between governments, civil society and the private sector**. G20 member countries highlight positive experiences of multi-stakeholder engagement, including for information sharing, joint planning as well as financial partnerships and risk sharing. At the same time, countries recognize the challenge of ensuring the sustained engagement of all partners involved, given that adaptation is one of many competing investment priorities.

At the level of projects and programs, experiences of a number of G20 country members underscore the following key requirements to the effective integration of climate risks into investment decisions and project & program design:

- i. A **robust evidence base** on climate change potential effects in the targeted areas;
- ii. **Consideration in design processes of resilience to the adverse effects of climate change and the need for adaptation**, including **cost-benefit analyses**;
- iii. **Adaptive management**: investments should be carefully designed to allow for new approaches and measures to be incorporated in response to changing circumstances;
- iv. Preparation for extreme events that cannot be managed solely with facilities with **non-structural adaptation measures as part of a broader adaptation strategy**.

G20 countries underscore the need to move beyond standalone climate programs towards a more integrated approach. Some G20 countries have already built or are building up national adaptation plans based on their own experiences, and are already developing and applying associated decision-support tools in their international cooperation.

Box 2. Spain's initiative with private sector to mainstream climate-related risks into strategic planning and business management

During 2012 and 2013 the Spanish Climate change Office developed the project "Initiative - ADAPTA". The main objective of this project was to progress together with private sector towards the integration of adaptation to climate change in the strategic planning and business management, beginning with the development of an analysis vulnerability of key business assets of various organizations. The project began with an initial analysis to select five key sectors for the Spanish economy (food and agriculture, transport, tourism, construction and energy). Later on, a methodology for analysis of vulnerability to climate change impacts was developed in all of them. Afterwards, 5 pilot companies, one per sector selected, were chosen to develop a detailed analysis, including the following steps:

1. Identification of main potential impacts in each sector
2. Identification of the climate risks that companies face.
3. Evaluation of adaptability.
4. Analysis of current and future vulnerability

The final result is a [guide](#) which aims at helping other companies to introduce the climate change adaptation in their business and to consider it an opportunity to be better prepared.

Lessons learned by G20 members are closely aligned with broader international efforts to integrate climate risks into investment decisions. Integration introduces of course a substantial degree of complexity, and it requires appropriate implementation arrangements to influence national and sub-national decision-making processes. **Adaptation is a challenge that cuts across sectors and levels of decision-making, and existing institutional arrangements have to be tailored accordingly.** Closely associated with a need to integrate climate change risks into policies and planning is the **need to enable closer coordination and collaboration across institutions and sectors to address shared adaptation challenges.**

Private sector investors in particular expect project proponents to demonstrate that their projects are sufficiently robust, have appropriate risk management mechanisms, and perform a favorable internal rate of return¹¹. However, many adaptation measures are neither revenue-generating nor part of conventional business practice in their risk management. It is therefore crucial that public policies and public finance create the enabling framework to incentivize the private sector's consideration of climate-related risks and investments in adaptation.

Box 3. Cost-benefit analyses of adaptation strategies when considering investments in vulnerable infrastructures

In **Australia**, the AdaptWater tool, developed by the Water Services Association of Australia, Climate Risk and Sydney Water, enables water utilities to consider the costs and benefits of different adaptation strategies when considering investment in new or maintenance of infrastructure.

¹¹ Vandeweerd, V., et al. (2012), *Readiness for Climate Finance A framework for understanding what it means to be ready to use climate finance*, The United Nations Development Programme, New York, http://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Climate%20Strategies/Readiness%20for%20Climate%20Finance_12April2012.pdf

Box 4. Building up a robust evidence base on climate change potential effects

In **Turkey**, the Turkish State Meteorological Service (TSMS) provides key input into the scientific evidence base regarding climate change in Turkey; two studies by the institution, namely “Climate Forecasts for Turkey” and “Flood Forecasting and Early Warning System” could particularly help to alleviate information & awareness based barriers. The Scientific and Technological Research Council of Turkey (TÜBİTAK) in collaboration with other relevant agencies conducts research on climate change and its potential impacts (e.g. “The Impact of Climate Change on Agricultural Production Systems in Arid Areas Project” implemented in the Seyhan Basin between 2001 – 2007).

Korea launched “Korea Adaptation Center for Climate Change (KACCC)” under the Ministry of Environment in 2009, which aims to 1) specialize the study on adaptation, 2) actively provide support for climate change adaptation policies and 3) build a network and provide information for adaptation. Also, it developed tools to assess vulnerabilities and risks (*KACCC’s VESTAP: Vulnerability assessment tool to build climate change adaptation plan) to set up climate change adaptation policies by the central and local governments.

2.2.2 Triggers and enabling conditions

As for the triggers and enabling conditions that have allowed G20 members to integrate climate risks into investment decisions both domestically and internationally, countries unanimously emphasize the importance of raising awareness of climate change impacts and appropriate adaptation strategies and measures among a wide and diverse range of stakeholders, and developing a compelling evidence base for action supported by user-friendly decision tools.

For many countries, the triggers that raised awareness of climate change potential impacts, and of the necessity to better anticipate its adverse effects and enhance resilience and adaptation capacity, were extreme weather events that occurred domestically and resulted in huge damages and losses, in terms of casualties, damages to infrastructures, of economic impacts on different sectors and activities, notably on agriculture. In addition to these domestic experiences, the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) alerted on the fact that climate change will result in more frequent and intense extreme weather events.

To create enabling conditions to integrate climate risks into investment decisions both domestically and internationally, G20 country members particularly highlight the importance of:

- i. Developing and disseminating **evidence of climate-related hazards**, and the **costs and benefits of different adaptation strategies**.
- ii. Investing considerably in **information and risk screening tools as well as technical assistance for vulnerability assessments** and the **identification of low-regret adaptation strategies and measures**.

Joint initiatives between public and private stakeholders can inject critical momentum into domestic and international adaptation efforts by enabling enhanced knowledge sharing on climate change

impacts and adaptation options; enabling more comprehensive research activities; and enabling financial leverage and more robust investments.

As recognized in current discussions on the NAP process¹², domestic legal mandates may contribute in launching and accelerating the integration of climate risks into policy-making and planning processes at different levels.

Box 5. Accelerating the integration of climate risk into policy-making and planning processes

Brazil's National Adaptation Policy is supported by a strong legal mandate, which has clarified institutional roles and responsibilities as well as financing arrangements. The National Adaptation Plan was prepared through a participatory process, engaging all relevant government agencies and establishing sectorial networks, direct public dialogue with representatives from the private sector and civil society. The NAP outlines actions and indicators for a resilient economy, involving intergovernmental, intragovernmental and civil society coordination.

In **the United States**, President Obama's Executive Orders 13653 (2013) and 13677 (2015) have been critical in enabling domestic and international action towards mainstreaming climate change risks at different levels of decision-making.

Many projects and programs that have been successful in advancing the integration of climate risks into investment decisions have also adopted a vertically integrated approach that combines the development of policies and institutional capacity at the national level and sub-national levels with awareness raising, skills development and the implementation of tangible adaptation measures at the local level. Actions across these different scales can be mutually reinforcing. Grassroots action can help ensure that a project or program is relevant to locally identified needs and priorities, which in turn helps build ownership and community engagement. At the same time, there is a need to gradually shift national policies, plans and budgets to integrate climate change risks beyond the limited scale and scope of individual projects.

¹² See e.g. LEG 2012, *Technical guidelines for the national adaptation plan process*.

Box 6. Adopting articulated national, sub-national and local approaches to adaptation while ensuring consistency between geographic scales as well as between sectors' and stakeholders' priorities

Adaptation is a cross-cutting issue between sectors, actors (public and private, individuals) and between scales of implementation (national, regional, local). One main issue France strives to tackle with its [National Climate Change Adaptation Plan](#) (PNACC) adopted in 2011 is the articulation between adaptation strategies and actions and other national, regional and local policies, such as policies on urban development, water management, agriculture or energy. The first National Adaptation Plan is ending this year and an evaluation of its implementation, with focus on these articulation issues, will be undertaken soon.

France identified the **need to adopt a local approach to adaptation** so as to take into consideration the specificities of the territories (specific geography, environment, population, activities leading to specific vulnerabilities) and the need to involve all actors on the territories into the discussion so as to build a comprehensive and integrative adaptation strategy. At regional and local levels, **Regional Climate, Air and Energy Schemes (SRCAE) and Territorial Climate-Energy Plans (PCET)** were designed as a co-construction between all actors concerned on the territories (local authorities, energy producers and distributors, companies, professional associations, NGOs, citizens, etc.) with policy dialogue and consultation stages.

India has launched its National Action Plan on climate change in 2008 and actions have been notably initiated in agriculture, water and habitat sectors. The costs for implementing these actions are primarily met from domestic public resources. At the sub-national level, various state governments have come out with State Action Plans on climate change (SAPCC), with focus on adaptation actions. Specifically, India has established a National Adaptation Fund. However, adaptation needs envisaged in the SAPCC provides information on adaptation gap at National and State level.

2.3 Increasing finance flows to meet the costs of adaptation

G20 members have adopted a range of different approaches to finance their domestic and international efforts to integrate climate risks into investment decisions.

Canada adopted the Federal Adaptation Policy Framework in 2011, and since 2006 has allocated \$235 million in domestic adaptation funding for programs designed to improve understanding of climate change and help Canadians plan for climate impacts. The National Disaster Mitigation Program and the New Building Canada Fund have also made significant investments that will enhance resilience and reduce risks from natural disasters. Internationally, an initiative under the Canadian Climate Change Program at the International Finance Corporation works to develop tools that incorporate climate risks in the analysis of investments in climate sensitive sectors.

The **European Union** has agreed that at least 20 per cent of its 2014-2020 spending will be allocated to activities related to climate change, both adaptation and mitigation. **The European Investment Bank (EIB)**, the EU Bank owned by the EU Member States, has integrated and mainstreamed climate considerations at all levels of the organization. The Bank's climate actions are led by an overall

operational target that requires 25% of signatures to go to projects specifically contributing to climate action, both mitigation and adaptation. **EBRD's** Sustainable Energy Initiative, in turn, which covers both mitigation and adaptation across all sectors, runs at about 31% of the Bank's annual business volume.

The **UK** is providing GBP 3.87 billion through the International Climate Fund (ICF) from 2011 to 2016 to reduce poverty by helping developing countries adapt to the impacts of climate change, take up low carbon growth and address deforestation. The ICF aims for a 50:50 split between mitigation and adaptation finance, and one of the Fund's four central pillars is capacity building to support the ability of developing countries to access climate finance, and deliver results at scale. UK's experience suggests that it is often more efficient to add climate funding to existing programs than it is to develop separate climate programs to achieve similar results, and so the UK has taken steps to mainstream climate risks across the full portfolio of its official development assistance. The Building Resilience and Adaptation to Climate Extremes and Disasters program offers an example of such mainstreaming. The program, which will work in more than ten countries, is expected to benefit up to five million people by building their resilience to extreme natural events including droughts and floods.

In order to systematically integrate climate change aspects, **Germany's** Federal Ministry for Economic Cooperation and Development (BMZ) has made an Environmental and Climate Assessment procedure mandatory for all German development cooperation projects from 1 January 2011 onwards. The purpose is to identify potentials for greenhouse gas emissions and vulnerability reductions early on in the project design and reduce or avoid any adverse effects upon the environment and climate. As part of the two-stage assessment procedure relevant projects are assessed in detail and modifications or alternative options for action are formulated. The pioneering procedure and systematic integration of climate change in Germany's development cooperation has been awarded by the International Association for Impact Assessment (IAIA).

Agencies of the **United States** Government involved in international development activities are working to support the integration of climate resilience considerations into United States international development work by, inter alia: developing guidelines for integrating considerations of climate-change risks and climate resilience into agency strategies, plans, programs, projects, investments, and related funding decisions, including the planning and management of overseas facilities; assessing and identifying existing climate change data, tools, and information; identifying approaches for assessing and, as appropriate, adjusting strategies, planning, programs, projects, investments, and related funding decisions, including the planning and management of overseas facilities; facilitating the exchange of knowledge, data, tools, information, and lessons learned.

2.4 Addressing the barriers for developing countries, especially those that are particularly vulnerable to climate change, to access to climate finance for adaptation

Many of the lessons learned by G20 country members from the integration of climate risks into investment decisions are also relevant from the perspective of developing countries' access to financing for adaptation. This section, based on the experiences from G20 members, provides an overview of some of the challenges to accessing climate finance for adaptation by developing countries, especially those that are particularly vulnerable to the adverse effects of climate change, and some of the initiatives that seek to address these challenges, based in particular on the views

and experiences of G20 members. A toolkit based on the expertise of the OECD and the GEF has been further developed.

2.4.1 Challenges to accessing climate finance for adaptation

Recent progress notwithstanding, developing countries, especially those that are particularly vulnerable to the adverse effects of climate change face important challenges to accessing financing for adaptation. Some of the constraints are directly associated with the adequacy, predictability and timeliness of financing itself – and therefore represent challenges to *mobilizing* finance. Several G20 members point to the **imbalance between financing towards mitigation and adaptation** as one of the underlying challenges to accessing financing for adaptation. Other challenges identified by Group members relate to (i) the **technical aspects of adaptation**, including identifying, prioritizing, designing, implementing, monitoring and evaluation adaptation strategies and measures; (ii) the **governance and management of financing for adaptation**; and (iii) **leveraging private financing** for adaptation.

Climate change adaptation presents unique challenges for policy-makers and project developers alike. **Incomplete country-level strategies and policies present an important, initial barrier to accessing finance for adaptation.** At all levels, developing countries face challenges in developing and retaining the requisite institutional and technical capacities to plan and implement adaptation strategies and measures. Comprehensive national adaptation policies are crucial to attract investments (sustainability, predictability), especially from the private sector.

There is also a **lack of accurate, timely and accessible information on climate change impacts, vulnerability and adaptation options.** This is a critical barrier to developing adaptation plans, programs and projects. Due to inherent uncertainties and the long time frames associated with climate change adaptation, developing countries also **struggle to assess the cost of appropriate adaptation solutions.**

With respect to the governance and management of financing for adaptation, developing countries face **challenges in aligning the objectives and priorities of international sources of finance with their national development policies and strategies.** With the **proliferation of different national, bilateral and multilateral funds for adaptation**; developing countries often **struggle with multiple, overlapping planning frameworks with different time horizons, as well as the diversity and complexity of policies, procedures and reporting requirements.**

Specifically with regard to leveraging private finance for adaptation, **investments in adaptation in vulnerable countries are seen to entail high up-front costs while providing uncertain and limited returns**; and governments have **difficulties to put in place effective enabling environments and incentives** to reduce and share risks. As a result, the private sector in vulnerable developing countries struggle to raise funds for local adaptation action, a challenge that is particularly acute for small and medium-sized enterprises.

2.4.2 Initiatives to facilitate access to financing for adaptation

Several initiatives are underway to facilitate access to finance and, more broadly, promote climate finance readiness. These initiatives assist developing countries in, *inter alia*, **preparing national adaptation plans or resilient development strategies; strengthening in-country capacities for the governance, management and coordination of financing for adaptation; meeting the fiduciary**

standards and environmental and social safeguards to directly access international climate funds; and preparing funding proposals.

Supporting developing countries in the preparation of their national plans and strategies processes can allow the integration of climate change risks across their development policies, plans and associated decision-making processes, thereby addressing their short-, medium- and long-term adaptation needs.

Several initiatives, such as the GEF Country Support Program, the GCF Readiness Program and the European Union-supported GCCA support institutions at the national level in governing, managing and coordinating financing for adaptation. In the case of the GEF and the GCF, support is specifically targeted to the country focal points or designated authorities. The GEF Country Support Program, for example, supports GEF operational focal points in conducting national, multi-stakeholder consultations to identify priorities for GEF financing.

The Adaptation Fund (AF), the GCF and a number of bilateral initiatives support entities or intermediaries to meet the relevant requirements for fund accreditation, including fiduciary standards, environmental and social safeguards and self-investigative capabilities. Direct access to financing through national entities is seen as a way to gradually develop the capacities of developing countries to assume greater ownership of their adaptation efforts.

Finally, there are numerous initiatives and resources to assist project developers – public and private – in translating emerging knowledge of climate change risks into fundable projects and programs. Beyond the main multilateral funds, one can mention the IFAD Adaptation for Smallholder Agriculture Programme (ASAP); the Climate Technology Initiative Private Financing Advisory Network, supported by Canada and the United States; the Climate Finance Impact Tool for Adaptation (JICA Climate-FIT Adaptation), developed by Japan International Cooperation Agency; and the Capital Markets Climate Initiative (CMCI), supported by the UK.

3 SHARING EXPERIENCES ON PUBLIC FINANCE MOBILIZATION

3.1 Ensuring the availability of adequate international public funding to support developing countries mitigation and adaptation investments

One of the major pillars needed to build confidence among Parties in order to reach an ambitious and much needed outcome to the international climate negotiations at the end of the year will be the **availability of adequate and predictable funding resources** for addressing climate change challenges. In particular, it will be important that developed countries give reassurances that they are going to meet their commitment under the UNFCCC to mobilize jointly USD 100bn per year by 2020, from *“a wide variety of sources, public and private, bilateral and multilateral, including alternative sources”*¹³, to undertake meaningful mitigation and adaptation actions in developing countries.

3.1.1 Improving accountability and transparency on current climate finance flows

Discussions on climate finance in general are hindered by important technical gaps. In particular there are several different **operational definitions and methodologies followed by the different institutions to account for both public and private climate finance**. A common understanding on these matters would be desirable, recognizing different country perspectives, in order to avoid double counting and to ensure the credibility and integrity of reported climate finance.

It is also eminently important to ensure transparency of climate action and of financial support. Transparency helps showcase successful contributions, ensures demonstration effects, increases accountability and improves our common understanding of results achieved. To achieve our intended objectives and ensure our actions are effective, we need to better understand the outgoing and incoming climate flows as well as the results achieved on the ground. Ultimately, this will translate into more effective use and scaled up climate flows.

Progress by different initiatives has already been made this year on these issues and further achievements are expected ahead of the COP21 at the end of the year (see box below).

¹³ UNFCCC, Cancun Agreements (Decision 1/CP.16), paragraph 99.

Box 7. IDFC and MDBs collaborative work to move climate finance forward

The IDFC (International Development Finance Club, network of 22 international, regional and national public development banks) and Multilateral Development Banks (MDBs) are working in collaboration to advance mainstreaming climate action into financial institutions and increase climate finance mobilization in the run up to the COP21. Such practices involve raising the level of ambition in financing climate-smart investments to support better development results, for example by evaluating the impacts projects have on greenhouse gas emissions, by integrating GHG emissions into the economic assessment of investments, or by taking into account the vulnerability of projects to the effects of climate change.

An agreement was reached between MDBs and IDFC on the **first stage of a common methodology on tracking mitigation climate finance**. Most recently an agreement was also reached on a **first set of common principles on adaptation**. Discussions also progressed on tracking the **leveraging effect of public financing on private investments** and **mainstreaming climate change related-issues** into financial institutions.

Box 8. *The Research Collaborative* tracking private climate finance

The **Research Collaborative** is an open network, coordinated and hosted by the OECD Secretariat, of interested governments, relevant research institutions and international finance institutions. The goal is to partner and share best available data, expertise and information on private climate finance to advance policy-relevant research in a comprehensive and timely manner. The project is designed to serve as a coordinating platform for identifying research priorities and gaps, sharing information, weaving a coherent narrative across what would otherwise be disparate research outputs, as well as communicating results to raise awareness in this area.

A joint OECD and World Resources Institute synthesis [report](#) proposes a range of methodological options to address key decision points for estimating publicly mobilized private finance. The performance of each option is discussed in order to enable a better understanding of the trade-offs and implications of choosing certain methods over others. The intent is to [guide](#) the development and use of more robust methodologies as well as to inform future work by relevant actors, including pilot measurements, through:

- In the short-term, focusing on testing and implementing practical methods while providing transparency about underlying definitions, assumptions and limitations.
- In the longer term, to provide a common understanding on definitions, recognizing different country perspectives, build data systems as well as improve methods.

Future work related to the Research Collaborative intends to further develop and test estimation methods within the context of pilot measurements for climate-relevant sectors, in terms of the different types of interventions/instruments, as well as at the levels of individual/

3.1.2 Mainstreaming climate change considerations into international public finance with a view to guarantee development & climate co-benefits

Mainstreaming climate change considerations into public financing, without hampering the fundamental mandate of the corresponding institutions (poverty reduction, sustainable development, etc.) will be key to move towards a more sustainable development pathway. While there may be additional costs associated with mainstreaming efforts, there is an opportunity to address climate considerations while countries are developing and planning to make significant investments, notably in the area of infrastructure. Choosing climate-smart investments could save costs in the long run. Important practices for mainstreaming climate change include:

- Ensuring a climate change scan/impact assessment is part of the investment due diligence process as a systematic procedure.
- Focusing on building capacity within international public finance institutions to:
 - Understand climate change issues;
 - Allow them to identify both opportunities and threats (e.g. determine payback periods of renewable energy projects or the risk to coastal infrastructure from increasing extreme weather events); and,
 - Apply this reflection to their portfolio development.
- Developing tools to help guide investments toward climate compatible choices.
- Emphasizing the need to review both mitigation and adaptation type programming.

Policy reforms are underway to systematically incorporate climate change considerations into MDB/IFI programming. For example, as part of the IDA-16 replenishment, the policy decision was taken to mainstream climate resilience across programming. Building on that, IDA-17 replenishment incorporated mainstreaming disaster risks management in countries' strategies, policies and investments.

3.1.3 Scaling up international public climate finance

G20 Finance Ministers and Central Bank Governors pointed out that 2015 is a crucial year for the global development agenda. According to their April 2015 Communiqué:

"We stress the importance of positive outcomes of the Addis Ababa Conference on Financing for Development (FFD), New York Summit on post 2015 development agenda and Conference of Parties 21 (COP21) in Paris. We call upon all relevant IFIs and IOs, within their mandates, to develop ambitious plans in support of this goal."

Strong cooperation and dialogue between stakeholders can help all institutions raise the collective level of ambition in terms of resources mobilization and adequate targeting and usage of these resources, in order to mitigate and adapt to the effects of climate change.

In terms of scaling up international public finance, while many challenges remain on the mitigation side, a particular area of focus should be the financial support to adaptation actions by developing countries, especially those that are particularly vulnerable to the adverse effects of climate change, in particular LDCs, SIDs and African States: private sector mobilization has proven most difficult in this area, where financial capacities are also extremely low. This support should be predictable, aligned with national priorities, and provide development co-benefits. As an inspiring example, the

Green Climate Fund has chosen to allocate 50% of its resources to adaptation, 50% of which for particularly vulnerable countries, including LDCs, SIDs and African States.¹⁴

Box 9. Scaling up development banks climate strategies

The French Development Agency (Agence Française de Développement - AFD), which is the principal operator of the French public development aid, has adopted an ambitious climate-development strategy with an annual target of 50% of allocations with co-benefits for the fight against climate change and its impacts. This amounted to close to EUR 3bn of commitments in 2014.

In addition to climate project financing, AFD Group has established a systematic procedure to assess the carbon footprint of projects financed. All projects financed directly with a significant and quantifiable impact in terms of greenhouse gas emissions (increase or decrease) are required to undergo an ex ante analysis of their carbon footprint.

Furthermore, project impacts in terms of greenhouse gas emissions are taken into account via the application of a selectivity grid, which may lead to certain projects being declared ineligible for AFD financing on the ground of AFD's mandate, the level of development of countries, its climate change strategy and the project's carbon footprint. This grid comprises 3 categories: mitigation project or project with negligible impact, emissive project, or highly emissive project.

Finally, AFD is currently working on the integration of the analysis of climate risks into the appraisal cycle for the projects it finances. AFD intends to systematize this analysis, based on project nature and project location (geography, vulnerability of population, economy...) in 2015.

The Japan International Cooperation Agency (JICA) developed "Climate Finance Impact Tool for Adaptation (JICA Climate-FIT Adaptation)" in 2011, and has been using it for internal analysis of climate risks that may affect development projects as well as for consideration and integration of adaptation activities in the project design.

3.2 Public interventions that mobilize private finance, addressing drivers and barriers to improve leveraging effects

International or domestic public expenditure is currently the main source of climate funding. However, while direct public financial support will still be an important driver to climate finance flows, massive green/climate private investments are needed to reach the trillions of dollars needed to ensure a low GHG and resilient economy.

3.2.1 State of play of private sector involvement in climate finance

Private finance leveraged is not easy to measure, and work is currently being undertaken at the international level to try to give a more comprehensive picture of the private finance flows dedicated to climate change.

¹⁴ Decision B.06/06 of the Green Climate Fund Board.

A growing number of private financial operators throughout the world are getting involved in order to redirect capital towards a low-GHG emission and resilient growth. The United Nations Climate Summit that was held in New York on September 23, 2014 demonstrated the extent of their commitments. The Climate Finance Day that took place in Paris on May 22nd 2015 has been another key event to take stock of the commitments the financial sector has made to support a low-GHG economy, and constituted an occasion for further actors to make new commitments.

Lack of knowledge on opportunities for climate-related investments is still a great drawback to potential interested investors.

Box 10. Public and Private Partnership (PPP) in China

In **China**, one of the most promising instruments to mobilize private finance in the field of climate change is the public-private partnership (PPP). The Ministry of Finance and several other ministries have been issuing PPP policies to promote PPP development, including for tackling climate change and protecting the environment. To date, there have been altogether 469 PPP pilot projects in China, with a total investment of 822.4 billion RMB, among which 30% is for ecological and environmental protection, such as waste water treatment, waste treatment and clean electricity generation.

Box 11. India's Perform, Achieve & Trade

India has undertaken a number of actions on the domestic front on market-based instruments. An important one is the **Perform, Achieve & Trade (PAT)** scheme which is being implemented for the designated industries under the National Mission on Enhanced Energy Efficiency. The activities under the PAT scheme provide **opportunities for new markets as it devises cost-effective energy efficient strategies for end-use demand-side management leading to ecological sustainability.** As a major initiative of the National Solar Mission under the NAPCC, renewable energy certificates (REC) seek to address the mismatch between availability of renewable energy sources and the requirement of the obligated entities to meet their renewable purchase obligations.

3.2.2 Barriers to overcome and ways to enhance private finance mobilization

The logic and psychology driving private finance is very different from the motivations for public finance. For areas where private investments are in the lead, firms will seek opportunities based on the reasonable expectation of profit, which is driven by two fundamental variables: risk and return. Individual firms cannot be told where to invest and will rarely pre-commit long-term resource allocations beyond the boundaries of specific projects. They require flexibility in order to adjust their

long-term strategies in step with the constant evolution of market competition. They do not pre-commit in the same manner as governments.

As general arithmetic, **public sector measures will need to decrease their perceived risk**, with the latter forming a particularly pervasive barrier in many sectors and geographies.

Thus, it is crucial to **enhance dialogue between public and private sectors, nationally and globally, to identify and remove barriers to investments.**

Box 12. Enhancing dialogue between public and private sectors

G20 Platform GreenInvest

The G20-mandated platform “GreenInvest” has the objective to mobilize private capital, especially from institutional investors, for inclusive green investments. GreenInvest has been launched in June 2015 at the G20 Development Working Group Meeting in Turkey and will serve as a forum for a wide range of public and private stakeholders to address the challenges investors face in scaling up Inclusive Green Investments in developing countries. It will do so by engaging and mobilizing institutional investors, tailoring global financial instruments to investment pipelines and promoting policies to create an appropriate investment climate.

Practitioners' Dialogue on Climate Investments (PDCI)

In 2015 the GIZ launched the global Practitioners' Dialogue on Climate Investments (PDCI) on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). The PDCI connects public sector decision-makers with representatives from the financial sector, industry, consulting and academia. The objective is to collectively identify country-specific strategies, policy instruments, and other enabling environment measures, which could be introduced or improved to trigger and enhance private investments in low-emission and climate-resilient business in developing countries and emerging economies.

During the Lead-Up Event to the PDCI in Bonn, 150 high-level international public and private sector stakeholders jointly identified key challenges related to the mobilization of private investments in the fields of renewable energy, energy efficiency and adaptation to climate change. A core group of policy makers and private sector representatives will continuously participate in the dialogue events of the PDCI in Asia (2015), Africa (2016) and Latin America.

Capital Markets Climate Initiative (CMCI)

The CMCI was established by the United Kingdom in 2010 and created a strong public-private partnership to help mobilize and scale up private finance flows for low carbon technologies, solutions and infrastructure in developing economies.

There were over 80 participants in the CMCI network from investment banks, insurance companies, pension funds, development finance institutions, climate finance academics and think tanks, including: HSBC, Lloyds, Swiss Re, BT Pension, Blackrock, Climate Change Capital, London Stock Exchange, International Finance Corporation, European Investment Bank and the World Resources Institute. Harnessing the expertise of its members, CMCI aimed at:

- Developing a common understanding of how public sector action can help mobilize private capital and encourage new markets in low carbon investments, for example, through the CMCI [‘Principles for Investment Grade Policy’](#);
- Moving from theory to practice by designing and testing new financing solutions to address the barriers to mobilizing private capital in specific partner-developing countries. Specifically, CMCI provided an opportunity to seek proposals from CMCI participants on how the public sector might support scaled-up climate investment.

3.2.2.1 *Enabling environments, both at global and domestic levels*

An enabling framework, both at global and domestic levels, will be crucial to catalyze a high level of climate-related investments. First and foremost is the right policy environment, conducive to private sector more generally, and to climate-related activity in particular. Clear long-term objectives in terms of climate policies are necessary to the private sector to make long-term climate-related investments.

At the global scale, the conclusion of a new climate agreement in Paris would help in sending a signal to the markets that the world is moving towards a more sustainable and low-GHG development pathway, and will thus help drive financial flows in that direction. In addition, creating the enabling frameworks to develop robust capital markets for products like green bonds will be important.

At the domestic level, countries can attract further climate resources by implementing effective and transparent climate policies and by strengthening their institutional and regulatory framework. In developing countries where there are significant capacity and financing gaps, **grant-based technical assistance** can be an effective way to help put in place such enabling environments.

Domestic policy and regulatory incentives could be put in place to incentivize low-GHG emission growth, while taking into account national and local circumstances and ensuring the key development objectives in developing countries. For example, some G20 members have established appliance standards, energy efficiency policies or GHG emission pricing approaches (see next section on green bonds and tax policies).

3.2.2.2 *Innovative methods and instruments to leverage and disseminate private sector climate-related investments*

There is a wide array of approaches that can be adopted to encourage green investments. For example, through (i) new methods to develop **more accurate assessments of the risks and opportunities** inherent to the decisions to be made, (ii) **new financial instruments** (such as green bonds, risk-sharing tools, GHG pricing approaches, see next section), (iii) **low-cost, long-tenor debt financing** for climate projects sensitive to financing costs because of high upfront capital requirements, and (iv) **analyzing the composition of its portfolios**, the financial sector can make a difference and be part of the global coalition to limit global warming.

The development of CDM (Clean Development Mechanism) projects, which aims at promoting sustainable development and the consolidation of a low GHG emissions economy, has been a successful experience of mobilization of financial resources and technical expertise from the private sector. Nonetheless, that performance was affected by the regulatory changes and lack of demand in the EU-ETS after 2012, and concerns were expressed on its limited redistribution towards the countries with the most burning needs. In any case domestic experience shows that, under a stable policy and legal framework in the mid- and long-term, the private sector can be proactive and effectively develop business opportunities related to mitigation.

To go from conceptual thinking to concrete actions, pilot initiatives and experiences aiming at better catalyzing private investments through the use of public interventions and resources should be encouraged, supported and scaled up when successful.

Box 13. Global Innovation Lab for Climate Finance

In 2014, **the United States, UK, and Germany** launched the Global Innovation Lab for Climate Finance to identify, stress test, and pilot new instruments. On 16 April 2015, the Lab announced the endorsement of four pilot initiatives designed to address investment barriers in renewable energy, energy efficiency, and adaptation in developing countries. Initial funding commitments for the pilots total USD 107 million, with more expected to follow.

Lab members identified four themes / barriers to overcome to better leverage private investment: support for early stage project development, risk mitigation, aggregation platforms and support for private investment in adaptation and resilience.

Box 14. Emerging Markets Dialogue on Green Finance

The goal of the **Emerging Markets Dialogue on Green Finance**, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), is to increase capital flows to green investments and thereby to enable the transformation towards resource-efficient economies. The work streams include developing a set of asset class-specific tools to quantify environmental risks and integrate them into lending and investment decisions. Another important area is capacity building for financial institutions to understand, quantify and manage environmental risks and to identify eco-friendly investment opportunities. One of the pilot projects is a Tool for integrating water risk in corporate bond analysis. Other examples are the development of “Environmental Stress Testing of Lending Portfolios”, studies on quantifying the Natural Capital Risk Exposure of Financial Institutions in selected countries, as well as an exchange between Emerging Markets in the process of developing a green bond market.

Box 15. Private sector commitment platforms

In order to maximize the publicity and dissemination of commitments made by the financial sector and have a comprehensive picture of those commitments, two specific platforms have been launched in May 2015 to register all individual commitments made by financial sector actors: one for investors and one for insurers. Through a standardized template which help companies formulate in a simple way their commitments, investors can make 4 kinds of commitments: (i) greater transparency (through measurement of the carbon footprint of their investments for instance); (ii) greater engagement with companies on their climate change performance; (iii) reallocation of their investments towards low-carbon assets (decarbonation of their portfolios); (iv) reinforcement of their action to fight climate change (for instance through dedicated investment tools, such as green bonds). Investors can either join an existing collaborative initiative, or make their own commitments (<http://investorsonclimatechange.org/other-actions/>).

Besides, the insurance sector also has a dedicated platform (<http://www.unepfi.org/psi/commitments/>). Alternatively, actors from other segments of the financial sector can register their own commitments on the NAZCA platform (<http://climateaction.unfccc.int/register.aspx>) which compiles commitments from all non-governmental actors.

4 PROMOTING EFFECTIVE FINANCIAL INSTRUMENTS AND APPROACHES TO ENHANCE CLIMATE FINANCE AND STIMULATE CLIMATE-FRIENDLY PRIVATE INVESTMENTS

The CFSG decided to further elaborate on the effectiveness of selected policy options identified in last year's Report, considering further barriers to their deployment and the potential for private sector engagement.

The private sector has been increasingly involved in climate finance mobilization. **Green bonds** and **risk-sharing tools** have been identified by several countries as ways to deepen and scale up markets and speed up investments towards a low-GHG emission and resilient economy. **GHG emissions pricing** approaches have been adopted by several countries and jurisdictions with a view to stimulate climate-friendly investments.

4.1 Green Bonds

In recent years, *green bonds* or *climate bonds* have become an increasingly significant instrument to mobilize finance for climate purpose. Despite the lack of a globally harmonized definition of this type of bonds, which makes it difficult to precisely quantify the volume and development of the market, existing data suggest that it has been growing at a strong pace. In 2014, the market grew rapidly, with issuance of USD 36.6 billion of labelled green bonds – a tripling of the USD 11bn issued in 2013, considering the estimates from the Climate Bonds Initiative¹⁵. The World Bank estimates that by the end of 2014, annual issuances reached over US\$35 billion, while the mix of issuers has expanded from the original multilateral development banks (MDBs) that pioneered the market to include local governments and agencies, utility companies and other corporate issuers.¹⁶

As a consequence, efforts are now undertaken to give it more structure, more transparency and standardization, in order to increase its capacity to efficiently increase climate finance flows.

4.1.1 State of play of the green bond market

Green bonds aggregate and structure debt financing in a way that enables even small scale investments to raise dedicated funding from debt capital markets. They can allow to raise dedicated funding for climate change mitigation, adaptation, and other environment-friendly projects by increasing **access** to green financing in terms and conditions more appropriate for these types of projects (lower cost of capital, longer tenures).

Three main categories of green bonds include:

- *Use of proceeds bonds*, which have recourse to the issuer, e.g. a Multilateral Development Bank (MDB) or a national financial institution. The issuer pledges to use proceeds on green projects. A variation is the Revenue Bond, where the investor's exposure is to specific revenue streams, e.g. taxes, and the use of proceeds of the bond goes to related or unrelated green projects.
- *Project bonds* where exposure is to the specific project financed through the bond.
- *Securitized bonds* where a pool of small-scale projects such as Energy Efficiency projects or solar PV is bundled to back the bond.

¹⁵ Bonds and climate change – the state of the market in 2015. Climate Bonds Initiative, July 2015.

¹⁶ http://treasury.worldbank.org/cmd/pdf/GettingtoKnowtheGreenBondMarket_PensionFundService.pdf

Involvement of public national and supranational entities such as multilateral or bilateral development banks in Green Bond market has increased in recent years, but even more important is the increasing engagement of the private corporate sector.

4.1.2 Mainstreaming green bonds among investors

The initial green bond market development has been linked to demand by environmentally and socially responsible investors. Going forward, the developing green bonds market presents opportunities to raise awareness also among mainstream bond holders and investors of the business opportunities in the green space. For both categories of investors, providing certainty and transparency on the use of proceeds and investments will be important requirements. Green bonds are part of a wider trend toward increased focus on social and environmental responsibility among companies and financial institutions.

However, some barriers still exist that hinder a wider enlargement of the investor base. Especially in developing countries, bond markets are dominated mostly by government and by banks, private sector corporates representing only a small part of the bond market. The main issues actually relate to the supply-side of the market.

4.1.3 Progress on definitions and transparency

There is a need to provide **greater clarity on the definition of what is a green bond and what distinguishes it from regular bonds**. Enhanced credibility through clarity and transparency on definitions of green bonds is a prerequisite for independent certification and for wider application of green bonds. At the same time, a balance has to be struck between enhanced consistencies and avoid too rigid regulation of an incipient market. Governments and market actors have a role in this process. Governments could support the development of voluntary guidelines by the market itself which would give green bonds more structure, more transparency and standardization.

Closely related to the question of definition of green bonds is the need for investors to have certainty on the “greenness” of actual investments and the appropriate use of funds. Confidence can be supported through “ring-fencing” of proceeds and earmarking of funds for clearly defined purposes such as energy efficiency and renewable energy, alongside third party monitoring and verification.

A set of *Green Bonds Principles*¹⁷ (GBP) have been developed by a consortium of issuers, investors and intermediaries in the Green Bond market to ensure quality and transparency. The voluntary guidelines concern key aspects of the credibility of green bonds including the use of proceeds; the process for project evaluation and selection; management of proceeds; monitoring and reporting, including of impacts; and third party verification. This initiative will contribute to the maturation of the market as well as its continued growth. Moreover, the market has been setting up an appropriate framework to support its development with the formation of a complete value chain and the launch of several market indices linked to Green Bonds.

¹⁷ The Executive Committee of the Green Bond Principles (GBP), which brings together a representative group of issuers, investors and intermediaries in the Green Bond market, with the support of the International Capital Market Association (ICMA), has published the [2015 edition of the GBP](#).

4.1.4 Perspectives for further development of green bonds

The volume, size and liquidity of the Green Bond market are still critical issues for many institutional investors which are constrained in the management of their asset portfolio. Development of the bond market should include continued expansion of the range of issuers to e.g. national and commercial banks, subnational public entities, and corporations, covering a greater diversity of geographic regions and sectors. In order for corporates to gain confidence to issue and henceforth increase the appetite of institutional investors, the demand for Green Bonds could be made more visible and well identified. Issuances driven by MDBs with proven track records should also be further increased. The expanded use of green bonds is linked to the wider development of capital markets, including domestic bond markets that will allow the private sector to access finance at attractive terms and costs.

Continued development of green bonds will require involvement of many different actors, and governments can play an active role, including by streamlining current regulations and support work to facilitate the understanding of green bonds. The role of governments in formulating conducive and reliable policy frameworks and incentives for low-GHG emissions and resilient investments, providing notably predictable long-term emissions reduction objectives, as well as an efficient allocation of risks for the private sector is also relevant for the development of a green bond market.

A key set of measures can be identified which market players and governments could facilitate, some of which are currently already underway:

- Further standardization and disclosure will support credibility and address reputational risk. Enhanced disclosure of ex-ante information on investments.
- Criteria for independent validation and rating, which are particularly important as confidence-builders in markets where green technologies are less well known.
- Engagement with institutional investors who often lack familiarity and ability to assess risks of the underlying investments, e.g. energy efficiency or forestry. At the same time, investors are increasingly seeking to operationalize climate change priorities in their investment practices.
- Regulatory support for market development, including by removing unintended barriers to institutional investment in green bonds and other instruments.
- Targeted use of risk-sharing instruments such as credit enhancement through partial guarantees to improve ratings.

Box 16. Driving the green bond market development: notable initiatives

The **European Investment Bank (EIB)**, which is a financial institution of the EU, issued in 2007 its first *Climate Awareness Bond (CAB)*. In doing so, the EIB pioneered the ring-fencing of proceeds in a dedicated liquidity portfolio within the EIB. The funds are earmarked to match disbursements to EIB lending projects contributing to climate action.

EIB is the largest issuer to date of Green Bonds with EUR 10bn raised across 10 currencies. Over the years, CAB proceeds have been allocated to 55 projects in 19 countries across the globe. The CAB has a clear sector focus on renewable energy and energy efficiency, including but not limited to:

- Renewable energy projects such as wind, hydro, solar and geothermal energy production; and
- Energy efficiency projects such as district heating, co-generation, building insulation, energy loss reduction in transmission and distribution and equipment replacement with significant energy efficiency improvements.

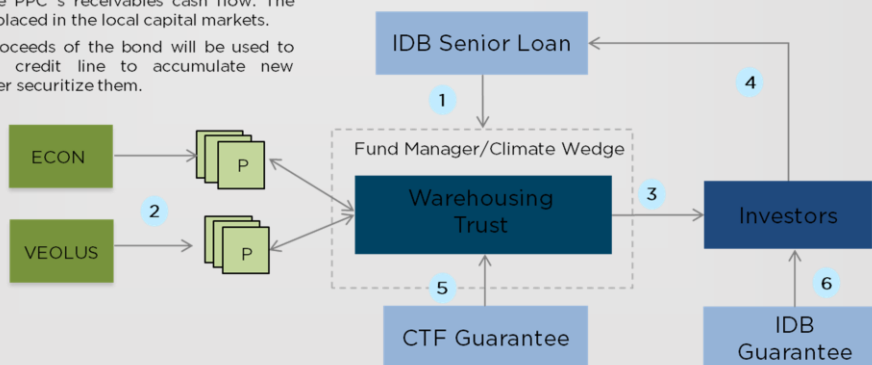
In February 2013, the **Export-Import Bank of Korea** issued 5-year green bond of USD 500 million. The bond was used to finance exporters for low-GHG emission and environmentally-friendly projects, such as solar energy and LED. The full amount of issued bond has been sold as of today in 2015; this shows the effectiveness of the green bond issued by a policy financing organization.

Box 17. Capital Markets solution for energy efficiency financing – Green Bonds in Mexico

Energy efficiency (EE) is considered one of the instruments with the greatest potential to lower production costs and improve business productivity, while simultaneously reducing greenhouse gas (GHG) emissions. In the EE market, Energy Service Companies (ESCOs) offer comprehensive solutions to small and medium enterprises (SMEs) interested in investing in EE. However, there are significant barriers to develop EE amongst SMEs in Latin America and the Caribbean (LAC), namely the lack of adequate financing for ESCOs to promote EE investments. Local Financial Institutions (LFIs) have limited expertise and capacity to market, assess and structure EE financing deals which contributes to LFI preference of collateral-based lending schemes, high interest rates and tenors that are often not well suited for EE financing.

In order to respond to these barriers in Mexico Energy Efficiency market, the Inter-American Development Bank (IDB) is implementing the project “Capital Markets solution for energy efficiency financing”. This project seeks to securitize a pool of energy efficiency projects originated by ESCOs in order to obtain financing in the capital market with better financial conditions and terms appropriate to the needs of these projects, through the issuance of green bonds. This project is expected to issue the first green bond in LAC backed by energy savings. The structure is presented below:

- 1 IDB grants a senior revolving loan to finance energy efficiency projects through a warehousing trust.
- 2 Energy Services Companies (ESCOs) will transfer power performance contract (PPC) and pledge guarantees into the warehousing trust.
- 3 The warehousing trust will issue green bonds backed by the PPC's receivables cash flow. The bonds are placed in the local capital markets.
- 4 The use of proceeds of the bond will be used to replenish the credit line to accumulate new projects to later securitize them.



- 5 The Clean Technology Fund (CTF) will guarantee second losses of the project portfolio during the warehousing stage.
- 6 The IDB will grant partial credit guarantees for each bond issued.

4.2 Risk-sharing instruments

4.2.1 Recognition of the relevance of risk-sharing tools

Climate-related investments often present significant risks, perceived or actual, for private investors which are then reluctant to engage. Projects may entail various risks associated with concerns about restrictions on foreign exchange transactions and remittances, exploration and nationalization, political/economic changes, changes in national systems and so on; climate-related ones involve additional technology, economic or environmental risks which investors have little reliable information to handle.

Risk-sharing instruments for financial investments such as guarantees, risk-sharing facilities, and insurance products can, if used wisely, be attractive, relatively inexpensive ways for the public sector to mobilize private investment for climate-related projects.

There is increasing acknowledgement among governments, International Financial Institutions (IFIs) and other public financial institutions about the potential of risk-sharing tools to leverage private investment. In particular in investment areas that are fundamentally cost-effective and profitable such as energy efficiency, measures that lead to an efficient allocation of risks can catalyze significant private flows.

While the use of dedicated risk instruments targeting climate investments is still emerging, there is increasing focus on the subject, as evidenced e.g. by the report of the Working Group III of the Intergovernmental Panel on Climate Change (IPCC), which features a chapter dedicated to investment and finance. The topic is also at the focus of initiatives such as the “Global Innovation Lab for Climate Finance” (see Box 12) and a central concern for the Green Climate Fund.

4.2.2 The choice of instruments reflects the specific risks and context

Institutions that design and deploy targeted risk sharing instruments will consider the following key dimensions:

- Challenges facing climate change investments e.g.: front-loading of costs, new technologies, uncertain demand, long investment horizons, and unfavorable policy environments.
- Who is exposed to specific risks, e.g.: financial intermediaries and institutions (e.g. insurance and re-insurance), institutional investors, equity investors/end users, technology providers.
- Investment cycle and sector/technology: stage in project cycle, stage in market development, sector and technology specific risks.
- Types of risk being addressed, e.g. construction, technology, market, credit policy-regulatory, currency risk.

It follows that in-depth analysis of the country and sector context and market is an essential first step in tailoring the instrument to the particular country, sectors, beneficiaries, and project types and stage.

Mobilizing private finance by addressing risks is relevant for a wide range of project types. For small and distributed investments by households and SMEs, aggregation and standardization serve a dual purpose by pooling risks and keeping transaction costs down. For larger infrastructure investments, guarantees that can be provided, for example, by credible institutions such as MDBs and national development banks, can offer the certainty that the private sector needs in dealing with publicly-

owned entities, e.g. in water, power supply and transport. The MDBs accumulated sectorial expertise and the project preparation analytical work and studies review are also elements that reduce risk.

4.2.3 A wide selection of risk-sharing tools is available

The variety of risk-sharing instruments reflects the diversity of the risks addressed. Among these instruments, (partial) credit and performance guarantees as well as insurance products have gained increasing prominence. Guarantees and insurance can help close the gap between perceived risks and real risks without creating market distortion, as long as an in-depth sectorial work has been performed to design the proper incentives.

The development of risk-sharing tools to facilitate investments in mitigation and adaptation should take into account the experience from private capital markets, in particular the risks associated with securitization. The underlying assumption behind all such instruments is that there are classes of private investors who are willing to participate in such instruments/structures that deliver varying levels of risk and reward within the context of specific countries. In this regard, the risk of moral hazard could be addressed by genuine risk sharing among the actors involved in such operations. In the case of instruments with the participation of both private and public financiers, appropriate consideration is needed to ensure that risks are not disproportionately carried by the host sovereign or the institution providing public funds to leverage private flows.

The instruments can **support local financial institutions along their ‘learning curve’** while getting familiar with new technologies and markets. They also allow local financial institutions to offer lending on longer terms, with lower collateral, better priced – or even give access to credit at all.

A range of instruments are being put in place to allocate the risks associated with climate-friendly investments. Several of these focus on mobilizing investments in developing countries and are channeled through MDBs, International Financial Institutions (IFIs) in general and pluri- or bilateral initiatives. The effectiveness and applicability of each tool depend on the particular market and regulatory settings.

Examples of how public money is being used to allocate the risks include:

- *Subordinated debt*, whereby concessional finance takes a higher risk position.
- *Guarantees*, in particular addressing risks involved with investments in new climate-related sectors and/or in new technologies.
- *Mezzanine finance and lines of credit* to cover specific risks for renewable projects.
- *Anchor investment in private equity funds* that invest in low GHG emissions development.
- *First loss position in a debt fund* to encourage private investment into a fund which works through local banks in developing countries to make finance available for SMEs.
- *Insurance products* - including surety – can target construction risk and provide certainty that obligations relating to performance of new technologies are met.
- *Local currency financing* that allows projects developers and investors to mitigate the currency risk involved with project financing received from international sources.

In the context of international climate investments, risk factors can be at play at the country policy and regulatory level, relating e.g. to the stability of incentive schemes for renewable energy. In such cases, an efficient allocation of risks can be realized through guarantees or insurance provided by national and international public financial institutions, enabling private financing to flow to

developing countries. Direct international support for countries' policies and measures - such as feed-in-tariffs for renewable energy - may also be used as instruments to increase confidence among private investors.

4.2.4 Addressing risks requires a comprehensive approach

Importantly, financial risk-sharing instruments can only be one element of a "package". Any intervention that uses such instruments to improve the allocation of risks in a market will also comprise a number of non-financial interventions aimed at raising awareness; building institutional capacity to design and implement regulation; and developing enabling instruments such as standardized contracts and procedures.

Box 18. Contributors taking risky equity position to mobilize investors: The Global Climate Partnership Fund

The **Global Climate Partnership Fund (GCPF)** has been established to encourage financial institutions in emerging and developing countries to provide funding for energy efficiency or renewable energy projects. The Fund targets various types of financial institution, such as banks, leasing or microfinance institutions and currently has partners in 12 countries across 4 continents.

GCPF increases access to financing at reasonable terms by making debt financing available to local financial institutions for on-lending to eligible projects. In doing so, GCPF supports the development of local know-how in green energy lending and builds the market knowledge of local institutions, mobilizing them to act as green energy market enablers. The Fund is also able to finance projects directly.

The risk-sharing aspect is mainly related to the shareholder structure in the Fund, where contributor funds take a first loss equity position, thereby allocating risks for more senior equity classes intended for investments by development banks and the private sector. On the basis of the equity structure, additional funds are raised by issuing notes aimed at institutional investors.

After five years of operation, GCPF has committed USD 300M. Based on the amount of share funding available, the Fund is able to grow well beyond USD 500M in size.

The lending operations are complemented by concessional financing for technical assistance (TA) through a separate facility. The TA facility supports the Fund's financial partner institutions in building capacity to scale up their green lending portfolio, including through design of dedicated financing products, market research, and support for social and environmental management systems.

<http://gcpf.lu/>

Box 19. Case study - Geothermal energy Investments - Increasing private investment in energy infrastructure through Risk-Sharing Mechanism

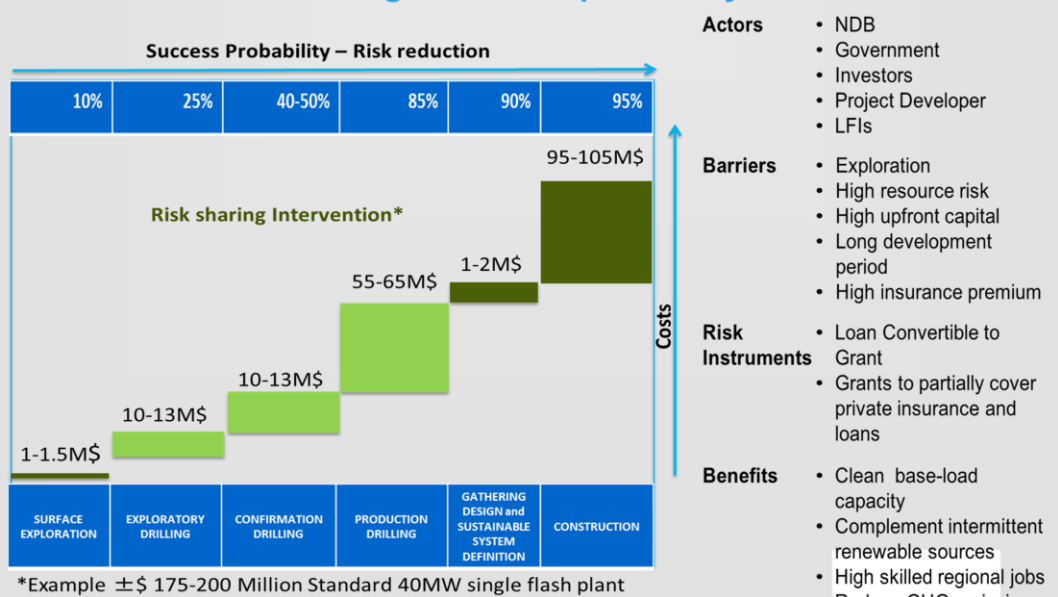
To scale up private investment in geothermal power generation projects, the **Inter-American Development Bank (IDB)** has developed the Geothermal Financing and Risk Transfer program that intends to offer tailored financial instruments to meet the specific needs of each project's stage of development. The program is currently piloted in **Mexico** with the National Development Bank NAFIN with support of resources by the **Clean Technology Fund – CTF**. The structure aims to reduce the main barrier to investment by reducing Value at Risk for developers, and addressing the lack of risk capital to cover resource risk. The focus is on private and private-led PPP projects.

The program features innovative financial mechanisms targeted at overcoming the barriers imposed by high resource risk during test and production drilling of geothermal projects. Bank financing is backed by a guarantee or alternatively insurance policy (currently a grant fund) that would cover the loan in case drilling does not result in the minimum average well productivity to make the project feasible. This grant fund seeks an efficient use of scarce budgetary resources to support geothermal energy development. The program design aims to:

- Reduce high-risk capital needs for developers, by enabling access to credit from earlier stages of development of projects.
- Reduce losses when no or insufficient geothermal resource is found, as credit is backed by a guarantee or insurance policy.
- Facilitate continued financial support for projects, making it possible to refinance as projects evolve, matching financing terms to lower-risk profiles at later stages of project development.
- Optimize leverage of available high-risk capital within a portfolio of projects.
- Align incentives among parties for developing successful projects.

The chart below illustrates the different development and investments stages of Geothermal energy investment and the impact of the risk transfer structure in moving geothermal projects beyond the crucial exploration phase towards the construction phase.

Geothermal Risk Sharing: Increases probability of success



4.3 GHG emissions pricing approaches

For the massive climate-smart investments needed to happen, the financial system and economic actors need to take into account the climate risk in investment decisions, while governments need to establish conducive enabling environments. Indeed, robust and stable policies and regulatory frameworks in developing and developed countries are essential to reach mitigation goals while maintaining attractiveness (sustainability, predictability) for private investments, so as to stimulate private low GHG emissions investment.

In this context, it is crucial to avoid subsidizing greenhouse gases, and to work towards reorienting financial flows towards a low-GHG emissions and resilient economy. Inefficient fossil fuels subsidies that encourage wasteful consumption could be phased out, according to national circumstances.

G20 countries highlight that some countries have chosen from a broad variety of policy options including market and non-market based approaches to address greenhouse gas emissions. While many GHG pricing policies may be economically efficient, depending on the context, the most effective policy options will ultimately be determined by national circumstances and policy design. When considering such approaches, the objectives, provisions and principles of the UNFCCC should be taken into account.

4.3.1 GHG emissions pricing as a tool to promote emissions reduction

4.3.1.1 *GHG emissions pricing changes investment decisions*

GHG emissions pricing mechanisms are designed with a view to change the price signals associated with GHG emissions and therefore contribute to shift the structure of the economy towards low-emission and resilient activities with higher net social benefits. It helps countries diversify energy sources and improve energy security, making their economy more resilient.

4.3.1.2 *GHG emissions pricing provides flexibility to firms and households to reduce emissions*

GHG emissions pricing allows firms and households themselves, rather than policymakers, to choose where, when and how to reduce emissions, including through which technology. By giving firms and consumers this flexibility based on their own assessments of costs and benefits, they reduce emissions in a manner that they themselves consider appropriate.

The more comprehensive the coverage of the GHG emissions price is in terms of emissions sources, sectors and geographies, the greater the scope for taking advantage of diversity of available low-cost options. And the greater the difference is in abatement costs across businesses and sectors, the greater the benefits of the flexibility offered by GHG emissions pricing.

4.3.1.3 *GHG emissions pricing encourages innovation and cost-reduction over time*

By putting a cost on each ton of emissions, GHG emissions pricing encourages all abatement opportunities below this cost level, also unearthing previously unknown, innovative, and inexpensive means to reduce emissions and improve efficiency. Continuing to price emissions over time encourages ongoing innovation and reduces costs.

However, when considering approaches to put a price on GHG emissions, it is crucial to ensure that these approaches respect the objectives, provisions and principles of the UNFCCC and thus do not jeopardize development efforts on energy access.

4.3.1.4 GHG emissions pricing can generate revenue that can reduce overall cost of taxation

GHG emissions pricing can be a way of collecting government revenues. These revenues can be used in many productive and socially desirable ways, including to compensate poor and vulnerable households for any possible temporary increase in energy bills that can be attributed to GHG emissions pricing. Depending on country circumstances and social preferences, revenues obtained through GHG emissions pricing could be used to reduce taxes deemed less efficient – this approach could be taken up as a part of a broader effort to rationalize the tax system, which may contribute, if done properly, to reduce overall cost of taxation and further improve productivity of the economy.

Box 20. France's Climate Energy Contribution (reform of energy taxation)

In April 2014, France implemented a national Climate-Energy Contribution aiming at pricing CO₂ emissions from fossil fuels. This measure increases taxation level on these energies, and contributes to emissions reduction in diffuse sectors (transportation, housing), as a complement to the existing cap-and-trade system EU-ETS. This Climate-Energy Contribution scheme consists in the introduction of a carbon component in the existing energy excise tax (domestic consumption tax - DCT) on energy products (including fuels), natural gas and coal. Set at 7€/tCO₂ in 2014, the system gears up the following years, with two successive increases of 7.50€/tCO₂. The carbon component will reach 22€/tCO₂ in 2016, and will cover all types of fossil fuels. This differentiated increase of energy products taxes will represent between 3% and 10% of the current prices of the energy sources.

By 2016, the ramp-up of the DCT carbon component is expected to generate EUR 4 billion in revenues. Three quarters of those revenues will contribute to funding the reduction in corporate income taxes (called CICE, *Crédit d'impôt pour la compétitivité et l'emploi*, in French), through the financing of a large tax credit for competitiveness. The system of carbon taxation should lead to lower CO₂ emissions, between 1 and 5 MtCO₂ in 2015 and from 2 to 9 MtCO₂ in 2016.

The Climate-Energy Contribution is not defined beyond 2016 but France's bill on energy transition for green growth, in the process of being adopted, provides that a progressive carbon component in the existing energy excise tax shall be implemented.

Lessons learned from the rejected 2009 Carbon tax project

In 2009, the French government tried to introduce a carbon tax, with a carbon price of 17€/tCO₂, but the project was dropped. The Constitutional Council censured the exemption of companies covered by EU-ETS, as designed in the 2009 carbon tax project, as allocations of allowances, significant shares for free, are granted until 2027. The large number of exemptions from the 2009 carbon tax jeopardized the goal of fighting climate change and worked against the equality in terms of public charges, placing a disproportionately heavy burden on ordinary households.

Lessons learned from this carbon tax project show that a carbon tax that respects French legislation and can be transparent and socially and economically acceptable needs to be broadly applied with the most uniform tariffs as possible, with a low tax level as a start, aligned with European Allowance Units prices. Tax level shall then be progressively increased to fulfil emission reduction targets.

4.3.1.5 *Challenges related to GHG emissions pricing are known and efforts have been undertaken to overcome them*

There have been concerns that raising emissions costs at home may push some production, jobs and investments abroad to “emission havens”. Current experience has not confirmed these concerns, but many countries have taken precautionary measures in case such emission “leakage” occurs going forward.

Various targeted competitiveness mitigation measures have been built into the design of GHG emissions pricing policies or into complementary measures. In addition, consideration could be given to enhanced cooperation in order to avoid leakages and competitiveness concerns. Experience and lessons generated over the years on the implementation of GHG emissions pricing instruments also show that concerns about disproportionate impacts on low-income households, may be successfully managed.

Furthermore, for some countries, GHG emissions pricing may have a disproportionate economic impact as they may be unable to afford the small increase in energy costs and thereby in production and labor costs. Thus, for developing countries, the greatest challenge in introducing GHG pricing is its potential impacts on development and poverty reduction as well as on vulnerable population. It seems clear that GHG emissions pricing needs to reflect different abilities to pay.

Consequently, in order to develop well-designed GHG emissions pricing policies, comprehensive studies including impact assessments and economic analysis should be undertaken so as to take into consideration distributional effects and socio-economic realities.

4.3.2 *Setting the objectives for GHG emissions pricing and understanding the policy landscape*

4.3.2.1 *Ensuring the effective and efficient design of GHG emissions pricing instruments*

Economy-wide and sector-specific economic and policy analyses can help ensure that the design and implementation of GHG emissions pricing instruments are effective, efficient and adequate to national circumstances. They can place GHG emissions pricing in the context of countries’ mid- and long-term mitigation goals and development context and priorities so that informed decisions can be made on the choice and the design of a GHG emissions pricing instrument.

In designing a GHG emissions pricing instrument it is important to consider the range of policy measures that put a direct or indirect price on GHG emissions, including measures such as energy efficiency standards or renewable energy regulations, to ensure alignment and consistency of objectives and understand their cost-effectiveness. GHG emissions pricing instruments are likely to deliver less impact when the climate policy framework is poorly aligned.

4.3.2.2 *Promoting good practices and sharing lessons*

Platforms for knowledge exchange and exchange of best practices enable countries to more effectively explore and address technical capacity gaps when assessing, designing, and adopting innovative and cost-effective approaches to GHG mitigation. Regular dialogues between policy experts across countries that are implementing or considering GHG emissions pricing, are of vital

importance for achieving the most suitable policy design and ensuring successful implementation of proposed instruments.

Box 21. Fostering high-level political dialogue on GHG pricing: Carbon Pricing Leadership Coalition

The **Carbon Pricing Leadership Coalition** was established by interested country governments, private companies and civil society to provide a framework for high-level dialogue on GHG emissions pricing policies, considering that the modalities regarding how to implement such policies (taxes, regulations or GHG markets) shall be determined according to national circumstances and priorities to share experiences and allow countries, on a voluntary basis, to analyze the different options and identify which ones are best suited to their specificities.

The Carbon Pricing Leadership Coalition's work programme, including developing scenarios that will illustrate plausible outlooks under a variety of carbon pricing policies and timelines and developing a set of principles to help guide best practices for carbon pricing, will provide a concrete contribution for enhancing the dialogue on the potential of carbon pricing to serve as a tool for countries to implement their mitigation objectives in a cost-effective manner.

Box 22. Fostering momentum for domestic climate action: Partnership for Market Readiness (PMR)

A number of bottom-up initiatives for fostering the international cooperation on GHG pricing have already taken root. For example, through the World Bank's PMR, policy-makers share valuable knowledge on technical and policy challenges faced during the design and implementation of GHG emissions pricing. By doing so, the PMR facilitates efforts to address technical elements related to emission pricing mechanisms, such as specific instrument design, monitoring, reporting and verification (MRV) methods, baselines and benchmarks, stakeholder engagement, and others.

The PMR was for instance of great help to **China** in its exploration of the possibility to establish a national carbon emission trading system based on the experience from the pilot cities. The PMR provided lessons learned and best practices in technology design and institutional arrangement to improve China's domestic carbon market.

4.3.3 Sub-national experience with GHG pricing instruments

Experiences from some G20 countries show that emissions trading systems (ETs), taxes on emissions and other GHG emissions pricing instruments can be designed and implemented at different scales, national, regional and local. Thus, GHG emissions pricing instruments offer flexibility to adapt approaches and implementation modalities to the implementing entities' priorities, specificities and local circumstances and preferences.

4.3.3.1 *Examples of GHG emissions pricing programs at the sub-national level*

GHG emissions pricing can deliver climate benefits at the national, state and/or local level. More than 26 sub-national jurisdictions have implemented GHG emissions pricing schemes to date that cover significant percent of global GHG emissions.

In the United States, for example, nine northeastern states have participated in a power sector cap-and-trade program, the Regional Greenhouse Gas Initiative (RGGI) since 2009, and California's economy-wide cap-and-trade program went into effect in 2012.

In Canada, sub-national cap-and-trade programs are also operating in Québec and now link to the California ETS. In addition, British Columbia has enacted a carbon tax at the sub-national level. As a result of the revenue-neutral tax swap, British Columbia now uses carbon tax revenue to reduce other taxes, including on labor and investment. Today it has one of the lowest personal income tax rates in Canada and one of the lowest corporate income tax rates in North America.

In China seven municipal and provincial pilot programs are under way, and the country is exploring the possibility to establish a national carbon emission trading system based on the experience from these pilots. With seven operational pilots, China now houses the second largest carbon market in the world after the European Union's ETS.

Other types of GHG emissions pricing programs are being rolled out at the sub-national level, including programs that are based on emission intensity (rather than actual emissions) such as in Alberta, Canada. Alberta's regulatory approach to manage GHG emissions includes the options for internal abatement, the use of emission performance credits, the purchase of emission offsets and payments to the Climate Change and Emissions Management Fund. Other examples include sub-national ETS in the cities of Tokyo, Saitama and Kyoto, Japan. The Tokyo and Saitama schemes are compulsory, and the Kyoto one is voluntary with non-binding targets. These schemes continue to play a role in GHG emissions pricing and cover 4.6% of total GHG emissions in Japan (2012).

4.3.3.2 *Sub-national initiatives can be a good way to pilot GHG emissions pricing instruments*

Sub-national GHG emission pricing instruments could help inform future schemes at the national level, while generating practical lessons on the implementation of mechanisms and building capacities at the national level - both for the public and private sector. They may provide flexibility for sub-national jurisdictions seeking to comply with national laws by fostering targeted, low-GHG emissions investments consistent with local specificities.

4.3.4 *Stable and predictable pricing policies*

4.3.4.1 *A stable and predictable GHG emissions price promotes an orderly transition to a low emissions economy*

To deliver substantial GHG emission reductions over time requires consistent and credible price signals and incentives. A predictable price on GHG emissions can help promote a low-GHG emissions economy and ensure stability of revenues.

A stable and predictable policy framework can help minimize uncertainties for investors and allow them to make informed decisions that reflect GHG emissions pricing over the life of the investment.

This helps increase the efficiency of investment decisions and minimize the cost of achieving emission reductions over the long-term.

Pricing mechanisms do, however, need to be designed with sufficient flexibility to adjust to unpredictable and/or disproportionate economic and technological developments, including over vulnerable sectors, and advances in the scientific understanding of climate change. Flexibility needs to be balanced with sufficient predictability to preserve incentives for innovation and efficient long-term investments.

4.3.4.2 Striking a balance between flexibility and predictability

Mechanisms can strike a balance between flexible policy that adapts to new information and the need for policy predictability. For GHG emissions taxes, pre-specified rules for periodically updating tax levels in response to economic developments and new scientific evidence can help to strike this balance, although there is little experience with such rules being implemented.

Box 23. Lessons learned from 10 year old European Emission Trading Scheme EU-ETS

The EU emissions trading system (EU ETS) is a cornerstone of the European Union's policy to combat climate change and its key tool for reducing industrial greenhouse gas emissions cost-effectively. It covers around 16,400 power stations and industrial plants in 31 countries, as well as all civil intra-Community flights, which are responsible for nearly 50% of EU CO₂ equivalent emissions.

EU-ETS cap and trade system

A 'cap', or limit, is set on the total amount of certain greenhouse gases that can be emitted by the factories, power plants and other installations in the system. The cap is reduced over time so that total emissions fall. In 2020, emissions from sectors covered by the EU ETS will be 21% lower than in 2005, and 43% lower by 2030, according to EU 2030 Climate-Energy Framework. Within the cap, companies receive or buy emission allowances which they can trade with one another as needed, thus giving carbon allowances a price according to supply and demand on the market. **This cap-and-trade system's objective is to achieve CO₂ emissions reduction goal in the most cost-effective way.**

Since 2008, covered installations are allowed to use a certain amount of emission reduction units issued under flexibility mechanisms set out in the Kyoto Protocol to help countries achieve their binding GHG emissions reduction targets in the most cost-effective way (ERUs – emission reduction units issued under Joint Implementation and CERs – certified emission reductions issued under Clean Development Mechanism).

Reform of the EU-ETS

From July 2008 to July 2014, due to an increasing surplus of emission allowances reaching over 2.1 billion by the end of 2013, European Union Allowance (EUA) price decreased from nearly €30/tCO₂ to €6/tCO₂. This fall in price is due to a combination of several factors including economic context (the economic crisis leads to reduction in production and consequently in GHG emissions too, thus decreasing the demand for allowances), energy efficiency and renewable energy policies also leading to emission reductions and thus to decrease in demand for allowances. But, even if this carbon price decrease can impact the optimum share in efforts, it does not affect in any way the fulfilment of the EU-ETS GHG emission reduction target as the cap which has been fixed remains untouched.

In order to limit extreme decrease or increase in EUA price and to enable the EU-ETS to better react to fluctuations in demand for allowances, two reforms have been implemented or initiated: (i) between 2014 and 2016, 900 million allowances will be postponed (« backloading ») as an immediate first step; (ii) the establishment of a « market stability reserve », as a structural reform of the market, is currently being discussed among EU institutions: this reserve shall allow to modulate allowances supply by setting aside surplus or putting back allowances on the market according to determined thresholds when needed.

Initiatives from EU Member States to further strengthen EU-ETS incentives domestically

The UK has introduced a Carbon Price Floor (CPF), which applies to UK power generators only, in order to ensure a stable carbon price signal. The CPF sets a minimum carbon price to drive investment in low-carbon technologies in the power sector and the Carbon Price Support (CPS) rate is set to “top-up” the EU ETS allowance price to the level of the Carbon Price Floor.

4.3.5 A suite of policy measures is necessary to incentivize GHG mitigation

GHG pricing policies will always coexist with a suite of other policy measures designed to reach multiple social, economic and environmental objectives. Some policies will be complementary, strengthening the GHG emission price signal, while others could be counter-productive. There could also be overlapping policies designed to achieve similar GHG emission reduction objectives.

4.3.5.1 GHG emissions pricing policies can be complemented by measures which support deeper emissions reductions over time.

Successful GHG emissions pricing policies are often complemented by other policy measures and investments, which support deeper emissions reductions over time. This includes innovation policies, barrier removal and infrastructure investments.

Alone GHG pricing may not deliver the expected results if the price signal is insufficient to overcome other market failures. These market failures may not be specific to climate policy and include for example, insufficient incentives to invest in research and development, insufficient information on low-emissions alternatives; institutional barriers that prevent the take-up of otherwise cost-effective abatement options (such as entrenched habits or lack of enabling regulations); and lack of access to finance or to infrastructure. Complementary policies that address these other market failures can make a GHG emissions price more effective.

4.3.5.2 Counterproductive policies undermine the environmental benefits of GHG emissions pricing

Uncoordinated policies undermine the environmental benefits of GHG emissions pricing and should ideally be scaled back. One example is phasing out inefficient fossil fuel subsidies that encourage wasteful consumption and lower energy prices, thereby increasing energy demand and CO₂ emissions. Energy price reforms and GHG emissions pricing can therefore be mutually reinforcing policies towards better energy access, better quality of energy services, and emission reductions. Other examples of subsidies that could be counterproductive, if poorly designed, include those for company cars, parking, livestock production (which produce methane emissions) and crop production using fertilizers that release nitrogen oxides.

4.3.5.3 GHG emissions pricing policies often coexist with similarly motivated overlapping policies that can foster synergy but risk discord if not managed properly

GHG emissions pricing policies frequently operate in parallel with other fiscal and regulatory incentives affecting the same emissions sources. Examples include energy-efficiency standards for vehicles, buildings, lighting, appliances, and other energy-using equipment; incentives for bio-fuels, wind, and solar power; emission standards for power generators; subsidies for clean technology deployment; and so on. Some of these policies are designed to achieve emission reductions while others might address other market failures or to primarily achieve other policy objectives.

Without proper management of interactions, these overlapping policies may interfere with the effectiveness of the GHG emissions price in reducing emissions. They may even become redundant on environmental grounds with the introduction of GHG emissions pricing, although could remain relevant in achieving non-climate related policy objectives. Careful consideration of the interactions and ongoing relevance of overlapping policies is required.

Box 24. Supporting mitigation through crediting programmes

Australia is implementing Direct Action under the ‘clean air’ pillar of its Plan for a Cleaner Environment to achieve climate change mitigation. This involves practical actions that will achieve real, measurable results for the environment. The Emissions Reduction Fund is at the centre of the Government’s Direct Action approach. The **Emissions Reduction Fund** is an incentive-based programme that is already supporting Australian businesses and the community to improve practices, invest in new technologies, increase productivity and lower energy costs and emissions.

The Government allocated AUD 2.55 billion in the 2014-15 Budget for the purchase of credited emissions reductions under the Fund. The framework for the Emissions Reduction Fund consists of:

- Crediting emissions reductions that have been certified by Australia’s Clean Energy Regulator, and based on methods considered by an independent assurance body.
- Purchasing of credited reductions by the Clean Energy Regulator through auctions where the lowest bids are bought first and payment under the contract is tied to delivery of emissions reductions.
- Ensuring through the safeguard mechanism that emissions reductions purchased by the Government are not offset by significant rises in emissions elsewhere in the economy.

In **Spain**, at national level, the **Carbon Fund for a Sustainable Economy (FES-CO2)** has been launched by the Government as an efficient climate finance tool based on the acquisition of credited emissions reductions to catalyze transformation of the Spanish production system.

FES-CO2 promotes low-GHG growth, while consolidating a sustainable and innovative economy, capable of generating jobs and wealth in sectors related to climate change action. The Fund supports the private sector in carrying out low-GHG activities, creating enabling environments that facilitate the investments required to enhance the development of clean technologies which contribute to climate change mitigation.

The resources in the fund are used to buy emission reductions in projects that are implemented on Spanish territory (“Climate Projects”). Up to now, three calls for projects have been carried out and the fund is committed to buy the emissions reductions achieved by more than 100 projects. This is another way of putting a price on GHG emissions that Spain is promoting. The fourth call for projects is underway and more calls in the future are foreseen.

CONCLUSIONS AND NEXT STEPS

The main issues raised and the approaches emerging from the exchanges of the Group and the national experiences of the members in the different areas of work addressed this year, listed in the Report, provide a set of lessons learned and policy options for governments to consider. It is hoped that the approaches highlighted in this very fruitful G20 countries experience-sharing exercise on climate finance, although non-exhaustive, will be useful and further considered on a voluntary basis, taking into account national circumstances and priorities and taking into account the objectives, provisions and principles of the UNFCCC.

Improving the collaboration, dialogue and cooperation between climate funds. The work of the CFSG throughout the year highlighted the **need to clarify the global climate funds landscape and enhance synergies** between climate funds, so as **to facilitate access to resources by recipient countries and effective and efficient use of resources for both recipient countries and contributor countries.**

The active engagement of recipient countries was also underlined as a key factor to strengthen coherence across multilateral and bilateral delivery channels and programmes, while enhancing country ownership. Particularly relevant is **improving country-level planning processes and strengthen the role of national focal points or national designated authorities** to define priorities and ensure consistency between climate flows and recipient countries' national strategies and policies.

Adaptation financing. The CFSG also underlined the **critical need for context-specific measures adopted through engagement with the different stakeholders**, and thus the **continued need for readiness support and capacity building to improve the capacity of national and sub-national institutions to identify, prioritize, design, implement, monitor and evaluate adaptation strategies and measures.** Indeed, enabling environments made of robust and stable policies are needed to attract investments.

There is an urgent need to scale up financing for adaptation – public and private, taking into account the principles of UNFCCC – in developing countries, especially those that are particularly vulnerable to the adverse effects of climate change. **New approaches to mobilizing financing for adaptation could be explored** to address this need.

Public finance mobilization. **Public finance continues to be an important driver to climate finance flows in accordance with the principles of the UNFCCC.** The CFSG discussed the importance of **transparency of climate action and of financial support** to help showcase successful contributions, ensure demonstration effects, increase accountability and improve our common understanding of results achieved.

Mainstreaming climate change considerations into public financing was also discussed, recognizing that this should not hamper the fundamental development mandate of the corresponding institutions. Climate change considerations should complement and reinforce the role of institutions in carrying out their mandate to promote poverty reduction and sustainable development, a fact that is made increasingly clear by the acknowledged risk that climate change may jeopardize the gains obtained by countries in their development efforts.

Resources from the private sector will also be necessary to support investments in mitigation and adaptation to climate change. **Enhanced dialogue between public and private sectors**, nationally and globally, could contribute to identify and remove barriers to climate-friendly investments.

Promoting effective financial instruments and approaches to enhance climate finance and stimulate climate-friendly private investment.

Green bonds and **risk-sharing tools** have been identified by several countries as ways to deepen and scale up markets and investments. They can assist in catalyzing large private resources with targeted public support. Moreover, in-depth analysis of the country and sector context and market is an essential first step in tailoring the instrument to the particular country, sectors, beneficiaries, and project types and stage.

Furthermore, G20 countries highlight that some countries have chosen from a broad variety of policy options including market and non-market based approaches to address greenhouse gas emissions domestically. While many **GHG emissions pricing** policies may be economically efficient, depending on the context, the most effective policy options will ultimately be determined by national circumstances and policy design. When considering such approaches, the objectives, provisions and principles of the UNFCCC should be taken into account. Thus, the application of GHG emissions pricing approaches has been considered by some countries, in their domestic context, as a cost-efficient means of achieving emission reductions and uncovering opportunities for GHG mitigation. On the other hand, some countries have indicated that GHG emissions pricing would not be an appropriate policy option for implementation in their national circumstances and preferences.

Proposed next steps. As next steps for 2016, if so requested by the Finance Ministers and Leaders, and taking into account the priorities of next year's Presidency of the G20, the following options could be considered:

- Continuing the work of the CFSG on general climate finance-related issues, considering the perspectives for climate finance that arise as a result of the COP21;
- Continuing the work of the CFSG with a focus on more specific topics;
- The CFSG may consider further work with interested parties to improve the content and the practicability of the Inventory Study on Climate Funds based on feedback of final users.

The status of the CFSG could also be revisited.