Trends and opportunities in multilateral climate funds

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Contents

Summary

To tackle climate change, developing countries must have access to climate technologies and services that enable low carbon development. Achieving this will require a massive ramp-up in climate finance flows to facilitate the necessary investment. Climate investments include both mitigation projects that reduce emissions of greenhouse gases – such as renewable energy technologies, urban transport improvements and energy efficiency measures – as well as climate change adaptation projects – such as water management and 'climate smart' agricultural practices.

Multilateral climate funds are a major channel for climate finance flows from national donors to projects in developing countries, often utilized as part of multimillion-dollar country-wide investment programmes administered by multilateral development banks. For the Netherlands, tracking climate funds can help identify concrete opportunities for Dutch 'Climate tech' firms to establish or expand business overseas. However, identifying business opportunities associated with climate funds can be challenging for firms, particularly for small and medium size enterprises.

In recognition of this, DME requested ECN Policy Studies to develop a monitoring framework that analyses trends in the pipeline of projects from major climate funds. The projects are aggregated and filtered to identify potential opportunities at the earliest stage in the project development cycle. Projects, which are still under development or only recently approved, represent the best prospects for Dutch firms to engage with new markets. The monitoring framework helps Dutch firms anticipate where the project tenders will emerge, both geographically and by sector, as well as includes contact details for each project. The report also gives an overview of the services of the Netherlands Enterprise Agency (RVO) to support Dutch companies and knowledge institutes in developing business opportunities in developing countries.

This first release of the monitoring framework focuses on the Climate Investment Funds (CIF), one of the largest channels of multilateral climate finance. Projects were studied from the four programmes under the CIFs: the Clean Technology Fund (CTF), the Scaling Up Renewable Energy in Low Income Countries Program (SREP), the Forest Investment Program (FIP) and, the Pilot Programme for Climate Resilience (PPCR). A total of, USD $7.6 billion worth of CIF project funding has been analysed, of which an estimated USD

3 billion is still to be disbursed. These flows, along with the significantly larger external contributions that they leverage, may represent concrete opportunities for Dutch firms, through involvement in projects. The results can also provide insights on where to focus efforts overseas. Identified 'open' projects are presented at the country, sector and country-sector combination level for relevant mitigation and adaptation technologies.

As a next step, the information generated through the first edition of the monitoring framework will be discussed with relevant private sector platforms to tune the analysis to add maximum value to Dutch technology and service providers. In future editions, this database and report will be expanded to include the Global Environment Facility (GEF) and Adaptation Fund, as well as other sources of information on market trends and potential opportunities, such as the new Green Climate Fund (GCF), the nationally appropriate mitigation action (NAMA) database and requests submitted to the UNFCCC's Climate Technology Centre and Network (CTCN).

1 Introduction

This report presents a 'monitoring framework' that allows Dutch companies to identify opportunities to offer their solutions within the investment projects of multilateral climate funds. The monitoring framework focuses primarily on the cleantech, water management and agricultural sectors.

1.1 Rationale and purpose

Global investments related to climate technologies are estimated to be in the order of USD 360 billion in 2012[1]. These investments include both mitigation projects that reduce emissions of greenhouse gases – such as renewable energy technologies, urban transport improvements and energy efficiency measures – as well as climate change adaptation projects – such as to water management and 'climate smart' agricultural practices. Some USD 93 billion of renewable energy investments alone were made in developing countries in 2013, a figure that almost doubled in the last 5 years[2]. Climate investments, for both mitigation and adaptation, are expected to grow significantly, with the International Energy Agency projecting that an additional investment of USD 5 trillion is required by 2020 for clean energy alone in order to meet climate targets. A majority of this investment will be in developing countries, where multilateral climate funds and multilateral development banks (MDBs) play a key role in using international public support to achieve local private investment. The focus of this study is on the major multilateral climate funds, who were responsible for delivering the majority of USD 2.2 billion of direct climate finance to developing countries in 2013, with the aim to leverage much larger total investments[1].

ECN, in cooperation with DLO, Deltares and Duisenberg School of Finance have initiated a four year project with the objective to better link the availability of Dutch climate solutions to the specific needs of developing countries. In this, ECN looks at the opportunities offered by the upcoming international climate change regime, and

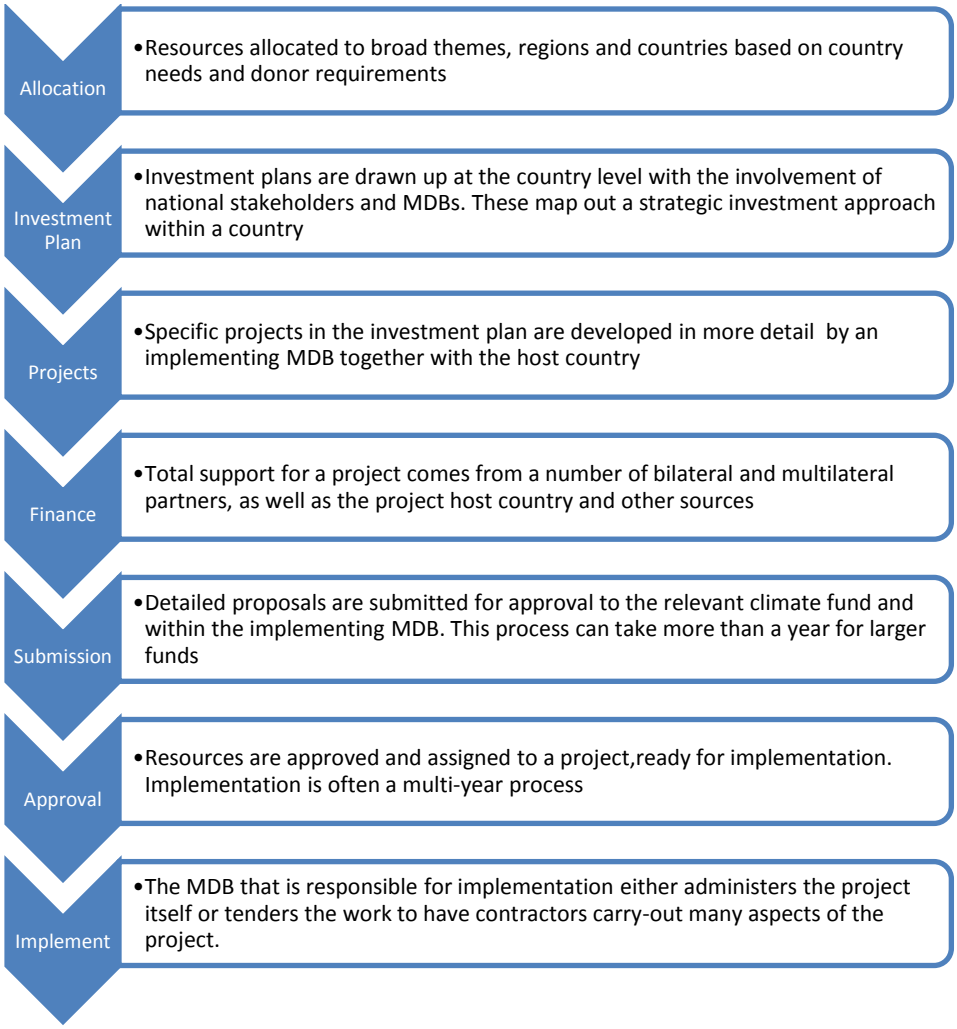
[1] CPI (2014) The Global Landscape of Climate Finance 2014.

especially the project based cooperation supported by multilateral climate funds, as well as the technology transfer mechanism of the UNFCCC; the Climate Technology Centre and Network (CTCN).

For the Netherlands, the investment projects of multilateral climate funds can offer an opportunity for Dutch firms to contribute to technology transfer and diffusion, and expand overseas markets. The challenge is to find prospects in a timely way that allows firms to engage with a country or implementing MDB early in the process. Figure 1 describes a typical approach of major climate funds to implementing projects and programmes in developing countries. These projects can take many forms, from provision of equipment and infrastructure, to consulting services and project management.

It should also be noted that the process below will not always be followed or transparent. Investment plans are not created by all funds, depending on the size of the allocation and administering body. Additionally, many funding bodies do not make these investment plans public.

Figure 1: Outline of project development process of a multilateral climate fund (based on CIF)



The final stage of Figure 1, implementation, offers the most direct way for firms to be able to offer their climate solutions to concrete projects on the ground. However, by this stage, it is often very late in the design process, and specific solutions may not fit very specific tender requirements. Therefore, opportunities should ideally be anticipated by firms earlier in the project development and implementation process, and firms should be in a position to engage with relevant contact points within a country and finance institution.

Climate funds, and implementing partners such as MDBs, have specific procurement practices, investment plans and funding channels, which can be challenging to navigate to identify potential opportunities, particularly for small and medium enterprises (SMEs). In recognition of this, DME has requested ECN Policy Studies to develop a monitoring framework that allows the demands of developing countries, in terms of specific climate investments in mitigation and adaptation, to be matched with the specific solutions offered by (clusters of) Dutch business.

The monitoring framework should allow Dutch businesses to anticipate where project opportunities will emerge, both geographically and by technology/sector, allowing targeted business development and a timely exploration of local market conditions.

1.2 Objectives of the monitoring framework

It is intended that the monitoring framework generates reports that are distributed to Dutch firms, including SMEs, which may have an interest in globalising through participation in climate finance funded projects, but have lacked the necessary information on opportunities. The report should help firms to identify up-coming opportunities in terms of countries and regions for specific technologies. The monitoring framework:

- Provides information on the pipeline of projects from multilateral climate funds, along with contact details of implementing partners. This allows firms to pre-emptively prepare.
- Based on planned investments, the framework highlights promising country-technology combinations in order to inform and direct possible business development activities.
- Introduces the investment policies/strategies of major climate funds.
- Provides general information on available Dutch support; e.g. embassies and the Netherlands Enterprise Agency (RVO)

It is necessary to engage with and understand the needs of national stakeholders when seeking involvement in the projects of climate funds and MDBs. Competition can be high and many decisions will be taken at the national level. The information presented in the framework therefore provides a first step in identifying multilateral climate finance trends and potential open opportunities. It is not the role of the monitoring framework to support business to approach specific projects or actors, but rather to provide information to allow companies to assess the relevance to their specific

expertise/output, and liaise with Dutch support; for example via embassies or the Netherlands Enterprise Agency (RVO) (see Section 4).

1.3 Emerging climate finance architecture[3]

This section introduces the broader climate finance architecture, outlines the climate finance flows that are considered in this initial release of the monitoring framework and highlights the sectors that are targeted.

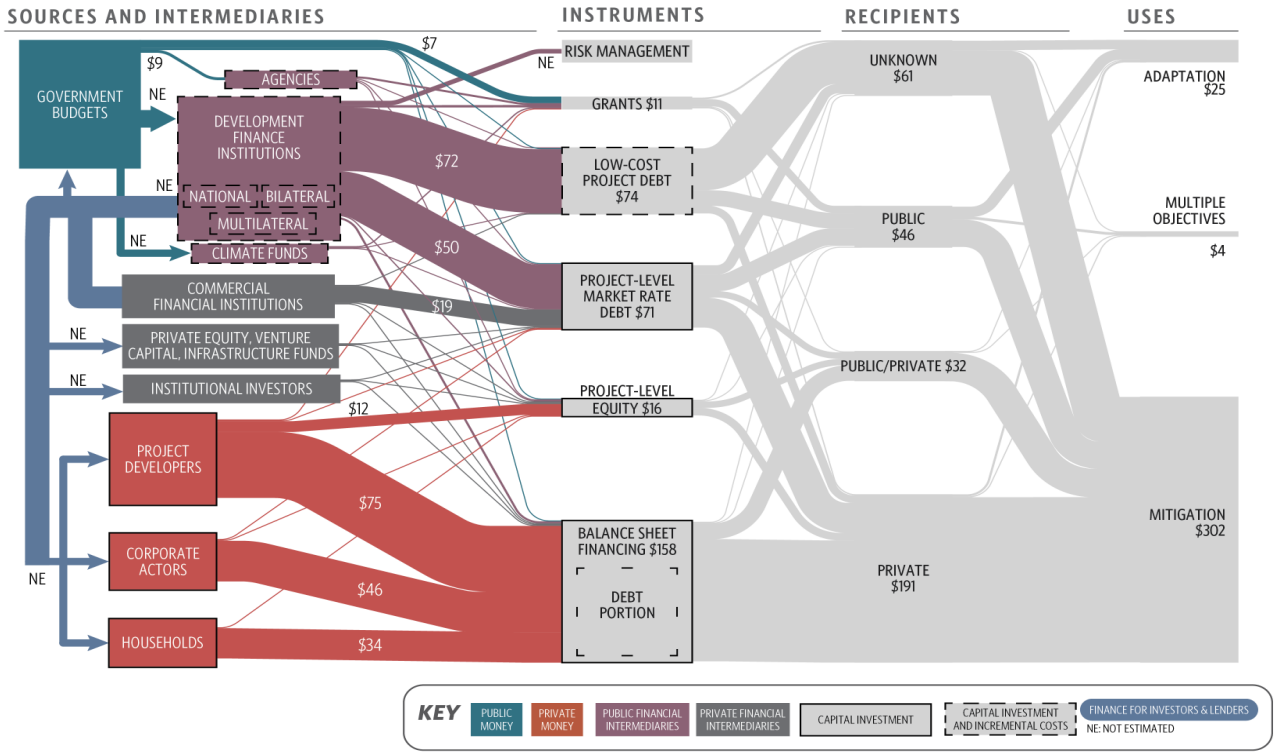
Climate finance typically refers to the financial resources mobilised to help developing countries mitigate and adapt to the impacts of climate change[4]. The so-called 'global climate finance architecture' – denoting the sources, flows and targets of climate finance – is complex and evolving. Recent assessments of climate finance volumes demonstrate this complex landscape, with multiple sources and intermediaries providing various forms of climate finance through a number of instruments and approaches (Figure 2). Funds flow through multilateral channels and increasingly through bilateral channels, as well as in some recipient countries through national climate change funds. The total amount of climate finance in 2012 is estimated at USD 359 billion; with approximately 40 percent of climate finance provided by the public sector and the remainder attributed to private investments. The bulk of climate finance, 94 percent, was directed towards mitigation activities.

The types of climate finance available through these channels are varied; from grants and concessional loans, to guarantees and private equity. The architecture has variable structures of governance, modalities and objectives. While the transparency of climate finance channelled through multilateral initiatives is increasing, detailed information on bilateral initiatives is less easily available. For this reason, the focus of the monitoring framework is on multilateral initiatives, which have the most readily available information on funding volumes and strategies, as well as the clearest access modalities for Dutch firms.

[3] This section draws on the ODI report The Global Climate Finance Architecture (2013)

[4] A formal definition of the term "climate finance" is yet to be agreed internationally

Figure 2 Climate finance flows in 2013[5]



[5] CPI (2014)

Multilateral climate funds

There are a number of routes through which climate finance can flow. Public climate finance is often provided to **multilateral climate funds**, pools of resources from donors and other sources that are dedicated to addressing climate change. These funds usually have a finite lifetime and a specific sector/regional focus. They can support projects directly, but typically work through other organisations, such as MDBs or UN organisations to fund and implement actions in host countries.

Two of the main multilateral climate funds are established under the United Nations Framework Convention on Climate Change (UNFCCC); the **Global Environment Facility (GEF)** and **Green Climate Fund (GCF)**. Established in 1991, the GEF allocates resources according to the impact of dollars spent on environmental outcomes, but ensuring all developing countries have a share of the funding. In the GEF fourth replenishment (2006 -2010), 31 countries pledged just over USD 1 billion for the climate change focal area, most of which has been approved and disbursed to both climate change mitigation and adaptation projects. Under the fifth replenishment (2011 – 2014), 40 donor countries have deposited USD 777 million to the climate change focal area. GEF 5 has approved a total of USD 582 million for 127 projects, of which USD 31 million has been disbursed as of September 2013. The GEF also administers the **Least Developed Countries Fund (LDCF)** and the **Special Climate Change Fund (SCCF)**. These funds support small-scale adaptation plans and projects and have disbursed a combined total of almost USD 250 million across 82 countries since their inception in 2002.

The GCF was agreed in 2011 and is expected to become the primary channel through which international public climate finance will flow over time. Through its established principles, it aims to adopt a country-driven approach, to balance adaptation and mitigation finance, allow direct access and have a private sector facility. In 2013 governments sought to operationalize the fund, and agree on its business model, priorities, results framework, and ways of working with recipient countries. This has been a time consuming process, and to date no funding has been pledged to the GCF for actual projects. As agreed in the 2009 UNFCCC Copenhagen Accord, the GCF could be responsible for administering up to USD 100 billion per year by 2020. In 2014, the Dutch government is expected to pledge USD 100 million to the GCF.

A substantial volume of climate finance has been channelled through institutions not linked to the UNFCCC. This edition of the monitoring framework focuses on a specific set of multilateral climate funds, the **Climate Investment Funds (CIF)**, currently the largest and most prominent of these. The CIFs, established in 2008, are administered by the World Bank, but operate in partnership with regional development banks to finance programmatic interventions in selected developing countries, with the objective of improving understanding of how public finance is best deployed at scale to assist transformation of development trajectories. Further information on the structure of the CIFs can be found in 1.3.1.

In total, support pledged to multilateral climate funds to date is in the order of USD 7.4 billion for mitigation and USD 2.2 billion for adaptation. Of this more than 80 percent of

mitigation support has been approved[6], with roughly 20 percent actually disbursed. While for adaptation, roughly half has been approved but less than 15 percent disbursed[7].

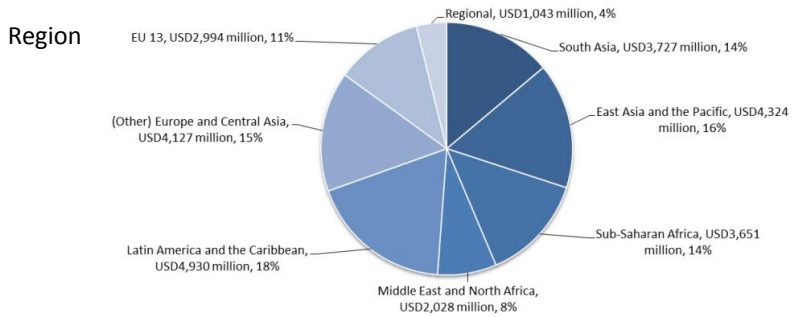
Multilateral development banks (MDBs)

The majority of public climate finance – predominantly from developed country governments – is channelled through intermediaries, principally **development finance institutions (DFIs)**. DFIs can be national[8], bilateral[9] or multilateral institutions, such as MDBs. In 2012, DFIs provided a third of global climate finance (approx. $120 billion), with MDBs accounting for around 30 percent of that figure.

The MDBs provide financial assistance to developing countries in order to promote economic and social development. They primarily fund large infrastructure and other development projects and, increasingly, provide loans tied to policy reforms by the government. The MDBs provide non-concessional financial assistance to middle-income countries and some creditworthy low-income countries on market-based terms. They also provide concessional assistance, including grants and loans at below-market rate interest rates, to low-income countries[10]. MDBs effectively obtain funds from three main sources, direct bilateral contributions from countries, contributions from different types of climate funds (which may have certain sector or region restrictions) and from international capital markets through bond issuance. The first two sources are used for concessional support, while the last is used for the non-concessional lending of the MDBs. As a result, MDBs are not only a direct channel of climate finance from donors to countries, but also play a large role in the disbursement of climate finance and implementation of projects for many climate funds.

The last joint MDB climate finance report for 2012 showed that of the USD 27 billion provided by MDBs for climate change related activities, almost 80 percent was related to mitigation and the remainder for adaptation (Figure 3).

Figure 3: MDB climate finance by region (top), by sector for adaptation (centre) and by sector for mitigation (bottom) [11]



6 These figures include projects in approved investment plans, which may not yet be approved for implementation.

7 ODI (2013) Climate Finance Thematic Briefings: Mitigation and Adaptation Finance.

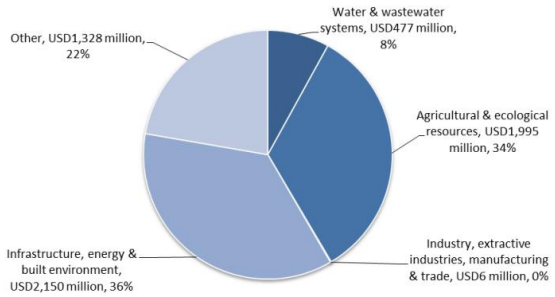
8 The Brazilian Development Bank (BNDES) is an example of national development finance institution

9 The Netherlands Development Cooperation (FMO) is an example of a bilateral development finance institution.

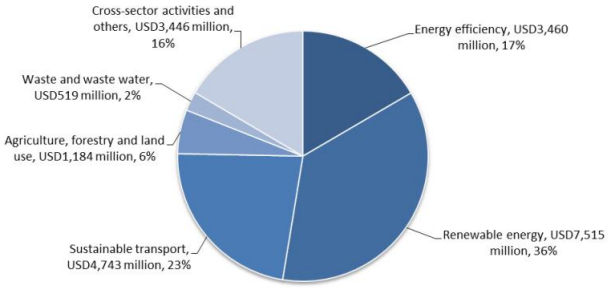
10 Nelson, R.M. (2013) Multilateral Development Banks: Overview and Issues for Congress

11 AfDB/ADB/EBRD/EIB/IDB/WB/IFC (2013) Joint report on MDB climate finance 2012

Adaptation



Mitigation



MDBs are of particular interest for this monitoring framework, that tries to pre-empt climate investment and support in developing countries, because of the generally transparent and open way in which they operate. The multilateral nature of the support that they receive means that MDB projects are open to different countries to deliver and that projects are generally well documented. As noted in Section 1.1, early engagement with MDB investment programmes is expected to deliver better outcomes for organisations that are interested to deliver or be involved in these type of projects

1.3.1 The Climate Investment Funds

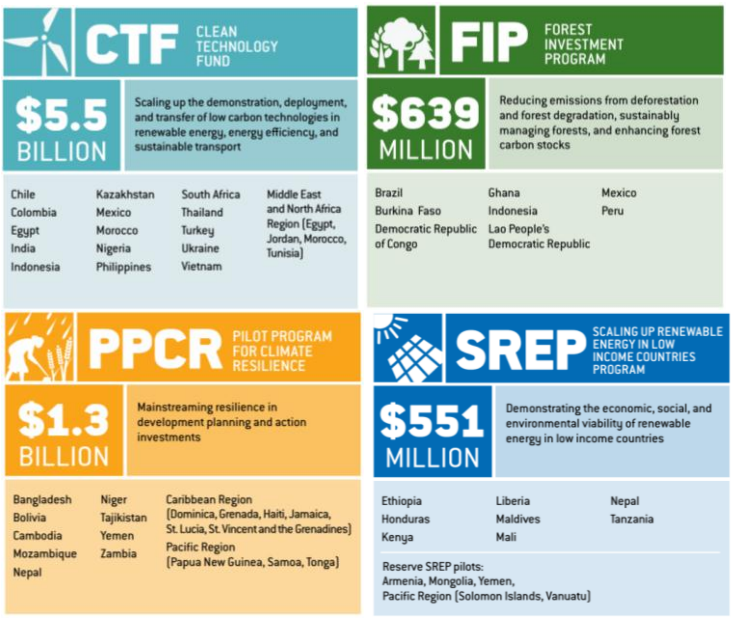
This first edition of the monitoring framework focuses on the Climate Investment Funds (CIF). Administered by the World Bank Group, the CIF[12] is a financing instrument to initiate transformational change to facilitate low-carbon and climate resilient development. The finance of the CIF is channelled through the World Bank (including the International Financial Corporation; IFC, International Bank for Reconstruction and Development; IBRD), African Development Bank (AfDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Islamic Development Bank (IsDB) and the Inter-American Development Bank (IADB).

There are two primary funds: the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF). The CTF provides concessional financing to middle-income countries to implement country-driven projects in the fields of renewable energy, sustainable transport and energy efficiency. The (SCF), is separated into a further 3 programmes. First, the Scaling Up Renewable Energy in Low Income Countries Program (SREP). SREP channels grants and near-zero debt through MDBs to support renewable energy projects in some of the world's poorest countries. Second, the Forest Investment

[12] www.climateinvestmentfunds.org/cif/

Program (FIP) and, third, the Pilot Programme for Climate Resilience (PPCR). All together the resources of the CIFs have been committed to 48 countries (Figure 4).

Figure 4: Summary of the four CIF programmes and active countries



The CIF funding is disbursed in a demand-driven process, initiated by the prospective recipient country. First, the recipient country develops, in cooperation with MDBs, an investment plan, which outlines a number of proposed projects, the envisioned impacts and the related costs. The investment plans also describes the country-specific challenges and development needs. The investment plans with the request for funds are presented to a Trust Fund Committee of the CIF for approval. If approved, again with support of a MDB, detailed project proposals are developed for each project in the investment plan. These specific proposals are again submitted to the CIF and then to the implementing MDB for approval prior to the release of funds.

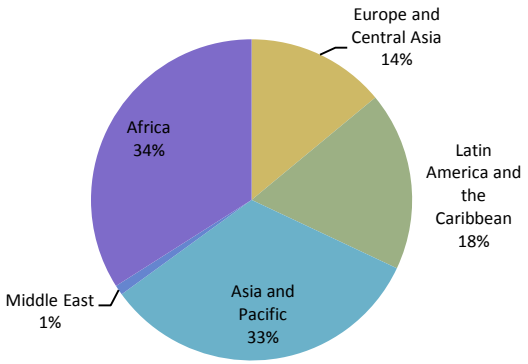


Figure 5: Regional split of total CIF funding

In most cases, the procurement for the different components of the agreed projects is the sole responsibility of the recipient country. All procurement methods must adhere to the frameworks set by the financing MDBs. Depending on the nature of the requested goods, works or services, the procurement method may vary, and the publication of opportunities may be international or only in national media. This is important for (potential) supplier companies, because it implies that regardless the source of funding for the projects, it is crucial to be well positioned vis-à-vis the local authorities.

2

Climate change solutions offered by the Netherlands

Since 2013, a number of so called 'Top Sectors' and associated companies have been working towards a boosting the international profiling agenda called 'Smart solutions for sustainability'. Here, trade organisations, business, relevant government institutions and knowledge institutes are collaborating to develop concrete plans and export projects for mitigation and adaptation technologies and knowledge.

The monitoring framework has been developed for a range of technology clusters, specifically those identified in the TKIs. These areas, listed below, have been chosen either because of the growing international demand, the presence of specific Dutch expertise, and/or the importance as part of national planning:

- Solar energy.
- Geothermal.
- Bio-based economy.
- Hydropower.
- Smart grids.
- Sustainable transportation.
- Wind.
- Energy efficiency.
- Sustainable process engineering.
- Integrated water resources management
- Integrated coastal zone management
- Disaster risk management
- Critical infrastructure & networks (design & construct)
- Agriculture, agroforestry and landscape management

The outputs of the monitoring framework will be tailored towards generating as many insights as possible for the above clusters. In many cases, it is thought that business opportunities may be relevant for more than one cluster. This section of the monitoring framework will be updated in future editions with more specific climate technology and service offerings of the Netherlands.

3

Overview of opportunities

This chapter summarises the results of the monitoring framework for the CIFs and presents potential 'opportunities' for firms at sector, country and technology level. The results are preceded by a short overview of the approach taken.

3.1 Approach

The monitoring framework has been designed to provide a concise overview of ongoing and planned investments by the CIF programmes, which can be used to identify up-coming opportunities both by country, and by technology. The initial step was to **aggregate** the entire project planning information in the country investment plans along with the actual projects that have eventuated. This is available along with this document in the form of a spreadsheet database, with the information categorised by country, the status of the project, the implementing MDB and the sector/technology in which the investment will take place.

The following step is to **identify** relevant and compatible opportunities, with reference to the priority sectors listed in section 2. The identification process not only assesses technology/sector relevance, but also the status of the investment programmes and individual projects, with focus placed on what portion of the available funds have been disbursed. For each country the planned projects in the investment plan are compared with actual projects that are being prepared or implemented in order to identify where new projects are likely to be developed in the near future.

The final step involves **coordinating** the insights generated for dissemination to the cluster recipients. Outputs are categorised per cluster/sector and summarise key information for individual project opportunities that are accessible for company business developers.

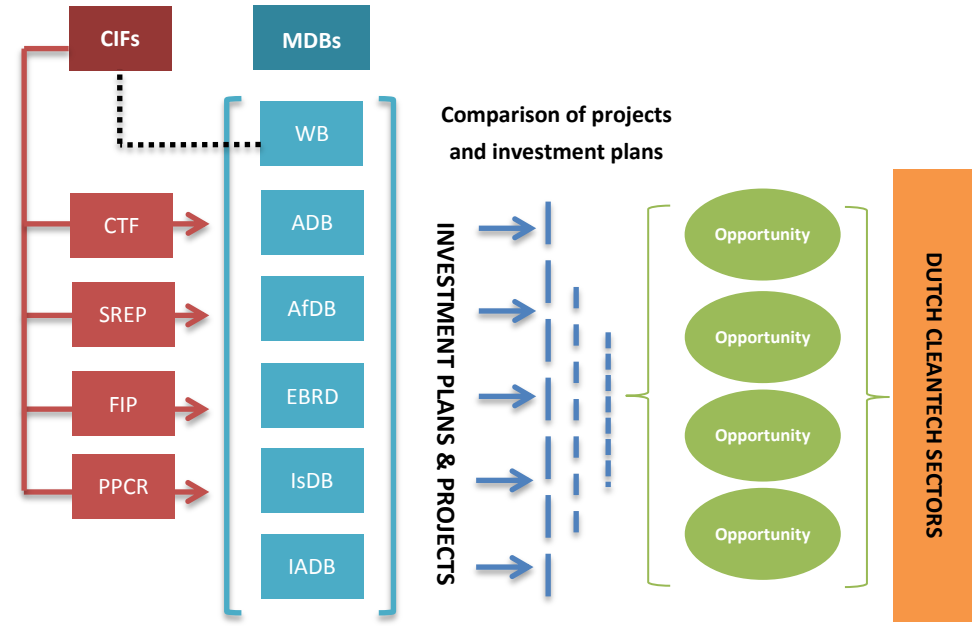


Figure 6: Visualisation of the monitoring framework

Although the CIF provide arguably the most detail in terms of projects and planning documents, there are still certain data limitations. In some instances the exact nature of the project is not clear from the available documents, for example the type of planned activity may not be clearly identified. Furthermore, some projects are designed in general terms, covering all RE technologies or even cleantech in general. In such cases, the terms of 'Energy efficiency (unspecified)', 'Renewable energy (unspecified)' or 'RE and EE' are used to define a sector

The funds for CIF projects do not only come from the CIFs themselves. It is typical for the implementing MDB and other MDBs to contribute, as well as local governments, bilateral development finance institutes and the private sector (so-called 'other' sources). Looking at only total planned investment, the total value of all CIF projects – based on the country investment plans – is approximately USD 90 billion, of which approximately USD 7.6 billion comes from the CIFs and roughly double that amount again from implementing and supporting MDBs (Figure 7).

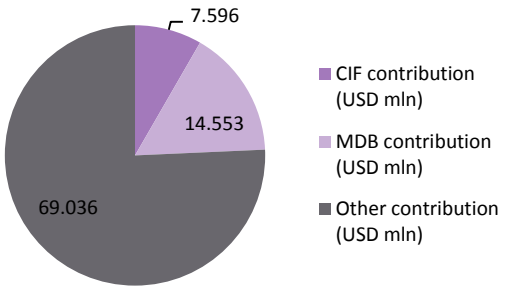


Figure 7: Sources of funding for CIF projects

Tracking CIF funding and associated projects can therefore be used as a proxy for much larger flows of further MDB, bilateral and national funding for climate related projects. The information on these CIF contributions is also readily available (and is the basis for the monitoring framework, whereas contributions from 'other' sources would not be possible to collect and aggregate across all countries.

The monitoring framework categorises projects by their current status, in order to distinguish where in the project cycle (Figure 1) they are, recalling that those projects which have started implementation some time ago may be less interesting for Dutch companies. Projects are defined as:

- **Approved (pre-2014):** Project has been approved prior to 2014.
- **Approved (post-2014):** Project has been approved in 2014.
- **Pending approval:** The project proposal has been submitted to for approval.
- **Under preparation:** A preparation grant has been provided to the MDB to prepare the full scale project.
- **IP only:** A potential project idea has been approved as part of a country investment plan (IP); however no project proposal has been developed.

The following sections are intended to provide an overview of the funding allocated or planned for allocation by technology and by country. From section 3.3, the monitoring database has been used to identify a number of key opportunities, projects with remaining CIF budget approved in 2014, pending approval or at investment plan (IP) stage only. This report describes these opportunities for the cleantech, water management and agriculture sectors, however more detail on other sectors is available, with the same classification system described above, in the accompanying data file.

3.2 Country-level opportunities

Those countries that have more projects at the earlier stages of development are theoretically more interesting for firms to pre-emptively engage with. Figure 8 shows the breakdown by project status for each of the CIF countries. It indicates that countries such as Tanzania, Tunisia, India and the MENA[13] region, amongst others, have a significant proportion of their CIF budget allocation remaining; while , while the Ukraine has recently been approved a significant proportion of its CIF allocation for implementation. Jordan, Armenia, Mexico, Morocco, Mexico, Bolivia and Vietnam also have a large proportion of their CIF budget that is yet to be allocated to specific projects.

However, at this level of aggregation there is limited value in knowing which countries could represent opportunities. It is important to understand in more detail what these opportunities might be and in which sectors.

[13] Middle East and North Africa

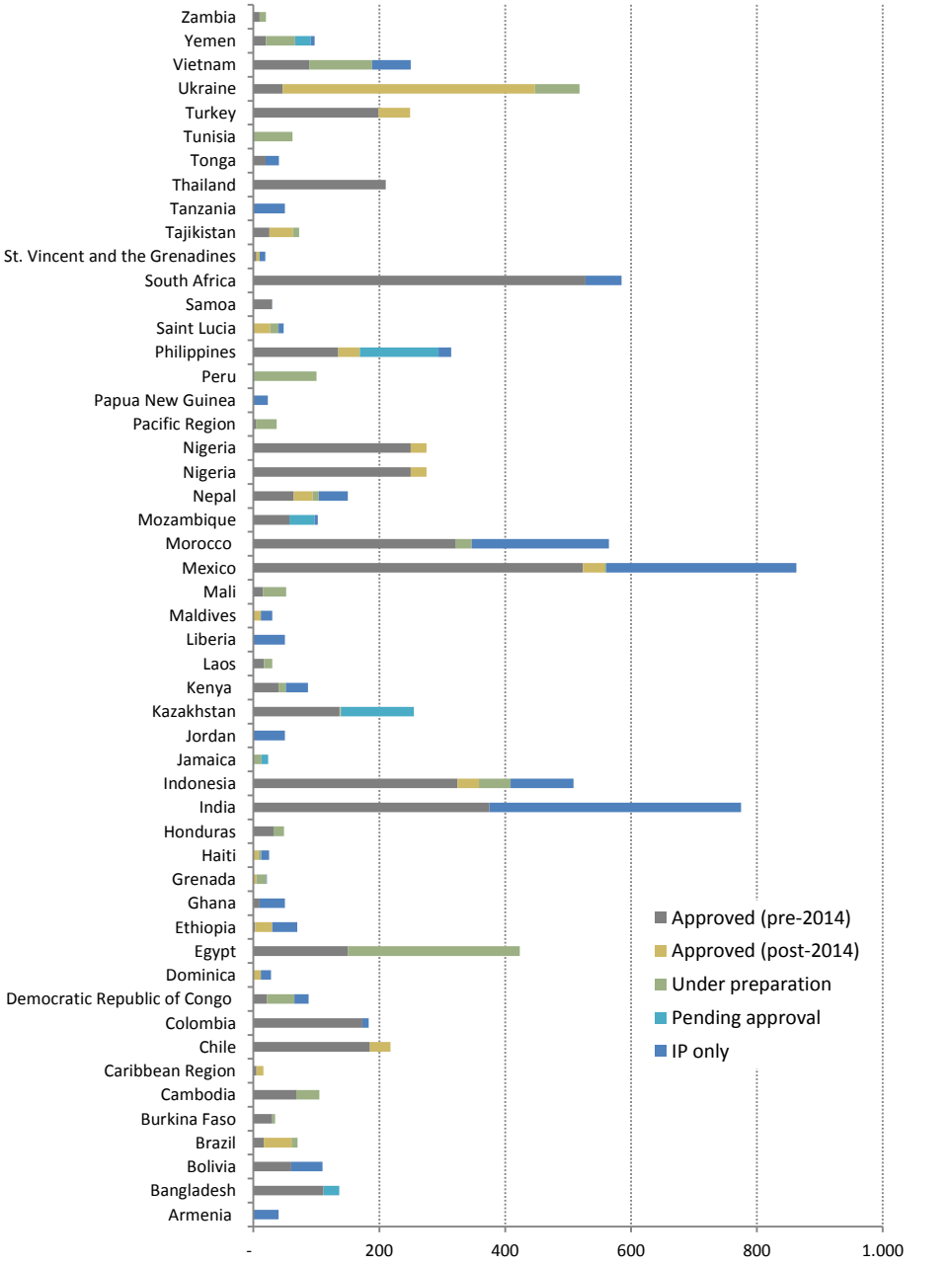


Figure 8: Total CIF funding and disbursement status per country (USD million)

3.3 Sector-level opportunities

In terms of specific technologies or sectors, renewable energy generation from geothermal, wind and solar have all received significant allocations from the CIF, as have transport and energy efficiency related measures (Figure 9). Hydropower support is dominated by the private sector co-financing of one large project and biomass similarly has received limited support from the CIF. Figure 9 also shows the large co-financing that will be leveraged from MDBs and other sources, sums that are typically

many multiples of the underlying CIF contributions. An equivalent figure for adaption is not possible, due to a lack of data on partner MDB and other contributions, however a similar trend, with CIF funds representing a fraction of total project size, can be observed[14].

Figure 9: Total funding by funding source for each mitigation technology/sector

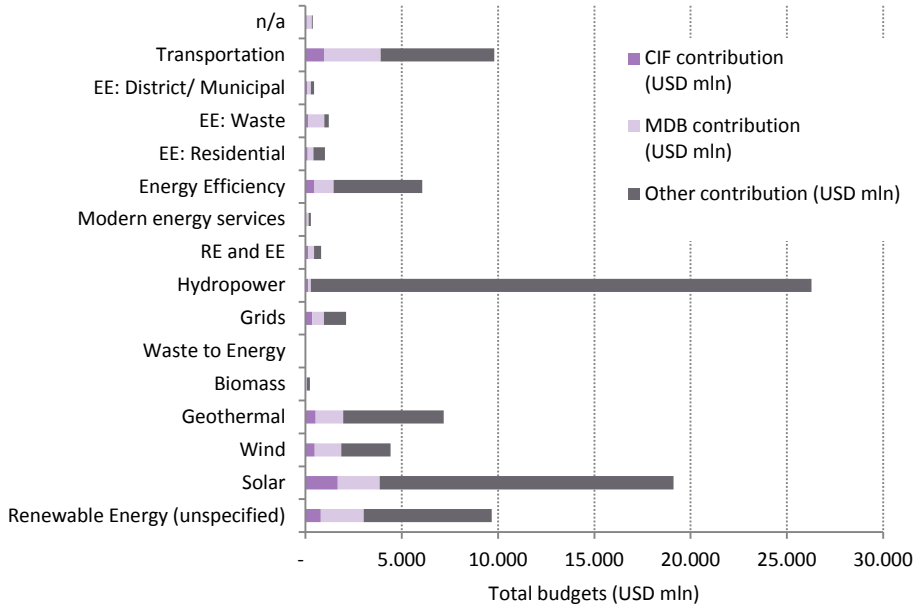


Figure 10 and Figure 11 give the status of disbursement of CIF funding contributions by mitigation sector. Projects that have already been approved by the CIF committees prior to 2014 (pre-2014) could be expected to offer fewer opportunities for firms to newly engage with, as the procurement windows of the project entity may have closed or implementing partners may already have been identified. Projects approved after 2014 (post-2014), or which are yet to be approved by the CIF, may represent opportunities for firms to investigate further.

By tracking projects that have not yet been approved, or have been recently approved, firms may be able to prepare for future openings and initiate a more comprehensive engagement with various actors such as associated MDBs, national government and private stakeholders. The monitoring framework has identified projects to the value of USD 2,860 million of CIF funding across several sectors, which are labelled as either under preparation, pending approval or are still only at the investment plan stage. As such, investment plans and 'open' projects can provide a valuable starting point for a firm looking to engage in a foreign market.

[14] Only mitigation technologies are shown. The data for complementary MDB and other co-financing is often not available in PPCR and FIP investment plans for adaptation technologies. Furthermore, in the majority of adaptation projects, the CIF funding is the largest component in the total budget (See Figure 11 for CIF contributions by adaptation sector).

Figure 10: Total and disbursement status of CIF contribution per mitigation sector (USD mln)

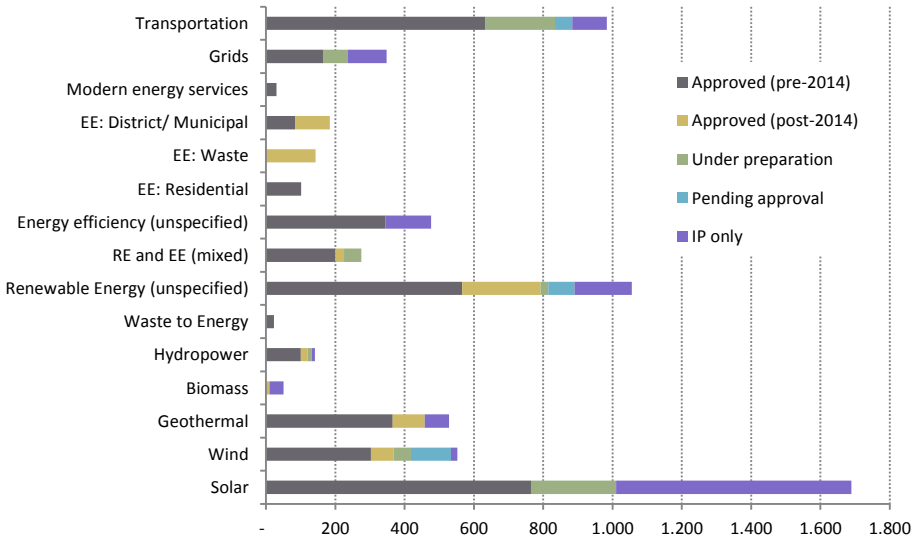
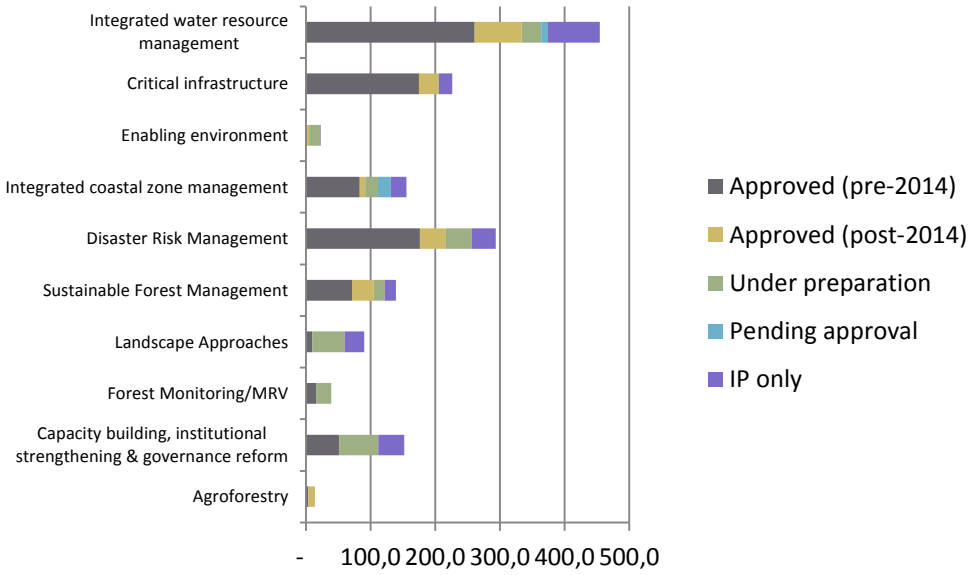


Figure 11: Total and disbursement status of CIF contribution by adaptation sector[15] (USD mln)



3.4 Country-sector combinations

As a starting point it is useful to see where the CIF programmes have been investing in regards to different technologies or sectors. While this is largely a result of the type of programme – for example, SREP countries will inevitably show investments in renewable energy – other patterns can start to be observed. For example, transport

[15] Adopts the same sector categorization for adaptation technologies as used within the CIF

projects are by and large limited to Columbia, Egypt, Mexico, Nigeria, Philippines and Vietnam. Solar specific projects are most common in Chile, Egypt, India, Jordan, Morocco and Tunisia. However, Figure 12 and Figure 13 consider all projects, including projects that have begun implementation some time ago and not just those that could be considered to represent an open opportunity. It is important to filter other projects that may be less interesting due to their advanced progress and clearly identify those that could be interesting for firms to investigate. This is done in the following sub-sections for each sector grouping relevant to the TKIs in Chapter 2.

Figure 12: CIF funding by country and mitigation technology/sector

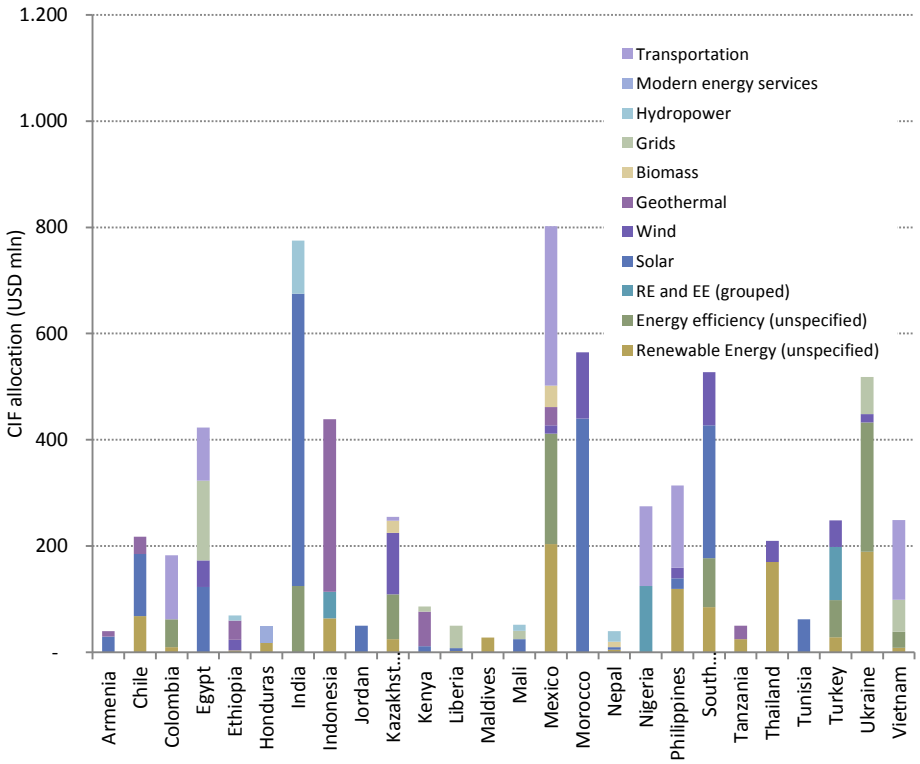
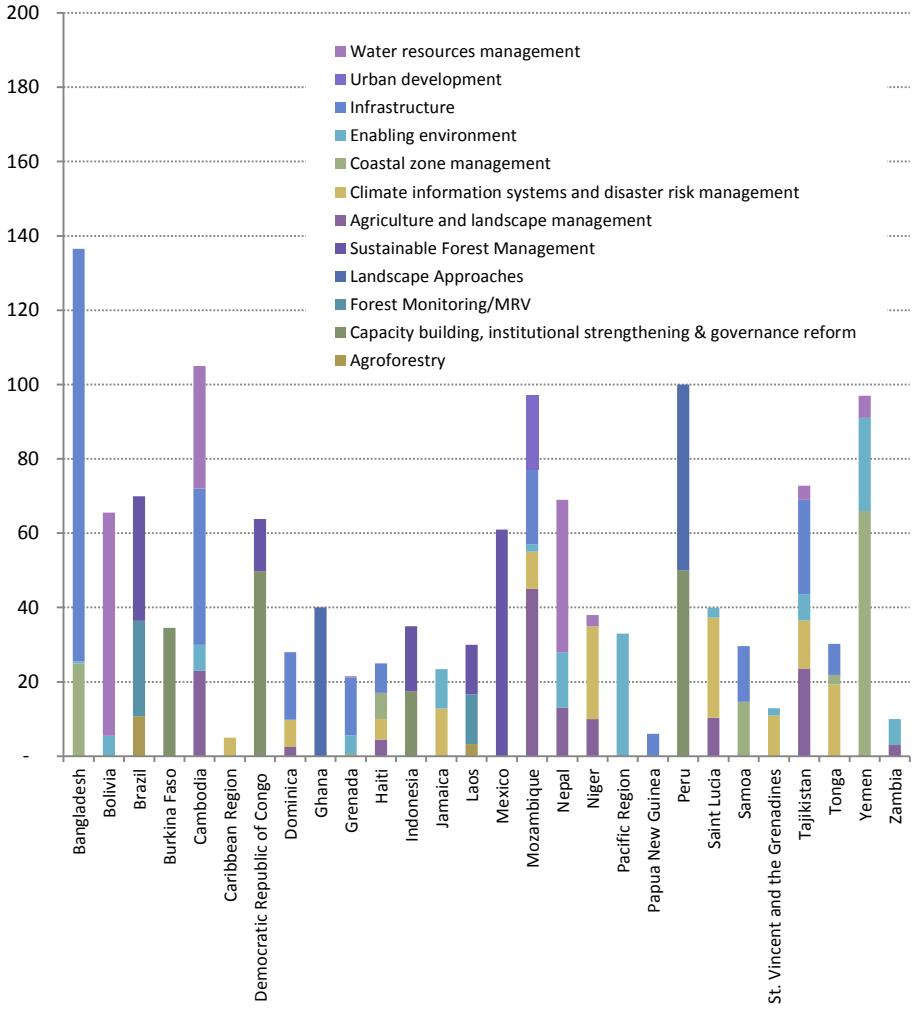


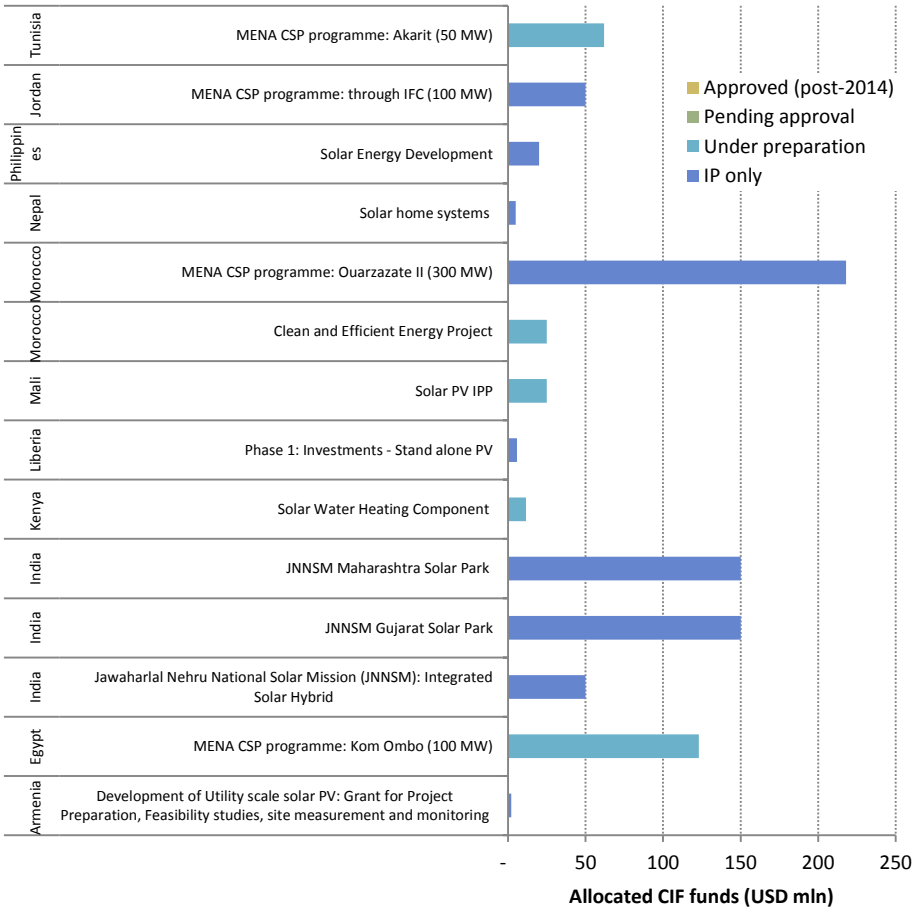
Figure 13: CIF funding by country and adaptation technology/sector



3.4.1 Solar

Figure 14 highlights CIF funded solar power projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 1 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 14: Solar projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



In terms of planned investments in solar power, India has requested the largest amount of CIF funding at USD 400 million. India's 'National Solar Mission' has the objective of developing an enabling policy framework to realise the installation of 20,000 MW solar capacity by 2022. The three solar power projects that have requested funding from the CIF, have plans to leverage approximately USD 6 billion in private co-financing. There are also a number of prominent concentrated solar power (CSP) projects across the MENA region, with Tunisia, Jordan, Egypt and Morocco requesting a total of USD 750 million in CIF funding to achieve the deployment of 1 GW installed capacity. The CIF funds are expected to lever a further USD 3 billion in private co-financing.

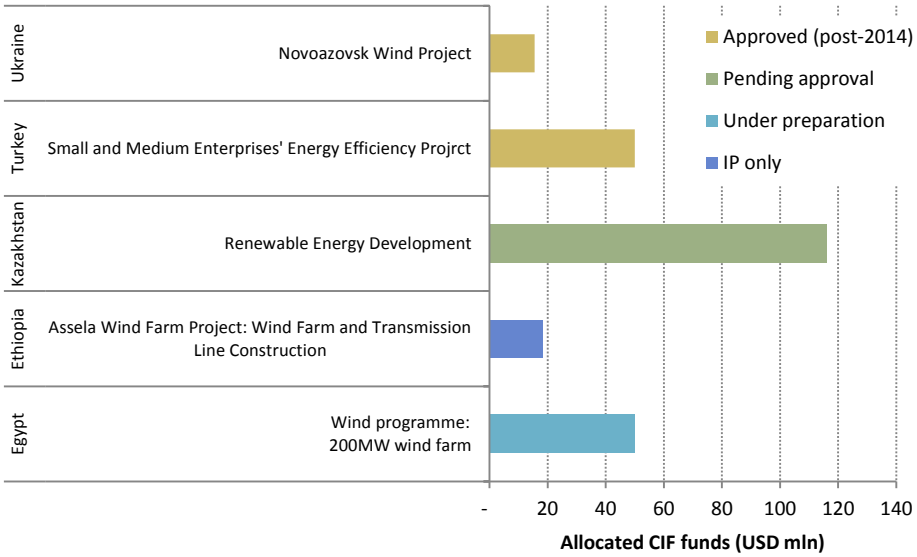
Table 1: Key solar project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
CTF	**Tunisia**	MENA CSP programme: Akarit (50 MW)	367	Infrastructure and goods	IBRD	Georg Sargsyan	gsargsyan@worldbank.org	Link
CTF	**Jordan**	MENA CSP programme: through IFC (100 MW)	250	Infrastructure and goods	IFC	none given	none given	
CTF	**Philippines**	Solar Energy Development	120	Infrastructure and goods		n/a	n/a	Link
SREP	**Nepal**	Solar home systems	125	Financing and incentives		n/a	n/a	n/a
CTF	**Morocco**	MENA CSP programme: Ouarzazate II (300 MW)	1,900	Infrastructure and goods	IFC and AfDB	Mafalda Duatarte	m.duarte@afdb.org	Link
CTF	**Morocco**	Clean and Efficient Energy Project	155	Infrastructure and goods	IBRD	Gevorg Sargsyan	gsargsyan@worldbank.org	Link
SREP	**Mali**	Solar PV IPP	60	Infrastructure and goods	AfDB	Ms. Thierno Bah	t.bah@afdb.org	Link
SREP	**Liberia**	Phase 1: Investments - Stand alone PV	10.6	Infrastructure and goods	IP only	Mrs. Elise Akitani (AfDB) / Zayra Romo (WB)	e.akitani@afdb.org zromo@worldbank.org	Link
SREP	**Kenya**	Solar Water Heating Component	60	Financing and incentives	AfDB	Mr. Solomon Asfaw	s.asfaw@afdb.org	Link
CTF	**India**	JNNSM Maharashtra Solar Park	3,050	Infrastructure and goods		Mr. R. Rashmi	rr.rashmi@nic.in	Link
CTF	**India**	JNNSM Gujarat Solar Park	3,050	Infrastructure and goods		Mr. R. Rashmi	rr.rashmi@nic.in	Link
CTF	**India**	Jawaharlal Nehru National Solar Mission (JNNSM): Integrated Solar Hybrid	450	Infrastructure and goods		Mr. R. Rashmi	rr.rashmi@nic.in	Link
CTF	**Egypt**	MENA CSP programme: Kom Ombo (100 MW)	946	Infrastructure and goods	AfDB	E.B. Nzabanita	e.nzabanita@afdb.org	Link
SREP	**Armenia**	Development of Utility scale solar PV: Grant for Project Preparation, Feasibility Studies, site measurement and monitoring	2.5	Infrastructure and goods	ADB	tbd	tbd	n/a

3.4.2 Wind

Figure 15 highlights CIF funded wind power projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 1 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 15: Wind projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



Both Egypt and Ethiopia have significant wind power development programmes which have been allocated funds from the CIF. Ethiopia has plans to develop 800 MW of onshore wind power by 2015, utilizing just a fraction of its estimated 100 GW technical potential for wind power generation. The Assela Wind farm project is a planned 100 MW wind farm planned for construction by 2016, with a total cost of USD 250 million. The Ethiopian Electric Power Corporation will conduct bidding for an EPC[16] contract with support from AfDB. Egypt is another country that has significant potential for wind power, and has been allocated USD 50 million from the CIF towards a 200MW wind farm in the Gulf of Suez with a total cost of USD 400 million.

[16] Engineering, procurement and construction

Ukraine: Novoazovsk Wind Project (Link) (Approved post-2014, Infrastructure and Goods)

Ukraine has a large but relatively underdeveloped potential for renewable energy (RE) including large wind resources. The CTF Investment Plan for Ukraine has established a target to increase non-hydro renewable energy power generation capacity from about 0.1 MW to 1.6 GW by 2020, mostly from wind. These projects face significant barriers to financing due to lack of track-record in this market and lack of experience with RE project lending and lack of medium-to-long term funding resources amongst local financial institutions.

The Project consists in expansion of existing newly constructed Novoazovskiy Wind Park located in the Donetsk oblast to 57.5 MW .The first phase of 25 MW has been operational since July, 2011 and was fully financed (40 million Euro) from the Project sponsor's own funds via a shareholder loan. The construction of additional 32.5 MW will constitute the second phase of an existing wind farm. The strength and experience of the Project sponsor and existence of the first phase of the wind farm, already operational, are major factors which mitigate Project risks, including ability to successfully complete Project development.

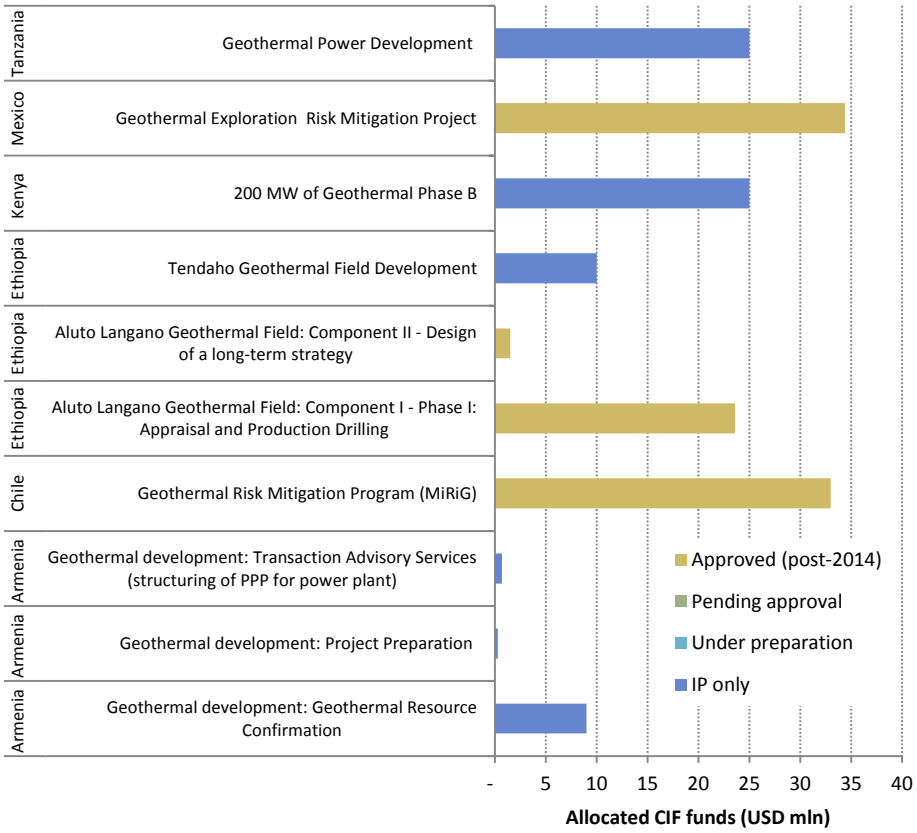
Table 2: Key wind project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
CTF	Ukraine	Novoazovsk Wind Project	95.2	Infrastructure and goods	EBRD	Louis Borgo	borgo@ebrd.com	Link
CTF	Turkey	Small and Medium Enterprises' Energy Efficiency Project	307.0	Infrastructure and goods	IBRD	Mr Mikul Bhatia	mbhatia@worldbank.org	Link
CTF	Kazakhstan	Renewable Energy Development	597.0	Infrastructure and goods	EBRD	Xeniya Rogan	roganx@ebrd.com	Link
SREP	Ethiopia	Assela Wind Farm Project	250.0	Infrastructure and goods	AfDB	Mr. Humphrey Richard	h.ndwiga-richard@afdb.org	Link
CTF	Egypt	Wind programme: 200MW wind farm	400.0	Infrastructure and goods	AfDB	Khaled El-Askari	k.elaskari@afdb.org	Link

3.4.3 Geothermal

Figure 16 highlights CIF funded geothermal power projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 3 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 16: Geothermal projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



A number of countries across the globe have identified geothermal technologies for low carbon power generation. Generally speaking, the CIF provides funds for each country in staged tranches. Initial funding allocations are generally small and focus on policy mechanisms and long-term strategies for the technologies, followed by larger grants to allow drilling to assess the resource potential. The CIFs funds can be used for investment in infrastructure, but can also be used for financial risk mitigation to allow production companies to assess affordable credit for investments in geothermal exploration and production. Significant scale up of geothermal energy is expected in Kenya. The country has an estimated technical potential of 7, 000MW of geothermal capacity, but as yet only has an installed capacity of 200MW.

Chile: Geothermal Risk Mitigation Program (MIRIG) (Link) (Approved post-2014, Financing and incentives)

The Chile Geothermal Risk Mitigation Program (MIRIG), which is financed by US$50million from the CTF, is expected to leverage an estimated US$500-800 additional resources from other investors, including IDB, private developers and other financing institutions. The MiRiG program intends to support up to three geothermal projects in Chile that have the potential to become the first in the country, demonstrating the viability of this technology and leveraging DFI and commercial financing. The program expects to directly enable a minimum of 100MW of installed capacity. CTF resources will be used in structuring financial solutions that will mitigate the effects of resource and other project development and operation risks, and incentivize project developers to make the significant additional investments still necessary to allow production drilling campaigns and plant construction to go forward. The proposed structuring solutions include senior and subordinated long term project loans, short term bridge loans (convertible to grant), and guarantees.

Besides the risk mitigation and investment support the CTF will be providing, CTF resources will also be used for the following technical assistance and knowledge management activities:

- Development and implementation of social & environmental best practices
- Independent geothermal advisory services
- Knowledge Management

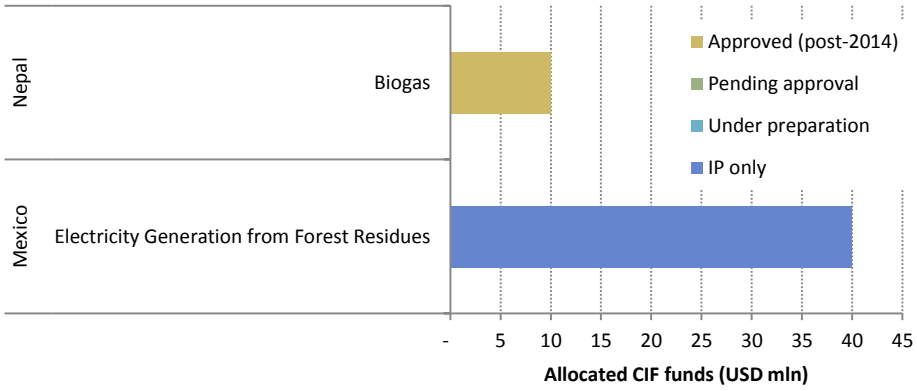
Table 3: Key geothermal project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
SREP	**Tanzania**	Geothermal Power Development	536.8	Financing and incentives	SREP	Mr. Babu Ram	b.ram@afdb.org	Link
CTF	**Mexico**	Geothermal Exploration Risk Mitigation Project	149.4	Financing and incentives	IDB	Claudio Alatorre	calatorre@iadb.org	Link
SREP	**Kenya**	200 MW of Geothermal Phase B	400.0	Infrastructure and goods		n/a	n/a	n/a
SREP	**Ethiopia**	Tendaho Geothermal Field Development	319.6	Financing and incentives	IFC	Ms. Noleen Dube	ndube@ifc.org	Link
SREP	**Ethiopia**	Aluto Langano Geothermal Field: Component II - Phase I: Design of a long-term strategy	2.0	Policy design and implementation	IFC	Ms. Noleen Dube	ndube@ifc.org	Link
SREP	**Ethiopia**	Aluto Langano Geothermal Field: Component I - Phase I: Appraisal and Production Drilling	91.1	Infrastructure and goods	IBRD	Mr. Raihan Elahi	relahi@worldbank.org	Link
CTF	**Chile**	Geothermal Risk Mitigation Program (MiRiG)	298.0	Infrastructure and goods	IDB	Claudio Alatorre	calatorre@iadb.org	Link
SREP	**Armenia**	Geothermal development: Transaction Advisory Services (structuring of PPP for power plant)	0.9	Financing and incentives	IBRD	tbd	tbd	n/a
SREP	**Armenia**	Geothermal development: Project Preparation	0.4	Infrastructure and goods		tbd	tbd	n/a
SREP	**Armenia**	Geothermal development: Geothermal Resource Confirmation	11.3	Infrastructure and goods		tbd	tbd	n/a

3.4.4 Bio-based economy

Figure 17 highlights CIF funded bioenergy projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 4 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 17: Biomass projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



There are only two biomass projects funded by the CIF. In Nepal, the SREP allocation was confirmed in February 2014. USD 3 million will be used to build capacity and USD 6 million will be used for cost-of-capital buy down for prospective investors. Mexico has a large investment plan allocation of USD 40 million for electricity generation from forest residues but is yet to submit this as a project for funding disbursement.

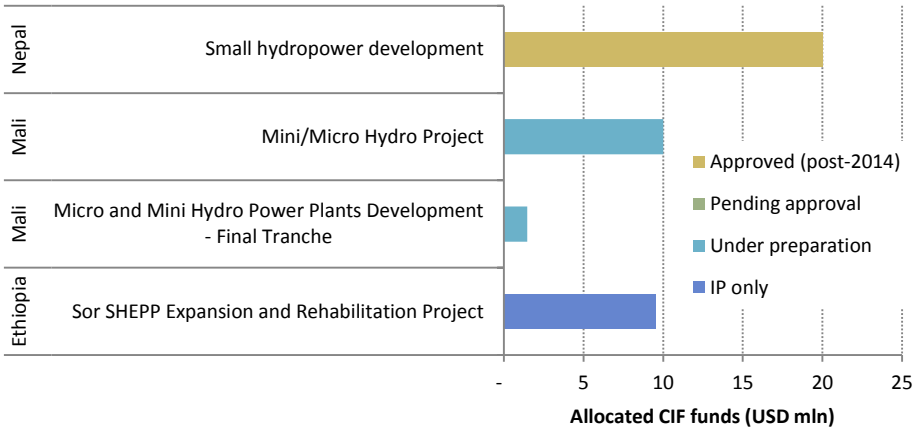
Table 4: Biomass project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
SREP	**Nepal**	Biogas	133.3	Financing and incentives	IBRD	Ms. Mohua Mukherjee	mmukherjee@worldbank.org	Link
CTF	Mexico	Electricity Generation from Forest residues	90	n/a	IDB	Claudio Alatorre	calatorre@iadb.org	Link

3.4.5 Hydropower

Figure 18 highlights CIF funded hydropower projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 5 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 18: Hydropower projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



Projects in this sector include mini- and micro-hydro development in Mali that is currently under preparation; a small hydropower development project in Nepal that was recently approved for USD 20 million of CIF funding, and a rehabilitation project associated with hydropower expansion in Ethiopia that has yet to be submitted for funding disbursement/project approval.

Table 5: Hydropower project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
SREP	**Nepal**	Small hydropower development	112.5	Financing and incentives	ADB and IFC	Priyanthi Wijayatunga / Mr. Pavol Vajda	pwijayatunga@adb.org / pvajda@ifc.org	Link
SREP	**Mali**	Mini/Micro Hydro Project	136.5	Infrastructure and goods	AfDB	Ms. Thierno Bah	t.bah@afdb.org	Link
SREP	**Mail**	Micro and Mini Hydro Power Plants Development - Final Tranche		Infrastructure and goods	AfDB	Ms. Thierno Bah	t.bah@afdb.org	Link
SREP	**Ethiopia**	Sor SHEPP Expansion and Rehabilitation Project	25.6	Infrastructure and goods				

3.4.6 Mixed renewable energy and energy efficiency

Many projects – for example certain financing support schemes – are designed to support low carbon technologies in the energy sector more broadly and do not make a clean distinction between RE and EE. Figure 19 and Table 6 highlight such projects and proposals. Of these, the most recently approved project (March 2014) is the 'Renewable Energy Mini-grids and Distributed Power Generation' with a total CIF budget outlay of USD 34.3 million. It is a Dedicated Private Sector Program that is being led by ADB, and will be undertaken in India, Indonesia and the Philippines. It aims to increase electricity access in these countries by addressing financial barriers to private sector led distributed power generation and "mini grid" development from renewable energy (RE). Another large recently approved project is Ukraine's 'Renewable Energy Financing Facility' and is currently in its preparation stage. There are also opportunities available through projects (currently in their preparation stage) in Honduras, Indonesia, Nepal and Kazakhstan, amongst others.

Figure 19: Mixed renewable energy and energy efficiency projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans

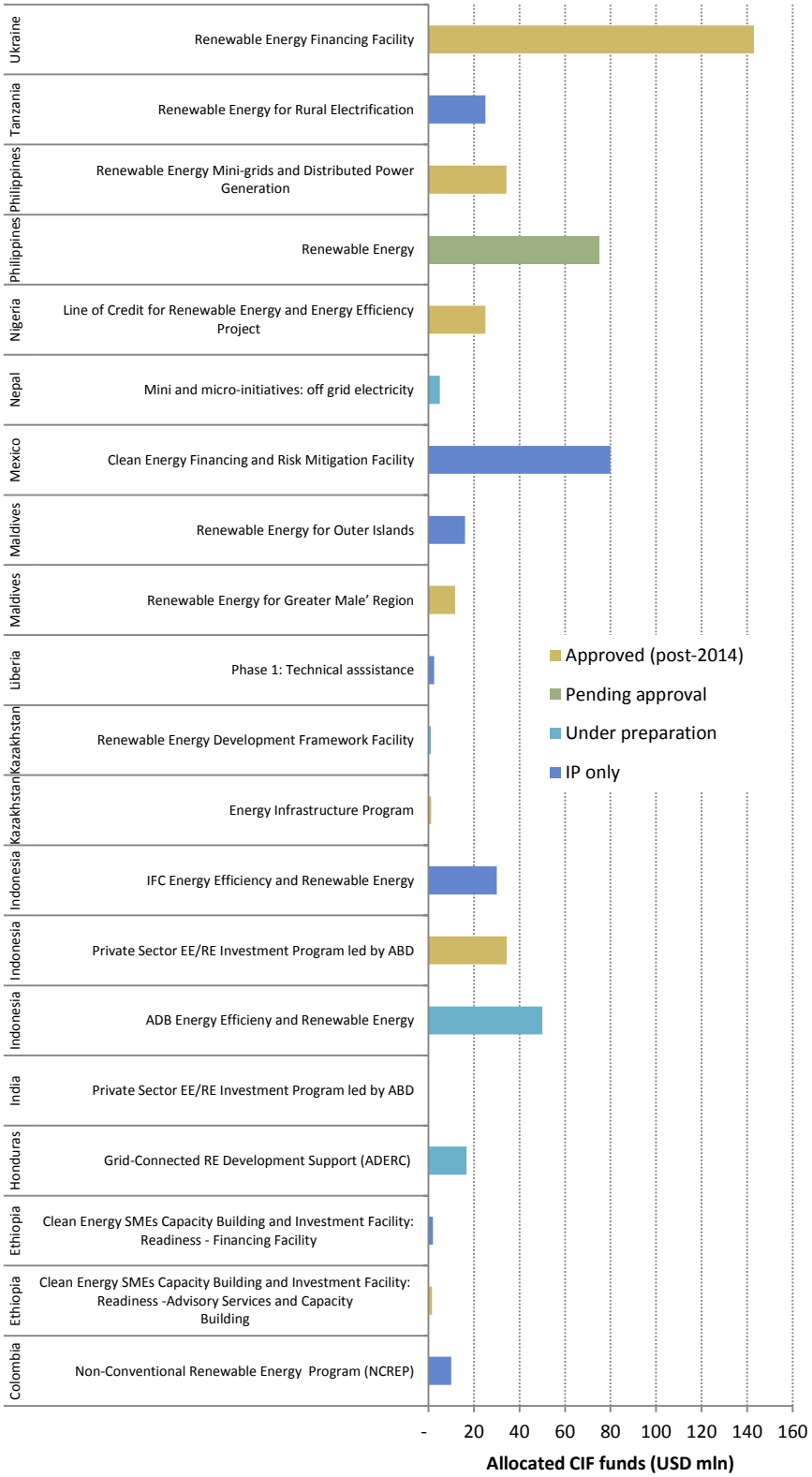


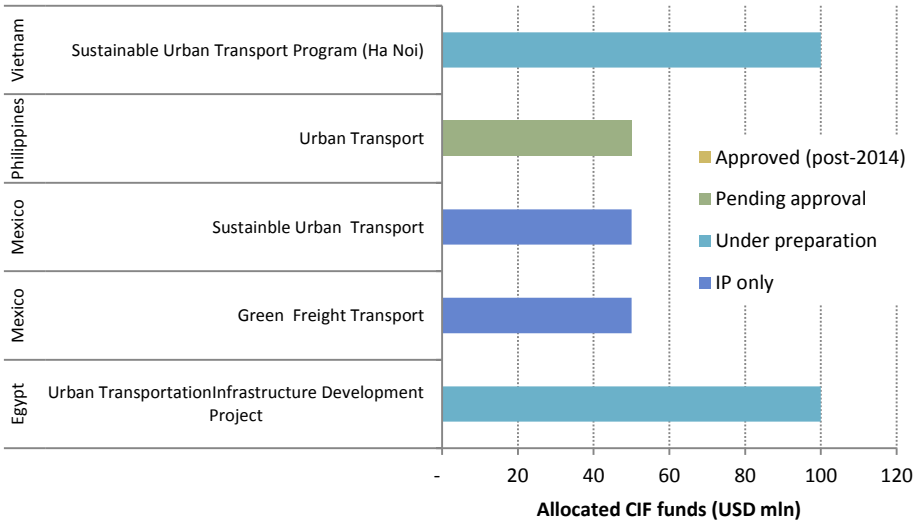
Table 6: Mixed renewable energy and energy efficiency project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
CTF	**Ukraine**	Renewable Energy Financing Facility	775.5	Financing and incentives	EBRD	Louis Borgo	borgo@ebrd.com	Link
SREP	**Tanzania**	Renewable Energy for Rural Electrification	182.5		AfdB	Mr. Babu Ram	b.ram@afdb.org	Link
CTF	**Philippines**	Renewable Energy Mini-grids and Distributed Power Generation		Infrastructure and goods	ADB	Mr Don Purka and Mr. Jiwan Acharya	dpurka@adb.org and jacharya@adb.org	Link
CTF	**Philippines**	Renewable Energy	1505	Infrastructure and goods	IBRD	Alan Townsend		Link
CTF	**Nigeria**	Line of Credit for Renewable Energy and Energy Efficiency Project		Financing and incentives	AfDB	Mrs Marie-Hellen Minja and Mr Manojeet Pal	m.minja@afdb.org and m.pal@afdb.org	Link
SREP	**Nepal**	Millioni and micro-initiatives: off grid electricity	133.3	Financing and incentives	IBRD	Ms. Mohua Mukherjee	mmukherjee@worldbank.org	Link
CTF	**Mexico**	Clean Energy Financing and Risk Mitigation Facility	370	n/a	IDB	Claudio Alatorre	calatorre@iadb.org	Link
SREP	**Maldives**	Renewable Energy for Outer Islands	62	Infrastructure and goods				
SREP	**Maldives**	Renewable Energy for Greater Male' Region	69.5	Financing and incentives	WB	Sandeep Kohli	skohli@worldbank.org	Link
SREP	**Liberia**	Phase 1: Technical assistance	8.5	Infrastructure and goods	AfDB/WB	Mrs. Elise Akitani (AfDB) / Zayra Romo (WB)	e.akitani@afdb.org / zromo@worldbank.org	Link
CTF	**Kazakhstan**	Renewable Energy Development Framework Facility		Policy design and implementation	EBRD	Bakhtiyor Faiziev	faizievb@ebrd.com	Link
CTF	**Kazakhstan**	Energy Infrastructure Program		Policy design and implementation	IFC	Tomasz Telma	TTelma@ifc.org	Link
CTF	**Indonesia**	IFC Energy Efficiency and Renewable Energy	260	n/a	IFC	Joyita Mukherjee	jmukherjee1@ifc.org	Link
CTF	**Indonesia**	Private Sector EE/RE Investment Program led by ABD		Financing and incentives	ADB	Mr Don Purka and Mr. Jiwan Acharya	dpurka@adb.org and jacharya@adb.org	Link
CTF	**Indonesia**	ADB Energy Efficiency and Renewable Energy	250	Financing and incentives	ADB	Mr Don Purka and Mr. Jiwan Acharya	dpurka@adb.org and jacharya@adb.org	Link
CTF	**India**	Private Sector EE/RE Investment Program led by ADB		Financing and incentives	ADB	Mr Don Purka and Mr. Jiwan Acharya	dpurka@adb.org and jacharya@adb.org	Link
SREP	**Honduras**	Grid-Connected RE Development Support (ADERC)	234.6	Infrastructure and goods	IDB	Mr. Claudio Alatorre	calatorre@iadb.org	Link
SREP	**Ethiopia**	Clean Energy SMEs Capacity Building and Investment Facility: Readiness - Financing Facility	10	Financing and incentives				
SREP	**Ethiopia**	Clean Energy SMEs Capacity Building and Investment Facility: Readiness - Advisory Services and Capacity Building	1.6	Policy design and implementation	IFC	Ms. Noleen Dube	ndube@ifc.org	Link
CTF	**Colombia**	Non-Conventional Renewable Energy Program (NCREP)	44	Infrastructure and goods				

3.4.7 Transport

Figure 20 highlights CIF funded transport projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 7 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 20: Transport projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



Projects in the transportation sector include green freight and sustainable urban transportation solutions. Transportation-related projects and plans have the third highest amount of funding/budget allocated in CIF countries' investment plans, following only hydropower and solar. CIF funds are expected to contribute USD 956 million, and MDBs USD 2.5 billion to the overall budget of USD 9.8 billion. Mexico has two projects in its investment plan on transportation. Egypt and Vietnam are both preparing to implement sustainable urban transport projects, while Philippines is awaiting an approval on its Urban Transportation project.

Vietnam: Ha Noi Sustainable Urban Transport Program (Link) (Approved post-2014, Infrastructure and goods)

The Ha Noi Sustainable Urban Transport (SUT) program is one of the five major interventions under the Vietnam Country Investment Plan (CIP). The CIP was first endorsed by the Trust Fund Committee in December 2009 and later revised and endorsed again in 2013. The revised CIP reallocates CTF financing to include additional funding of $50 million to the proposed SUT program on top of its original allocation of $50 million.

The Ha Noi Metro SUT Program comprises two investment operations:

1. Ha Noi Metro Rail System Line 3: Nhon – Ha Noi station section (Project 1) which will develop a new double track metro rail line in Ha Noi, including stations and depot facilities, and the electrical and mechanical (E&M) systems
2. Strengthening Sustainable Urban Transport for Ha Noi Metro Line 3 (Project 2), which will implement sustainable transport measures for the effective and sustainable use of the Metro Line 3

The total cost of the Ha Noi Metro Line 3 System Investment Program covering the two projects is almost $1.54 billion including the components proposed for CTF financing.

The expected impact of the Program will be the establishment of an integrated and sustainable public transport system in six districts of Ha Noi – four urban districts (Cau Giay, Dong Ba, Ba Dinh, and Hoan Kiem) and two sub-urban districts (Tu Liem South, Tu Liem North). The expected outcomes would be competitive metro rail services along the project corridor and improved integration of Metro Line 3 stations with other public and private modes of transport.

Table 7: Transport project information and contact

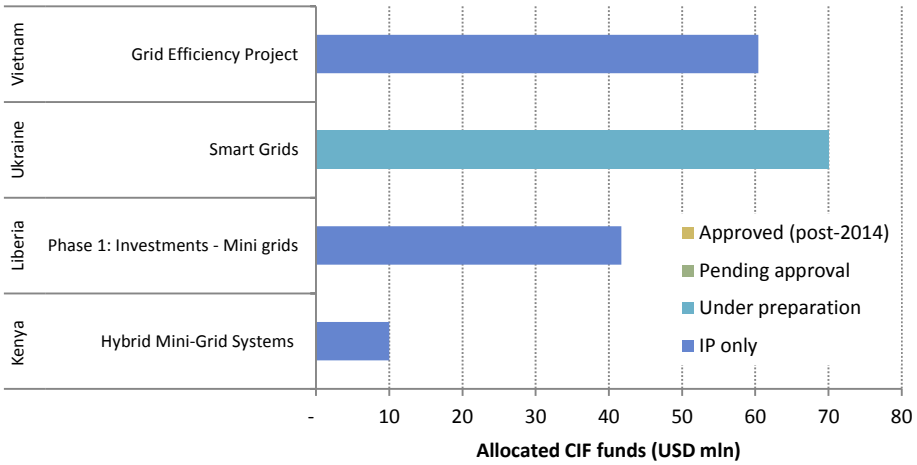
Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
CTF	**Vietnam**	Sustainable Urban Transport Program (Ha Noi)	1636.9	Infrastructure and goods	IFC	Joyita Mukehrjee	jmukherjee1@ifc.org	Link
CTF	**Philippines**	Urban Transport	605	Infrastructure and goods	IBRD	Ajay Kumar/Victor Dato		Link
CTF	**Mexico**	Sustainable Urban Transport	740	n/a	IBRD	Gevorg Sargsyan	gsargsyan@worldbank.org	Link
CTF	**Mexico**	Green Freight Transport	140	n/a	IBRD	Gevorg Sargsyan	gsargsyan@worldbank.org	Link
CTF	**Egypt**	Urban Transportation infrastructure Development Project	730	Infrastructure and goods	IBRD	Olivier Le Ber	oleber@worldbank.org	Link

3.4.8 Grid

This category groups together projects that have a focus on improving grid infrastructure and supply. Figure 21 highlights CIF funded grid projects where the total

allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 8 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 21: Grid projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



It includes a wide variety of projects related to transmission/distribution infrastructure (Vietnam), smart grids (Ukraine) and off-grid/mini-grid development (Liberia and Kenya). The only project which is in its preparation stage is Ukraine's smart grids project, while the rest are yet to be submitted as projects for approval.

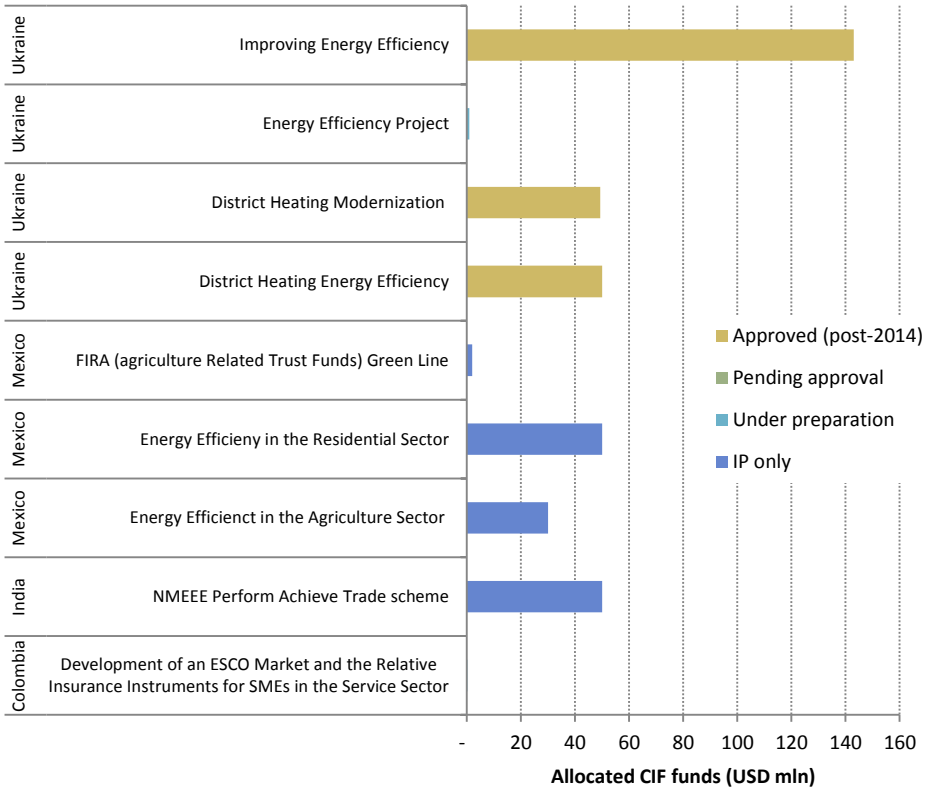
Table 8: Grid project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
SREP	**Kenya**	Hybrid Mini-Grid Systems	10	Infrastructure and goods	IBRD	Ms. Paivi Koljonen	pkoljonen@worldbank.org	Link
SREP	**Liberia**	Phase 1: Investments - Mini grids	41.7	Infrastructure and goods	AfDB/WB	Mrs. Elise Akitani (AfDB) / Zayra Romo (WB)	e.akitani@afdb.org / zromo@worldbank.org	Link
CTF	**Ukraine**	Smart Grids	70	Policy design and implementation	IBRD	Dmytro Glazkov	dglazkov@worldbank.org	Link
CTF	**Vietnam**	Grid Efficiency Project	60.4	Infrastructure and goods	ADB			Link

3.4.9 Energy efficiency

This section groups together a broad range of projects related to energy efficiency, including at the residential, municipal and industrial levels. Figure 22 highlights CIF funded energy efficiency projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Table 9 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 22: EE projects that are recently approved, pending approval, under preparation or still only listed in the CTF or SREP investment plans



Mexico included six planned projects on energy efficiency in its investment plan, amounting to a planned investment of USD 1.5 billion. Three of these projects were approved in 2011 and 2012, and three are yet to be submitted for approval. These relate to energy efficiency in the residential and agricultural sectors. Ukraine has the most recent and the largest amount of budgetary allocation approved for energy efficiency improvements and district heating. Colombia and India both have projects relating to market mechanisms in energy efficiency. India has planned a trading scheme on energy efficiency for the private sector, while Mexico is preparing a project on ESCOs and insurance instruments for SMEs.

Ukraine: District Heating Modernization (Link) (Approved post-2014, Infrastructure and goods)

The proposed CTF facility will provide sub-sovereign loans and technical assistance to public and private municipal heating companies of up to USD50 million from CTF, and of up to USD150 million from EBRD, in addition to project sponsor finance. Technical assistance and further grant support will be sought from bilateral and multilateral donors, such as the E5P initiative.

The operations to be financed will enable these companies to rehabilitate and modernise the district heating infrastructure in their cities, decrease operating costs, reduce CO^2 emissions and make the district heating system more energy efficient. The operations will be carried out under the Integrated Approach to Reform in the Ukrainian District Heating Sector that will be focused on establishing systemic policy dialogue with the relevant stakeholders in the Ukrainian government focused on urgent reforms with respect to regulatory and institutional framework in the utility sector.

The project strategy for the district heating sector in Ukraine is targeted towards improved energy efficiency mainly through:

- Investment into demand side measures (individual heating substations, metering);
- Conversion to local, domestic and where possible renewable fuels as biomass, sludge gas, and municipal solid waste;
- Introduction of mini CHPs to increase overall system efficiency; and
- Other energy efficiency investments across district heating systems.

Table 9: EE project information and contact

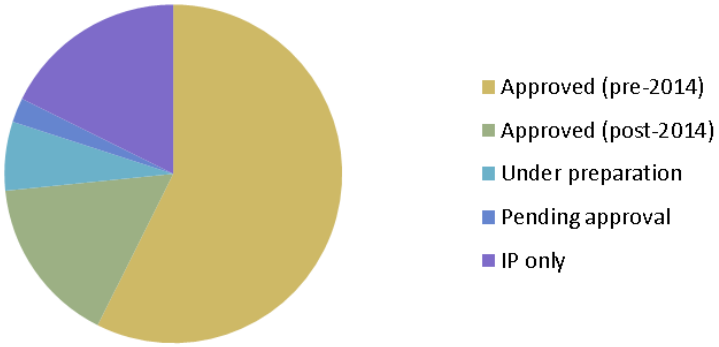
Fund	Country	Project title	Total budget (USD mln)	Service type	Implem-enting MDB	Contact	Email	Link
CTF	**Ukraine**	Improving Energy Efficiency	1207.5	Capacity building	IBRD	Dmytro Glazkov	dglazkov@worldbank.org	Link
CTF	**Ukraine**	Energy Efficiency Project		Capacity building	IBRD	Dmytro Glazkov	dglazkov@worldbank.org	
CTF	**Ukraine**	District Heating Modernization		Capacity building	IBRD	Dmytro Glazkov	dglazkov@worldbank.org	Link
CTF	**Ukraine**	District Heating Energy Efficiency		Capacity building	IBRD	Dmytro Glazkov	dglazkov@worldbank.org	
CTF	**Mexico**	FIRA (agriculture Related Trust Funds) Green Line	32	Capacity building	IDB	Claudio Alatorre	calatorre@iadb.org	Link
CTF	**Mexico**	Energy Efficiency in the Residential Sector	300	n/a	IBRD	Gevorg Sargsyan	gsargsyan@worldbank.org	Link
CTF	**Mexico**	Energy Efficiency in the Agriculture Sector	70	n/a	IDB	Claudio Alatorre	calatorre@iadb.org	Link
CTF	**India**	NMEEE Perform Achieve Trade scheme	1955	Financing and incentives	IFC	Gevorg Sargsyan	gsargsyan@worldbank.org	Link
CTF	**Colombia**	Development of an ESCO Market and the Relative Insurance Instruments for SMEs in the Service Sector		Financing and incentives	IDB	Claudio Alatorre	calatorre@iadb.org	Link

3.4.10 Integrated water resources management and WASH

Integrated Water Resource Management (IWRM) can be defined as a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. In this analysis it includes the efficient use of water and land, like irrigation schemes, the use of agricultural water resources, the management of hydro information and management of quality and quantity aspects of urban and rural water sources. Related TKIs are Delta technology (water management), Delta technology (ecological planning and design) and Water technology (more crop per drop).

The IWRM sector has requested the largest amount of CIF funding compared to other adaptation sectors, at about USD 450 million. As Figure 23 shows, the majority of the projects have already been approved prior to 2014, but about USD 200 million requested funding is still an investment plan, under preparation or approved in 2014.

Figure 23: Total of IWRM projects (450 mln) divided by disbursement status



Water supply, sanitation and hygiene (WASH)

Water, sanitation and hygiene (WASH), a strategy implemented by UNICEF in 2005, as a central component of the millennium development agenda. In this analysis it includes access to clean water and sanitation services, waste water treatment and disposal, disease carrier control, water technologies (cheap and expensive, simple and high tech) for re-use, purification and supply. Related TKI is Water technology (Water for All and Water & ICT).

During the classification of the CIF projects we found that many of the projects titled with water supply terms, as they are intended to improve climate resilience, are better to be classified as IWRM projects and/or Infrastructure and Networks projects that intend to make WASH infrastructure networks climate proof. In other words WASH projects can be found within the IWRM sector, and can be identified by looking more in detail at the TKI's: Water technology: Water for All and Water technology: Water & ICT.

Table 10 elaborates the most recent projects (approved after 2014 or in an earlier stage). These projects are theoretically the most interesting to pre-emptively engage

with. There are 16 opportunities available in the IWRM sector. Yemen has requested the largest amount of CIF contribution in one project and one investment plan with requests of respectively USD 45 million and USD 25 million. Bolivia currently has two investment plans of USD 45 million and USD 5 million. Jamaica has requested the third largest CIF funding in this sector, over USD 35 million combined, with one project approved in 2014, one pending approval and two under preparation. Other countries that requested IWRM CIF funds are Cambodia, Tajikistan, Niger, Mozambique, Haiti, and Grenada.

Figure 24: IRWM projects by disbursement status; projects approved prior to 2014 are not included

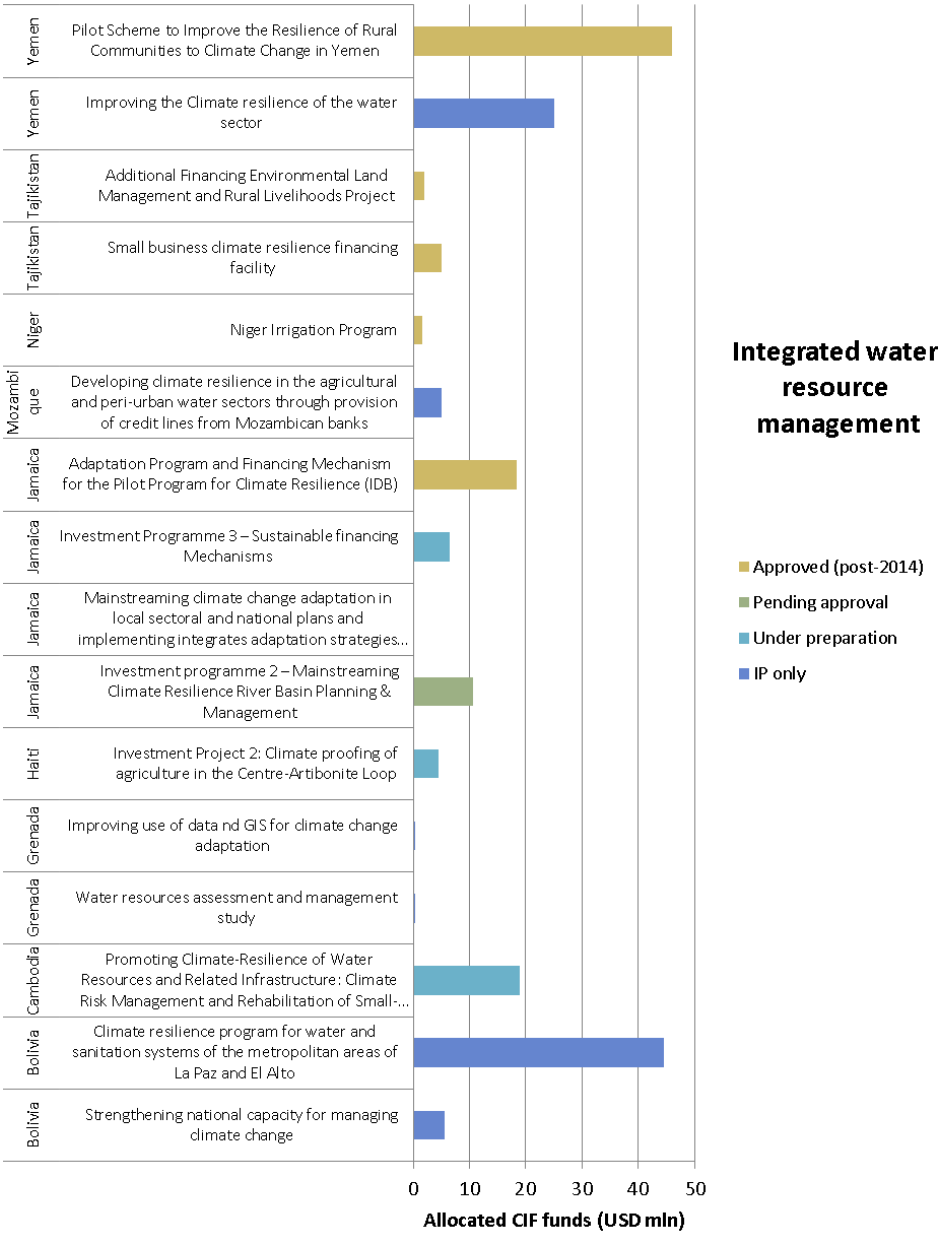


Table 10: IWRM project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implementing MDB	MDB contact name	MDB contact email	Link
PPCR	Bolivia	Strengthening national capacity for managing climate change	12,2	Policy design and implementation	IBRD	Ms Marie-Laure Lajaunie	mlajaunie@worldbank.org	Link
PPCR	Bolivia	Climate resilience program for water and sanitation systems of the metropolitan areas of La Paz and El Alto	412,1	Infrastructure and goods	IDB	Mr Alfred Grunwaldt	alfredg@iadb.org	Link
PPCR	Cambodia	Promoting Climate-Resilience of Water Resources and Related Infrastructure: Climate Risk Management and Rehabilitation of Small- and Medium-scale Irrigation Schemes in Tonle Sap Basin, as part of ADB-funded Water Resources Management Sector Development Program	n/a	Infrastructure and goods	ADB	Ancha Srinivasan	asrinivasan@adb.org	Link
PPCR	Grenada	Water resources assessment and management study	n/a	Policy design and implementation	IBRD	Mr Justin Locke	jlocke@worldbank.org	Link
PPCR	Grenada	Improving use of data nd GIS for climate change adaptation	n/a	Policy design and implementation	IBRD	Mr Justin Locke	jlocke@worldbank.org	Link
PPCR	Haiti	Investment Project 2: Climate proofing of agriculture in the Centre-Artibonite Loop	n/a	Infrastructure and goods	IDB	Mr Gerard Alleng	gerarda@iadb.org	Link
PPCR	Jamaica	Mainstreaming climate change adaptation in local sectoral and national plans and implementing integrates adaptation strategies in targeted river basin planning and management	n/a	Policy design and implementation	IDB	Mr Gerard Alleng	gerarda@iadb.org	Link

PPCR	Jamaica	Investment Programme 3 – Sustainable financing Mechanisms	n/a	Finance and incentives	IDB	Mr Gerard Alleng	gerarda@iadb.org	Link
PPCR	Jamaica	Adaptation Program and Financing Mechanism for the Pilot Program for Climate Resilience (IDB)	n/a	Finance and incentives	IBD	Mr Gerard Alleng	gerarda@iadb.org	Link
PPCR	Jamaica	Investment programme 2 – Mainstreaming Climate Resilience River Basin Planning & Management	n/a	Capacity development	IBRD	Ms Kanta Kumari-Rigaud	kkumari@worldbank.org	Link
PPCR	Mozambique	Developing climate resilience in the agricultural and peri-urban water sectors through provision of credit lines from Mozambican banks	10	Finance and incentives	IFC	Khetsiwe Dlamini	kdlamini@ifc.org	Link
PPCR	Niger	Niger Irrigation Program	n/a	Infrastructure and goods	IFC	Joyita Mukherjee	jmukherjee1@ifc.org	Link
PPCR	Tajikistan	Small business climate resilience financing facility	n/a	Finance and incentives	EBRD	Mr Craig Davies	daviesc@ebrd.com	Link
PPCR	Tajikistan	Additional Financing Environmental Land Management and Rural Livelihoods Project	n/a	Finance and incentives	IBRD	Ms Angela Armstrong	aarmstrong@worldbank.org	Link
PPCR	Yemen	Improving the Climate resilience of the water sector	n/a	Infrastructure and goods	IBRD	Ms Lia Sieghart	lsieghart@worldbank.org	Link
PPCR	Yemen	Pilot Scheme to Improve the Resilience of Rural Communities to Climate Change in Yemen	n/a	Infrastructure and goods	IBRD	Ms Lia Sieghart	lsieghart@worldbank.org	Link

The following textbox presents a representative project for this sector, where IWRM practices in key basins are improved so as to improve the resilience of water supply and sanitation systems in urban areas.

Bolivia: Climate resilience program for the water and sanitation systems of the metropolitan areas of La Paz and El Alto (link) (IP Only, Infrastructure and Goods)

This program is a component of the Strategic Program for Climate Resilience (SPCR) of Bolivia. Almost 80% of the 2 million people living in La Paz and El Alto live in poverty, without adequate access to basic services. It is estimated that by 2018 the current water supply systems will face difficulties to meet the incremental demand. The water supply system is extremely vulnerable to the seasonal variations of rain patterns are expected to occur due to climate change in the coming thirty years. The objective of this component of the SPCR is to ensure a resilient and reliable system for the collection and distribution of water, by (i) guaranteeing the continuity and quality of the current system, (ii) expanding it, (iii) integrate climate change in the project cycle for high mountain water projects, (iv) laying the groundwork for a climate resilient water system and (v) starting an integrated river basin management pilot project that is multipurpose, participatory, sustainable, resilient and includes gender dimension. Beneficiaries of the program include rural communities living in the selected river basin areas and the inhabitants of La Paz and El Alto.

The PPCR resources will represent about 21% of the projected water investment programs for the next 7 years in this area of great economic and social importance for the country. Table I shows the cost specifications per subcomponent of this program.

Table I. Multipurpose water resource project for El Alto and La Paz

Project components	Cost of investment project (in US$ million)			
	PPCR	National	Sub-national (municipal)	Total
Increased water supply to El Alto and La Paz (total estimated cost)	30	2.12	13.88	46
Implementation of an IRBM program that includes protection and conservation of ecosystems and water provisioning for multiple uses	10	7	0.0	17
Social program for the protection of vulnerable groups affected by the"*Multipurpose water resources project*" and for populations affected by climate change in the intervention area	1.5	0.0	0.0	1.5
Strengthening of capacities to use climate change information in planning	1.0	0.0	0.0	1.0
Monitoring and evaluation	0.9	0.0	0.1	1.0
Implementation of the project	1.1	0.38	0.02	1.5
Total	**44.5**	**9.5**	**14**	**68**

The Vice Ministry of Water and Sanitation (VASB) will be responsible for implementing, monitoring and the daily activities of the project, in close coordination with the Social Public Company for Water and Sanitation (EPSAS), as well as the Vice Ministry of Water Resources and Irrigation (VRHR).

3.4.11 Integrated Coastal zone management

Integrated coastal zone management (ICZM) can be defined as a dynamic, multidisciplinary and iterative process to promote sustainable development and management of coastal zones by coordinated application of the different policies affecting the coastal zone. In this analysis this involves ICZM plan development, spatial planning, coastal urban development and coastal (urban) resilience. Related TKIs are Delta technology (Water management, Ecological Planning) and Maritime Technology (Effective Infrastructure).

The ICZM projects involve a considerable amount of CIF funds (around USD 170 million) compared to the other sectors. Figure 25 shows that over 50% of the projects are approved prior to 2014, but over USD 80 million is requested in projects that are recently approved or need yet to be approved.

Figure 25: Total piechart of ICZM projects (170 mln) divided by disbursement status

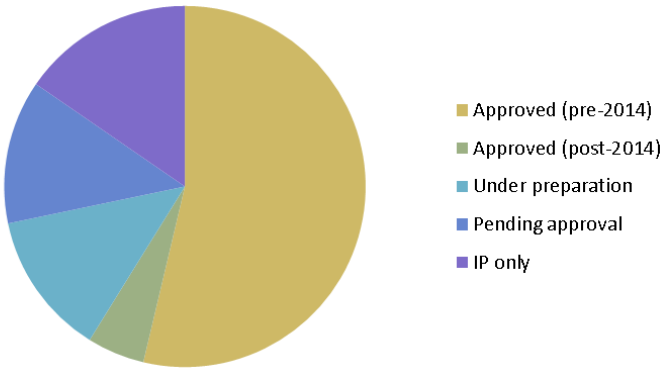


Figure 26 highlights the CIF funded ICZM projects where the total allocated funds have yet to be disbursed, or the project is at IP stage waiting for approval. Both Mozambique and Yemen have requested USD 20 million for ICZM projects, the highest recent requests in this sector. The projects are respectively pending approval and under preparation. Of the remaining projects, two-thirds is located in Small Island Developing States (SIDS) of which six are in the Caribbean region and one in the Pacific (Tonga), all with 'Investments Plan only' status. Table 11 provides further information on each of the projects and contact details for the implementing MDB where available.

Figure 26: ICZM projects, organized by status. Projects approved prior to 2014 are not included

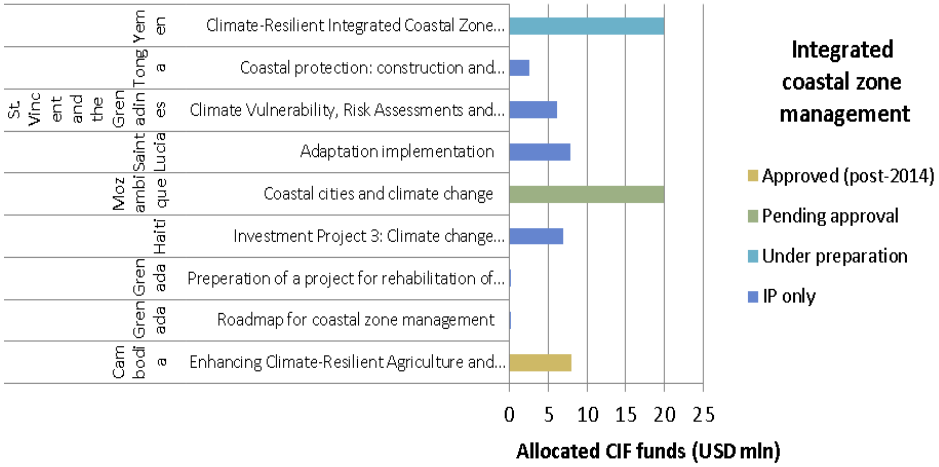


Table 11: Key ICZM project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implementing MDB	MDB contact name	MDB contact email	Link
PPCR	Cambodia	Enhancing Climate-Resilient Agriculture and food security: Promoting climate resilient agriculture, forestry, water supply and coastal resources in Kon Kong and Mondulkiri provinces, as part of ADB-funded GSM biodiversity conservation corridors project	n/a	Capacity development	ADB	Ancha Srinivasan	asrinivasan@adb.org	Link
PPCR	Grenada	Roadmap for coastal zone management	n/a	Policy design and implementation	IBRD	Mr Justin Locke	jlocke@worldbank.org	Link
PPCR	Grenada	Preparation of a project for rehabilitation of Bathway Sandstone Reef	n/a	Policy design and implementation	IBRD	Mr Justin Locke	jlocke@worldbank.org	Link
PPCR	Haiti	Investment Project 3: Climate change adaptation in coastal cities of Gulf of La Gonave	n/a	Infrastructure and goods	IBRD	Mr Michel Matera	mmatera@worldbank.org	Link
PPCR	Mozambique	Coastal cities and climate change	60	Infrastructure and goods	IBRD	Mr Giovanni Ruta	gruta@worldbank.org	Link
PPCR	Saint Lucia	Adaptation implementation	n/a	Infrastructure and goods	IBRD	n/a	n/a	Link
PPCR	St. Vincent and the Grenadines	Climate Vulnerability, Risk Assessments and Risk Reduction	n/a	Infrastructure and goods	n/a	n/a	n/a	Link
PPCR	Tonga	Coastal protection: construction and monitoring of five sections of coastline in Easter Tongatapu.	n/a	Infrastructure and goods	ADB	Ms. Maria Paniagua	mpaniagua@adb.org	Link
PPCR	Yemen	Climate-Resilient Integrated Coastal Zone Management	n/a	Infrastructure and goods	IBRD	Ms Lia Sieghart	lsieghart@worldbank.org	Link

Mozambique: Cities and Climate Change (Link) (Pending Approval, Infrastructure and Goods)
This proposed activity will increase the climate resilience of the coastal cities of Beira and Nacala and will generate experience and guidance for building climate resilience into coastal urban planning and development elsewhere in Mozambique. The city of Beira is the country's second most populous urban centre and is a key centre of economic activity. The city is also considered to be particularly vulnerable to climate change. Large parts of the city already flood frequently during periods of heavy rainfall, which combined with high sea tides, have already destroyed parts of the existing coastal protection infrastructure – leaving buildings, infrastructure and much of the city's hinterland vulnerable to flooding and storm damage. The city of Beira is also prone to cholera outbreaks. This situation worsens during rainy season and is sharply aggravated during flood events. The endemism to cholera outbreaks reflects a conjunction of four factors: poor sanitation (low rates of use of latrines), surface water tables, poor drainage and unsafe informal settlements.

The project aims to improve management and development of natural drainage, by (a) mapping natural drainage areas in Beira; (b) preparing green infrastructure designs for selected natural drainage areas, supervision of the implementation; (c) developing sustainable maintenance and management models; (d) carrying out community outreach campaigns; (e) undertaking scoping studies of green infrastructure assets in five other municipal areas; (f) developing and implementing knowledge sharing and dissemination activities; and (g) implementation of green infrastructure investments.

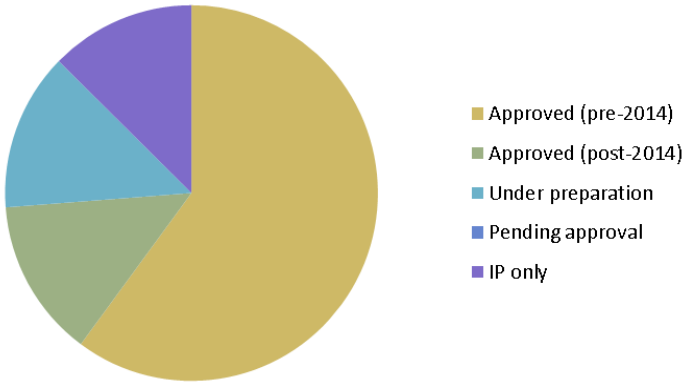
The project has a total budget of USD 120 million, of which USD 15.75 million is CIF funding. The ministry of Works and Public Services (MOPH) is the implementation agency for this project.

3.4.12 Disaster risk management

Disaster risk management (DRM) can be defined as the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disasters. In this analysis this involves flood and drought risk management, development of forecasting and early warning systems, hydro-meteo monitoring and climate information systems, decision support for DRM and spatial planning for disaster risk reduction (DRR). Related TKI is Delta technology: Water safety.

Of all sectors, DRM is the number two in terms of allocated CIF funds (around USD 300 million). Figure 27 shows that more than half of the projects are already approved, but there is still about USD 130 million recently requested.

Figure 27: Total pie of DRM projects (300 mln USD) divided by the disbursement status



In Figure 28, all recent projects (approved after 2014 or in a premature state) are shown by status and CIF funding. Except one project (Tajikistan) all project are in Small Island Developing States (SIDS) in the Caribbean and Pacific regions. Saint Lucia has requested the largest CIF funding at over USD 25 million. This project is recently approved. Grenada has the second largest CIF funding requested at USD 20 million. This project is currently under preparation. There are a lot of investment plans waiting to be approved, mostly for SIDS, which involve over USD 35 million.

Figure 28: DRM projects by disbursement status; projects approved prior to 2014 are not included

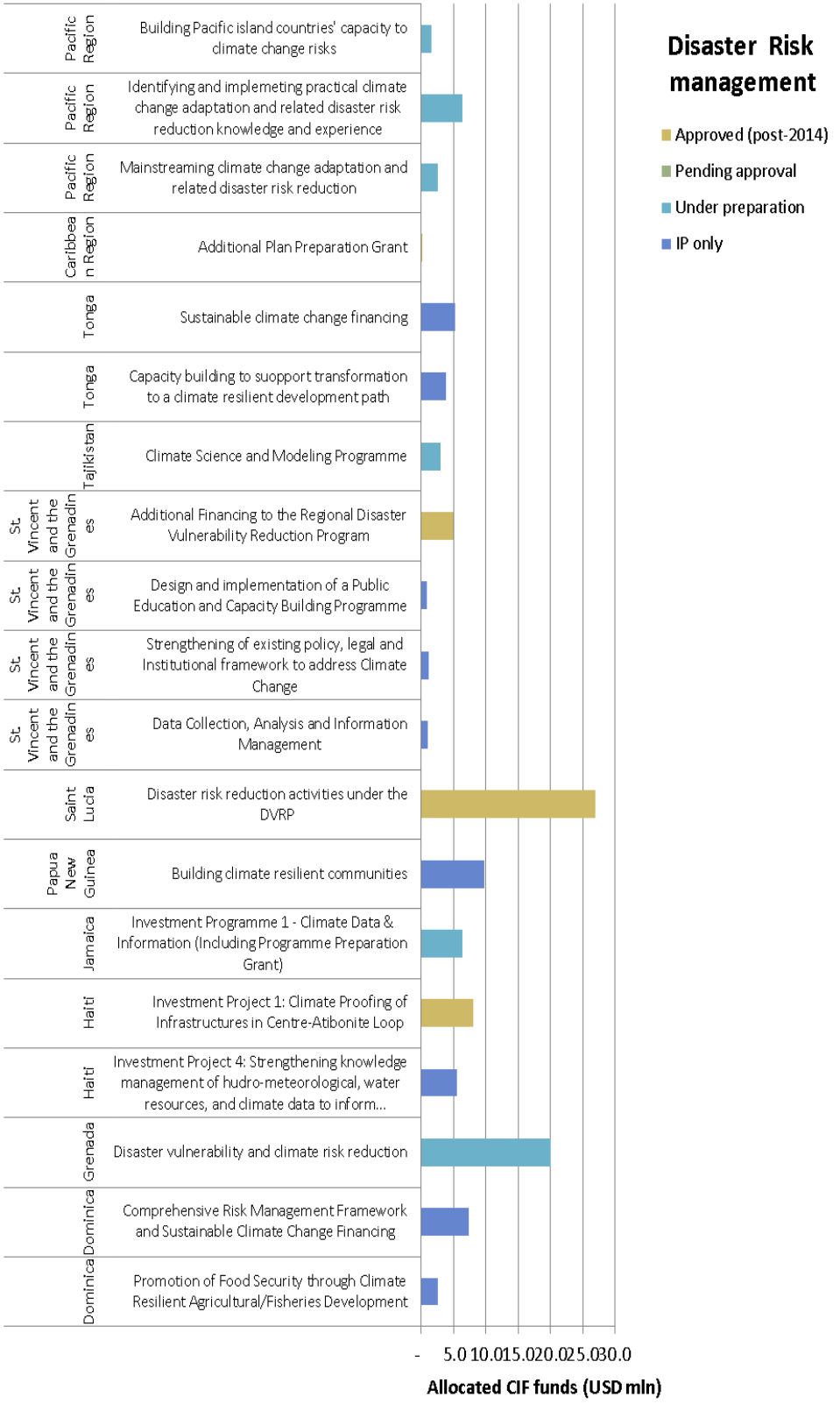


Table 12: 13 Key DRM project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implementing MDB	MDB contact name	MDB contact email	Link
PPCR	Dominica	Promotion of Food Security through Climate Resilient Agricultural/Fisheries Development	13,7	Capacity development	IBRD	Ms. Zoe Trohanis	ztrohanis@worldbank.org	Link
PPCR	Dominica	Comprehensive Risk Management Framework and Sustainable Climate Change Financing	11,3	Finance and incentives	IBRD	Ms. Zoe Trohanis	ztrohanis@worldbank.org	Link
PPCR	Grenada	Disaster vulnerability and climate risk reduction	n/a	Infrastructure and goods	IBRD	Mr Justin Locke	jlocke@worldbank.org	Link
PPCR	Haiti	Investment Project 4: Strengthening knowledge management of hudro-meteorological, water resources, and climate data to inform decision making and policy dialogue	n/a	Capacity development	IBRD	Mr Michel Matera	mmatera@worldbank.org	Link
PPCR	Haiti	Investment Project 1: Climate Proofing of Infrastructures in Centre-Atibonite Loop	n/a	Infrastructure and goods	IBRD	Mr Michel Matera	mmatera@worldbank.org	Link
PPCR	Jamaica	Investment Programme 1 - Climate Data & Information (Including Programme Preparation Grant)	n/a	Infrastructure and goods	IBRD	Ms Kanta Kumari-Rigaud	kkumari@worldbank.org	Link
PPCR	Papua New Guinea	Building climate resilient communities	(blank)	Capacity development	ADB	Ms. Maria Lourdes Drilon	mldrilon@adb.org	Link
PPCR	Saint Lucia	Disaster risk reduction activities under the DVRP	n/a	Capacity development	IBRD	Tiguist Fisseha	tfisseha@worldbank.org	Link
PPCR	St. Vincent and the Grenadines	Data Collection, Analysis and Information Management	n/a	Infrastructure and goods	n/a	n/a	n/a	Link

PPCR	St. Vincent and the Grenadines	Strengthening of existing policy, legal and Institutional framework to address Climate Change	n/a	Policy design and implementation	n/a	n/a	n/a	Link
PPCR	St. Vincent and the Grenadines	Design and implementation of a Public Education and Capacity Building Programme	n/a	Capacity development	n/a	n/a	n/a	Link
PPCR	St. Vincent and the Grenadines	Additional Financing to the Regional Disaster Vulnerability Reduction Program	(blank)	Finance and incentives	IBRD	Mr Justin Taylor Locke	jlocke@worldbank.org	Link
PPCR	Tajikistan	Climate Science and Modeling Programme	n/a	Infrastructure and goods	ADB	Ms Cinzia Losenno	closenno@adb.org	Link
PPCR	Tonga	Capacity building to suopport transformation to a climate resilient development path	n/a	Capacity development	ADB	Ms. Maria Paniagua	mpaniagua@adb.org	Link
PPCR	Tonga	Sustainable climate change financing	n/a	Finance and incentives	ADB	Ms. Maria Paniagua	mpaniagua@adb.org	Link
PPCR	Caribbean Region	Additional Plan Preparation Grant	(blank)	Finance and incentives	IDB	Mr Gerard Alleng	gerarda@iadb.org	Link
PPCR	Pacific Region	Mainstreaming climate change adaptation and related disaster risk reduction	n/a	Policy design and implementation	ADB	Ms. Maria Lourdes Drilon	mdrilon@adb.org	Link
PPCR	Pacific Region	Identifying and implemeting practical climate change adaptation and related disaster risk reduction knowledge and experience	n/a	Capacity development	IBRD	Mr. Samuel G. Wedderburn	swedderburn@worldbank.org	Link
PPCR	Pacific Region	Building Pacific island countries' capacity to climate change risks	n/a	Capacity development	ADB	Ms. Maria Lourdes Drilon	mdrilon@adb.org	Link

Nepal: Building Resilience to Climate-Related Hazards (Link) (Approved (pre-2014), Infrastructure and Goods)
About 66% of Nepal's' population (28 million people) lives in rural areas. Poverty is particularly severe in mountainous areas. Nepal is ranked as the fourth most vulnerable country to climate change due to a combination of weak institutional capacity, a poor and mainly resource dependent population, and challenges posed by its varied geography.

The project aims to diminish the impacts of extreme climate-related events, protect lives and assets and support agricultural livelihoods by establishing multi-hazard information and early warning systems, upgrading the existing hydromet and agricultural information management systems, and improving the accuracy and timeliness of weather and flood forecasts and warnings. Activities funded through the project would help improve decision-making and planning in key climate vulnerable and water resources dependent sectors, particularly agriculture, and contribute to building resilience for communities and sectors at risk.

CIF funding is disbursed at USD 31 million. The implementing MDB is the Asian Development Bank (ADB). The Department of Hydrology and Meteorology (DHM) and the Ministry of Agriculture Development (MoAD) are the National Executing Agencies for the project. DHM received USD 19 million for civil works and goods, and an additional USD 6 million for consulting services, training, workshops and operating costs. MoAD received USD 6 million for goods, service, training, workshops and operating costs.

3.4.13 Critical infrastructure & networks (design & construct)

Critical infrastructure can be defined as the assets, systems, and networks (whether physical or virtual) which forms the backbone of a nation's economy, security and health. Critical infrastructure and networks are essential for the functioning of a society and an economy. In this analysis this involves two main groups of projects, a) climate- and flood proofing of infrastructure networks and b) the hard infrastructure measures of DRM such as embankments and dikes and hydraulic engineering. The focus of the sector critical infrastructure and networks is on structural (hard) measures for disaster risk reduction. Related TKIs are Delta technology (water safety), Maritime technology (effective infrastructure) and Water technology (water for all).

After IWRM and DRM, most of the requests for CIF funding relate to this sector, at over USD 200 million. Figure 29 shows that over 75% of the total requested funding is registered with projects approved prior to 2014. Since the opportunities can theoretically be found in more recent projects, the focus will be on the other 25%.

Figure 29: Total pie of I&N projects (200 mln USD), divided by disbursement status

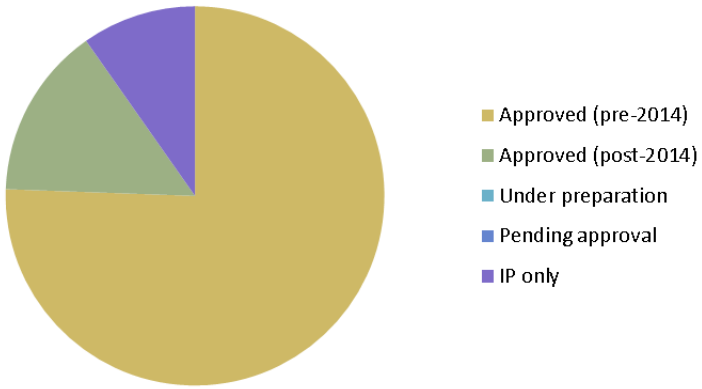


Figure 30 shows all recent projects (approved after 2014 or in a premature state) by status and CIF funding requests. Dominica has requested the highest amount of CIF funding – USD 21 million - for the 'Dominica Disaster Vulnerability Project', which is recently approved (2014). With also an investment plan requesting USD 6 million, Dominica has, with more than USD 25 million requested, the highest pre-emptively engagement opportunities. Other countries that have recently approved projects or investment plans in this sector are Tonga, Papua New Guinea and Cambodia. The projects details can be found in Table 14.

Figure 30: I&N projects, organized by disbursement status. Projects approved prior to 2014 are not included

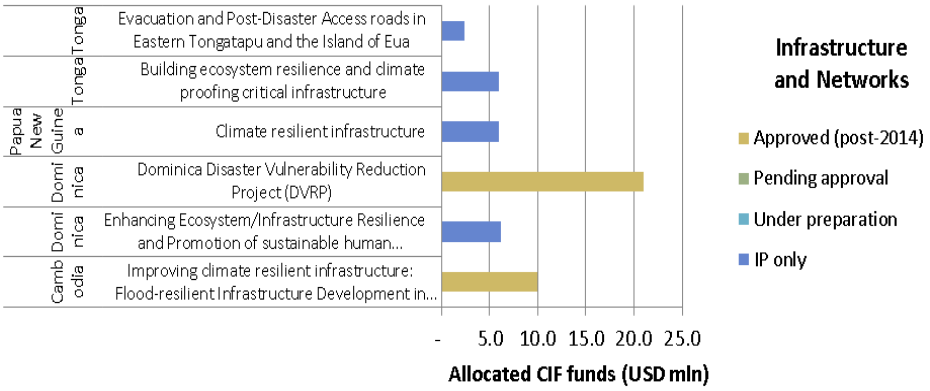


Table 14: Key IWRM project information and contact

Fund	Country	Project title	Total budget (USD mln)	Service type	Implementing MDB	MDB contact name	MDB contact email	Link
PPCR	Cambodia	Improving climate resilient infrastructure: Flood-resilient Infrastructure Development in Sisopohon, Siem Reap, Kampong Thom, Battambang, Pursat and Kampong Cham, as part of ADB-funded Sustainable Urban Development in the Tonle Sap Basin Project	52,6	Infrastructure and goods	ADB	Ancha Srinivasan	asrinivasan@adb.org	Link
PPCR	Dominica	Enhancing Ecosystem/Infrastructure Resilience and Promotion of sustainable human settlements	49,2	Infrastructure and goods	IBRD	Ms. Zoe Trohanis	ztrohanis@worldbank.org	Link
PPCR	Dominica	Dominica Disaster Vulnerability Reduction Project (DVRP)	(blank)	Infrastructure and goods	IBRD	Kanta Kumari-Rigaud	kkumari@worldbank.org	Link
PPCR	Papua New Guinea	Climate resilient infrastructure	(blank)	Infrastructure and goods	ADB	Ms. Maria Lourdes Drilon	mldrilon@adb.org	Link
PPCR	Tonga	Building ecosystem resilience and climate proofing critical infrastructure	n/a	Infrastructure and goods	ADB	Ms. Maria Paniagua	mpaniagua@adb.org	Link
PPCR	Tonga	Evacuation and Post-Disaster Access roads in Eastern Tongatapu and the Island of Eua	n/a	Infrastructure and goods	ADB	Ms. Maria Paniagua	mpaniagua@adb.org	Link

The following textboxes show the two main types of projects in this category: a) Climate-proofing of the road network in Samoa and b) Flood defences being strengthen in Bangladesh.

Independent state of Samoa: Enhancing the climate resilience of the West Coast Road (Apia to Airport) (link) (Approved (pre-2014), Infrastructure & Goods)

As a small developing island state, the vulnerability of Samoa and its 180.000 inhabitants to climate change is high, and growing. Samoa's road network is of critical importance to the country's economic development. About 70% of the population lives within one kilometre of the coast, and critical infrastructure is located primarily in the coastal zone. Expected climate change effects place coastal infrastructure and communities at high risk.

The project aims to improve the climate resilience of the West Coast Road by rehabilitating and upgrading the road to strengthen it against the climate change and extreme weather events and serve as a pilot project for more extensive climate-proofing of the Samoa road network. It also aims to enhance local capacity to strengthen the climate resilience of Samoa's road network by preparing a vulnerability assessment and climate change adaption strategy for the road network as a whole.

The project has been granted USD 17 million by the PPCR to achieve its goals. The project will be implemented by the Land Transport Authority (LTA) and IBRD, between 2013 and 2018. Most of the work will consist of heavy road works.

Bangladesh: Coastal Embankments improvement and afforestation (link) (Approved (pre-2014), Infrastructure and Goods)
The coastal zone of Bangladesh is prone to multiple threats. With over 580 km of coastline of which 83% is only 5 m above sea level, it hosts nearly 42 million people, of which a larger percentage lives in absolute poverty compared to the rest of the country. Severe flooding in 2007 and a cyclone in both 2007 and 2009 affected the lives and livelihoods of over 13 million people and caused extensive damages.

This project aims to increase the area that is protected from tidal flooding and frequent storm surges, improve agricultural production by reducing saline water intrusion and improve the governments' capacity to respond promptly and effectively to an eligible crisis or emergency.

PPCR funding of USD 25 million is disbursed for this project. The international Development Association (IDA) has disbursed USD 375 million for this project.

The Government of Bangladesh has the overall responsibility for project management and coordination through its Ministry of Water Resources. The project is to be implemented by Bangladesh Water Development Board (BWDB).

3.4.14 Agriculture, agroforestry, sustainable forestry and landscape management

The information below includes projects registered within the sectors of agriculture, agroforestry and landscape management.

Total CIF budget of projects recently approved or pending approval is US$ 103 million and US$ 201 million, respectively. Important services and products to be delivered by these projects include:

- Capacity building for stakeholders: training and field technical assistance.
- Technical, legal and financial assistance to governments
- Purchase of equipment and materials;

Important themes for forestry related projects are:

- Sustainable forest and land use management systems, agro –forestry, forest plantations, more resilient livelihoods, ethno-development, and adaptation to climate-related changes. Building resilience of assets and livelihood diversification;
- Access to financing sources for forest/land use and sustainable natural resources management.
- REDD+ or other relevant experiences. Promotion of private sector engagement in REDD.
- Climate change negotiations and networks in regional or global REDD+ and climate change forums, and web-based knowledge networking tools.

- Disseminating improved wood stoves, promoting more efficient charcoal production techniques, and testing the use of alternative energy sources.
- Forest rehabilitation and risks mitigation, and water resources assessment and management

The main themes for agricultural projects are:

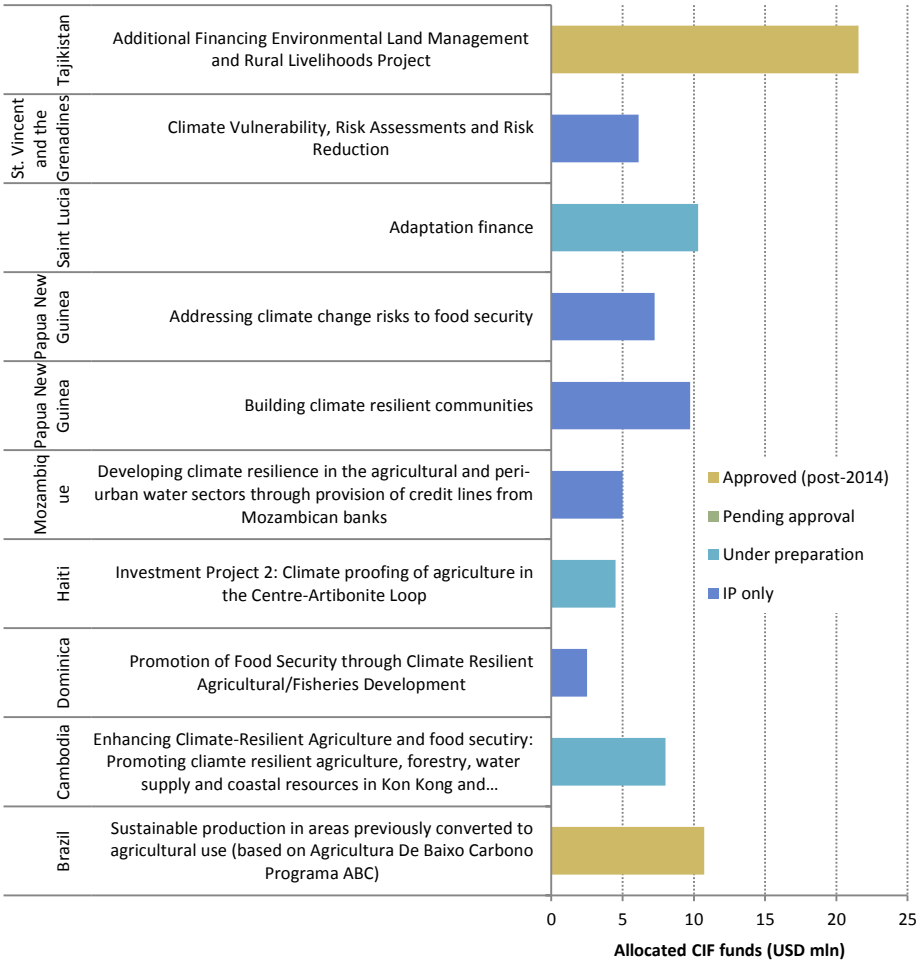
- Development of community/farmer demonstration plots.
- Promotion of stress tolerant (salinity, flood and drought) rice and selected edible oil (sunflower), selected vegetables (chili, okra, gourd) and pulses (lentils, grass pea).
- Rainwater harvesting ponds and drip irrigation for increased climate resilient high value crop productivity; (ii) Climate resilient irrigation ; (iii) Bioengineered sea barriers reducing saltwater intrusion and adoption of salinity resistant crops; and (iv) Ecosystem based adaptation to improve forest cover, soil and water management.

Mainstreaming climate change in the sectors is also a point of attention. It includes Hazard and Risk Evaluation and Application for Improved Decision making, and Mainstreaming climate change adaptation in local sectorial and national plans

Figure 31 highlights CIF funded agriculture projects where the total allocated funds have yet to be disbursed, or the project is at proposal or IP stage waiting for approval. Table 15 provides further information on each of these agriculture projects and contact details for the implementing MDB where available.

Figure 32 highlights CIF funded forestry and landscape management projects where the total allocated funds have yet to be disbursed, or the project is at proposal or IP stage waiting for approval. Table 16 provides further information on each of these forestry related projects and contact details for the implementing MDB where available.

Figure 31: Agriculture related projects that are recently approved, pending approval, under preparation or still only listed in the PPCR or FIP investment plans

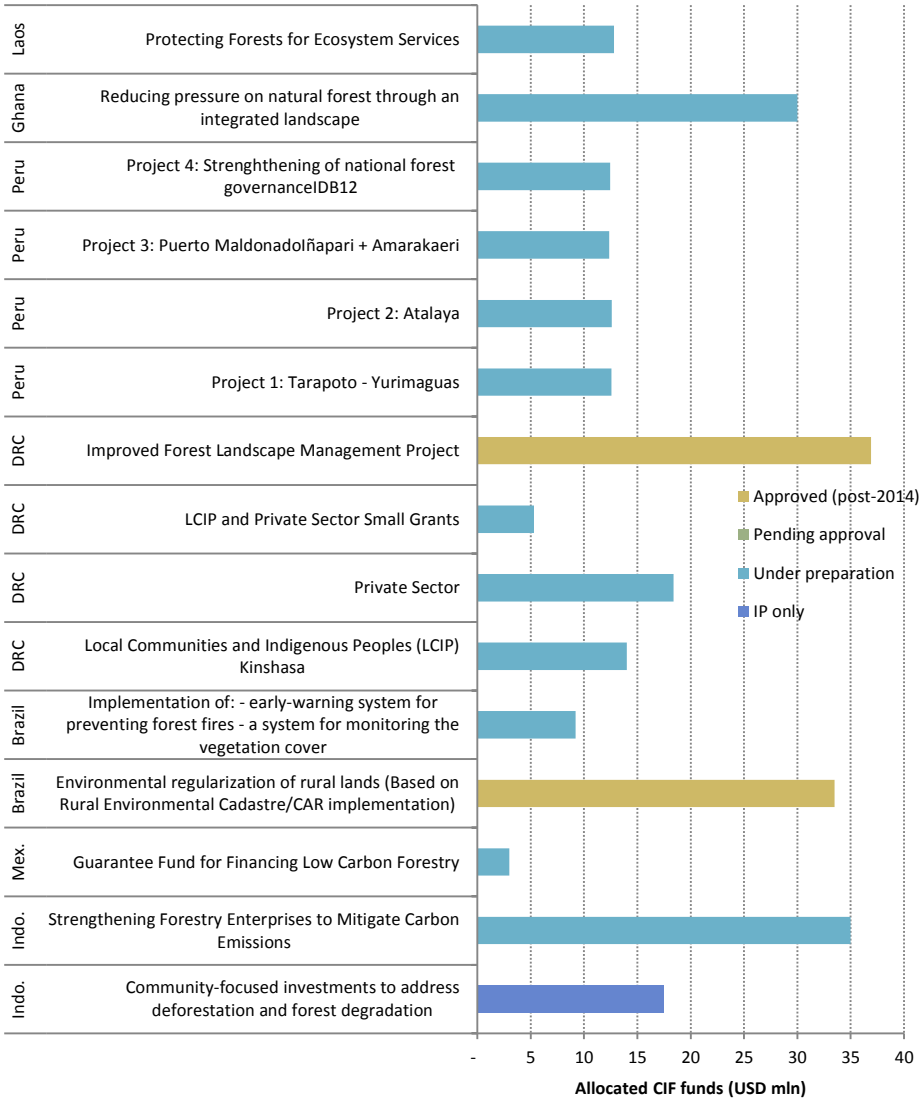


There are ten 'open' adaptation projects in the agriculture related sectors. Tajikistan has a project on financing for environmental land management and rural livelihoods that was recently approved. Brazil's project on sustainable production on converted agricultural land, with a budget of USD 11 million, was also recently approved for implementation.

Climate-resilient agriculture projects are currently in preparation stages in Cambodia and Haiti. A broader project on adaptation finance with an allocated budget of USD 10 million, also under preparation, is being undertaken in Saint Lucia.

Still at the investment plan level, Dominica has a project on promoting food security through climate resilient agriculture and fisheries development. Mozambique too has a project allocation (at the IP level) of USD 5 million for developing climate resilience in the agricultural and peri-urban water sectors through provision of credit lines from domestic banks. Papua New Guinea also plans work on food security through the PPCR.

Figure 32**:** Forestry and landscape management related projects that are recently approved, pending approval, under preparation or still only listed in the PPCR or FIP investment plans



Sustainable forest and landscape management projects that are recently approved or still to be approved total more than 250 mln USD of CIF funding. Most projects are in Peru, the Democratic Republic of Congo, Brazil and Indonesia, with individual projects in Mexico, Ghana and Laos.

Table 15: Agriculture and agroforestry project information and contact

Fund	Country	Project title	CIF contribution (USD mln)	Service type	Implementing MDB	Contact	Email	Link
FIP	**Brazil**	Sustainable production in areas previously converted to agricultural use (based on Agricultura De Baixo Carbono Programa ABC)	10.7	Capacity development	IBRD	Ms. Bernadete Lange	blange@worldbank.org	Link
PPCR	**Cambodia**	Enhancing Climate-Resilient Agriculture and food secutiry: Promoting cliamte resilient agriculture, forestry, water supply and coastal resources in Kon Kong and Mondulkiri provinces, as part of ADB-funded GSM biodiversity conservation corridors project	8	Infrastructure and goods	ADB	Ancha Srinivasan	asrinivasan@adb.org	Link
PPCR	**Dominica**	Promotion of Food Security through Climate Resilient Agricultural/Fisheries Development	2.5	Capacity development	IBRD	Ms. Zoe Trohanis	ztrohanis@worldbank.org	Link
PPCR	**Haiti**	Investment Project 2: Climate proofing of agriculture in the Centre-Artibonite Loop	4.5	Infrastructure and goods	IDB	Mr Gerard Alleng	gerarda@iadb.org	Link
PPCR	**Mozambique**	Developing climate resilience in the agricultural and peri-urban water sectors through provision of credit lines from Mozambican banks	5	Finance and incentives	IFC	Khetsiwe Dlamini	kdlamini@ifc.org	Link
PPCR	**Papua New Guinea**	Addressing climate change risks to food security	7.3	Capacity development	ADB	Ms. Maria Lourdes Drilon	mldrilon@adb.org	Link
PPCR	**Saint Lucia**	Adaptation finance	10.3	Finance and incentives	IDB	Mr. Gerard Alleng	gerarda@iadb.org	Link
PPCR	**Tajikistan**	Additional Financing Environmental Land Management and Rural Livelihoods Project	13.5	Capacity development	IBRD	Ms Angela Armstrong	aarmstrong@worldbank.org	Link

Table 16: Forestry and landscape management project information and contact

Fund	Country	Project title	CIF contribution (USD mln)	Service type	Implementing MDB	Contact	Email	Link
FIP	**Brazil**	Commercial Reforestation of Modified Lands in Cerrado	33.5	Finance and incentives	IFC	Ms. Lisa da Silva	Lsilva@ifc.org	Link
FIP	**DRC**	Implementation of an Early Warning System for Preventing Forest Fires and a System for Monitoring the Vegetation Cover	9.2	Infrastructure and goods	IBRD	Ms. Bernadete Lange	blange@worldbank.org	Link
FIP	**DRC**	Addressing Deforestation and Degradation in the Kinshasa Supply Area	14.0	Capacity development	IBRD	Mr. Jean-Christophe Carret	jcarret@worldbank.org	Link
FIP	**DRC**	Engaging private sector in REDD+ in DRC	18.4	Capacity development	IBRD	Mr. Jean-Christophe Carret	jcarret@worldbank.org	Link
FIP	**DRC**	Small Grants Program to Promising Small-scale REDD+ Initiatives	5.3	Finance and incentives	IBRD	Mr. Jean-Christophe Carret	jcarret@worldbank.org	Link
FIP	**Peru**	Improved Forest Landscape Management Project	36.9	Finance and incentives	IBRD	Mr. Jean-Christophe Carret	jcarret@worldbank.org	Link
FIP	**Peru**	Integrated forest landscape management along the main route between Tarapoto and Yurimaguas in the Regions of San Martín and Loreto	12.6	Capacity development	IDB	Ms. Gloria Visconti	gloriav@iadb.org	Link
FIP	**Peru**	Integrated landscape management in Atalaya, Ucayali Region	12.6	Capacity development	IBRD	Mr. David Tuchschneider	dtuchschneider@worldbank.org	Link
FIP	**Peru**	Integrated landscape management along the main route between Puerto Maldonado and Iñapari and in the Amarakaeri Communal Reserve	12.4	Capacity development	IDB	Ms. Gloria Visconti	gloriav@iadb.org	Link
FIP	**Mexico**	Strengthening of national forest governance and innovation	12.5	Capacity development	IDB	Ms. Gloria Visconti	gloriav@iadb.org	Link
FIP	**Ghana**	Guarantee Fund for Financing Low Carbon Forestry	3.0	Finance and incentives	IDB	Ms. Gloria Visconti	gloriav@iadb.org	Link
FIP	**Indonesia**	Reducing pressure on natural forest through an integrated landscape	30.0	Capacity development	IBRD	Mr. Timothy Brown	tbrown2@worldbank.org	Link
FIP	**Indonesia**	Community-focused investments to address deforestation and forest degradation	17.5	Capacity development	ADB	n/a	n/a	Link
FIP	**Laos**	Strengthening Forestry Enterprises to Mitigate Carbon Emissions	35.0	Capacity development	IFC	Mr. Quitos Bengzon	qbengzon@ifc.org	Link

4

Dutch support

This chapter presents an overview of the services provided by the Netherlands Enterprise Agency (RVO), embassies and sector organisations to support Dutch companies, non-governmental organisations (NGOs) and knowledge institutes in developing energy related business opportunities in developing countries.

4.1 Support through RVO

The climate monitoring framework serves to provide directions to Dutch companies as to where to focus their activities regionally and how to start engaging with relevant climate investment programmes. Based on this mapping exercise and in close consultation with the platform organisations for cleantech, water and agro-food sectors, promising business opportunities can then be identified.

The companies themselves are responsible for developing these opportunities but the RVO can provide financial, technical and institutional support to the companies to help them to start or expand business initiatives in developing countries.

The RVO is part of the Ministry of Economic Affairs and was created in 2014 as a merger between NL Agency and the Dienst Regelingen. RVO is tasked to help entrepreneurs by providing all kind of services such as identifying opportunities and priorities of potential clients finding business partners, facilitating consortia, organising trade missions, positioning of your activities with international decision makers, providing know-how and compliance with laws and regulations in developing countries.

RVO is able to support Dutch companies with their energy related business activities in emerging and developing economies:

1. Provide support and information to Dutch companies that want to access projects funded by International organisations such as the European Commission or the Multilateral Development Banks;

2. Provide support to companies partnering within consortiums for accessing overseas markets (PIB, Enterprise Europe Network);
3. Provide financial support for investment projects in developing countries (DGGF, ORIO/DRIVE);
4. Support access to European Innovation Funds

Below a short overview of these types of support is presented.

1. Business with European Commission and Multilateral Development Banks

Every year international organisations spend billions of euros on projects in developing countries and emerging markets that are interesting also for Dutch companies. The RVO can help companies to seize these opportunities.

- *The Advisors on International Organisations* can help identify relevant (International Financial Institution related) priorities and opportunities in specific countries, help sharpen a company's approach and position itself as a potential supplier. These Advisors can also facilitate contact with key decision makers, help navigate complex procurement processes etc.

- *Partners in Business*: PIB support is targeted at clusters/groups of companies that want to jointly start overseas business. Knowledge institutes can be part of the group. PIB support is based on a comprehensive (multiannual) strategy rather than on carrying out several independent activities and aims to remove trade and investment barriers through economic diplomacy. PIB is demand driven and the contribution of the government is focused on economic diplomacy.

  Most PIB trajectories focus on a specific country (and IFI opportunities in that country can be a component of such a trajectory) but instead of targeting a specific country, a PIB trajectory can also primarily target IFI opportunities in a specific sector. An application for PIB support must be submitted by a consortium comprising at least three Dutch companies. Consortiums in the energy sector get extra points for being in the Netherlands' Top Sectors. The PIB budget available in 2014 is EUR 6.3 million.

- *Enterprise Europe Network*: can help you find partner companies with specific expertise in other European countries.

- *Scan of International organisation*: For a fee, the RVO can conduct a tailor-made scan of international organisations to prepare Dutch companies for international assignments. This scan provides detailed insights into what these organisations can offer and what the relevant projects and contact persons are.

2. Provide support to companies to develop overseas business opportunities

The relevant subsidy programmes managed by RVO to support companies in developing concrete business opportunities are:

- Public private cooperation
- Private sector development
- Infrastructure development in developing countries

Public Private Cooperation

This programme is targeted at the water and food security sectors. It consists of the following fund facilities:

- The Sustainable Water Fund (FDW) aims to finance initiatives in the areas of water safety and water security. There is a link with adaptation and therefore the FDW is climate relevant. The FWD is a public-private partnership comprising at least one private body, one public body and one NGO. The requested grant should be in the range of € 0.5 – 4 million and the maximum project duration is 7 years. Other formal requirements can be found at the RVO website.
- The facility for sustainable entrepreneurship and food security (FDOV) seeks to stimulate public/private partnerships in the field of food security and private sector development in developing countries. This facility is relevant for Climate adaptation. The first call is expected in June 2014 and total available budget is € 40 million. More details about submission requirements will be provided by RVO at a later stage.
- Ghana WASH Window was established to support public-private projects in the field of water, sanitation and hygiene (WASH) and/or urban water management in Ghana. This facility seems not to contribute directly to climate adaptation.

Private sector development

- The Dutch Good Growth Fund provides three types of financial support for private sector development in developing countries: loans for Dutch companies' investments in developing countries; loans for local entrepreneurs and export credit and investment guarantees for projects in developing countries.
- Matchmaking facility (MMF) is a matchmaking subsidy programme that helps to establish structural, long-term business relationships between an entrepreneur from a developing country and a Dutch entrepreneur. The application should come from a company in a developing country. The foreign company is invited to the Netherlands to meet with several partnership candidates in order to find the best match.

Infrastructure Development

- DRIVE (formerly ORIO) provides grants to developing countries' investments in large scale public infrastructure projects. Projects consist of a development phase, and when appropriate, also of an implementation phase. Examples of energy related ORIO projects are in hydropower (Uganda), solar (Senegal) and hybrid rural power generation (Tanzania). The percentage of the grant depends on the development level of the country. Procurement is done by the recipient country (who is also the applicant).

The RVO and the Embassies and Consulates General closely work together in the identification and development of business opportunities. They can provide advice on the use of specific support instruments in the context of local circumstances and conditions. Application for these instruments can only be approved when fully supported by the Embassy.

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