Mapping of knowledge management initiatives related to climate change finance in the Asia-Pacific region

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Introduction

This paper is aimed primarily at government officials who are involved in decision making over how to utilise climate finance\(^1\) to support relevant national actions. It begins by providing an overview of the large number of initiatives that have provided policy-relevant analysis on this theme. It then describes two major efforts to map the international architecture of climate finance, before providing examples of possible national financial arrangements in support of climate change related activities.

Mapping of different knowledge management initiatives

A number of initiatives are underway in the Asia-Pacific region, and more generally world-wide, by a range of donor, civil society and academic actors to improve understanding of climate finance. A progression in this analytical work can be charted:

(i) Tracking international flows of climate finance: Much of earliest work, from 2009 onwards, was focused on understanding the international architecture for the delivery of climate finance, with an emphasis on the tracking of climate finance flows. This remains a major, continuing field of enquiry that generates much international policy attention as it relates to the MRV (Monitoring, Reporting and Verification) agenda.

(ii) The aid effectiveness of climate finance: A ‘second wave’ of analytical work began in 2010, with the intent of learning lessons from the experiences of development finance, and, in particular, using the principles by which the delivery of aid has been judged as a lens through which climate finance delivery could also be assessed.

(iii) National delivery of climate finance: The ‘third wave’ of climate finance analysis began in 2011, with the study of national climate finance moving to an approach that focused on the national delivery system, using the government budget as the principal mechanism whereby climate change policies are resourced.

The following sections, whilst not necessarily exhaustive, describe the main actors that have been involved in the provision of these knowledge management tools.

The first wave: tracking international climate finance flows

Various aspects of climate finance flows are reported upon, monitored and tracked via a number of websites, ranging from efforts led by contributor countries, to those of international organizations and multilateral development banks, to several non-profit civil society efforts. The academic sector, whilst providing analysis on climate finance flows, is not consistently nor visibly engaged in the monitoring and tracking efforts of climate finance flows. A number of for-profit commercial data

\(^1\) Climate finance remains an imprecise term that has no commonly accepted definition. Whilst it is generally understood to mean those financial resources that are directed at supporting climate change related actions, it covers a wide range of sources (both public and private) and mechanisms (e.g. grant finance and concessional loans).
providers, such as Deutsche Bank Research, PointCarbon and Bloomberg NEF, concentrate on tracking and providing information on private sector and carbon market finance flows.

The following overview lists the key climate finance reporting and tracking efforts, with a brief description of the information tracked. This listing indicates the considerable investment made at the international level to identify and track climate finance that is going to developing countries. However, it also shows the bewildering complexity of initiatives, which can act as a barrier to many developing country governments in their effort to see ‘the wood for the trees’, and secure a coherent oversight of international commitments. This continues to be the first issue of major concern in many developing countries.

**Country-led reporting of climate finance**

- **Faststartfinance.org** – Currently, the only government supported reporting initiative dedicated to public climate finance is Fast Start Finance. This website, initiated by the government of the Netherlands and supported by other contributor governments as well as international organizations, came online mid-2010 and provides information on the funding that individual developed countries are providing as part of the Fast Start Finance commitments made at the 2009 Copenhagen COP meeting (a total of USD 30 billion between 2010-2012). Information provided by contributing countries is ‘mirrored’ on pages for receiving countries where actions are carried out. The information is provided by the contributing countries and reflects their description of actions and programs in receiving countries (e.g. five projects are listed in Thailand, although the amount of finance is not stated).

**International Institutions**

- **OECD DAC Creditor Reporting System (CRS) online** – Since 1998, the DAC has monitored aid targeting the objectives of the Rio Conventions through its Creditor Reporting System (CRS), using the so-called ‘Rio markers’. These markers include one on climate change mitigation, which was developed by the DAC in collaboration with the UNFCCC Secretariat. Since 2010, there has also been a Rio marker for adaptation. With the Rio markers for mitigation and adaptation contributor countries’ policy objectives for climate-relevant aid are marked as having a climate objective that is ‘principal’ (would not have been funded but for this objective) or ‘significant’ (formulated to help meet this objective).

- **UNFCCC** – The UNFCCC provides a sub-page Funding for Adaptation that lists 25 multilateral and bilateral adaptation financing options with links to respective funds’ and programs’ websites. These include existing adaptation finance mechanisms under the UNFCCC and the Kyoto Protocol such as the Adaptation Fund, and the SCCF and the LDCF housed at the GEF.

- **UNFCCC Finance Portal** – the UNFCCC Secretariat launched its Finance Portal under the UNFCCC website in November 2011. This site aims to provide information on the financial flows mobilized to achieve the objectives of the Convention, via three distinct information modules: (i) data and information derived from UNFCCC Parties National Communications (the reported financial contribution of industrialized countries under existing commitments); (ii) a ‘fast start finance’ module presenting information also provided by developed country Parties; and (iii) flows of funds under GEF management (the LDCF, SCCF and the climate change portion of the GEF Trust Fund).

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2 As of August 2012, this site is off-line.

3 SCCF: Special Climate Change Fund, for which all developing countries are eligible; LCDF: Least Developed Countries Fund, for which only LDCs are eligible.
• **UNEP-SEFI** – UNEP’s Sustainable Energy Finance Initiative (SEFI) is a web-based platform providing private sector financiers with support to develop and manage investments in clean energy technologies. Together with commercial data provider Bloomberg New Energy Finance, this initiative releases a yearly report on global trends in sustainable energy investments, which provides aggregate global, regional and national figures on combined private and public sector investments in key clean energy sectors and subsectors.

• **UNDP MPTF Office Gateway** – Since 2010, the **UNDP Multi-Partner Trust Fund Office Gateway** provides real-time information on the balance of resources committed, deposited, budgeted, transferred, and spent within a large number of UNDP-administered funds. This portfolio includes funds that support humanitarian, recovery, reconstruction and development processes. It also covers a limited number of climate change initiatives (including the recently established **Mali Climate Fund**).

**Joint Information Efforts by International Organizations**

• **Climate Finance Options** – This website, launched at the Cancun COP meeting in December 2010, is a joint World Bank-UNDP project. It aims to provide information on the financial options available for climate action in developing countries by describing how to access the wide range of funds available from multilateral and bilateral institutions, as well as public and private sources. The website also features a project database. The website provides detailed search functions on sector, thematic focus and funding mechanisms for both funding sources and projects on the ground, but does not track or aggregate funding disbursements under the initiatives and financial options listed.

**Multilateral Development Banks**

• **The World Bank Group** – The World Bank provides information about financial pledges, commitments and projects under its portfolio of Climate Investment Funds (CIFs) on a CIF webpage. For climate-related official development assistance (ODA) flowing through the World Bank’s regular programs and branches (via IBRD, IDA), the World Bank employs general climate change and renewable energy sector markers and is piloting a new adaptation marker. The World Bank also reports to the OECD on its climate relevant outflows (through the use of Rio markers). The IFC, the World Bank’s private sector arm, is mostly engaged in carbon market and private equity climate funds. Some overview information on the IFC’s work and investment in these areas can be found on its Climate Business webpage, as well as in its Annual Report.

• **Forest Carbon Partnership Facility (FCPF) Dashboard** – The World Bank’s FCPF Dashboard provides periodic updates of country status concerning progress under the Forest Carbon Partnership Facility, with figures on grants signed and/or disbursed, as well as a financial summary.

• **Regional Development Banks (ADB, AfDB, IDB, EBRD)** – The regional development banks are implementing agencies for regional investments by the CIFs. They also report on climate-related ODA flows not going through the CIFs but handled via their own programs and projects based on their own mandates and operations. However, they use different indicators to classify projects (relevant information is available as part of their respective annual reports or under ‘climate change’ webpages). Most have public project databases with search engines, although the capacity of these to search for climate-related projects is in general limited.

**Bilateral Financing Institutions**

• **Individual Country BFI reporting** – bilateral financing institutions such as the French development agency, the Japanese development agency, or Germany’s development bank
disclose information on their climate-related investments individually to varying degrees of detail. This information is contained within their respective annual reports. Their numbers generally provide some sectoral and regional differentiation as well as information on different financial instruments used. These contributions are reported exclusively as ODA.

- **UNEP-BFI Working Group** – Since 2009, a UNEP Climate Change Working Group for Bilateral Finance Institutions has been in operation. It reports annually on collective climate change financial flows of participating BFIs, presently comprised of Agence Française de Développement (AFD), KfW Entwicklungsbank (Development Bank, Germany), Japan International Cooperation Agency (JICA), Nordic Environment Finance Corporation (NEFCO), and the European Investment Bank (EIB) to developing countries. The term ‘climate financing’ is broadly defined as finance flowing from developed to developing countries, including support for mitigation, adaptation, policy and capacity-building. The Group’s most recent Annual Report mapped out the participating BFIs 2009 climate-related ODA flows.

**Civil Society/Non-governmental Organizations**

- **ODI/Heinrich Boell Foundation** – the Climate Funds Update website adds values over and above other tracking and reporting initiatives by providing an aggregate picture of all climate change finance flows from North to South through 26 dedicated climate change funds. While other information sources provide detail on individual funds and contributions, CFU’s aggregated data of both bilateral and multilateral funds allows for comparability, cross-checking and global stock taking. CFU’s current framework on financial flows allows stakeholders to assess global contributions by funders, the landscape of supported projects, and the allocation of support across themes, regions, and countries. Unlike official datasets (such as those provided by OECD CRS) which only give a qualitative indication of climate finance commitments, CFU provides detailed quantitative data on climate finance commitments as well as disbursements. CFU represents the first open source data set in the world providing aggregate data on climate finance disbursements.

- **World Resources Institute (WRI)** – WRI is tracking the public financing commitments made by developed countries at the Copenhagen COP meeting in 2009 and their allocation for the period 2010-2012 (Fast Start Finance). Data on individual contributor countries is compiled in a table available online. WRI is also involved in working on methodologies and guidelines for the MRV of public climate finance as well as future work on the MRV of climate mitigation action and the provision of climate finance through a collaborative project, the Open Climate Network.

- **Project Catalyst** – Project Catalyst, an initiative launched in 2008 by the NGO ClimateWorks, compiles data on public Fast Start Finance and international climate finance flows, as well as future global total climate finance needs (by both public and private climate finance contributions). This information is presented via a variety of analytical papers and briefings, but not in tabular or graphical format on a continually updated basis.

- **Ecosystem Marketplace** – The Ecosystem Marketplace, a project of Forest Trends, is a source of news, data, and analysis on markets and payments for ecosystem services (such as water quality, carbon sequestration, and biodiversity). It covers carbon markets, specifically Kyoto-related carbon markets (the EU ETS, CDM and JI) as well as voluntary and regional carbon markets and exchanges. Together with Bloomberg New Energy Finance, it publishes a yearly report on the state of the voluntary carbon market.

- **Voluntary REDD+ Database** – The Voluntary REDD+ database was launched at the Ministerial Meeting of the REDD+ Partnership in Nagoya, Japan in October 2010. Jointly managed by FAO and UNEP-WCMC, the database provides information on REDD+ financing, together with actions and results that has been reported to the REDD+ Partnership. The core
data consists of agreements to undertake REDD+ related actions, involving funders and recipients.

- **REDD Countries Database** – The REDD Desk’s [REDD Countries Database](#) provides information on REDD activities in a number of tropical countries. An initiative of the Global Canopy Programme and the Forum on Readiness for REDD, it is organised by country and summarises key information across a range of areas including national policies, plans, laws, statistics, activities and financing.

The second wave: the aid effectiveness of climate finance

The second wave of studies primarily reflects a contributor country perspective to learn from the experiences of the development cooperation relationship between developed and developing countries. It builds on a considerable body of analytical work on aid effectiveness that has been carried out since the signing of the 2005 Paris Declaration on Aid Effectiveness. The Paris Declaration was a joint undertaking by developed and developing country governments to fulfil five key commitments to improve aid effectiveness; the appropriateness of applying these principles to climate finance, however, remains a continuing source of debate. The Paris commitments involved supporting national ownership of the development process, promoting donor harmonisation, aligning donor systems with national systems, managing for results, and mutual accountability between donor and recipient. These principles of aid effectiveness provide the analytical framework by which the first country studies on climate finance delivery were undertaken.

European Commission supported studies

- **ODI, IDS and DIE** – Under the EDC2020 project’s climate change component, ODI together with the Institute for Development Studies (IDS) and the German Development Institute (DIE) evaluated the approach taken by the European Union at both Member State level (e.g. Germany’s International Climate Initiative, ICI) and through the European Commission (e.g. the Global Climate Change Alliance, GCCA), to help support climate change actions in developing countries through development cooperation. In addition to the principles that help guide development cooperation, the project’s analysis identified principles derived within the UNFCCC negotiations to guide the application of climate finance. Two country case studies were undertaken: in Bangladesh and Indonesia.

CDDE Facility supported studies

- **Agulhas, WRI and UNDP** – In 2010, five country studies were commissioned by the Capacity Development for Development Effectiveness (CDDE) Facility, supported by the Asian Development Bank, Government of Korea, Government of Japan, Swedish SIDA and UNDP as part of a regional dialogue process in the Asia-Pacific region, also supported by the OECD DAC. The purpose of the initiative was to develop a set of recommendations regarding the programming of climate change finance at the national level. The initiative sought to strengthen the management of climate change finance by national governments and donors through a consideration of the five Aid Effectiveness principles. Country studies were completed in Bangladesh, Cambodia, Indonesia, Philippines, Vietnam, and a synthesis report was also prepared.

The African Development Bank and OECD supported studies

- **Agulhas** – A similar set of studies were commissioned in six African countries in 2012: Cameroon, Ghana, Kenya, Morocco, South Africa and Tanzania. A synthesis report of these country studies is available on-line.

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4 Ownership, alignment, harmonisation, managing for results and mutual accountability
The third wave: national delivery of climate finance

The third, and most recent, wave of analytical work on climate finance delivery has moved thinking beyond a context defined by the relationship between contributor and recipient countries, to one that focuses on the national system. It emphasises the policy, institutional and budgetary framework through which climate change actions need to be identified, financed and implemented within developing countries. It attempts to support country efforts in an explicit way by identifying where capacities require strengthening in order to respond to climate change.

UNDP supported studies

- ODI – the first national study of climate finance delivery that examined public expenditure and the national budgetary system in detail was carried out in Nepal in 2011. This study was followed by one in Bangladesh. Three further country studies, in Thailand, Cambodia and Samoa, were undertaken in 2012 using the same approach (termed Climate Public Expenditure and Institutional Reviews, CPEIRs).

UNEP supported studies

- WRI – work has just begun in the South-East Asia region to examine the challenges associated with tracking climate finance flows within recipient countries, with the intention of improving such processes. Country studies are planned in Indonesia, the Philippines and Vietnam.

Other national climate finance studies

- TNC – The Nature Conservancy has worked with a number of recipient countries (Brazil, Costa Rica, Indonesia, Micronesia, Mexico and Peru), to evaluate the design and implementation of the national institutional arrangements that determine the effectiveness of climate finance delivery.

World Bank climate change public expenditure and institutional reviews

- WB – the World Bank has recently carried out three country studies in Morocco, the Philippines and Mexico. These reports are not yet in the public domain.

World Bank initiative on climate budgets

- WB and UNDP – this initiative aims to produce a climate change expenditure review sourcebook published by the World Bank. It will provide public expenditure management practitioners and climate change specialists with the information and tools needed to respond to the public expenditure policy and management challenges arising from climate change. The knowledge product will a) consolidate and facilitate access to research and international practice and b) identify potential applications for developing countries. It is expected that the sourcebook will be published in 2013.

Development actors active in financing climate change actions

Beyond these specific climate finance-related knowledge management initiatives there is a wealth of development partner activity now underway in support of national climate change actions in most developing countries. There is a vast literature on such activity, much of it project based, across the themes of both mitigation and adaptation, where the continuum from support for ‘hard’ adaptation investment to building climate resilience and sustainable development captures an ever expanding list of activities. One example of a prominent donor organisation is provided below:
GIZ actions in support of climate change

- **GIZ** – at the beginning of 2011, GIZ was implementing about 350 projects worldwide that were directly or indirectly contributing towards the mitigation of greenhouse gases or climate change adaptation. Within this broad portfolio, GIZ has provided support to National Implementing Entities (NIEs) in a number of countries seeking accreditation to the Adaptation Fund.

Civil society actors that are involved in the monitoring of climate finance

There are also a large number of international and regional civil society commentaries on climate finance. These range from descriptive information notes aimed at non-government actors to more advocacy-related commentaries and analytical research. Some recent examples include:

- **Oxfam** – the 2011 report *Minding the Money* took Nepal as a country case study to examine the governance of adaptation finance and the challenges facing delivering support to those most vulnerable to climate change.

- **IBON International** – the 2011 policy brief *Climate Finance: Key Issues for Durban* highlighted the international funding gap and the need to transform climate finance governance and delivery.

- **Lowy Institute** – the 2011 policy brief *Turning the Tide* focused on the challenge of improving access to climate financing in the Pacific Islands.

- **IDASA** – the 2011 paper *Beyond the jargon: the governance of climate finance* called for funding for adaptation and mitigation to be aligned with development objectives and national strategies.

- **Aidinfo** – the 2012 report *Towards Climate Finance Transparency*, which was a joint collaboration with Publish What You Fund, examined the general principles at the intersection between aid transparency and climate finance.

- **Global Witness** – the 2012 report *Safeguarding REDD+ Finance* examined the transparency of international financial flows, primarily through multilateral funds, in support of the REDD+ forest protection mechanism.

- **CPI** – the recent 2012 report by the Climate Policy Initiative *A Survey of Systems to Monitor and Evaluate Climate Finance Effectiveness* examines the monitoring and reporting systems of eight multilateral and bilateral intermediaries that play an important role in the distribution of global climate finance.

Preliminary analysis of climate finance instruments

**SEI – Sources, agents and channels**

SEI published a working paper⁵ in 2009 that described the broad architecture of global financial flows for climate change activities. The composition of climate finance for developing countries was broken down into sources, agents and channels. Finance for climate change was identified as being sourced from contributor country government revenue, international capital markets, and domestic country government revenue. This finance was then seen to pass through various agents, such as development cooperation agencies; bilateral, regional and multilateral finance institutions; the UNFCCC; and the private sector. These agents then use various channels, such as official

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development assistance (ODA), the carbon market, or foreign direct investment (FDI) to reach national beneficiaries. The diagram below outlines this architecture.

Donor government revenue passes through bilateral development cooperation agencies or international financial institutions (IFIs), such as the World Bank or the regional development banks, who manage the money on behalf of their bilateral donors. These funds can go either in dedicated climate finance funds, such as the Clean Investment Funds, or become part of the normal development cooperation lending portfolio of the IFIs. Industrialised countries’ financial resources are also channelled through the UNFCCC, which serves as an agent overseeing these resources through such funds as the Adaptation Fund, or the LDCF and SCCF housed at the GEF.

This money then passes to developing countries in the form of international public climate finance, categorised either as official development assistance (ODA) or other official flows (OOF – which are similar in transaction to ODA but do not meet the eligibility for ODA because they have a smaller grant component). Some of this money may be considered ‘additional’ to ODA, however there is no clear delineation of finance for climate change as distinct from ODA. Donor governments can also channel money through the carbon market and buy CDM credits for their national accounts. Capital markets are another source of finance for climate change, where companies and governments raise long-term funds, including from the stock market (equity securities) and the bond market (debt). Money raised on the capital markets flows to the private sector and to the IFIs.

Developing country government revenue is also an important source of finance for climate change activities within their own countries. This revenue is channelled towards climate change activities through national and sub-national projects and programmes, both through the national budget and using extra-budgetary mechanisms (e.g. national trust funds).

**CPI – the landscape of climate finance**

The 2011 CPI report on the landscape of climate finance\(^6\) has provided another interpretation of global climate finance flows, emphasising the life cycle of such flows, i.e. from different sources,

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through intermediaries, financial instruments to final uses. The overall architecture of these flows remains the same as in the earlier SEI depiction, but more detail is given to each stage of the process, as can be seen in the following diagram. Very significantly, estimates are given of the magnitude of these flows at each stage.

The CPI analysis highlighted the importance of private finance in current flows, emphasising the crucial role that capital investment plays in mitigation and adaptation activities. It also identified the prominent position of intermediaries, namely the bilateral and multilateral financial institutions.

An important advance made by the CPI report lies in mapping the relative importance of different climate finance instruments. Seven categories of finance instrument are identified:

1. **National policy incentives**: these are domestically funded, public resources directed at regulatory reform and income enhancing mechanisms (e.g. feed-in tariffs). There is a considerable amount of information on such policy support in developing countries, but further research is needed to estimate the value of these domestic flows.

2. **Risk management facilities**: these are international public resources, typically provided as export credits to exporters from developed countries by Export Credit Agencies as loans, insurance or guarantees.

3. **Carbon offset flows**: these include both public and private flows that aim to reduce greenhouse gas emissions and include Payment for Environmental Services (PES) where the objective is to maintain or enhance carbon stocks. However, this type of finance plays only a very small role within present global flows.

4. **Grant finance**: grant finance plays a prominent role in the international climate change negotiations, although at present this is provided by developed country governments solely

**Source:** Climate Policy Initiative (CPI)
through their established ODA budgets. It tends to play a significant role in least developed countries.

5. **Concessional loans:** concessional loans are those offered at an interest rate below the prevailing market rate. This instrument is largely employed by the IFIs and plays a prominent role in support of mitigation actions within developing countries.

6. **Market rate loans:** this instrument will be appropriate for activities expected to yield significant financial returns, and will likely be directed towards countries that are deemed to have a supportive environment for private sector investment.

7. **Equity:** similar considerations apply as for market rate loans.

The CPI report identified that most climate finance currently flows through investment-based instruments that retain ownership interests and primarily involve private sector activity. Of the total USD 97 billion identified by CPI as making up international climate finance, the three categories of market rate loans, equity and concessional loans are estimated to add up to USD 87 billion (90%). This suggests that a strategic role for government is to secure the enabling environment for private sector investment in climate change related activities.

The CPI report also highlights the disbursement channels used for climate finance: those organisations that work directly to disburse funds for climate mitigation and adaptation actions on the ground in developing countries. These may be local, national or international organisations that have climate change related work programmes. At present, the majority of bilateral finance from OECD DAC countries passes through public sector agencies.

**How public climate finance can be channelled to beneficiaries**

Most analytical work to-date has emphasised the early phases of the life cycle of international climate finance flows. This reflects the concern within the UNFCCC negotiations that new and additional finance is forthcoming from developed countries. Less attention has been paid on how climate finance is delivered to beneficiaries within developing countries. How this finance passes through national systems will have a strong impact on government policy and planning systems, as well as on the national institutional arrangements that are developing in response to climate change.

Within all countries climate finance can flow through either the public or private sectors for the implementation of climate change related actions. With regard to the former, government spending has two principal channels: (i) the national (and sub-national) budget system; or (ii) extra-budgetary funds, with the latter taking a wide variety of forms. In addition to these different channels, climate finance is also being used to support very different actions, which relate to mitigation (the reduction of carbon emissions, which often involves significant private sector activity) and adaptation.
(responding to a changing climate, which is often characterised by major public investments). This diversity of both channels and intended use leads to a number of possible financial arrangements in support of climate change related activities. Some of the major examples involving public finance are:

**Domestic public climate finance**

- **The national budget system** – public funding for climate change actions can be drawn from the national budget through the annual cycle of government ministries and departments’ budget submissions. However, this budgeted expenditure is presently hard to identify in the absence of developed functional budget classification systems. The UNDP-supported CPEIR studies carried out in Nepal, Bangladesh, Thailand, Cambodia and Samoa investigated this issue and the more general integration of climate change expenditure into budgetary allocation and execution processes.

- **Extra-budgetary funds** – Extra-Budgetary Funds (EBFs) refer to government transactions, often with separate banking and institutional arrangements that are not included in the annual national budget law and the budgets of subnational levels of government. They vary in their: (i) objectives; (ii) sources of funds; and (iii) institutional design, making for a diverse and complex architecture. There are numerous examples of such funds operating to meet environmental and conservation goals, however national funds specifically supporting climate change actions are a recent phenomenon that are attracting a lot of interest. Two such examples of this domestic arrangement are the Indonesia Climate Change Trust Fund and the Bangladesh Climate Change Trust Fund. Governments in the region are also developing EBFs as a mechanism for mobilising private sector investments for climate change mitigation (e.g. Indonesia’s Green Investment Fund and Thailand’s Energy Conservation Promotion Fund).

**International public climate finance**

- **Climate Change Budget Support through the national budget** – such internationally-sourced finance is usually disbursed annually and is channelled through and managed by the Ministry of Finance, and is incorporated to a varying extent into the national budget. Normal government disbursement and reporting procedures then apply. An early example of this is the Climate Change Programme Loan (CCPL) in Indonesia. Budget support can take a number of forms, depending on the level of earmarking that is made over the disbursement of the international funds. In this way, Sector Budget Support is often distinguished from General Budget Support.

- **Global Vertical Funds** – global funds can operate through government systems or provide funding through parallel arrangements. The Clean Investment Funds (CIFs), administered by the World Bank, is the major climate change related global fund at present. Through its two multi-donor trust funds, and their constituent programmes, the CIFs deliver support to particular themes, e.g. the Pilot Program for Climate Resilience (PPCR) provides support for scaled-up action and transformational change in integrating consideration of climate resilience in national development planning, whereas the Clean Technology Fund (CTF) provides support for low-carbon growth. Within each of the multi-donor trust funds of the CIFs the financial systems that are used very much depend on the implementing entities, which are most often the multilateral development banks.

- **Country-based multi-donor trust funds** – these funds are a variant of the domestic climate change trust funds, but where control over expenditure is retained by the contributing

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countries. An example is the Bangladesh Climate Change Resilience Fund (BCCRF). The governing council of the BCCRF includes both government ministries and development partners, who oversee the fund, with the World Bank acting as an interim secretariat to the fund.

- **Project Finance** – project finance is the preferred route for those international organisations who work through NGOs and Civil Society Organisations. Under this arrangement, cash transfers are made directly into the bank accounts of implementing organisations. Many international NGOs are heavily involved in supporting climate change actions in developing countries and receive their funding in this way. Some international development partners also prefer to provide financial support to government agencies through similar stand-alone projects.

**Conclusions**

The analysis of climate finance is a rapidly evolving field of enquiry, where the initial focus on the sources of such finance has given way to a more holistic evaluation of its delivery. Questions are now being asked of the effectiveness of this spending, in addition to the continuing interest to identify the scale of such flows. Information provision comes from a wide range of actors, including donor organisations, civil society organisations and academia, and maintaining an overview of this wealth of information is a major challenge for those involved in determining national policy.

New themes are also appearing. First, there is interest to understand private sector flows, now that it is recognised that a major source of climate finance can be expected to come from private capital. This will present quite different analytical challenges from the previous focus on public finance. Second, there is increasing interest to understand the process whereby national resources are allocated and transferred down through different tiers of government, so as to ensure financial support is received by those most vulnerable to climate change. A third emerging theme is to improve the understanding of the level of public investment that is directed at activities that may hasten climate change through increased carbon emissions (although this is an area of enquiry where political economy issues feature strongly).

Such analysis is needed over both the short and medium-term as climate change will remain an issue for public policy into the foreseeable future. This suggests that early investment in national and regional centres of excellence for policy analysis on climate change would provide national governments with the evidence to develop robust climate change policies.