Options to align international and national resources to scale up climate finance for low carbon and climate resilient development

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1 Finance and sustainable development in the Asia Pacific region

2015 marks a milestone year in the global climate change and sustainable development agendas. In July of this year, the Addis Ababa Action Agenda set out a pathway for countries to re-shape existing financial flows for sustainable development, and to unlock further flows. The action plan’s emphasis on domestic sustainable development strategies and integrated national financing frameworks has special resonance in the Asia Pacific region, and has good potential to leverage trends that have emerged over the last 20 years in the region and beyond.

Since 1990, unprecedented economic growth has increased developing countries’ share of world GDP from around one quarter to more than 40%, and lifted hundreds of millions out of poverty (New Climate Economy, 2014). Much of this economic growth has been based on fossil fuel combustion and industrial processes, and the rapid expansion of large-scale agriculture, trends that have resulted in not just economic growth, but emissions growth as well and more worrying impacts such as increased air pollution.

Strong growth in domestic fiscal revenues in developing countries has been a product of increased prosperity, with these growing from USD 838 billion in 2002 to USD 1.86 trillion in 2011 (Report of Intergovernmental Committee of Experts on Sustainable Development Financing, UN 2014). Growth has continued even despite significant economic upheaval and down-turns associated with the global financial crisis and recession in 2008-2009.

Foreign Direct Investment (FDI) in the Asia Pacific increased nearly ten-fold from 1990 to 2012 (Asia Pacific Effective Development Cooperation Report, UNDP 2013), although more than 60% of this has been concentrated in East and North East Asia. And, finally, USD 32 trillion of private assets is now estimated to derive from the Asia Pacific region (Asset Management 2020, PWC, 2014). While much of this private capital leaves the region for lack of opportunities to reinvest via deep capital markets, well-aligned public resources could begin to change this.

Within this context, the financial and policy linkages between sustainable development and effective responses to the climate challenge are more and more evident. Without sustained integration of climate concerns in economic planning, there is growing evidence that hard-won development gains stand to be lost. Importantly public decision makers have opportunities to align development policies and mandates, and to
build-up the financial toolkits of existing and new financial institutions, to tackle specific cost and risk gaps associated with low-carbon and climate-resilient development, and to help build up in-country capacity. Targeted international public resources should complement and supplement these where appropriate, to ensure the needs of vulnerable countries’ needs are prioritized, and to encourage investors to reinvest savings in the region in ways that build country ownership, climate resilience, and prosperity.

This paper begins by describing climate finance in the global context, illustrating the complexity of climate finance flows, the total amount of climate finance flowing, key insights about international flows, and issues with tracking that continue to challenge the field. It then turns to the importance of domestic frameworks, pointing out important trends within the context of international action, before concluding with specific options for international climate finance resources, and in particular, development finance institutions, to make an impact on the ground.

2 Climate finance in the global context

As Figure 1 highlights, the global finance system is a complex continuum of relationships and transactions between sources of finance, actors who make decisions about how to invest finance, and financial instruments (Cicero, CPI 2015).

FIGURE 1: THE GLOBAL FINANCE SYSTEM

Source: CICERO and CPI 2015
Significant recent learning has vastly improved understanding about where the world stands in relation to global finance and temperature goals, but more importantly, to identify which kinds of support correspond most efficiently to different needs, and whether resources are being optimized (Cicero, CPI 2015).

Continuing to develop this understanding of climate finance flows can ultimately help actors learn how to spend money wisely and most effectively re-direct financial resources from high-to low-carbon uses. In addition, taking on the lessons from the past can help inform the next generation of climate finance solutions.

**Box 1: Defining climate finance**

The absence of an internationally agreed definition of “climate finance” is a major barrier in understanding the magnitude of climate finance and barriers to climate finance investments. This paper uses the definition offered by the 2014 Biennial Assessment and Overview of Climate Finance: “Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts.” Consistent with the data captured by Climate Policy Initiative in its *Global Landscape of Climate Finance* reports, domestic and international primary private and public financial investment flows that specifically target low-carbon or climate-resilient development are all included (Buchner et al., 2011a).

### 2.1 The global state of climate finance

Following the 2008-2009 financial crisis, most economies shifted to a lower growth path (UN WESP 2015), which has been felt in weaker public finances. Even in an economically challenging environment, by 2013 global climate finance flows had reached USD 331 billion in 2013 (Buchner et al 2014) with public finance contributions (USD137 billion) playing a key role driving investment. Public actors including government ministries, bilateral aid agencies, bilateral and national development finance institutions (DFIs), multilateral development banks (MDBs) have access to policy levers and financial instruments that help to reduce costs and risk, and build knowledge and capacity. Of the public finance contributions, DFIs played a cornerstone role, committing USD 127 billion. Data about private finance is incomplete, especially for energy efficiency and adaptation investments, but private investments in renewable energy topped USD 193 billion making up the majority of flows. Mitigation finance accounted for 91% of flows while adaptation finance grew to USD 25 billion, or around 7.5%.

As with previous years (Buchner et al 2012, 2013), the level of investment shared among developing and developed countries was split almost equally. There is striking evidence that almost three-quarters of total flows are invested in their country of origin. In 2013 USD 132 billion was invested in the same developed countries in which it originated with the same being true for USD 93 billion in developing countries. 75%-90%

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1 The authors of *Global Landscape of Climate Finance* reports have repeatedly stressed that the overall estimates and the USD 100 billion UNFCCC climate finance goal are not comparable. For more information see ‘methodology’ in Buchner et al 2014.
of all flows of climate finance stayed within the same region, and the regions that contributed most climate finance also enjoyed the highest levels of investment. East Asia and the Pacific (including China) was the largest destination of climate flows with USD 98 billion.

USD 34 billion, or roughly 10% of all primary investment flows was transferred from developed to developing countries in 2014. Of this CPI tracked USD 2 billion of primary renewable energy project investments flowing directly from private investors in OECD countries to developing countries in 2013 (Buchner et al., 2014). This estimate of private flows excludes Foreign Direct Investment (FDI) and is a very conservative, lower bound number. Using fDi Intelligence (2014) data, Buchner et al. (2014) foreign direct investment (FDI) in renewable energy alone from developed to developing countries in 2013 reached up to USD 12 billion.

Importantly, developing countries are not just recipients of climate finance. Figure 2 illustrates the breakdown of climate finance between origins and destinations.

Figure 2: The origin and destination of climate finance flows

Source: Climate Policy Initiative 2014

2.2 Knowledge gaps and tracking improvements

2 The Bloomberg New Energy Finance (BNEF) database categorises flows as coming from a developed country if they originate with a company or entity headquartered in an OECD country.
Major data gaps continue to challenge our understanding of climate finance and limit the ability of policy makers to effectively address investment gaps. The lack of common definitions for climate finance and activity boundaries—especially for adaptation—as well as methodological differences in how climate finance is tracked and reported present major challenges. In particular there is a profound lack of data on private investments in adaptation, forestry and energy efficiency, although there is clear evidence emerging that there are strong business cases for private investment in many relevant activities, for example, in sustainable supply chains and climate resilient land-use, and in energy efficiency options to lower the cost of energy bills (see below for some more examples).

There have however been some recent improvements that are helping for address some of these deficiencies:

1. In 2010 the OECD Development Assistance Committee (DAC) introduced a marker for ‘climate change adaptation’, in addition to the 1998 marker on mitigation. It is currently developing a broader measure of Total Official Support for Sustainable Development (TOSD), which will also include non-concessional flows and flows mobilised by public sector activities (OECD 2014a). The OECD DAC is also working with the international community, including MDBs, DFIs and partner countries, to improve the quality and coverage of DAC’s climate-related development finance statistics, as well as to facilitate discussions on enhanced approaches for common definitions and methodologies. Since 2013, DAC statistics have captured an integrated picture of both bilateral and multilateral climate-related development finance flows (OECD 2014f).

2. DFIs, including a group of MDBs and the International Development Finance Club are developing joint tracking methodologies and reports. In March 2015, they adopted ‘Common Principles for Climate Mitigation Finance Tracking’ as a voluntary effort and established a list

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3 The markers for official development finance with climate change objectives (mitigation and adaptation) are part of the so-called «Rio Markers» that monitor official development finance for environmental purposes and were first introduced after the Rio Conventions in 1992 when developed country parties committed to assist developing countries in the implementation of the Climate Change, Biological Diversity and Desertification conventions, see OECD (2015). Rio marking is mandatory for official development assistance (ODA, consisting of grants and concessional flows), while it is voluntary for official flows (OOF, largely non-concessional loans) so data is partial.


5 A club of 22 international, regional and national public development banks.
of activities eligible for classification as ‘climate mitigation finance’. They also committed to further working on the harmonization of both adaptation and mitigation finance tracking approaches, and agreed on a to track financial commitments that help countries prepare for and build resilience to the impacts of climate change in July 2015. MDBs and DFIs are also developing standards for measuring mobilization of private finance and in 2013, MDBs started to report project-level climate finance data to the OECD.

3. Led by Bloomberg New Energy Finance, information on private climate finance flows includes more detailed financial flows to renewable energy technologies and developments related to technology costs.

4. The OECD, bilateral DFIs from industrialized countries and MDBs are working on methodological approaches to estimate mobilized private finance for their data collection. The OECD is also planning to conduct a survey with development finance actors on private finance mobilized by syndicated loans, shares in collective investment vehicles and guarantees in 2015.

There is also a significant lack of information about domestic public climate budgets and how these are being deployed. In the Asian context, robust information only exists for Bangladesh, Cambodia, Indonesia, Nepal, Thailand, in part due to the ‘Climate Public Expenditure and Institutional Reviews’ carried out by the United Nations Development Program (UNDP), and the Landscape of Climate Finance Report conducted by CPI with the Indonesian Ministry of Finance. Despite this general deficit of data, information from CPEIRs indicates that governments are spending between 0.3 to 6% of total government expenditures on climate change and in small island states, this can be as much as 12% (see Figure 3). Although CPEIRs tend to cover only the most recent three to five years, data limitations were a recurrent problem. Obtaining data on both government budget allocations and expenditures, at a level sufficiently disaggregated to allow for a comprehensive review in the identified programs and ministries, was a real challenge. In the rare cases where such comparisons could be made (e.g. Uganda, Tanzania), the results suggest that relying solely on allocations will very likely overestimate climate change spending.
Figure 3: Average Climate Expenditure as percentage of total government expenditure

1. Figure for Indonesia includes climate change mitigation public spending only.

2. Figure for Thailand does not include climate change related spending through off-budget channels which in the case of Thailand are significant,

Source: Budgeting for Climate Change, UNDP 2015

Box 2: The landscape of public climate finance in Indonesia, 2011

Indonesia has undertaken some extensive work to improve the transparency of public climate finance from national and international sources. Improving transparency is not just a goal in itself but provided public decision makers with the means to learn lessons and to adjust the way finance is delivered to achieve particular outcomes. Indonesia has established a budget tagging as a means to track the flow of budget expenditure to climate outcomes and provide a platform for enhanced planning.

Central and local governments are key sources of climate finance and critical actors. In 2011, 66% of public climate finance in Indonesia originated from the state government budget (Ampri et al 2014) with the remainder flowing from international sources. Governments disbursed 97% of public climate finance transferred through the state budget. Unsurprisingly, expenditures focused on establishing strong enabling
environments in the highest emitting sectors including forestry, land use, agriculture and energy. 73% went to enabling environments, while 27% paid for direct actions. Examples of enabling environments include the establishment of the National Action Plans for Mitigation and Adaptation (RAN-GRK and RAD-GRK respectively) and the National REDD+ Strategy.

Most finance was delivered through domestic budget expenditure (71%), complemented by loans (12%) and grants (16%) from bilateral development partners. In 2011, the Indonesian government implemented the majority of climate actions and activities (77%), while State-owned enterprises also played an important role in implementation (12%). International development partners, private sector, NGOs and others were responsible for the minor share of implementation (approximately 2-3% each).

Source; Ampri et al, 2014

2.3 How much is enough?

There has been a general increase in climate finance investments over the past years, but total flows still far short of the amount needed within specific economies and in the international context. In 2014 the International Energy Agency (IEA, 2014) estimated that from 2011 to 2050, an additional USD 1.1 trillion of investments in the energy sector alone is needed each year on average, to keep global temperature rise below 2° Celsius. In 2014 The New Climate Economy (NCE) found that taking climate action is not a zero sum game, and that many of the institutional reforms needed to spur growth and improve wellbeing over the next 15 years are also key to tackling climate risk. Of the estimated USD 89 trillion that will be invested in infrastructure by 2030 across cities, energy and land use systems, even before accounting for climate action, the NCE estimated that making these investments climate consistent would add only a further 5% to the total cost. With an increasing demand for infrastructure finance, the Asia-Pacific region has the opportunity to offer the
strong leadership and coordination required to green-stream financial investment by align policies, setting pricing signals, and establishing financial instruments to steer financial flows towards a low-carbon and climate-resilient future.

The biggest challenge by far is that aided and abetted by government subsidies across countries (IEA 2014), investment in fossil fuel intensive industries continues to outpace investment in clean energy and climate resilience. For example, in 2013 USD 950 million was invested in coal, oil and gas extraction, transportation and refining and fossil fuel power plants. Over the same time, governments paid USD 550 billion in global consumer subsidies to support fossil fuels, compared with just USD 121 billion to support renewable energy (IEA 2014).

2.4 Important cost falls can level the playing field in all countries

More renewable energy technologies than ever are becoming price-competitive with polluting alternatives. Around the world, project developers and households are installing more, for less. Oil prices also have dropped dramatically in the past year, presenting governments a once-in-a-generation opportunity to level the carbon playing field by eliminating subsidies and pricing carbon without large cost impacts to consumers. This is especially important in many developing countries where fossil fuel subsidies cost national budgets an alarming amount - more than 20% of annual government budgets (insert reference (it is as WB Indonesia ref).

Box 3: Solar PV – Less dollars, more sense?

In 2014, global climate investment fell USD 28 billion from the previous year. However, the fall was mostly the result of cost reductions, particularly in solar PV module prices (IRENA 2015), which were 75% cheaper to install in 2014 than in 2009. A large share of these cost reductions, which reduced incremental costs for solar PV everywhere, were borne by developed countries such as Germany where high feed-in-tariff prices resulted in growth outstripping expectations, oversupply of electricity, and higher than expected program costs that continue today as legacy costs. Although such costs cover increments that make technologies affordable in developing countries, there is no consensus on how or whether they should count toward cross-border climate finance flows.

3 The importance of domestic climate finance resources

A key piece of knowledge that has emerged along with tracking improvements is that in both developed and developing countries, investors have a strong preference for investing domestically where investment environments and policies are more familiar and perceived to be less risky. Supporting the establishment of well-designed and transparent domestic enabling environments is already a priority for many developing
country governments, and their importance in unlocking domestic and international transactions cannot be underestimated. One barrier, however, is that most CPEIRs conducted found that the links between climate change policies and national development plans were unclear. There has been limited integration of climate change policy within national, sector and sub-national policy and there is an associated lack of coherence in how climate change is addressed at national and sub-national levels.

A second barrier to the establishment of better domestic enabling environments is that the relationship between climate change policies and public expenditure remains unclear. The CPEIR in Vietnam, for example, concluded that: “the present legal framework itself does not ensure that spending is directed to stated and highest priorities, that spending achieves its objectives, or that spending can be tracked and reported comprehensively over time.” An effective way to ensure that climate change strategic action plans are implemented through actual budget policies is to develop a climate change financing framework (CCFF) that would help countries prioritize and allocate their financial resources in favor of climate change investments. This is in large part contiguous to the challenges of establishing effective public financial management systems more broadly. Finally, UNDP’s experience supporting countries in CPEIR analysis has shown that no single country has of yet established the reforms necessary to enable the measurement of climate change financing performance. Establishment of effective domestic enabling environments that will unlock climate investments require all the ingredients above embedded in stronger PFM systems.

3.1 Well-designed enabling frameworks and policies are key to scale-up

Governments can support increased investments in climate action by investing public resources directly via a variety of intermediaries and instruments, for example by investing direct equity alongside commercial tranches, or by taking more risky positions in financial structures. Governments can also take positions as shareholders, particularly in companies such as state-owned enterprises that deliver strategic goods and services such as electricity and water, and which are or were state monopolies (Buchner et al 2013). Active and passive shareholding is practiced by governments in developed and developing countries. In China in 2012, 84% of climate investments had some degree of public shareholding. Rates of public shareholding are also high in the U.S. (68%) and Germany (54%) (Buchner et al 2013, 2014).

Some examples of how governments can level the carbon playing field by indirectly investing resources include:

1. Establishing regulatory standards such as emissions and performance standards, technology and production standards, which increase the cost of emitting carbon by penalizing actors who fail to meet established standards, and creating incentives to seek out low-carbon options;

2. Implementing feed-in-tariff or support policies and renewable portfolio standards, which have helped to drive diffusion and pay for incremental costs (IPCC, 2014);
3. Funding policies to support research and development in technology can complement adaptation and mitigation policies, and if properly implemented, can reduce costs;

4. Employing technology push policies such as publicly funded research, development and deployment, combined with financing support for technology adoption to help overcome the ‘valley of death’ between small-scale prototype phases and successful commercialization (IPCC 2014, BNEF 2015, IEA 2014).

National development banks (NDBs) are also increasingly key players in low-carbon economic development as executors of public development mandates in specific countries. They have the capacity to mainstream climate considerations across broader national policy portfolios, such as infrastructure, rural development, urban planning, can reduce perceived trade-offs, build complementarity and increase co-benefits, making it easier to dedicate public financial resources (IPCC 2014 and OECD 2009). Especially in less mature markets where costs and risks can make financing unaffordable, by using lower cost public capital, NDBs can significantly lower financing costs that would otherwise make investments prohibitive (NCE 2014). NDBs committed USD 70 billion in 2012 – and many also function as act as channels of multilateral and bilateral development finance. (Buchner et al 2013). Much of this was in China (refine this sentence).

4 International public finance can support domestic efforts to align public and private interests in developing countries

Development finance institutions (DFIs) including bilateral, multilateral and national development banks are among the most significant players in the global context with experience and toolsets that can pay for goods and services that private actors cannot or will not pay for, and which can help investors manage risks. They highlight an important way that international public finance can be a key driver of the climate finance system by targeting very specific cost and viability gaps, risk gaps and knowledge and capacity gaps.

DFIs and MDBs don’t only rely on paid-in contributions but can raise funds on capital markets in addition to paid-in contributions, helping their finance to go further. They also play a pivotal role mobilizing private finance by providing financial risk coverage, concessional and non-concessional lending, technical assistance, and by managing and implementing projects for climate funds. In addition to DFIs, bilateral agencies are also significant actors with a substantial role in providing grants and technical assistance to facilitate technology transfer and build capacity. Grants and technical assistance are particularly relevant to help governments implement adaptation activities (almost 50% of their total contributions in 2013 were grants targeting adaptation (Buchner et al 2014)), and to develop policies and incentives that improve the balance of risks and returns for users.

While climate funds have played a comparatively minor role in terms of volume of finance flows, this may pick up with the emergence of the new Green Climate Fund. In addition, some such as the Climate Investment Funds have piloted innovative approaches to test how different stakeholders respond to financial
costs and risks, and what combinations of finance and policy can tackle barriers to investment. Key instruments that could be mobilized by climate funds and national and international public finance institutions (including the new AIIB) to help address barriers faced in specific contexts by specific investors include:

5. **Market-rate loans with long tenors can help finance projects where access to long-term finance is a key barrier**, see e.g. the case of IDB credit lines for energy efficiency in Mexico (Micale et al., 2015) and AFD credit lines for renewable energy and energy efficiency in South Africa;

6. **Concessional loans where climate-friendly technologies are too expensive for local governments but contribute to global public goods** (climate change, technology cost reductions), see e.g. the case of Concentrated Solar Power (CSP) plants in Morocco where syndication of loans from several multilateral DFIs enabled the financing of a 100MW plant (Falconer and Frisari, 2012);

7. **Risk mitigation instruments covering specific risks the private sector cannot bear** include equity investments (Cochran et al., 2014), guarantees (Mirabile et al., 2013), insurance (e.g. African Risk Capacity (ARC, 2015) where capital from bilateral actors and re-insurance enables the provision of parametric index-based drought insurance), structured funds (e.g. the UK’s Climate Public Private Partnership Funds or the Global Climate Partnership Fund (GCPF, 2015) where the public sector invests in the high risk tranches and thereby mobilises institutional investors in the senior tranche) or project preparation facilities;

8. **Public-private fund of funds that can leverage substantial private investment.** Examples include: the EIB-managed Global Energy Efficiency and Renewable Energy Fund (GEEREF) that invests in private equity funds which focus on clean energy projects in emerging markets; and two MDB-managed funds (the International Finance Corporation (IFC) Catalyst Fund, and Asia Climate Partners) under the United Kingdom’s (UK) Climate Public Private Partnership (CP3) where the UK is investing £110m as an anchor investor in two private equity funds; and

9. **Technical assistance for project and business development**, e.g. the Seed Capital Assistance Facility a UNEP-MDB initiative (SCAF, 2015) providing enterprise development support and seed capital for clean energy or the Global Infrastructure Facility of the World Bank Group
that will facilitate the preparation and structuring of complex public-private infrastructure projects to mobilise private and institutional investor capital (World Bank Group 2015).

10. **Technical assistance to support the creation of enabling environments for investment**, including by removing fossil fuel subsidies and setting up carbon pricing (e.g. through the World Bank-managed Partnership for Market Readiness that is supporting countries in setting up emission trading and carbon taxes, or the new Carbon Pricing Leadership Coalition founded in 2014);

11. **Results-based financing and aid**, to pay for actual development or climate result achieved, thereby increasing revenues for public and private investments in climate change. DFIs have substantial experience with result-based financing from the carbon market (CDM, REDD+) and the Output-Based Aid programs. The World Bank has recently set up a Pilot Auction Facility for Methane and Climate Mitigation and is also exploring result-based financing and aid in the context of energy policies and projects; and

12. **Approaches combining capacity building**, financing and subsidies, e.g. the Uganda GET FiT program under which bilateral donors provided technical support to set up a feed-in-tariff (FiT), a top up on the FiT, and financing for grid connection (Rieger, 2015), or the solar-water heater program ‘Prosol’ in Tunisia where interest-rate subsidies increased returns and technical assistance provided a basis of a decision by the state utility to act as debt collector guarantor and enforcer, thereby reducing credit risks for local banks (Trabacchi et al., 2012).

Box 4 highlights some lessons that have emerged from a variety of approaches to integrating public and private, international and domestic sources of stakeholders to facilitate better costs and risk sharing to ensure that each actor is equipped to manage risks and costs, and that the overall investments are effective and efficient.

**Box 4: Using national and international resources to reduce CSP costs**

Concentrated solar power (CSP) is a promising technology for low-carbon power generation. Thanks to abundant solar resources in the world’s sun belt and its ability to provide flexible and reliable power supply when combined with thermal storage, CSP could play an important role in maintaining a steady power supply in future low-carbon energy systems with high penetrations of fluctuating renewable power from solar photovoltaic and wind.
The barrier preventing further CSP deployment is cost. Analysis of CSP markets and projects in South Africa, India and Spain suggest that national policymakers choosing to support the deployment of CSP can ensure they achieve their policy objectives more effectively and at lower cost by: (1) providing sufficient financial support to drive deployment; (2) ensuring that support can be sustained over time to avoid boom and bust policy to ensure the cost of support falls to reflect decreasing technology costs over time; (3) aligning public and private actors’ financial interests to reduce the perception of policy risk and the cost of renewable energy support; (4) making reliable on-site solar irradiation data available; (5) considering low-cost and/or long-term debt as one of the cheapest ways for national governments to support renewable energy deployment; (6) moving away from flat power tariffs to remunerate the flexible power supply provided by CSP to more accurately reflect its benefit to the energy system.

Longer-term more private and local debt is needed to secure long-term financing and reduce currency risks. CSP needs international financial resources that can be concentrated on specific technologies. This international public finance is best used (1) in countries committed to harnessing their solar resources that are unable to bear the full cost due to weak capital markets and no CSP experience; and (2) for early stage CSP technologies with high investment risks but great potential for cost reductions or energy system benefits to mitigate those risks the private sector is unwilling to bear.

To provide knowledge on policy tools and technology to local policymakers IFIs can improve the effectiveness of this support by (1) considering adjusting loan requirements according to the technology maturity; (2) harmonizing loan and regulatory requirements when groups of institutions lend to large CSP projects; (3) reduce foreign exchange hedging costs of IFI loans for developers.

Source: Stadelman et al 2014

Especially where vulnerable countries’ needs are met, particularly where national development bank-type institutions do not exist, DFI contributions are also helping to realigning incentives, convene existing players in markets and helping to address multiple barriers and unlock new ways to mainstream climate risk mitigation.

Box 5: How international and national resources can be aligned to facilitate improved climate resilience for farmers in developing countries

The agricultural sector is particularly vulnerable to climate variability and change, as are those whose livelihoods or business operations depend on agriculture. However, small-to medium-sized farmers in developing countries often do not have access to long-term finance for investment in climate resilience, and have limited knowledge of measures that could be implemented to improve their sustainability as well as increase productivity of yields. Long-term financing is in short supply because small- to medium-size producers represent a significant and un-bankable credit risk given their minimal credit history and lack of
adequate collateral. Moreover, investments in ‘climate-adaptive’ agricultural measures can have high upfront costs and longer, more uncertain payback periods, increasing the overall perception of risk.

In 2015 the Global Innovation Lab for Climate Finance developed a new instrument, Agricultural Supply Chain Adaptation Facility, a ‘value chain financing’ mechanism that would provide finance back-stopped by donor-backed first-loss guarantees and technical assistance to partner agricultural corporations through Multilateral Development Banks. This would create a platform whereby corporations engage with their supply chains in a longer-term value proposition rendering medium to longterm climate-resilient investments viable by providing longer than market term loans at lower rates, as well as know-how to the small- to medium-sized producers in their supply chains (Trabacchi et al, 2014,2015)

The ASCAF will be piloted in Latin America. Other approaches such as the Pilot Program for Pilot Resilience (PPCR) currently support programs in Asia including Nepal, Bangladesh and Cambodia. For example, in Nepal, led by Nepal and implemented by the International Finance Corporation (IFC), the program’s primary focus is to build a sustainable business investment case for private actors playing an important role creating the evidence base needed to encourage private investment in climate resilience. A key factor toward building a successful program was getting the right foundation in place to inform public and private local actors including agribusinesses, farmers and local commercial banks, about local issues associated with changing climate conditions, identifying possible impacts, and developing countermeasures to mitigate risks. The consultation process, supported by evidence-based analysis along with efforts by other MDBs operating in the country, was central to improving the government’s understanding of private sector involvement in the country’s adaptation efforts. This, in turn, was critical to its decision to allocate PPCR funds to private sector activities. The government, ultimately responsible for the allocation of PPCR resources to projects, was initially reluctant to involve the private sector in the preparation of the PPCR program, and concerned about the use of its resources to support private actors’ activities. The consultation process was also fundamental to overcoming the reluctance of private actors to participate in a government-administered program, and building their awareness and understanding of their vulnerability to climate-induced risks, and the opportunities that may arise from changing climate conditions. The overall process also helped to elicit their interest and assess their capacity for utilizing PPCR resources and undertaking climate-resilient projects, thereby identifying possible partners (Trabacchi et al 2013).

5. Conclusions – Opportunities to unlock climate finance for sustainable development

As Asia Pacific countries continue to see development gains and increased revenues, natural resources become scarcer, and as climate risks grow, the need to align public policy and private actor interests to lock in more sustainable development pathways is urgent. Climate finance will be a critical aspect of this challenge.
This paper shows that to meet these challenges, domestic fiscal frameworks and policies are essential, while international efforts can play a complementary role.

As the December Paris Summit approaches, there is growing attention on how developing countries will finance Intended Nationally Determined Contributions (INDCs). In particular, focus has narrowed on how the historically rich group of developed countries will deliver USD 100 billion per year by 2020, to help poorer countries mitigate and adapt to climate impacts, and whether this will be enough.

For Paris to succeed, countries must find a way to deal meaningfully and transparently with the USD 100 billion goal. A sizeable proportion of the USD 100 billion will stem from developed country public finances, with such contributions already topping USD 30 billion per year. Private finance will likewise play a central role in reaching the USD 100 billion goal. But to ensure that public resources mobilize private savings and investments to the greatest extent, more work is needed to ensure that international and domestic public financial resources are well aligned to reduce costs and lower risks for private investors, and improve knowledge about opportunities and capacity to take action.

Importantly, COP 21 could also nudge countries toward recognition that progress must be anchored in the real economy where policies, price signals and supportive financial instruments help to unlock real investment in real projects. This is a key factor, because it ties back to the fact that almost three-quarters of global climate finance originates and is spent in the same location.

New institutions can also support significant injections of investment in the region, perhaps most significantly the Asia Infrastructure Investment Bank (AIIB), which aims to provide $100 billion per annum with a particular focus on infrastructure.

Finally, international efforts can help to guide developing countries in getting fiscal and policy frameworks right through the measures discussed in this paper. Many developing countries, including the 17 countries of the Asia Pacific region have relatively low tax to GDP ratios. Estimates suggest that more efficient fiscal frameworks could increase domestic revenues by a further USD 440 billion in the Asia Pacific (Financing for Transformation, UN ESCAP, 2014). Unlocking greater financial flows from these countries for climate mitigation and adaptation, by ‘green-streaming’ public finance will help to ensure leveraged investments are climate consistent, affordable, and sustainable. To this end, domestic policies and measures may be an even more critical piece of this challenge than the international efforts themselves.

6 Greenstreaming refers to the establishment of policies and development mandates in public institutions that include climate considerations among essential investment criteria.
While the challenges are big, the opportunities associated with getting financing systems right are even bigger. The good news is that there are emerging global trends and lessons that present developing countries in Asia with clear opportunities to unlock billions of private capital that is currently or soon to be invested in high carbon assets, and to redirect these toward low-carbon and climate-resilient investments.
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