Reducing climate risk: climate finance and carbon markets

SEI has considerable expertise in climate finance, market mechanisms, and related issues of transparency, accountability, equity and efficiency. SEI researchers have been engaged by UN agencies, the European Commission, national governments and NGOs to evaluate existing policies and processes and recommend improvements; they have also written many journal articles and policy papers on these issues.

Key insights

SEI's work on these topics follows two related tracks: Stockholm-based researchers focus on climate finance and its governance, while the Seattle team focuses on market mechanisms, such as emissions crediting and trading. Both teams have made significant contributions to policy debates. Highlights include:

- ***Vulnerability to climate change is not objectively measurable, so adaptation finance priorities must be set through a political process that makes value judgements.***

Given the great need and limited resources available to support adaptation, it is crucial that funds be deployed equitably and efficiently. The Adaptation Fund's mandate is to support countries that are "particularly vulnerable" to climate change – but neither the Adaptation Fund Board nor the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) have defined the term.

In the absence of an official definition, competing indices have been developed that claim to scientifically rank countries' vulnerability. SEI's research has shown, however, that all these indices make judgments that are political and ethical, not scientific (Klein 2010). The only appropriate solution is for the Parties to openly discuss different aspects of vulnerability and negotiate a set of priorities for adaptation finance.

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The plenary at the Bonn Climate Change Conference in March 2014, as seen from above.

Related work has highlighted the urgency of resolving this issue for the sake of the Adaptation Fund's equity, efficiency and transparency (Remling et al. 2012; Persson and Remling 2014). SEI has also stressed that these liabilities will only grow as adaptation finance is scaled up through the Green Climate Fund (Klein and Möhner 2011).

- ***Transparency and accountability are profoundly important in climate finance, to prevent corruption, build trust between funders and fund recipients, and ensure money is delivered and spent as promised.***

A major issue in climate negotiations is mistrust over money between developed and developing countries. Keenly aware of the high costs of adaptation and mitigation, developing countries are concerned that the finance they need will not be forthcoming, or will come at the expense of equally important development aid. Funders, meanwhile, want to know their money is well spent.

SEI has done ground-breaking work on tracking climate finance, including a 2009 paper on bilateral finance institutions that for the first time mapped this major avenue for climate finance, which exceeded € 7.3 billion in 2008, demonstrating a new methodology that took data directly from the institutions and standardized it (Atteridge et al. 2009). The United Nations Environment Programme Climate Change Working Group for Bilateral Finance Institutions embraced this methodology, and SEI prepared two annual reports with UNEP, for 2009 and 2010. SEI's work offered useful insights on which countries, sectors and project types are being financed, and also contributed to a crucial discussion within the UNFCCC on what constitutes "new and additional" finance.

SEI has also provided guidance to the European Commission on monitoring, reporting and verification systems for climate finance, evaluated MRV in Sweden's climate finance, and synthesized its findings for policy-makers (Atteridge 2012). An important insight was that MRV functions are grounded in political choices that must be made within the UNFCCC – starting with a clear definition of "climate finance". The Parties must also decide whether to find ways to link and improve existing reporting systems, or build a new, separate MRV system.

SEI has further explored these issues in collaboration with Transparency International and AdaptationWatch, raising awareness of corruption risks (Klein 2011b) in adaptation finance and evaluating the relevant policies of existing climate funds. Similar concerns have been raised about the Green Climate Fund, and at COP19, SEI co-sponsored a side-event to discuss them.

Finally, a closely related line of research at SEI has highlighted fundamental differences between developed and developing countries' views of equity, transparency and accountability

that lead to mistrust and must be addressed within the UNFCCC (Klein 2011a).

- ***Private funds are unlikely to make a significant contribution to long-term finance for adaptation. Market mechanisms do not appear to be viable for adaptation, and private-sector investments in developing countries typically do not tend to address the primary needs of the poor and vulnerable.***

Private-sector finance has been widely embraced as an important part of efforts to scale up resources for developing countries to respond to climate change. Yet there has been little analysis of what private finance means for developing countries, and whether it can really deliver as intended. SEI's work shows those expectations are unrealistic.

One SEI project examined the feasibility of an adaptation market in the style of carbon offset markets, looking at two ways to commodify adaptation: focusing on adaptation benefits, or trading in credits for spending adaptation funds (Persson 2011). SEI found the first is not viable, and the second would not be a true marketplace. The analysis also identified crucial unresolved issues in adaptation finance, such as the need for better metrics and accountability systems, as well as for stronger incentives to show adaptation benefits are being delivered.

A second SEI project examined what historical patterns of international investment suggest about the potential for the private sector to play a significant role in raising and delivering adaptation finance (Atteridge 2011). SEI found that private-sector finance is unevenly distributed among countries and among sectors, takes different forms that are not equally advantageous to the host countries (e.g., equity investments vs. loans), and often does not match developing countries' most pressing needs.

SEI's work suggests there will be significant challenges in designing an international regime to stimulate, govern and account for private finance flows for adaptation, and that the private sector is unlikely to play a significant role in meeting adaptation needs.

More recently, SEI has focused on the potential for Least Developed Countries (LDCs) to attract private-sector adaptation finance. We examined pan-African LDC data as well as at four specific African countries, and found very little FDI went to African LDCs at all – less than 1.5% of global total FDI flows – and that, of these small FDI flows, there was little to no overlap with the activities and sectors that are adaptation priorities. In some countries, FDI and adaptation priorities were actually at odds.

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The Mariannhill Landfill gas-to-electricity project, outside Durban, South Africa, was financed through the Clean Development Mechanism.

In tandem with this line of research, other SEI projects are focusing on what motivates private-sector actors to make self-interested investments in adaptation, for example, to protect supply chains.

- ***Clean Development Mechanism project types vary widely in the benefits they deliver, as well as in their environmental integrity. Improving the regulation of, or excluding, certain problematic project types will improve the efficiency and effectiveness of carbon markets.***

The CDM is meant to improve the efficiency of global mitigation efforts by targeting resources on lower-cost GHG abatement opportunities in poorer countries, which, in turn, derive sustainable development benefits. In practice, however, CDM projects have been concentrated in a handful of emerging economies (especially China and India), many of the claimed emissions reductions have been questioned, and offset production has far exceeded demand.

SEI has done extensive research and analysis on the CDM, its impacts on mitigation and development, its methodologies, and its overall integrity (Ruthner et al. 2011) – all with the goal of maximizing the CDM's effectiveness and long-term viability. Some of the work has been done directly for the UNFCCC or through expert groups; SEI has also published independent briefs and analyses timed to inform deliberations by the CDM Executive Board, the EU, and the High Level Panel on the CDM.

For example, SEI influenced the debate over adipic-acid projects and carbon leakage risks (Schneider et al. 2010), and made a strong case for ending CDM support for coal power (Lazarus and Chandler 2011). Drawing on SEI's work for a major evaluation of the CDM (Spalding-Fecher et al. 2012), SEI also proposed phasing out large-scale power projects from the CDM (Lazarus et al. 2012). This work was discussed extensively in policy circles and covered by the media, and is likely to have affected policy decisions, such as on the CDM methodology for coal.

Other major activities

The outline above provides a sampling of SEI's work on climate finance and carbon markets; below we highlight some additional work:

- SEI has done significant work exploring both synergies and potential competition between adaptation and development, including the key issue of additionality as well as challenges in distinguishing between adaptation and development assistance (e.g. Smith et al. 2011).

- At the behest of the Church of Sweden, SEI examined whether Sweden pays its "fair share" of climate finance (Kehler Siebert 2013). The study, which was presented at Almedalen Week 2013, found there is no simple answer, because definitions of "climate finance" vary, and there is no objective measure of what is fair. However, even without an international consensus on those two terms, Sweden could lead by 1) pursuing clearer reporting of climate finance, 2) clearly defining its own understanding of an ambitious "fair share", and 3) challenging its EU peers to do the same.

- SEI has been examining accounting issues related to carbon market mechanisms, including how new market mechanisms under the UNFCCC could "achieve a net decrease and/or avoidance of greenhouse gas emissions", as envisioned by the Parties at COP17 in Durban (Lazarus et al. 2013). A forthcoming paper

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An evacuation road, built in India with EU funding, helps people flee when floods and cyclones strike.

focuses on the implications for market mechanisms of single-year mitigation pledges (e.g. a 20% reduction from 2005 by 2020, but with no targets for the years in-between).

• SEI has helped U.S. policy-makers understand the role of international and domestic offsets in any potential cap-and-trade system. Building on a collaboration with the World Resources Institute, SEI has explained how the design of offset protocols – and the corresponding rules for eligibility, measuring, verifying and awarding offsets – might impact actual offset crediting and the realization of GHG mitigation potential in the U.S (Erickson et al. 2011). SEI has also estimated the future supply of international offsets for potential purchase by U.S. entities (Erickson et al. 2010).

• For several years now, the Seattle team has advised the Western Climate Initiative (WCI), a regional collaboration between California (and originally six other U.S. states) and four Canadian provinces that aims to reduce GHG emissions by 15 percent below 2005 levels by 2020. SEI advised and supported the WCI in its programme design, and SEI staff serve as technical advisors.

• China has set out to establish a national emission trading system by 2015, starting with pilots in seven provinces and cities. SEI examined China's efforts to develop domestic carbon markets, the progress so far, and key challenges ahead, and found it will be very difficult for China to meet its goals (Han et al. 2012).

New research and future pathways

Climate finance has quickly evolved since the quantified commitments made in Copenhagen in 2009. New institutions have been built, such as the Green Climate Fund, and started to deliver finance, such as the Adaptation Fund. Outside the UNFCCC context, bilateral finance has increased, not least due to the Fast-Start Finance initiative in 2010-2012. Civil society and the academic community have been monitoring developments and set up systems to help stakeholders track financial flows.

Despite this progress, critical issues remain. The actual outcomes of climate finance are still not fully understood. Methodological work is ongoing to improve monitoring and evaluation, not just to ensure effectiveness but also transparency and accountability. Many questions remain about how the UNFCCC Parties will meet their $100-billion-per-year climate finance goal for 2020 and after – and about how much climate finance will be provided between now and then. Meanwhile, the role of private finance and how to leverage it is generating a lot of innovative thinking, but requires more detailed analysis of instruments, business models, and implications for accountability and equity.

In this context, emerging directions for SEI's research include:

• An on-the-ground perspective on how climate finance actually flow to end beneficiaries (or not), drawing on our work on transparency and accountability as well as our rich experience in understanding adaptation on the ground – and there is a clear need for this "watchdog" function.

• A better understanding of donor interests and expectations, to support them in maximizing the impact of their resources. We will particularly focus on Nordic donors, but also monitor the MRV discussions more broadly to understand what incentive structures are implied.

• Assessing what a more realistic role for private finance can be, in particular on the adaptation side. Several new projects are well positioned to examine these issues, looking at the insurance sector, at supply chains, and at trans-boundary climate impacts and adaptation options.

• The development of common accounting rules for future climate agreements so that market mechanisms can play a meaningful role in deepening ambition while ensuring integrity.

Once heralded as a comprehensive policy solution capable of wringing GHG emissions out of modern economies, carbon markets are now simultaneously fragmenting, collapsing, and sprouting up in new forms across the globe. The future of the CDM remains uncertain, and the EU ETS continues to struggle, but at the same time new trading and crediting programs are emerging, from California to developing regions such as South Korea, Kazakhstan, and China. While there is a lowered expectation for what carbon markets will accomplish this decade, the increased variation in the form of carbon markets provides an opportunity for stock-taking and redesign. SEI will continue to watch these developments closely.

This synthesis was written by Marion Davis, with contributions from Richard J.T. Klein, Åsa Persson and Michael Lazarus.

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As part of a project financed by the Special Climate Change Fund, a lab in Fiji is testing different seeds to find more climate-resilient crops.

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