First Berlin Climate Finance Workshop: Financing the Global Energy Revolution

- A San Giorgio Group Event -

*A meeting organized by **Climate Policy Initiative (CPI)** and **KfW** in collaboration with **GIZ***

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Summary

On February 25th, Climate Policy Initiative (CPI) and KfW hosted the **First Berlin Climate Finance Workshop**, in collaboration with GIZ[1]. The purpose of the workshop was to provide a platform for a thorough discussion of three main topics: the state of global and national climate finance – with a focus on Germany; evolving practices for financing renewable energy and energy efficiency, and; the role of public policies and the regulatory environment in incentivizing private investments.

The Berlin Climate Finance Workshop draws on expertise gained in the San Giorgio Group (SGG) network, which assembles key financial intermediaries and institutions actively engaged in green, low-emissions finance, such as KfW and Deutsche Bank. The San Giorgio Group is a working group established by CPI in collaboration with the World Bank Group, China Light & Power (CLP) and the Organisation for Economic Co-operation and Development (OECD). The following summarizes discussions at the meeting, including insights from CPI's published reports and forthcoming work.

An urgent need to avoid business-as-usual investment

The next ten years signal an important turning point. Should the world continue with business as usual, estimates suggest we may be on track for a rise in average global temperature of around 4-6°C in this century, which would have profound and lasting effects (IPCC 2007 AR). To limit the rise in average global temperature to 2°C by 2050 as agreed by nations in the Copenhagen Accord, we thus need to drastically change global greenhouse gas emissions from current trends. Reducing climate risk will require investment.

CLIMATE FINANCE VOLUMES FALL FAR SHORT OF THOSE REQUIRED

CPI research shows, however, that current investment is far short of estimates of what's needed. Around the world, finance for mitigation and adaptation purposes has reached USD 364 billion each year. While this figure is significant, the IEA estimates that incremental investment in the energy sector will need to reach USD 36 trillion over the period of 2012-2050 – or approximately USD 1 trillion each year.[2]

RISK IS A BARRIER TO INVESTMENT

One of the most important barriers to investment is risk – whether real or perceived – related to shifting from conventional/"brown" investments to green investments, in particular concerning a lack of experience with financing nascent renewable energy technologies (such as offshore wind) or financing measures with relatively complex cash flow models (energy efficiency).

URGENCY FOR THE CLIMATE FINANCE REVOLUTION

There is an urgency to increase low-emissions finance and transition the world towards a low-carbon, climate-resilient future. Inexpensive fossil fuels (e.g. shale gas) in the near future present additional challenges since fossil fuel prices can change the economics of energy investment decisions, and can thus discourage low-carbon investments.

1 KfW: Kreditanstalt für Wiederaufbau. GIZ: Gesellschaft für Internationale Zusammenarbeit.

2 International Energy Agency, 2012: Energy Technology Perspectives. Available at: http://www.iea.org/etp/.

Closing the investment gap: addressing risks through public policy and accessing new, alternative sources of capital

Investment gaps exist because of real and perceived risks related to green investments. A recent CPI publication[3] found that risk, whether real or perceived, is the single most important factor preventing renewable energy projects from finding financial investors. The Berlin Climate Finance Workshop confirmed this insight and identified the need to particularly address policy risks (e.g., retroactive changes of policies supporting green technologies) and risks emerging from forthcoming financial regulations:

- Private investors highlighted that they look for public policies to be designed according to three critical dimensions: **stable** in that they can be used to generate reliable risk-return models; **transparent** in that their initial inception and management is done so clearly and openly, and; **long-lived** in order to promote security for investments in the medium- to long-term
- The *Basel III* and *Solvency II*, two financial regulations, ask capital investors to hold additional reserves compared with their ongoing investments (among other requirements). This places **limitations on the potential long-term lending capacities of investors looking to fund green infrastructure** which typically require high up-front capital investment with variable returns into the future. The group thus asked for more clarity on the expected impact that financial regulation will have on green investments.

With this in mind, participants agreed that one important way to scale up green investments is by allocating risks appropriately. Findings from SGG Case Studies highlight that some significant project risks can be managed with properly designed contracts that allocate risks to the appropriate actor, or allow for a re-allocation/hedging arrangement to an actor who can handle it. The Walney Offshore Windfarm uses innovative financial engineering and long-term pricing arrangements to re-distribute price, resource, and construction risks to those with expertise in managing them, and thus encouraged participation from non-traditional investors such as a pension fund. Support schemes for green infrastructure are vital to address technology risks, cover associated costs and allow appropriate returns. This is particularly true for nascent technologies such as offshore wind: the UK for instance scales its support to offshore wind and other immature technologies by adding a weighting to these financial incentives.

Despite low-carbon infrastructure ambitions, access to traditional sources of capital is constrained. Estimates suggest that a massive increase of green infrastructure investment is needed, which must be generated through both conventional and innovative sources of finance. Financing large-scale renewable energy projects is typically carried out by large energy utilities with the possibility to finance investments on traditionally strong balance sheets. In order to scale-up investment, therefore, participants agreed that new sources should be encouraged – particularly non-utility, financial actors like institutional investors – but expectations of their involvement must be realistic.

Institutional investors have a bigger role to play in climate finance. Pension funds, insurance companies or funds manage approximately USD 70 trillion in assets[4] but their appetite for funding infrastructure is typically restricted to investments that generate long-term, steady returns, meaning their current participation in green infrastructure is low: The OECD estimates that pension funds contribute perhaps only <1% of total climate finance.[5] Policy and regulatory design are critical to encouraging their involvement by removing existing barriers and increasing best-practice investment practices.

Participants shared an optimistic perspective, however, by highlighting that if only an additional 1% of institutional funds are tapped for climate finance, this significantly increases financial resources. Two SGG case studies show institutional investors are willing to invest in renewable energy if the conditions are right and risk arrangements are appropriate: both the Walney Offshore Windfarm in the UK and the Jädraås Onshore Windfarm in Sweden[6] received pension fund participation because of innovative risk or contractual arrangements.

3 CPI, 2013: Risk Gaps. Available at: http://climatepolicyinitiative.org/publication/risk-gaps/.

4 CPI, 2013: The Challenge of Institutional Investment in Renewable Energy (available at: http://climatepolicyinitiative.org/publication/the-challenge-of-institutional-investment-in-renewable-energy/)

5 OECD, 2012 (C. Kaminker & F. Stewart): The Role of Institutional Investors in Financing Clean Energy (available at: http://dx.doi.org/10.1787/5k9312v2116f-en).

6 SGG Case Study expected May 2013.

Encouraging effective cooperation between public and private actors: developing investment-grade policies to mobilize private investment

Private actors are the main providers of climate finance at present (as revealed in CPI's Global and German Climate Finance Landscapes[7]), and are expected to remain so in the future. Public resources are constrained, particularly in light of the global financial recession, and need to be spent wisely. **Yet, public policy and money are critically important to mobilize private investments.**

The investment need is clear, but there is a general lack of experience in financing and operating renewable energy and energy efficiency investments. The private financial and industry actors generally perceive higher risks compared to conventional investments. This is particularly true for **early vintage/market-immature technologies** (certain renewable energy sources) which have higher up-front costs and lower operating margins compared with more conventional technologies, or in those that result in comparatively **complex cash flow models** (energy efficiency).

CPI analysis shows that public sector involvement is essential to ensure private financing and project viability: by tracking and landscaping climate finance flows globally and nationally for Germany, CPI found that although the public sector provides a small share towards climate investment via concessionary loans or grants, it is critical to unlock private capital; the SGG Case Studies ascertained that governmental policies to provide targeted and increased financial support are pivotal to achieve project viability. In essence, the policy framework is key to fostering the right investment conditions by creating the appropriate enabling environment that reduces the real or perceived risks of green investments and/or increases returns – critical in filling the financing gap.

Discussions highlighted that a number of different instruments currently provide policy signals to drive private sector investments, with varying levels of success. For instance, Germany's Feed-in Tariff is widely accepted to have been instrumental in enabling the country to be a leader in renewable energy deployment.

7 CPI, 2012: Landscape of Climate Finance (Global available at http://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2012/; German at: http://climatepolicyinitiative.org/publication/german-landscape-of-climate-finance/).

Scaling up renewable energy and energy efficiency investment: low-carbon investment competitiveness and standardized investment

Meeting energy and emissions targets needs an appropriate level of investment in both renewable energy and energy efficiency. Participants agreed that despite the rapid expansion of renewable energy finance over the last decade,[8] both measures face competition for investment capital in traditional investments such as conventional/brown infrastructure (in China and India particularly[9]), and a lack of capacity to roll-out and scale-up investments. However, because **some 80% of global emissions are locked in infrastructure**[10] participants highlighted that the focus should not be to simply build more infrastructure to meet ambitions, but to build more of the right infrastructure.

Experience in Germany shows that low-carbon technologies can be competitive if the market is not distorted with fossil fuel subsidies (i.e. there is a level playing-field). German wind and solar photovoltaic (PV) technologies can for instance generate energy at price competitive levels to around EUR 9 cents/kWh and EUR 12-16 cents/kWh respectively. Success in Germany is largely the result of establishing an early competitive market for renewable energy with the Feed-in Tariff by paying a fixed rate for renewable energy and obligating the market to accept the energy generated. The relatively low-cost interest rates in the region might have played a significant role in this expansion.[11]

Smoothing and streamlining investment processes in renewable energy and energy efficiency requires standardizing financial contracts. Presently, investors are each faced with a number of different instruments depending on the product they are investing in. For instance, renewable energy project developers typically arrange power purchase agreements (PPAs) to secure long-term prices for sales of power. However, PPAs are typically carried out on a project-by-project basis, which results in significant transaction costs. The participants suggested that the standardization of financial contracts

8 Frankfurt School-UNEP, 2012: Global Trends in Renewable Energy Investment 2012 (available at: http://fs-unep-centre.org/publications/global-trends-renewable-energy-investment-2012).

9 US Energy Information Administration, 2012: International Energy Statistics (available at: http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm).

10 IEA, 2011: World Energy Outlook (available at: http://www.worldenergyoutlook.org/).

11 CPI, 2012: Meeting India's Renewable Energy Targets: The Financing Challenge (available at: http://climatepolicyinitiative.org/publication/meeting-indias-renewable-energy-targets-the-financing-challenge/)

could, for instance, offer substantial benefits related to the scalability, replicability, and transaction costs of a particular technology.

Increasing energy efficiency investment is as an area of immediate concern. Participants agreed that investors find energy efficiency financing more complex with less visible rewards, while investment barriers are often unique to energy efficiency (as opposed to renewable energy for instance). Thus identifying barriers and developing appropriate financial mechanisms for energy efficiency investment remains a key area of concern. The European Investment Bank is one such actor involved by developing the Debt for Energy Efficiency Products (DEEP) Green Platform, which aims to provide tools for investment in 2014-2020 such as: incentivizing the role of commercial banks to inform and distribute funds locally, facilitating long-term public sector involvement, or generating interest in a financial market with key players such as ESCOs (energy service companies). Standardizing instruments could assist financing processes by increasing financial actors' sectoral engineering expertise and technical knowledge, which in turn increases the understanding of project profitability.

The **San Giorgio Group** *aims to systematical evaluate and share lessons on climate finance, identifying best practice methodologies, and building an evolving evidence-based database for the effective use of public money. The* **Berlin Climate Finance Workshop** *continued this mission and highlighted routes forward to achieve the scale-up required to address climate change.*