
33 Pros and cons of alternative sources of climate change financing and prospects for 'unconventional finance'

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Achieving a transformational change to a low-carbon and climate-resilient global economy requires a massive shift of financing towards climate-friendly activities. In less than a decade, the global financial landscape has undergone significant upheaval and change, and our understanding of opportunities to unlock climate finance has grown. Public and private actors have improved their awareness of the risks and opportunities associated with climate action, and are exploring new ways of investing in climate outcomes, increasing alignment between their policy and business interests and the pressing need to scale up climate finance. This chapter looks at the current global climate finance landscape, discusses the potential sources, actors, and instruments relevant for supporting climate finance for developing countries, and provides more evidence about whether different options contribute to the mobilisation of climate finance.

1 Who pays? Climate finance and the new global deal

As the Paris Summit in December 2015 approaches, countries are preparing emissions reduction targets and plans of action. One of the key questions is how and whether these actions will be financed. In particular, whether the historically rich group of developed countries will make good on their six-year old goal to deliver US\$100 billion per year by 2020 to help poorer countries mitigate and adapt to climate impacts.

The absence of an internationally agreed definition of ‘climate finance’ is a major barrier to understanding the magnitude of climate finance and the barriers to climate finance investments. This chapter considers climate finance to include all primary private and public financial investment flows that specifically target low-carbon or climate-resilient development. This definition is consistent with that applied by the Climate Policy Initiative in its *Global Landscape of Climate Finance* reports (Buchner et al. 2011a).

1.1 Since its emergence, the \$100 billion goal has been both a touchstone of good faith and a hallmark of mistrust

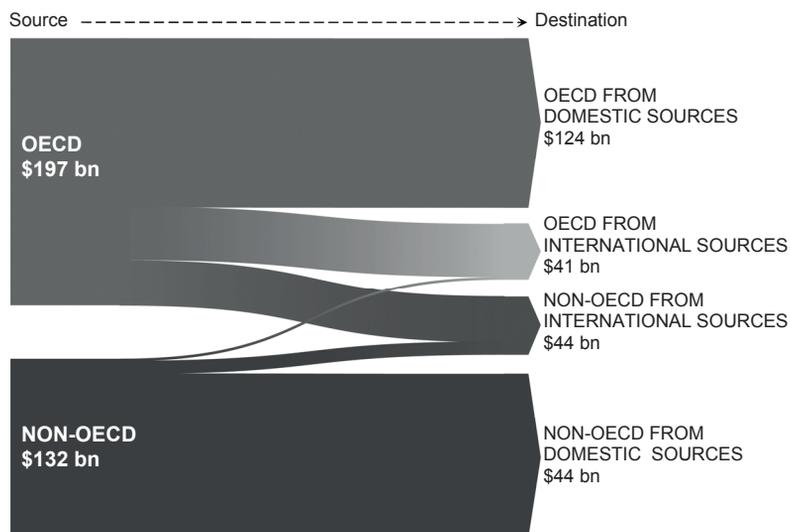
For Paris to succeed, countries must find a way to deal with the \$100 billion question meaningfully and transparently. Crucially, they must also move beyond it. Dealing with it is no easy thing. To begin with, the language of the original agreement was vague, making it difficult to implement or to track progress. For example, what is climate finance? What alternative sources are ‘legitimate’? Second, despite known tracking difficulties, demonstrating progress transparently has now itself become a *raison d’être*, which if unmet, threatens to stall progress and undermine trust. The biggest challenge by far, however, may be moving beyond the dollars and cents, expectations, and political division that serve only to distract from achieving real impact on the ground.

While the challenges are big, the opportunities associated with getting financing right are even bigger. Much progress has been made in recent years to improve tracking systems and build knowledge about how *climate finance – as opposed to pure climate policy* – works. With this knowledge, there is a real opportunity for governments in Paris to deliver the seeds of a systemic shift that can take the \$100 billion, a sizeable amount of which will be public finance from developed countries, and ensure it *supplements* and *complements* public resources from developing countries, and that together these public resources unlock trillions of dollars in private capital sitting in the margins to support the world’s transition to a low-carbon, climate-resilient future.

1.2 The world is making progress on the \$100 billion goal

The \$100 billion goal emerged at the height of the 2008-2009 financial crisis. Global economic recovery has been dynamic, bumpy, and complex – a situation that has presented challenges for economic, financial, and climate policymakers. After 2009, most economies shifted to a lower growth path (UN WESP 2015), which has been felt in weaker public finances. Even within this context, global climate finance flows reached \$331 billion in 2013 (Buchner et al. 2014).¹ While investment in developing and developed countries was almost equally split, \$34 billion, or roughly 10% of all investment, was transferred from developed to developing countries.

Figure 1 Cross-border climate finance flows



Source: Climate Policy Initiative 2014 (<http://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2014/>)

In terms of transfers to developing countries, \$22 billion was transferred as bilateral overseas development assistance, of which \$11 billion was grants and \$10 billion was loans. In addition, \$3-4 billion was provided as non-concessional finance by bilateral development finance institutions (Buchner et al. 2014). Multilateral development banks

¹ The authors of the *Global Landscape of Climate Finance* reports have repeatedly stressed that the overall estimates and the \$100 billion UNFCCC climate finance goal are not comparable. For more information, see the 'methodology' in Buchner et al. (2014).

(MDBs) provided the remainder of public flows, while private finance accounted for around \$2 billion.²

1.3 While the progress is significant, it falls far short of estimated global need.

The IEA estimated that from 2011 to 2050, an additional \$1.1 trillion is needed each year in the energy sector alone to keep global temperature rise below 2°C (IEA 2014). The biggest challenge to shift resources from traditional, fossil-based activities to low-carbon ones is that aided and abetted by government subsidies across countries (IEA 2014),³ investment in fossil fuel-intensive industries continues to outpace investment in clean energy and climate resilience and has a lifecycle that goes many years into the future.⁴

The good news is that the capital is available and important global trends present opportunities across countries to unlock billions more in low-carbon and climate-resilient investments around the world. The New Climate Economy (NCE) estimated that \$89 trillion would be invested globally in infrastructure by 2030 – before accounting for climate action (NCE 2014).⁵ At the same time, the cost of some renewable energies has fallen significantly, making these technologies price-competitive with polluting alternatives (see the chapter by Bosetti in this book, and also Buchner et al. 2014).⁶ Project developers and households are installing more, for less. Oil prices also have dropped dramatically in the past year, presenting governments with a once-in-a-generation opportunity to level the carbon playing field by eliminating subsidies and pricing carbon without large cost impacts to consumers.

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. This estimate is a very conservative lower bound estimate and excludes foreign direct investment to avoid double counting.

3 See the chapter by Massetti in this book for illustrations of plausible implications of climate mitigation policy on investments in power generation and on the energy sector in general.

4 For example, \$950 million was invested in coal, oil and gas extraction, transportation and refining and fossil fuel power plants. In 2013, governments paid \$550 billion in global consumer subsidies to support fossil fuels, compared with just \$121 billion to support renewable energy (IEA 2014).

5 Reviewing a number of studies in his chapter in this book, Massetti suggests that without climate policy, the largest fraction of investments in the power sector is expected to go to fossil fuel generation – the mean estimate of annual investments in fossil fuel generation among the surveyed studies is equal to \$182 billion in 2010–2029 and \$287 billion in 2030–2049. This is equivalent to about 50% of total investments in power generation from 2010 to 2049.

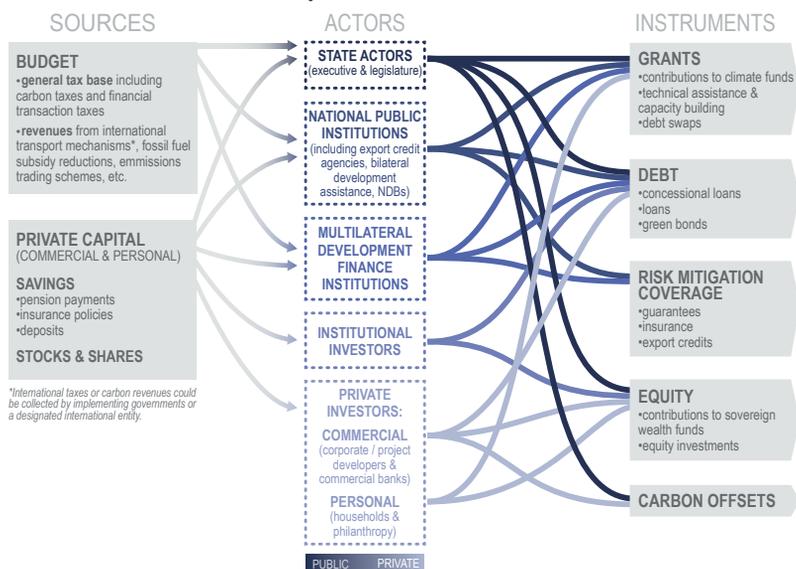
6 See the chapter by Bosetti in this book for a better understanding of how the costs of different renewable energy technologies are likely to evolve.

2 Concrete options to achieve financial transformation

Significant analysis has improved our understanding about the sources, actors, and instruments of climate finance (CPI and Cicero 2015). We know now that the global climate finance system is a complex continuum of relationships and transactions (see Figure 2), driven by public finance, policies and incentives on the one side, and the need to balance risks and returns on the other.

The international community has helped to develop a more comprehensive picture of climate finance than existed in 2009 when the \$100 billion goal emerged. This in turn is helping to improve understanding about where the world stands in relation to global finance and temperature goals, but more importantly, to identify which kinds of support correspond best to different needs, and whether resources are being optimised (CPI and Cicero 2015). For example, in general, the public sector should fund the cost of public goods and services, and risks that the private sector isn't willing or able to bear. Continuing to develop understanding of climate finance flows should ultimately help actors learn how to spend money wisely and effectively redirect financial resources from high- to low-carbon uses.

Figure 2 The climate finance system



Source: CPI and Cicero (2015).

2.1 Get domestic enabling environments right

In 2013, 74% of climate finance originated and was spent in the same country or region. This percentage rose to 90% for private investments, highlighting that investors everywhere prefer familiar policy environments that provide incentives and confidence around returns.

Domestic public finance, supplemented by international resources where necessary, can fund the establishment of institutions and capacity, technical assistance, incremental costs, project-specific grants, and loans. Direct equity investments of public finance, alongside commercial tranches, can help build confidence, speed up financial closure, or take more risky positions in mezzanine structures. Governments can also take positions as shareholders, particularly in companies 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, and rates of public shareholding are also high in the US (68%) and Germany (54%) (Buchner et al. 2013, 2014).

Examples of policies that help level the carbon playing field across actors include:

- Regulatory standards such as emissions and performance standards, technology and production standards, which increase the cost of emitting carbon by penalising actors who fail to meet established standards, and create incentives to seek out low-carbon options;
- Feed-in-tariff or support policies and renewable-portfolio standards, which have helped to drive diffusion and pay for incremental costs (IPCC 2014a,b);
- Policies to support research and development in technology, which can complement adaptation and mitigation policies, and if properly implemented, can reduce costs; and
- Technology-push policies such as publicly funded research, development and deployment, combined with financing support for technology adoption, which can help to overcome the ‘valley of death’ between small-scale prototype phases and successful commercialisation (IEA 2014, IPCC 2014a,b, FS-UNEP-BNEF 2015).

2.2 Support public finance institutions as agents of change

Development finance institutions (such as multilateral and national development banks), bilateral development agencies, and even possibly new institutions such as the Green Climate Fund, pool 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.

Bilateral agencies have a substantial role in supporting adaptation activities (almost 50% of their total contributions in 2013 were grants targeting adaptation; Buchner et al. 2014). Bilateral DFIs and MDBs can raise funds on capital markets in addition to government contributions, and also play a pivotal role in mobilising private finance by providing risk coverage, concessional and non-concessional lending and technical assistance, and by managing and implementing projects for climate funds. The emergent Green Climate Fund could play a catalytic role in ensuring that vulnerable countries' needs are met, particularly where national development bank-type institutions do not exist, by helping to realign incentives and find new ways to mainstream climate risk mitigation.

National development banks (NDBs) are also increasingly key players in low-carbon economic development as executors of public development mandates. They have the capacity to mainstream climate considerations across broader national policy portfolios (such as infrastructure, rural development and urban planning), and can reduce perceived trade-offs, build complementarity and increase co-benefits, making it easier to dedicate public financial resources (OECD 2009, IPCC 2014a,b). 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 \$70 billion in 2012, and many also function as channels of multilateral and bilateral development finance (Buchner et al. 2013).

2.3 Alternative sources may be difficult to implement

An important lesson to emerge since 2009 is that ‘alternative sources’ identified previously (see, for example, AGF 2010) have had mixed results, particularly in relation to the \$100 billion goal:

- Developed and developing countries and regions around the world have introduced *carbon pricing through carbon markets and taxes* (CPI and Cicero 2015, and Wang and Musiric 2015). The value of global ETSs as of 1 April 2015 is about \$34 billion, while the existing carbon taxes around the world are estimated to be valued at \$14 billion (see the chapter by Wang and Musiric in this book). The value of the global carbon market is expected to reach €70 billion in 2015 (*Business Green* 2015).⁷ However, in relation to the \$100 billion, carbon markets have failed on two counts. First, the markets have not yet resulted in a global carbon price that is adequate to deliver significant finance to developing countries. Second, even where carbon markets generate funds, they have delivered little by way of new finance transferred to developing countries. Earmarking revenues from auction schemes, or grandfathering allowances, has happened in some domestic contexts within the EU ETS, but it is still uncommon practice globally.
- *International transport* has been seen as an attractive source of potential climate finance as it is not currently subject to emissions reduction measures, and lies outside the national boundaries of emissions accounting systems. With revenues benchmarked to carbon prices in the range of \$20-25/tCO₂, the AGF estimated these could generate around \$10 billion in climate finance per year by 2020 (AGF 2010). Securing international agreement is the main barrier to implementation.
- Appetite for levying an *international financial transactions tax* may have stirred following the public bailout of many private banking institutions following the 2008 financial crisis. However, concerns about market distortions and deeply entrenched national positions mean such an instrument is unlikely to be implanted on a global scale.

⁷ As secondary transactions, the value of carbon markets is not captured by climate finance tracking exercises such as CPI's *Global Landscape of Climate Finance*.

- The *green bond market* has grown since its initiation in 2008 to \$64 billion⁸ in total by May 2015. Half of this amount was issued in 2014 alone, demonstrating the significant momentum the market has achieved in a relatively short time. The bonds themselves are simply ‘hypothecated’ bonds – that is, the use of proceeds for the bond is linked to green activities and the value of the bond equals the value of these green assets. However, this does not translate into the bonds being secured by these green assets. Rather, they are backed by the balance sheet of the issuer, thereby enjoying the same risk profile. This allows investors who are interested in green activities to purchase the bonds, but to not suffer any extra credit risks. A total of 98% of green bonds come from institutions in the developed world, specifically the UK, US and Europe. Investors consist of *institutional investors* such as pension funds and insurance companies that are familiar with setting aside allocations for investment-grade bonds from these issuers. Further issuance of green bonds, especially by sovereigns in developing countries, including major emerging economies, could unlock cross-border climate finance.

A review of ‘alternative’ sources of finance demonstrates that often these require government actions in addition to carbon pricing – for example, to ‘ earmark’ or ‘hypothecate’ public revenues – to fund climate finance, and often require multilateral agreement to implement. Further, many of these sources can blur the boundary between public and private action, both because the source is unclear, and also because public investors may sometimes take quasi-commercial positions, as shareholders, insurers, and institutional investors. Finally, it is clear that ‘alternative’ sources are less likely to succeed in the immediate term wherever they require international agreement, while those that require secondary actions by governments to dedicate proceeds or revenues can face strong domestic political opposition.

8 Source: CPI analysis; Bloomberg data (accessed 29 April 2015).

3 Conclusion

Significant coordination and strong government leadership will be needed to align policies, pricing signals, and financial instruments across the world to steer finance towards a low-carbon and climate-resilient future. However, the costs of transformation may be lower than once thought, with economies of scale, better knowledge, and linked global markets all playing a role in making investment go further. If countries get it right, the New Climate Economy estimates that making envisaged infrastructure climate-compatible would only cost an additional \$4.1 trillion, or 5% of projected investments, which might also be offset by lower operating costs (NCE 2014).

The climate negotiations in Paris could play an important role in paving the way for such a low-carbon, climate-resilient future. Most importantly, COP21 could nudge the UNFCCC climate finance stream towards an outcome that acknowledges progress, and anchors future progress in the real economy. Across the world, and especially in developing countries with their growing energy demands and huge infrastructure needs, nationally sponsored development plans that insist on climate as an integral component of development will unlock innovation and pipelines of projects. Coordinated action by public actors in developed and developing countries could help to systematise options to reduce risks and close financial and technical gaps, resulting in more effective mobilisation of climate finance. Specifically, a number of elements could signal progress in changing in the narrative:

- *A common language.* COP21 could help create a common ground for definitions related to climate finance, crucially moving beyond the decoupling of climate from development, to mainstream climate action and globalise the development issue.
- *The landscape of climate finance.* By acknowledging the variety of actors, sources, instruments and complex interactions (see Figure 1) – including, for example South-South finance flows and the role of domestic private finance in developing countries – COP21 could broaden the view on possible options to scale up climate finance, acknowledging also that there are multiple pathways to get to the \$100 billion target (and beyond). In this context, lessons on practical and operational solutions could be highlighted to fast-track climate investments that meet countries' needs and use financial resources most effectively.

- *Transparency of climate finance.* One of the conditions for improving trust between Parties and for reaching an ambitious agreement at COP21 is enhanced transparency on the implementation of the commitment by developed countries to mobilise \$100 billion a year by 2020, from a variety of sources, to support climate adaptation and mitigation actions in developing countries. To this end, COP21 could highlight progress made by various actors towards better understanding the current climate finance picture and pathways to the \$100 billion and agree on a work programme, outside of the UNFCCC, to further add clarity after Paris.
- *An aspirational climate finance goal.* COP21 could explicitly recognise that the \$100 billion target is not an end point but a starting point that should aim to unlock domestic investments in developing countries, recognising that solutions come mainly domestically, possibly triggered by international support. By considering an aspirational climate finance goal, and avoiding further numerical targets, COP21 could enable a focus on impact and results on the ground, setting the basis for moving the world most effectively onto a low-carbon, climate-resilient pathway.

By moving the discussions within the UNFCCC climate finance negotiations away from pure politics toward the real economy, the Paris Agreements could turn the \$100 billion into trillions in the near future, closing the gap between finance delivered and finance needed. A core condition for this to happen is that COP21 builds the trust amongst Parties about the overarching goal, and establishes a clear pathway forward, with milestones for the road from Paris to 2020, and beyond.

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