Finance Ministers’ Coalition for Climate Action

Sherpa Meeting
February 21-22 2019, Helsinki, Finland

Session 4: Mobilizing finance for climate action

Introduction by Marcello Estevao, Global Director, World Bank

21 Feb 2019
Structure

• **What** is climate finance?
  • cut emissions & increase resilience

• **Why** mobilize climate finance?
  • a need and opportunity

• **How** can we mobilize it?
  • instruments finance ministries can leverage

• **How** can we **signal commitment** to it?
  • towards a principle
What is climate finance?

‘Climate/green/sustainable/low-carbon’ finance aims at:

• reducing emissions and enhancing sinks of greenhouse gases, and/or,

• reducing the vulnerability and increasing the resilience of human and ecological systems to negative climate impacts.

Source: UNFCCC, Standing Committee on Finance, 2014
What is climate finance?

Public sources & intermediaries

**Ministries & Government Agencies:**
- Finance & economy ministries
- Environment & energy ministries

**Development Finance Institutions:**
- Bilateral Aid agencies
- Multilateral – e.g.
- Export Credit Agencies
- National Development Banks (NDB)
- Multilateral Development Banks (MDB)

**Climate Funds:**
- Global Environment Facility (GEF)
- Adaptation Fund (AF)
- Climate Investment Funds (CIF)
- Green Climate Fund (GCF)

Private sources & intermediaries

**Corporate actors:**
- National/regional utilities & independent power producers
- Manufacturers & power companies
- Corporate end-users

**Project developers**

**Households**

**Private financial intermediaries:**
- Commercial Financial Institutions
- Private Equity, Venture Capital & Infrastructure Funds
- Institutional Investors – insurance companies, pension funds & endowments

Source: CPI, *Global Landscape of Climate Finance*, 2017
Global climate finance flows in 2015/16 (US$bn)

There is both a **need** for climate finance...

...and an opportunity.

- IFC estimates there is a private finance opportunity of >$23tn by 2030 in emerging markets.

<table>
<thead>
<tr>
<th>Region</th>
<th>Investment Opportunity (US$ Billion)</th>
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</thead>
<tbody>
<tr>
<td>East Asia and Pacific</td>
<td>16,046</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>2,640</td>
</tr>
<tr>
<td>South Asia</td>
<td>2,234</td>
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<tr>
<td>Europe and Central Asia</td>
<td>665</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>783</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>265</td>
</tr>
<tr>
<td>Buildings</td>
<td>16,334</td>
</tr>
<tr>
<td>Transport</td>
<td>3,699</td>
</tr>
<tr>
<td>Renewables</td>
<td>1,765</td>
</tr>
<tr>
<td>Electric transmission and distribution</td>
<td>413</td>
</tr>
<tr>
<td>Industrial Energy Efficiency</td>
<td>307</td>
</tr>
<tr>
<td>Waste</td>
<td>115</td>
</tr>
</tbody>
</table>

US$ 23 TRILLION

Is the investment opportunity for climate in emerging markets that needs to be financed by 2030.

...and an opportunity.

**Source:** IFC, *Climate Investment Opportunities in Emerging Markets: An IFC Analysis*, 2017

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**Shades of Green: Investment Potential by Region and Sector ($ Billion)**

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>East Asia Pacific</td>
<td>231</td>
<td>537</td>
<td>48</td>
<td>34</td>
<td>16</td>
<td>866</td>
<td>392</td>
<td>143</td>
<td>1,435</td>
<td>1,357</td>
<td>53</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>118</td>
<td>44</td>
<td>45</td>
<td>11</td>
<td>14</td>
<td>232</td>
<td>0</td>
<td>21</td>
<td>901</td>
<td>1,400</td>
<td>26</td>
</tr>
<tr>
<td>South Asia</td>
<td>111</td>
<td>211</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>338</td>
<td>0</td>
<td>85</td>
<td>1,543</td>
<td>355</td>
<td>13</td>
</tr>
<tr>
<td>Europe and Central Asia</td>
<td>51</td>
<td>39</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>109</td>
<td>0</td>
<td>57</td>
<td>410</td>
<td>78</td>
<td>11</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>27</td>
<td>63</td>
<td>3</td>
<td>3</td>
<td>27</td>
<td>123</td>
<td>0</td>
<td>0</td>
<td>153</td>
<td>499</td>
<td>8</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>50</td>
<td>46</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>97</td>
<td>21</td>
<td>1</td>
<td>92</td>
<td>50</td>
<td>4</td>
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</tbody>
</table>

**Total Climate-Smart Investment Potential by Sector ($ billion)**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>588</td>
<td>940</td>
<td>118</td>
<td>56</td>
<td>63</td>
<td>1,765</td>
<td>413</td>
<td>307</td>
<td>16,334</td>
<td>3,699</td>
<td>115</td>
</tr>
</tbody>
</table>

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...and an opportunity.

• Example: market for **green bonds** rises from $0.8bn to $156bn pa in ten years, facilitated by international and national agencies

![Graph showing the rise in green bond issuance from 2007 to 2017.](source.png)

2007: Launch Climate Awareness Bond
2008: WB and SEB launch first green bond
2014: Launch Green Bond Principles
2016: New issuers come to the market

Source: IFC

Source: UNEP Enquiry, **Roadmap for a Sustainable Financial System**, 2017
...and an opportunity.

- Example: market for green mortgages rises from $0.1bn to $27.6bn pa in 5 years (2012-17)

**Green mortgages**
- Adjustment of traditional mortgage, offering better terms when building meets energy efficiency criteria

**Evolution in green mortgage backed securities**

- '12: $55.7M (4 loans)
- '13: $58.2M (4 loans)
- '14: $20.4M (3 loans)
- '15: $247.9M (7 loans)
- '16: $3.6B (111 loans)
- '17: $27.6B (1,173 loans)

*Source: Fannie Mae, as of Q4 2017*
But there are persistent barriers to green instruments in the financial sector...

**Barriers to scale up green finance**

- Lack of scale
- Maturity mismatch
- Policy uncertainty
- Lack of venture capital
- Standards & transparency

Source: DNB, *Bottlenecks in funding of green investments*, 2016
...while the **real sector** faces perverse incentives.
Finance ministries can help tackle barriers

- Creating an enabling environment – greening the financial sector via regulation (e.g. climate risk disclosure) and real sector (improving the business environment, tweaking public procurement, putting a price on pollution)
  - Chile example: energy auction reforms plus CO2 taxes help raise renewable investment from $0.2bn to $3.5bn 2011-14; renewables rise from 5% to 18% of energy mix 2014-18

- Risk-sharing – facilitating investments in the financial sector (e.g. guarantees, credit lines, building markets for green instruments) and the real sector (grants, R&D subsidies, tax exemptions, direct fiscal stimulus)
  - UK example: Green Investment Bank ‘crowded-in’ domestic private finance, attracting £8.6bn of private capital using £3.4bn public funds (2.5:1 ratio), to address market failures in green infrastructure (wind, waste, and bioenergy)
Figure E.2: Typology of Public Finance Interventions in Support of Sustainable Finance

Support Area

**Financial Sector**
- Matching grants
- Guarantees and other risk-sharing instruments
- Long-term credit lines
- Innovative transactions
- Government investment guidelines (central bank, pension funds)
- Tax-advantaged provisions for financial instruments

**Real Sector**
- Grants
- R&D subsidies
- Tax exemptions
- National procurement policies
- Direct fiscal stimulus

**Mechanism**

**Enabling Environment**
- Capacity building for financial sector stakeholders
- Data provision

**Financial Sector/ Risk Sharing**
- Matching grants
- Guarantees and other risk-sharing instruments
- Long-term credit lines
- Innovative transactions
- Government investment guidelines (central bank, pension funds)
- Tax-advantaged provisions for financial instruments

**Real Sector**
- Grants
- R&D subsidies
- Tax exemptions
- National procurement policies
- Direct fiscal stimulus

**Source:** UN Environment/WBG Roadmap Team.
This can help ramp-up climate finance instruments

Greening the financial sector:
- Mandatory disclosures
- Fiduciary duties
- Supervisory activities (stress tests, capital requirements etc.)

Creating an enabling environment in the real sector:
- Pricing externalities (e.g. CO2 taxes)
- Subsidies
- Public procurement

Risk-sharing in the real and financial sector:
- Guarantees & loans

Diagram:
- Debt
  - Fixed income
    - Green bonds
    - Green ABS
  - Loans
    - Green mortgages
    - Green banks
- Equity
  - Corporate equity
    - Green ETS
    - Green equity funds
  - Alternatives
    - Green VC and PE funds
    - Green strategic investment funds

Guarantees, hedging and risk management solutions, insurance
**How can we signal commitment to mobilizing climate finance?**

<table>
<thead>
<tr>
<th>Common commitments, consistent with different ambition levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Ministers commit to taking actions to mobilize climate finance</td>
</tr>
<tr>
<td>Commitment to helping to mobilize private finance, for example by fostering enabling environments through national regulations and policies</td>
</tr>
</tbody>
</table>
Discussion

• What are the key issues we need to keep in mind when seeking to mobilize climate finance?

• How do we frame a principle on climate finance mobilization that:

  1. embraces ambition and signals collective commitment,

  2. is inclusive, i.e. allowing participation by countries at different stages (e.g. financial market depth) and with different administrative capacities?
Appendix
Example: 2-degrees requires energy-related CO2 emissions to fall rapidly, with all regions contributing.

**Figure 2.3 • Energy-related CO₂ emissions by region in the 66% 2°C Scenario**

Source: OECD/IEA 2017
This entails a “fundamental reorientation” of energy investment.

A steady shift from fossil fuel investment to renewables on supply-side...

...and a massive increase in demand-side energy investments (+10,000%)

Source: OECD/IEA 2017
These energy investment needs are huge, for instance dwarfing development aid (ODA)

<table>
<thead>
<tr>
<th>Type of project</th>
<th>Typical policy tools that facilitate investment</th>
<th>Other measures that can affect future investment decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility-scale renewables</td>
<td>Auctions for long-term power purchase agreements; portfolio standards; tradable certificates.</td>
<td>Carbon pricing; long-term arrangements with modulated market premiums.</td>
</tr>
<tr>
<td>Distributed generation (e.g. rooftop solar)</td>
<td>Feed-in-tariffs and net metering.</td>
<td>Carbon pricing; retail electricity tariff design; minimum performance building standards.</td>
</tr>
<tr>
<td>Coal-to-gas switch and biomass power</td>
<td>Carbon pricing; minimum performance standards.</td>
<td>Rules for export credits and multilateral financing; financial disclosure rules.</td>
</tr>
<tr>
<td>CCS in industry and power</td>
<td>Grants to cover additional costs of CO₂ capture and storage; CO₂ storage tax credits.</td>
<td>Carbon pricing; CO₂ infrastructure deployment; minimum performance standards.</td>
</tr>
<tr>
<td>Industrial energy efficiency</td>
<td>Utility obligations; energy efficiency auctions; mandatory efficiency opportunity audits.</td>
<td>Carbon pricing; minimum performance standards; elimination of energy subsidies.</td>
</tr>
<tr>
<td>Buildings and appliances efficiency</td>
<td>Minimum performance standards; utility obligations; property tax repayment schemes; public procurement; tradable certificates; revolving funds.</td>
<td>Energy performance certificates; performance data transparency; energy services companies.</td>
</tr>
<tr>
<td>Vehicle efficiency</td>
<td>Fuel-economy standards; fuel and vehicle taxation.</td>
<td>Differential road pricing and congestion policies; elimination of consumer fuel subsidies.</td>
</tr>
<tr>
<td>Electric vehicles</td>
<td>Purchase subsidies; charging infrastructure deployment; tradable credits; fleet average fuel-economy standards; exemptions from traffic fees.</td>
<td>Differential road pricing; parking restrictions; minimum performance standards.</td>
</tr>
<tr>
<td>Electricity storage</td>
<td>Regulated rates of return; purchase subsidies; utility obligations.</td>
<td>Market design to support flexible resources; deferred network investment strategies; electric vehicle policies that reduce battery costs.</td>
</tr>
</tbody>
</table>

Source: OECD/IEA 2017

Note: Source: IEA analysis.
<table>
<thead>
<tr>
<th>Types of projects</th>
<th>Mature market economies</th>
<th>Emerging markets with a strong role for state-directed investment</th>
<th>Lower-income developing markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and gas upstream</td>
<td>Corporate balance sheet; corporate bonds.</td>
<td>Government and state-owned enterprise balance sheet.</td>
<td>Corporate balance sheet; corporate bonds.</td>
</tr>
<tr>
<td>Conventional power generation</td>
<td>Corporate balance sheet; corporate bonds; project finance.</td>
<td>Government and state-owned enterprise balance sheet; public bank loans.</td>
<td>Government, state-owned enterprise and private conglomerate balance sheet; development banks; export credit agencies.</td>
</tr>
<tr>
<td>Utility-scale PV and wind</td>
<td>Project finance; Corporate balance sheet.</td>
<td>Government and state-owned enterprise balance sheet; corporate balance sheet.</td>
<td>Development banks; project finance; export credit agencies; government and state-owned enterprise balance sheet.</td>
</tr>
<tr>
<td>Residential solar PV; efficient cars and appliances</td>
<td>Third-party financing; household balance sheet; private bank loans.</td>
<td>Household balance sheet; public and private bank loans.</td>
<td>Household balance sheet; third-party finance.</td>
</tr>
<tr>
<td>Electric vehicles; energy efficiency programmes for buildings</td>
<td>Government balance sheet, via tax credits or conditional grants; private bank loans; corporate bonds.</td>
<td>Government balance sheet; public and private bank loans.</td>
<td>Development banks; public and private bank loans.</td>
</tr>
</tbody>
</table>

Source: OECD/IEA 2017