Measuring climate finance - everything needs to be done

30 September 2023

Dr Olivier Thunus
List of tasks

1. Clarify the terminology
2. Define the scope
3. Identify data sources
4. Select indicators
The terminology issue
What are we trying to monitor?

- Sustainable
- Climate
- Climate change mitigation
- Green
- Green /sustainable investments
Bringing up light in the terminology

• Acknowledge the various terms
• Hierarchical structure
Acknowledge the various terms
Relationship between climate finance and other forms of green and sustainable finance

Some definitions

**World bank:**
“While there is no precise internationally agreed definition of climate finance at present, the term broadly refers to resources that catalyze low-carbon and climate resilient development.”

**Secretary-General’s High-level Advisory Group on Climate Change Financing:**
“Long-term financing for mitigation and adaptation strategies in developing countries from various public and private sources”
2

The perimeter issue
Clear definition is important, but the definition’s perimeter is much more important

Choose sectors in scope
S12 Financial corporations
   exception ? S127 (Captive financial institutions)
S13 Government sector
   Choose receivers sector ?
   S11, S14, S15 and/or only S2

Choose relevant financial products
F4 (Loans) ?
F5 (Equity & investment funds)
...

Define activities in scope
NACE/ISIC K64-K66 (Financial services)

   NACE/ISIC M70 ? (Management consulting services)
   All NACE/ISIC?

Select flows
• Financial transactions
  • Transactions in products and non-produced assets (P1, P6, P7)
  • Distributive transactions (D3, D7, D6, D9)
• Financial asset
  • Interest (D.41), dividends (D.42) and reinvested earnings (D.43)
Why we need to measure climate finance?

- To follow the investment in climate change mitigation action
- To quantify the financial burden related to climate change adaptation
- To identify the shift of investment from brown activities to green activities
- To evaluate the impact of climate investment on GHG emissions
- To quantify the size of support to fossil fuels
- To evaluate the financial risk of the investment related to extreme events
- To ...
The issue of data sources
Possible data sources (1/3)

**Finance ministry**
- Green budget (tagging approach)
  - *EU survey 2023: AT, DK, ES, FI, IE, IT, LU, NL, PT, SE*
- Report on national sovereign sustainable bond

**NSO**
- National accounts - Financial accounts
- ETEA (environmental taxes by economic activity)
- ESST (environment subsidies and similar transfers)
- EPEA (environmental protection expenditure accounts)
- FFS (fossil fuel subsidies)
- CO₂ permits accounts

Table 1: Elements of the European Union Green Budgeting Reference Framework

<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>LEVEL 1 - Essential</th>
<th>LEVEL 2 - Developed</th>
<th>LEVEL 3 - Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental objectives</td>
<td>Climate-related</td>
<td>Climate-related</td>
<td>All objectives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some other objectives</td>
<td></td>
</tr>
</tbody>
</table>

**Issues:**
- CEPA 1 is larger than climate!
- Climate issues – also part of other CEPA! (ex. CEPA 8- R&D)
Possible data sources (2/3)

Financial sector supervisory commission

- Report on sustainable activities in the sector
- Report on the risk of the investment related to extreme events

National stock exchange

- List of financial equities, ...

Companies report

- ESG report (mandatory for banks)
Possible data sources (3/3)

**International/European sources**
- EIB
- ECB
- Cohesion open data platform (EU funds)

**Other sources**
- Climate Finance & Green Bond Labelling institutions
- Public-private partnerships providing climate finance advisory support
- Forestry and Climate Change Funds
The indicators issue
IMF dashboard

Climate Change Indicators Dashboard
A statistical tool linking climate considerations and global economic indicators

- Economic Activity Indicators
  - Greenhouse Gas Emissions
  - National Inventories and Targets
  - CO2 Emissions, Intensities and Multipliers
  - Energy Transition

- Cross Border Indicators
  - Trade-related
  - Direct Investment-related

- Financial and Risk Indicators
  - Financial
  - Physical and Transition Risks
  - Forward-Looking Risks NEW

- Government Policy Indicators
  - Environmental Taxes
  - Environmental Protection Expenditures
  - Fossil Fuel Subsidies

- Climate Change Data
  - Surface Temperature Change
  - Atmospheric CO2 Concentrations
  - Change in Mean Sea Levels
  - Forest and Carbon NEW
  - Land Cover Accounts
  - Climate-related Disasters

STATEC
The Carbon Footprint of Bank Loans (CFBL) is a country-level indicator, constructed as the average of CO₂ emission intensities/multipliers from the fuels burned in each sector, weighted by the sectoral share of outstanding domestic loans from banks.

Green debt. Green bonds and sustainability-linked bonds are fixed-income securities designed specifically to support climate and environmental projects. They are an integral part of ‘green finance’, helping to mitigate the economic and social cost of climate change through market-based means.

Nonlife insurance penetration. Climate related disasters can cause significant financial instability. Countries where businesses and individuals are more likely to have insurance are better placed to mitigate this risk. This indicator shows the average nonlife insurance premium to GDP.
1/
Indicators on sustainable finance provide an overview of **debt instruments** labelled as “green”, “social”, “sustainability” or “sustainability-linked” by the issuer that are issued or held by the country. These indicators provide information on the proceeds raised to finance sustainable projects, and thus also on the progress of the transition to a low-carbon economy.

2/
Analytical indicators on carbon emissions financed by financial institutions provide information on the **carbon intensity of the securities and loan** portfolios of financial institutions, and on the financial sector’s exposure to counterparties with carbon-intensive business models.

3/
Analytical indicators on **climate-related physical risks** analyse the impact of natural hazards, such as floods, wildfires or storms, on the performance of loans, bonds and equities portfolios.

Source: Press release 24 January 2023- ECB publishes new climate-related statistical indicators to narrow climate data gap
Country case

Luxembourg
Country case: Luxembourg

In 2016, the Luxembourg Stock Exchange (LuxSE) launched the Luxembourg Green Exchange (LGX), the world's first listing platform dedicated exclusively to green/sustainable/social bonds.

Currently, 346 issuers from 58 countries with 3335 active instruments.

<table>
<thead>
<tr>
<th>Type of instruments</th>
<th>Number of active instruments (17/07/2023)</th>
<th>Amounts</th>
<th>Climate change related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green bonds</td>
<td>939</td>
<td>442,5 billions EUR</td>
<td>Renewable Energy (811); Energy efficiency (562); climate change adaptation (177)</td>
</tr>
<tr>
<td>Sustainable bonds</td>
<td>544</td>
<td>na</td>
<td>Renewable Energy (491); Energy efficiency (69); climate change adaptation (434)</td>
</tr>
<tr>
<td>Social bonds</td>
<td>164</td>
<td>na</td>
<td>-</td>
</tr>
<tr>
<td>Sustainable linked</td>
<td>81</td>
<td>na</td>
<td>?</td>
</tr>
</tbody>
</table>

Source: Luxembourg Stock Exchange data, authors’ calculation
Country case: Luxembourg

In September 2020, Luxembourg (rated AAA) issued a sustainable sovereign bond for an amount of 1.5 billions EUR. This 12-year loan has a negative interest rate of -0.123%.

Allocations (in millions EUR)

<table>
<thead>
<tr>
<th>Categories</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>140</td>
<td>158</td>
<td>148</td>
<td>157</td>
</tr>
<tr>
<td>of which climate mitigation</td>
<td>119</td>
<td>127</td>
<td>136</td>
<td>137</td>
</tr>
<tr>
<td>Social</td>
<td>78</td>
<td>108</td>
<td>139</td>
<td>174</td>
</tr>
</tbody>
</table>

Source: State Treasury data, authors’ calculation
Country case: Luxembourg

**Financed emissions (FE)** – the volume of weighted carbon emissions incorporated in loans given to highly intensive economic activities;

the weight is equal to the percentage share of the investment held by financial institutions in a private company

in millions CO₂-equivalent tons

<table>
<thead>
<tr>
<th>Instruments</th>
<th>Holders</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt securities + Listed shares</td>
<td>S122: Deposit-taking corporations except central banks</td>
<td>0,364</td>
<td>0,391</td>
<td>0,749</td>
</tr>
<tr>
<td></td>
<td>S124: Non-Money market funds investment funds</td>
<td>152,312</td>
<td>161,840</td>
<td>187,547</td>
</tr>
<tr>
<td></td>
<td>S128-129: Insurance corporations &amp; Pension funds</td>
<td>1,870</td>
<td>1,933</td>
<td>2,416</td>
</tr>
<tr>
<td>Bank loans</td>
<td>S122: Deposit-taking corporations except central banks</td>
<td>3,160</td>
<td>3,024</td>
<td>2,850</td>
</tr>
</tbody>
</table>

Source: ECB data

For comparison purpose: Emissions (inventory) = 9,4 millions tons CO₂-equivalent
Footprint = 11,7 millions tons CO₂-equivalent
Country case: Luxembourg

Analysing the climate change mitigation and climate change adaptation as economic sectors.

Produce climate change accounts based on a selection of climate-change related goods and services

Table: Claim change accounts in millions EUR

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate-change adaptation</td>
<td>93</td>
<td>94</td>
</tr>
<tr>
<td>Climate-change mitigation</td>
<td>91</td>
<td>124</td>
</tr>
</tbody>
</table>

Source: DevStat-Prognos final report, July 2023
The pending question
How NSOs can contribute?

1. Define scope and statistical framework
2. Centralize public and private statistics and disseminate them
3. Establish dedicated accounts: « climate finance accounts »
4. Produce combined (monetary + physical) tables or dashboard for analysis

i.e. impact of climate investments on GHG emissions
Questions to the audience

1/ Should NSO work on climate finance?

2/ What should be the scope of climate finance?
   International flows only or also domestic?
   Financial transactions only or also distributive transaction?

3/ Should NSO work on climate finance accounts?
Thank you! / Merci !

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