Greening the Financial System
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DeNederlandsche Bank
EUROSYSTEEM
Climate change is one of the biggest challenges facing our economy

Economy still reliant on oil and gas
(% of total energy consumption in 2017)

Source: BP Statistical Review of World Energy 2018
**Role of Governments / EU**

**Effective carbon pricing (price, scope, and system)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Coverage (% total emission)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>0-10%</td>
</tr>
<tr>
<td>Iceland</td>
<td>20-30%</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>20-30%</td>
</tr>
<tr>
<td>UK</td>
<td>20-30%</td>
</tr>
<tr>
<td>China (various regions)</td>
<td>30-40%</td>
</tr>
<tr>
<td>France</td>
<td>30-40%</td>
</tr>
<tr>
<td>Finland</td>
<td>30-40%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>30-40%</td>
</tr>
<tr>
<td>Denmark</td>
<td>40-50%</td>
</tr>
<tr>
<td>EU</td>
<td>40-50%</td>
</tr>
<tr>
<td>Ireland</td>
<td>40-50%</td>
</tr>
<tr>
<td><strong>Sweden</strong></td>
<td><strong>40-50%</strong></td>
</tr>
<tr>
<td>New Zealand</td>
<td>50%</td>
</tr>
<tr>
<td>Canada (various regions)</td>
<td>40-70%</td>
</tr>
<tr>
<td>Norway</td>
<td>60-70%</td>
</tr>
<tr>
<td>USA (various states)</td>
<td>60-90%</td>
</tr>
</tbody>
</table>

The graph shows the effective carbon pricing (price, scope, and system) for different countries. The x-axis represents the price in €/tonne of CO2, and the y-axis shows the coverage (% total emission) for each country. The countries are listed in the table along with their respective coverage percentages.
Role of Central Banks

- Direct impact of incorporating ESG in CB reserves management is limited;
- But it is important signal to financial sector ("practice what you preach");
- DNB signed PRI and published Charter on ESG in reserve management.
Role of supervisors

Physical risks
- General insurers
- Flood risk

Transition risks
- CO2-intensive assets
- Green finance
Supervisors’ and central banks’ call for action

Central banks and supervisors

1. Integrating climate-related risks into financial stability monitoring and micro-supervision.

2. Integrating sustainability factors into own-portfolio management.

3. Bridging the data gaps.

4. Building awareness and intellectual capacity and encouraging technical assistance and knowledge sharing.

Policy makers

5. Achieving robust and internationally consistent climate- and environment-related disclosure.

6. Supporting the development of a taxonomy of economic activities.

NGFS (Network for Greening Financial Systems)
Role of financial markets

Rapid growth of green, sustainable and social bond markets...

- Green bond market rapidly growing
- Social and sustainability bond supply is up 95% YoY so far in 2019

Source: Bloomberg
Role of financial markets

...but the market needs to be further stimulated and regulated

- **€180 billion per year**: estimated additional annual investment needed in the EU to meet its climate targets for 2030

- **Clarity on what is “green / sustainable”**
  - EU Taxonomy
  - EU Green bond standard
  - EU Benchmark for low-carbon investment strategies
  - Climate-related disclosures
  - ESG scores by rating agencies
  - Information in issuers’ prospectus