DIGITAL DIALOGUES

Accelerating investments in breakthrough Green Deal technologies - Can Carbon Contracts make a Difference?

5 May 2021

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The European Chemical Industry Council, AISBL - Belliard, 40 - 1040 Brussels - Belgium
Our Speakers

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Our Speakers

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EU heads of state have identified the need for a clean industry package to kickstart the transition

▶ The December 2020 European Council called for the Commission to…

“propose measures that enable energy-intensive industries to develop and deploy new climate neutral technologies while maintaining their industrial competitiveness.”
Industry transition means addressing several barriers along the full value chain, so we need a **coherent policy package**.
EU ETS Carbon prices are rising
But they are still far from sufficient to enable + *de risk* first wave of investments into key climate neutral technologies

<table>
<thead>
<tr>
<th>Technology</th>
<th>Marginal CO2 abatement cost (EUR/tCO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCU of waste gases of the blast furnace route (Steel)</td>
<td>60.0</td>
</tr>
<tr>
<td>Direct reduction with hydrogen (Steel)</td>
<td>99.0</td>
</tr>
<tr>
<td>Direct reduction with natural gas (Steel)</td>
<td>231.0</td>
</tr>
<tr>
<td>Green hydrogen from electrolysis (Chemicals)</td>
<td>170.0</td>
</tr>
<tr>
<td>Methanol - to Olefin/Aromatics route (Chemicals)</td>
<td>160.0</td>
</tr>
<tr>
<td>Carbon capture with oxyfuel process (Cement)</td>
<td>70.0</td>
</tr>
</tbody>
</table>

NB. De-risking of CO2 price =>

These are typically *capex*-intensive investments. There is high financial (and technology) risk. Thus *even if* CO2 prices are “high enough” for some technos, there is a need to de-risk CO2 price uncertainty.
New project-based support instruments, like CCfDs, essential to drive first wave of commercial scale investments in key climate neutral technologies...

The Carbon Contract for Difference mechanism with two alternative anti-leakage policies (free allocation vs BCAs)

<table>
<thead>
<tr>
<th>Scenario 1: Sector subject to free allocation for conventional production installations</th>
<th>Scenario 2: Sector is subject to BCA (no free allocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of conventional technology</td>
<td>Cost of key low-(\text{CO}_2) technology</td>
</tr>
<tr>
<td>ETS (\text{CO}_2) cost</td>
<td>Cost gap to cover</td>
</tr>
<tr>
<td>Non-(\text{CO}_2) cost</td>
<td>Cost increment</td>
</tr>
<tr>
<td>Free allocation</td>
<td>CCfD payment</td>
</tr>
<tr>
<td>Free allocation</td>
<td>free allocation</td>
</tr>
<tr>
<td>Cost increment</td>
<td>ETS (\text{CO}_2) cost</td>
</tr>
<tr>
<td>No free allocation so costs rise</td>
<td>Cost increment</td>
</tr>
<tr>
<td>Non-(\text{CO}_2) cost</td>
<td>CCfD payment</td>
</tr>
</tbody>
</table>

Agora Energiewende, 2020
Cost of CCfDs would be manageable even for large member states, and concrete options exist to fund them; NB. we need a combination of EU and MS level instruments

➔ At just conservative est. of average 50 Euros/tCO2 (2025-2040) we estimate annual cost of CCfDs funding 10% of entire EU27 market for steel+cement+certain basic chemicals at approx 2-3 bn/yr.

➔ Smaller MS would face much lower costs. Markets smaller than RES markets..

➔ **EU Level:**
  • Set aside 5% of ETS auction revenues to enlarge ETS Innovation Fund => approx. 1-2.5 bn/yr depending on assumptions.
  • Dedicated CCfD vehicle for 15yr contracts for up to 80-90% of incremental costs.
  • Downside: would take time + funds would be limited (Poss. for solidarity mechanism with CEE)

➔ **MS Level:**
  • Materials charge on certain materials-rich final goods (e.g. buildings, vehicles, packaging)
  • Use share of auction revenues from industry created by FA phase down under CBAM.
Market share of climate neutral technology

1. Project-based technology support to remove initial risk, cost (CCfDs)

2. “Demand pull” policies increasingly drive business case

3. Possibility to phase out non-climate neutral materials

Role for material or technology specific policies

Increasing role for material & technology-neutral policies
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The journey to net zero requires a supportive legislative and regulatory framework

➢ The ETS, with its carbon leakage (CL protection instruments - free allocation and indirect cost compensation - must be maintained until new technologies gradually replace existing plants.

➢ Additional supporting elements are needed:
  ➢ Competitive electricity prices
  ➢ Electricity and hydrogen infrastructure
  ➢ Contracts for Difference
The transformation requires new technologies which are not yet competitive

- CfDs have the potential to make climate-friendly industrial production market-ready.
- In order to provide effective and stable support, CfDs must be designed with sufficient funding and a long-term horizon.
- Sector-specific approaches are needed.
- A technology open framework is required, which allows to develop markets for low carbon products.
FLORIE GONSOLIN
Director Climate Change Transformation
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Thank you for your attention

For more information, please contact publicaffairs@cefic.be

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Materials consumption charges would have next to no impact on consumer, but raise significant funds for upstream innovation...
Phase out of FA as CBAM is introduced for steel+cement could theoretically also create significant funds, but riskier if CBAM is delayed…
Other key details

- Equal treatment of innovative tech vs, existing tech under anti-leakage system
- Managing competition at public tenders at national and EU level
- De-risking upstream infrastructure and coordinating aid across the consortia
- Clarifying who is and is not eligible for CCfDs (benchmarks)
CCfDs need to be designed to allow for opt out for direct marketing to consumers

Share of production marketed to lead market buyers willing to pay green premium:
Allows partial opt out from CCfD payments*

Green premium on climate neutral Materials (€/t material)

Volume of support payments under Carbon Contract for Difference

Lead market size grows over time due to “demand pull” policies

Volume of sales from climate-neutral production plant (%)

0% 70% 80% 90% 100%

*Opt out incentive comes from ability of purchaser to apply “climate neutral”/“low carbon” label to their product only if they pay green premium
Figure 11

Steel

Climate neutrality

A
B
C
D
E

Current ETS benchmark & EU taxonomy

0.3 kgCO2/kg steel