Steel decarbonisation challenge

GFSEC STAKEHOLDER WORKSHOP

CONNECTING THE DOTS ON STEEL DECARBONISATION INITIATIVES: CONTRIBUTING TO A GLOBAL INCLUSIVE DIALOGUE

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EC, Joint Research Centre, Petten
Decarbonisation of EII in JRC

Technology innovation enabling a low-carbon industry...

- Cement (2010)
- Steel (2012)
- Aluminium (2015)
- Chemicals (2017)
- P&P (2018)

Production costs in the EU and third countries

- EII (2016)
- Steel (2020)

Contributions to:

- DG CLIMA
- DG GROW
- DG RTD
- DG ENER
- DG TAXUD
- DG ENV

Steel decarbonisation Technologies (2021)

Steel greenhouse gas intensities of the EU its trading partners (2022)
**After** the CBAM transitional phase

In its first phase, the CBAM will focus on goods most at risk of carbon leakage:

- Cement
- Iron & Steel
- Aluminium
- Fertiliser
- Electricity

CBAM charge** = CBAM certificates * certificate price - carbon cost paid abroad

GHG intensity * amount imported

Verified value or Default value

**During the transitional period** free allocation from the ETS is subtracted from the CBAM charge
JRC Methodology for default values in steel

**Energy Balance**

- Iron and Steel [1]
  Final energy consumption of the industry
- Blast Furnaces and Coke Ovens [1]
  Transformation and own use as reported under energy sector
- Autoproducer and Main activity producer [1]
  Autoproduction and main activity production of electricity and heat with coke oven gas, blast furnace gas and other recovered gases

**Emission Factors**

- Emission Factors for Stationary Combustion in Manufacturing Industries [3]
  Default emission factor CO₂ per fuel sources
- Emission per kWh of electricity and heat [2] – Scope 2
  Optionally include indirect emissions

**Carbon Emissions**

<table>
<thead>
<tr>
<th>Country</th>
<th>CO₂ (t)</th>
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<tbody>
<tr>
<td>World</td>
<td>2,962,853,623</td>
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<td>European Union 27</td>
<td>151,925,122</td>
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<td>Belarus</td>
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<td>Brazil</td>
<td>65,136,545</td>
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<td>China</td>
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</tbody>
</table>

[1] IEA
[2] IEA
[3] IPCC
Results – Production route emissions

**Integrated route**

**EAF route**

**JRC estimate**
Thanks and stay in touch!