

Steel decarbonisation challenge

GFSEC STAKEHOLDER WORKSHOP

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

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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

[1] IEA



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

[2] IEA
[3] IPCC



Carbon Emissions

	t CO ₂
World	2,962,853,623
European Union 27	151,925,122
Belarus	814,282
Brazil	65,136,545
China	1,579,085,441
India	342,369,700
Japan	147,595,179
Korea	92,328,580
Norway	1,271,454
Russian Federation	176,475,007
Serbia	3,231,199
South Africa	26,867,956
Switzerland	152,904
Chinese Taipei	33,414,985
Turkey	30,936,522
Ukraine	50,739,307
United Kingdom	10,907,733
United States	76,827,294

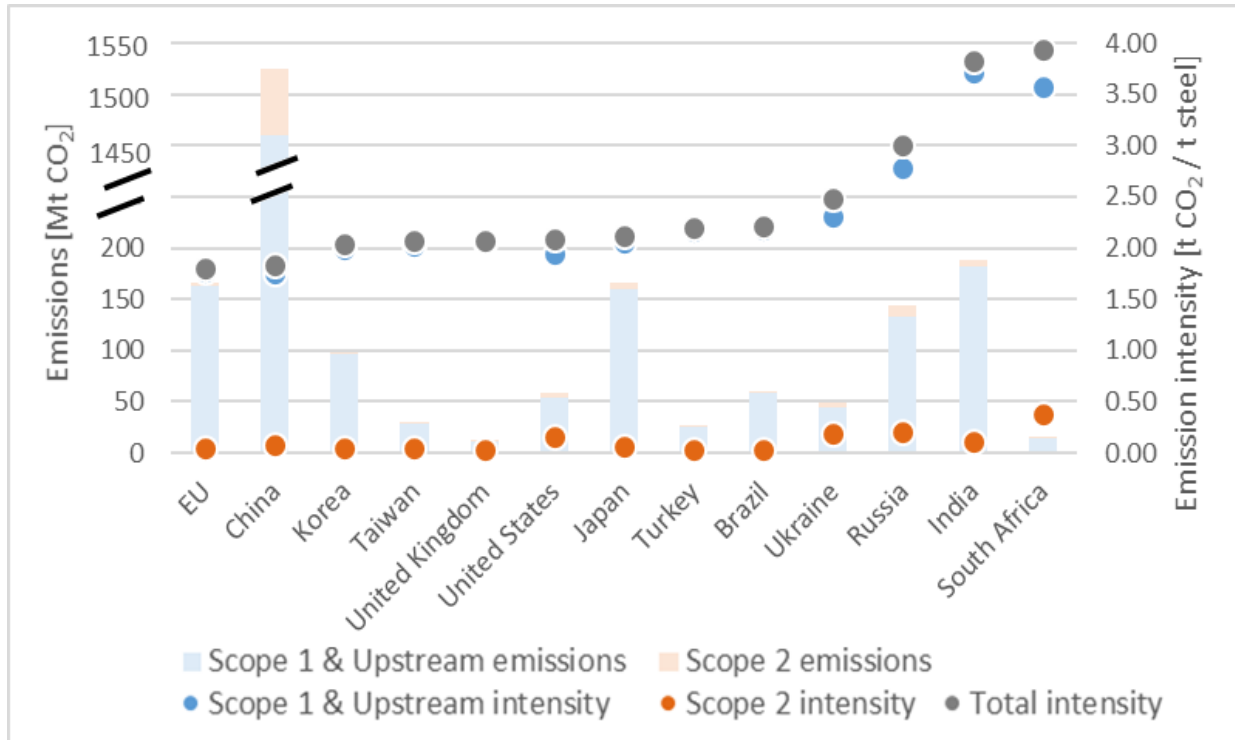
JRC estimate



European
Commission

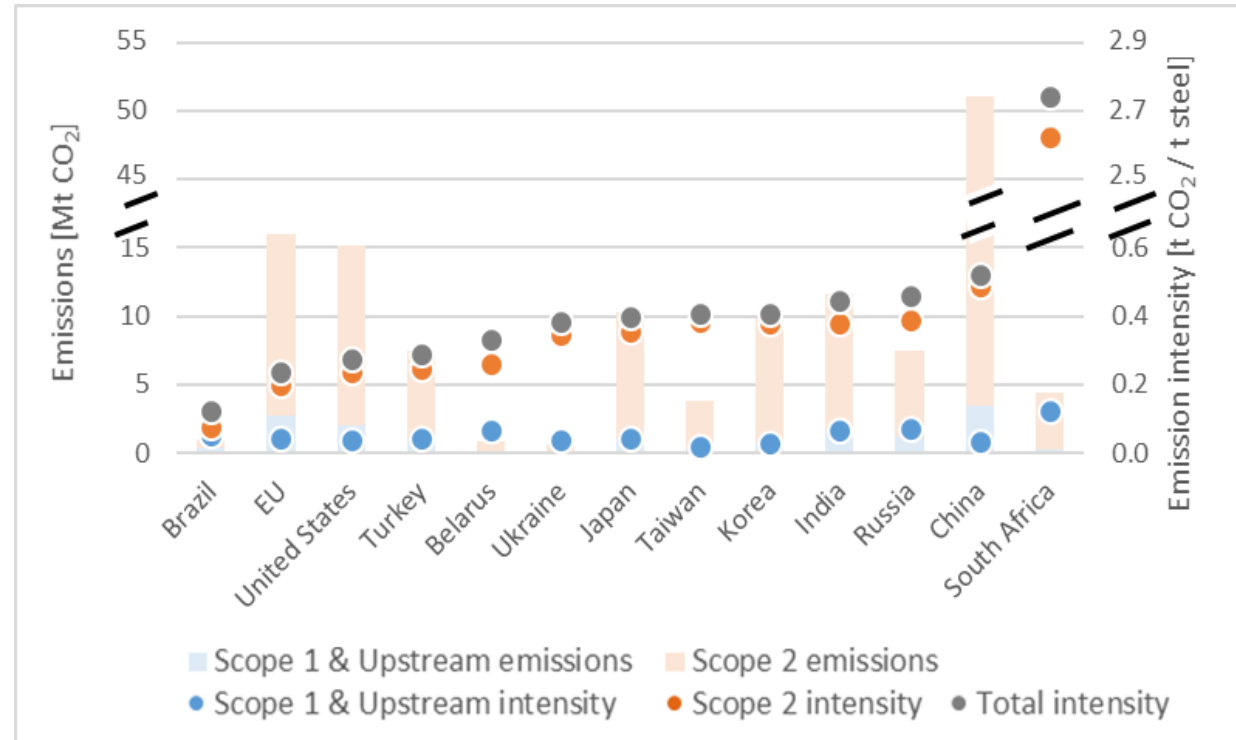
Results – *Production route emissions*

Integrated route



JRC estimate

EAF route



JRC estimate

Thanks and stay in touch!



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