

Decarbonisation efforts of the EU steel industry

Industry experiences with decarbonisation: current efforts and lessons being learned

GFSEC Stakeholder Event, 22 April 2021

EU Objective

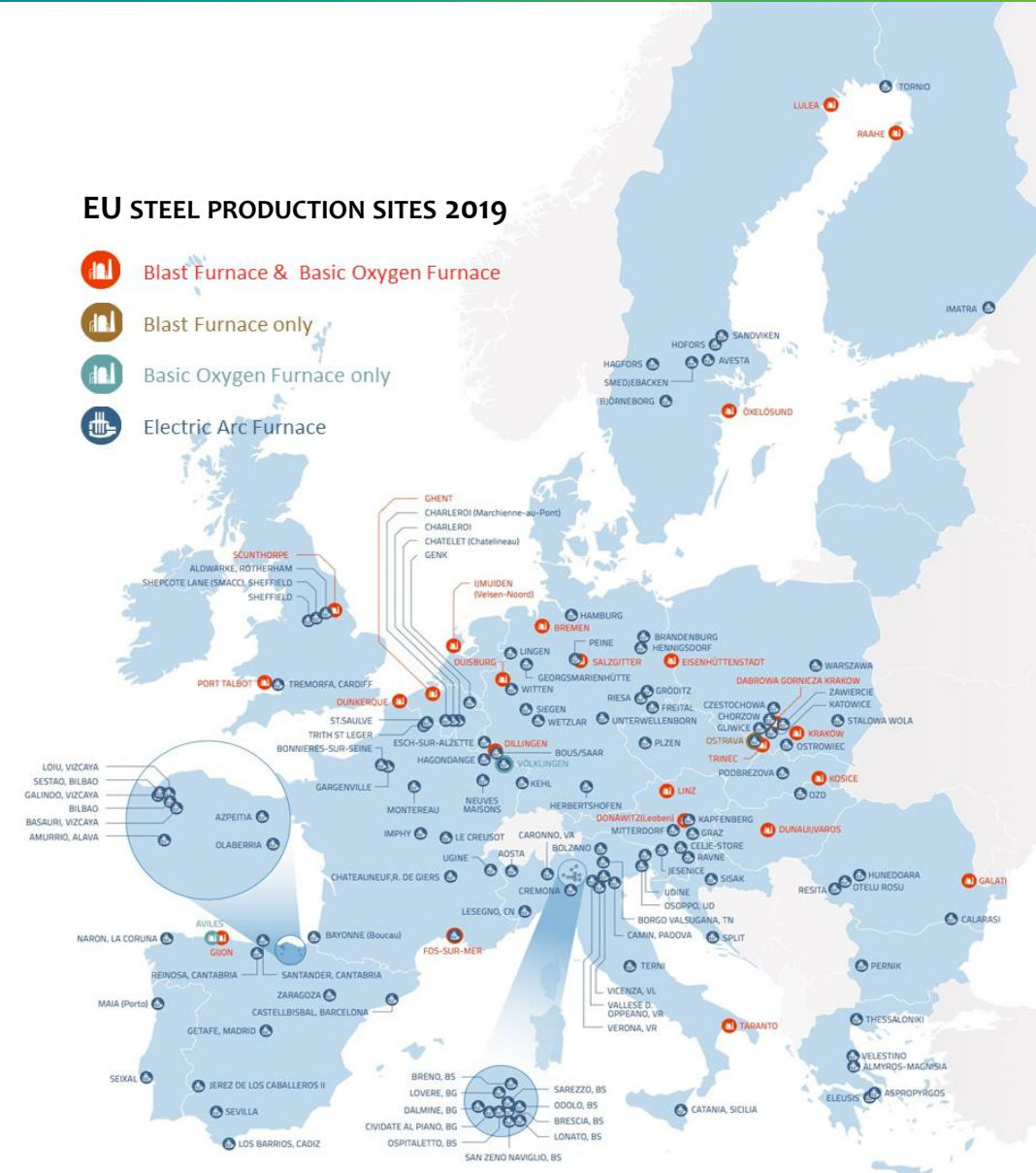
- 40% by 2030 (new target: - 55% by 2030)
- Carbon neutrality by 2050

EU regulatory measures, inter alia

- Emissions Trading System (industry, power, aviation)
- Effort Sharing (all other emitters, national measures)
- Climate Law
- Carbon Border Adjustment Measure

EU funding programmes for R&D&I

- Horizon Europe; Innovation Fund; Recovery Fund / Next Generation Europe
- Just Transition Fund



Global CO ₂ emissions from fossil fuels combustion and processes (2019):	38 Gt CO₂ ⁸		
Global steel industry's direct & indirect CO ₂ emissions:	3.7 Gt CO₂ ⁹	⇒	9.7%
EU steel's direct & indirect CO ₂ emissions:	213 Mt CO₂ ¹⁰	⇒	0.56%
EU steel share in global steel emissions:	⇒	5.5%	
EU steel share in global steel production:	⇒	8.5%	
EU steel share in EU total CO ₂ emissions of 3.9 Gt (2018):	⇒	5.7%.	
EU steel share in direct & indirect emissions of EU industrial manufacturing of 858 Mt (2018):	⇒	25.7%.	¹¹

Sources: ⁸ Joint Research Centre, Fossil CO₂ emissions of all world countries, 2020 report; ⁹ IEA, IEA Iron and Steel Technology Roadmap, 2020; ¹⁰ Estimation of 2019 direct and indirect CO₂ emissions based on a recalculation of 2018 data on 2019 production; ¹¹ European Environment Agency (EEA). Total EU of 3.9 Gt CO₂ including LULUCF (Land Use, Land Use Change, and Forestry)

Absence of a global system to decarbonise the industry

Risk of carbon leakage through unilateral regional or national regulatory CO₂ abatement cost for globally competing industries

Creating lead markets

Breakthrough technologies would increase the steel price significantly

Access to (affordable) CO₂-low energy

Breakthrough technologies need ± 400 TWh of electricity (equivalent to France)

Level playing field

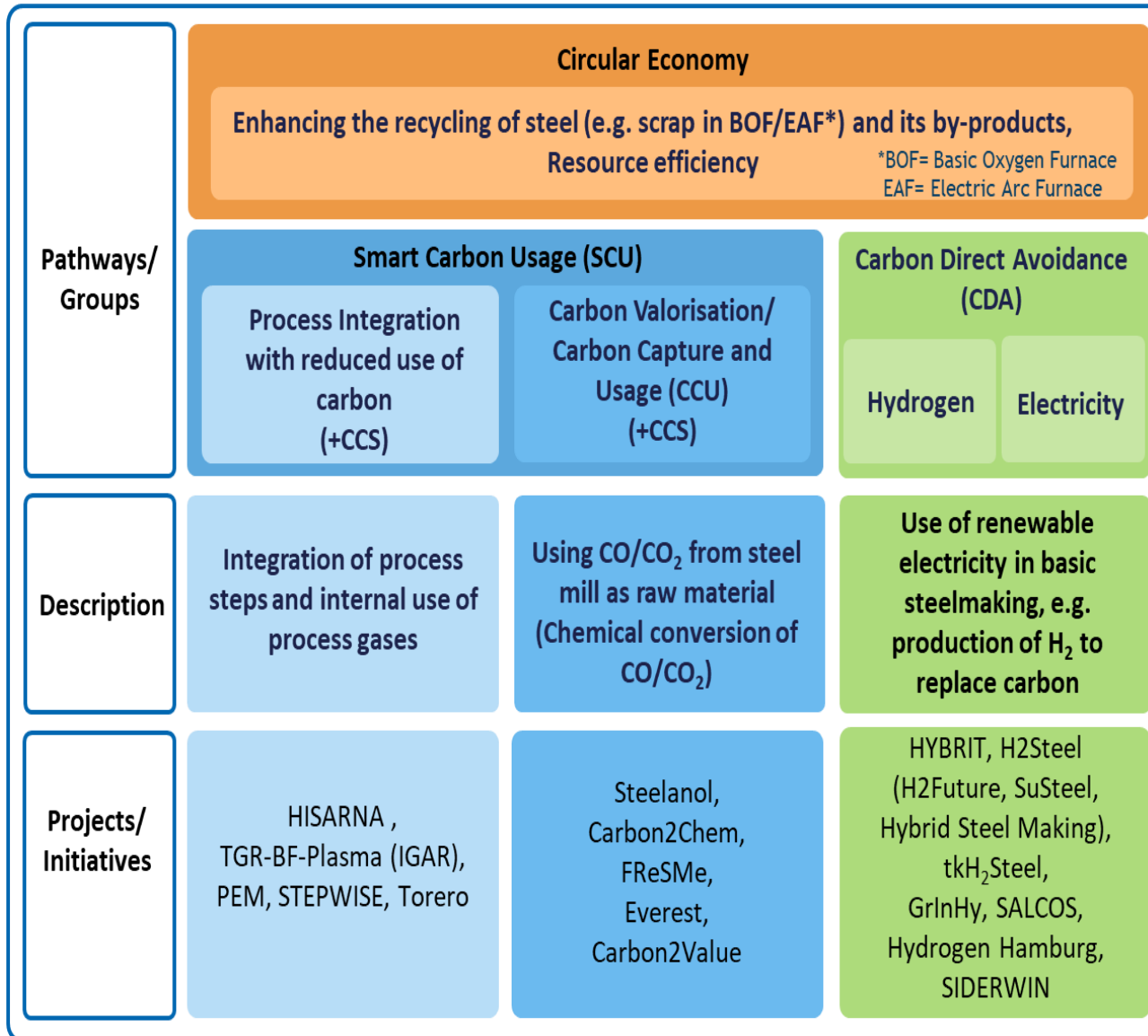
The EU imports ± 30 M tons and exports ± 20 M tons of steel per year

Funding support

Breakthrough technologies need 50 to 60 €bn investment



Our ambition is to reduce CO₂ emissions from EU steel production by **30% by 2030** compared to 2018 (1.7% of total EU CO₂ emissions), or 55% compared to 1990, and up to **95% by 2050**, ultimately becoming CO₂-neutral.



A large number of promising projects :

Clean Steel Partnership (CSP):

- > 32 collaborative projects (16 x TRL7, 12 x TRL8, 4 demonstrators)
- Objectives include to demonstrate -50% CO₂ by 2027, -80% by 2034
- Financing requirements: €3 billion, minimum: €1.4 billion
- Minimum needed from Horizon Europe: €350 million

Innovation Fund

- 16 large scale projects responded to the first call
- Objectives of projects: -25% to -45% CO₂ by 2025 to 2030

IPCEI proposal

- 33 steel projects
- Objective: - 33 Mt CO₂/year by 2030 (= 0.85 % of total EU CO₂ emissions of 3893 Mt in 2018).
- Requirements: 0.6 to 1.2 Mt hydrogen/y and 10 to 12 TWh/y
- Investment needs: €26 billion (CAPEX €13.6 billion, OPEX €12.8 billion)

Requirements: access to finance, affordable CO₂-low energy, a market for green steel, full carbon leakage prevention, level playing field also on global markets.