



# The Industry Sector in a Net Zero Energy System

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## Net zero means tackling 'hard to abate' industrial emissions



Heavy industry sectors – cement, steel and chemicals – account for around 70% of industrial CO<sub>2</sub> emissions today, presenting a variety of technical challenges on the pathway to a net zero emissions energy system

# Innovation is key to energy transitions for heavy industry



Approximately 50% of heavy industry emissions reductions in the IEA's Net Zero Emissions by 2050 Scenario come from technologies that are not yet on the market. This compares to only 35% for the energy system as a whole.

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### The G7 moves faster than the rest of the world



Among the G7, by 2030, near zero emission routes account for more than 10% of primary steel and clinker for cement production in the NZE; by 2050, they account for upwards of 90% of production.

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### A much stronger push is needed on near-zero emission steel production



Announced projects meet about 10% of 2030 near zero emission iron production needs, while 'capable' capacity needs clear decarbonisation plans. Additional project announcements are needed in emerging market and developing economies.

#### Comprehensive policy frameworks are needed for industrial decarbonisation





## Standards are key to market creation for industry decarbonisation



Emissions standards underlie multiple mechanisms to accelerate the steel sector transition to net zero. Given the global nature of steel markets, working towards common and interoperable international methodologies would reduce complexities and speed progress.

#### G7 Japanese Presidency 2023: Steel emissions measurement methodologies

#### IEA's Net Zero Measurement Principles for steel:

- Facilitate like for like comparison between production from all facilities.
- Produce coherent and interoperable results for both crude steel production and steel products.
- Have consistent and comprehensive emissions boundary and scope.
- Apply accounting rules for **credits and co-products** that are compatible with a credible net zero pathway.
- · Incentivise the use of measured data, as opposed to generic emissions factors.

#### An acceleration of ongoing processes are needed to bring forward necessary revisions

- Objective: produce interoperable emission measurement methodologies for steel production and products, fit for purpose for a net zero steel industry
- Work is needed including through ISO and national/regional standardisation bodies, and in collaboration with stakeholder initiatives (e.g. IEA WPID, IDDI, Steel Standards Principles)





STEEL STANDARDS

