



THE HETEROGENEITY OF STEEL DECARBONISATION PATHWAYS

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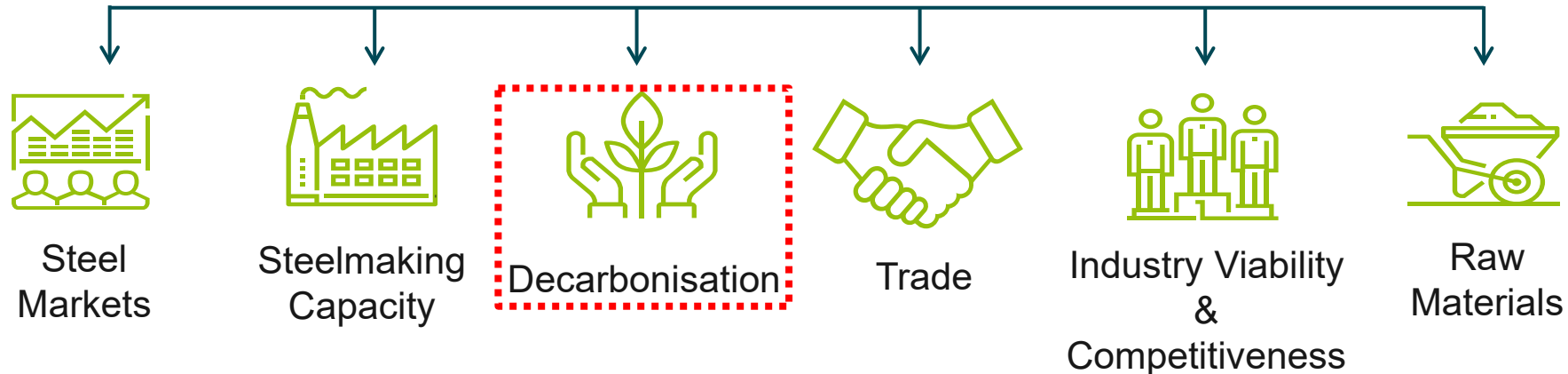


About the OECD Steel Committee

A long-standing structure supporting the steel policy community

- Established in 1978, more than 30 Members & 7 Participants (major steel producing countries, OECD & non-OECD), engagement with steel associations
- Providing sectoral expertise, addressing policy issues, supporting cooperation & dialogue

AREAS OF WORK

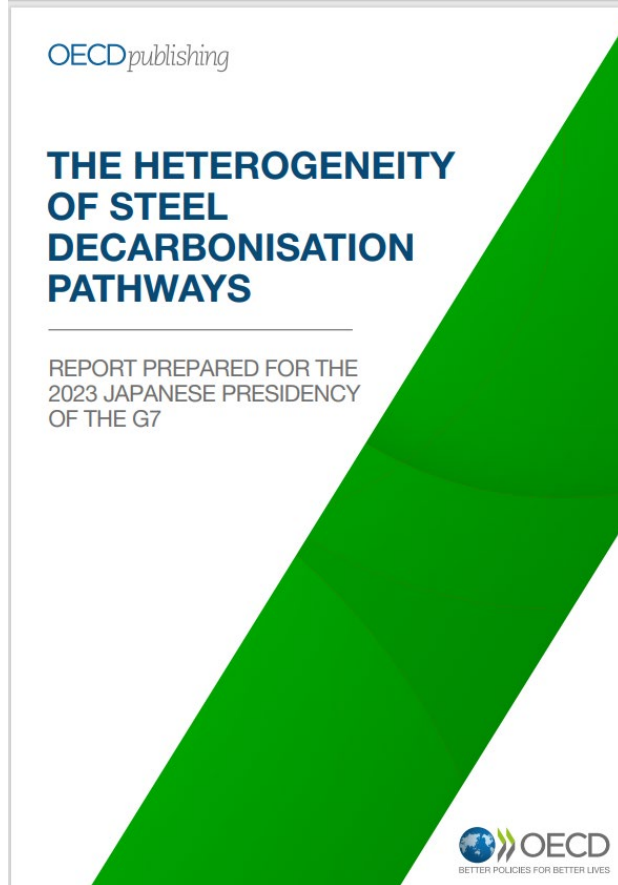




Context & Objectives of the Report

A report prepared for the 2023 Japan Presidency of the G7 –

Industrial Decarbonisation Agenda



- To map the **heterogeneity** of the steel industry...
- ... and to assess the **implications** on decarbonisation pathways,
- on **definitions** for near zero / low emission steel, **emission measurement** standards, **data collection** frameworks

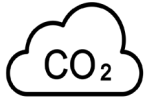
<https://www.oecd.org/publications/the-heterogeneity-of-steel-decarbonisation-pathways-fab00709-en.htm>



What is at stake?

Common goal, common challenges to decarbonise...

STEEL & EMISSIONS

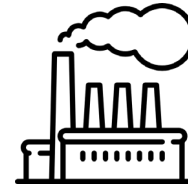


8% of global emissions,
30% of global industrial emissions



More than **90%** of global **capacity**
in **countries** with **Net-Zero targets**

A CRITICAL DECADE FOR IMPLEMENTATION



A Deep **Transformation** Required

Multiple **Challenges**

(Technology, Investments, Competitiveness, Strategic Inputs, Market, Social...)

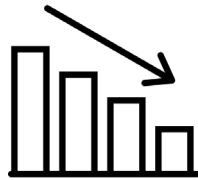
... but different steel industry's characteristics



Why Considering Heterogeneity?

Considering heterogeneity for a more efficient steel industry decarbonisation

Achieve **climate goals**, as multiple mitigation options are needed

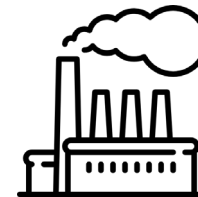
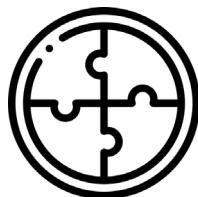


Acknowledge **national circumstances**

(including uneven access to resources)

Considering **Heterogeneity** is crucial to...

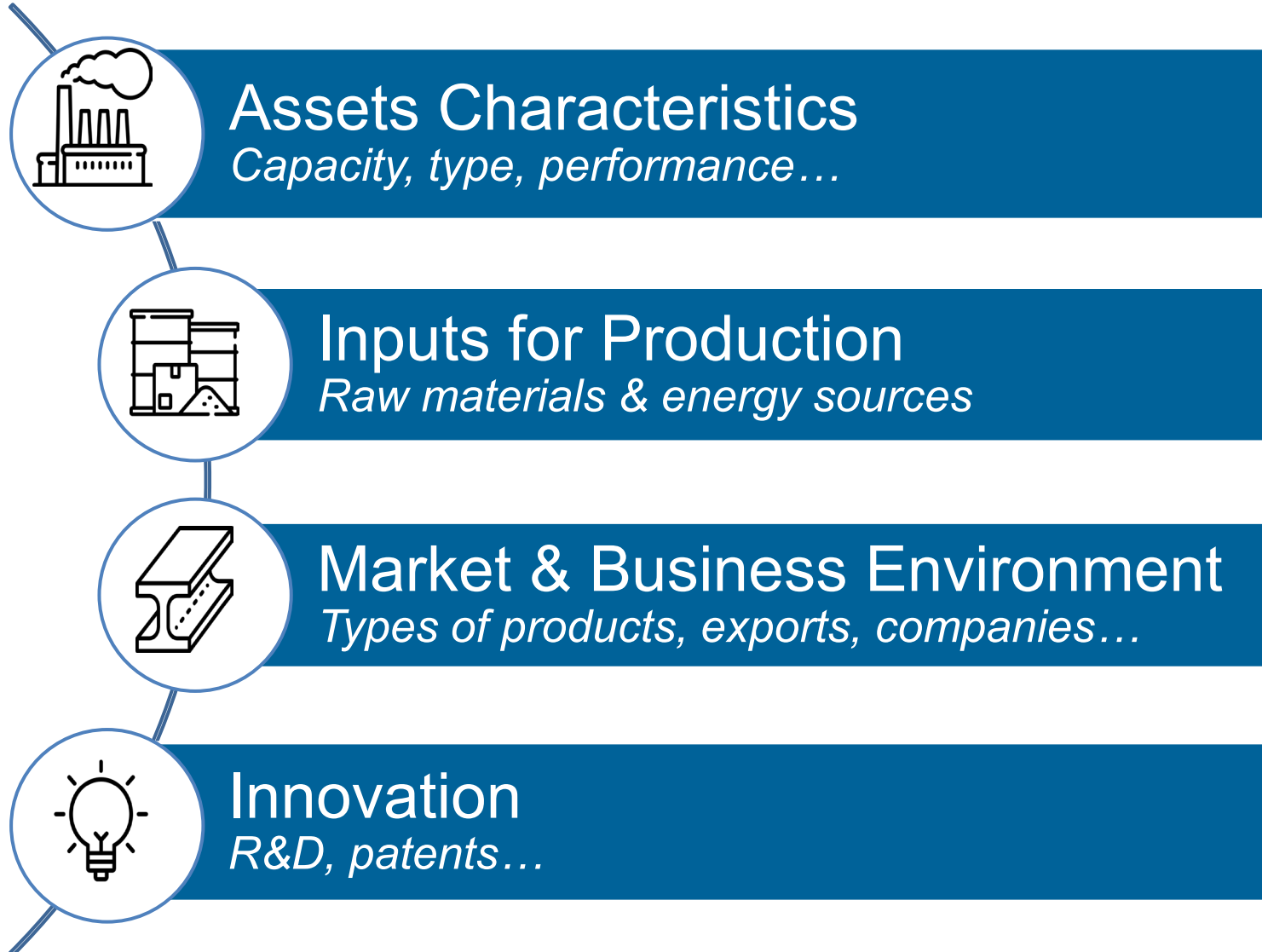
Ensure **inclusiveness**, fostering collaboration & a level playing field



Leverage the multiple decarbonisation efforts of the **steel industry**



Key Aspects of Heterogeneity



Indicators at the country level

- Age of assets
- Capacity development
- Crude steel production / process
- DRI production

- Scrap availability
- Electricity price
- Low carbon power generation
- Import dependencies on raw materials

- Fragmentation
- Exports
- Direction of export/imports and net export/imports
- Product specialisation
- Profitability

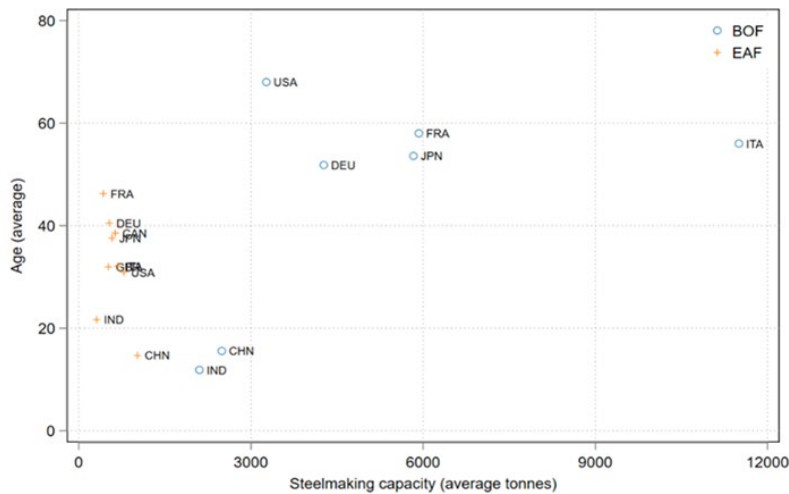
- Patents
- Hydrogen
- CCUS



Mapping Heterogeneity – Indicators

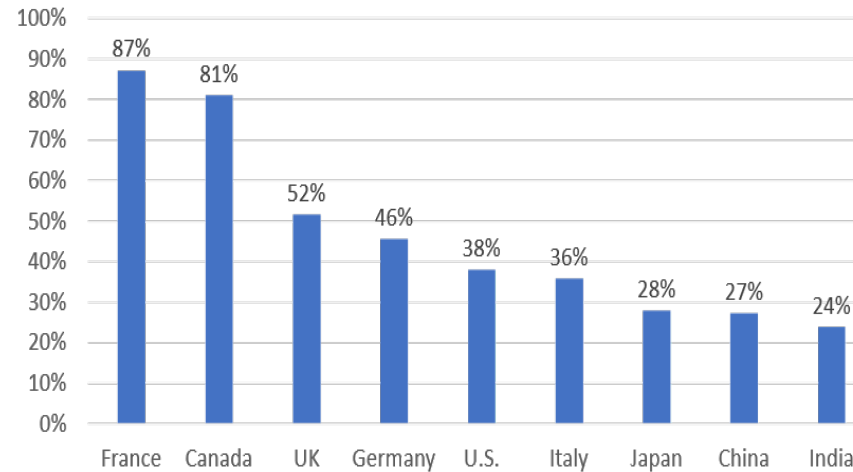
Assets Characteristics

- Age of assets



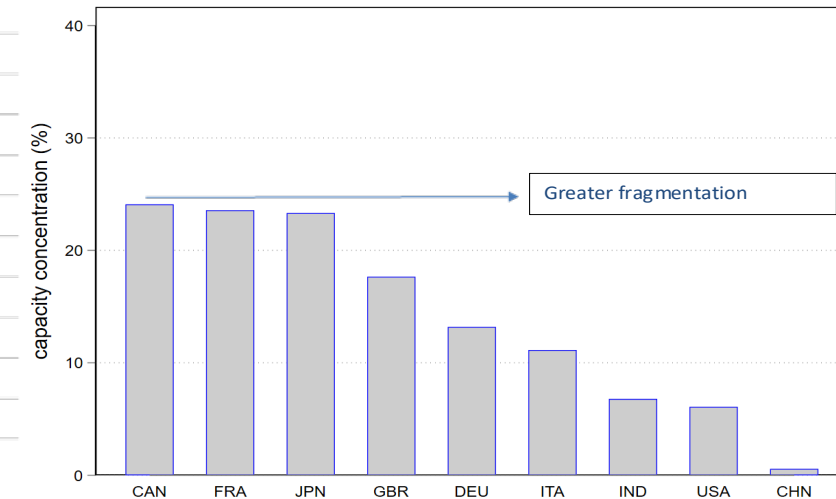
Inputs for Production

- Low carbon power generation



Market & Business Environment

- Fragmentation

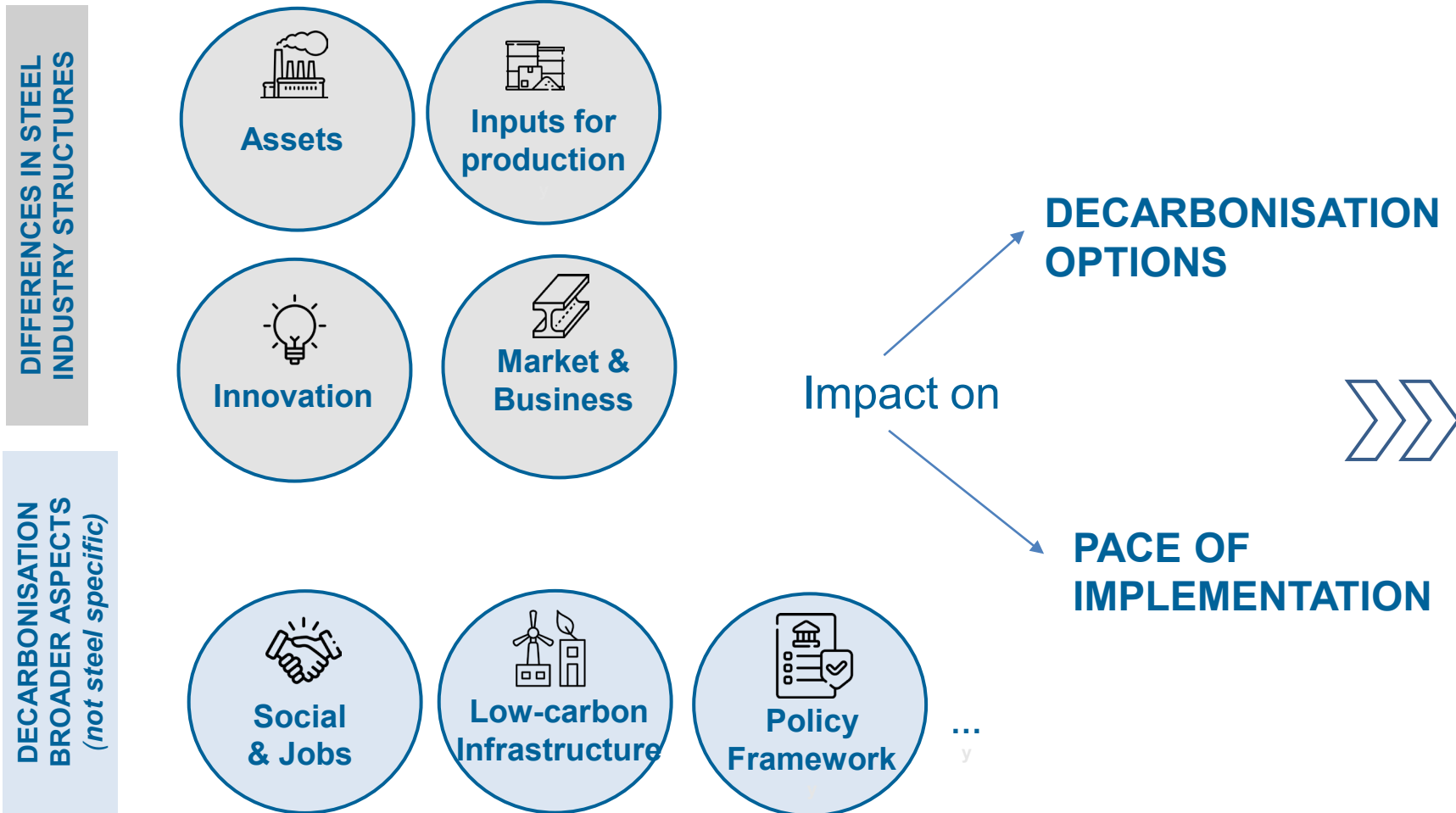


Highlight the diversity of the steel industry, reflecting the different circumstances of each economy



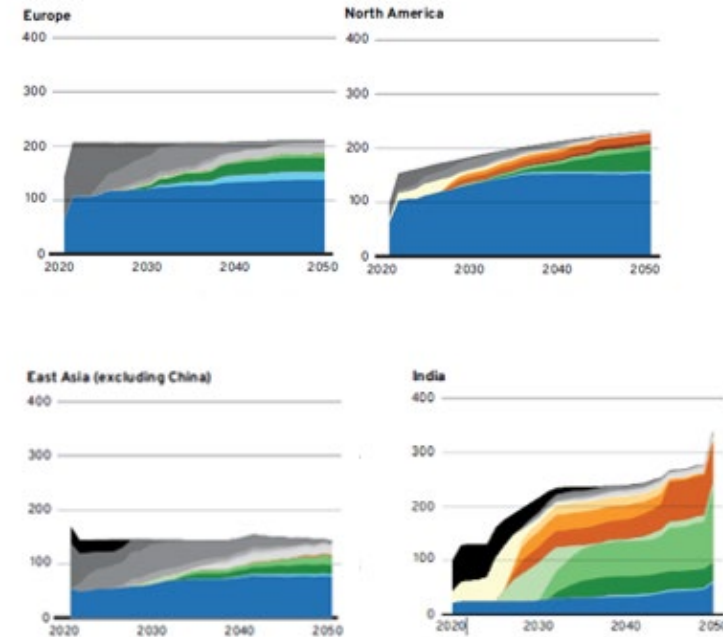
Implications for Decarbonisation Pathways

Heterogeneity in key factors shape various decarbonisation pathways



DIFFERENT PATHWAYS

Carbon Cost scenario crude steel production, in Mt



Source: MPP, 2022



Implications of Heterogeneity for Definitions

DIFFERENCES IN ...

 Emission Reduction Objectives

 Fairness

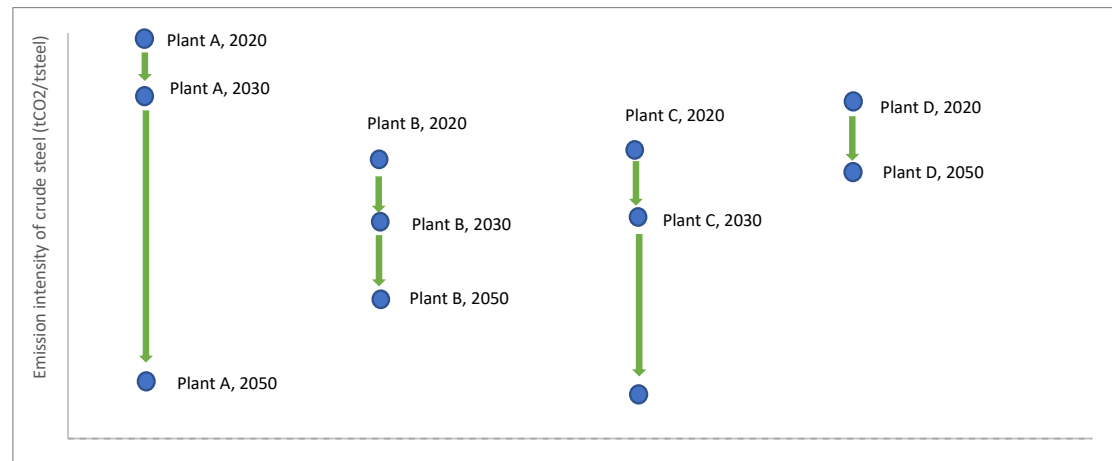
 Abilities

 Incentives

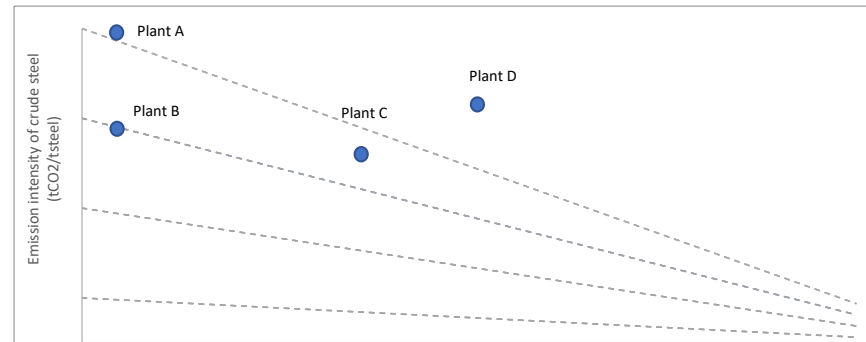
 Time horizons

 Product Quality

Heterogeneities shape differences in starting points & in capabilities to transform...



... resulting in a different positioning towards emission thresholds





Implications for Emission Measurement Standards (EMS) & Data Collection Frameworks (DCF)

COMPREHENSIVENESS



Diverse production routes, raw materials, energy sources to be covered



New routes / inputs to be included



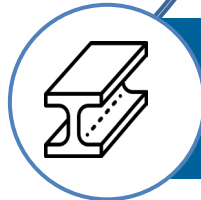
For product types, appropriate scope boundaries to be reflected

ABILITIES



Across firms, uneven abilities towards data collection, infrastructure, reporting

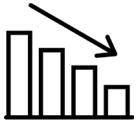
TRADE & INTER-OPERABILITY



For trade, need for EMS / DCF to enable data comparability & inter-operability between definitions



Heterogeneity – Considerations for implementation



Acknowledging **heterogeneity** should go hand in hand with **ambitious** emission **reduction objectives**

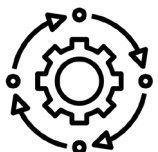


Taking heterogeneity into account requires **accompanying policies** for implementation

>> **Heterogeneity** across countries in **policy** choices / tools



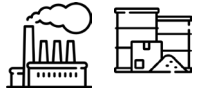
Different views, but crucial that potential different definitions / methodologies enable **like-for-like comparison (trade)**



Level playing field: Ensuring practical implementation of definitions may include adjustments mechanisms or temporary measures



Conclusions & Recommendations



Heterogeneity in the steel industry and in decarbonisation pathways should be taken into account

when developing definitions, emission measurement standards, data collection frameworks



Differences in abilities, time horizons, incentives, innovation, quality products should be acknowledged

to ensure that standards and definitions are fit for circumstances across countries



Ensure an inclusive and comprehensive approach when developing standards and definitions

for an efficient steel decarbonisation agenda (lead market, technologies, trade..)



Include the steel industry, policy makers in relevant domains & other stakeholders when developing standards & definitions

to foster policy support on steel decarbonisation and encourage standards adoption



Heterogeneity – Wider policy implications

Heterogeneity implies different policy choices across countries

Differences in...



Granularity / Level of implementation

Climate, energy,
industrial policies

Cross-sectoral
policies / cross-cutting
technologies

Steel sectoral policies



Targeted field

Innovation

Production

Demand / market

Trade

Social / jobs

...



Policy Tools

Financial support,

Tax incentives,
Revenue guarantees,

Carbon price,
Taxonomies

Standards, GPP
Sectoral targets,
Trade measures...



Heterogeneity – What's next?

Link with other international fora

- **Climate Club: initiative from the German 2022 G7 Presidency**
 - Objective is to **accelerate industrial decarbonisation** in an inclusive way
 - Focus in the coming period will be on **steel & cement**
 - Interim Secretariat by **OECD & IEA**
- **OECD Steel Committee**
 - Heterogeneity of **companies'** decarbonisation strategies & **policy options**
 - Heterogeneity in **scrap** supply /demand /trade in a net-zero context



THANK YOU FOR YOUR ATTENTION