

*Presents*

International Conference on  
**GREEN & SUSTAINABLE IRON MAKING**

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January 17 – 18, 2024



# Agenda



Climate change: Global and Indian context

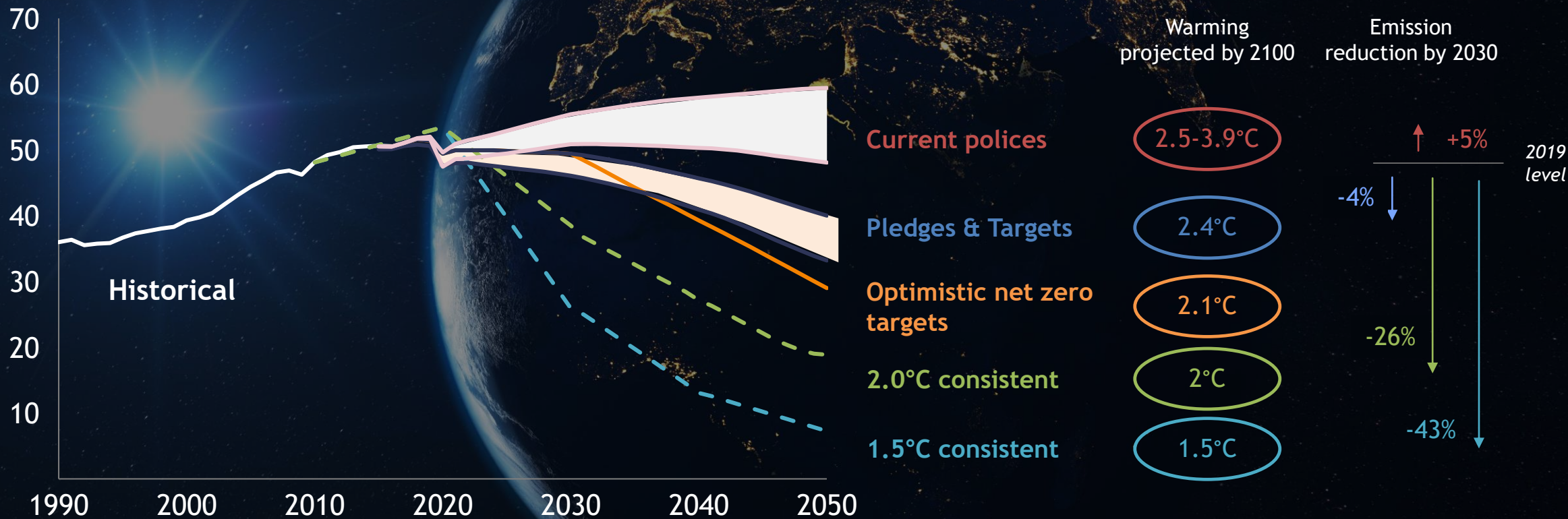


Implication for steel industry



# Global emissions must be cut by 43% in this decade for the world to reach the 1.5°C limit agreed in Paris

Global GHG emissions (GtCO<sub>2</sub>e/Yr.)



Note: Pledges & Targets includes the NDCs submitted to the UNFCCC and long-term or net-zero targets included in countries' long-term strategies submitted to the UNFCCC or adapted in law. It includes the long-term and net zero targets of: Canada, Chile, Costa Rica, the EU27, Japan, Norway, Singapore, South Africa, South Korea, Switzerland and the UK. It also includes the announcements (yet to be submitted to the UNFCCC) from Canada, China, Japan, South Africa and Ukraine. China's final intentions are unclear.

Optimistic Targets assumes implementation of the net zero targets by the US, China and others that have announced such targets but have not yet submitted them to the UNFCCC

Source: [Climate Action Tracker](#)

# Recent global accords increasingly underline the need for urgent actions to be taken to address climate change with access to financing a key pillar of action



Consensus on **energy transition elements** incl tripling renewables, doubling energy efficiency and phase down of fossil fuels



Agreement on sector-specific resilience objectives and need for **doubling of adaptation funding** to close finance gap.



**NDCs to cover all emissions, sectors and categories** and have targets for 2035 (due by end 2024)



**Loss and Damage fund** operationalized, \$792M committed for capitalization



Universal corporate recognition towards climate change action - **focus on Scope 1 & 2 reduction**



Need for **region-specific agendas** to balance energy transition & energy resilience



Recognized **cross-sectoral innovation** as a driver of sustainability



Consensus on **need to mobilize green transition funds faster**



Recognized **need for global peaking to occur by 2025** through deep emission reduction



Encouraged growth in **RE capacity & improvement rate of energy efficiency**



Concerns on significant **net-zero transition financing** required & actions to mobilize funding



**Limited clarity on timelines & goals** with dependence on fossil fuels not addressed



# Significant policy push towards climate action by global powerhouses...



## United States

- Inflation Reduction Act (IRA)
- Infrastructure Investment & Jobs Act (IIJA)
- Adoption of emission standards for the mobility sector



## European Union

- Revision of the EU Emissions Trading Scheme (ETS)
- Green Deal Industrial Plan (GDIP)
- Activation of the Carbon Border Adjustment Mechanism (CBAM)
- Introduction of energy efficiency & RE targets



## India

- BEE regulated development of the domestic carbon market
- Launch of the Green Hydrogen Mission
- Renewed push towards biofuels & renewable energy sourcing

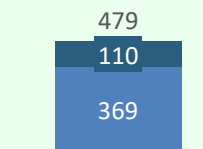


## China

- Launch of the China Emissions Trading Scheme (ETS)
- Incentivization of electrification of mobility & wider RE adoption

# ...and comprehensive financing initiatives to further green investments in US and EU

**United States** | \$479Bn in climate and energy spending via tax credits along with adoption and localization incentives



Total climate invest.

- Funding from IRA
- Funding from IIJA

### Implications for the private sector



**Reduce costs** through sizeable incentives

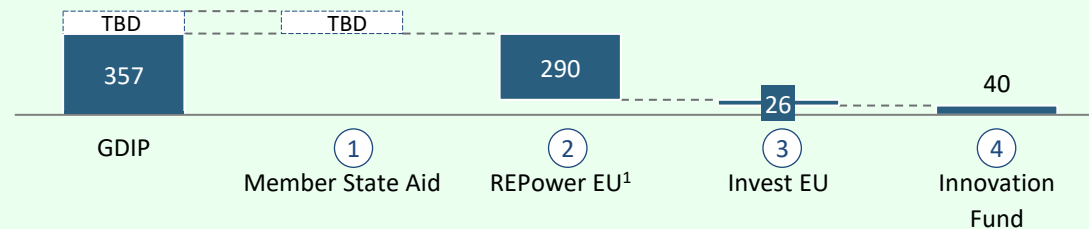


**Revamp decarb. plans** basis shifts in clean tech



**Capture early mover advantage** by proactively solving for bottlenecks & **pursue new value pools**

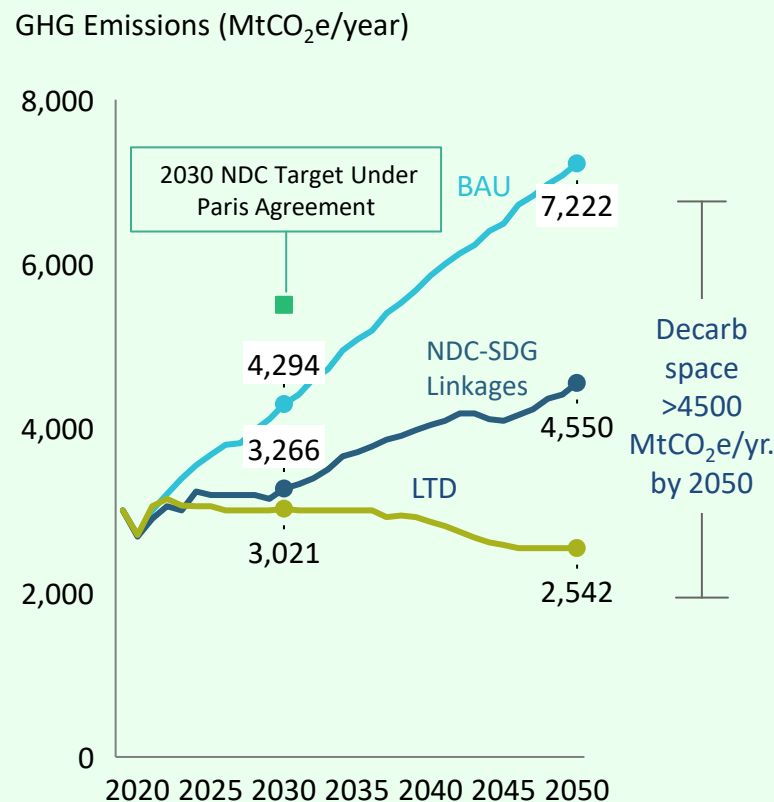
**European Union** | Green Deal Industrial Plan (GDIP) proposes to combine at least €357Bn of EU-level green transition funds and national-level state aid



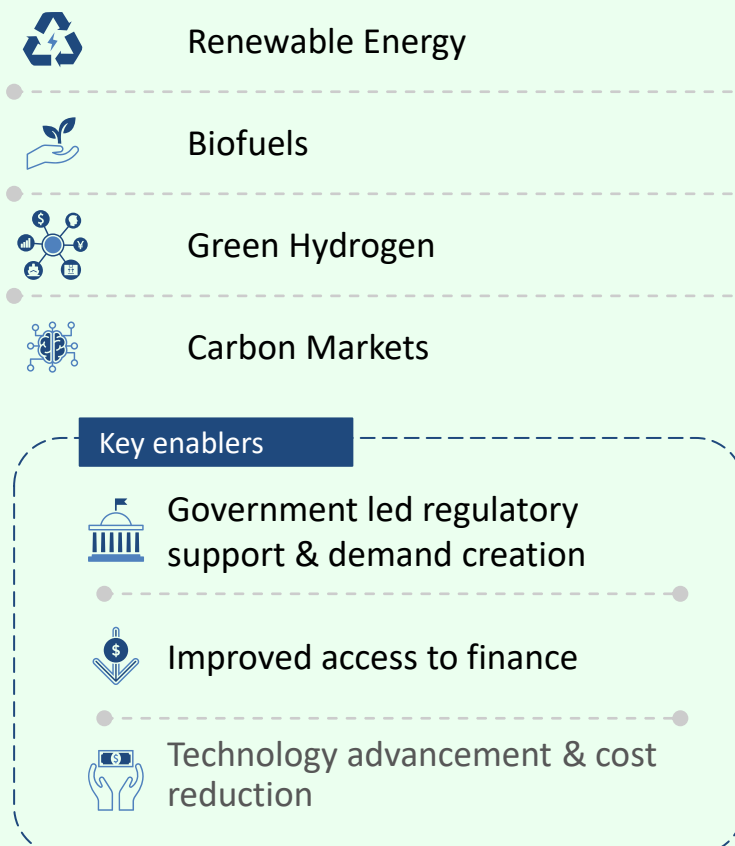
- ① To be unlocked via loosened state aid rules
- ② De-risk early-stage green tech. investments
- ③ Focus on fuel switch via energy efficiency & RE power
- ④ Address green premiums & fund net-zero supply chains

# India is committed to meet Net-Zero 2070 targets with actions underway on multiple fronts

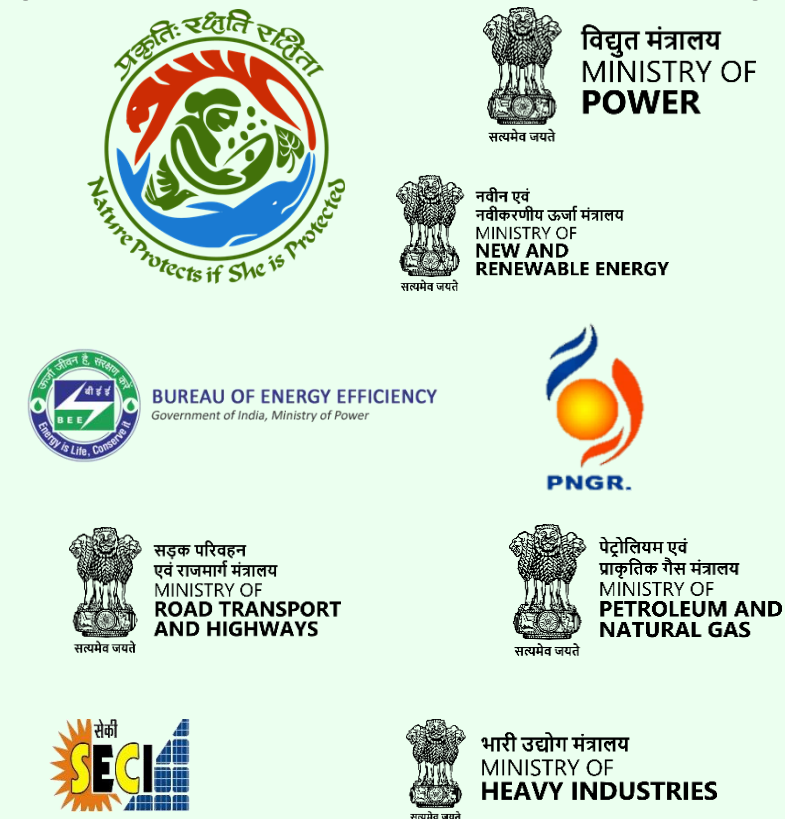
Indian green transition offers significant potential for decarbonization ...



... with actions underway across multiple abatement drivers ...

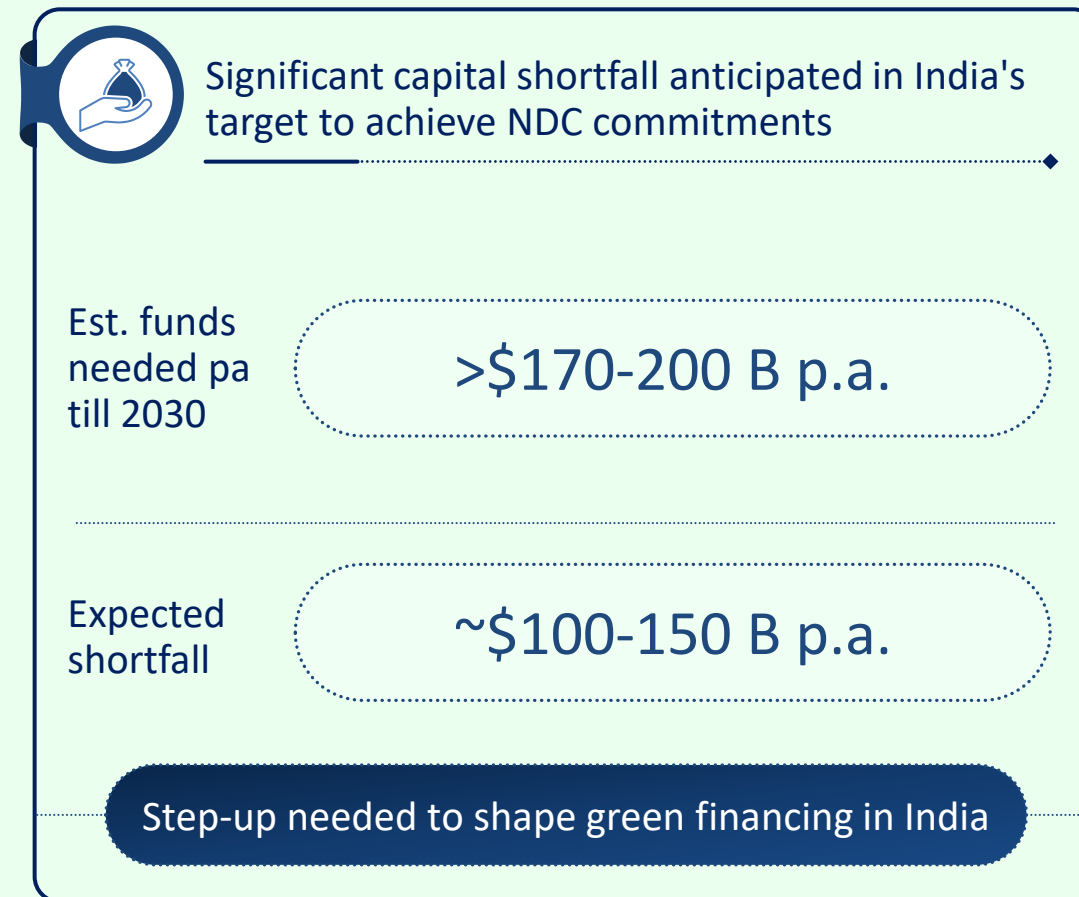
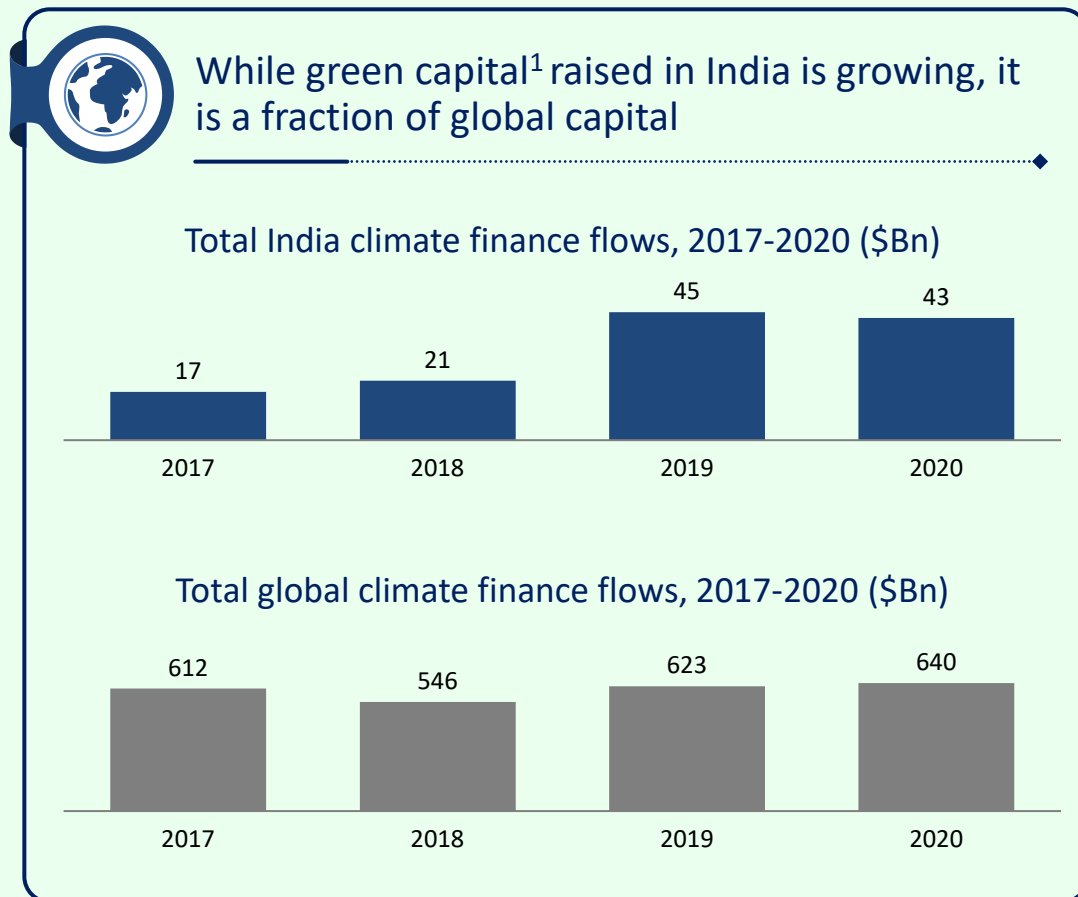


... governed by multiple regulatory bodies



Note: NDC-SDG scenario: policies that leverage interconnections between India's climate actions and Sustainable Development Goals (SDGs) for 2030; LTD (Long Term Decarbonization) scenario: policies with high potential for greenhouse gas (GHG) emissions abatement in the long term; BAU (Business As Usual): outcome with no GHG reduction policy  
Source: [WRI report](#), BEE reports, PIB announcement, Press search, BCG analysis (2022)

# Investments in India are increasing with a need to increase even further...



1. Including debt, M&A, and equity funding  
Source: CPI, Business Standard; World Economic Forum; Council on Energy, Environment and Water

# Representing 15% of the country's total emissions, the steel sector is a key decarbonization target for India to meet its 2070 Net-Zero commitment

With a 2070 Net-Zero target, India is pushing to decarbonize hard-to-abate sectors like steel

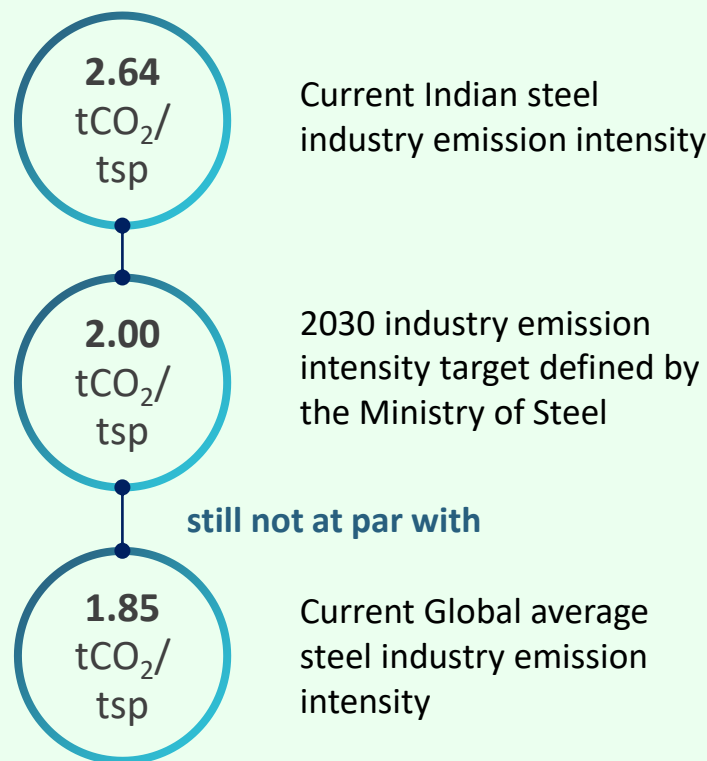
## Decarb. policy actions at national level

- PAT (Perform, Achieve, and Trade) scheme
- RPO (Renewable Purchase Obligation) framework
- Vehicle Scrapping Policy

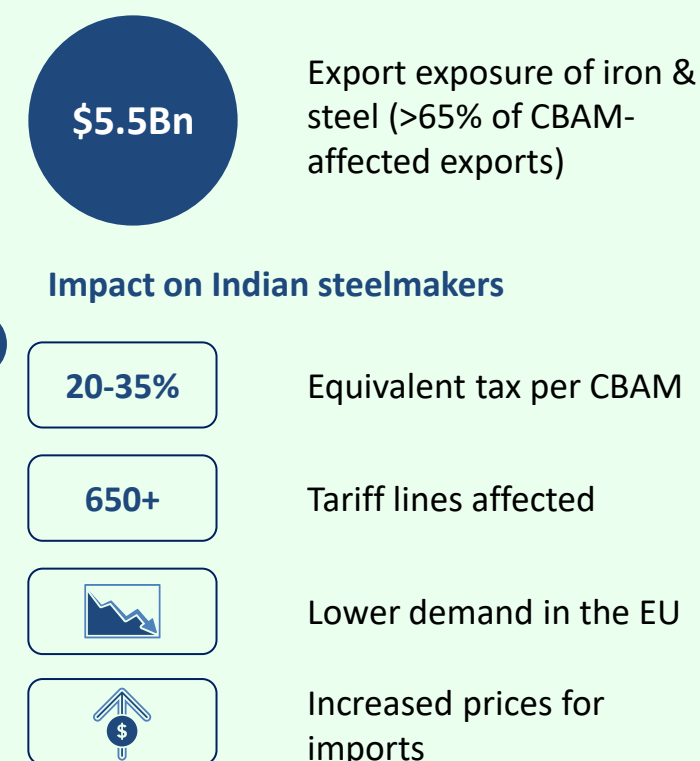
## Decarb. policy actions at industry level

- National Steel Policy
- Scrap Steel Recycling Policy

Short-term decarb. targets have been set for the industry which is expected to grow at >5% CAGR till 2030



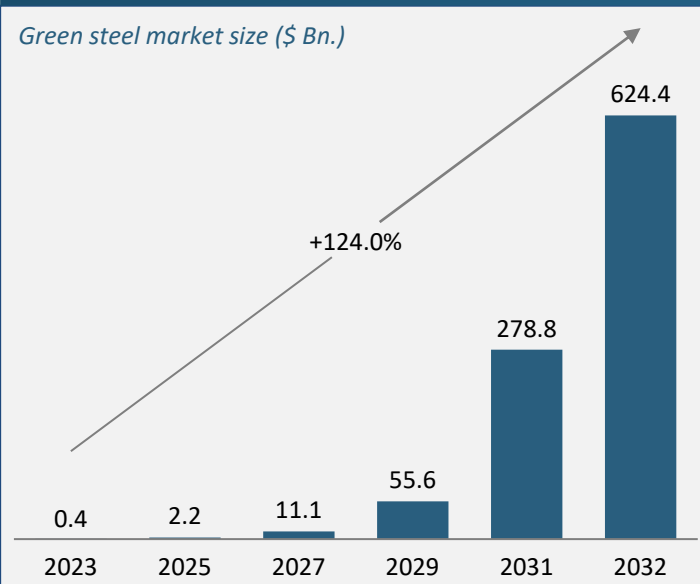
CBAM is expected to be a key decarb. driver due to India's heavy export exposure



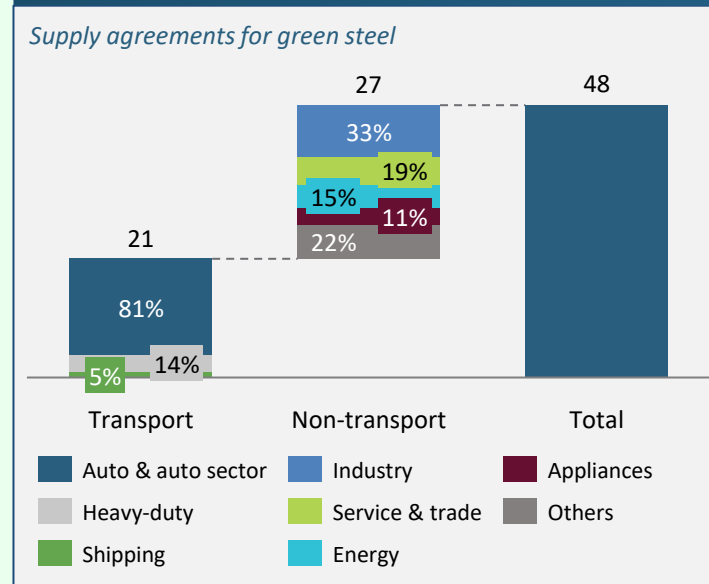


# Globally, the transition towards green steelmaking is well underway

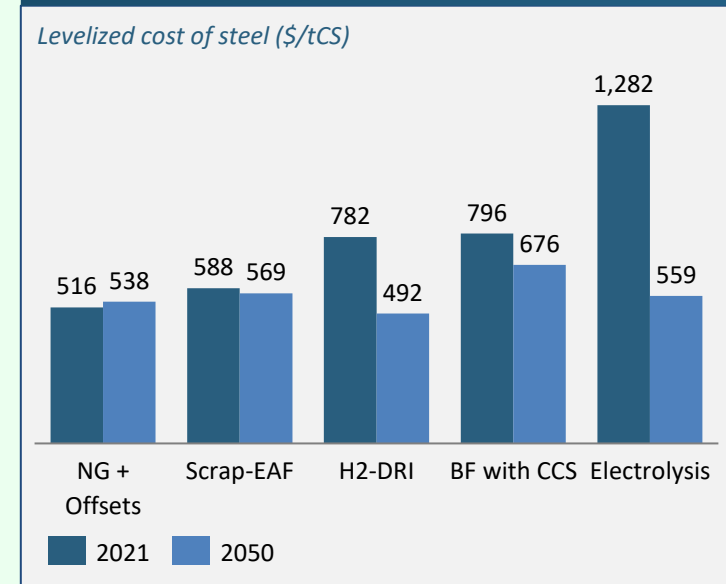
The global green steel market is expected to witness rapid growth...



...with demand from sectors with low material cost, allowing premium transfer to customers...



...and supported by a projected drop in production costs in the long run



Several initiatives are in place to drive the adoption of green steel

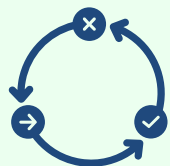


£130 Mn. grant investments for research & pilots on clean steelmaking technologies as part of the Research Fund for Coal & Steel supporting the EU Green Deal since 2021



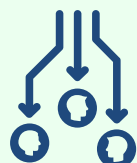
World's first batch of fossil-free steel produced using H<sub>2</sub>-based steelmaking tech. employed in Volvo's mining machine (2021)

## Hence, in summary...



### **Demand for low-carbon steel likely to increase in a carbon regulated regime...**

- As demand for steel increases domestically and globally, this demand will have to cater to stronger/more stringent low-carbon/sustainable regulations



### **Transformation process has been kick-started, but India still needs to catch up.** Both internal and external environment to shape up

- Internally, newer technologies to be adopted ranging from Green H2 and CCUS to mature tech
- Externally, standard definition of Green Steel in India to be established



### **Decisive action on green initiatives and market creation required from Indian steel companies**

- Pursue development and implementation of long-term science-based decarbonization roadmap with definite short-, medium-, and long-term milestones
- Develop differentiated go-to-market strategy for Green Steel (both globally and domestically)

