Excerpts from

Global steel industry decarbonization: *A luta continua*

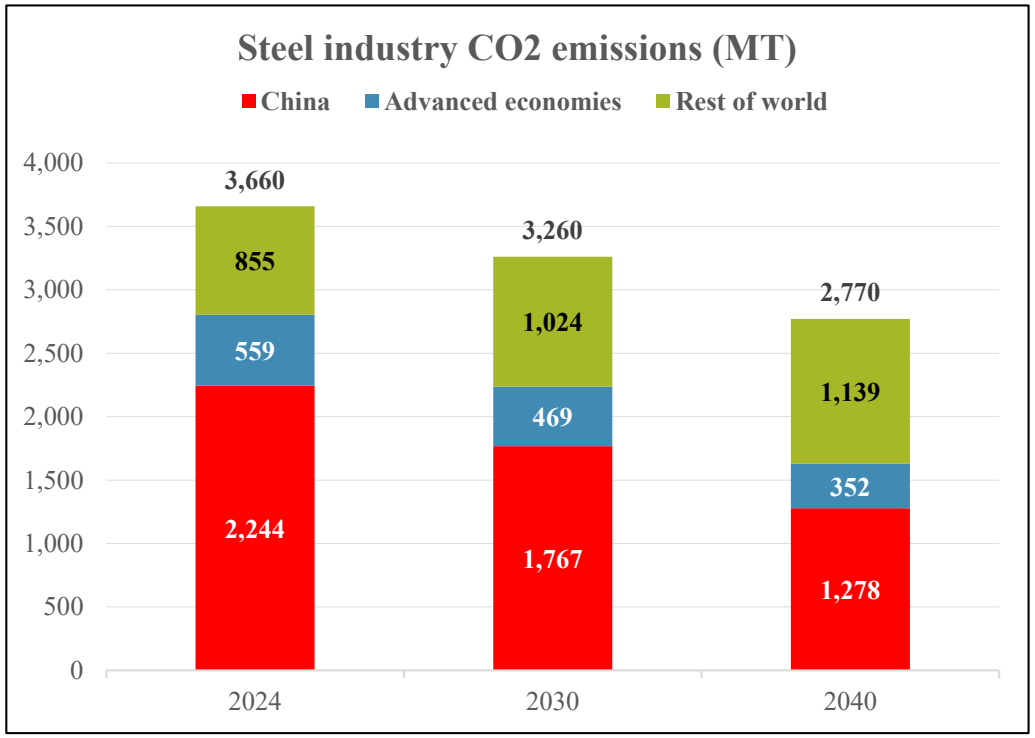
Progress report and forecast

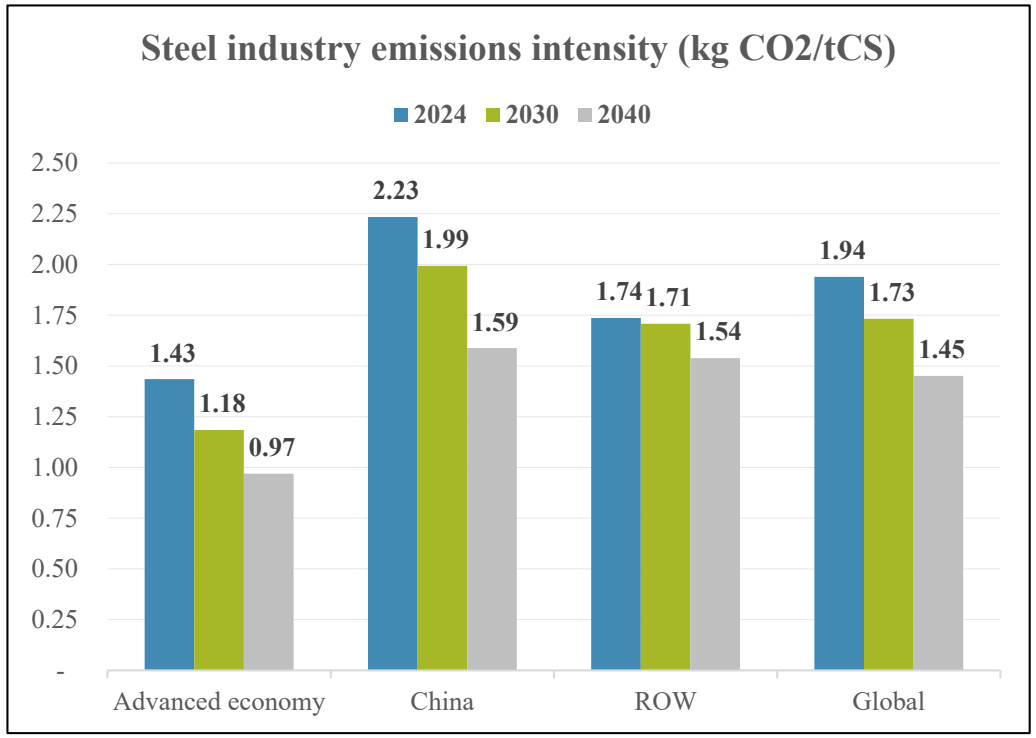
Report #5
January 2026

WSD WORLD STEEL DYNAMICS®

Steel industry emissions forecast

WSD expects global industry emissions to fall 24% to 2,770 MT by 2040, with China and the advanced economies showing sharp reductions while rest of world's emissions increase. Average intensity falls from 1.94 to 1.45 kg CO_2/tCS.

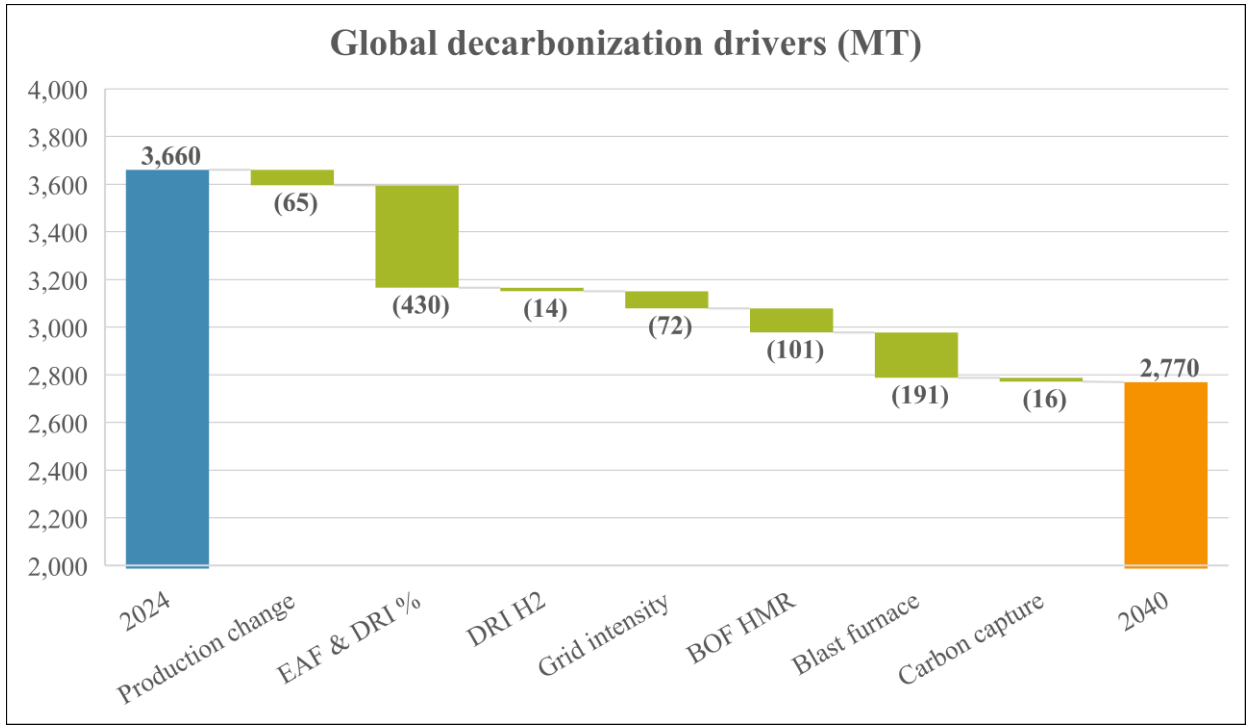




All references to "emissions" used in this Report are for Scope 1&2 CO2 emissions unless indicated otherwise.
Global steel production is expected to be range-bound between 1,800 and 1,950 MT until 2040.
Source: WSD analysis

Steel industry decarbonization drivers

EAF production growth combined with lower BF/BOF intensity drive most of the expected decarbonization. Green hydrogen use in DRI, reductions in grid intensity and CCS for DRI all make small contributions before 2040.

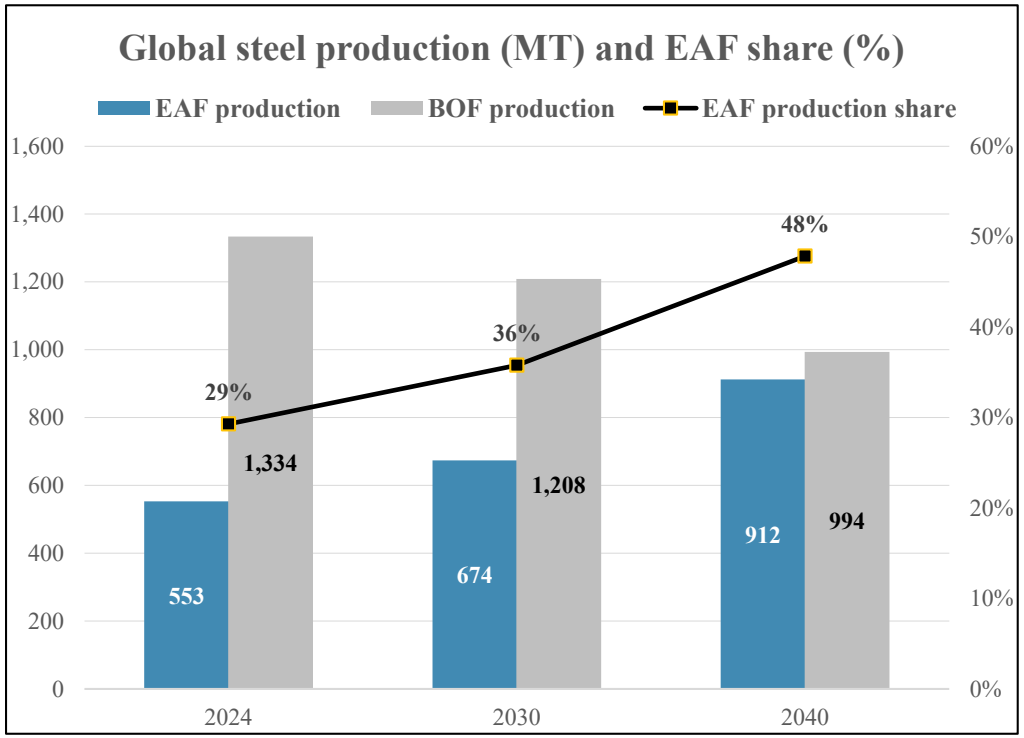


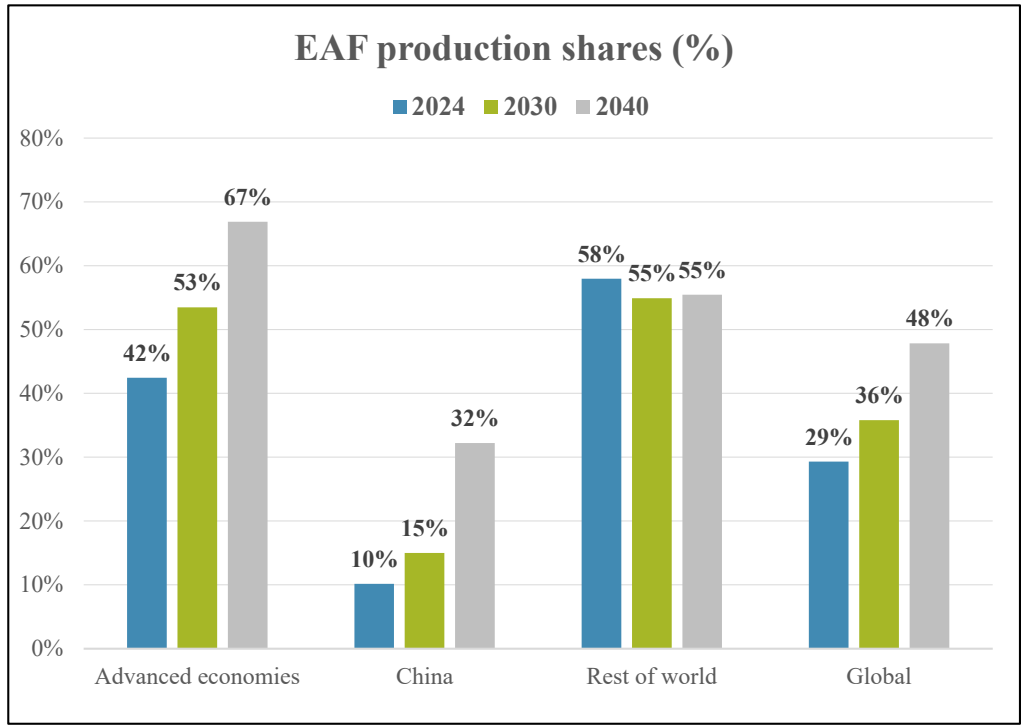
- **Production change:** CO2 decreases despite global production growth due to the large reduction in high CO2 China production.
- **EAF & DRI %:** CO2 decreases due to increased EAF production and share including impact of DRI production.
- **DRI H2**: limited impact from H2 used in shaft DRI plants
- **Grid intensity**: reductions in country average grid CO_2 intensities due to increased renewable energy.
- **BOF HMR (hot metal ratio):** emissions decrease due to increase in scrap use in BOFs..
- **Blast furnace:** emissions decrease due to improved fuel efficiency and the use of lower/non-fossil fuel sources.
- **Carbon capture:** carbon capture and sequestration in DRI production.

Source: WSD analysis

Steel industry EAF production share

WSD expects the global EAF production share to increase from 29% to 48% by 2040, with China's growing from 10% to 32%. Excluding China, the global EAF share reaches almost 60% by 2040.

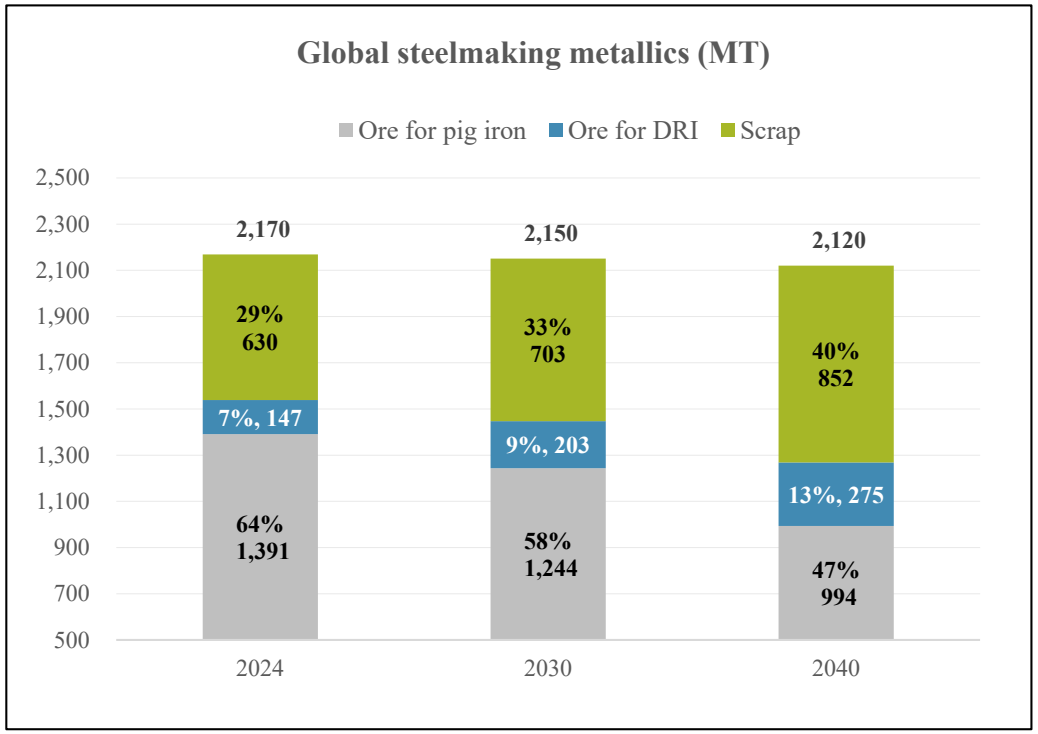


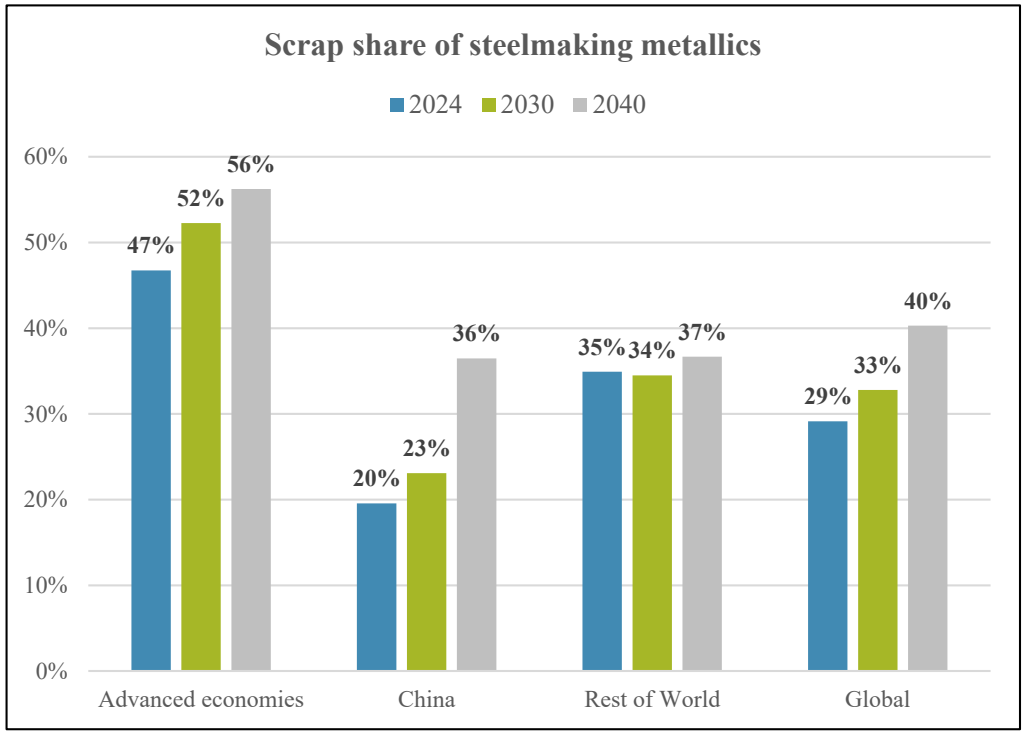


Source: WSD analysis

Raw materials: base case steelmaking metallics mix

Total steel industry metallics will remain flat in line with flat steel production. The scrap share increases from 29% to 40%, while iron ore for DRI (including BF ores used) increases from 7% to 13%, and iron ore for BFs falls to 47%.



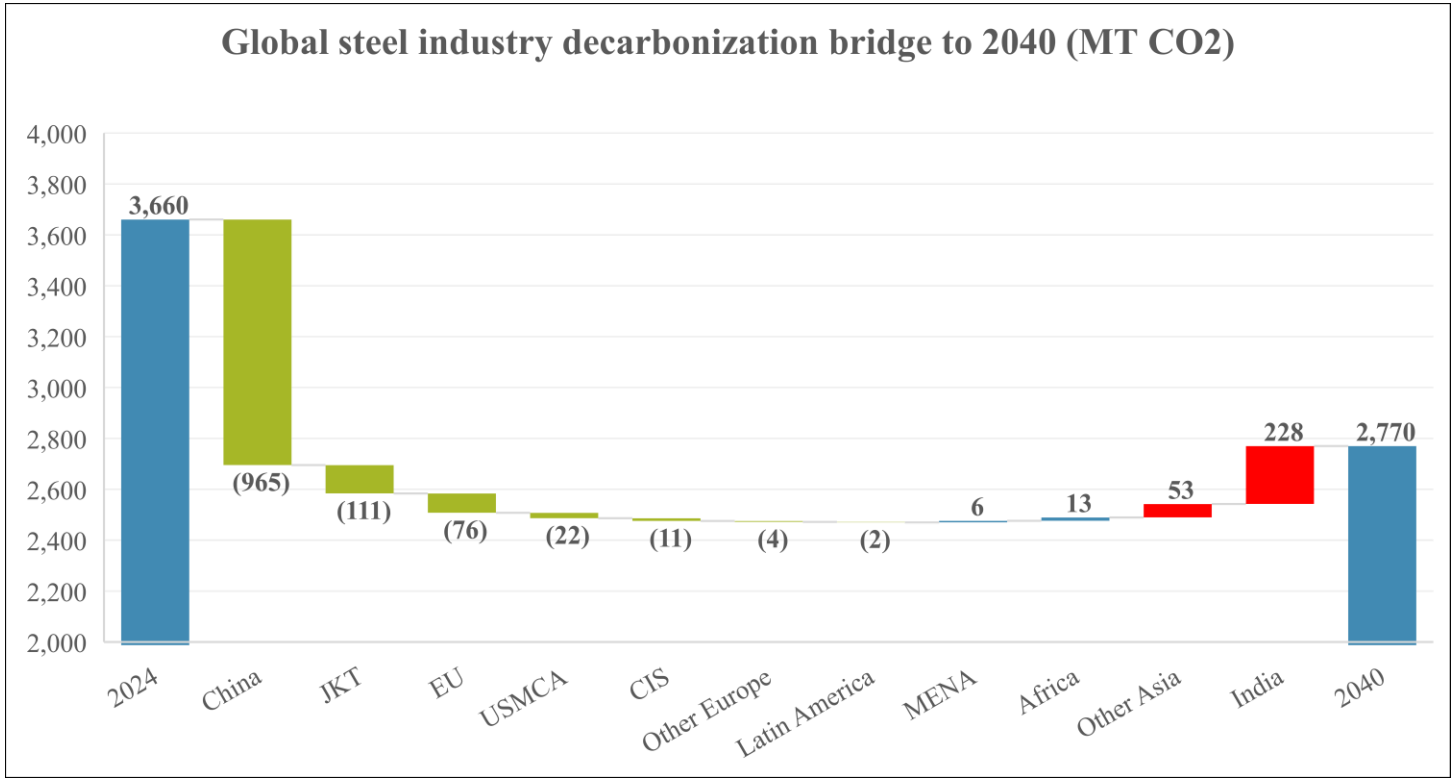


Iron ore yielded to useable iron at 1.45/1 t/t.

Source: WSD analysis

Shifts in region emissions

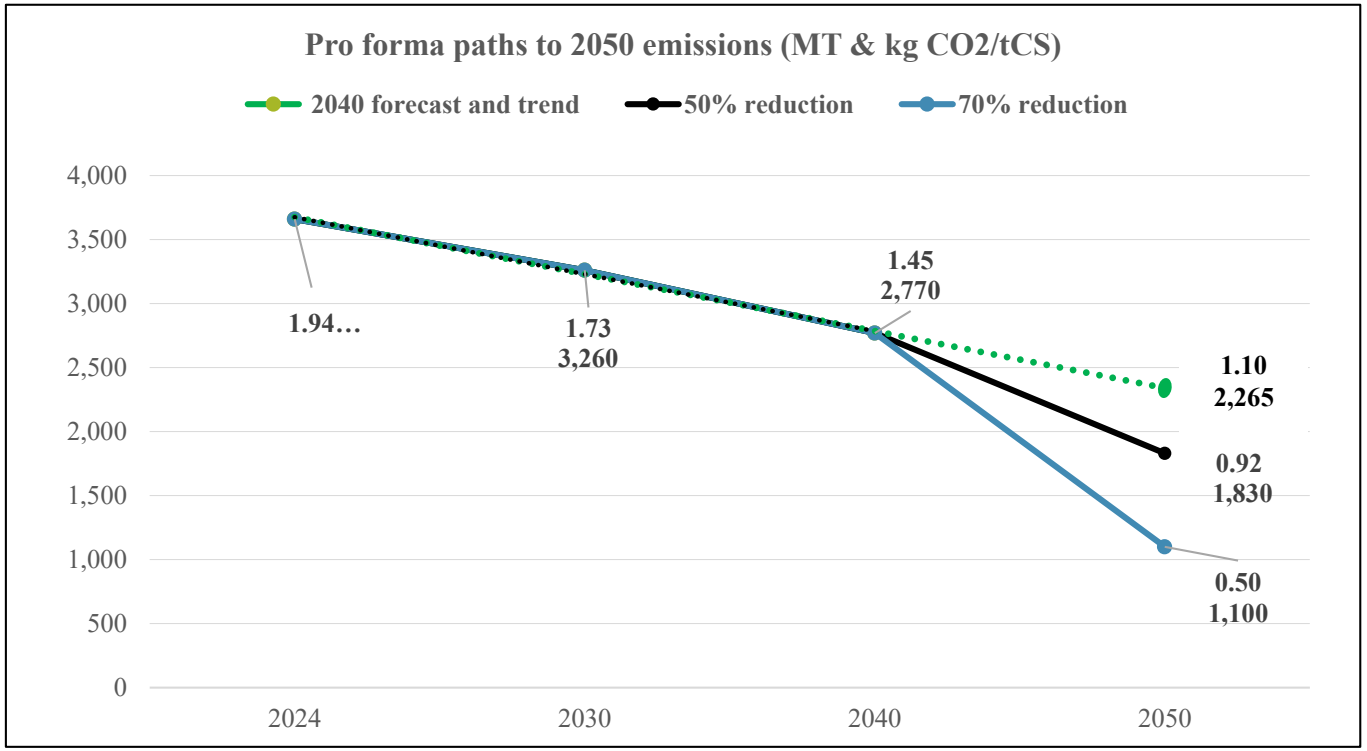
China's 965 MT decrease dwarfs increases in the rest of the world, particularly that of India whose total emissions increase despite a decrease in emissions intensity.



Source: WSD analysis

Paths to 2050

The current trajectory leads to 38% reduction in industry emissions by 2050, decreasing to 2,265 MT (1.10 kg/tCS). WSD believes a 50% reduction to 1,830 MT (0.92 kg/tCS) is achievable and potentially surpassable.



Assumes 2050 global steel production of 2,200 MT.

Source: WSD analysis