worldsteel’s climate strategy

Andrew Purvis | Director Sustainable Manufacturing
World Steel Association (worldsteel)
Open Forum, October 2022
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Sustainability is at the heart of what we do

- The member companies of worldsteel are committed to a vision where steel is valued as a major foundation of a sustainable world.

- This is achieved by a financially sound industry that takes leadership in environmental, social and economic sustainability.

- The production of steel remains a CO2 and energy-intensive activity. However, the steel industry is committed to continuing to reduce the footprint from its operations and the use of its products.

- Our industry fully supports the aims of the Paris Agreement.
Climate Matters

Average global CO2 intensity = 1.89 tonnes CO2 / tonne crude steel cast

Energy Transitions Commission, baseline scenario
Climate Matters

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Energy Transitions Commission, baseline scenario

BAU isn’t an option
A portfolio of activities to support our transition
Our Climate Strategy

1. Breakthrough technology (R&D phase)
   - Increased scrap availability
   - Demand increase

2. IEA scenarios
   - Steel production
   - CO₂ emissions
   - CO₂ intensity

3. Breakthrough technology (deployment)
1. Managing existing assets and near-term investment

- Every tonne of steel should be manufactured as efficiently as possible.
- On the road to the arrival of breakthrough technology, short and medium-term process efficiency gains will provide important climate change benefits.
- Step-up is an industry programme that supports improvements in mill operations to efficiency levels in line with the steel industry’s top performers.
- Open to all worldsteel’s members.
2. Maximise scrap use

Every steel plant is also a recycling plant, and all steel production uses scrap, up to 100% in the electric arc furnace (EAF) and 30% in the blast furnace (BF) route. All scrap that is collected is recycled.

Scrap plays a key role in suppressing industry emissions and resource consumption.

Scrap availability will significantly increase over the coming decades, providing a key lever for emissions reduction.
3. Breakthrough technology

Technology options are clear
First movers are building demonstration plants, low carbon steel is starting to appear on the market
There are several promising approaches that could be taken to reduce iron ore at industrial scale without the release of CO₂.
These fall into three broad categories:

- Using carbon as a reductant while preventing the emission of fossil CO₂, e.g. using CCUS and/or sustainable biomass.

- Substituting hydrogen for carbon as a reductant, generating H₂O (water) rather than CO₂.

- Using electrical energy through an electrolysis-based process.

Which breakthrough solution to deploy will be determined by availability of resources and policy support.
• The nature of the transformation
• What companies are doing
• How partnership will ease the transition
• Measuring and tracking progress
• Changes in raw material and energy requirements
• The role of customers and the finance community in shaping markets
worldsteel contact

Andrew Purvis
Director, Sustainable Manufacturing
purvis@worldsteel.org