



UNDER STRICT EMBARGO UNTIL 0900 hrs EST Wednesday 21 September 2022

## **Steel industry leaders back action this decade for net zero by 2050**

Mission Possible Partnership maps action in next 10 years to decarbonise materials production by mid-century

Leading companies in the steel sector have endorsed a new strategy from the Mission Possible Partnership (MPP) for action to decarbonise the sector in this decade. Backed by key industry leaders the tally of endorsements reflects growing momentum among high-ambition companies for action in the near-term to make the global goal of net zero 2050 viable.

Signatories to the report include ArcelorMittal, Companhia Siderúrgica Nacional (CSN), Liberty Steel, SSAB, Rio Tinto, Tata Steel, thyssenkrupp and Vale. The report is an ambitious but achievable strategy, detailing what the global steel industry could look like in a zero-carbon world and what is required to get there in terms of energy, infrastructure, financing, and policy.

Matt Rogers, CEO of MPP said: “This Steel Transition Strategy is operationally relevant and industry-backed, not wishful thinking or pie in the sky. We know how to reduce emissions, initially deploying resources and technology available today. The imperative is to act now, in this decade: we’re working with industry, supply chains and finance to deliver the clear thinking and asset-by-asset plans to make net zero viable”.

### **Strategy creates shared vision for near-zero emissions industry**

The new edition of the Steel Transition Strategy builds on MPP’s earlier ground-breaking steel report, released in 2021, which mapped critical steps for decarbonisation decade by decade - including emissions data and real-economy milestones - for the sector to achieve net zero emissions by 2050.

Steel is integral to the energy transition, serving as a critical material for technologies such as wind turbines, electric vehicles, and advanced manufacturing processes. Current steel production is emissions-intensive, accounting for 7% of global greenhouse gas emissions. Industry transformation is both essential and possible for a 1.5°C-aligned iron and steel sector.

While net zero steel by 2050 is the goal, the strategy describes action that needs to be taken this decade if the sector is to achieve that objective. Both steelmaking technologies and enabling energy infrastructure will need to be ready in the 2020s to enable the rapid shift to near-zero-carbon production processes in the following decades.

### **Key insights**

- There is no silver bullet to achieve net-zero steel. While various pathways could help to achieve this goal by 2050, the pace of technology development and deployment will make or break the sector's 1.5°C-aligned 'carbon budget'. Rapid progress in the 2020s is crucial to curb cumulative emissions from steel in the next three decades
- Production capacity for near-zero-carbon primary steel equivalent to about 70 plants should be operational by 2030, building to 530 plants by 2050. The pace of announcements is accelerating. However, even if the current pipeline of 'low carbon' primary steel capacity were to achieve 'near-zero' emissions by 2030, this would deliver less than a third of the capacity required.
- Total investment for commercialisation and deployment of technologies to achieve net zero steel could cost \$170 billion – \$200 billion each year to 2050, of which the larger share is outside the industry. More than two-thirds of this investment is required for supporting infrastructure, primarily for energy supply.
- The transition to net zero will have significant resource implications, with large increases in required hydrogen, clean electricity, and natural gas inputs but a stark decline in coal.
- Costs for near-zero-carbon steel will be higher than carbon-intensive alternatives for the foreseeable future, although the cost gap will reduce over time. Bridging the resulting price gap will require buyers of steel in the automotive, energy, and consumer goods sectors initially to buy green steel at a premium.
- Policy support is essential to drive the transition. Policymakers need to create a level playing field between different regions with different paces of change, which would ideally be achieved through multilateral cooperation.

### **Endorsing companies**

Signatories to the report at September 20, 2022 include:

- ArcelorMittal
- Tata Steel
- thyssenkrupp Steel Europe
- SSAB
- Liberty Steel

- Companhia Siderúrgica Nacional (CSN)
- Danieli
- Rio Tinto
- Vale
- Iberdrola
- Linde
- Vattenfall
- bp
- HSBC
- ResponsibleSteel

### **To download the report**

Please go to the MPP website:

#### **Making Net-Zero Steel Possible**

<https://missionpossiblepartnership.org/wp-content/uploads/2022/09/Making-Net-Zero-Steel-possible.pdf>

### **Interactive tool**

MPP has released an interactive ‘Explorer’ tool to compare decarbonisation pathways for typical steel mills in different regions, with the functionality to generate custom user scenarios. The Python model for STS analytics is also available, full model code, outputs, and open-source input data are available for companies, financial institutions and governments to develop their own view of the transition.

#### **Steel: Explore the Net-Zero Transition**

<https://dash-mpp.plotly.host/mpp-steel-net-zero-explorer/>

<https://github.com/missionpossiblepartnership/mpp-steel-model>

### **Making net zero industry possible**

MPP seeks to inspire cross-sector learning and real-world projects that will translate global strategic thinking into local action.

This Steel Transition Strategy joins a series of industry transition strategies developed by MPP to guide decarbonisation of seven hardest-to-abate sectors. Of these, four are from the materials industries: aluminium, chemicals, concrete, and steel. Transition strategies for the mobility and transport sectors - [aviation](#), [shipping](#), and [trucking](#) – were released earlier this year and are available online.

Each sector transition strategy is premised on the same modelling assumptions, to enable policymakers and financial institutions usefully to compare the findings of all MPP sector transition strategies.

## **MEDIA CONTACT**

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The Mission Possible Partnership is an alliance of climate leaders focused on supercharging efforts to decarbonize some of the world's highest-emitting industries. By leveraging the convening power, talent and expertise of world-leading organizations on climate action, the MPP aims to trigger a net-zero transformation of seven industrial sectors; Aviation, Shipping, Trucking, Steel, Aluminium, Chemicals and Concrete. MPP is led by four core partners: the Energy Transitions Commission, RMI, We Mean Business Coalition and the World Economic Forum. Our goal is to propel a committed community of CEOs from carbon-intensive industries—together with their financiers, customers, and suppliers—to agree and act on decarbonizing industry and transport in this decade.