



MISSION POSSIBLE PARTNERSHIP

Global strategy for net-zero steel backed by industry leaders

The Mission Possible Partnership (MPP), in collaboration with the Net-Zero Steel Initiative, today released a steel sector transition strategy outlining the pathways to net-zero carbon emissions by 2050, chief among them starting to move investments in the next decade to clean steel plants. Endorsed by major global steel producers including ArcelorMittal, Severstal, Tata Steel, SSAB, Liberty Steel, iron ore supplier Rio Tinto and breakthrough steel technology company Boston Metal, the ***Net Zero Steel Sector Transition Strategy*** provides a shared vision for the industry's low-carbon future, rooted in technical and economic reality.

Fully realised, it would reduce the sector's carbon share of global energy sector emissions from seven percent to less than one percent. It also provides detailed reference points for the changes that will be needed over the next 30 years to deliver deep decarbonisation of the sector. The plan will shape corporate target setting, inform priority actions, trade-offs and decisions by critical stakeholders, and enable a coherent set of commitments across the value chain, which together will unlock investment in zero-carbon solutions.

The industry is stepping forward

The transition strategy released today builds on ambitious climate targets set by steel producers representing more than 20% of global production capacity as well as a growing number of announcements about pilots and demonstration projects for breakthrough low-CO₂ steelmaking technologies.

However, steelmakers cannot decarbonise the sector on their own. Building and operating a close-to-zero-carbon steel plant will cost up to 55% more than emissions-intensive alternatives in the 2020s. Overcoming this 'green premium' through value-chain collaboration and supportive finance and policy frameworks is key to unlocking progress.

The next decade is critical

Long investment cycles of 20+ years mean that investments in new or existing steel plants from 2030 onwards should be compatible with a net-zero 2050 objective to avoid stranding these assets. For this to be feasible, several commercial-scale plants using (near-) zero-emissions technologies need to be built this decade to prove them at scale. If conditions can be put in place to support early progress, up to 1.3 Gt of cumulative CO₂ emissions reductions could be delivered by 2030, a significant

contribution to keeping the 1.5°C climate target alive. But delays to the development of critical technologies or to the build-out of zero-carbon hydrogen, electricity, and CO2 infrastructure would throttle the pace of the sector's transition and risk locking-in high emissions technologies for decades to come.

Major transformation of energy system is needed

There is no silver bullet for decarbonising steelmaking, as different technologies will be cost-competitive in different locations. But it is already clear that the energy system must undergo a major transformation to support a steel sector transition. Hydrogen use in the steel sector may grow to 1,200–1,800 TWh/year by 2050, eventually all coming from zero-carbon energy sources. Electricity demands, both to generate sufficient volumes of green hydrogen and to meet the needs of an increasingly electrified asset base, will increase by 11–13 times, equivalent to twice the demand of the entire EU27 today. By contrast, the replacement of blast furnaces with alternative steelmaking technologies may precipitate a 80-90% decline in demand for metallurgical coal in 2050 compared to today.

Commenting on the launch of the MPP sector transition strategy for steel **Aditya Mittal, CEO of ArcelorMittal**, said: “The MPP sector transition strategy clearly sets out the challenges for the steel industry to decarbonise as well as two illustrative pathways for the sector to achieve net zero. The most important message is that we can only achieve the sectors potential with the support and engagement of the full supply chain as well as policy makers and the financial sector. I believe this sector transition strategy can be an important catalyst for harnessing the power of a multi stakeholder approach and enabling the steel sector to achieve its full decarbonisation potential and make a significant contribution to the 2050 net zero target.”

It will take massive investment

Even without major transformation, the steel sector is projected to need more than \$30 billion in investment annually to meet growing steel demand over the next 30 years and maintain existing sites. Transitioning the global steel asset base to net-zero compliant technologies will require an additional \$6 billion investment annually.

The average cost of steelmaking in a deeply decarbonised world could be only 15% higher than today's high-carbon steelmaking as learning curve effects and expected declines in the cost of renewable electricity and hydrogen take hold. However, a significant “green premium will need to be bridged in the 2020s and 2030s. Short-term measures to address this could include carbon contracts for difference, public procurement, and bilateral premium off-take agreements with major steel buyers. In the medium term, these initial measures may need to be strengthened with both market-based and non-market-based measures, including carbon taxes, emissions trading systems, and emissions performance standards for products.

The MPP is mobilizing the full value chain to deliver on the net-zero goal

In the upcoming months, the Net-Zero Steel Initiative, with the support of MPP, will expand this global modelling effort to explore the critical regional dimensions that will impact the steel transition. This includes engaging with policy makers across major steel producing and consuming regions on the policies that will be needed to create the necessary conditions for the transition.

In parallel, the Net-Zero Steel Initiative is working to develop a strategy for how to achieve a critical scale of demand for low-emissions steel before 2030 and support the design of 'green steel' procurement initiatives, including the US Government-backed First Movers Coalition, SteelZero and the G7 Industrial Decarbonisation Agenda.

Finally, a group of banks, led by ING and Societe Generale, are jointly seeking to create a methodology to align their steel lending portfolios with a 2050 net-zero target. This framework for steel is modeled after the Poseidon Principles, a similar instrument used for the shipping sector. The Climate Aligned-Finance Working Group for steel has developed a reporting methodology for steel companies and lenders--informed by nearly 20 banks, industry and experts--and is currently gathering feedback on a proposed net-zero roadmap to benchmark sector emissions, incorporating one of the NZSI sector transition strategy scenarios.

Making Mission Impossible Possible:

Chad Holliday, Co-Chair at MPP said: "The kind of change we are talking about to get the steel sector to net zero is unprecedented. The climate emergency is a fight for our lives. The good news is that we now know more on how to keep the planet below 1.5 degrees and have shown radical collaboration is possible, even among competitors, despite a global pandemic. MPP's Sector Transition Strategies provide the map to guide corporates, financial institutions and governments in the years to come."

ENDS

MPP is an alliance of climate leaders focused on supercharging efforts to decarbonize heavy-emitting industries. The partnership is comprised of four core partners - the Energy Transitions Commission, the Rocky Mountain Institute, the We Mean Business Coalition, and the World Economic Forum. MPP's shipping work is led by the Getting to Zero coalition which represents over 150 members, accounting for more than a quarter of the shipping industry's market share by revenue, along with 14 supporting governments.