
First Movers Coalition
NearZERO Steel 2030
Join us in our mission to transition the steel industry towards a sustainable, carbon neutral future.
greenhouse challenge.

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NearZERO Steel2030

The need for Near-Zero Emissions Steel

Steel is one of the world's most important engineering and construction materials.

It is essential for housing, retail facilities, critical infrastructure, machinery, vehicles, and more. It is also a critical material for many technologies that will deliver the energy transition, such as solar panels, wind turbines, electric vehicles, and advanced manufacturing processes. Demand for steel is expected to rise by up to 30% by 2050, according to Mission Possible Partnership (MPP) projections.

STEEL PRODUCES 7% of GLOBAL EMISSIONS

The steel industry is one of the biggest emitters of greenhouse gases, producing around 7% of global emissions (approximately 3.5 billion tonnes of greenhouse gases), according to the International Energy Agency.

DEMAND IS INCREASING

According to Mission Possible Partnership (MPP) projections, demand for steel is set to increase up to 30% by 2050; meeting this demand whilst reducing emissions will be a significant challenge.

DECARBONISATION IS CRITICAL

Decarbonisation of the steel industry is critical to achieving our efforts to prevent catastrophic climate change and keep to the international goal of a 1.5°C pathway.

However, action is limited by the lack of commercial-scale deployment of near-zero emissions technology.

Near-Zero Steel 2030 Initiative: Near-Zero Emissions Steel by 2030

As part of its steel efforts, the World Economic Forum **First Movers Coalition** (FMC) is sponsoring this **Near-Zero Steel 2030** initiative, with generous financial support from Sweden, a FMC government partner, to support the emergence and commercialisation of breakthrough technology and innovation in the steel sector.

FMC's focus is Near-Zero Steel, the pinnacle of what is possible today, albeit not yet at a commercial scale. Our target for 2030, though ambitious, is crucial. Without scaling decarbonization technology this decade, global companies and governments will struggle to meet their net-zero 2050 goals. Indeed, the International Energy Agency (IEA) estimates that for the steel sector to reach net-zero by 2050, there needs to be a drop in emissions of 25% by 2030.

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Catalyst for Near-Zero Emissions Steel Deployment

Many obstacles to the rapid deployment of Near-Zero Emissions Steel

Lack of Technology at Commercial Scale
Whilst significant progress has been made throughout the steel industry to develop an understanding of the technology pathways needed to decarbonise through research, demonstration plants and pilots, etc., many of these have yet to be scaled commercially.

Insufficient Demand Signal
There is a lack of strong demand signals demonstrating a willingness to cover green premiums. Absent government incentives, this makes the investments required to scale supply risky and acquiring funding difficult.

Insufficient Collaboration
Novel production pathways often require collaboration between many actors including suppliers, financiers, demand-side buyers, and others. Source enabling technology companies and facilitate their connection to iron and steel makers. For example, these companies might produce hydrogen for direct reduction of iron and carbon capture technology for traditional blast furnaces retrofits.

Insufficient access to renewable energy
Most of the decarbonisation requires significant amounts of renewable energy that is not in existence today. Significant amounts of electricity are required for the production of green hydrogen, power an Electric Arc Furnace, or for other operations of a steel plant.

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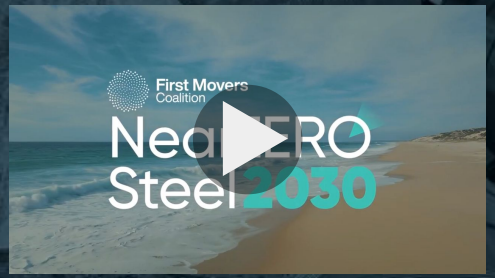
seeks to:



Click to play video

The objectives of the Near-Zero Emissions Steel initiative

Increase the Demand Signal
Identify credible demand signals from steel purchasers around the world and connect them with steel suppliers to catalyze scaled investment and offtake agreements. This will ultimately lead to production and delivery of near-zero emissions steel by 2030.

Trigger Commercial Scale Investment
Trigger investment, from public and private sector sources to scale near-zero emissions iron and steelmaking technologies such as hydrogen direct reduction of iron and carbon capture use and storage. In addition support investment in renewable energy generation and grid improvements.

Promote Collaboration
Source enabling technology companies and facilitate their connection to iron and steel makers. For example, these companies might produce hydrogen for direct reduction of iron and carbon capture technology for traditional blast furnaces retrofits.

Showcase Ambition and Innovation
The results of this challenge will be used to showcase high potential near-zero emissions steel projects and to spotlight innovation and ambition.

For more on this topic, please see **Mission Possible Partnership (MPP)** **Steel Sector Transition Strategy**

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Near-Zero Steel 2030 Challenge

Near-Zero Emissions Steel by 2030

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The **Near Zero Steel 2030 Challenge** is a global collaboration led by the **World Economic Forum's First Movers Coalition**, with support from **RMI** and **ResponsibleSteel**. The purpose of the challenge is to identify ambitious companies related to the demand, supply and enabling technology required for near-zero emissions steel within a 10-year time horizon.

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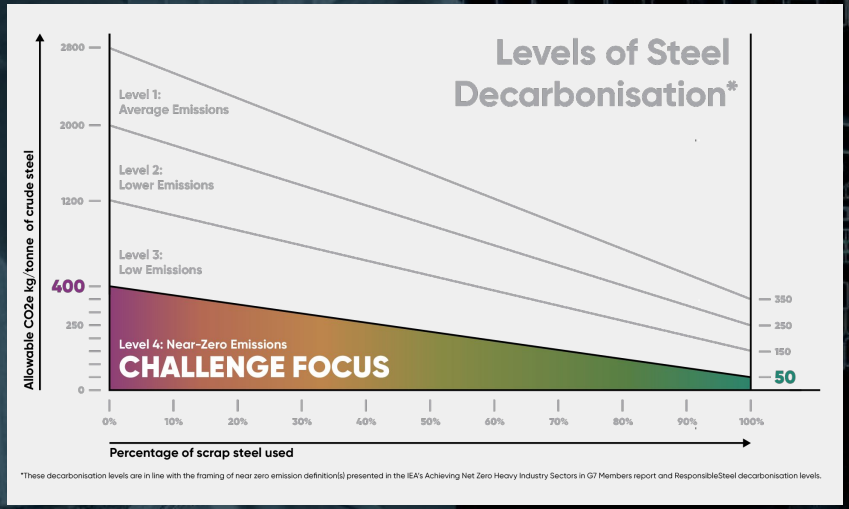

As defined by the IEA, near-zero emissions steel is steel that has less than 400kg of Carbon Dioxide equivalent (CO_2e) emissions per metric tonne of crude steel at 0% scrap used and less than 50 kg of CO_2e per tonne of crude steel at 100% scrap used.

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Near-Zero Steel 2030 Challenge Categories

This challenge hosted by **Greenhouse** is the first stage of the **Near-Zero Steel 2030** initiative to source interest from around the world in three sub-challenge categories to accelerate the transition to lower emission steel production globally.

Collaboration lies at the heart of our efforts to scale up the production of near-zero emissions steel to meet global demand. Critically, collaboration between mining companies, steel producers, innovative technology suppliers, and funding sources - both private and public - will be needed. This challenge serves as a catalyst for collaboration.

Collaboration Opportunities

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Near-Zero Steel 2030 Challenge - sub categories

Near-Zero Steel Demand

This challenge is for direct and indirect purchasers of steel from both corporate and government sectors to express interest in purchasing near-zero emissions steel by 2030.

Read more

Near-Zero Steel Supply

This challenge is for iron and steel makers to share details of their near-zero emissions projects that could supply steel; and create visibility to partnering opportunities.

Read more

Near-Zero Steel Enabling Technologies

This challenge is for innovators in the hydrogen, carbon capture, renewables and other technologies that could benefit iron and steel makers.

Read more

Industry

Signal demand for Near-Zero steel
Offtake agreements and creative co-investment

Foster direct relationships with key demand side
Iron ore partnerships and innovation collaboration

Establish connections with steel manufacturers
Partnership opportunities fostering innovation

Government

Promote challenge to key buyers
Leverage national policies to encourage participation
Participate as a public procurement demand player

Advertise challenge to key suppliers
Leverage national policies to encourage participation
Funding and grants to support transition

Tie efforts into policies to promote hydrogen, carbon capture and other technologies

Read more about the Near-Zero Steel 2030 challenge

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Sponsors and Supporters

This **Near-Zero Steel 2030 Challenge** is sponsored by the World Economic Forum's First Movers Coalition through the generous support of Sweden, a FMC government partner.

WORLD ECONOMIC FORUM

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Responsible Steel™ standards & certification

RMI ENERGY. TRANSFORMED.

BCG BOSTON CONSULTING GROUP

Deloitte.

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ABOUT GREENHOUSE

Climate change is the largest global challenge of our time. Greenhouse is a climate action ecosystem that connects climate tech innovators to investors, corporate partners, academic experts, government agencies, and other organisations.

CONNECTED, WE CO-INNOVATE FOR CLIMATE ACTION

TECH HUB

EPICENTRE OF CLIMATE ACTION

An ecosystem physical space for climate tech innovation, ecopreneurs, investors, government agencies, climate action groups, academic researchers, and committed corporates.

CLIMATE ACTION

FOR ORGANISATIONS

Greenhouse offers its Climate Action Pathway to closely guide your organisation to understand your emissions, set and achieve targets to reduce them, and create value along the way.

INNOVATION CHALLENGES

Greenhouse also offers Innovation Challenges to uncover promising new and existing climate tech to solve your biggest emissions reduction challenges while creating value, such as more demand, new business models, and markets.

Contact us: