



PART OF THE CLEAN ENERGY MINISTERIAL

The Industrial Deep Decarbonisation Initiative (IDDI) is the largest and most diverse coalition of governments and private sector working to decarbonise heavy industries, starting with steel, cement and concrete.

The challenge

Heavy industry drives the engine of our modern world, but emissions from the top five CO₂-emitting industries – steel, cement, concrete, chemical, aluminium and refining industry – account for 70 per cent of global industrial emissions¹. Demand for these globally traded materials will only increase as many countries around the world continue to industrialise. The world is expected to build the equivalent of another New York City every month for the next 40 years!² Most of this new construction will be developed using cement and concrete — the second most consumed product in the world after water, and one of the largest emitters of CO₂ in the built environment.

The production of steel, cement and concrete alone is responsible for 14–16 per cent of global energy-related CO₂ emissions. Their energy-intensive production processes must be decarbonised in the global effort to slash emissions. To decarbonise these important industries whole production processes need to be transformed, requiring significant innovation and investment.

A unique set of challenges

Firstly, the need for continuous high-temperature heat to produce steel, cement and concrete requires large amounts of energy, much of which is still dependent on fossil fuels. Secondly, the chemical processes involved in production are themselves a source of emissions.

While the numbers are daunting, the task itself is doable. The Energy Transitions Commission (ETC) has shown³ that net-zero carbon emissions from heavy industry is technically and financially possible and could cost less than 0.5 per cent of global GDP. But it's going to take a collective response from the world's governments and industry sectors to achieve it.

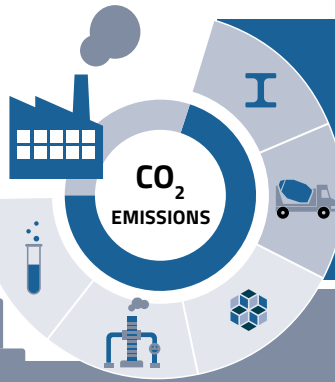
1 <https://www.sciencedirect.com/science/article/pii/S0306261920303603>

2 *UN Environment, Global Status Report 2017, cited in <https://architecture2030.org/new-buildings-operations/>

3 <https://www.energy-transitions.org/publications/mission-possible/>

Key facts

The top five CO₂-emitting industries (steel, chemical, cement, concrete, aluminum, and refining industry) account for around 70 per cent of total global industrial emissions.



Together, steel, cement and concrete are responsible for **14-16%** of global energy-related CO₂ emissions.

Government agencies are top purchasers of steel, cement and concrete, which can account for **40%** of cement and concrete and **25%** of steel nationally.

Public procurement for infrastructure is significant, estimated at **13%** of GDP of OECD countries.

The industrial sectors of Clean Energy Ministerial (CEM) member countries account for **81%** of energy consumed by global industry.

Our response

Over the next three years our unique coalition of governments and the private sector will work together to create a thriving market for near zero carbon industrial products.

There are two key gaps in promoting the decarbonisation of industrial sectors. The first is in data and standards: current systems do not capture all that is required to accurately evaluate embodied carbon along the supply chain. The second is in policy: green public procurement policy is still new in many countries, and in most it does not sufficiently account for the embodied carbon in goods and services procured. IDDI will address these gaps via three interconnected pathways designed to create an enabling environment and foster political commitment.

ENABLING ENVIRONMENT

PATHWAY 1

Building the foundations to enable a thriving global market.

Building on the work of existing initiatives, IDDI will establish global standards that define what low-carbon steel, cement and concrete is, and how to account for embodied carbon. We will also develop a harmonised global framework with publicly accessible data and the digital tools to access it. For example, IDDI will establish:

- consistent minimum standards for low-carbon steel, cement and concrete products to encourage best production and manufacturing practice;
- a standard environmental reporting mechanism for the cement, concrete and steel industries; and
- an evaluation process and tools for project bids which incentivise and reward public work contractors on their commitment to source decarbonised building materials.

PATHWAY 2

Empowering governments to buy near zero carbon materials for their public works.

With governments being top purchasers of steel, cement and concrete, we can leverage this purchasing power to buy goods and services with greater environmental performance, stimulating the market and rewarding businesses that have developed materials and services with lower environmental impacts. Based on key industry data collected through Pathway One, IDDI will set a globally recognised target for the public procurement of near zero carbon steel, cement and concrete. We will also:

- establish voluntary guidelines for governments to write policy and implement pledges;
- develop best practice on data and reporting;
- launch a free or low-cost certification service, enabling producers to demonstrate their commitment to the decarbonised production of steel, cement and concrete; and
- develop industrial decarbonisation training and knowledge to ensure that all cement, concrete and steel manufacturers can participate in the global race to net zero.

What is embodied carbon?

Embodied carbon means all the CO₂ emitted in producing materials. The embodied carbon of a building can include all the emissions from the construction materials, the building process, all the fixtures and fittings inside as well as from deconstructing and disposing of it at the end of its lifetime.

POLITICAL COMMITMENT

PATHWAY 3

Encouraging governments to disclose and reduce embodied carbon emission in public construction projects.

Within the next three years IDDI expects to have enabled a minimum of ten governments to pledge to reduce embodied carbon emissions of all major public construction projects by 2050 in line with a 1.5C global warming trajectory.

Governments joining IDDI will chose the level of ambition for their pledge:

Ambition level 1 DISCLOSE

By 2025, governments to begin to disclose embodied carbon emissions.

Ambition level 2 DISCLOSE + NET ZERO

By 2050, governments achieve net zero embodied carbon emissions in public construction.

Ambition level 3 DISCLOSE + NET ZERO + 2030 TARGET

By 2022, governments commit to work towards a bold pledge to reduce embodied carbon emissions as early as 2030.

IDDI government partners will provide information on their progress annually and share their learnings with other participating governments.

Our timeline

2021

Launch IDDI, publish GPP how-to-guide, design and negotiate a common procurement target, develop a GPP public campaign, launch specialised working groups to work on GPP, harmonized reporting & digital tools, harmonized standards.

End 2021-2022

Establish enhanced data and databases, create coalition to provide guidance on internationally coordinated public construction activities, develop harmonised procurement targets and standards.

2023

Continue development of coordinated action on public procurement, create harmonised material-specific pledges, galvanise public and private sector commitment to GPP.

Who's involved

Coordinated by UNIDO, IDDI is co-led by the UK and India and current members include Canada, Germany and United Arab Emirates (UAE), with more countries joining the effort. IDDI also brings together a strong coalition of related initiatives and organizations including the Mission Possible Platform, Steel Zero Campaign, The Climate Group, the Leadership Group for the Industry Transition (LeadIT), the International Renewable Energy Agency (IRENA) and the World Bank.



Contact us today to join the coalition and help us fast-track a green future with low-carbon steel, cement and concrete.

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