


DECARBONIZING STEEL, CEMENT AND CONCRETE

Aligning global standards to define low and near-zero emission materials


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Steel, cement and concrete are the backbone of our economies. But they account for just over 50 per cent¹ of all industrial emissions – and demand for these materials is rising. Decarbonizing these industries is essential for addressing the climate crisis. To drive momentum forward, in 2021 UNIDO and the Clean Energy Ministerial established the Industrial Deep Decarbonization Initiative (IDDI), a global coalition of governments and private sector organizations. Governments are among the top buyers of steel, cement and concrete. IDDI aims to harness this immense purchasing power to ignite a thriving market for these construction materials that generate low or near-zero emissions.


To achieve its aims, the IDDI is:



1. Establishing an approach for collecting **data and reporting** on low and near-zero emission steel, cement and concrete, including embodied carbon.



2. Harmonizing **global standards** to allow for comparability and define low and near-zero emission steel, cement and concrete.



3. Agreeing globally recognized **targets and best practices for the public procurement** of low and near-zero emission steel, cement and concrete.

An IDDI technical working group is responsible for each of these linked areas. Working Group 2 (standards) is chaired by the German Government's Federal Ministry for Economic Affairs and Climate Action, and consists of over 45 members from the private sector, government, civil society, intergovernmental organizations, trade associations, academia and think tanks from IDDI's partner countries.

To learn about the other two areas visit: [WG1 factsheet](#) | [WG3 factsheet](#) downloads.

1. <https://www.industrialenergyaccelerator.org/general/steel-and-cement-can-drive-the-decade-of-action-on-climate-change-this-is-how/>



The importance of aligned standards

Standards set out how companies can develop, manufacture and supply goods in ways that are efficient, safe and sustainable. They can have a major influence on the environmental characteristics of materials, products and manufacturing processes.

Fundamental to creating a thriving market is a coherent global framework. This framework must establish what constitutes low and near-zero emissions of steel, cement and concrete, and be supported by widely recognised production standards and benchmarks. Agreeing such standards will instill confidence among steel, cement and concrete manufacturers to invest in developing low and near-zero emissions products. Such standards will also make it easier for governments to understand and be secure in their decisions to procure such materials.

IDDI's focus on standards is building on the work of Responsible Steel, IEA and others. These organizations are already working to define and measure low and near-zero emissions materials for the built environment.



Working Group 2: key tasks

- **Agree a harmonized definition** of what constitutes low and near-zero emission steel, cement and concrete, taking embodied carbon into account
- **Collate the various standards** currently being used or developed by industry and other actors. Then, working with these initiatives, widen the use of these standards among various actors, countries and regions.
- **Agree global standards** on low and near-zero emission steel, cement and concrete to encourage best production and manufacturing practices.

Environmental product declarations

Steel and cement manufacturers may produce environmental product declarations (EPDs) voluntarily to facilitate transactions with customers who consider the environmental impact of the products they buy. Increasingly, public procurement regulations require environmental product declarations (EPDs) to be used when reporting the lifecycle emissions of construction materials. An EPD is the best available tool for stating the embodied carbon in a product, in a transparent and comparable format. They are independently verified and registered, and use a standardized approach to report the results of lifecycle assessments.

Standards and public procurement

Technical specifications in procurement tenders and contracts can state requirements on the maximum carbon footprint of a project. This enables companies to decide whether to bid, while providing measures against which procurement officers can evaluate tenders. Such specifications are formulated by referring to international, regional or national standards and definitions, which provide minimum compliance criteria.



IDDI is the largest and most diverse coalition of governments and private sector working to decarbonize heavy industries. It is coordinated by UNIDO, led by the United Kingdom and India and has Canada, Germany and the United Arab Emirates as members. IDDI is supported by a strong coalition of initiatives and organizations, including the [Mission Possible Partnership](#), the [Leadership Group for the Industry Transition](#), and the [Climate Group](#).

To find out more about IDDI visit: <https://www.industrialenergyaccelerator.org/areas-of-work/heavy-industry-decarbonization/>
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