



# A window of opportunity: five ways IFIs can support the transition to green steel in emerging and developing economies

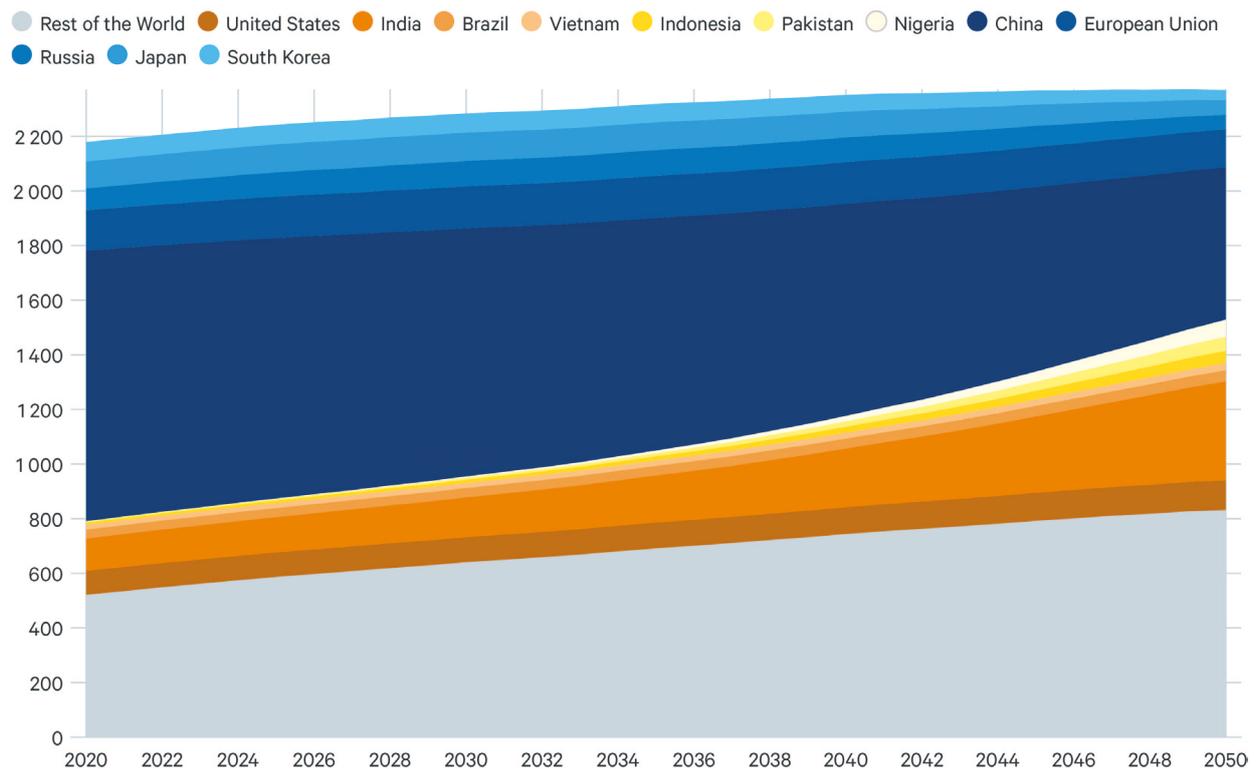
1. **Act as knowledge partners for governments to strengthen an enabling policy framework for green steel**
2. **Support country roadmaps for green hydrogen**
3. **De-risk and finance first movers in industrial production, small and medium-sized enterprises in green value chains, and utility-scale renewables**
4. **Support demand for green steel through procurement strategies in IFIs' own operations**
5. **Support secondary steel production and circular business models to scale up scrap-based production**

## A narrow window of opportunity to leapfrog to green steel production.

Demand for steel is expected to increase in the coming decades as population growth, industrialization, and urbanization in emerging economies continue. The need for these countries to leapfrog to green steel production provides a unique opportunity for IFIs to support the global steel transition.

A substantial amount of new steelmaking capacity will be added in developing and emerging economies by 2030. The largest increases in steel production are expected to happen India, Nigeria, Pakistan and Indonesia. This marks a geographic shift in global steel production to emerging economies where there is the greatest need for support for implementing low-carbon steel production.

### Projected steel production from 2020-2050



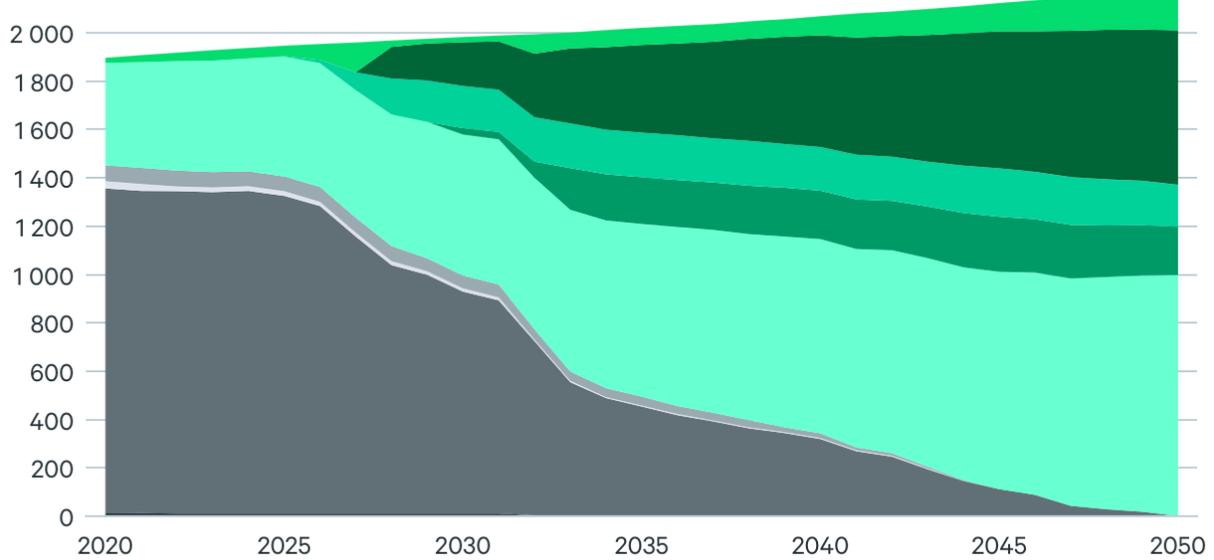
Adapted from Bataille et al., 2021

Most new low-carbon projects for primary production are in high-income countries and China, while developing and emerging economies to a large extent are planning on high carbon capacity

additions. At the same time, research shows that all new plants post-2025 must be strictly low-emission plants.

The 2020s are a crucial window in which the transition to green steel must be accelerated to avoid lock-in to high-polluting assets for the next 15-25 years. Currently, the steel sector accounts for 11% of global CO<sub>2</sub> emissions and there remains a large gap between announced carbon-intensive and low-carbon capacity in the pipeline.

**Steel production by technology globally in a net-zero pathway**



● OHF	Open Hearth Furnace	Fossil fuel without CCS
● BF-BOF	Coal-based blast furnace	Fossil fuel without CCS
● DRI-EAF-COAL	Coal-based direct reduction of iron	Fossil fuel without CCS
● DRI-EAF-GAS	Gas-based direct reduction of iron	Fossil fuel without CCS
● EAF	Scrap-based steel production	Electrified process (low-CO <sub>2</sub> electricity)
● BF-BOF-CCS	Coal-based blast furnace with CCS	Fossil fuel with CCS
● DRI-EAF-GAS-CCS	Gas-based direct reduction of iron with CCS	Fossil fuel with CCS
● DRI-EAF-H <sub>2</sub>	Green-hydrogen-based direct reduction of iron	Green hydrogen produced with renewables
● NSP	Non-Spatially allocated Production	Production moved to access CCS or green hydrogen

Adapted from Bataille et al., 2021.

Very few IFIs have strategies to support green steel production but there is a growing momentum to develop them. IFIs can play an important role in kick-starting the transition to green steel, especially in emerging and developing regions.

# Opportunities for IFIs to drive the steel transition

## 1. Act as knowledge partners for governments

IFIs can act as knowledge partners to countries as they develop their priorities. In this role, IFIs can support first steps toward green industry strategies with lower levels of funding. For some IFIs, financing large industrial actors may never be a good fit, but directing finance toward feasibility studies and developing policy frameworks can be a critical early step.

## 2. Support roadmaps for hydrogen

New technologies, such as hydrogen-based steel production, look soon ready for commercialization. Hydrogen has a role to play in the transition of several sectors, so IFI engagement for hydrogen could support multiple transition pathways. As a first step, IFIs can facilitate country roadmaps for green hydrogen in collaboration with governments and industry to send clear signals to investors and other market actors.

## 3. De-risk and finance first movers in industrial production, small and medium-sized enterprises in green value chains

By financing early adopters of low-carbon production technologies and practices, IFIs can help de-risk investments and mobilize other sources of private capital, help projects access other sources of official climate finance, and deliver credible due diligence to projects that can help to attract other investors.

IFIs can also play a role in financing innovative SME enterprises that are part of green value chains for industrial production. This approach may be a better fit for some IFIs than working with large established corporates. Hydrogen production and transport are good examples of potential IFI niches in the green steel value chain. Other opportunities could be found in value chains in scrap-based steel production. IFIs should also continue to support the deployment of utility scale renewables that are needed for the electrification of industrial processes.

#### **4. Support demand through procurement strategies in own operations**

On the demand side, IFIs could support governments in developing standards and green public procurement frameworks or roadmaps. IFIs can also develop their own green procurement standards, which, given IFIs' role in financing basic infrastructure, can be important for developing lead markets. The development of strategies and standards for defining green materials and products would send important market signals, and IFIs have the potential to play a key leadership role in setting the way forward on green procurement.

#### **5. Support secondary steel production and circular business models**

Steel production based on scrap must rise dramatically from a quarter of total global production to half of global production. Scrap-based production can be particularly important in the developing regions IFIs are engaged with. Our research indicates that this type of production can be a good fit with IFI priorities and financing given its clear climate benefits and the scale and location of projects. Furthermore, many IFIs are also placing a growing emphasis on circular business models.

This briefing is based on the research report Maltais, A., Linde, L., Sanchez, F. & Mete, G. (2022). [The Role of International Finance Institutions in the Transition to Low-carbon Steel Production](#). LeadIT Research Report. Stockholm Environment Institute, Stockholm.

The results and recommendations in the report are based on a review of 24 IFIs' project databases, and an analysis of the policies and strategies of 12 key IFIs alongside in-depth interviews with seven of these key IFIs.

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