



The role of international finance institutions in the low-carbon steel transition

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Key messages

- International finance institutions (IFIs) have limited exposure to the steel sector and tend to be at early stages of development in their green industrial strategies.
- Historically, the funding of steel projects has not aligned strongly with IFIs' priorities and IFI financing has not met the corporate needs of the steel sector.
- However, IFIs can play a key role in helping to set in motion the transition to green steel in developing regions, in helping to de-risk first movers and helping governments to set ambitions, pathways, policy frameworks, and standards.
- IFIs can also support governments in development of hydrogen, procurement, and circular economy strategies and in development of utility scale renewables.
- The ways forward will likely vary significantly between different IFIs, depending on scale of capital available, the level of development on green industry in their member countries, the type of steel sector development suited to specific countries/regions and on the IFI's specific business/financing models.

Introduction

The steel sector is a major contributor to global CO₂ and greenhouse gas (GHG) emissions, accounting for 11% and 7% respectively (Swalec & Shearer, 2021). Reaching net-zero emissions from the steel sector is therefore tantamount to a prerequisite for achieving the goals of the Paris Agreement.

Despite the growing number of steel producers announcing investments to switch to low-carbon production processes, including five out of the top 10 largest producers (Vogl et al., 2022), there remains a large gap between announced carbon-intensive and low-carbon capacity in the pipeline.

The steel sector has a high capital intensity and long investment cycles, and firms operate in highly competitive international markets with thin profit margins (IEA, 2020c). At the same time, the scale of the transformation of the sector requires an increase of investments by about 20% compared to business-as-usual (IEA, 2020b).

Currently, most steel production is located in Asia, with 54% located in China alone (Bataille et al., 2021). In the coming decades, China is expected to remain the largest producer though its production will fall while production in the US and the EU is expected to plateau. The largest increases in production are expected to come from India, Nigeria, Pakistan and Indonesia (Bataille et al., 2021). This marks a geographic shift in global production. Meanwhile, demand for steel is expected to increase as population growth, industrialization and urbanization in emerging economies continues (IEA, 2020d), exacerbating the challenge to reduce GHG emissions.

To avoid lock-in to high polluting assets for the next 15-25 years and jeopardizing climate commitments it is crucial to get the right transformational finance, technical assistance, and multilateral cooperation in place to help emerging economies to leapfrog to low-carbon steel production.

Against this backdrop, in this brief we explore the role that international finance institutions (IFIs) can play in the decarbonization of the steel sector in emerging economies. To this end, we firstly gathered data from IFIs' project databases to ascertain the current lending portfolio exposure of major IFIs to steel investments, as well as IFIs policies and strategies regarding climate finance, heavy industry, and steel decarbonization. Aside from desk-based research, we also conducted interviews with representatives from major IFIs to delve into the barriers and opportunities for IFIs to play a bigger role in the decarbonization of the steel sector. This brief presents our preliminary findings, ahead of our final report

publication in autumn 2022.

Standing policy of IFIs in steel decarbonization

Projects landscape

An overview of databases of 24 major IFIs, revealed that a total of 79 steel projects have been approved for financing by nine IFIs (ADB, BSTD, EBRD, EIB, GEF, IFC, NIB, OFID and WB)¹ between 2000-2021, that total EUR 3.4 billion of investment (inflation adjusted).

As shown in Figure 1, most of these investments are concentrated in Europe and Central Asia, with a fraction located in South Asia and the Middle East and North Africa. The volumes of investment in these regions contrast with the regions where production is expected to increase.

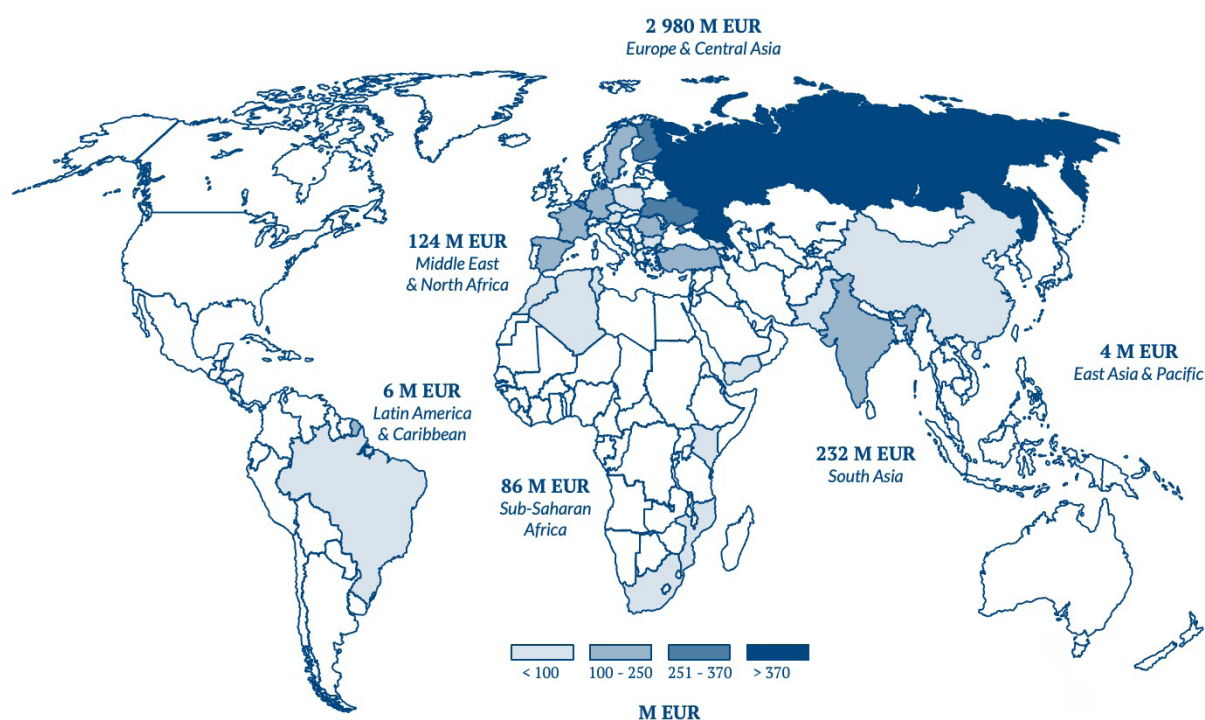
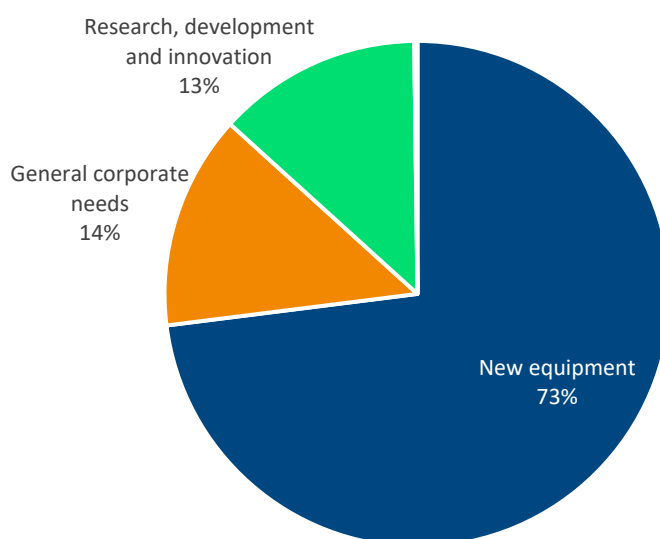


Figure 1. Volume of IFI investments in steel projects between 2000-2021 by region

Furthermore, as shown in Figure 2, most investments from IFIs in the steel sector have focused on the modernization of existing plants through new equipment (e.g. new rolling mills, manufacturing equipment,

¹ 1 Asian Development Bank (ADB); Black Sea Trade and Development Bank (BSTD); European Bank for Reconstruction and Development (EBRD); European Investment Bank (EIB); Global Environment Facility (GEF); International Finance Corporation (IFC); Nordic Investment Bank (NIB); OPEC Fund for International Development (OFID); and World Bank (WB)



capacity expansion, etc.). However, these modernization projects are business-as-usual upgrades and process optimizations driven by cost reductions, rather than modernization carried out for climate purposes.

Figure 2. Percentage of IFI investments in steel projects between 2000-2021 by purpose of investment *Note: feasibility studies made up less than 0.5% and have been omitted)*

In short, vast majority of IFIs' investments in the steel sector have not been directed towards transformative or radical change of production processes to date. The main exception is EIB, which provided a substantial amount of finance for Research, Development, and Innovation (RDI) related to reducing emissions from steel projects in 2021.

IFIs strategies and policies

IFIs do not have detailed decarbonization strategies and policies related to heavy industry compared to climate change, as shown in Figure 3. Our interviews reveal that most IFIs do not have policies that explicitly focus on heavy industries in their upcoming strategies either. Those IFIs that do have strategies tend to merely cover industry best practice, energy efficiency, and circularity.

Regarding steel, EBRD has the most developed strategies, including financing energy and emissions

	Climate finance targets	Paris Agreement alignment targets	Specific strategies/policies on decarbonization of heavy industry	<i>In the pipeline:</i> Specific strategies/policies on decarbonization of heavy industry	Specific strategies/policies on decarbonization of steel	<i>In the pipeline:</i> Specific strategies/policies on decarbonization of steel
IFC				-		-
Global Environment Facility			-		-	-
Asian Dev. Bank			-	-	-	-
Asian Infrastructure Inv. Bank			-	-	-	-
Green Climate Fund					-	
European Inv. Bank				-	-	-
Black Sea Trade & Dev. Bank				-		-
African Dev. Bank		-	-	-	-	-
Inter-American Dev. Bank					-	-
EBRD				-		-
World Bank				-	-	-
OPEC Fund for International Dev.	-	-	-	-	-	-

	Specifically described in a document or interview	Indicated (low level of detail) in a document or interview	Continued support for fossil fuels
			No reference to the subject

reducing technologies. EBRD is also working with the International Energy Agency on development of low carbon pathways. IFC focuses on steel through its venture capital partnership.

Figure 3. Existing and upcoming decarbonization strategies and policies of major IFIs

On the other hand, the BSTDB continues to explicitly support projects involving metallurgical and coking coal for steelmaking (BSTDB, 2021). This goes against the trend of major IFIs moving away from financing coal projects over the last decade (IISD, 2021; Oil Change International, 2019). At the same time, none of the IFIs' strategies and policies reviewed comment on the steel sector's exposure to coal as a consequence of investments in conventional steelmaking projects.

Most IFIs subscribe to common GHG accounting frameworks that include consideration for significant embodied (scope 3) emissions from financed projects. Yet there is a lack of definition of "significant" in most cases, and few IFIs have published anything on scope 3 related to heavy industries or the use of heavy industry products in for example infrastructure projects such as cement and steel in construction.

Preliminary findings from interviews

Reasons for the limited financing for steel decarbonization projects and potential opportunities for IFIs

The size of the firms and investments involved

One of the key reasons why IFI exposure to the steel sector has been modest over the past decades can be explained by the types of companies involved in the steel sector and the size of the investments needed to develop steel production facilities. Steel producers tend to be large firms that are financed by corporate banks and from capital markets, while IFI finance firms tends to be directed to small and medium enterprises and to companies where IFIs can provide financing that is additional to what the private market can provide (so called “additionality”). IFI due diligence processes and requirements on sustainability performance can make them an unattractive source of funding for industrial corporates compared to private sector sources. IFIs may face challenges associated with the ownership structure of steel companies, e.g. forms of state ownership that weaken the transparency, corporate governance, or bankability of companies. Investments in steel production are also very capital intensive and for some IFIs, the financing they can provide is not at the scale that is needed. For other IFIs the investment could leave them over-exposed to a particular company or sector. And in some cases, IFIs may need government guarantees to direct significant financing to a large new steel project given their diversification requirements.

Opportunities for IFIs

- *De-risking and financing first movers*
Despite several obstacles to IFI engagement with the steel sector, there is significant potential for IFIs to contribute to the deployment of green steel production. Supporting early adopters of low-carbon production technologies and practices can be a strong fit for IFI financing. Working with first movers, IFIs can meet their additionality and impact requirements even in a context where large amounts of corporate financing will need to play the main role in the realization of a project. IFIs financing can be important for de-risking investments and mobilizing other sources of private capital, helping projects to access other sources of official climate finance, and delivering credible due diligence for projects that will help to attract other investors.

Country priorities

Many IFIs, such as multilateral development banks, have not traditionally provided finance to large industrial sectors. Instead, they have tended to focus on basic infrastructure investments. In many developing and emerging economies governments decarbonizing sectors such as steel and cement have yet to become priorities, with much of the current climate financing focused on clean energy generation and adaptation measures. Furthermore, demand for green industrial products has yet to emerge in developing regions and governments have yet to set targets and policy frameworks for transitioning industrial sectors. These issues are particularly challenging for some IFIs where climate finance is driven by countries and needs to be consistent with national priorities that support sustainable development. Without the right kind of demand from governments and markets, there is not a pipeline of financing

opportunities for IFIs in this space.

Opportunities for IFIs

- Hydrogen strategies and roadmaps**
 New technologies, such as hydrogen-based steel production, appear to be ready soon for commercialization. Hence, there is a clear climate impact case for IFIs to engage with green steel production. IFIs can support emerging technologies, especially hydrogen production from renewable electricity. Hydrogen has a role to play in the transition of several sectors, and as a result IFI engagement with green hydrogen can help to facilitate multiple transition pathways. As a first step, IFIs can play a role in facilitating country roadmaps for hydrogen in collaboration with government and industry. This type of road mapping and planning helps to send clear signals to market actors on the directions countries are pursuing.
- Supporting government priorities**
 The priorities of both donor and recipient countries guide IFI lending practices. IFIs can play a role in supporting countries in further developing these priorities as knowledge partners. This can be a way for IFIs to support first steps towards green industry strategies with lower levels of funding. For some IFIs, financing large industrial actors may never be a good fit, but directing financing towards feasibility studies and the development of policy frameworks can be a critical capacity-building step.

Environmental, social, and technology obstacles

IFIs have strong sustainability mandates and these mandates can make them hesitant to engage in the steel sector. Primary steel production is dependent on the mining of iron ore and there are significant environmental and social issues related to this. Primary steel production also produces large CO₂ emissions with current technologies. Efficiency gains that are possible from modernizing plants using current technologies may not deliver the level of climate impact IFIs are seeking. Moreover, new low-carbon production technologies for steel production are not yet proven and there is not a pipeline of bankable projects.

Opportunities for IFIs

- Small-medium enterprises (SMEs) and green value chain**
 IFIs can also play a role in financing innovative small-medium enterprises that are part of a green value chains for industrial production. This approach may be a better fit for some IFIs compared to working with large established corporates. Here hydrogen production and transport are good examples of potential IFI niches in the green steel value chain.
- Demand for green industrial products**
 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 can be important for developing lead-markets given their role in financing basic infrastructure. Currently, there are challenges for IFIs on the demand side given that green steel is not currently available. At the same time, the development of strategies and standards for defining green materials and products would send important markets signals, and IFIs may like to play a key leadership role in setting out the way forward on green procurement.
- Secondary steel production**
 Steel production that is 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 found that this type of steel production can potentially be a good fit with IFI priorities and financing given the clear climate benefits, the scale, and

locations of these projects, coupled with increasing emphasis among many IFIs on circular business models.

Preliminary policy recommendations for IFIs and donor countries

IFIs have limited exposure to the steel sector and tend to be at early stages of development in their strategies for financing industry transition. However, we found that IFIs can play a key role in accelerating transition to green steel in emerging and developing economies where steel demand is expected to rise, and where most of the new carbon intensive steel is announced (OECD, 2021).

Our preliminary policy recommendations for IFIs are to draft strategies or revise existing policies to help governments develop roadmaps, policy frameworks and standards for decarbonizing the steel sector. This is crucial because in most regions, lack of an enabling policy framework poses a barrier to facilitate private sector action. In most countries, there are no policy incentives, tax benefits, carbon pricing or specific green procurement policies to support companies in their investment decision. IFIs could help governments with know-how and resources to create such a supporting policy environment and reduce uncertainties for companies and funders.

Demand creation has been identified by many as crucial for the transformation of steel sector, due the price premium associated with low-carbon production processes. IFIs are big funders of steel-intensive infrastructure projects and could therefore stimulate the demand of green steel by setting greenhouse gas targets including embodied emissions for these projects. They can examine their ability to support demand for green steel through their infrastructure investments. IFIs could also support governments in creating similar procurement strategies for their investments in infrastructure and constructions.

At the same time, we recommend donor countries to urgently give IFIs mandates urgently to develop industry and steel strategies. Currently only Sweden has made a heavy industry sector specific contribution to the Climate Investment Fund in 2019.

Decarbonizing the steel sector also requires scrap-based steel production to increase from about a fourth of the global steel demand to about half (Bataille et al., 2021). Here, IFIs could play a role in assisting governments create circularity strategies and policies. IFIs may also like to consider adopting targets for circularity within the projects they are funding.

We have identified other opportunities for IFIs to play a role in steel transition. These are numerous, however, each IFI and the region it focuses is different. Therefore, IFIs role in greening steel sector will depend on the scale of capital available, level of development on green industry in their member countries, type of steel sector development suited to specific countries/regions and IFIs specific business/financing models.

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