



IFIs and heavy industry decarbonization in emerging and developing economies

An overview of available technical and financial assistance

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Key messages

- Only a few international financial institutions (IFIs) currently offer dedicated technical and financial assistance for heavy industry decarbonization in emerging and developing economies.
- While there is one targeted joint assistance program in place, it has yet to start its operations.
- To avoid the addition of new high-carbon assets during the current decade, it is vital to scale-up assistance to deploy clean technologies, both through adequate funding to existing, dedicated programs, and through new instruments.
- Given the complexity of the stakeholder landscape around heavy industry decarbonization, the available assistance needs to be more transparent and better coordinated, ideally resulting in integrated approaches co-created among key stakeholder groups.

The challenge and how IFIs can help

Decarbonizing heavy industry is a major component of global efforts to mitigate climate change. Steel production alone generates 6% of all global greenhouse gas emissions, and cement production 5% (steel accounts for 8% of all CO₂ emissions, and cement for 6%).¹ It is estimated that reaching net zero for steel would require USD 17 billion of investment above business as usual, and an additional USD 2.64 trillion in related infrastructure. For cement the figures are USD 30 billion in additional capital expenditure and USD 300 billion for infrastructure (World Economic Forum, 2023). To scale-up breakthrough technologies for decarbonizing heavy industry, innovative financing approaches that blend different sources of public and private capital are essential; and such collaborations must be established in the current decade to avoid further lock-in of new high-carbon assets.

In emerging and developing economies (EDEs), transitioning heavy industry to net zero is particularly burdensome because of complex and interlinked challenges. It is especially difficult to scale up climate finance because of higher costs of capital as well as real and perceived investment risks; limited state and technical capacity slow the development of enabling environments; and lower renewable energy penetration sets higher barriers for the electrification of key processes (Ameli et al., 2021).

At the same time, EDEs are likely to see the highest increase in demand for industrial products over the next decades, and instruments such as the EU's Carbon Border Adjustment Mechanism may fundamentally shift market conditions for industrial production and export.

International financial institutions (IFIs) can play a major role in transitioning heavy industry to net zero. By providing targeted concessional capital, IFIs can help de-risk investments for first movers and commercial financiers, and technical assistance at different levels can support the development of national transition plans, sectoral and corporate roadmaps, project pipelines, and capacity development (OECD, 2022). However, in their study on low-carbon steel production, Maltais et al. (2022) show that IFIs' involvement in supporting transitions in heavy industry is only just in its early stages. Several barriers have so far hindered IFIs from engaging more actively in this space, including misalignment between IFI financing mandates and the needs of corporates involved, the size of investments needed, and country priorities focused on other sectors.

Against this backdrop, this brief provides an overview of the technical and financial assistance that IFIs currently provide to heavy industry decarbonization in EDEs. It links to LeadIT's commitment to the Steel Breakthrough Agenda, which highlighted enhancing international assistance towards decarbonization of the steel sector as one of its priority international actions for 2023.

¹ These estimates are based on the averages of the estimates of direct emissions in industrial processes and indirect emissions associated with electricity use and purchased heat (i.e. scope 1 & 2 emissions) that are used in the IPCC Sixth Assessment Report. See Figure 11.4 for the set of emissions estimates referenced by the IPCC for steel and cement (Bashmakov, et al., 2022). See Figure SPM.1 for the estimates for total GHG emissions (IPCC, 2022).

IFI exposure to heavy industry over time

IFI assistance to heavy industry has broadly followed a three-step trajectory.

1. **Conventional approach:** traditionally, IFIs would provide assistance to conventional high-carbon technologies with the main objective of supporting industrial development and strengthening local economies.
2. **“Pull” assistance:** especially since the adoption of the Paris Agreement and the resulting multilateral development bank (MDB) joint alignment approach, IFIs have begun to adopt assessment frameworks that make new assistance to heavy industry contingent on beneficiaries incorporating sustainability-related provisions into their proposals (in other words, “pulling” increased climate ambition).
3. **“Push” assistance:** in recent years, some IFIs have started to develop strategies and programs that more actively encourage projects deploying low-carbon technologies. These include dedicated technical assistance and financing instruments which lower barriers for beneficiaries to invest in decarbonization.

While “pull” assistance is certainly vital, given rising demand for industrial products and the resulting urgency of avoiding further lock-in of high-carbon capacity, it is unlikely to be sufficient. “Push” assistance can accelerate decarbonization efforts by actively encouraging public and corporate stakeholders to develop enabling conditions for and tangible pipelines of transition projects. This brief focuses on such types of assistance.

Mapping current technical and financial assistance

Assistance that IFIs provide to heavy industry decarbonization can be broadly classified under six categories, as Table 1 shows.

Table 1: Types of assistance offered by IFIs for heavy industry decarbonization.

	Categories	Examples
Technical assistance	Government level	Formulation of transition plans, policies, and regulations; shaping of enabling environments
	Sector level	Development of sectoral pathways, policy advocacy
	Corporate level	Development of decarbonization pathways, strengthening of climate governance structures
	Project/facility/ technology level	Support to project planning and implementation (e.g. feasibility studies, legal assistance, contract templates, social and environmental standards)
Financial assistance	Direct financing	Grants, loans, debt, equity
	Risk mitigation	Guarantees, insurance

We screened 23 IFIs for the extent to which they offer these six types of assistance (see Table 2). The resulting mapping shows that, while many IFIs have adopted frameworks to include climate change considerations in their activities, only a few have developed strategies or programs specifically targeting heavy industry. At the same time, several MDBs act as executing entities in joint programs: for instance, the Climate Investment Funds' (CIF) Industry Decarbonization Program aims to channel concessional finance through six MDBs. In the case of European IFIs (except for the European Bank for Reconstruction and Development) it is sometimes unclear from available documents whether and how much targeted assistance is offered in EDEs.

A note on methods: The scope of the mapping is limited to “push” assistance, specifically for heavy industry and including EDEs (note that the resulting review is a snapshot in time within a rapidly evolving environment). We did not consider assistance that IFIs have provided to individual projects using regular instruments on a case-by-case basis, nor “pull” assistance. We also excluded assistance provided uniquely to green hydrogen development: on the one hand, our intent was to focus on core industrial processes, and on the other, UNIDO is mapping assistance for green hydrogen in the context of the Hydrogen Breakthrough Agenda. We relied on publicly available information as well as semi-structured interviews.

Table 2: Overview of types of assistance to heavy industry decarbonization provided by 23 selected IFIs.

	Technical assistance				Financial assistance	
	Government level	Sector level	Corporate level	Project / facility / technology level	Direct financing	Risk mitigation
African Development Bank						
Arab Fund for Economic & Social Development						
Asian Development Bank						
Asian Infrastructure Investment Bank						
Black Sea Trade and Development Bank						
Caribbean Development Bank						
Climate Investment Funds						
Council of Europe Development Bank						
Development Bank of Latin America						
Eurasian Development Bank						
European Bank for Reconstruction & Development						
European Financing Partners						
European Investment Bank						
Global Environment Facility						
Green Climate Fund						
Inter-American Development Bank						
International Finance Corporation , South Asia*						
Islamic Development Bank						
New Development Bank						
Nordic Investment Bank						
North American Development Bank						
The OPEC Fund for International Development						
World Bank						

Source: publicly available information; expert interviews. *The International Finance Corporation adopts a regionalized approach to heavy industry decarbonization, i.e. there are high-level global guidelines, but specific assistance offered varies significantly across regions (see next section). For the purpose of this brief, we focused on its operations in South Asia.

Dedicated industry decarbonization programs

To the extent that IFIs do provide “push” assistance to heavy industry decarbonization, they do so following different approaches. We classified those approaches under four types (see list below) and reviewed eight examples (see Table 3).

1. **Dedicated programs.** The Climate Investment Funds’ (CIF) Industry Decarbonization program provides assistance specifically dedicated to industry decarbonization.
2. **Broader programs.** Larger assistance programs that cover (heavy) industry decarbonization as one of multiple focus areas include: The World Bank’s Energy Sector Management Assistance Program; the Green Climate Fund and EBRD’s FP140 High Impact Program for the Corporate Sector; the EBRD’s High Impact Partnership on Climate Action; and the Global Environment Facility’s Net-Zero Nature-Positive Accelerator Integrated Program.
3. **Regional approaches.** The IFC adopts a regionalized approach to heavy industry decarbonization, i.e. there are high-level global guidelines, but specific assistance offered varies significantly across regions of operation.
4. **High-level strategies.** The EBRD’s Green Economy Transition Approach 2021–24 (GET 2.1) is a broad strategy which defines the Bank’s work on climate and environment, including high-level actions on key thematic areas. Industry decarbonization is one of them.

The CIF’s dedicated program is very new, starting its operations only in early 2024. This, along with the absence of other comparable programs, reflects the fact that heavy industry decarbonization is very much a nascent space.

Apart from a general focus on energy efficiency measures, most available assistance does not seem to target specific technologies, nor types of projects (i.e. pilot, demonstration, commercial scale). There is also little information on the size of available funds. The CIF’s program was initially capitalized at USD 100 million and is aiming to reach USD 500 million by the end of 2023. However, when heavy industry is included as part of a larger program or plan, the amount of finance dedicated to it is usually unclear.

Table 3: Examples of dedicated programs and focus areas.

	CIF Industry Decarbonization Program	World Bank's Energy Sector Management Assistance Program, Industry Decarbonization	FP140 High Impact Programme for the Corporate Sector
IFIs involved	World Bank / IFC African DB Asian DB EBRD IADB	World Bank	GCF EBRD
Technical assistance	<ul style="list-style-type: none"> • Dialogues on enabling policy (e.g. energy-efficient regulation, climate-governance standards for financing) 	<ul style="list-style-type: none"> • Development of knowledge and guidance material • Development of strategies and roadmaps • Advisory on enabling policies, regulations, and legal frameworks • Capacity building 	<ul style="list-style-type: none"> • Development of policies, regulations and actions identified in low-carbon sectoral roadmaps
Government level			
Sectoral level	<ul style="list-style-type: none"> • Support on climate governance and strategy (policy dialogues, capacity building) • Improving Monitoring, Reporting and Verification (MRV) activities • Sector participation in national and international policies • Sector access to financial and climate markets • Support for workforce re-skilling 	<ul style="list-style-type: none"> • Development of knowledge and guidance material • Development of strategies and roadmaps • Design of incentives and funding schemes • Capacity building 	<ul style="list-style-type: none"> • Development of sector-level low-carbon roadmaps • Knowledge development and sharing activities
Corporate level	<ul style="list-style-type: none"> • Policy dialogues and capacity building for climate governance and strategy • Integration of climate considerations into decision making • Deployment of climate technologies across operations and supply chains 	<ul style="list-style-type: none"> • Analysis and advice on decarbonization opportunities • Capacity building 	<ul style="list-style-type: none"> • Technology audits including Best Available Technology (BAT) identification • Climate change governance gap analysis • Development and implementation of corporate low-carbon strategies • Establishment of related governance
Project / Facility / Technology level	<ul style="list-style-type: none"> • Flexible assistance on project preparation and implementation 	<ul style="list-style-type: none"> • Project preparation (technical and economic assessments, scoping studies, pre-feasibility and feasibility studies) • Support with mobilization of project financing 	<ul style="list-style-type: none"> • Project formulation (high-impact climate technology / governance projects)
Financial support	<ul style="list-style-type: none"> • Grants • Subordinated debt • Mezzanine finance • Senior debt • Viability gap finance • Equity 	<ul style="list-style-type: none"> • Support to pilots (co- or parallel financing under receipt executed trust funds) 	<ul style="list-style-type: none"> • Loans with level of concessionality being linked to the level of ambition of the beneficiaries
Direct financing			
Risk mitigation	<ul style="list-style-type: none"> • Guarantees 		

Programs specifically targeting industry decarbonization

Broader programs including industry decarbonization as one of multiple focus areas

Regionally clustered approach

High-level strategy including industry decarbonization as one of multiple focus areas

	EBRD High Impact Partnership on Climate Action, Industry decarbonization & Energy efficiency focus areas	Net Zero Nature Positive Accelerator Integrated Program, Industry decarbonization focus area	International Finance Corporation, South Asia approach	EBRD Green Economy Transition 2021-2024 (GET 2.1), Industry decarbonization & Energy efficiency focus area
IFIs involved	EBRD	GEF	IFC	EBRD
Technical assistance Government level	<ul style="list-style-type: none"> • Policy and regulatory support for sector reform and conducive environments for investments • Support on competitive procurement • Capacity building and climate governance support to green financial systems 	<ul style="list-style-type: none"> • Development of policy reform packages • Analysis of technical and institutional capacity needs • Knowledge development on socio-economic cost-benefits of decarbonization plans • Development of data systems to monitor progress towards net-zero targets 	<ul style="list-style-type: none"> • Identification of policy bottlenecks • Advisory on specific policy and regulatory reform 	<ul style="list-style-type: none"> • Development of enabling frameworks (e.g. integration of industrial decarbonization in national climate policies, development of policies such as frameworks for long-term power purchasing agreements) • Policy monitoring, verification and enforcement
Sectoral level	<ul style="list-style-type: none"> • Development of low-carbon sectoral pathways • Partnerships with trade associations, technical organizations and universities 	<ul style="list-style-type: none"> • Pilot strategies and planning • Pilot modelling • Pilot pre-feasibility and feasibility studies 	<ul style="list-style-type: none"> • Development of sector-level pathways 	<ul style="list-style-type: none"> • Formulation of low-carbon sectoral pathways
Corporate level	<ul style="list-style-type: none"> • Asset improvements and modernization • Capacity building on climate governance • Utilization of available tools (e.g. EBRD's Technology Selector, or tools to calculate environmental benefits) 		<ul style="list-style-type: none"> • Carbon footprint assessment • Development of decarbonization targets and roadmaps • Identification of cost-effective decarbonization solutions • Development of investment programs; identification of bankable projects 	<ul style="list-style-type: none"> • Improvements to corporate climate governance • Support in developing instruments to support investment programs, i.e. sustainability-linked loans, sustainability-linked bonds, green bonds
Project / Facility / Technology level	<ul style="list-style-type: none"> • Project preparation (investment appraisal, feasibility studies, market, environmental, and social impact assessments, climate mitigation analysis, legal due diligence) • Support to green investments (incl. procurement support, construction supervision) • Monitoring, reporting and verification (MRV) processes 	<ul style="list-style-type: none"> • Development of net-zero-aligned project pipelines 	<ul style="list-style-type: none"> • Feasibility assessments 	
Financial support Direct financing	<ul style="list-style-type: none"> • Grants • Concessional loans • Loans with incentive characteristics (e.g. performance bonuses, interest rate reductions) • Credit lines • Equity 	<ul style="list-style-type: none"> • Support to pilot interventions 	<ul style="list-style-type: none"> • Corporate debt • Seed fund for pilot projects • Green loans • Green bonds • Blue bonds • Social impact bonds • Equity 	<ul style="list-style-type: none"> • Private direct and intermediated lending • Public non-sovereign and sovereign loans • Green bonds • Syndications (e.g. impact-oriented B-loan funds) • Performance and results-based financing • Financial aggregation mechanisms • Equity • Equity funds
Risk mitigation	<ul style="list-style-type: none"> • Guarantees • Risk sharing products 			<ul style="list-style-type: none"> • Guarantees • Risk-sharing models • Credit enhancement instruments

Source: publicly available strategy and program documentation (Climate Investment Funds, 2020; Climate Investment Funds, 2023; European Bank for Reconstruction and Development, 2020; European Bank for Reconstruction and Development, 2021; Global Environment Facility, 2022; Global Environment Facility, 2023; Green Climate Fund, 2020; International Finance Corporation, 2022); expert interviews.

Gaps in current assistance

To date, not many IFIs offer targeted assistance to heavy industry decarbonization. While some do integrate relevant instruments within broader programs or their high-level strategies, “push” assistance is still rare. Some IFIs offer assistance for green hydrogen development (which, however, is out of scope for this brief: see box on methods, page 4). While it is encouraging that one dedicated joint program is in place, the fact that it will start its operations only in early 2024 means that there is little program-level experience yet to draw from.

Those IFIs that do offer targeted assistance incorporate it in their portfolios in differing ways (e.g. as part of high-level strategies, or with concrete programs featuring specific support instruments). This could be because IFIs are at different stages in their approaches to industry transition, but it could also be because of a lack of more detailed publicly available information. Indeed, especially when heavy industry is merged into broader strategies, there tends to be predominantly high-level information about assistance or levels of available finance. Also, there is little detail on how different IFIs coordinate and collaborate (e.g. by providing assistance at different levels in the same country), aside from when engaging in joint programs; or on how dialogue and bi- and multilateral communication channels function between IFIs and different stakeholder groups.

In addition, IFIs have fundamentally distinct mandates and hence operate from different positions in supporting industry transitions. Most IFIs, except for the IFC and the EBRD, provide assistance to governments rather than directly to corporate stakeholders. Depending on countries’ choices, for those IFIs it may be difficult or not (yet) worthwhile to actively encourage heavy industry decarbonization through dedicated assistance programs. It is likely that large multinational firms will have to make the bulk of investments in low-carbon assets, which is at odds with the fact that most assistance provided is government centred (an issue that CIF, for instance, addresses by favouring provisions for private sector engagement in governments’ Expressions of Interest).

Recommendations for more effective approaches

1. Scaling assistance

It is a massive challenge to unlock the technologies required for transitioning heavy industries to net zero, and the need to avoid adding new high-carbon assets means it is also a very urgent one. IFIs play a key role in meeting this challenge, and it is crucial that they leverage their resources and expertise to actively encourage deployment of relevant technologies by rapidly building up substantial “push” assistance. The CIF’s dedicated program and comparable future instruments need to be adequately funded, achieve meaningful leverage, and help provide successful proofs of concept.

2. Coordination and integrated approaches

The landscape of stakeholders relevant to heavy industry decarbonization is broad and complex, encompassing IFIs, fund providers, regional and local governments in beneficiary EDEs, sector stakeholders, large corporates, commercial financiers (e.g. commercial banks, asset managers, insurers), and civil society. At the same time, given the large investments required for the transition in heavy industries, the assistance available is likely to be scarce relative to needs.

These two factors – complexity of the stakeholder landscape and scarce assistance – together create a need to use resources more efficiently through co-created, integrated approaches.

These approaches should:

- Match assistance that IFIs provide based on their mandates with use cases where it can achieve the most transition impact.
- Ensure all relevant stakeholders have access to the support they need to make their unique contribution to industry decarbonization projects and initiatives.

This is in line with the Principles and Recommendations from the Taskforce on Access to Climate Finance (2021), which emphasizes the need to streamline and coordinate the procedures for accessing relevant instruments. There are promising examples of how such coordination can work: in Turkey, for instance, the EBRD launched an in-country platform which will bring together different IFIs supporting Turkish stakeholders across industry decarbonization efforts.

3. Transparency, awareness, and knowledge sharing

For resources to be used efficiently, information about available assistance needs to be detailed and easily accessible, as do relevant communication channels and lessons learned from pilot projects. This, too, is in line with the Principles and Recommendations from the Taskforce on Access to Climate Finance (2021). While this is a nascent and ambiguous space, it is important that all stakeholders are informed well enough to be able to develop and co-create efficient structures. In particular:

- Fund providers need to have a thorough overview of the channels through which they can support different aspects of heavy industry transition, and of the relevant forums to co-create assistance with IFIs, beneficiary EDEs, and corporates (both industry and finance).
- Beneficiary EDEs need to be aware of the available assistance and of lessons learned on enabling conditions in order for funds to be able to reach national industrial decarbonization planning, industrial decarbonization pilots and projects, and supporting infrastructure.
- Corporate stakeholders (both industry and finance) need to be aware of assistance available, both to them and to their governments, as well as how they can benefit from programs.
- IFIs themselves need to coordinate their respective approaches to ensure they complement each other as efficiently as possible.

While bilateral communication channels certainly do address some of these needs, publicly available and streamlined information can help all relevant stakeholders not only to get involved, but also to evaluate and discuss the extent to which assistance is suitable and sufficient for its intended purpose. Transparency is also vital to ensure that relevant insights are taken up in global forums that tackle MDB reform.

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