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Unloading coal exposure: Where are we and what can Chinese banks do?

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CONTENTS

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HIGHLIGHTS

- Phasing out coal is a crucial climate priority. Banks will be vital in this process by divesting and by reallocating financing, which also will help them and their clients achieve net zero and manage risks and opportunities.
- A number of public and commercial institutions have made progress on existing coal, while further actions should extend to all financial products and services, as well as transition away from coal, in addition to mere divestment.
- This working paper proposes a three-step framework with checklists and metric-setting approaches to guide banks in reducing and clearing coal exposure, or coal exit, with a procedure and approaches that can apply to other fossil fuels.
- The framework considers bank variety and goes beyond mere divestment. It recommends that Chinese banks improve their coal exit with detailed planning and continuous efforts.
- Coal exit can give Chinese banks a competitive edge, and collaborating internationally on this front can help them adapt to the global energy transition.

EXECUTIVE SUMMARY

Context

To keep the 1.5 degrees Celsius (°C) goal within reach, global coal combustion needs to decline rapidly. Unabated coal use for power generation, the largest coal-consuming sector globally, would need to fall from 36 percent in 2022 to 13 percent by 2030, and 3 percent by 2035 (IEA 2023c).

Banks are vital in coal divestment and transition. Banks fund coal using multiple instruments, such as loan and bond underwriting, across multiple business lines, subsidiaries, or intermediates in different markets. As more banks commit to net zero, coal exit—or reducing and finally clearing coal exposure—helps financial institutions manage risks, meet climate targets, and find new opportunities, such as funding needs for coal decommission and the transition to renewables.

About this working paper

This paper aims to provide Chinese banks with international coal exit experience to equip them with an understanding of practices, trends, and resources for credible coal exit pledges and successful implementation. Chinese banks have restricted coal financing, but there remains room to enhance transparency and clarity. A more comprehensive framework will be needed to catalyze Chinese banks to improve coal financing strategies.

This paper studies both sectoral and individual banks' practices in coal exit and builds a coal exit framework for banks' continuous improvement. The framework consists of three parts. We use:

- **Plan/review.** A checklist is used to help banks examine the information and resources needed for credible pledges and successful implementation.
- **Decide.** A prioritization table is used enabling banks to assess priorities and update pledges.
- **Implement.** Metrics are set to inform banks of approaches to execute and check progress.

This framework could also be used for exiting from other fossil fuels to achieve net zero.

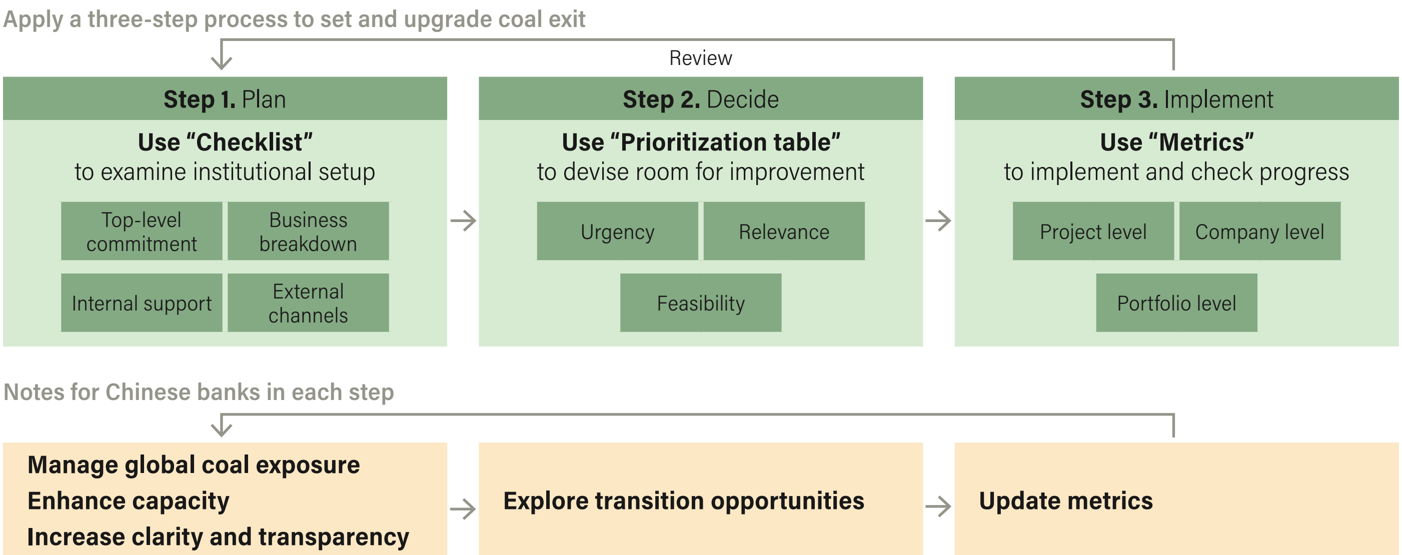
Key findings

Banks are continuously honing their coal exit strategies for broader coverage and greater transparency, spurred by heightened scrutiny and deeper recognition of their coal industry affiliations. While many banks halt financing for new coal power plants, others extend their coal exit plans across the entire coal value chain. This approach demands a holistic blueprint covering all financial instruments, including indirect financing of coal operations—an area needing clarification, particularly among Asian banks.

Asian banks can benefit from experiences in international coal exit practice while exploring cofinancing and on-lending opportunities for coal transition with their global peers. An enhanced understanding and initiatives in gap-filling funding could diversify transition funds, and coal exit could become an integral part of financial collaboration. This transition opens doors to selection of business partners, bond ownership, shareholding, and more, based on demonstrated commitment to coal exit.

This paper recommends that Chinese banks strategically manage coal relationships and collaborate internationally. The proposed "plan, decide, implement" framework helps navigate coal relations in domestic and cross-border markets and furthers the "no new coal power plants overseas" pledge (Figure ES-1). The framework promotes clarity and transparency, explores transition options with clients and global banks, and highlights robust and continuously updated coal exit metrics to which Chinese banks could contribute. The international practices demonstrated alongside the framework can enhance capacity-building and foster common ground and dialogue with the global banking sector.

Figure ES-1 | **Recommendations for Chinese banks**



Source: Authors.

INTRODUCTION

Why focus on coal exit

Phasing down and ultimately phasing out unabated coal is a climate priority. The 27th UN Climate Change Conference of the Parties, held in Sharm-el-Sheikh, Egypt, agreed on a landmark commitment to "transition away from fossil fuels." Among fossil fuels, coal is the largest source of greenhouse gas emissions (GHGs) (IEA 2022b), and its phaseout will happen earlier. To limit the temperature rise to 1.5°C, the Intergovernmental Panel on Climate Change (IPCC) calls for a phaseout of unabated coal from primary energy use by 2050 (IPCC 2018, 2022), while the International Energy Agency (IEA) envisages that unabated coal power in global electricity generation drops to 13 percent by 2030, 3 percent by 2035, and is phased out by 2040 (IEA 2021a, 2023c).

The carefully designed coal phaseout will bring opportunities and benefits for people and nature. It will avoid coal's negative impacts on environmental quality and ecological and public health (Gopinathan et al. 2023). Meanwhile, the shift away from coal to low-carbon solutions will unlock new job opportunities and investment needs (Presidency of the Republic of South Africa 2022; Voegele et al. 2021). For example, South Africa in its energy transition plan estimated US$20 billion in financial demand by 2027 to retire coal plants while developing renewable energy.

Why focus on banks

Banks channel a significant volume of funding to coal through all types of financial instruments. This is especially true for coal power generation projects, which require significant capital investment. At the global level, between 2015 and 2022, nearly 60 percent of the funding for coal power generation came from debt instruments such as loans, and in developing countries the ratio is much higher, roughly 70 percent (IEA 2022b). In addition to traditional channels, banks also support coal with emergent instruments. For example, banks underwrite trillions of dollars in bonds for coal companies (Urgewald 2022).

Banks' coal involvement has expanded not only across multiple financial instruments but also through cross-border financing. In Asian and African countries such as Vietnam, Bangladesh, and Zimbabwe, where demand exceeds local financial resources, international finance has been a leading source of funding for the construction of coal power plants (Global Energy Monitor 2022).

Reducing coal exposure, or coal exit, will help banks manage risks, seek opportunities, and fulfill climate commitments.

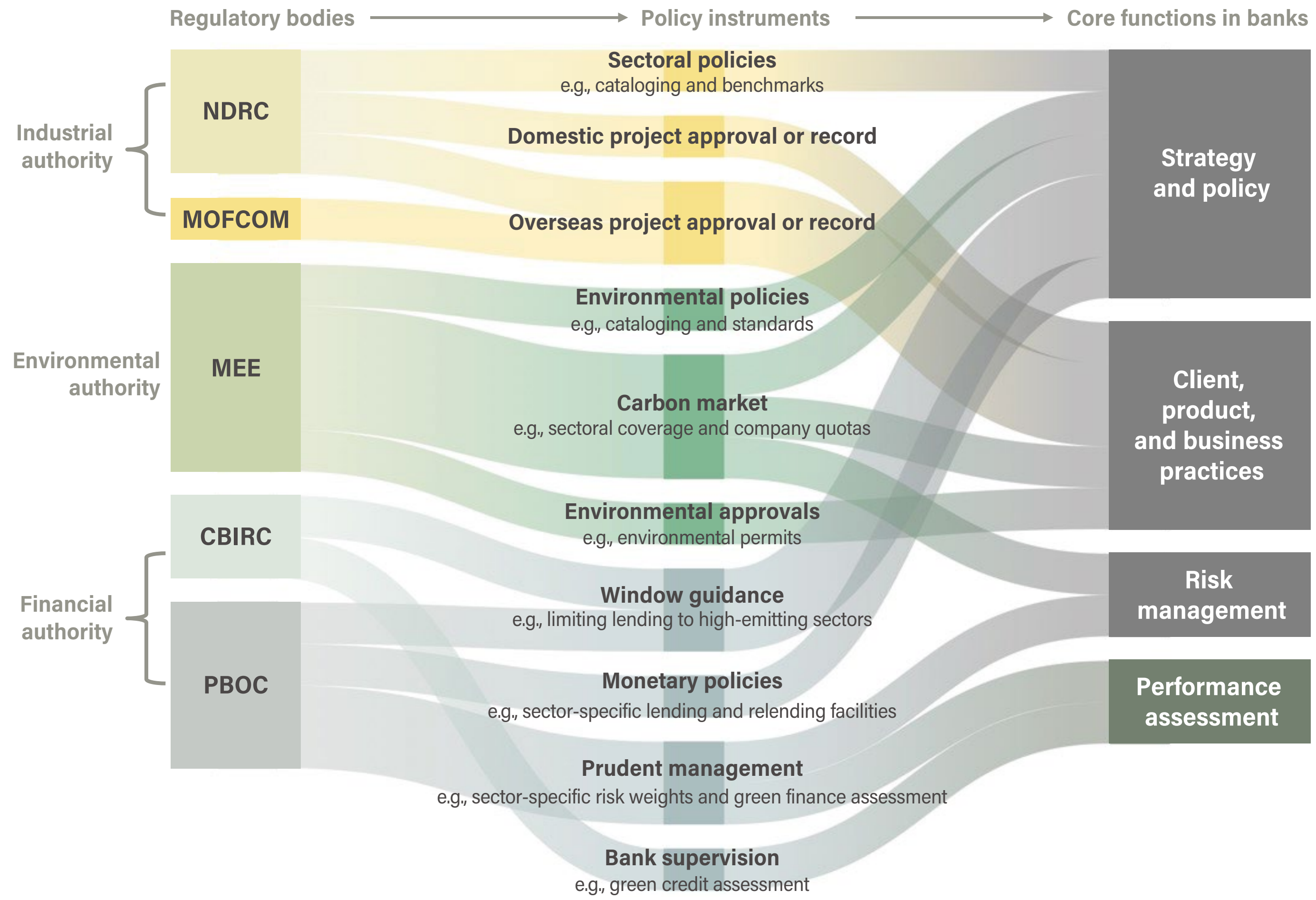
- **Managing risks.** In the transition away from fossil fuels, coal assets risk losing value and being stranded before 2030, with oil and gas to follow (IPCC 2022). Coal's environmental impacts also trigger legal and reputational risks, leading to asset depreciation or stranding. Asset stranding is transferrable to banks through an increased possibility of default and depleted collateral value on loan books, declined market value in bond and equity holdings, and a rise in insurance claims not factored into premiums.
- **Seeking opportunities.** Coal clients' low-carbon transition creates funding needs, and many noncoal sectors, such as commercial building and industrial manufacturing, also require funding to reduce coal-based electricity and heat. Banks can innovate products, forge client relations, and gain more recognition from capital markets if they devote themselves to reducing society's reliance on coal.
- **Fulfilling climate commitments.** Many banks have made net-zero commitments, and reducing coal exposure and corresponding financed emissions from coal assets will help deliver on these commitments. For greater success, financial institutions can do more than reduce their coal exposure. To equitably lessen coal capacity in the actual economy, it will be essential to finance early decommissioning of coal while promoting a just transition (one that is fair and inclusive), such as by offering employment or upskilling to coal power plant employees.

Chinese banks in coal exit

Chinese banks are major funding sources for the coal industry. Bank loans constitute the biggest financing source for China's coal sector, larger than other sources, including corporate bond issuance (PBOC 2024; Bloomberg 2023). Banks will continue to be vital to the coal transition. Chinese banks and financial authorities are now developing and diversifying financial instruments such as transition bonds to fund the transition away from coal and other high energy-consuming- and -emission ("two-high") sectors (IEA 2023b).

Chinese banks have restricted coal financing in response to a policy push. In the domestic market, Chinese banks' coal financing responds to the country's industrial, environmental, and financial policies (Figure 1). These policies require limiting new coal power plants, retrofitting existing, and retiring outdated ones, while more strictly managing coal and other "two-high" sectors (NDRC and NEA 2022; CBIRC 2022b; MEE et al. 2022). China's domestic policies are also shifting to achieve China's national climate commitment to peak carbon emissions by 2030 and reach net zero by 2060 (the "30-60 climate commitment"). In overseas markets, China's commitment to "stop building new overseas coal power plants"

Figure 1 | **China's domestic policy instruments that influence bank's decision-making on coal**



Abbreviations: CBIRC = China Banking and Insurance Regulatory Commission; MEE = Ministry of Ecology and Environment; MOFCOM = Ministry of Commerce; NDRC = National Development and Reform Commission; PBOC = People's Bank of China.

Notes: This figure illustrates the most relevant policy instruments and common bank functions pertaining to coal exit. In practice, there will be different functions, divisions, and responsibilities within each bank. The CBIRC was restructured into China's newly established National Administration of Financial Regulation (NAFR) in March 2023. The NAFR also takes on certain functions of the PBOC regarding the daily supervision of financial holding companies, becoming the overall supervisor of financial institutions except for those in the securities sector.

Source: Authors.

is an official red line on coal financing (United Nations 2021). Chinese banks have started institutionalizing these policy requirements in practice and in their public pledges (Table 1).

Chinese banks' coal exit commitment still lacks transparency and clarity. Although Chinese banks are among the world's largest in terms of total assets, they have fewer declared coal exit pledges than many of their international counterparts (Figure 2). Also, more clarity is needed in their existing coal policies: some banks divest from overseas coal mining while others do not, and most banks don't specify financial instruments (Table 1).

Chinese banks need to plan for coal's decreasing role in the long run. In the domestic market, coal power will lose its dominance to renewable energy by 2050 to achieve China's national climate commitment, from currently about 50 percent to an estimated less than 10 percent in electricity generation (California-China Climate Institute 2021). Globally, Chinese banks will bear more outstanding loans in overseas coal power beyond 2030 than their peers (Ma 2022; Global Energy Monitor 2022).

Table 1 | **Major Chinese banks' public announcements on restricting coal financing**

BANK	EXCLUSION	ENHANCED OR ADDITIONAL ASSESSMENT
ICBC	Overseas new coal power generation projects	High energy-consuming and high-emitting projects ("two-high projects"), and outdated production capacity, especially in coal mining and coal power generation sectors
CCB	Overseas new coal power generation projects Coal mining and coal power generation projects with outdated capacity or high environmental and social risks	Environmental and climate high-risk projects, especially steelmaking, cement-making, coal mining, and coal power generation sectors
BOC	Overseas new coal power generation projects Overseas new coal mining projects	Two-high projects
PSBC	Overseas coal power generation projects Overseas coal mining projects	Two-high projects and outdated capacity, especially in coal mining, coal power generation, and steelmaking sectors
PingAn Bank	Overseas new coal power generation projects	Two-high projects

Abbreviations: BOC = Bank of China; CCB = China Construction Bank; ICBC = Industrial and Commercial Bank of China; PSBC = Postal Savings Bank of China.

Sources: Authors, compiled from banks' media releases, environmental information disclosure reports, and environmental, social, and governance reports for fiscal years 2021 and 2022.

What coal exit practice is useful

This working paper provides Chinese banks with coal exit international experience they can learn from to systematically manage coal relations considering home and overseas markets, and to improve coal financing strategies in coming years to fulfill China's commitment to "stop building new overseas coal power plants," as well as its domestic "30-60 climate commitment."

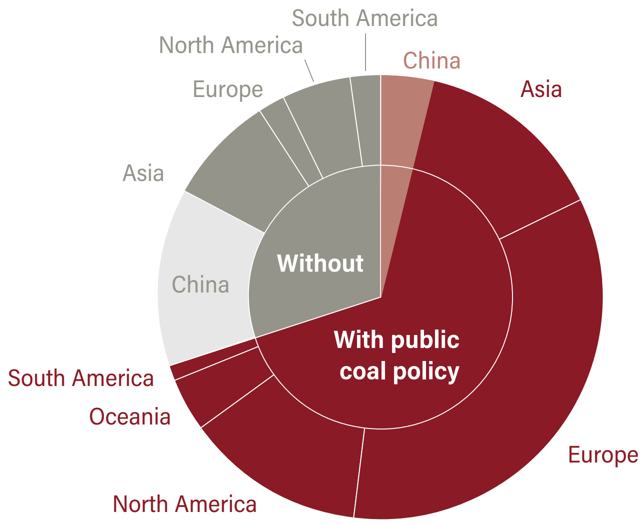
Coal exit in this paper refers to a process of reducing and finally clearing exposure associated with unabated coal, or coal not using carbon capture technologies. It requires not only divestment but also targeted financing strategies such as reallocating capital and resources to transition (e.g., repurposing, carbon capture, early retirement) and low-carbon options (e.g., solar and wind power), urging clients to reduce their coal reliance and guiding them in these efforts.

Banks' coal exit should consider the following criteria:

- **It should be credible.** Coal exit pledges, in line with banks' climate commitments (e.g., net zero), should be based on the Paris Agreement and national contexts, providing clarity and enough transparency for public oversight.
- **It should be accountable.** Coal exit pledges should be accompanied by proactive and irreversible actions and trace down to the economic activity that will be ultimately financed and backed.
- **It should be comprehensive.** Coal exit necessitates a thorough examination of all types of financial businesses and their relationship to coal, and it must take action accordingly. Overseas business is also a crucial element, particularly for financial institutions active in developing countries.

This working paper considers the diversity of banks, markets, and national specifics. The international experience will help banks consistently review evolving contexts, enabling them to tailor action plans and make effective decisions. Therefore, this paper focuses on the following three kinds of coal exit experiences to inform Chinese banks.

Figure 2 | **Availability of public coal policies in world's 100 largest banks**



Notes: Data accessed April 15, 2023. Size in pie charts reflects the number of banks. The country and region are those where the banks' headquarters are located.

Sources: Authors, compiled from Reclaim Finance (2023) and S&P Global Market Intelligence.

- **Coal exit breakdown to banks' functional units.** The breakdown means mapping banks' coal involvement across financial business at home and abroad and institutionalizing coal exit to relevant functions and business lines. This is vital for clarity in and follow-through on pledges.
- **Coal exit progress and practice by international banks.** Both sectoral and individual banks' practices are valuable. Sectoral practice provides a panoramic view of key steps, while the practice of individual banks offers a granular perspective on know-how, including which metrics are used to assess eligible projects or clients and check on coal exit progress. We have favored discussion of practice by banks sharing similarities and financial cooperation.
- **Tools to assist Chinese banks improve coal exit strategies.** We examined the procedures and approaches employed by coal exit strategies, as they can serve as a valuable precedent in effectively managing exposure to other fossil fuels. These strategies follow a procedural sequence that helps banks prepare, decide, and implement coal exit, while also guiding them in effectively examining resources for improvement.

METHODOLOGY

Scope

Scope of references

We studied references from myriad sources and a wide range of perspectives detailing current and ideal coal exit actions for banks. These encompass policies, standards, guidance, databases, research, and advocacy from intergovernmental organizations, government authorities, research institutions, financial institutions, climate initiatives, and civil society organizations with significant recognition or experience in the domains of climate science, energy finance, and sustainable finance. These sources were published after the Paris Agreement, most between 2021 and 2023 to reflect the latest trends. They provide three types of perspectives pertaining to coal exit:

- **Expectation**: Research from intergovernmental organizations and climate initiatives raises expectations.
- **Practice**: Policies, standards, and guidance from the financial sector and authorities reflect practice.
- **Oversight**: Databases and advocacy from civil society provides public oversight.

These references in aggregate reflect what is the ideal and current coal exit practice. They are listed in Appendix A.

Scope of banks

For sectoral practice in coal exit, we studied the following public databases that detail banks' and other financial institutions' coal exit policies and practice:

- **S&P Global Market Intelligence (2023**) updates a list of the world's 100 largest banks based on their total assets. We used the 2023 update to identify banks with the greatest assets from their origin country and compare them to China's leading banks.
- **Institute for Energy Economics and Financial Analysis, "Coal Divestment" (IEEFA 2023)**, captures the announcement time of coal exit from about 200 public and commercial financial institutions (banks, asset managers, asset owners, and insurers). We accessed this source on March 6, 2023, to check the temporal evolution of coal exit.
- **Reclaim Finance (2023), "Coal Policy Tool,"** tracks coal financing policies from about 500 of the world's leading commercial financial institutions. We accessed this source on April 15, 2023, to study the prevalence of coal exit coverage and actions.

For the practice of individual banks, we studied documents from selected international banks that share similarities and proximity with Chinese banks. Both commercial banks and multilateral development banks (MDBs) are included. Despite MDBs' practice in coal exit not being completely applicable to Chinese banks considering their mandate and governance structure, the increasing financial cooperation such as on-lending and co-lending between MDBs and Chinese banks in overseas markets makes their experience relevant. The bank selection was guided by three criteria:

- **Information availability:** The bank disclosed detailed policies and systematic coal exit actions. The documentation reflects how the bank improves coal exit step by step. We identified these banks from above databases tracking banks' coal policies.
- **Proximity**: The bank is similar to Chinese banks in areas such as size, financial resources, global presence, and role in coal financing. This was especially true for selection of commercial banks, as similarity makes a bank's practice more likely to be referenced by Chinese banks. We selected these banks according to their asset rankings and signatures of financial initiatives such as the Green Investment Principles of the Belt and Road Initiative, where banks cooperate and share resources in overseas investment.
- **Connection**: We identified MDBs that cooperate with Chinese banks through shareholding, on-lending, and cofinancing, with some regional focus in Asia.

Based on the above criteria, we selected nine banks: BNP Paribas, JPMorganChase, HSBC Holdings, Mizuho Financial Group, Shinhan Financial Group, the Asian Development Bank (ADB), World Bank Group (WBG), the Asian Infrastructure Investment Bank (AIIB), and the Agence Française de Développement (AFD). Banks' documents include their media releases; sectoral financing policies; themed reports; environmental, social, and governance (ESG) reports; climate information disclosure reports; and net-zero announcements. These are listed in Appendix B.

Breaking down coal activities

Banks' coal involvement resides in financial services and underlying economic activities. We identified coal activities and categorized them to help banks thoroughly examine their coal involvement and seek clarity in coal exit coverage.

We first derived a list of coal activities from international standards and national practices to stay compatible with the global and Chinese contexts.

Our information on economic activities came from the International Standard Industrial Classification (ISIC) and China's Industrial Classification for National Economic Activities (GB/T 47540), from which we built a list of coal-related activities.[1] These classifications reflect a spectrum of processes, products, and services instrumental in collating and reporting economic and social data. They are acknowledged and employed by industrial and financial authorities in developing catalogs and taxonomies (IPSF Taxonomy Working Group 2022).

We derived financial services from the International Financial Reporting Standards (IFRS), Chinese regulations and annual reports from Chinese banks. We drew up a list of them by excluding individual business, such as personal deposits, which are irrelevant to studying banks' involvement in the coal sector. In addition, we went beyond the asset side and looked into the liability and equity part of a bank's balance sheet, as coal's presence in these areas can bring market and reputational risks under international banking regulatory standards—namely, the Basel Framework (BIS 2019). Finally, this process is valuable in situations where the IFRS doesn't offer detailed classification for off–balance sheet (OBS) activities whereas China's financial authority has issued guidelines on managing the risk of OBS activities (CBIRC 2022a).

After creating the list, we examined how each financial instrument or service could directly or indirectly support coal, including through third-party channels such as investment in joint ventures.

We then categorized activities into groups to ease banks' adaptation process.

We categorized economic activities based on their position in the coal value chain, including coal producers, users, and facilitators (auxiliary activities enabling coal use and production). This categorization allows banks to manage client clusters effectively and anticipate the potential impact of sectoral changes.[2]

We grouped financial services into typical business lines (e.g., corporate finance and asset management business lines) disclosed in Chinese banks' annual reports. The purpose of this exercise was to provide quick access for different internal management units and facilitate coal exit plan breakdown.

Analyzing international practice

We analyzed both sectoral and individual banks' practices in coal exit, including coverage and action. These two factors can determine the quality of a coal exit pledge. The coverage indicates which coal activities were addressed, contributing to the clarity of coal exit. Action, or implementation, means how the banks measure and reduce coal exposure as pledged.

Sectoral practice

For sectoral practice, we consulted public databases introduced in the "Scope" subsection above and heat-mapped the prevalence of coal exit coverage and action into three categories:

- *Widely adopted* means most practiced. If more than 50 percent of banks included in the database have committed to a certain coal exit action, we call this action "widely adopted."
- *Gaining momentum* means not widely practiced but undertaken by a number of banks.
- *Rare* means few banks have acknowledged or started action. If only a few banks or no more than 10 percent of banks in the database have committed to an action, we call it "rare."

Individual banks' practice

For granular coal exit practice from individual banks, we examined pledges and practice disclosed by selected banks using cross-institution and within-institution approaches.

Cross-institution approach: Among all selected banks, we mapped out how they reacted to coal exit in their coverage and actions. Under actions, we also mapped out which metrics were used. These metrics expand across the project, company, and portfolio levels—key linkages between the bank and economic activities. The mapping out is elaborated in Appendix C.

After the mapping, we grouped metrics of the same unit and function into the same type (but banks may use different values of the same metric), and gave examples of how banks could use them in practice.

Within-institution approach: Within each bank, we studied the temporal evolvement of its coal exit pledges and actions to identify driving factors for improvement—for example, request from shareholders and availability of alternatives. We collected these factors, which can lead banks to change behavior, in a "prioritization table," which can help banks make decisions. We categorized these factors by their relevance to banks, grouping them into three characteristics (e.g., some reflect banks' readiness and some are external events requiring banks' response):

- *Urgency* encompasses external factors influencing banks' business and need to be responsive to these factors, as in the banks' political commitment to coal exit.
- *Relevance* consists of internal arrangements and readiness that determine the position of coal exit in banks' strategy and how banks will react, such as banks' involvement in the coal sector.
- *Feasibility* comprises both internal and external conditions that help banks practice coal exit, such as clients' data on coal usage.

Developing a coal exit framework

We developed tools for Chinese banks' continuous improvement in coal exit based on the international experience gathered above. The tool, or coal exit framework in this working paper, follows three steps—plan/review, decide, and implement—which is a typical process of initiating a new action within an organization, to help banks reduce their coal exposure in an iterative manner.

Step 1: Plan or review. References introduced in the "Scope" subsection above provide guidance on banks' coal exit. We gathered and combined elements mentioned in them to develop a checklist, which helps banks examine or review their institutional setup for coal exit.

Step 2: Decide. As explained in "Analyzing international practice," we developed a prioritization table consisting of factors that may lead banks to change policies and behaviors. Banks can use the table to evaluate changes and determine new priorities.

Step 3: Implement. As explained in "Analyzing international practice," coal exit metrics are designed to implement coal exit and check progress. After studying banks' practices and financial guidance on metric-setting, such as from the Partnership for Carbon Accounting Financials (PCAF), we made a demonstration figure (Figure 6) to inform banks of coal exit metric functions and where they are applied throughout the workflow. Combined with the metric-setting practice gathered in this paper, this figure can help banks improve their coal exit practice.

Iterative process. As banks follow the above three-step procedure to design and implement their coal exit, they need to reexamine the effectiveness of their institutional setup for coal exit and update strategies to reflect evolving circumstances. In this process, they can revisit the checklist and prioritization table used in Step 1 (Plan or review) and 2 (Decide).

Use for other fossil fuels. Plan/review-decide-implement is a typical process for initiating and implementing a decision. It can be applied across sectors and organizations. But as coal is different from other fossil fuels, such as in sectoral coverage (retreating from oil and gas is also relevant to the transport sector, where coal has less of a role to play), more research is needed to develop a framework that can also be used for exiting from other fossil fuels.

A BREAKDOWN OF COAL EXIT

Coal activities are categorized into primary and secondary activities based on their functional relationship to coal (Table 2). Reducing coal use affects these categories differently, and banks can assess these implications accordingly.

The clearance of coal exposure also requires a thorough examination of banks' direct and indirect financial relationships with coal (Table 3). The coal exit actions may depend on the ways and levels of control and influence by the bank on the instrument or financial arrangement. For instance, banks directly control their own financing, enabling them to take proactive actions. Banks can also exercise influence over indirect relations with coal by other means, such as advising or participating in decision-making, setting covenants, and communicating with stakeholders.

Table 2 | **Coal-related activities**

TYPE	ACTIVITY		EXPLANATION AND EXAMPLE
PRIMARY Coal as marketable products, fuel, and raw materials	Upstream: coal as marketable products	Coal mining	Exploration, mining (underground and opencast), washing, grading of coal, and other supportive activities *e.g., hard coal, lignite, and peat mining*
		Coal processing	Manufacture of fuels and chemicals based on coal, including coking (mostly for metallurgical use), coal-based synthetic gas, coal-based liquid fuel, and coal-based solid fuel *e.g., coal-to-methanol and lignite briquettes*
	Midstream: coal as fuel	Coal for electricity and/or heating	Production and supply of electricity and/or heat generated from coal, including centralized and captive facilities
		Coal for industrial production	*e.g., for making steel (metallurgical coal) and cement*
	Downstream: coal power as electricity source	Coal power for industrial production	Purchase of electricity and/or heat generated by coal for industrial production *e.g., car manufacturing factory using electricity from coal-fired power plants*
		Coal power for commercial operations	Purchase of electricity and/or heat generated by coal for commercial operations *e.g., operating a commercial building using electricity from coal-fired power plants*
SECONDARY To provide coal-dedicated services facilitating coal use and production	Transmission and distribution		Conveying electricity and heat from a coal-powered generation facility to the consumer and earning revenues based on the electricity or heat provided
	Coal-dedicated infrastructure		Construction, operation, and maintenance of coal-dedicated infrastructure *e.g., construction of coal-fired power plants and affiliated transmission systems; rails, roads, ports, and warehouses dedicated to coal transportation and storage*
	Coal-dedicated equipment		Manufacture, repair, installation, sale, and rental of coal-dedicated equipment *e.g., manufacturing and selling of boilers for coal combustion*
	Transportation and storage of coal		Provision of transportation services for coal and coal-based fuels via water, rail, road, and pipeline transport, as well as storage services
	Sale and procurement of coal		Sale and procurement of coal, coal-based fuels, electricity, and heat generated by coal *e.g., electric power brokers or agents who arrange the sale of electricity via power distribution systems operated by others*
	Energy services		Provision of technical, software, and information services *e.g., flexibility retrofit for coal-powered power plants*

Source: Authors.

Table 3 | **Banks' financial instruments and services related to coal**

TYPE	FINANCIAL INSTRUMENTS AND SERVICES RELATED TO COAL		RELATED BUSINESS LINES
Assets	**Loans (including syndicated loans)**	**Project loans**, *e.g., providing project financing to build and operate a coal-fired power plant with the repayment coming from the expected tariff (direct).* **Corporate loans**, *e.g., providing short- or long-term loans to a company with majority revenues coming from coal or operating coal-fired power plants (direct).*	▪ Corporate financing ▪ Investment banking
	Equity investment	**Investment in subsidiaries.** The bank sets subsidiaries specialized in asset management, investing, securitization, leasing, insurance, etc., who may have coal-related business. *e.g., holding the equity of a coal mining company (indirect).* **Investment in associates and joint ventures**, *e.g., investment in a foreign commercial bank that lends to a company with majority revenues coming from operating coal-fired power plants (indirect).*	▪ Financial market ▪ Investment banking
	Financial investment	**Investment (proactive or passive) in structured entities** such as funds, asset-based securitizations, and trusts *(indirect)* *e.g., the bank invests in an asset-management plan sponsored by other financial institutions that holds equities in companies whose majority revenues are from coal.* **Investment in debt securities**, *e.g., a bank group holds bonds issued by a company to repay the debt of a coal-fired power plant (indirect).*	▪ Financial market ▪ Investment banking ▪ Asset management ▪ Securitization
	Collateral assets	Due to the inability of the debtor (*e.g., a company operating coal-fired power plants*) to repay the loan as required, the bank takes possession of the pledged assets (*e.g., power plants and related property and equipment*) for auction, bidding, and transfer *(direct).*	▪ Corporate financing ▪ Investment banking
Liability	**Bonds issued**	*e.g., a bank issues a bond to finance the early retirement of coal-fired power plants (direct).*	▪ Financial market
	On-lending	*e.g., long-term funding provided by multilateral development banks (MDBs) to finance the early retirement of coal-fired power plants (direct).*	▪ Corporate financing ▪ Institutional financing
	Insurance liabilities	*e.g., providing natural disaster insurance for a coal-fired plant and affiliated transmission lines (direct).*	▪ Insurance
Equity	**Income**	*e.g., a bank yields return from its bond holdings in a coal power generation company (direct).*	▪ Corporate financing ▪ Investment banking ▪ Asset management ▪ Insurance
Off-balance sheet activities or shadow banking	**Guarantees and credit commitments**	*e.g., issuing a loan commitment to a company planning a new coal-fired plant (direct).*	▪ Corporate financing ▪ Investment banking
	Commissioned investment and financing	**Underwriting**, *e.g., a bank underwrites for a company planning coal mine expansion and earns commission income from it (direct).* **Asset management**, *e.g., a bank as a service provider invests and manages an investor's assets entrusted to it, thereby earning management fees, commissions, and custodian fees, which it may invest in coal-related activities (direct).* **Entrusted loans**, *e.g., a bank as an agent channels lending to a company a majority of whose revenues come from coal, at the direction of third-party lenders (direct).*	▪ Financial market ▪ Corporate financing ▪ Investment banking ▪ Asset management ▪ Securitization
	Financial consultancy and advisory services	*e.g., providing financial advice on the financing, debt restructuring, merger, and acquisition of a company heavily involved in coal-related activities (direct).*	▪ Financial market ▪ Corporate financing ▪ Investment banking ▪ Asset management

Notes: The list is from the commercial banks' perspective to illustrate their potential financial relationship with coal; MDBs interact with commercial banks via on-lending, syndicated loans, and investment; MDBs have unique instruments such as technical assistance and risk-sharing facilities that help de-risk the early retirement of coal.

Source: Authors.

COAL EXIT PROGRESS AND PRACTICE

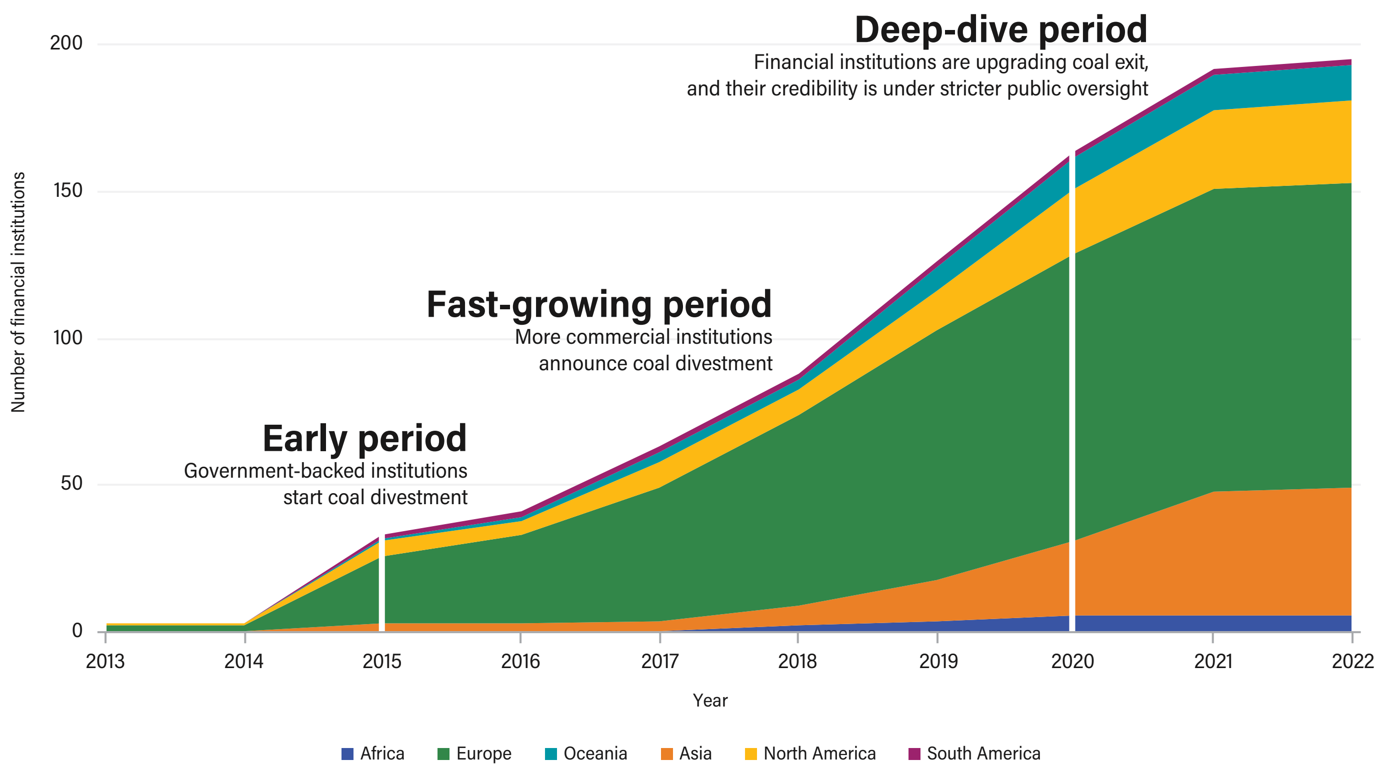
Coal exit progress

Coal exit progresses at varying speeds across financial institutions and markets. Government-backed institutions, including national export credit agencies and multilateral development banks, were the first group to stop coal financing (Blocher et al. 2021), as early as a decade ago (Figure 3). Commercial institutions followed suit. Institutions headquartered in Asia began later than their European and North American counterparts (IEEFA 2023), and their coal policies still lack transparency and clarity (ARE 2022). This may be attributable to the fact that Asia consumes more coal and is more active in the international coal trade than other regions (IEA 2023a).

The credibility of coal exit and a retreat from other fossil fuels is receiving increasingly strict public oversight. The United Nations has recommended exiting coal and fossil fuels as an element of net-zero commitments and covering all financial and advisory services, while many campaign organizations have been examining financial institutions' relationship with coal companies, criticizing their deficiencies and loopholes in divestment (United Nations 2022; Rainforest Action Network et al. 2023; Reclaim Finance 2023). Climate initiatives such as the Science-Based Targets initiative are using higher standards in assessing financial institutions' climate or net-zero commitments, in which fossil fuel divestment plays a vital role (SBTi 2023). Financial institutions are reacting to this trend, with many having elevated their coal exit pledges since 2020 after their first announcement (IEEFA 2023). Europe has seen some progress in banks' retreating from oil and gas. For example, the European Investment Bank has committed to stop lending to oil and gas companies, and some socially responsible investors have urged Europe's largest banks to stop oil and gas financing (Rankin 2021; Citywire Selector 2023).

The focus of coal exit has recently shifted from mere divestment to coal transition. Coal-reliant countries such as South Africa and Indonesia have been working with international funders to develop coal transition plans (Presidency of the Republic of South Africa 2022; Government of Indonesia

Figure 3 | **Number of new coal divestment announcements captured publicly, 2013–22**



Notes: Data accessed March 6, 2023; Financial institutions here include banks, insurers, multilateral development banks, central banks, and export credit agencies.
Source: Authors, compiled from IEEFA (2023).

2023). These plans include early decommissioning of coal power plants and investment in coal replacement that still face financial gaps to be filled from multiple sources.[3] As commercial banks implement policies to zero out coal exposure, they have also realized the need to urge clients to transition away from coal as additional efforts to mere divestment (GFANZ 2021). This will create financing opportunities.

Coal exit practice: Coverage and action

We heat-mapped coal exit actions in different color shades (Figure 4). Discrepancies largely reflect the coverage of coal activities and the diversity of coal exit action.

Widely adopted

Ceasing lending to new coal mining (upstream) and power generation (midstream) projects and clients involved in them is common in banks' coal exit. About 70 of the top 100 commercial banks globally have committed to no new financing of coal mining and power projects (Reclaim Finance 2023). MDBs are also formulating their divestment criteria for alignment with the Paris Agreement. Despite some variation, their converging divestment includes no direct financing of coal power generation and coal mining (AfDB et al. 2023).

Gaining momentum

Broadening divestment scope across the value chain, extending beyond mining and power generation.

- **In primary activities**, banks are divesting from coal processing and heating. They also avoid projects functionally related to coal, impacting industrial facilities powered by coal.[4]
- **In secondary activities**, banks reconsider financing infrastructure that supports coal production, transmission, and consumption. About 10 percent of top commercial banks include coal infrastructure in their coal divestment policies.[5]

Strengthening coal client management across more financial instruments involves enhanced due diligence and specifying the use of proceeds.[6] Progress is measured by setting coal phaseout deadlines, with metrics focusing on reducing coal exposure and financed emissions, adopted by approximately 20 of the top 100 banks.

Figure 4 | **Snapshot view of banks' coal exit practice**

4A. Coverage of coal-related activities

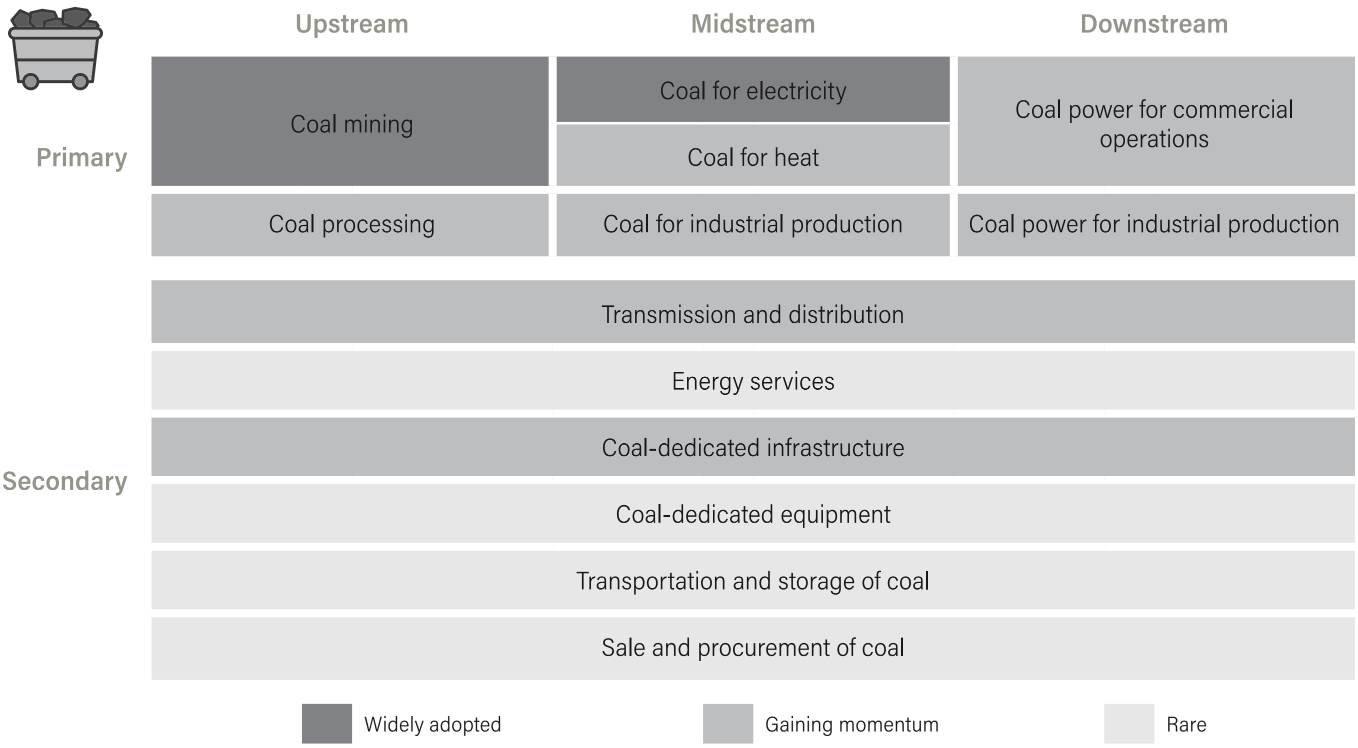
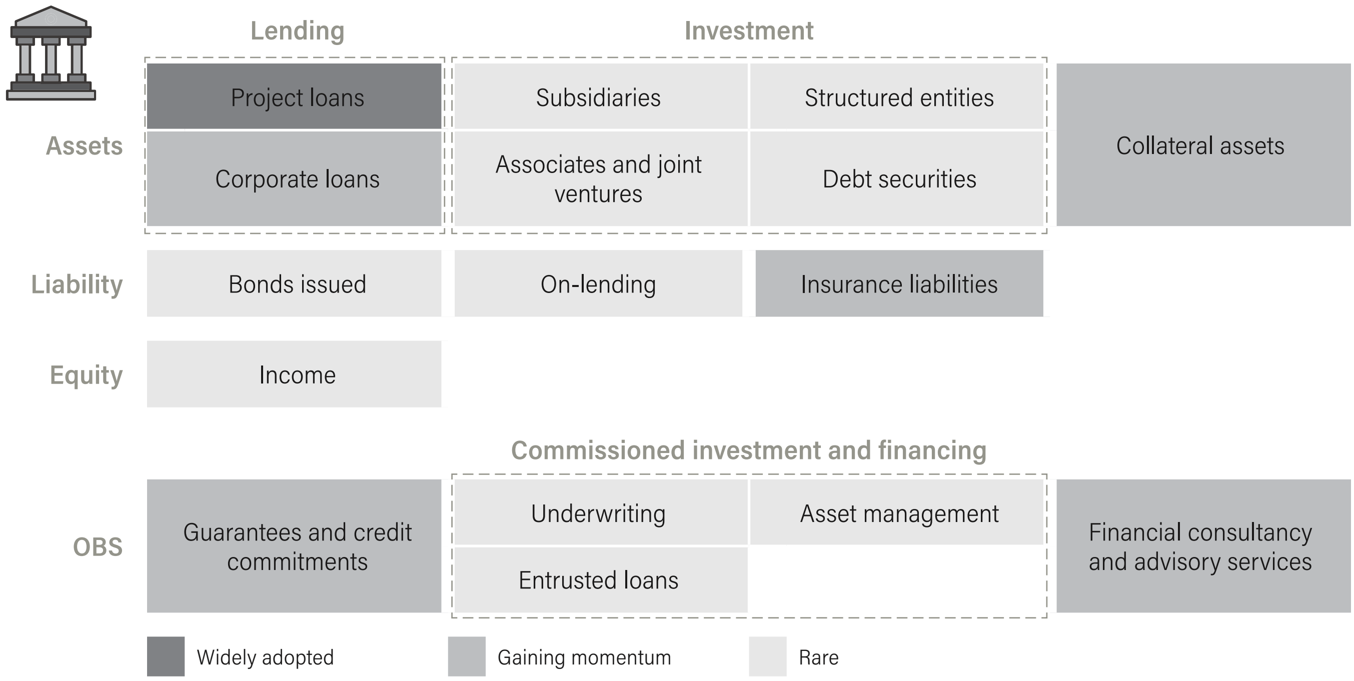
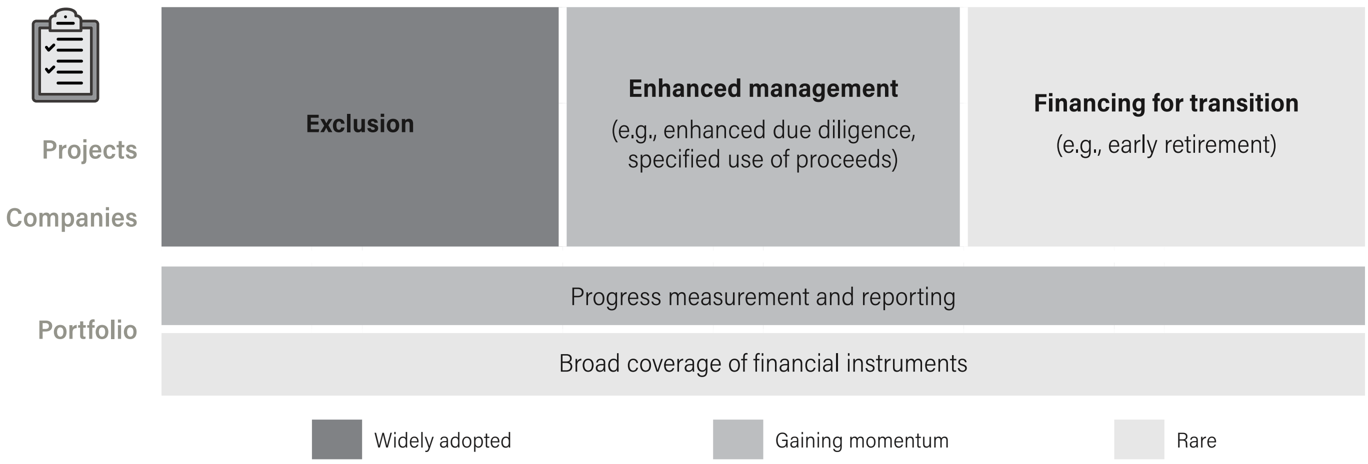


Figure 4 | **Snapshot view of banks' coal exit practice (cont.)**

4B. Coverage of financing activities



4C. Actions taken for coal exit implementation



Abbreviation: OBS = off-balance sheet.

Notes: Widely adopted: taken by majority of banks; Gaining momentum: not only widely practiced but undertaken by a growing number of banks; Rare: only a minority of banks recognize it or have begun to act.

Source: Authors.

Rare

Financing the low-carbon transition of existing projects and clients. Banks have roles to play in these areas:

- **Early decommissioning.** Achieving Paris Agreement goals will require the decommissioning of existing power projects that rely on coal and other fossil fuels (IPCC 2022). MDBs, philanthropic, and public sectors are performing trials and developing innovations to mobilize the private sector to fill the funding gap (IEA 2022b). For example, the ADB is building a blended financing partnership to fund the early retirement of coal assets, where regional taxonomies are in place to guide credible early decommissioning of coal.
- **Coal clients' transition.** As commercial banks implement policies to zero out coal exposure, they have also understood the need to urge clients to transition away from coal as additional efforts to mere divestment (GFANZ 2021). This will create financing opportunities. Guidance on credible transition plans is booming to help banks evaluate clients' transition plans (TPT 2023; CDP 2023; Asia Transition Finance Study Group 2022). Some banks have announced a commitment to support the transition of coal clients, and much more is needed to integrate them into standard management and ensure the credibility of clients' transition plans.[7]

Reducing coal exposure through broad coverage of financial instruments:

- **Indirect finance.** Banks' loose management of coal exposure through intermediaries such as subsidiaries and joint ventures, or instruments such as on-lending and passive investment, may result in loopholes.[8]
- **Off–balance sheet (OBS) activities.** Compared to traditional banking activities like lending, banks' OBS activities, such as bond underwriting and asset management plans, tend to go unnoticed and continue to facilitate coal financing without proper monitoring, assessment, and disclosure. More accountable strategies are needed to address coal exposure through these channels.

Coal exit practice: Metric setting

Project-level metrics

To rule out ineligible coal projects, banks need clear and detailed project-level metrics. Table 4 explains metrics for this use, but their clarity and granularity still depends on the coal exit coverage decided by the bank.

Phased exit merits caution as banks may leave some conditions out of an immediate divestment. These conditions should be communicated transparently and followed by additional assessment to test eligibility. The assessment usually involves the technological and economic viability, climate risk analysis, and evidence of not hindering the renewable alternatives, which are typical considerations for a credible transition (CBI 2020).

Banks can foster a proactive and collaborative approach to uncover transition opportunities. This process can encompass the administration of a candidate project list specific to transition finance, and the evaluation of the viability and credibility of coal transition options, guided by resources in Table 5. The feasibility of coal transition can be further explored and confirmed by engaging directly with clients and holding dialogues with external stakeholders, including those involved in coal project operations, investment, and transition-themed international initiatives.

Banks require data on coal use, production, and emissions to assess project performance and manage their portfolio effectively (discussed below in "Portfolio-level metrics").

Table 4 | **Project-level metrics to rule out ineligible projects**

METRICS	DESCRIPTION	EXAMPLES
Project type	Specify whether the divestment applies to (1) a new project (greenfield), (2) an expansion (brownfield), (3) prolonging the lifetime (brownfield), or (4) refinancing of an existing project (brownfield).	BNP Paribas withdraws financing from types 1, 2, and 3 of coal power and thermal coal mining projects. HSBC commits not to refinance coal power or coal mining projects the bank has already financed, in addition to divesting from types 1, 2, and 3 of project financing.
Cutoff date	Set a cutoff date to define new and expansion projects. This can be the financial close date, contractually committed date, or other specific date.	HSBC withdraws financing for new thermal coal mining, coal to gas/liquids, and coal power projects not contractually committed before January 1, 2021. ASEAN Taxonomy on Sustainable Finance Version 2 stipulates that coal power built after December 31, 2022, is not eligible for sustainable activities.
Project function	Specify whether the divestment applies to projects with a dedicated function, such as a captive asset or transmission lines solely built for coal power.	HSBC withdraws financing from captive coal power and mining projects.
Project component	Specify whether the divestment applies to a project with multiple components, such as a port involving a coal hub or a production line with multiple coal products.	HSBC withdraws financing from coal mining projects with more than 30% of production or reserve being thermal coal. Several MDBs evaluate each component of a project with climate mitigation performance and only support it when all components are aligned with the global, national, or sectoral decarbonization pathways.
Project performance	Specify the environmental, social, and climate performance not allowed for financing.	Banks such as BNP Paribas and HSBC set minimum ESG performance standards for financed projects. AFD uses the carbon footprint of a project as one evaluation standard, resulting in some high-emitting projects being refused financing.
Phased exit	Specify exempted condition (if any) with caution to avoid abuse.	Some banks treat certain conditions on a case-by-case basis, instead of immediately divesting. This treatment applies to projects with CCUS facilities, or ones necessary for energy security when there are no alternatives.
	For nonexcluded activities with a potential relationship to coal, additional assessment is still needed before financing.	Several MDBs conduct assessment for activities related to coal, such as activities whose economic feasibility depends on coal mining, processing, or transport, before approving project financing. The assessment involves the project's conformity with the national climate commitment or national industrial strategy, and the possibility of hindering the transition and getting stranded.

Abbreviations: ADB = Asian Development Bank; AFD = Agence Française de Développement; ASEAN = Association of Southeast Asian Nations; CCUS = carbon capture, utilization, and storage; ESG = environmental, social, and governance; MDB = multilateral development bank.

Notes: The commitment to not refinance existing coal projects may hinder banks' participation in the coal transition. This unintended consequence has been noted by a group of financial institutions that propose updating internal financial institution policies on coal power as well as disclosing coal transition progress using a suite of metrics to demonstrate contributions to decarbonization (GFANZ 2023); "Several MDBs" in this table refers to 10 MDBs that adopted a common methodological framework to ensure that new direct investment aligns with the Paris Agreement.

Source: Authors.

Table 5 | **Approaches and references for project-level positive screening**

APPROACH	REFERENCE	EXAMPLES
Reference to external resources	Sectoral transition plans	▪ Sectoral targets in NDCs ▪ Sectoral targets in national climate policies ▪ Sectoral technology roadmaps from industrial authorities
	Regional or country-level transition taxonomies	▪ ASEAN Taxonomy on Sustainable Finance Version 2 includes both green and transition activities ▪ The EU Commission is developing a transition finance framework (voluntary) under its sustainable finance framework
	International finance initiatives	Tools from MDBs, governments, or private finance for coal transition, including these examples: ▪ The ADB Energy Transition Mechanism, which offers tools and finance support for the early retirement and repurposing of coal and other fossil fuel assets ▪ The Accelerating Coal Transition investment program funded by MDBs, the private sector, and national governments, provides tools, platforms, and financing plans for the early retirement of coal power plants
	Decarbonization pathways based on credible analysis	From international organizations such as the IPCC and IEA, academia, and industrial associations
Client communication	Client documentation	Engage with coal project operators and investors, including private and state-owned companies
Partnership and dialogue	Initiatives in coal transition	Initiatives led by governments, MDBs, or international organizations with different strategies or focus: ▪ The Just Energy Transition Partnership, initiated between governments with the participation of private capital, takes a country-specific strategy ▪ The Coal Asset Transition Accelerator, led by multiple international organizations and ventures, provides tools and technical assistance

Abbreviations: ADB = Asian Development Bank; ASEAN = Association of Southeast Asian Nations; IEA = International Energy Agency; IPCC = Intergovernmental Panel on Climate Change; MDB = multilateral development bank; NDC = nationally determined contribution.

Source: Authors.

Company-level metrics

Banks establish company-level metrics to manage clients with significant involvement in or reliance on coal. While the basis for divestment would be coal involvement or reliance, it also depends on the type and structure of a company, considering its long-term relationships with banks, as well as the dynamic business activities during its operation. Table 6 shows company-level metrics for divestment. Table 7 elaborates on how to determine coal involvement and reliance, using four types of metrics with different applications to coal producers, users, and facilitators. To ensure a credible coal exit, banks can employ multiple metrics with relative and absolute values to thoroughly evaluate the extent of coal reliance or involvement based on client type and structure.

Banks can also apply metrics to identify coal clients with the capacity and willingness to transition. This includes identifying opportunities and aiding clients in crafting credible transition plans. Banks can collaborate with regulatory bodies, industry associations, and initiatives for guidance (TPT 2023; CDP 2023; Asia Transition Finance Study Group 2022).

Some company-level metrics facilitate performance checks, and banks can monitor them in an ongoing and preventative approach. Monitoring involves checking client involvement in excluded coal activities, opportunities for transition, and actions to reduce coal reliance. The monitoring can be combined with information from multiple channels, like regular client check-in, media information, and regulatory and public oversight. Using covenants helps prevent client violations of coal-related pledges.

Table 6 | **Company-level metrics to rule out unfavorable clients**

METRICS	DESCRIPTION	EXAMPLES
Coal involvement and reliance	Specify what kind and level of coal involvement or reliance triggers divestment (see Table 7 for the determination of coal involvement and reliance).	Some banks withdraw financing from companies with coal development plans, above a certain share of revenues from coal, or above a certain share of production from coal. HSBC uses all three kinds of metrics for coal power generation and coal mining client screening.
Company type	Specify how the divestment applies to existing and prospective clients.	For prospective clients, BNP Paribas and HSBC set stricter eligibility requirements to avoid a new client's coal involvement or reliance. For existing clients, HSBC takes an "engagement + divestment" strategy to support clients' development of transition plans and will refuse refinancing to or withdraw financing from clients inconsistent with the bank's coal exit commitment.
Company structure	Specify how the divestment applies to a diversified company group and its subsidiaries.	If the client is a diversified group, HSBC and JPMorganChase will make sure the transaction is not used for excluded activities.
Phased exit	Lower the level of coal involvement and reliance for divestment after a period of time. Add a higher eligibility requirement for accepting new clients or refinancing existing ones.	For existing clients, HSBC withdraws from clients with more than 40% of total revenues from thermal coal in EU and OECD markets. The value (40%) will be lowered to 30% by 2025 (unless the financing is for clean technologies or infrastructure).

Abbreviation: OECD = Organisation for Economic Co-operation and Development.
Source: Authors.

Table 7 | **Company-level metrics for determining clients' involvement and reliance on coal**

METRICS	APPLICATION	EXAMPLES
1. Involvement in new coal projects, determined by checking information from the client combined with project registry or approval information from supervisors, media reporting, site visits, or third-party verification	Suitable for companies from primary upstream and midstream activities, and secondary transmission and distribution, infrastructure, and equipment activities	BNP Paribas refuses financing to clients planning to add coal power and mining capacity (irrespective of other coal capacities being dismantled or sold).
2. Economic reliance on coal using relative or absolute metrics; for example: ▪ Relative: coal's share in revenues/annual production ▪ Absolute: coal production/sales	Suitable for companies involved in primary or secondary activities	The International Finance Corporation uses an external list (the Global Coal Exit List) for coal client management. This list uses the metric of economic reliance as one benchmark.[a] HSBC uses a self-developed list instead of an external list for coal client management. The bank determines the absolute and relative value of economic reliance.[b]
3. Fuel reliance on coal using relative or absolute metrics; for example: ▪ Relative: coal consumption per tonne of product, coal's share in total fuel or electricity consumption ▪ Absolute: coal consumption	Suitable for companies as coal users involved in primary activities	China's industrial authorities currently use energy efficiency metrics to navigate the technological upgrading of high energy-consuming sectors. For coal processing (primary upstream) and steelmaking (primary downstream), the NDRC uses the "coal consumption per tonne of production (relative value)" metric (NDRC et al. 2023).

Table 7 | **Company-level metrics for determining clients' involvement and reliance on coal (cont.)**

METRICS	APPLICATION	EXAMPLES
4. Emissions performance using relative or absolute metrics; for example: ▪ Economic intensity values (gCO_2e/US$ revenue) ▪ Physical intensity values (gCO_2e/tonne of product, gCO_2e/MW, gCO_2e/kWh, gCO_2e/m^2) ▪ Total emissions (absolute emissions) as the cap	Suitable for companies involved in primary activities.	EU Paris-aligned benchmarks exclude power generation companies deriving at least 50% of revenues from electricity generation with GHG intensity above 100 gCO_2e/kWh (EU Technical Expert Group on Sustainable Finance 2019; European Parliament and Council 2020). China's central government is planning to introduce carbon emission metrics to guide China's industrial upgrading (Wang et al. 2023).

Summary:

- **Economic reliance** on coal applies broadly to both primary and secondary activities. The other three have limited application but offer sectoral traits for benchmarking against standards.
- **Relative metrics** aid cross-sector, county, and regional performance comparisons.
- **Absolute metrics** suit clients with diversified business, as metrics like coal's share in revenues may be diluted. Combining the relative and absolute metrics implies a stringent client management strategy.
- **For phased exit**, banks can gradually reduce coal financing or impose higher eligibility requirements.

Abbreviations: gCO_2e = grams of carbon dioxide equivalent; GHG = greenhouse gas; kWh = kilowatt-hour; m^2 = square meter; MW = megawatt; NDRC = National Development and Reform Commission.

Notes: Banks may set diverse benchmarks for the same metric based on their priorities. This table's Examples column illustrates some applied benchmarks. See Table 2 for the definition of primary and secondary activities. China's NDRC, with four other ministries, annually updates energy efficiency benchmarks for high energy-consuming sectors like fossil fuels processing and chemicals manufacturing. The EU Paris-aligned benchmark sets standards for aligning securities with the Paris Agreement, guided by scientific evidence from the Intergovernmental Panel on Climate Change.

[a] The Global Coal Exit List is developed and maintained by a nongovernmental organization and tracks over 1,000 companies involved in the thermal coal value chain (www.coalexit.org/database). If a power generation company holds more than 5 gigawatts (GW) coal capacity (absolute benchmark), or above 20 percent of its power generation comes from coal (relative benchmark), it will be included in the list as a company actively involved in thermal coal.

[b] For example, if a new client from the power generation sector does not hold less than 3 GW coal capacity (absolute benchmark) or less than 10 percent of generating capacity from coal (relative benchmark), the client will not be financed by the bank.

Source: Authors.

Portfolio-level metrics

Portfolio-level metrics differ from project- and company-level ones as they represent progress and alignment with climate commitments and policies. These metrics are assigned based on the coverage and action of coal exit. They enable a bank's management team to evaluate performance, manage finances, and allocate resources effectively.

Banks checking coal exit progress need new metrics in addition to coal exposure and financed emissions. Banks usually apply metrics of coal exposure and financed emissions (scope 3) in disclosing and checking coal exit progress. Relying solely on these metrics, however, doesn't incentivize banks to support broader carbon reduction. Additional metrics are crucial to assess banks' progress in financing the coal transition (Table 8).

Banks embed metrics and benchmarks derived from climate policies and decarbonization pathways for alignment (Table 9). Developed by governments or qualified organizations, these metrics and benchmarks ensure a coherent transition aligned with climate commitments and policies. Adjusting the portfolio structure involves constraining exposure to high-emitting activities, reducing financed emissions, and prioritizing projects with better emission performance. Third-party verification enhances alignment credibility.

Table 8 | **Portfolio-level metrics for coal exit progress measurement and reporting**

METRICS	DESCRIPTION	EXAMPLES
Coal exposure	Specify the financial instruments and services that accounted for the exposure. Wider coverage should also be considered.	Current practice discloses coal exposure in lending and investment but not overseas, indirect, or OBS activities.
Financed emissions	Aggregation: specify the emission scopes of a project and client accounted for financed emissions, and establish a comparable coverage.	Financed project emissions are aggregated, but the scope considered varies across sectors and banks due to emission traits, data availability, and individual considerations. ▪ JPMorganChase adopts a sector-specific approach, considering scope 1 for power generation and all three scopes for oil & gas production and refining. ▪ HSBC and Shinhan consider scope 1 and 2 for power generation, while BNP Paribas focuses on scope 1 due to minimal scope 2 impact.
	Attribution: explain the rationale and methodology used for emissions attribution.	Banks apply weighting factors to attribute company/project emissions to financed emissions. ▪ Some use PCAF guidance, considering the bank's share in the company's total equity and debt. ▪ Others, like JPMorganChase, use a self-developed approach based on the client's share in the bank's sector portfolio.
Coal transition finance	Additional metrics are essential to measure and disclose progress in coal transition financing.	Examples include those proposed by the Rocky Mountain Institute, which relies on firsthand data from projects and companies such as the number of coal power plants with credible retirement plans and associated reduced emissions (Kekki and Holzman 2023).

Abbreviations: OBS = off-balance sheet; PCAF = Partnership for Carbon Accounting Financials.
Source: Authors.

Table 9 | **Portfolio-level metrics for measuring alignment with climate commitments and policies**

METRICS	DESCRIPTION	EXAMPLES
Exposure constraint	Limit sectoral exposure based on climate policies: phase out coal-related activities while increasing renewable shares.	BNP Paribas set coal phaseout dates and commits to increasing the share of renewables in its power sector loans benchmarked against the IEA Net Zero by 2050 scenario. SBTi recommends that financial institutions increase the ratio of financial support for clean energy assets versus fossil fuels to 9:1 by 2030.
Financed emissions reduction	Align financed emission reduction rates with climate policies or decarbonization pathways and keep coal exit–related decarbonization measurable through uniform and/or sectoral benchmarks.	**Uniform benchmark:** EU Paris-aligned benchmarks for investable instruments mandate a 7% yearly reduction in weighted economic carbon intensity (tCO_2e/euro enterprise value) to align with IPCC 1.5°C decarbonization pathways.[a] **Sectoral-specific benchmarks:** BNP Paribas, JPMorganChase, HSBC, and Mizuho use physical emission intensity (gCO_2e/kWh) derived from IEA climate scenarios as benchmarks for setting financed emission reduction targets in the power generation sector.
Client target setting	Urge clients to set Paris-aligned targets, and gradually increase the share to full coverage.	SBTi requires that financial institutions help borrowers and/or investees set SBT and achieve 100% coverage by 2040, including project finance, corporate loans, and listed equities and bonds.[b]

Summary:
- **Exposure constraint** takes a sector-specific approach and relies on sectoral policy or decarbonization pathways with appropriate geographic and sector focus.
- **Financed emission reduction** can be applied either to specific sectors (i.e., using an emission intensity metric derived from decarbonization pathways) or across sectors (i.e., applying an average reduction rate).
- **Client target setting** takes an across-sector approach. This may require third-party verification to ensure the credibility of target setting.

Abbreviations: gCO_2e = grams of carbon dioxide equivalent; IEA = International Energy Agency; kWh = kilowatt-hour; SBT = science-based targets; SBTi = Science-Based Targets initiative; tCO_2e = tonnes of carbon dioxide equivalent.
Notes: The listed approaches, metrics, and benchmarks for Paris alignment are coal-related and may not be exhaustive.
[a] According to the EU provisions, the emission intensity reduction cannot be achieved by merely excluding high-emitting sectors, as the benchmarks require maintaining a baseline level of exposure across sectors, therefore creating incentives for companies to improve their emission reductions.
[b] SBTi is upgrading standards for financial institutions' net-zero target setting. The new standards may add additional metrics for Paris alignment.
Source: Authors.

TOOLS FOR CHINESE BANKS

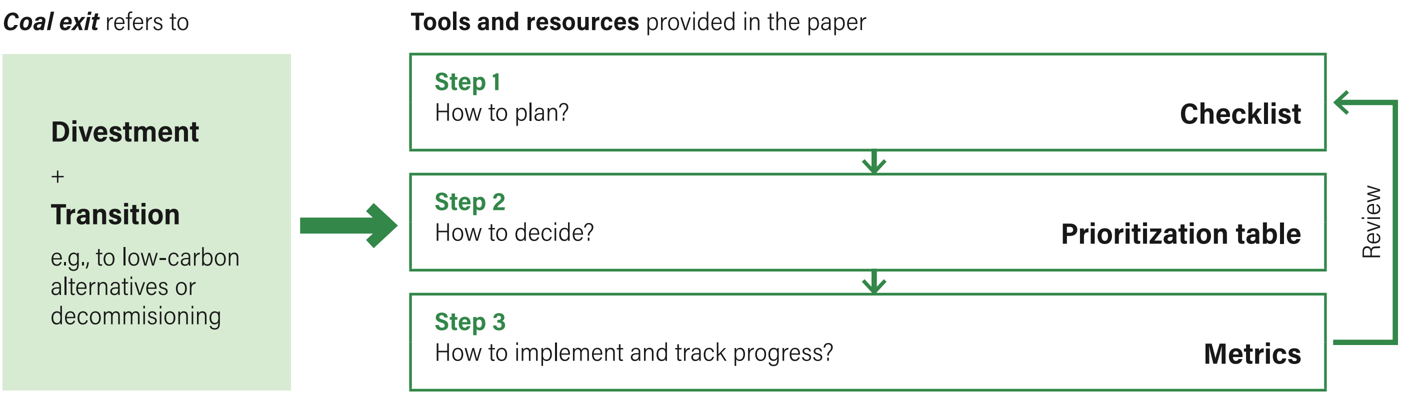
This working paper has proposed a coal exit framework to help banks design and execute coal exit in an iterative manner (Figure 5).

Coal exit checklist

The coal exit checklist helps banks examine the institutional setup for coal exit. Four institutional arrangements are necessary for a pragmatic and accountable coal exit (Table 10):

- **Top-level commitment** setting expectations and ensuring credible pledges and accountable action.
- **Business breakdown** ensuring comprehensive examination of coal activities and the commitment to follow through on business lines and relevant entities.
- **Internal support** across different functions to build up capacities for implementation.
- **External channels** from multiple stakeholders facilitating public oversight, experience sharing, and cross-sector cooperation for continuous improvement.

Figure 5 | **Coal exit framework proposed in this working paper**



Source: Authors.

Table 10 | **Coal exit checklist**

BUILDING BLOCK 1. TOP-LEVEL COMMITMENT	
Pledge	Set a coal exit pledge supported by the bank's board and top management and linked to the group strategy and global consensus. *e.g., coal exit as part of the bank's climate change, energy transition, or sustainable finance strategy*
Timeline	Specify the timeline to include long-term and interim targets for immediate actions.
Coverage	Explain the coverage; namely, the coverage of coal-related economic activities, financial instruments and services, the involvement of business lines and functions (see Building block 2 for details).
Action	Explain actions at the project, company, and portfolio levels. *e.g., divestment, enhanced client management, transition finance, portfolio management, and disclosure*
Alignment	Explain the approach to ensure that the commitment is aligned with the Paris Agreement goals and the national climate commitment. *e.g., using official benchmarks*
Documentation	Disclose commitment details in institutional documents to facilitate implementation and communications. *e.g., environmental and social policies, sustainability policies, sectoral policies, ESG reports*

Table 10 | **Coal exit checklist (cont.)**

BUILDING BLOCK 2. BUSINESS BREAKDOWN	
Coal-related activities	Define and explain which coal-related economic activities will be addressed.
Financial instruments and services	Define and explain which financial instruments and services, business lines, and entities (see Table 3 for details) are relevant to the coal exit, or outline alterations to processes or requirements necessary to meet the coal exit commitment.
Business lines	
Relevant entities	
BUILDING BLOCK 3. INTERNAL SUPPORT	
Internal communication	Communicate coal exit requirements to relevant staff. *e.g., the front office or the client service team so they can inform clients of the new requirements and changes*
Capacity-building	Organize capacity-building and training so staff understand all aspects of coal exit. Audiences include staff from the functions of strategy development, risk management, corporate financing, client engagement, public relations, human resources, monitoring and evaluation, and affiliated entities, including subsidiaries and overseas branches.
Client communication and engagement	Communicate with new and existing clients to inform them of the changes and additional requirements stemming from coal exit and help them identify possible transition opportunities.
Monitoring and evaluation	Set or adjust work procedures and metrics for monitoring and evaluating coal exit progress and performance.
BUILDING BLOCK 4. EXTERNAL CHANNELS	
Disclosure	Disclose coal exit commitment and progress via media channels. *e.g., annual reports, sustainability reports, media releases*
Dialogues	Hold dialogues with different stakeholders. They can be regulators and industrial experts who can provide policy interpretation and technical assistance, financial peers who can share experience and financial resources, shareholders and social organizations that can provide oversight to ensure the credibility and accountability, and groups and communities already or potentially affected by coal exit. Some dialogues are already in place, as with shareholders, while some are not effectively managed.
Partnerships	Form partnerships with climate initiatives or institutions that provide banks with toolkits, guidance, platforms, and other resources helpful for coal exit.

Abbreviation: ESG = environmental, social, and governance.
Source: Authors.

Prioritization table

Although a comprehensive coal exit pledge is highly desirable, banks may adopt a phased approach as a result of changing internal and external factors. Internally, these include alterations in the bank's strategy and capacity, while externally, they are influenced by evolving policies, technological readiness, and needs from clients and affected communities.

We offer a prioritizing table to help banks identify room for improvement. Table 11 lays out factors affecting banks' decision-making and behaviors. The table can guide banks in evaluating the most urgent, relevant, and feasible coal exit actions with information from banks' in-house expertise and stakeholders listed in Table 10. Both China's and host countries' specifics should be evaluated during this process, depending on banks' global presence.

In practice, factors in all these categories could trigger updates of coal exit depending on a bank's specific characteristics. For example, the shareholder resolution on climate change advanced by a group of investors in 2021 impelled HSBC's continuous update of its coal phaseout policy (HSBC 2021; Banktrack 2021), which in turn triggered HSBC's continuous improvement in coal exit.

Table 11 | **Prioritization table**

CATEGORY	FACTORS	QUESTIONS TO ASK
Urgency reflects external factors that impact a bank's business. **Information sources include in-house expertise or from stakeholders listed in the checklist (Table 10).**	Climate commitment	How do national climate commitments address coal? For example, do they pledge to ▪ build no new overseas coal power plants? ▪ limit coal consumption? ▪ invest in early decommissioning and replacement of coal plants?
	Government and investor expectations	How do authorities and investors raise expectations regarding climate and coal? For example, do they commit to ▪ strengthen climate risk management? ▪ conduct climate disclosure? ▪ account for carbon emissions? ▪ phase out high-emitting assets? ▪ increase low-carbon investment?
	Policy requirements	What policy requirements exist and what changes may come? These could be encouraging or restrictive for industrial, environmental, financial, and other competent authorities. Possible requirements include the following: ▪ Restrictions on new projects ▪ Retrofitting or retiring of existing projects ▪ Preferential policies for transition and low-carbon technologies ▪ Foreign investment limits in allowed sectors or equity holding ▪ Higher environmental and social standards ▪ Carbon taxes or carbon trading ▪ Tariff adjustments ▪ Conditional guarantees of payment
	Market trends	What market trends will affect coal-related businesses? Examples include the following: ▪ New technologies for replacement ▪ Decreasing demand for coal ▪ Lower returns or higher cost
	Societal considerations	What societal momentum is building for coal exit? Examples include the following: ▪ NGO pressure ▪ Campaigns by affected groups and communities
Relevance reflects a bank's internal arrangement and how the bank can exert influence. **The information source is the banks' own documentation.**	Strategy	How will coal exit align with or contribute to a bank's current or new strategies? Possibilities to consider include the following: ▪ Climate strategy ▪ Sustainability strategy ▪ Sectoral strategy ▪ Country strategy
	Business and operations	How will coal exit influence a bank's business and operations, including traditional and emergent businesses? Coal exit could lead to consequences such as these: ▪ Change of revenues ▪ Change of liabilities ▪ Asset repricing and reallocation ▪ Adjustments to management procedures ▪ Adjustments to accounting practices ▪ Adjustments to performance review ▪ Increase in management cost

Table 11 | **Prioritization table (cont.)**

CATEGORY	FACTORS	QUESTIONS TO ASK
Relevance reflects a bank's internal arrangement and how the bank can exert influence. **The information source is the banks' own documentation (cont.).**	Risk management	How is the bank exposed to coal and how will this exposure influence the bank's risk profiles? Possible exposures include the following: ▪ Climate risk ▪ Credit risk ▪ Liquidity risk ▪ Reputational risk
	Influence	How can the bank exercise influence over clients and trigger changes in coal financing? The bank could consider the following options: ▪ Divestment ▪ Enhanced due diligence ▪ Client communication and engagement ▪ Through ownership ▪ Through voting power ▪ Through contractual obligations ▪ Participation in policymaking process ▪ Providing advice
Feasibility reflects both internal and external readiness and resources that influence coal exit. **Information sources include in-house expertise or from stakeholders listed in the checklist (Table 10).**	Technological alternatives	Are there Paris-aligned and cost-effective alternatives to coal?
	Data and information	What data and information are needed to design and implement coal exit and how can they be assembled? Options include the following: ▪ Making new requests of clients ▪ Purchasing information from data providers ▪ Cooperating with NGOs ▪ Seeking alternative metrics and datasets
	Financial resources	Are financial resources available to ensure the financial feasibility of coal exit? Examples include the following: ▪ Credit enhancement mechanism ▪ Additional revenue generation
	Personnel and expertise	Does the bank have personnel and expertise in place for implementing coal exit or does it need to build that capacity? Options to consider include the following: ▪ Outsourced experts ▪ Internal capacity-building ▪ Partnership with climate initiatives ▪ Cooperation with industrial associations ▪ Cooperation with NGOs
	External references	Are lessons or examples of good or bad experiences available from peers, industrial associations, or organizations providing external oversight to inform coal exit?

Abbreviation: NGO = nongovernmental organization.
Source: Authors.

Coal exit metrics

Banks establish metrics to formulate a coal exit pledge and check progress. Figure 6 outlines the role of coal exit metrics in banks' operations, applied at the project, company, and portfolio levels. Project and company metrics assess performance, influencing financing decisions. They can be used for negative or positive screening (divestment or identifying transition opportunities, respectively). Portfolio metrics help management assess progress and optimize financing arrangements. Without metrics, controversies or loopholes may arise, such as a power plant investor closing old facilities while building new ones, potentially contradicting coal exit. Banks can learn metric-setting practice from the experiences described above in "Coal exit practice: Metric setting."

CONCLUSIONS

Direction of banks' coal exit

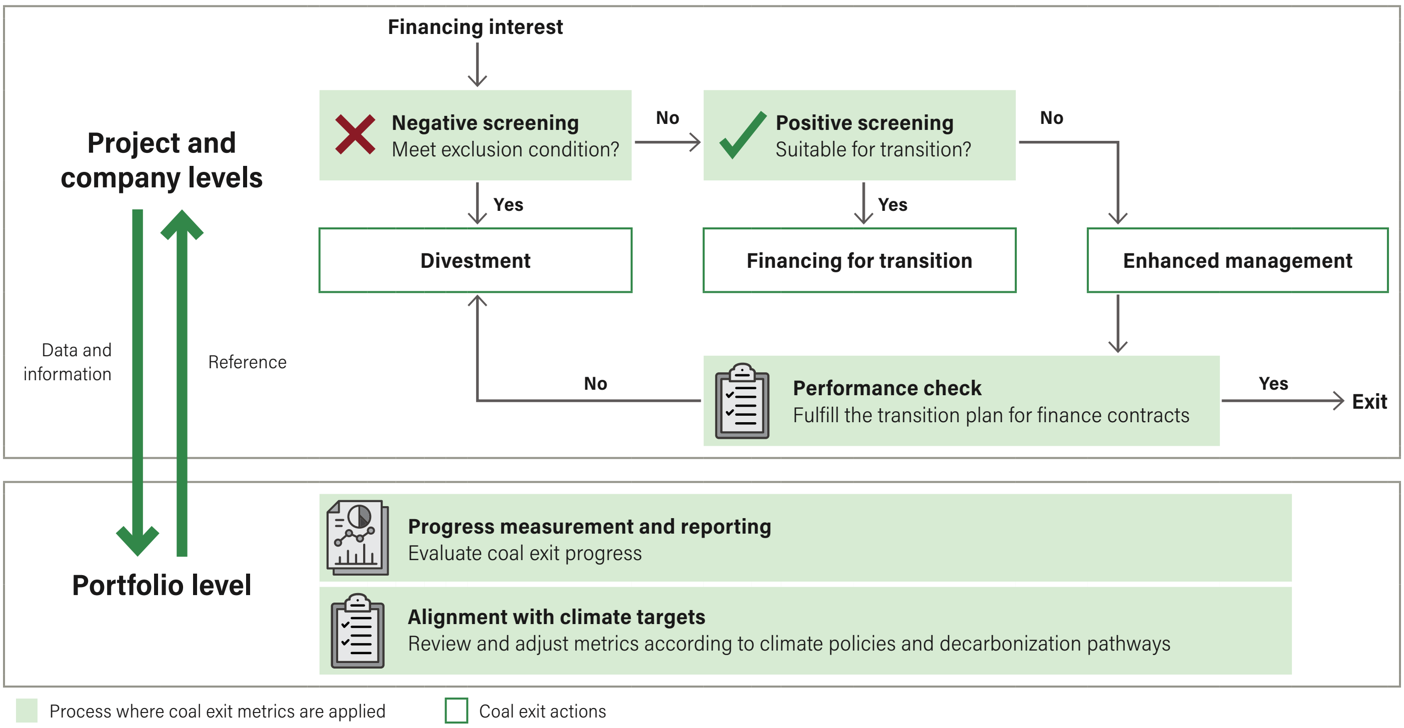
Banks are improving their coal exit strategies due to increased awareness and scrutiny of their ties to the coal industry:

- **Better transparency.** More banks are starting to reveal their coal policies and financed emission data. Asian banks, which are generally less transparent and slower to quit coal than their European and North American counterparts, are expected to accelerate actions in this area.
- **Broader coverage.** While many leading global banks are ceasing new lending to coal power and mining projects, some are expanding their coal exit scopes to the entire coal value chain. They are also incorporating more financial instruments that reside in various business lines, subsidiaries, and intermediates in cross-boundary markets. But indirect financing and OBS activities still need clarification and public oversight.

The energy transition and emerging consensus on climate change presents new aspects for coal exit:

- **Financing for transition.** Filling funding gaps for the coal-to-clean energy transition and existing coal retirement is a new challenge. Commercial banks have an opportunity to innovate in this area.
- **Fossil fuel divestment.** Actions to reduce and stop financing for other fossil fuels are receiving increasing attention in global climate debates. Coal exit experiences can aid divestment from other fossil fuels and thereby achieve long-term net-zero commitments.

Figure 6 | **Demonstrating the function of coal exit metrics**



Notes: The flow chart is for demonstration; each bank will have its own decision-making flow; enhancing management includes watching for any divested activities and being alert to opportunities for transition.

Source: Authors.

International dialogue and collaboration are essential for sharing coal exit strategies and diversifying transition funds. Challenges faced by Asian banks, resulting from the region's coal reliance, can be eased through lessons learned from global peers, and cofinancing and on-lending for the transition with them. The shortfall in strategy can be addressed faster if coal exit is considered to be part of financial collaboration, used as a criterion in partner selection, bond ownership, shareholding, and the like.

Implications for Chinese banks

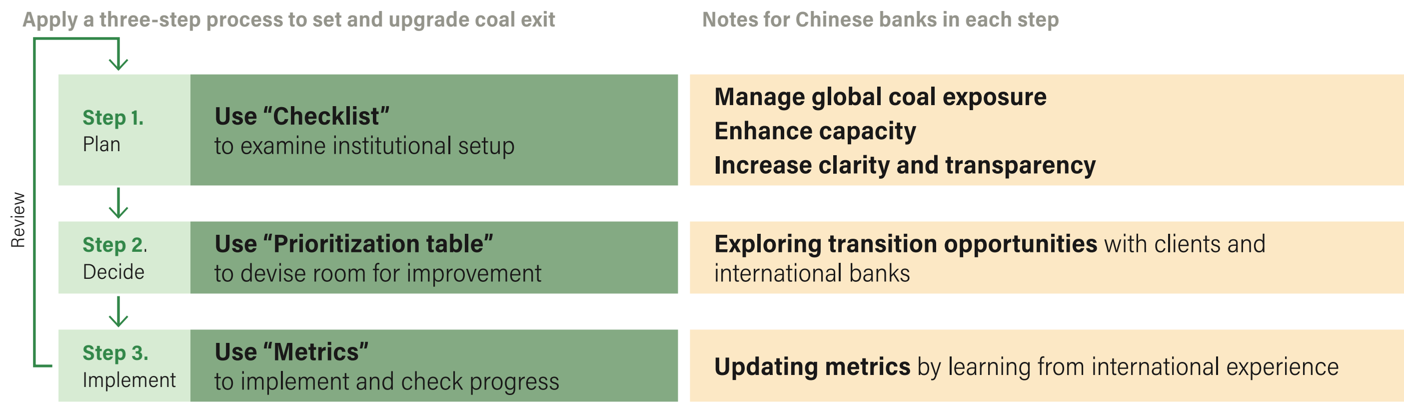
As an overall process, banks can adopt a three-step approach, namely plan/review-decide-implement, to set and strengthen coal exit strategies (Figure 7). This procedure can also be used for other fossil fuels.

- **For planning and review, banks can use the coal exit checklist** to identify the institutional setup needed for a coal strategy as well as their coal exposure. As suggested in the checklist (Table 10), banks need to break down their coal exposure to economic activities and financial instruments, identifying their corresponding positions in the coal value chain and in banks' business units.
- **For deciding on actions, this working paper offers a priority assessment table and a mapping of current actions as a reference.** The prioritization table (Table 11) outlines factors that will trigger banks to change policies and behaviors. They encompass various domains—regulatory, market, technological, and societal—allowing banks to evaluate various contexts. The current action mapping shows key steps to help banks devise their own prioritized actions, but this should not lead to static ambition or limited efforts.
- **For implementation, this paper provides metric-setting practice** at the project, company, and portfolio levels. This international practice could serve as a platform for future international dialogue and standardized approaches.

For Chinese banks, we recommend efforts in the following areas:

- **Managing global coal exposure, enhancing capacity, and communicating coal exit with greater transparency and clarity.** This involves adhering to the "no new overseas coal power plants" commitment; investing in personnel training to strengthen climate, energy, and stakeholder management skills; and systematically designing a coal exit strategy in all markets.
- **Exploring transition opportunities with clients and international banks.** Chinese banks can assess transition opportunities by leveraging their established relationships with coal companies. This involves seizing opportunities and joining forces with peer banks and development finance institutions to establish credible transition financing frameworks, and contributing to the funding of transition projects and clients.
- **Updating metrics to maintain strictness in coal exit implementation and provide feedback for strategic decisions.** Chinese banks can update coal exit metrics by comparing and learning from international practice in metric-setting. This helps deliver the domestic "30-60 climate commitment" and the "no new overseas coal power plants" commitment.

Figure 7 | **Implications for Chinese banks**



Source: Authors.

Further considerations

Defining coal exit scope: Banks' coal exit scope is influenced by their traits and national conditions: for example, a bank with fewer coal ties can more easily pledge a coal exit than one with deep coal connections, and the best pathway choice depends on national factors. Instead of a one-size-fits-all recommendation, we provide a process for banks to independently set and update their priorities under evolving circumstances, with the key steps including the most adopted (ceasing lending to new coal power generation and coal mining projects and clients) as reference.

Availability of benchmarks: Current available coal exit metrics mainly cover coal power and mining, limiting their applicability to wider coverage of coal-related activities, such as metallurgical coal and coal power for industrial use. More granular industry analysis from government, industrial associations, and international organizations could help set credible metrics for varied coal activities. Banks' shared experience can enhance the evaluation of progress sectorwide.

Application to fossil fuel financing: Coal exit sets precedent experience for managing oil and gas exposures and the transition away from fossil fuels. For example, the three-step process and metric-setting approaches can be applied to other fossil fuels. But coal still differs from other fossil fuels in multiple aspects such as sector coverage, phaseout date, cost of capital, and GHG emission profile (Figure 8). Dedicated research is needed to plan divestment and transition from other fossil fuels.

Figure 8 | **Some differences between coal and other fossil fuels**

	Coal	versus	Oil and gas
Dominant sectors	**Power generation** 65 percent of coal is consumed in the power sector globally.[a]		**Transport and industries** Almost 50 percent of oil is consumed in road transportation, and industrial use is one of the biggest demands for gas.[b]
Phaseout	**Earlier phaseout than oil & gas** According to IPCC, unabated coal is to be phased out from primary energy use by 2050.		**Substantial use decline by 2050** According to IPCC, oil continues to be a source of transport fuel, and gas will continue to be used in power, industry, and buildings through 2050, despite substantial declines.[c]
Cost of capital	**Cost of capital is increasing** Coal mining and coal power saw higher increase in lending costs than oil and gas between 2010 and 2020.		**Moderate increase compared to coal** Coal replacement by gas, and a lack of stringent policy against oil or gas may be reasons for less increase in financing costs.[d]
GHG emissions	**CO_2 emissions** Coal is responsible for a larger global CO_2 emissions share than other fossil fuels.[a]		**Methane emissions in addition to CO_2** Oil and gas operations are likely the largest source of methane emissions in the energy sector and can also trigger accidental emissions.[e]

Abbreviations: CO_2 = carbon dioxide; GHG = greenhouse gas; IPCC = Intergovernmental Panel on Climate Change.

Notes: [a] Data sourced from IEA (2022b).[b] Data sourced from IEA Energy Statistics Data Browser, accessed February 21, 2024.[c] Information sourced from IPCC (2022).[d] Information sourced from World Economic Forum article, "It's Never Been This Expensive to Finance a New Coal Power Plant," released in 2021.[e] Information sourced from IEA (2021c).

Source: Authors.

APPENDIX A. SOURCES FOR IDEAL AND CURRENT COAL EXIT PRACTICE

Research on climate science, global pathways, and energy finance

- Intergovernmental Panel on Climate Change. "Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change." Cambridge: Cambridge University Press, 2022.
- International Energy Agency. "Net Zero by 2050: A Roadmap for the Global Energy Sector." Paris: IEA, 2021.
- International Energy Agency. "Coal in Net Zero Transitions: Strategies for Rapid, Secure and People-Centred Change. " Paris: IEA, 2022.

Financial sector action related to fossil fuel divestment and transition finance

- AfDB (African Development Bank), ADB (Asian Development Bank), AIIB (Asian Infrastructure Investment Bank), CEB (Council of Europe Development Bank), EBRD (European Bank for Reconstruction and Development), EIB (European Investment Bank), IDBG (Inter-American Development Bank Group), IsDB (Islamic Development Bank), NDB (New Development Bank), and WBG (World Bank Group). "Joint MDB Methodological Principles for Assessment of Paris Agreement Alignment of New Operations-Direct Investment Lending Operations." June 2023. https://www.aiib.org/en/news-events/news/2023/pdf/MDB-PA-DL-Principles_final_14.06.2023.pdf.
- Asia Transition Finance Study Group. "Asia Transition Finance Guidelines. 1st edition." Manila: Asian Development Bank, 2022. https://www.business.hsbc.com/-/media/media/gbm-global/pdf/articles/asia-transition-finance-guidelines.pdf?download=1.
- China Banking and Insurance Regulatory Commission. 2022. "CBIRC Issues the Rules on Risk Management of Off–Balance Sheet Business of Commercial Banks." http://www.cbirc.gov.cn/en/view/pages/ItemDetail.html?docId=1084967&itemId=981.
- Climate Bonds Initiative. "Financing Credible Transitions: How to Ensure the Transition Label Has Impact." Climate Bonds White Paper, 2020. https://www.climatebonds.net/files/reports/cbi_fincredtransitions_final.pdf.
- Glasgow Financial Alliance for Net Zero. "Financing the Managed Phaseout of Coal-Fired Power Plants in Asia Pacific." https://www.gfanzero.com/webinar-financing-the-managed-phaseout-of-coal-fired-power-plants-in-asia-pacific/.
- International Financial Reporting Standards Foundation. "IFRS 10 Consolidated Financial Statements." 2022. https://www.ifrs.org/issued-standards/list-of-standards/ifrs-10-consolidated-financial-statements/.
- E. Kekki and L. Holzman. "Managed Coal Phaseout: Metrics and Targets for Financial Institutions." Rocky Mountain Institute. Working paper, January 2023. https://rmi.org/wp-content/uploads/dlm_uploads/2023/01/managed_coal_phaseout_metrics_and_targets_financial_institutions.pdf.
- China's General Administration of Quality Supervision, Inspection and Quarantine, and National Standardization Administration. "China's Industrial Classification for National Economic Activities." GB/T 47540-2017. June 30, 2017. https://www.chinesestandard.net/PDF/English.aspx/GBT4754-2017.
- Network for Greening the Financial System. "Stocktake on Financial Institutions' Transition Plans and Their Relevance to Micro-prudential Authorities." May 2023. https://www.ngfs.net/sites/default/files/stocktake_on_financial_institutions_transition_plans.pdf.
- Partnership for Carbon Accounting Financials. "The Global GHG Accounting and Reporting Standard for the Financial Industry." 2022. https://carbonaccountingfinancials.com/standard.
- Platform on Sustainable Finance. "Transition Finance Report." European Commission, March 2021. https://finance.ec.europa.eu/document/download/c5e91dc2-7a28-4a30-aae9-9fd667195d28_en.
- Principles for Responsible Investment. "Phasing Out Investment in Thermal Coal." June 13, 2018. https://www.unpri.org/climate-change/phasing-out-investments-in-thermal-coal/3281.article.
- Science-Based Targets initiative. "Foundations for Science-Based Net-Zero Target Setting in the Financial Sector." 2022. https://sciencebasedtargets.org/resources/files/Foundations-for-Science-Based-Net-Zero-Target-Setting-in-the-Financial-Sector.pdf
- Science-Based Targets initiative. "The SBTi Fossil Fuel Financing Position Paper Consultation Draft." 2023. https://sciencebasedtargets.org/resources/files/The-SBTi-Fossil-Fuel-Finance-Position-Paper-Consultation-Draft.pdf.

- Transition Plan Taskforce. "Banks Sector Guidance: Draft for Consultation." 2023. https://transitiontaskforce.net/wp-content/uploads/2023/11/TPT-Banks-Sector-Guidance.pdf.
- UN Environment Programme Finance Initiative. "Guidelines for Climate Target Setting for Banks, Version 2." Nairobi: UNEP, 2021. https://www.unepfi.org/industries/banking/guidelines-for-climate-target-setting-for-banks-version-2/.
- UN Statistics Division. "International Standard Industrial Classifications of All Economic Activities, Revision 4." New York: United Nations, 2008. https://unstats.un.org/unsd/classifications/Econ/Download/In%20Text/ISIC_Rev_4_publication_English.pdf.

Public oversight on exiting coal and fossil fuels

- Global Energy Monitor. "Global Coal Project Finance Tracker." August 2022. https://globalenergymonitor.org/projects/global-coal-project-finance-tracker/.
- G20 Sustainable Finance Working Group. "2022 G20 Sustainable Finance Report." https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf.
- Institute for Energy Economics and Financial Analysis. "Coal Divestment." 2023. https://ieefa.org/coal-divestment.
- Rainforest Action Network, Banktrack, Indigenous Environmental Network, OilChange, Reclaim Finance, Sierra Club, and Urgewald. "Banking on Climate Chaos: Fossil Fuel Financing Report 2023." https://www.bankingonclimatechaos.org.
- Reclaim Finance. "Coal Policy Tool." 2023. https://www.adelvema.com/rcf/start.html?share&lng=tt&root=coalpolicytool.org.
- Toxic Bonds. "Dirty 30." 2022. https://toxicbonds.org/dirty30/.
- United Nations. "Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions." High-Level Expert Group on the Net Zero Emissions Commitments of Non-state Entities, 2022. https://www.un.org/en/climatechange/high-level-expert-group.
- Urgewald. "Global Coal Exit List 2023." 2023. https://www.coalexit.org.

Note: The common methodology framework for MDBs' Paris alignment has been adopted by 10 MDBs, including the African Development Bank (AfDB), Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), Council of Europe Development Bank (CEB), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Inter-American Development Bank Group (IDBG), Islamic Bank (IsDB), New Development Bank (NDB), and World Bank Group (WBG).

Source: Authors.

APPENDIX B. SELECTED BANKS AND THEIR PUBLIC COAL POLICIES ANALYZED

BNP Paribas

- Coal-fired power generation sector policy (July 2020)
- Mining sector policy (July 2020)
- Climate Analytics and Alignment Report (May 2022)

JPMorganChase

- Carbon Compass^{SM}: Paris-Aligned Financing Commitment Methodology (May 2021)
- Environmental and Social Policy Framework (October 2021)

HSBC Holdings

- Thermal Coal Phase-Out Policy (December 2022)
- Energy Policy (December 2022)
- Introduction to HSBC's Sustainability Risk Policies (December 2022)
- HSBC Net Zero Aligned Finance Approach Update (December 2021)

Mizuho Financial Group

- Strengthening of Sustainability Actions (May 2022)
- Strengthening Initiatives for Achieving Net Zero by 2050 (December 2022)

Shinhan Financial Group

- 2021 ESG report
- 2021 TCFD report
- Shinhan Financial Group CDP Climate Change Questionnaire (July 2021)
- Shinhan Financial Group submission of Science-Based Targets (2022)

Asian Development Bank (ADB)

- Energy Policy (October 2021)
- Joint MDB Methodological Principles for Assessment Framework for Paris Alignment of New Operations for Direct Investment Operations (June 2023)

World Bank Group (WBG)

- Directions for the World Bank Group's Energy Sector (July 2013)
- World Bank Group Climate Change Action Plan, 2021–2025: Supporting Green, Resilient, and Inclusive Development
- International Finance Corporation's Approach to Greening Equity Investments in Financial Institutions (September 2020)

Asian Infrastructure Investment Bank (AIIB)

- Energy Sector Strategy: Sustainable Energy for Tomorrow (November 2022)

Agence Française de Développement (AFD)

- Energy Transition-2019-2022 Strategy
- AFD Position Paper on Paris Alignment (October 2022)

APPENDIX C. COAL EXIT COVERAGE AND ACTIONS OF SELECTED BANKS

This working paper has compiled coal exit actions taken by nine selected banks as listed in Action tables 1–6. The listing of actions is not for ranking but to provide granular know-how experience in coal exit, which is useful in metric-setting. References are coal exit commitment and corresponding policies disclosed by these banks as listed in Appendix B and updated to March 31, 2023. Blank cells in the tables indicate that there is no public information, but the bank may have internal working materials.

Action 1 | **Excluding coal mining and coal power projects**

BANK	EXCLUDED ACTIVITIES	EXEMPTIONS
BNP Paribas	▪ Coal plants (new, expanded, and lifetime-extended) and thermal coal extraction ▪ Coal for heat and power cogeneration (new, expanded, and lifetime-extended)	
JPMorganChase	Coal plants and coal mines (new and refinancing of existing projects)	Projects with GHG emission abatement
HSBC	▪ Coal plants and thermal coal mines (new, expanded, and lifetime-extended) ▪ Metallurgical coal mines (new) ▪ Conversion of existing coal-to-gas-fired plants ▪ Captive coal plants and thermal coal mines (new)	Projects with GHG emission abatement
Mizuho	Thermal coal mines (new) and coal plants (new, expanded)	▪ Technologies for energy transition ▪ Thermal coal mines for energy security reasons and for countries that have set a target of net zero by 2050
Shinhan	Coal plants (new)	
ADB	▪ Coal plants and coal mining (new, expanded, and lifetime-extended) ▪ Coal for heat	
WBG	Coal plants and coal mines (new)	▪ Coal plants to meet basic energy needs and without alternatives ▪ Projects with GHG emission abatement ▪ Captive coal plants used for industrial applications
AIIB	▪ Coal plants and thermal coal mines ▪ Coal for heat	
AFD	Coal plants, coal exploration, and production	

Abbreviations: ADB = Asian Development Bank; AFD = Agence Française de Développement; AIIB = Asian Infrastructure Investment Bank; HSBC = Hong Kong and Shanghai Banking Corporation; WBG = World Bank Group.

Notes: HSBC defines thermal coal mines as above 30% of production or the coal reserve is thermal coal. HSBC will consider the conversion of coal-to-gas-fired power plants unless (a) the client demonstrates to HSBC its intention to transition to abated power generation, consistent with HSBC's targets and commitments, and (b) the plants do not operate in environmentally and socially critical areas.

Source: Authors compiled from banks' public documents (Appendix B in this working paper).

Action 2 | Excluding other coal-related activities

BANK	COAL-RELATED ACTIVITIES ADDRESSED IN THE DIVESTMENT	
BNP Paribas	▪ Coal mining ▪ Coal for electricity and heat	▪ Coal infrastructure ▪ Coal trade
JPMorganChase	▪ Coal mining	▪ Coal for electricity
HSBC	▪ Coal mining ▪ Coal for electricity	▪ Coal infrastructure ▪ Coal-to-gas/liquids
Mizuho	▪ Coal mining	▪ Coal for electricity
Shinhan	▪ Coal for electricity	
ADB	▪ Coal mining ▪ Coal processing	▪ Coal for electricity ▪ Coal storage and transportation
WBG	▪ Coal mining ▪ Coal for electricity ▪ Coal infrastructure	▪ Coal trade ▪ Coal transportation
AIIB	▪ Coal mining ▪ Coal for electricity and heating	▪ Projects functionally related to coal
AFD	▪ Coal mining ▪ Coal for electricity	▪ Coal transportation

Abbreviations: ADB = Asian Development Bank; AFD = Agence Française de Développement; AIIB = Asian Infrastructure Investment Bank; HSBC = Hong Kong and Shanghai Banking Corporation; WBG = World Bank Group.

Notes: BNP Paribas defines coal infrastructure as infrastructure dedicated to thermal coal, including harbors or terminals of existing harbors, transportation of thermal coal by rail or road, and (warehouse) storage of coal; HSBC defines coal infrastructure as infrastructure dedicated to thermal coal, such as coal terminals or coal railways; AIIB defines projects functionally related to coal as associated facilities that are dedicated to enabling the mining and use of coal or projects that would not be carried out without a dedicated coal-based power supply; The table lists the type of coal-related activities excluded from financing but does not consider the granular metric or exceptions.

Source: Authors, compiled from banks' public documents (see Appendix B).

Action 3 | Financial instruments and services addressed in coal exit commitment

BANK	DOCUMENTATION	FINANCIAL INSTRUMENTS AND SERVICES ADDRESSED
BNP Paribas	Sector policy to fulfill bank's commitment to social responsibility	▪ All business lines, branches, subsidiaries, and joint ventures of which BNP Paribas has operational control. ▪ All advisory and financing activities provided by the bank, including lending, debt, and equity capital markets, guarantees and advisory work, etc. ▪ For asset management activities, coal exit policy applies to all BNP Paribas entities managing proprietary assets and third-party assets, with some exceptions such as index-linked products. ▪ External asset managers are actively monitored and encouraged to adhere to the bank's standards.
JPMorganChase	Environmental and social policy as an important component for risk management	▪ Transactions in the Corporate and Investment Bank, commercial banking, consumer and community banking, and asset and wealth management. ▪ Project finance transactions (including advisory and principal investments), bilateral and syndicated loans, equity security offerings, debt security offerings, private placement, and advisory assignments.

Action 3 | Financial instruments and services addressed in coal exit commitment (cont.)

BANK	DOCUMENTATION	FINANCIAL INSTRUMENTS AND SERVICES ADDRESSED
HSBC	Thermal coal phaseout policy as one of the bank's sustainability risk policies to manage coal and inform external stakeholders	▪ Business customers in commercial banking and global banking and markets. ▪ Main financing products such as loans, trade finance and debt, and equity capital market services. ▪ For asset management activities, the bank has a separate policy on sustainability where the customer is the investor, resulting in a lesser degree of influence over the investment itself.
Mizuho	Environmental and social policy and sustainability actions to address risks and opportunities stemming from climate and environmental issues	▪ Divestment applies to any financing and investment of the group and primary subsidiaries. ▪ Goal-setting to reduce project finance and corporate loans to the thermal coal sector.
Shinhan	ESG report	Project financing and bonds underwriting.
ADB	Sectoral policy	Group level
WBG	Sectoral policy	Group level
AIIB	Sectoral policy	Group level
AFD	Sectoral policy	Group level

Abbreviations: ADB = Asian Development Bank; AFD = Agence Française de Développement; AIIB = Asian Infrastructure Investment Bank; ESG = environmental, social, and governance; HSBC = Hong Kong and Shanghai Banking Corporation; WBG = World Bank Group.

Source: Authors, compiled from banks' public documents (see Appendix B).

Action 4 | Coal client-management actions

BANK	SECTOR	DIVESTMENT	ENHANCED DUE DILIGENCE	ENGAGEMENT FOR TRANSITION
BNP Paribas	Coal power generation companies	▪ Plan to add new capacity irrespective of dismantled or sold capacity ▪ Still own or operate coal capacity against bank's coal phaseout date ▪ Above a given share (25%) of revenues from coal power generation or thermal coal (only for new clients) ▪ Above global average carbon intensity determined by IEA SDS (only for asset management activities)	▪ Coal capacity reduction plan in line with bank's coal phaseout date ▪ Good safety track record ▪ Environmental data provision, including carbon dioxide emissions ▪ ESG performance	
	Thermal coal mining companies	▪ Plan to add new or expand existing capacity ▪ Still own or operate coal capacity against bank's coal phaseout date ▪ Above a given share of revenues (20%) or annual total production (10 million tonnes) from thermal coal	▪ Good safety track record ▪ Environmental data provision, including GHG emissions ▪ ESG performance	
	Other coal-related activities	▪ Companies significantly involved in thermal coal infrastructure ▪ Traders dedicated to thermal coal		

Action 4 | Coal client-management actions (cont.)

BANK	SECTOR	DIVESTMENT	ENHANCED DUE DILIGENCE	ENGAGEMENT FOR TRANSITION
JPMorganChase	Coal power generation companies			
	Thermal coal mining companies	▪ Above a given share of revenues (50%) from coal extraction		
HSBC	Coal power generation companies	▪ Plan to add new or expand existing capacity (including captive plants) ▪ Above a given share (40%) of revenues from thermal coal, with this percentage to decrease (30% by 2025) (only for companies in EU and OECD countries) ▪ Above a given share of capacity (10%) or a given value of installed capacity (3 GW) from coal (only for new clients)	▪ Enhanced due diligence before starting any new financing or services ▪ Specified use of proceeds not to support new or expanding coal projects within a company group	▪ Development of a transition plan in line with bank's coal phaseout date
	Thermal coal mining companies	▪ Plan to add new or expand existing capacity (including captive coal mines) ▪ Above a given share (40%) of revenues from thermal coal, with this percentage to decrease (30% by 2025) (only for companies in EU and OECD countries) ▪ Above a given share of revenues (10%) or annual total production (5 million tonnes), or share of total production (15%) from thermal coal (only for new clients)	▪ Enhanced due diligence ▪ Specified use of proceeds	▪ Transition plan
	Other coal-related activities	▪ Existing clients with plans to add new metallurgical coal mines, thermal coal infrastructure, or coal-to-gas/liquids projects ▪ Companies above a given share of revenues (10%) from coal-to-gas/liquids (only for new clients)	▪ Enhanced due diligence before starting any new financing or services	
Mizuho	Coal power generation companies	▪ Companies whose primary business is coal-fired power generation (only for new clients)		▪ Transition plan
	Thermal coal mining companies	▪ Companies whose primary business is thermal coal mining (only for new clients)	▪ Enhanced assessment of environmental, social, and transitional risks	▪ Transition plan
Shinhan	Coal power generation companies			
	Thermal coal mining companies		▪ ESG performance	
	Other coal-related activities		▪ Enhanced ESG evaluation for coal-processing activities	

Abbreviations: ADB = Asian Development Bank; AFD = Agence Française de Développement; AIIB = Asian Infrastructure Investment Bank; ESG = environmental, social, and governance; GHG = greenhouse gas; GW = gigawatts; HSBC = Hong Kong and Shanghai Banking Corporation; IEA = International Energy Agency; OECD = Organisation for Economic Co-operation and Development; SDS = Sustainable Development Scenario; WBG = World Bank Group.

Notes: BNP Paribas defines power generation companies as companies involved in the power generation sector that own or operate one or more coal-fired power plants, including subsidiaries of diversified business groups. The bank defines thermal coal mining companies as companies, groups, or joint ventures owning (i.e., representing a significant share of their total assets) or operating thermal coal assets; HSBC defines coal power generation companies as entities, trusts, or individuals that own, control, or operate coal power plants or are engaged in creating new projects, as well as expanding and extending the lives of existing projects. The bank determines new capacity by the contractually committed time (after January 1, 2021). For clients' transition plans, HSBC has set out criteria including elements, metrics, and disclosure. The bank has also committed the time to complete assessment of clients' transition plans.

Source: Authors, compiled from banks' public documents (see Appendix B).

Action 5 | **Coal exit progress measurement**

BANK	COAL PHASEOUT TARGETS	METRICS FOR PROGRESS MEASUREMENT
BNP Paribas	▪ 2050 net-zero target ▪ 2030/2040 thermal coal phaseout target: phase out the financing of coal-fired power and thermal coal mining by 2030 in EU and OECD countries, and by 2040 globally ▪ 2025 power sector decarbonization target	▪ Loan exposure: share of coal in the portfolio capacity mix ▪ Financed emissions of the power sector: CO_2 emission intensity in gCO_2/kWh (scope 1 emissions of the power generation sector)
JPMorganChase	▪ 2050 net-zero target ▪ 2030 power sector decarbonization target	▪ Financed emissions of the power sector: CO_2 emission intensity in gCO_2/kWh (scope 1 emissions of the power generation sector exposed in credit facilities, underwriting, and investment)
HSBC	▪ 2050 net-zero target ▪ 2030/2040 thermal coal phaseout target ▪ 2025/30 thermal coal exposure reduction target	▪ Financed emissions of thermal coal: on–balance sheet financed emissions for thermal coal-fired power and thermal coal mining (scope 1, 2, and 3 emissions of thermal coal mining, scope 1 and 2 emissions of coal power exposed in business loans, trade, and receivables finance)
Mizuho	▪ 2050 net-zero target ▪ 2030/2040 thermal coal phaseout target	▪ Loan exposure ▪ Financed emissions of thermal coal (scope 1, 2, and 3 emissions of thermal coal mining, scope 1 emissions of coal power exposed in corporate credit and project finance)
Shinhan	▪ 2030 power sector decarbonization target	▪ GHG emission reduction target for project finance, corporate loans, listed equity, and corporate bond portfolios

Abbreviations: ADB = Asian Development Bank; AFD = Agence Française de Développement; AIIB = Asian Infrastructure Investment Bank; gCO_2 = grams of carbon dioxide; GHG = greenhouse gas; HSBC = Hong Kong and Shanghai Banking Corporation; kWh = kilowatt-hour; OECD = Organisation for Economic Co-operation and Development; WBG = World Bank Group.

Source: Authors, compiled from banks' public documents (see Appendix B).

Action 6 | **Paris alignment approach (for the coal power generation sector)**

BANK	FINANCIAL INSTRUMENTS	METRICS	BENCHMARKS	TIMEFRAME
BNP Paribas	▪ Direct lending ▪ Scope 1 emissions of the company or project	CO_2 emissions per unit of electricity generated (gCO_2e/kWh)	IEA NZE Scenario	Baseline: 2020 Target: 2025
JPMorgan	▪ Lending and underwriting ▪ Scope 1 emissions of the company or project	CO_2 emissions per unit of electricity generated	IEA SDS, OECD	Baseline: 2019 Target: 2030
HSBC	▪ On–balance sheet financing and underwriting ▪ Scope 1 and 2 emissions of the company or project	CO_2 emissions per unit of electricity generated	IEA NZE	Baseline: 2021 Target: 2030
Mizuho	▪ Lending ▪ Scope 1 emissions of the company or project	CO_2 emissions per unit of electricity generated	IEA SDS and NZE	Baseline: 2020 Target: 2030
Shinhan	▪ Lending, investment in equity and bonds ▪ Scope 1 and 2 emissions of the company or project	CO_2 emissions per unit of electricity generated	IEA Energy Technology Perspectives Beyond 2°C Scenario	Baseline: 2020 Target: 2030-2040-2050
ADB WBG AIIB	Adopted MDBs' common framework of Paris alignment, which involves six building blocks and multiple criteria, including considering climate mitigation, adaptation, and opportunities for transition. The framework has identified universally aligned and unaligned activities as the common ground for MDBs. Mining of thermal coal, coal power generation, extraction of peat, and use of peat for electricity generation are unaligned activities.			
AFD	To measure the Paris alignment of operations in a financial institution, AFD adopts three principles: ▪ *Performance-based*. AFD uses a screening process based on the share of fossil fuel sectors (upstream, midstream, downstream, and power) in a financial institution's loan book and bond or investment portfolio (data permitting). ▪ *Forward-looking*. AFD analyzes the financial institution's practices and procedures for mainstreaming climate issues. ▪ *Context-specific*. AFD takes into consideration the size, type, business traits, and capabilities of the financial institution.			

Abbreviations: ADB = Asian Development Bank; AFD = Agence Française de Développement; AIIB = Asian Infrastructure Investment Bank; gCO_2 = grams of carbon dioxide; GHG = greenhouse gas; HSBC = Hong Kong and Shanghai Banking Corporation; IEA = International Development Agency; kWh = kilowatt-hour; MDB = multilateral development bank; NZE = Net Zero Emissions by 2050; OECD = Organisation for Economic Co-operation and Development; SDS = Sustainable Development Scenario; WBG = World Bank Group.

Notes: HSBC refers to on–balance sheet financing as loans, project financing, trade, and receivables finance when calculating financed emissions. For underwriting, HSBC adopts an industry standard from PCAF in accounting financed emissions and reporting, but the methodology is still evolving. For nonbanking activities such as insurance, pension funds, and asset management, HSBC will develop a separate framework for the calculation of financed emissions, and alignment with the Paris Agreement goals.

Source: Authors, compiled from banks' public documents (see Appendix B).

ABBREVIATIONS

ADB	Asian Development Bank
AFD	Agence Française de Développement
AfDB	African Development Bank
AIIB	Asian Infrastructure Investment Bank
CBIRC	China Banking and Insurance Regulatory Commission
CCUS	carbon capture, utilization, and storage
COP	Conference of the Parties
IEA	International Energy Agency
IFRS	International Financial Reporting Standards
IPCC	Intergovernmental Panel on Climate Change
ISIC	International Standard Industrial Classification of All Economic Activities
MDB	multilateral development bank
NDC	nationally determined contribution
NDRC	National Development and Reform Commission (China)
OBS	off–balance sheet
PBOC	People's Bank of China
PCAF	Partnership for Carbon Accounting Financials
SBTi	Science-Based Targets initiative
WBG	World Bank Group

GLOSSARY

Coal exit

The process by which a financial institution reduces and finally clears exposure associated with unabated coal. It requires not only divestment but also targeted financing such as reallocating capital and resources to coal transition, low-carbon solutions, urging clients to reduce their coal reliance, and guiding them in these efforts.

Coal transition

Removing or reducing a facility's carbon emissions attributed to coal use. There are multiple transition options, but their credibility and feasibility vary by project and country.

For example, a coal power plant has transition options including decommissioning; switching to renewables; carbon capture, utilization, and storage (CCUS); cofiring; enhancing energy efficiency; and repurposing for flexible operation. Among them, decommission and switching to renewables are internationally acknowledged as necessary and credible (CBI 2020; IPCC 2022), while some depend on the national context. For example, coal-consuming countries like China and Indonesia still allow for new investment in coal power flexibility retrofitting. Other options like CCUS may not be economically feasible due to their high cost and unsatisfied technical conditions (Ye et al. 2022; McKinsey and Company 2023).

Decarbonization pathways

Usually developed by governments, industrial associations, international organizations, and academic institutions to describe the temporal evolution of GHG emissions, or a given industry, or other socioeconomic features to achieve the Paris Agreement goals or the national climate commitment (IPCC 2018). They can help financial institutions assess whether a project, client, or portfolio is eligible and aligned with the goals and commitment.

For example, the European Environment Agency and International Energy Agency both have roadmaps for the power sector with indicative carbon emission levels, and financial institutions use them to benchmark their financing of the power sector.

Decarbonization pathways usually include varying aspects—such as climate ambition (e.g., temperature rise limit of 1.5°C or 2°C), sectoral coverage, and geographical granularity—that financial institutions can consider during selection.

Divestment

Withdrawing or removing resources with action or process to cease financing, investing, or the sale of assets.

Just transition

Refers to a principle, process, and practice that aims to ensure a fair and inclusive shift away from a high-carbon economy. Just transition is an evolving topic implemented under diverse geographic, political, cultural, and social contexts. During coal divestment and transition, just transition requires that affected communities, workers, and social groups be offered reemployment, retraining, and upskilling opportunities.

Metallurgical coal

Mostly used in steelmaking, whereas thermal coal, which accounts for the majority of global coal use, is largely used for power generation (IEA 2022a).

Metric-setting

A process of using indicators and benchmarks to measure the performance of clients and the financial institution.

For example, a bank uses the carbon emission reduction metric with the value of 7 percent reduction per year as the condition for corporate lending and refinancing. The value is benchmarked against policies, standards, or climate initiatives.

Off-balance sheet (OBS) activities	Activities not recorded in banks' balance sheets but with contingent liabilities, which will affect banks' financial performance. They can be categorized into commitments, guarantees, market-related transactions, and intermediate business (Zhang et al. 2020). They evolve with the financial institution and increase in complexity with the development of financial markets and technologies. Determining their impacts on and risks to the institution and the financial system has always been a focus of researchers and supervisors (US General Accounting Office 1988; Wu et al. 2024; Zhang and Malikov 2022). For example, China's financial supervisors update policies for OBS activities. The most recent update came in 2022 in an official notice to strengthen the risk management of OBS activities. The notice names four categories of OBS activities in emergent businesses: underwriting, financial intermediate services, asset custody, and asset management (CBIRC 2022a).
Passive investment	Transactions that the financial institution makes with very limited rights to determine the investee. It is the opposite of active investment, where the institution can proactively and frequently change investees in a relatively short period. For example, a bank invests in index funds or asset-based securitizations with nonretractable buy-and-hold time requirements specified in contracts.
Portfolio	A collection of various financial instruments such as stocks and bonds. A portfolio's constituent elements vary depending on the context and organization.
Stranding risk	The potential write-downs or devaluation of assets and properties. For example, a coal power plant will become unprofitable because of carbon pricing and competition from renewables.
Unabated coal	Coal used without carbon capture technologies, thereby releasing greenhouse gases directly into the atmosphere. Current carbon capture technology has a maximum capture rate of about 90 percent while operating at lower rates (IEA 2021b; Lebling et al. 2023).
Window guidance	Used by central banks or financial authorities as a policy tool to direct banks' financing to certain sectors. For example, China's financial authorities used window guidance to discourage banks from lending to carbon-insensitive sectors while increasing support for sustainable activities (Dikau and Volz 2021).

ENDNOTES

1. ISIC is the basis for many national economic activity classification systems, including China's. Other classification systems include the Global Industry Classification Standard (GICS), which is used in the global investment community. ISIC differs from GICS in its approaches and uses. GICS is a market-based approach used to classify companies based on their marketable goods and services, while ISIC is process-based and used to study economic phenomena.

2. For example, decreasing coal demand may reduce the profitability of a coal miner (coal producer) or a coal-dedicated transport company (coal facilitator), but for the latter, shifting to another business model will be easier. For a coal user such as a steelmaking factory, coal exit requires new investment for fuel alternatives or technological upgrades.

   This categorization—namely producers, users, and facilitators—is also common in bottom-up energy system modeling. For example, the IEA's Global Energy and Climate Model conceptualizes the energy system into demand, supply, and transformation, combining these elements with factors such as technology, policy, trade, and investment.

3. For example, South Africa noted in its energy transition plan that decommissioning coal plants and developing new renewable power plants will require more than US$20 billion by 2027. Only about $8.5 billion has been pledged by the International Partners Group countries, which include the United States, Japan, Canada, Denmark, the European Union, France, Germany, Italy, Norway, and the United Kingdom. The funding gap becomes even larger when we consider funding needed for upgrading transmission and distribution systems, income support and skill training for workers, and so on (Presidency of the Republic of South Africa 2022).

4. Coal processing (upstream) and coal for heating (midstream) are observed in banks' exclusion lists. Banks are also excluding activities that significantly contribute to coal use (midstream) and coal power consumption (downstream). For example, in its latest energy sector policy the AIIB committed to exclude "projects functionally related to coal," which may rule out projects such as industrial and commercial facilities powered by coal.

5. Currently, about 10 percent of the top 100 commercial banks address coal infrastructure in their exclusion policies on harbors, terminals, rails, roads, and warehouses dedicated to coal transportation and storage. In its energy transition strategy, the AFD ruled out coal transportation projects. The AIIB's energy sector policy excludes facilities enabling coal mining and transmission lines for coal power.

6. Management is being enhanced across multiple instruments for not only loans but also insurance, loan guarantees, debt and equity market services, and financial advice. Examples of such enhancement can be observed in the selected banks, with details in Appendix C.

7. Banks such as HSBC and Mizuho have announced support for coal clients with transition plans. Details of these pledges and progress are still being developed.

8. For example, the World Bank Group ceased direct financing for coal power projects but is still criticized for indirectly financing coal through its Development Policy Financing. This financing is linked to recipient countries' national budgets and through investments in financial intermediates involved in coal made by the International Finance Corporation, belonging to the World Bank Group (Witt and Prasetiyo 2021; Banktrack 2023).

REFERENCES

AfDB (African Development Bank), ADB (Asian Development Bank), AIIB (Asian Infrastructure Investment Bank), CEB (Council of Europe Development Bank), EBRD (European Bank for Reconstruction and Development), EIB (European Investment Bank), IDBG (Inter-American Development Bank Group), IsDB (Islamic Development Bank), NDB (New Development Bank), and WBG (World Bank Group). 2023. "Joint MDB Methodological Principles for Assessment of Paris Agreement Alignment of New Operations—Direct Investment Lending Operations." https://www.aiib.org/en/news-events/news/2023/pdf/MDB-PA-DL-Principles_final_14.06.2023.pdf.

ARE (Asia Research and Engagement). 2022. "Banking Asia's Future: How to Align with National Climate Plans." https://static1.squarespace.com/static/5991a3f3d2b8570b1d58cc7e/t/6239cc6afec45b360e7d5bce/1647955307027/Banking+Asia%27s+Future.pdf.

Asia Transition Finance Study Group. 2022. "Asia Transition Finance Guidelines. 1st edition." https://www.atfsg.org/uploads/report/files/911-1726040196.pdf.

Banktrack. 2021. "Shareholder Campaign Secures HSBC Coal Phase-Out." https://www.banktrack.org/article/shareholder_campaign_secures_hsbc_coal_phaseout.

Banktrack. 2023. "IFC-Linked Coal Plants." https://www.banktrack.org/project/IFC-linked_coal_plants.

BIS (Bank for International Settlements). 2019. "Basel Framework Supervisory Review Process." December 15. https://www.bis.org/basel_framework/chapter/SRP/30.htm.

Blocher, K., M. Richmond, C. Meattle, F. Mazza, and M. Dickson. 2021. "Coal Power Finance in High-Impact Countries." Climate Policy Initiative. https://www.climatepolicyinitiative.org/wp-content/uploads/2021/09/EF2021_CoalFinance_20210915_final.pdf.

Bloomberg. 2023. "Coal Financing Is Still Booming—Led by China." https://www.bloomberg.com/news/articles/2023-12-20/coal-financing-is-still-booming-led-by-china-lqdnwy4p.

California-China Climate Institute. 2021. "Pathways toward Carbon Neutrality: A Review of Recent Studies on Mid-century Emissions Transition Scenarios for China." https://ccci.berkeley.edu/sites/default/files/GTZChina-July52021-FINAL.pdf.

CBI (Climate Bonds Initiative). 2020. "Financing Credible Transitions: How to Ensure the Transition Label Has Impact." Climate Bonds White Paper. https://www.climatebonds.net/files/reports/cbi_fincredtransitions_final.pdf.

CBIRC (China Banking and Insurance Regulatory Commission). 2022a. "CBIRC Issues the Rules on Risk Management of Off–Balance Sheet Business of Commercial Banks." http://www.cbirc.gov.cn/en/view/pages/ItemDetail.html?docId=1084967&itemId=981.

CBIRC. 2022b. "Green Finance Guidance for the Banking and Insurance Sector." http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1054663&itemId=928.

CDP (Carbon Disclosure Project). 2023. "CDP Technical Note: Reporting on Climate Transition Plans." https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/003/101/original/CDP_technical_note_-_Climate_transition_plans.pdf.

Citywire Selector. 2023. "Investors Urge European Banks to End Oil and Gas Financing." https://citywire.com/selector/news/investors-urge-european-banks-to-end-oil-and-gas-financing/a2408956.

Dikau, S., and U. Volz. 2021. "Out of the Window? Green Monetary Policy in China: Window Guidance and the Promotion of Sustainable Lending and Investment." Centre for Climate Change Economics and Policy Working Paper 388/Grantham Research Institute on Climate Change and the Environment Working Paper 360. https://www.lse.ac.uk/granthaminstitute/publication/out-of-the-window-green-monetary-policy-in-china-window-guidance-and-the-promotion-of-sustainable-lending-and-investment/.

EU Technical Expert Group on Sustainable Finance. 2019. "TEG Final Report on Climate Benchmarks and Benchmarks' ESG Disclosures." https://finance.ec.europa.eu/system/files/2019-09/190930-sustainable-finance-teg-final-report-climate-benchmarks-and-disclosures_en.pdf.

European Parliament and Council. 2020. "Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020 Supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as Regards Minimum Standards for EU Climate Transition Benchmarks and EU Paris-Aligned Benchmarks." *OJ L*. 406. http://data.europa.eu/eli/reg_del/2020/1818/oj/eng.

GFANZ. 2021. "The Glasgow Financial Alliance for Net Zero: Our Progress and Plan towards a Net-Zero Global Economy." https://assets.bbhub.io/company/sites/63/2021/11/GFANZ-Progress-Report.pdf.

GFANZ. 2023. "Financing the Managed Phaseout of Coal-Fired Power Plants in Asia Pacific." https://www.gfanzero.com/webinar-financing-the-managed-phaseout-of-coal-fired-power-plants-in-asia-pacific/.

Global Energy Monitor. 2022. "Global Coal Project Finance Tracker." August. https://globalenergymonitor.org/projects/global-coal-project-finance-tracker/.

Gopinathan, P., T. Subramani, Sofia Barbosa, and Divya Yuvaraj. 2023. "Environmental Impact and Health Risk Assessment Due to Coal Mining and Utilization." *Environmental Geochemistry and Health* 45 (10): 6915–22. https://doi.org/10.1007/s10653-023-01744-z.

Government of Indonesia. 2023. "Just Energy Transition Partnership Indonesia: Comprehensive Investment and Policy Plan 2023." https://jetp-id.org/cipp.

HSBC (Hong Kong and Shanghai Banking Corporation). 2021. "Shareholders Back HSBC's Net Zero Commitments." https://www.hsbc.com/news-and-views/news/hsbc-news-archive/shareholders-back-hsbcs-net-zero-commitments.

IEA (International Energy Agency). 2021a. "Net Zero by 2050: A Roadmap for the Global Energy Sector." https://www.iea.org/reports/net-zero-by-2050.

IEA. 2021b. "Zero-Emission Carbon Capture and Storage in Power Plants Using Higher Capture Rates—Analysis." https://www.iea.org/articles/zero-emission-carbon-capture-and-storage-in-power-plants-using-higher-capture-rates.

IEA. 2021c. "Methane Tracker 2021: Helping Tackle the Urgent Global Challenge of Reducing Methane Leaks." https://www.iea.org/reports/methane-tracker-2021.

IEA. 2022a. "Coal 2022." https://iea.blob.core.windows.net/assets/91982b4e-26dc-41d5-88b1-4c47ea436882/Coal2022.pdf.

IEA. 2022b. "Coal in Net Zero Transitions: Strategies for Rapid, Secure and People-Centred Change." https://www.iea.org/reports/coal-in-net-zero-transitions.

IEA. 2023a. "Coal 2023: Analysis and Forecast to 2026." https://www.iea.org/reports/coal-2023.

IEA. 2023b. "How Can Sustainable Debt Support China's Energy Transition?" https://www.iea.org/commentaries/how-can-sustainable-debt-support-chinas-energy-transition.

IEA. 2023c. "Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach—2023 Update." https://www.iea.org/reports/net-zero-roadmap-a-global-pathway-to-keep-the-15-0c-goal-in-reach.

IEEFA (Institute for Energy Economics and Financial Analysis). 2023. "Coal Divestment." https://ieefa.org/coal-divestment.

IPCC (Intergovernmental Panel on Climate Change). 2018. "Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty." https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Full_Report_LR.pdf.

IPCC. 2022. "Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change." Cambridge: Cambridge University Press. https://doi.org/doi:10.1017/9781009157926.

IPSF (International Platform on Sustainable Finance) Taxonomy Working Group. 2022. "Common Ground Taxonomy—Climate Change Mitigation: Introduction Report." June 3. http://www.greenfinance.org.cn/upfile/file/20220619205537_784076_22790.pdf.

Kekki, E., and L. Holzman. 2023. "Managed Coal Phaseout: Metrics and Targets for Financial Institutions." Rocky Mountain Institute. Working paper, January. https://rmi.org/wp-content/uploads/dlm_uploads/2023/01/managed_coal_phaseout_metrics_and_targets_financial_institutions.pdf.

Lebling, K., A. Gangotra, K. Hausker, and Z. Byrum. 2023. "7 Things to Know about Carbon Capture, Utilization, and Sequestration." World Resources Institute, November. https://www.wri.org/insights/carbon-capture-technology.

Ma, Z. 2022. "China Committed to Phase Out Overseas Coal Investment: New Database Tracks Progress." World Resources Institute, February. https://www.wri.org/insights/china-phasing-out-overseas-coal-investment-track-progress.

McKinsey and Company. 2023. "The World Needs to Capture, Use, and Store CO_2." https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-world-needs-to-capture-use-and-store-gigatons-of-co2-where-and-how.

MEE (Ministry of Ecology and Environment), NDRC (National Development and Reform Commission), MIIT (Ministry of Industry and Information Technology), MOHURD (Ministry of Housing and Urban-Rural Development), MOT (Ministry of Transport), MOA (Ministry of Agricultural and Rural Affairs), and NEA (National Energy Administration). 2022. "Implementation Plan for Pollution Reduction, Carbon Emission Reduction, and Coordinated Efficiency Enhancement." https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202206/t20220617_985879.html.

NDRC (National Development and Reform Commission) and NEA (National Energy Administration). 2022. "The Fourteenth Five-Year-Plan of Modern Energy System." https://www.ndrc.gov.cn/xxgk/zcfb/ghwb/202203/P020220322582066837126.pdf.

NDRC (National Development and Reform Commission), MIIT (Ministry of Industry and Information Technology), MEE (Ministry of Ecology and Environment), SAMR (State Administration for Market Regulation), and NEA (National Energy Administration). 2023. "Benchmark Level of Energy Efficiency in Key Industrial Areas." https://www.ndrc.gov.cn/xwdt/tzgg/202307/P020230704381677315075.pdf.

PBOC (People's Bank of China). 2024. "Aggregate Financing to the Real Economy Statistics." http://www.pbc.gov.cn/diaochatongjisi/116219/116225/index.html.

Presidency of the Republic of South Africa. 2022. "South Africa's Just Energy Transition Investment Plan: For the Initial Period 2023–2027." https://pccommissionflo.imgix.net/uploads/images/South-Africas-Just-Energy-Transition-Investment-Plan-JET-IP-2023-2027-FINAL.pdf.

Rainforest Action Network, Banktrack, Indigenous Environmental Network, OilChange, Reclaim Finance, Sierra Club, and Urgewald. 2023. "Banking on Climate Chaos: Fossil Fuel Financing Report 2023." https://www.bankingonclimatechaos.org.

Rankin, J. 2021. "European Investment Bank to End All Loans to Oil and Gas Firms." *The Guardian*, October 28. https://www.theguardian.com/world/2021/oct/28/european-investment-bank-to-close-loophole-allowing-it-to-lend-to-oil-and-gas-firms.

Reclaim Finance. 2023. "Coal Policy Tool." https://www.adelvema.com/rcf/start.html?share&lng=tt&root=coalpolicytool.org.

S&P Global Market Intelligence. 2023. "The World's 100 Largest Banks, 2022." https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/the-world-s-100-largest-banks-2022-69651785.

SBTi (Science-Based Targets initiative). 2023. "The SBTi Fossil Fuel Financing Position Paper Consultation Draft." https://sciencebasedtargets.org/resources/files/The-SBTi-Fossil-Fuel-Finance-Position-Paper-Consultation-Draft.pdf.

TPT (Transition Plan Taskforce). 2023. "Banks Sector Guidance: Draft for Consultation." https://transitiontaskforce.net/wp-content/uploads/2023/11/TPT-Banks-Sector-Guidance.pdf.

United Nations. 2021. "China Headed towards Carbon Neutrality by 2060; President Xi Jinping Vows to Halt New Coal Plants Abroad." September 21. https://news.un.org/en/story/2021/09/1100642.

United Nations. 2022. "Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions." High-Level Expert Group on the Net Zero Emissions Commitments of Non-state Entities. https://www.un.org/en/climatechange/high-level-expert-group.

Urgewald. 2022. "Who Is Still Financing the Global Coal Industry?" https://www.coalexit.org/finance-research.

US General Accounting Office. 1988. "Briefing Report to the Chairman, Subcommittee on Financial Institutions Supervision, Regulation and Insurance, Committee on Banking, Finance and Urban Affairs, House of Representatives." https://www.gao.gov/assets/ggd-88-35br.pdf.

Voegele, J., R. Puliti, and M. Murthi. 2021. "How to Ensure a Just Global Coal Phase Out." World Economic Forum, November 7. https://www.weforum.org/agenda/2021/11/transition-people-planet-coal-carbon-energy-economic-progress/.

Wang, W., Z. Wang, Z. Yu, and C. Feng. 2023. "Transition towards Dual Control of CO_2 Emissions and Intensity through Supply Chain Management in China." *Journal of Environmental Management* 348 (December): 119493. https://doi.org/10.1016/j.jenvman.2023.119493.

Witt, F., and A. Prasetiyo. 2021. "World Bank's Plans for Indonesia: Delayed Action on Climate and Continued Coal and Gas Support." September. https://www.brettonwoodsproject.org/2021/09/world-banks-plans-for-indonesia-delayed-action-on-climate-and-continued-coal-and-gas-support/.

Wu, Dan, Rong Li, and Yingting Li. 2024. "Impact of Off–Balance Sheet Activities on the Effectiveness of Monetary Policy." *North American Journal of Economics and Finance* 73 (July): 102176. https://doi.org/10.2139/ssrn.4087971.

Ye, J., L. Yan, X. Liu, and F. Wei. 2022. "Economic Feasibility and Policy Incentive Analysis of Carbon Capture, Utilization, and Storage (CCUS) in Coal-Fired Power Plants Based on System Dynamics." *Environmental Science and Pollution Research* 30 (13): 37487–515. https://doi.org/10.1007/s11356-022-24888-4.

Zhang, J., and E. Malikov. 2022. "Off–Balance Sheet Activities and Scope Economies in U.S. Banking." *Journal of Banking & Finance* 141 (August): 106534. https://doi.org/10.48550/arXiv.2302.14603.

Zhang, Q., S. Chen, and Y. Jin. 2020. "The Impact of Off–Balance Sheet Regulations on Bank Risk-Taking: Evidence from China." *Research in International Business and Finance* 54 (December): 101297. https://doi.org/10.1016/j.ribaf.2020.101297.

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ABOUT WRI

World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity, and human well-being.

Our challenge

Natural resources are at the foundation of economic opportunity and human well-being. But today, we are depleting Earth's resources at rates that are not sustainable, endangering economies and people's lives. People depend on clean water, fertile land, healthy forests, and a stable climate. Livable cities and clean energy are essential for a sustainable planet. We must address these urgent, global challenges this decade.

Our vision

We envision an equitable and prosperous planet driven by the wise management of natural resources. We aspire to create a world where the actions of government, business, and communities combine to eliminate poverty and sustain the natural environment for all people.

Our approach

COUNT IT

We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

CHANGE IT

We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base. Then, we work with partners to deliver change on the ground that alleviates poverty and strengthens society. We hold ourselves accountable to ensure our outcomes will be bold and enduring.

SCALE IT

We don't think small. Once tested, we work with partners to adopt and expand our efforts regionally and globally. We engage with decision-makers to carry out our ideas and elevate our impact. We measure success through government and business actions that improve people's lives and sustain a healthy environment.