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IEvD
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Department

SECTOR/PROGRAMME EVALUATION

A rough road (or smooth highway?) to green and efficient transport?

Evaluation of EBRD's support to sustainability and private sector participation in transport

IEvD ID: SS23-196

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This report was prepared by IEvD independently and is circulated under the authority of the Chief Evaluator, Véronique Salze-Lozac'h. It was prepared by Tomasz Bartos, Associated Director, Senior Evaluation Manager, and Alper Dincer, Principal Evaluation Manager, under the guidance of Samer Hachem, Director of the Sector, Country and Project Evaluations division, and with the support with data analysis by Natalia Lakshina, Analyst, and contributions from Murat Narkulov (Analyst, ASB) on the Kazakh projects and policy evaluations. Sector consultants Privat Juillard and Marius Basty from TTK GmbH contributed sector expertise and know how. Joseph Mouanda, Chief Evaluation Officer, Independent Development Evaluation at the African Development Bank Group was the external reviewer.

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Abbreviations

ABI	Annual Bank Investment
AC	Air Condition
ADB	Asian Development Bank
AFD	Agence française de développement
ATC	Advanced Transition Countries
BMS	Building Management System
CA	Central Asia
CEB	Central Europe and Baltic States
COOs	Countries of Operations
CSD	Climate Strategy and Delivery (EBRD)
DAQs	Directors Assistants Questions
EE	Energy efficiency
E&S	Environmental & Social
ESP	Environmental and Social Policy
EEC	Eastern Europe and Caucasus
EIB	European Investment Bank
EMS	Environmental Management System
EPEC	European PPP Expertise Centre
EQ	Evaluation Question
ESAP	Environmental and Social Action Plan
ESD	Environment and Sustainability Department (EBRD)
ETS	Emissions Trading System (EU)
EU	European Union
EV	Electric vehicle
FDI	Foreign Direct Investments
GCF	Green Climate Fund
GEF	Global Environmental Fund
GET	Green Economy Transition
GHG	Greenhouse Gases
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IEvD	Independent Evaluation Department (EBRD)
IFIs	International Financial Institutions
IMF	International Monetary Fund
IMO	International Maritime Organization
IPAM	Independent Project Accountability Mechanism
IsDB	Islamic Development Bank
KPIs	Key Performance Indicators
LTT	Legal Transition Team
MEI	Municipal and Environmental Infrastructure (EBRD)
MRV	Monitoring Reporting and Verification
NOx	Nitrogen oxide
OL	Operational Leader
PD	Policy Dialogue
PPP	Public Private Partnership
PSC	Public Service Contract
PSP	Private sector participation
RO	Resident office (EBRD)
SAF	Sustainable Aviation Fuel
SCF	Strategic and Capital Framework
SD	Strategic Directions
SDGs	Sustainable Development Goals
SEE	South-Eastern Europe
SEI	Sustainable Energy Initiative
SEMED	Southern and Eastern Mediterranean
SI3P	Sustainable Infrastructure Policy and Project Preparation (EBRD)
SIG	Sustainable Infrastructure Group
SOx	Sulphur oxide
SOEs	State-owned Enterprises
SPV	Special Purpose Vehicle
SRI	Sustainable Resource Initiative
TC	Technical Cooperation
TEN-T	Trans-European Transport Network
TI	Transition Impact
ToC	Theory of Change
TQ	Transition Quality
TRK	Türkiye
UZ	Ukrainian Railways
VISP	Vital Infrastructure Support Programme
WBIF	Western Balkans Investment Fund (EU)

Executive Summary

This evaluation assesses EBRD's performance in the transport sector during the six years of 2017–22 ("evaluation period"), which cover the first four years of the Bank's current transport strategy (BDS19-172 "the strategy"), and the last two years of the previous transport strategy (BDS13-205). It focuses on two themes: (i) **support for sustainable (green) transport,** and (ii) **the promotion of private sector participation in the provision of transport services.** These themes cover three of the four strategic directions of the Bank operations as defined in the current strategy. The report aims to provide useful findings for the formulation of the Bank's new transport strategy.

This evaluation was based on the review of projects and strategic documents, an analysis of the Bank's transport sector's signing portfolio (including comparisons of the structure of the evaluation period with the six years of 2011-16 (the previous period), and in-depth evaluation of 19 sample transport projects and 4 policy engagements ("sample projects" and "sample policy dialogue projects") in 8 countries, including interviews with over 60 clients and stakeholders and project site visits.

Key findings

The Bank is making efforts to move towards sustainable transport, but significant shifts are yet to come.

Sustainability has not typically been the main objective of transport operations, as it was supported primarily by smaller components of more traditional connectivity-focused projects (only 9 percent of transport projects targeted green as a primary transition quality (TQ) and 14 percent as a secondary TQ during the evaluation period, i.e., a total of 23 projects over 6 years).

Nevertheless, the Bank increased its GET commitments in transport by one third (37 percent) from the previous period, lifting the share of GET in its total annual investment (ABI) from one quarter to one third. But the increase in GET-eligible project components actually implemented was less dramatic as IEvD identified substantial shortfalls between the GET claimed by the Bank and implemented in some of the sample projects (a gap in real and reported GET is a well-known phenomenon, which is highlighted in several recent IEvD studies).

Improvement of energy efficiency was by far the most frequent type of GET component among the Bank's transport commitments and featured in 34 percent of those signed during the evaluation period.

Almost all sustainability components of the sample projects were implemented as planned. Based on that implementation, they are deemed to have resulted in a positive impact on the environment across different transport modalities. However, the reduction in greenhouse gases (GHG) and other indicators were not measured (or set for most such projects), so the extent of any positive impact is unknown. This is now being address by the Monitoring, Reporting and Verification (MRV) system for new projects. Technical cooperation was extensively used to enhance transition impact but with mixed success.

Despite good relevance and financial additionality, the Bank had modest value addition related to sustainability. It was manifested mostly through support to the implementation of Environmental and Social Action Plans (ESAPs) and diagnostic initiatives assessing the potential for introducing technological innovations in transport. However, these diagnostics have not been followed by investments as yet. Still, clients are strongly interested in modern technologies that could enhance

sustainability (and cut the cost) of their transport operations.

The Bank has committed large, multiple financing, policy dialogue and technical cooperation (TC) to railway projects (e.g. in Serbia and Egypt), which could bring a systemic change of behaviour, and therefore a modal shift with long-lasting green benefits. This shift is ongoing and it will be challenging to measure its results and make attributions.

Other IFIs are increasingly prioritising decarbonisation and integration of transport. Some (e.g. EIB, ADB) are prioritising sustainability-related improvements to existing airports rather than their expansion. They also want to support key drivers of sustainability in transport, such as electrification (of vehicle fleets, railways, equipment, etc.) and enable a modal shift from more to less carbon-intensive types of transport and reduce the need for transport – all types of projects with potential for internal synergies at the Bank.

The evaluation also identified several sub sector-specific findings that yielded practical lessons for the green enhancement of future transport operations (see Section 2, and Annex 3).

The Bank was successful in promoting private participation in transport with strong additionality, but such projects' transition targets were modestly ambitious.

During the evaluation period the number and volume of private transport operations shrank, as the Bank focused on helping large state companies during the polycrisis.

Nevertheless, the Bank signed several high-profile PPP transactions during that period, such as the first road concession in Kazakhstan and the landmark airport PPPs in Greece, Bulgaria and Serbia, which demonstrated viability and the benefits of the private option well, resulting in follow-ups of private infrastructure projects.

The Bank's strong additionality was clear in its enabling role for PPPs and in their continued support in the early years. The Bank's Legal Transition Team (LTT) and its Sustainable Infrastructure Policy and Project Preparation (SI3P) team have been instrumental in developing PPPs or related legal frameworks in many COOs. However, the high attrition rate of SI3P's PPP preparatory TCs has been worrying.

Private operations were implemented much faster and more efficiently than state projects, demonstrating the advantages of the private option.

However, the transition objectives of some private projects were not very ambitious and amounted to signing or physically implementing a project, and thus easily achieved. Some TI components, that were not essential for core business (e.g. related to gender or inclusiveness), were delayed or not implemented.

Some private transport projects experienced serious environmental or social issues, which required derogations from Bank policies. Also, several public sector highway projects generated complaints to the Bank's Independent Project Accountability Mechanism (IPAM).

Private and public clients, as well as other IFIs appreciated EBRD's added value –policy dialogue, sector expertise and especially flexibility -- which allowed financing assets that other IFIs were unable to finance.

Overall, this evaluation found that whereas in 2017-22, the Bank demonstrated a recognition of the importance of sustainability in its transport projects by sizably increasing GET commitments, it has not yet made a major shift towards promoting green transport as the main goal of its operations. Rather, sustainability was supported through smaller components of largely traditional projects.

Although many green components have been implemented, their impact remains unknown for lack of monitoring.

Nonetheless, the Bank demonstrated strong additionality and some added value related to green.

This evaluation also found that despite a drop in the number and value of private projects during the evaluation period, the Bank continued playing a catalytic role, promoting private sector participation in transport, and supporting several landmark PPPs. Its flexibility and ability to spearhead the preparation of important PPPs, helped the EBRD sustain a respectable level of involvement in private transport operations during the *période de vaches maigres* of the pandemic and geopolitical crises. However, the transition components of private transport projects could have been better designed, with more meaningful benchmarks.

Recommendations

Strategic

Recommendation 1: **Make transport decarbonisation a central theme of the new strategy**[1], to be implemented by closely integrated investments, TCs, and policy dialogue as well as the use of cross-sectoral approaches, focusing on the following:

- The improvement and green transformation of existing infrastructure, with a more selective approach to the extension or development of new infrastructure.

- Promoting a modal shift to less carbon-intensive modes of transport.

- The electrification of all modes of transport (including ground transportation at airports and ports), as well as the development of electricity-charging road infrastructure and renewable energy generation capacity for selected clients.

- Promoting the integration of different modes of transport, particularly long-distance with urban.

Recommendation 2: **Increase the ambition of policy dialogue in the transport sector, to spur systemic change** and to add EBRD's voice and support to other IFIs tackling more sensitive, national-level or global-level policies hindering decarbonisation and a modal shift in transport (where opportunities arise). These include, for example, reducing or eliminating vehicle fuel subsidies, advocating a gradual introduction of carbon pricing in transport services in selected countries, or promoting e-mobility (higher taxes on polluting vehicles channelled to subsidise the purchase of EVs), etc

Operational

Recommendation 3: **Set ambitious TI benchmarks for private transport projects (beyond project signing or implementation).** Consider setting emissions/resource reductions targets in relative terms, e.g., per square metre of infrastructure in expansion projects, rather than targeting overall reduction, when applicable.

Recommendation 4: **Improve project implementation planning using more realistic timelines,** paying more attention to local capacity gaps and factoring them into implementation schedules, including the time needed for a loan to reach effectiveness and for permitting processes. Step up support for project implementation.

Recommendation 5: **If possible and agreed with a regulator, include clear monetary incentives in concession agreements** to complete capex programmes on time, e.g., linking them to hikes in service charges.

[1] If the new Infrastructure strategy covers only high-level objectives, operational priorities mentioned as examples for this recommendation should be included in the new GET approach and/or its accompanying documents (e.g. GET handbook).

1. Background and context: trains, planes, and automobiles – why we need this evaluation

1.1. Transport as a strategic sector

1. **Transport infrastructure plays a critical economic and social role**, connecting economic networks and facilitating foreign direct investment (FDI) and trade flows within and across borders, helping countries integrate into regional and global economies. It also enhances access to social and economic opportunities.

2. **On the other hand, transport can create significant negative social, physical and environmental impacts** such as congestion, accidents, pollution and greenhouse gas (GHG) emissions. Transport is the fastest growing source of GHG emissions, responsible for 65 percent of global oil demand (IPCC, 2018). This translates into almost a quarter of global CO_2 emissions from fossil fuel combustion, and demand for transport is projected to grow rapidly in the coming decades as low and middle-income countries continue their economic development. Climate change can affect transport systems as well, e.g. by damaging existing infrastructure and indirectly, by changes in trade flows, agriculture and energy use. Extreme weather events can damage roads, railways and bridges by flooding and by rising sea levels.

3. **Therefore, investments in transport decarbonisation, both technology and policy-driven, are urgently needed,** particularly in less-developed and transition countries, to achieve GHG emissions reduction in the face of increasing demand for motorisation and travel while at the same time reducing connectivity gaps that prevail in many countries.

> ***Global infrastructure investment needs are estimated at $6.3 trillion per annum until 2030 to meet the SDGs with an additional $300 billion needed to make those investments compatible with the goals of the Paris Agreement.***
> *The World Bank, 2018*

4. **IFIs, including the EBRD, have been at the forefront of financing large transport infrastructure and services investments.** Since its inception, the EBRD has employed various financial instruments, including sovereign and corporate loans, capital market and direct equity investments, as well as complex project finance structures, such as public-private partnerships (PPPs). It has also engaged in policy dialogue and provided TCs to bolster the development of the transport sector in its countries of operations (COOs). Its overarching goal has been and remains to promote growth while concurrently achieving and maintaining economic, financial, environmental, and social sustainability.

5. **The Bank's current operations in the transport sector have been guided by the Transport Sector Strategy (2019-24) ("the strategy")** approved by the Board on 30 October 2019 (BDS19-1720) and expiring at the end of 2024. The Bank will prepare the new infrastructure sector strategy in 2024, which is expected to cover operations in 2025-30.

1.2. An evaluation focused on private sector sustainability and promotion

6. **This evaluation covers the Bank's support for long-distance transport infrastructure and services** -- primarily roads, railways, maritime, aviation and multimodal transport -- covered by the

strategy. It does not include urban transport, which is covered by the Bank municipal and environmental infrastructure (MEI) strategy 2019-24.

7. **This evaluation takes stock of the Bank's operations and achievements in transport in two key areas to identify the strategic issues that need to be sharpened or addressed in the new strategy.** It aims to assess the extent and early results of Bank operations in the transport sector during the six years from 2017-22, including four years covered by the strategy (2019-22) and two years preceding them (2017-18) (i.e. the evaluation period) to contribute to accountability and to foster learning by offering insights and lessons that may be relevant for the design and implementation of the Bank's next transport sector strategy, strategic and capital framework (SCF), and operations.

8. **This sector evaluation focuses on two principal themes: (i) support for sustainable transport, and (ii) the promotion of private sector participation in the provision of transport services.** These themes cover three of the strategy's four strategic directions (SDs) and are at the intersection of highly relevant global policy agendas, such as climate change and mobilising private finance for infrastructure. The rationale for the choice of these themes and for the period of the evaluation are explained in detail in the evaluation's approach paper[2].

9. **The "support for sustainable transport" comprises transport projects and activities that aim to achieve climate and/or environment-related benefits** either directly (e.g., by improving energy efficiency in transport) or indirectly (through a shift to less carbon-intensive modes of transport). At the EBRD, sustainable projects or their components have been usually deemed "projects with a Green Economy Transition (GET) content"[3]. GET has evolved from EBRD's earlier, sustainability-related strategic initiatives. See Annex 1 for a summary of this evolution.

10. **The "promotion of private sector participation in provision of transport services" comprises projects with private clients**, including corporate loans to private transport operators or to special purpose companies with private shareholding, usually in a context of public-private partnerships (PPPs) (Box 1). In addition, this evaluation examined selected public projects with embedded private sector participation components.

Box 1: Public-Private Partnerships (PPP)

A transport infrastructure PPP is a long-term contract between a private party and a government entity to provide a transport infrastructure asset or service in which the private party bears significant risk and management responsibility and is remunerated based on performance.
Three characteristics are at the core of a PPP contract: (i) It bundles multiple project phases or functions, including design, build (or rehabilitate), finance, maintenance, and operations.
(ii) A special purpose vehicle (SPV) provides the service, separating the assets and liabilities associated with the provision. (iii) A payment mechanism at the core of the risk allocation between public and private parties remunerates the private party according to its performance.

Source: World Bank, 2017

1.3. EBRD's Strategic Directions and priority themes

11. **The current transport sector strategy defines 4 Strategic Directions (SDs)** for Bank operations, **with 8 themes** linked to the Bank's TQs. For each of the 8 themes, the strategy sets **1-3 sub-themes** and several **operational priorities** (Table 1).

[2] Transport_AP_final_for-distribution.docx
[3] "sustainable transport" and "green transport" are used interchangeably in this report although their meanings differ slightly.

Table 1: Transport strategy 2019 SDs, themes and sub-themes

Strategic Dimensions	Theme	Sub-theme	Operational Priority
SD1 – Connected Networks	Improved quality and connectivity of network infrastructure (Integrated)	Roads, railways, logistics/intermodal, maritime, aviation	2-4 operational priorities set for each of 5 sub-sectors
SD2 – Private Sector Participation (PSP)	Project-related reform to support market-based transport (Resilient + Competitive/Well-Governed)	Promoting sector reform, and restructuring of SOEs	2-3 operational priorities set for each of these 2 sub-themes
	Promote PSP (Resilient/Competitive)	Private sector operations, PPPs, and innovative financial instruments	1-3 operational priorities set for each of these 3 sub-themes
SD3 – Environmentally and Socially Responsive Transport	Improved capacity to address environmental, social and safety challenges (Well-G/Green)	Environmental and social challenges, and road safety	3-5 operational priorities set for each of these 2 sub-themes
	Increased Inclusion and equal access to transport infra and services (Inclusive)		4 operational priorities set for this sub-theme
SD4 – Low Carbon and Innovative Solutions	Decarburization and Reduced vulnerability to climate change (Green)	Decarbonisation and Climate resilience	2-5 operational priorities set for each of these 2 sub-themes
	Electrification and use of clean fuels (Green + Competitive/Well-G)	Electrification, and Fuel Switching	4-5 operational priorities set for each of these 2 sub-themes
	Improved innovation and penetration of new technologies (Green + Competitive/Well-G)	Digitalization and Big Data	1 operational priority set for this sub-theme

12. **The evolution of EBRD's sustainability-related strategic initiatives is an important corporate background.** Presented in Annex 1, this background culminated with the adoption of the GET 2.1, a five-year programme covering the period 2021-25 and aimed at supporting the transition to a green, low-carbon and resilient economy in the EBRD's COOs.

13. **When the strategy was approved, the Bank expected that its activities and inputs would translate into a series of outputs and outcomes that would contribute to achieving the objectives in its operational priorities** (which also contained a detailed performance monitoring framework). Annex 2 provides a stylized representation of these inputs, outputs and outcomes, prepared by IEvD. Blue highlighted inputs and outcomes are related to objectives associated with SD2, i.e. private sector participation. Green highlighted inputs and outcomes are related to objectives associated with SD3 and SD4, i.e. environmentally and socially responsive transport and low carbon and innovative solutions.

14. **The previous (2013) Transport Sector Strategy (BDS13-205, covering Bank operations in the transport sector during 2013-18) was not materially different from the current strategy** (Box 2). Both strategies identify similar challenges and opportunities in the sector, but with different emphases and perspectives. Aspects of innovation/digitalisation, climate resilience, inclusive growth and international cooperation are more prominent in 2019 strategy.

Box 2: Priorities set in EBRD's 2013 Transport Sector Strategy

- **Market-based transport** aimed at promoting efficiency, market-oriented and financial sustainability in the sector, and increasing private sector participation in the provision of transport infrastructure and services.
- **Sustainable transport** aimed at addressing the environmental, social and economic aspects of sustainability in the sector, including climate change mitigation and adaptation, integrated network development, pollution prevention, air quality and biodiversity protection, economic inclusion and gender equality, and road safety.
- **Broadening the sector** aimed at expanding Bank activities in the emerging sub-sectors of intermodal and logistics, road freight, railway station development and inter-city bus and coach services.

15. **This evaluation covers three SDs (2,3, and 4) of the Bank's four SDs in the current strategy and key themes of the previous strategy**. Results related to the remaining SD, - "Connected Networks" stemming from the sample projects, have also been evaluated. However, issues related to this SD have not been elaborated on as they were the focus of IEvD's recent cluster evaluation, "Projects Supporting Cross-Border Connectivity" (SS19-126).

1.4. Evaluation questions and methodology

16. **The objective of this evaluation is to provide strategic-level findings and lessons useful for preparing the new transport strategy.** This evaluation also aims to answer the overarching evaluation question (EQ): "**To what extent has EBRD contributed to "green" (sustainable) transport and the promotion of private sector in the transport sector?**" It responds to three principal EQs and related sub-questions:

- **EQ) 1:** What results and lessons can be identified from Bank projects supporting "green" transport?
- **EQ 2:** What results and lessons can be identified from Bank support to private sector participation?
- **EQ 3:** What kind of added value has the Bank brought to its transport projects? (compared to other actors)

17. **Each EQ has 4–5 additional detailed sub-questions**[4] related to effectiveness and efficiency of sustainability and private sector promotion, as well as the Bank's added value in terms of its policy dialogue and cohesion of its operations in this sector.

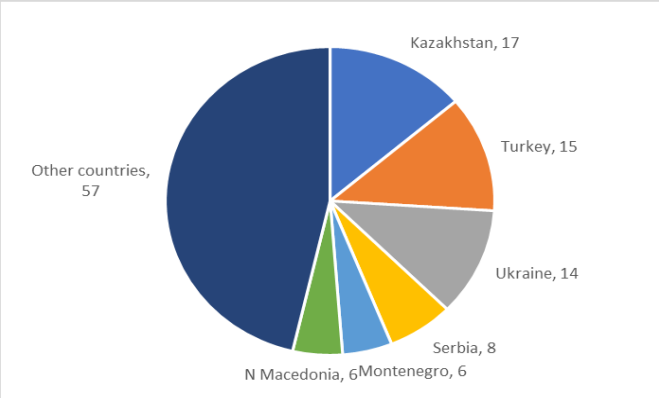
18. **The main line of evidence used to respond to these evaluation questions was the assessment of the performance of a selected sample of transport operations ("sample projects") and sample policy dialogue activities ("sample PD projects")** through field visits, the review of documents and more than 60 interviews of sample project clients, stakeholders and the Bank staff working on such projects. The key features of the transport sector's signing portfolio during the evaluation period are shown in Table 2. The portfolio's geographical structure by number of projects is shown in Figure 1 (for a detailed portfolio analysis see Chapter 1 of the evaluation's Technical Report).

[4] The evaluation sub-questions are listed in the Technical Report to this evaluation, which contains responses to them.

Table 2: Key features of the transport sector's signing portfolio 2017-22.

Information	Data
Transport sector projects signed during the evaluation period	123
Annual business investment (ABI)	€6.6 billion
Top recipients: (1) Kazakhstan and Ukraine (2) Morocco, BiH, Serbia, Türkiye	(1) About €1 billion each (2) About €half a billion each

Figure 1: Country project numbers – transport sector signing portfolio 2017-22



19. **From this portfolio, the evaluation team selected[5] and evaluated 19 sample projects from 8 countries** (Kazakhstan, Ukraine[6], Serbia, Türkiye, Egypt, Greece, Bulgaria and Montenegro) in different sub-sectors, accounting for 15 percent of the projects and 16 percent of the value of commitments[7], as well as four sample PD projects (two in Serbia and one in Kazakhstan and Egypt). The sample projects evaluations are presented in 12 separate evaluation briefs (projects with the same client or tranches of the same project bundled together). Analysis and key findings from these evaluations are contained in Sections 2.1 and 2.2, while detailed sample projects and sample PD evaluations, as well as the former's results frameworks, are found in the evaluation's Technical Report. For the list of sample projects and their ratings by main category (relevance, effectiveness, efficiency) and overall performance, see Section 2.3.

20. **To give a broader background to the qualitative analysis of the performance of the sample projects, IEvD used a largely quantitative analysis of the Bank's signing portfolio from the evaluation period as a second line of evidence.** The main purpose of these analyses was to establish the extent of the Bank's commitments to sustainability and its support to private sector participation in transport, as well as to identify broader, portfolio-level trends and commonalities related to two key themes of this evaluation (however, no portfolio level analysis could address project-level results-related qualitative issues). Moreover, some data from the evaluation period was compared with that from the preceding six-year period i.e., 2011-16 ("previous period"). Some of the trends were also compared to the results of the portfolio analysis conducted under the previous transport sector evaluation (SS17-106). These comparisons were made to identify the degree to which the Bank changed its targeting of sustainability and private sector promotion in its transport projects.

[5] The methodology for selecting the sample projects was described in detail in the approach paper for this evaluation.
[6] In relation to the two Ukrainian operations, interviews were held with project bankers at the Warsaw RO. There were neither site visits nor client interviews due to ongoing war on Ukraine.
[7] In accordance with EBRD's taxonomy, "commitments" refer throughout this report to the volumes of signed loans and investments (which differ from volumes of loans and investments disbursed).

21. **The portfolio analysis related to sustainability was based on three indicators:** (i) the number of projects targeting the Green TQ; (ii) the number of projects with GET commitments, their volume and structure in the portfolio (although there were some doubts as to the reliability of the Bank's attribution of GET volume in some projects, as explained in Section 2.1), and (iii) the number, value and structure of Technical Assistance (TA) commitments supporting sustainability in transport projects. The volume, number, and structure of private project financing served as key indicators for the analysis of the degree of the Bank's promotion of the private sector in transport. Full portfolio analyses are found in the evaluation's technical report and their key findings are presented in Sections 2.1 and 2.2.

22. **The third line of evidence was a review of the literature from other IFIs** (including their most recent transport strategies), as well as publications from professional journals.

2. Evaluation Findings

2.1. The Bank is making efforts to move towards sustainable transport, but significant shifts are yet to come

Summary findings

Despite a substantial increase in GET commitments, this evaluation has not found evidence of any major shift in recent years in the Bank's transport operations towards sustainability. Rather, the Bank has incorporated more "green" components into largely traditional types of projects. However, not all of these have been implemented, nor have they been implemented to the degree claimed.

EBRD's weakness in collecting relevant, reliable data is undermining its capacity to "tell the story" of its impact. Those green measures that were realised have certainly contributed to reductions in CO_2 emissions and have had environmental benefits but in most cases their outcomes have not been measured so the extent of their impact can be only estimated. Based on available information, sustainability-related outcomes achieved by most of the sample projects have been relatively modest thus far. However, some operations have the potential to demonstrate stronger green outcomes once their capex programmes are fully completed.

There is some evidence that the Bank's activities (investments and policy dialogue) contributed to the increase in ridership of selected railways, thus helping foster a shift from more to less carbon-intensive modes of transport. The Bank has also committed financing to support railway electrification but slow procurement and external circumstances have been holding back the implementation of such projects.

In contrast, opportunities to support the integration of long-distance and urban transport, which could have brought "green" benefits by reducing the need for transport, were lost. The Bank's flexibility (as to the types of assets it financed), ensured its strong additionality. The EBRD has also been effectively supporting ESAPs and handling environmental and social challenges of large transport projects relatively well. However, there were only a few examples of Bank support to "green" innovations in transport, while the Bank was absent from more strategically focused policy dialogue geared towards addressing systemic issues, which were holding up the decarbonisation of transport in selected countries.

Other IFIs have been moving their transport operations more decisively towards sustainability. Given the high interest of clients in this sector in further "greening" of their operations, opportunities exist also for the EBRD to make a clear shift in this direction.

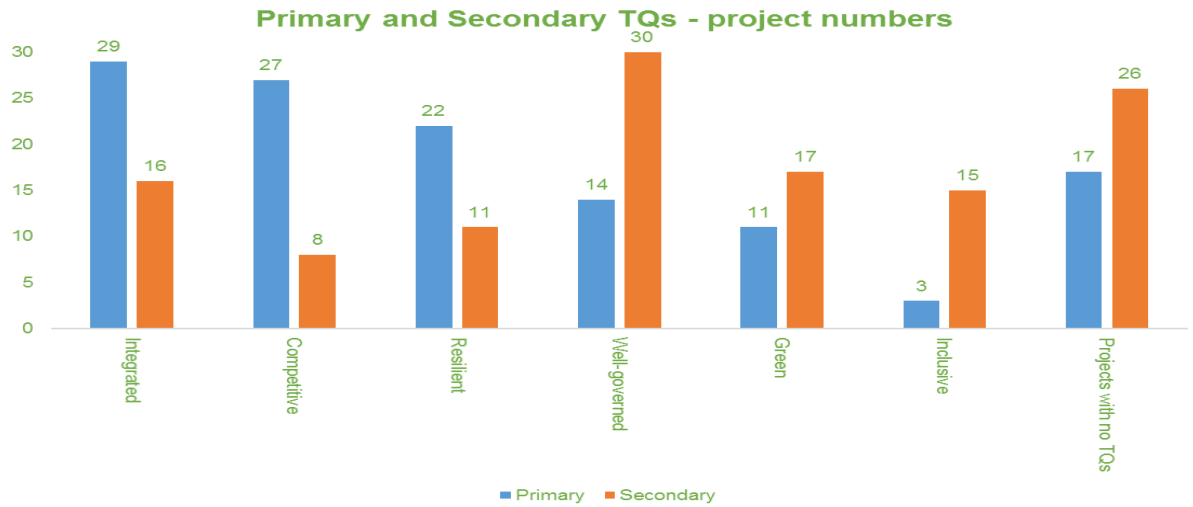
Commitments grew greener in transport projects but consideration to sustainability as their principal objective less so.

This section contains a summary of the analysis of the transport sector's signing portfolio for 2017-22, completed through the lens of sustainability indicators, i.e. the levels of Green TQs, GET and TCs supporting green components. A full portfolio analysis is available in the evaluation's Technical Report.

23. **Sustainability was rarely the main objective of transport projects.** Only 11 projects (9 percent of the total) targeted "Green" as the primary TQ over the period reviewed, with a further 17 projects (14 percent) targeting it as a secondary TQ. Therefore, a total of 28 projects (or 23 percent of all projects signed in the transport sector) targeted the Green TQ. Green was only the

fifth most common TQ targeted as primary but the second as secondary objective (fifth overall, with only "Inclusive" targeted less frequently) (Figure 2).

Figure 2: Primary and secondary TQs in transport projects 2017-22



24. **Moreover, three projects included in the transport portfolio and shown as targeting the Green TQ have been cancelled and two more were repurposed to general liquidity, which has nothing to do with promoting sustainability.** Thus, the actual number of transport projects targeting the Green TQ and implemented (or intended to be implemented), shrinks to 23. This represents, on average, less than 4 projects targeting the Green TQ per year (mostly as the secondary quality) and must be seen as insufficient, given the prominence of sustainability in the transport strategy[8].

25. **Sustainability was of relatively marginal importance and rarely the prime objective of the Bank's transport operations.** More typically, smaller sustainability-supporting components were included in the projects, whose primary and often secondary objectives also targeted Integrated, Competitive, Resilient or Well-Governed TQs.

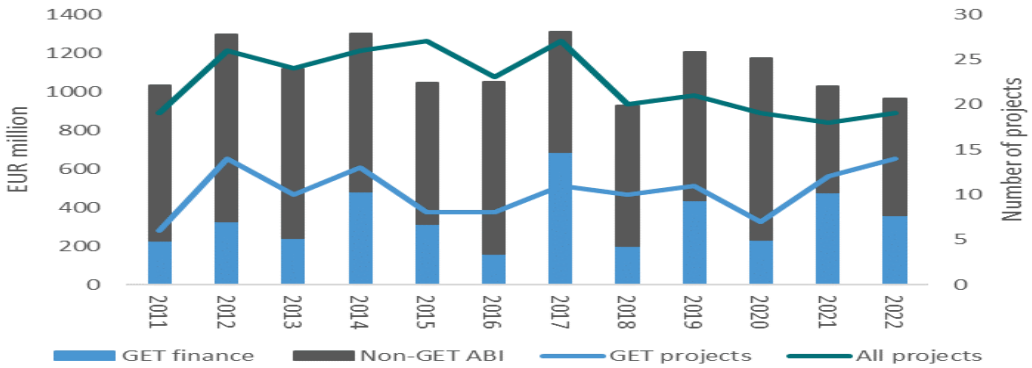
26. **IEvD's previous transport sector evaluation (SS17-106, covering 2012–May 2017), found that 31 percent of projects signed at that time had elements of Green TQ[9], indicating that at the portfolio level,** the intensity of the Bank's targeting of sustainability decreased. This may point to the diminishing importance of sustainability in the Bank's transport operations but needs to be nuanced as most projects with sustainability-supporting (GET) components signed during the evaluation period had TQs other than Green, e.g. there were 26 railway-supporting projects, which, based on the modal shift principal, could have targeted the Green TQ, but only 8 of them (30 percent) did so. Moreover, Management explained that the Bank's TI methodology does not allow for Green to be selected as a TQ unless the share of GET in total financing is above a certain threshold. This often prevents Green from being selected as one of the TQs.

27. **Overall, the Bank increased the volume of its green commitments during the evaluation period.** The aggregate volume of GET commitments grew by over one third (37 percent), while its share in the total ABI also increased from a quarter to above one third (36 percent), as compared

[8] This also points to gaps in the definition of TQs in projects undergoing changes. It is particularly puzzling why the Green TQ of the UZ Electrification project was not dropped when it was repurposed to general liquidity, despite the fact that it was clear that the new project would not support any dimension of sustainability. Instead, its Green TQ was retained and Resilient TQ added.
[9] The six TQs including Green were introduced into EBRD operations in late 2016, so the SS17-106 evaluation mapped objectives of the earlier-approved projects against the new TQs, assigning new TQs to them.

to the six years of the previous period (2011-16)[10]. The number of signed operations with GET rose by 10 percent, reaching 64 or slightly over half of all projects (52 percent), however, with GET eligible commitments in single projects mostly below 50 percent of the Bank's total financing (and often below 20 percent). Figure 3 shows annual volumes and the number of signed commitments with GET (earlier SEI) in transport projects.

Figure 3: Annual volumes and number of transport projects with GET financing



28. **It would be challenging to discern a clear trend over the years given the wide fluctuation in the volumes of GET commitment and the number of projects; spikes in 2017 and dips in the preceding and following years are difficult to explain.** Since 2020 (when the number of transport commitments with GET reached bottom, near 2011 levels) the Bank made an effort and succeeded in gradually increasing the number of these projects. This largely coincides with the implementation period of the new Transport Strategy (2019-24), which strongly promoted sustainability, and with the introduction of GET 2.1, which set a target of scaling up EBRD's overall green financing to more than 50 percent of the total by 2025[11].

29. **As several IEvD evaluations have mentioned, GET commitments is not a proper indicator of EBRD's actual support to sustainability**[12]. This is because the share of GET-eligible financing in Bank projects is the result of the Bank's ex-ante estimates of potential green outcomes, made at project approval and often very optimistic[13]. The share is then verified by EBRD's Climate Strategy and Delivery (CSD), and its Environment and Sustainability Department (ESD) and reported in the GET database. However, even these verifications do not always reflect actual levels of sustainability-supporting investments. IEvD's review of the sample projects found that in some cases GET financing was well below the level reported by the Bank (see more in the next section). This evaluation was not able to verify the accuracy of the GET share allocation in all projects in the transport portfolio but does note that four projects still in the GET database and showing "GET content", have been cancelled (their aggregate GET financing amounting to €105.2 million). If these cancelled projects were subtracted, the aggregate GET share of financing in transport projects would drop from 36 percent to 32 percent and their number would drop to 60, i.e. less than half the number of projects from the evaluation period[14].

[10] This period had a slightly higher number of projects (145) and volume (€6.8 bil), compared to the Evaluation Period's 123 projects and €6.6 bil. volume.
[11] Green Economy Transition Approach 2021-2025, BDS20-082(Final).
[12] This has been highlighted in many of IEvD's reports, most recently in the "Design and Utility of CSDRs – Synthesis of Findings and Illustration with the Case of Uzbekistan". This report demonstrates that GET results based on physical completion and actual EBRD's financing across the Bank's projects in Uzbekistan, was only 4% of the value reported in the CSDR as delivered. (CSDR – Country Strategy Delivery Review).
[13] CSD works with Banking on GET attribution and ESD team is accountable for confirmation of such attribution. Management commented that a distinction should be made between (a) whether the financing was eligible to be classified as "green" based on a number of specific criteria; and (b) the impact calculations.
[14] The need for more accurate reconciliation of GET figures in the GET database after a project has been cancelled with no GET being implemented, has been raised in several previous IEvD reports.

30. **Moreover, as the disbursement ratio of the operations signed during the evaluation period was 78 percent of committed ABI** (as of the end of 2023), it can be asserted that about a quarter of GET committed during this period is yet to be deployed**.** Indeed, some potentially highly sustainable projects have had problems starting implementation. The SNCFT Network Upgrade project in Tunisia (49086), for example, was signed in 2017 with a 100 percent GET share of a €160 million loan that has not yet started disbursing[15]. Some other projects with GET have started disbursing but often very little, or their "green" components have not yet been implemented. Thus, to establish the extent of the Bank's support to sustainability in transport, one would have to delve into each of its 123 projects in the portfolio, which was outside the scope and timeframe of this evaluation. What is certain from the review of this portfolio is that the Bank made more of an effort than in the past to enhance the sustainability of its transport operations by including substantially more green components in their design but the increase in their implementation was far less dramatic.

31. **The analysis of the GET codes in the transport portfolio demonstrates, that "energy efficiency" was by far the most frequent type of GET commitment as it was included in 34 percent of all projects signed.** It was to lead to the reduction of GHG, mainly CO_2 but in some cases also NOx, SOx and particles emissions. Energy efficiency accounted for 73 percent of the total GET commitment volume and 66 percent of the GET projects number. This was to be achieved through direct investments into more efficient equipment, fleet, rolling stock or their electrification. This was commendable as reduction of GHG was at the heart of sustainability, decarbonisation, and climate action. GHG reduction could also be achieved through investments in more energy efficient buildings, but "Green Buildings" GET code appears in only 2.5 percent of all projects signed (4 percent by volume). This may be seen as a lost opportunity as Transport projects often aimed at refurbishment or a construction of new buildings (e.g. depots for servicing railways, airports, port terminals, etc.). However, Climate Strategy Delivery (CSD) explained that when multiple uses of a loan's proceeds contribute to GET, the predominant GET code is usually selected, and is often other than "green buildings" (e.g., "energy efficiency" or "sustainable connectivity", given that the investment is in transport)[16].

32. **"Sustainable connectivity" was another type of GET through which the Bank attempted to achieve GHG reduction in the transport sector, but this time indirectly.** This GET code was present in 14 percent of all transport projects signed during the Evaluation Period or in 27 percent of those wit GET components. This type of projects aimed at systemic changes, such as a "modal shift" from more carbon-intensive modes of transport to less carbon intensive, e.g. railways and waterways. In IEvD's view, this type of projects was particularly desirable from sustainability perspective (as described further in this section and the responses to evaluation questions in the Technical Report).

33. **The Bank also increased its technical cooperation during the evaluation period, with overall 36 TCs (including those safety-related) dedicated to sustainability support.** This compares with 19 TCs identified as such during the Previous Period, indicating a positive trend of almost doubling of the quantity of such TCs. Out of these, 23 TCs related to transport projects supported sustainability with an aggregate €4.6 million. They were mainly energy efficiency audits, support for energy efficiency measures implementation, climate resilience assessments and capacity building related to climate/environmental management. Furthermore, an important part of sustainability promotion in Transport has been the support to safety improvements. It has been promoted mainly under roads development projects, typically through TCs. The Bank financed 27 road development projects providing €2.5 billion in aggregate. Out of these, 8 road projects had

[15] See table 4 for more information on stalled or delayed projects supporting railways' electrification.
[16] For example, under a rail project, which includes energy efficiency improvements to the station buildings, the GET code could be labelled "sustainable connectivity" as such stations are part of a transport system.

13 TCs related to safety improvements (safety audits or capacity building of local safety agencies, etc.) for approximately €2.2 million in aggregate.

34. **In conclusion, the analysis of the Bank's transport portfolio indicates that the Bank's operations in the transport sector demonstrated a recognition of the importance of sustainability, yet it revealed a gap between the intention to promote green transition and the actual implementation of such goals.** Importantly, in most cases sustainability was more an addition, rather than the main goal as projects targeting Green TQs were relatively rare. Sustainability was typically promoted by smaller components of largely traditional connectivity-focused projects. Based on the increase in GET-eligible commitments, such components were added more frequently to Transport projects than in the past. However, the volume of implemented GET financing was below what the Bank reported, as several of these projects were cancelled or repurposed while the implementation of some others was delayed or stalled. On a positive side, the Bank doubled the number of TCs supporting sustainability and safety in transport, which underscores its efforts to address sustainability-related issues in its projects.

Green components of transport projects were largely implemented but outcomes were most often not measured, making it difficult to "tell the story" of EBRD's impact.

This section presents key findings from the evaluation of the performance of 19 sample projects from the transport sector portfolio, signed and implemented during the evaluation period, with a particular focus on results stemming from their sustainability-related components. Their detailed assessments are contained in 12 evaluations (tranches and projects with the same client bundled together) presented in the evaluation's Technical Report. Their ratings under three key categories (relevance, effectiveness, efficiency), and overall performance are presented in Section 2.3.

35. **Physical implementation of almost all state sector Sample Projects has been protracted and suffered delays, some very long.** This has not been out of ordinary, as the implementation of infrastructure projects by the Bank's clients has typically been slow due to their complex technical nature and the intricacies of public procurement process, combined with limited experience in this matter of the most of the Bank's state clients. However, during the evaluation period delays have been particularly long, with some sample projects falling four years (and counting) behind their original schedules. The COVID-19 pandemic, with its restrictions on movement, has certainly contributed to it, however such long delays cannot be attributed to the pandemic alone. Very slow start, with the declarations of sovereign loans effectiveness often taking one-two years, had a major impact on such delays. However, the public procurement process, which was typically supported by consultants but still suffered from an inexperience of local decision-makers, was often the main reason for delays. Complaining losing bidders did not help speed up the process. Moreover, some clients (also private) pointed to very long delays with obtaining various building and other permits from state or local administration for certain types of investments, which caused delays with the start of a project. Finally, polit-economy factors, such as a change of government (the first in 30 years in case of Montenegro), have further lengthen the decision-making process. Private clients implemented their projects usually much faster (see Section 2.2). Table 3 summarises physical implementation performance of the reviewed projects.

Table 3: Physical implementation of Sample Projects

OpId	Project	Portfolio	Country	Delay or early completion	Budget overruns
48405, 50043	**Serbia Voz: TPS Zemun I & II (rail)**	State	Serbia	2 year delay	13%
49075 (3 tranches)	**Main Roads Reconstruction (roads)**	State	Montenegro	1.5; 3 and expected over 4-year delay (depending on the section)	88%
48309	**ENR – Locomotive Renewal (rail)**	State	Egypt	Expected 4-year delay	13.5% savings

53556	**DFF-Project Sparrow (e-mobility)**	Private	Egypt	No delay	41% less vehicles purchased than planned
47986, 48578	**Greek Airports Privatisation A & B (airports)**	Private	Greece	2 months ahead of schedule	On budget
52749, 49909	**Project Sophia and Pelican (airport)**	Private	Bulgaria	2-6 months delay so far but expected completion largely on schedule	On budget
47085	**BAKAD Road Concession (road)**	Private	Kazakhstan	1.5 years ahead of schedule	On budget
51186	**A3F Almaty Airport**	Private	Kazakhstan	2-month delay so far	On budget
48610	**Tersan Floating Dock (ports and harbours)**	Private	Türkiye	9-month delay	On budget
50172	**Tekirdag Port (ports)**	Private	Türkiye	2-year delay	On budget
45782 (2 tranches)	**UZ Electrificaiton (rail)**	State	Ukraine	Tendering took 4 years but due to the war, the loan was repurposed	N/A (no capex)
51975 (2 tranches)	**Ukrposhta**	State	Ukraine	Purchase of vans - no delay Construction of new sorting hubs - postponed indefinitely due to the war	Largely on budget

36. **Most projects were completed on budget, however a few – mostly public – suffered overruns.** The Montenegro Main Road project's budget had to be almost doubled (paid by the government) due to initially underestimated costs and high inflation (although it effected all projects, long delays in this one exposed it particularly acutely to spiralling prices). The railways projects had mixed luck in this respect – Serbian Voz incurred some minor cost overruns during the refurbishment of its depot, while Egyptian National Railways succeeded saving a similar proportion of the budget when tendering for 100 new locomotives, demonstrating the advantage of a large value tender.

37. **In almost all the sample projects, the clients implemented planned sustainability-related components.** However, in most cases the extent of the outcomes stemming from these components (e.g. CO_2 emissions or pollution reduction, water savings or other environmental benefits) was unknown due to two main reasons: (i) generally poor evaluability of such outcomes expected from the components, and (ii) lack of or inadequate monitoring of these outcomes by the clients or the Bank (Box 3).

Box 3: Sustainability targets in selected sample projects and their monitoring

Sustainability targets were relatively clearly defined only in 4 sample projects (or 7 out of 19 counting tranches of the same project) because they had Green TQ set as one of their transition objectives: Serbia Voz and Project Sparrow (electric taxis) both had targets set in terms of CO_2 reduction; Tersan Floating Dock (grit and oil waste reduction targets), and Montenegro Roads had sustainability target set at the output level in terms of GET share in total Bank financing ("climate resilience measures to account for 17 percent of total financing or 66 percent in tranche 1").

In the event, the green targets were reliably monitored in only one project – Tersan Floating Dock (see Annex 5). Also, AGM (the client in Project Sparrow) monitored fuel savings of their new electric vehicles and on this basis reported CO_2 emissions savings of 1,500 tons per year (based on the use of 146 electric taxis). IEvD notes that based on the project's FRM, the Bank expected that 250 electric taxis would result in annual savings of 530 t CO_2 emissions. Therefore, 3x higher savings value calculated by the client (with 40 percent fewer electric vehicles (EVs) than planned), puts its calculations in question or points to an error in the baseline setting.

Serbia Voz did not monitor its railways CO_2 emissions but the EMS, which implementation was to be completed soon under the Bank's project, was expected to eventually provide Voz with this monitoring capability. Finally, the Montenegro Roads project's resilience measures were implemented but according to the client, accounted for only 4 percent of the Bank's total tranche 1 loan, rather than the 66 percent that was targeted (although differences in calculating the value of sustainability components between the Bank and the Montenegrin authorities are acknowledged and certainly contributed to this discrepancy).

The Board reports of the sample projects that did not target Green TQ but claimed a GET share in their financing, typically described the green components to be implemented but not their expected outcomes. Expected results were usually described only in very general terms, e.g. for Ukrposhta (40 -100 percent of GET): *"optimising fleet utilisation through cargo consolidation and better truck space use, which will reduce the number of trips and fuel required. Reduction in GHG emissions expected due to the closure of inefficient postal branches and their substitution with mobile offices".* The Sofia airport's (Project Sophia, GET share of 20 percent) Board report stated that the project was in line with the GET approach as it was to deliver significant improvements to the airport. It provided some more information on green components to be implemented but not on their expected outcomes. The projects, which did not initially assert GET share, still claimed an alignment with GET, without providing any details. For instance, Greek Airports: "*The project is in line with the GET approach, which includes the Bank's focus on supporting investments, which lead to increased resource use efficiency".*

Some information on green outcomes was extracted by the Directors Assistants Questions (DAQs). Only when the Bord enquired (through DAQs) about expected sustainability-related outcomes, was some information provided. For example, the Greek Airports project team shared information that the project targeted 5kt of CO_2 savings and 180,000 m^3 of water savings per annum. However, in most other cases the responses were still vague.

38. **Client interviews conducted by IEvD indicate that even those clients whose projects had green targets did not typically measure them.** There were some exceptions: the Tersan Floating Dock and Almaty airport clients provided data on green performance (the latter possibly due to a grant, which depended on providing such data). Some other projects had their sustainability targets incorrectly set, e.g. as overall CO_2 or water use reduction, rather than per passenger reduction, which would be more likely for projects planning a substantial increase in airport terminal space and passenger traffic (Greek Airports) or stating an incorrect baseline as in Project Sparrow (see Box 3).

39. **Overall, it can be asserted that most although not all transport projects reviewed resulted in some sustainability improvements,** such as GHG reduction by introducing more energy efficient equipment, or greater infrastructure climate resilience through additional measures. Railway-related projects (new depots, new locomotives) are likely to contribute to improved service reliability and comfort and therefore to higher passenger numbers (which have been growing in recent years but also due to the end of the pandemic), supporting the theory of a modal shift to some extent.

40. **The Bank has been aware of the gap in the results data stemming from its projects' green components and it has recently taken steps to rectify this with a new Monitoring, Reporting and Verification (MRV) system,** introduced in 2022 and covering most projects signed from then on. The MRV aims to ensure that clients are required to provide data as per the Green Project Monitoring Plan, and that more specific information on GHG reduction and other sustainability benefits stemming from the Bank project is available.

41. **The assessment of the sample projects green components demonstrates that although most have been implemented, their results are mixed or not yet fully discernible.** The implementation status and results of the sample projects' green components are presented in Annex 5. One reason for this lack of demonstrated results is that some projects are still under

implementation or only recently completed therefore lack a track record and data. However, for some, even when they are fully completed, their outcomes will only be identifiable in the long term (modal shift under railway projects) and difficult to attribute to any single project. Some other projects (e.g. the Sofia airport and Tekirdag port) expect to achieve stronger outcomes only after their subsequent phases are implemented in the medium-long term. Incorrectly defined expectations (Greek airports) or incomplete information from clients (Project Sparrow), blur the picture further. It is clear, however, that although some desirable benchmarks were achieved -- energy efficient railway depots built, electric taxis introduced or climate resilience measures added to roads (see Annex 5 for detailed list) -- some other important expectations of green outcomes that had been articulated at project approvals or in the transport strategy, such as the introduction of SAF or support to electrification on a larger scale, are yet to happen. On the positive side, it is encouraging to see that ridership increased in the two railways (Serbia Voz and ENR) by about 50 percent during 2022-23 and although it is difficult to attribute this trend (coinciding with the end of the pandemic and other improvements/investments), some credit should be given to the Bank-financed projects.

42. **The share of GET-eligible financing in the sample projects could serve theoretically as another indicator of their green results but this has proven to be an unreliable measurement.** Based on client interviews, IEvD notes substantial differences between the value of sustainability-related components reported by some as having been implemented and those reported by the Bank (in the GET Database)[17]. For instance, the Transport Administration of Montenegro calculated that additional climate resilience measures under the first, completed section of the Roads Reconstruction projects (financed by Bank loan tranche 1), accounted for about 4 percent of its total costs (rather than the 66 percent planned and verified by the CSD and ESD), while it expects such measures under the remaining two sections to account for a similar share (rather than the 20 percent expected by the Bank). Fraport, the client in the Greek airports project, stated that the value of sustainability components implemented during their 14 airport extension/refurbishment programmes came to approximately 2.5 percent of the Bank's total financing (rather than the 5-6 percent that was verified). In addition, Tersan Dock's client identified equipment and waste and pollution minimisation technologies as representing 7 percent (rather than 75 percent or 100 percent verified) of the total loan. Management explained that these discrepancies were due to i) data or calculations that may have been mistaken, i.e. an ex-ante error, and ii) estimates relying on certain future outcomes or behaviour that did not in fact occur, i.e. there was an unanticipated ex-post outcome. What's more, clients often attributed climate finance differently than EBRD.

43. **Moreover, IEvD notes that verifications of the GET share claims in some transport projects would not be possible for a long time and would be difficult to attribute.** This is mainly due to the expectations of an indirect green effect through a modal shift or other actions. For instance, in both the Serbia Voz and ENR Locomotives railway projects, large loans were 100 percent GET-eligible because a modal shift was expected from improved railway services. This was reasonable expectation, but it will be difficult to verify whether it was achieved and attribute. Similarly, the Tersan Floating Dock project was 75 percent GET-eligible as the Bank's GET calculations were based on projected client revenues from providing certain repair/retrofitting to limit vessel NOx emissions. But the Tersan project client reported that at present it would not be able to provide retrofitting services to the LNG-transporting vessels (a major assumption in the Bank's GET-share calculations), so the share of GET in this project should be substantially reduced.

[17] The second column in the table in annex 5 states the initial (ex-ante) estimates of GET-related components in the Sample Projects (as per Board/FRM reports) and below the "verified to" indicates the share after its verification by the Bank's CSD, performed sometime into a project's implementation and recorded in the GET Database.

The Bank's additionality has been verified but its "green" added value needs strengthening.

This section examines the Bank's added value in terms of sustainability, including its policy dialogue, support to ESAPs and the promotion of innovative technologies in support of the "Green" transformation. The main sources of information for this section were document reviews, interviews with clients, stakeholders and bankers, as well as project site visits. Project and policy dialogue evaluations related to this section are contained in the Technical Report.

44. **The Bank's additionality in sustainable transport was generally strong as it was ready to finance assets that other IFIs were not able to fund.** The Bank could finance rolling stock in railway projects, aimed at a modal shift, while other IFIs could only finance infrastructure investments (tracks, signalling, etc.). This flexibility substantially boosted EBRD's additionality in such projects.

45. **IEvD identified several small, innovation-promoting components in the sample projects.** For instance, the ENR Locomotive project introduced tagging new locomotives to measure their fuel use (as a pilot, several locomotives were tagged at the time of evaluation and the rest will be tagged in 2024). A part of Ukrposhta's project financed the acquisition and deployment of 1,540 Starlink devices that introduced satellite communication technology to the Ukrainian postal service. Finally, part of the Bank's loan to Serbia Railways funded the acquisition of several software solutions that helped modernize its ticket sales and marketing strategy. There were also technologically advanced components in the airport projects, although they were not formally financed by the Bank, which funded mainly the upfront concession fee payments.

46. **Overall, in terms of promoting sustainability-related innovative technologies, the Bank's record has been limited thus far.** The Bank was involved in several diagnostic initiatives in selected COOs, assessing the potential for introducing technological innovation in transport, such as a multi-sector hydrogen study that provided a lifetime cost comparison between hydrogen and electric, as well as a capex gap that needed to be filled to introduce this technology on a wider scale[18]. Moreover, it supported several needs assessments for vehicle charging infrastructure, required to develop electric road transport, e.g. in Ukraine, Greece, and Kazakhstan. The Bank's Energy Team has also invested equity in Infinity Energy that includes, the development of EV charging infrastructure in Egypt as one line of business [19]. However, closer inter-team cooperation in this area is needed to support more of these projects as the development of EV charging infrastructure will be critically important for the electrification of long-distance road transport in the Bank's COOs. The EBRD did finance several electric bus projects (e.g. in Batumi, Georgia) as urban transport has been better suited for the application of electricity-propelled vehicles than the long-distance transport (however, urban transport is excluded from this evaluation).

47. **The Bank has paid attention to the electrification of long-distance transport (mainly railways), with limited results so far.** The only EV-financing project in the evaluation period's transport portfolio is Project Sparrow, a loan to AGM of Egypt to acquire 146 electric London taxis (see the Technical Report for a full evaluation). Moreover, during this period, the Bank signed four railway electrification projects (Table 4). However, achieving loan effectiveness and then tendering the work contracts has taken a very long time in all of these projects, such that only one project has recently started implementation. The project signed with Ukrainian railways (UZ) in 2017 had to be repurposed due to the war. It could have delivered strong green outcomes as it envisaged the electrification of a 253 km-long railway line in southern Ukraine (with EIB matching

[18] "Towards a Low-Carbon Hydrogen Economy in the EBRD Region: Demand, Supply, Regulatory Analysis and Development of Pilot Case Studies" (2022). The case studies included: "Railway decarbonisation in Serbia – the case for hydrogen fuel cell trains"; "Hydrogen Fuel Cell Buses in cities across the Western Balkans"; "Fuel Cell Electric Buses in Gaziantep, Türkiye"; "Low Carbon Mining Trucks".

[19] In 2019 and 2020, the Bank invested over USD 100 million, acquiring a 20 percent stake in Infinity Energy. Since then, the company has installed 614 charging stations in Egypt (its main line of business is renewable energy generation).

EBRD's €150 million loan). However, the project procurement process took more than four years to select a bidder and by March 2022, implementation had still not started. The war changed UZ's priorities, so the loan was repurposed to provide the liquidity needed to keep its operations going. The company's investment priorities will be reassessed after the war (see the project evaluation in the evaluation's Technical Report). The status of the three remaining projects is summarised in Table 4.

Table 4: Railway electrification projects signed during the evaluation period

OpId	Project	Country and signing date	Loan/project amount (€ millions)	Length of line to be electrified (km)	Status
45782	UZ Electrification	Ukraine, 2017	150/367	253 part double track	Repurposed to liquidity financing due to the war (see more in the evaluation's technical report)
49086	SNCFT Network Upgrade	Tunisia, 2017	160/185	25 and purchase of 6 electric trains	Loan effectiveness achieved in Nov 2021. PIU consultant revised cost estimates (adjustments to the project's scope needed due to cost escalation over 6 years). Authorities' decision on the revised project scope is awaited.
51582	Ispartakule-Cerkezkoy Railway Line	Türkiye, 2021	150/640	67 double track	Loan effective, contract awarded, the first capex disbursement made in July 2023. Tender took a long time because a losing bidder lodged a complaint. Project start delayed by the effects of an earthquake in 2023.
53136	High Speed Rail Belgrade to Nis	Serbia, 2022	550/2,476	230 part double track	The project is co-financed by EIB and WBIF's grant. The effectiveness of WBIF's commitment not yet obtained but this is a CP to effectiveness. WBIF and EIB (leading procurement and implementation) are working with the client on readying grant documentation to declare the loan effective.

48. **The Bank's policy dialogue in transport has focused on the railway sector, which can be seen as part of an indirect promotion of the "green agenda".** One policy dialogue goal was to improve the performance of railway companies, including service quality and safety, and thereby attract more passengers. This supported sustainability indirectly but strongly, by encouraging a shift from more to less carbon-intensive modes of transport. This was a plausible expectation as many studies from (non-EBRD) projects improving railway services indicate that passenger numbers usually grew after a series of projects had substantially improved the quality, reliability, frequency, punctuality, etc. of railway services and their networks[20]. The Bank deployed large and multiple TC packages supporting restructuring and corporate governance improvements of several railway companies. For instance, 8 projects at Serbian Railways over the last 23 years led to achievements like the approval of a new railway law, the separation of train operations from infrastructure and a new organisational structure. The most recent Serbia Voz Zemun TPS I and II projects focused on the implementation of the final phases of the Corporate Governance Action Plan, including the establishment of audit and risk units, as well as strategic planning (for more details see the policy dialogue evaluations in the Technical Report).

49. **In combination with extensive capital investments in infrastructure and rolling stock, such policy dialogue has, for example, contributed to better service quality, reliability and frequency of Serbia Railways.** Arguably, it supported an almost 50 percent increase in ridership on Serbia Railway trains recorded in 2023 compared to 2019 (although it was a result of several actions and investments over the years, notably the renovation of the Belgrade–Novi Sad railway link, to which the Bank did not contribute). ENR also reported an increase in ridership of about 50 percent in 2022 compared to 2021 but this was mainly attributed to the end of the pandemic, as new EBRD-financed trains and locomotives were not yet fully deployed. During the evaluation

[20] International research confirms a strong link between an improvement of rail services and an increase in passengers using rail (with convenience, reliability, speed comfort, safety and access, being most important in addition to price – *"Boosting passenger preference for rail"* - Union Internationale des Chemins de fer (UIC) and McKinsey, June 2022

period, similar policy dialogue and assistance programmes were also conducted with Ukrainian, Moldovan, Kazakh and Turkish railways.

50. **There were some examples of broader policy dialogue[21], but the Bank has not been involved in such dialogue on issues that are more sensitive but crucial for sustainability, such as the phase out of fuel subsidies in Egypt.** The IMF led this policy dialogue with some success until the COVID pandemic, when fuel subsidies were reinstated and amounted in late 2023 to about two-thirds the price of petrol paid by motorists internationally (with the price of fuel about one third of the market price). Put in place for social, economic or political reasons that are not being questioned here, the subsidies undermined efforts to electrify transport or to promote a modal shift to railways, perpetuating the use of petrol or diesel vehicles. The Bank has also been absent from the discussions on carbon pricing for shipping in its COOs (although as of 2024 the ETS for shipping is being introduced gradually in the EU[22]). These are arguably difficult, politically sensitive issues but such national level policies have a profound impact on the sustainability of transport in each country and the success of this kind of policy dialogue needs the support of all IFIs.

51. **Some of the Bank's green "added value" has been manifested through its support to the implementation of ESAPs.** Many of these activities produced immediate positive results. For instance, at Serbia Railways, the ESAP implementation resulted in the introduction of the Energy Management System (EMS) in line with ISO 50001, which tracks fuel and material use. This helped the company undertake a programme to replace heating oil-fired boilers and equipment with others using natural gas (although the programme's exact impact is still unknown). The implementation of the Waste Management Plan guided Serbia Railways in adequately handling and disposing hazardous waste. The ESAP also ensured that the design of a new depot included specific energy-efficient solutions (insulation, double-glazing, BMS, etc.), resulting in substantial energy savings. The implementation of ESAPs has also brought tangible benefits to Egypt's ENR, including the operational guidelines for its environmental department, and improved staff knowledge about the environment, thanks to 22 capacity building seminars.

52. **However, not all of ESAPs' objectives were met.** A pilot EMS at ENR's El Farz depot was implemented but was not rolled out company-wide as expected for lack of resources. The authorities in Montenegro gave a similar explanation for failing to implement a climate resilience strategy for roads that was prepared by a consultant. Also, some (mostly private) clients were not willing to ensure the certification of their E&S systems or policies, claiming that it would be costly and provide little benefit to them. These are some examples of the limitations of ESAPs, where clients are expected to implement green measures on their own.

53. **The Bank demonstrated its added value by its contribution to the resolution of some serious environmental and social challenges in transport projects.** Two sample projects required derogations from Bank policies because of legacy environmental or social issues. They are good examples of the environmental and social risks, to which large infrastructure projects are exposed. One of the projects (BAKAD, a ring-road concession in Kazakhstan) applied practices in land acquisition related to the project, different than those supported by the IFIs. They were carried out by the government many years before the Bank was involved. This resulted in a misalignment with the Bank's PR5 policy. Another project (the Almaty airport) suffered from

[21] The Bank provided assistance to the Serbian Ministry of Economy to set up an Action Plan to implement the Strategy for State-Owned Enterprise's Ownership and Governance 2021-27. The strategy has been developed earlier with EBRD's assistance and was designed to benefit all Serbian SOEs, including Serbian Railways (see the evaluation's Technical Report for more details).

[22] As of 1 January 2024, shipping is included in the EU Emissions Trading System (ETS), which sets an annual absolute limit on the emissions of certain GHGs and requires the purchase of allowances for emissions (increasing in scope from 40 percent of emissions in 2024 to 70 percent in 2025 and 100 percent in 2026). However, there is a concern that ships will avoid EU ports, which points to the importance of cooperation of non-EU countries, e.g., around the Mediterranean, to make this system truly workable.

excessive noise levels higher than national and WHO norms that affected dwellings built near the landing path. The Bank-financed expansion of the airport would have only aggravated the issue and therefore required a derogation from the Bank's PR3 policy. The Bank took measures to rectify the issues and mitigate the risks to the extent possible (including developing new legislation for future land acquisitions, aligned with Bank policy and providing houses near the airport with noise insulation). Nevertheless, it was impossible to align these legacy issues fully with the Bank's ESP, so derogations were needed. Moreover, several highway projects signed during the evaluation period (that were not part of the sample projects) provoked complaints from people affected by them. Such complaints were logged with the Bank's Independent Project Accountability Mechanism (IPAM), see Box 4.

Box 4: Transport projects investigated by EBRD's Independent Project Accountability Mechanism

IPAM has had eight cases covering five transport projects from the 2017-22 signing. All eight involved highway construction: five cases related to the Corridor Vc highway in Bosnia and Herzegovina, one case to the North-South Corridor (Kvesheti-Kobi Road) in Georgia, one to the Ulaanbaatar Darkhan Road in Mongolia, and one related to the Main Roads Reconstruction Project in Montenegro.

Requesters raised allegations of environmental and social harm including adverse impacts on the population living close to a planned highway, of the negative impacts on a region's biodiversity, cultural heritage, potential noise and/or water pollution related to the highway's construction or/and operation. Other requesters alleged inadequate compensation for expropriation and/or losses from business activities, structural damage to property, dust pollution, etc.

One of the most frequent cases involved the Corridor Vc. It pointed out that at least one alternative highway alignment that was considered during the scoping stage would generate fewer negative impacts than the one ultimately selected, but that the decision was made on the basis of cost without due consideration of environmental and social impacts. The requesters emphasised that the environmental and social impact assessment (ESIA) studies carried had been inadequate at that there had been no significant consultation with the people affected by the project. Their view was that the project was designed and executed in a non-transparent fashion that excluded the people affected by it, that it failed to undertake robust impact assessment studies, and that the Bank had failed to ensure compliance with the 2014 ESP requirements and GIP during the appraisal and approval process. The Management Action Plan for this Corridor Vc case was approved by the Board in early 2024 and is currently under monitoring.

Three other cases have been closed and the remaining four are being actively managed under the Problem Solving and/or Compliance Review functions of IPAM. Information about the cases is available in the IPAM case registry at ebrd.com.

Potential future directions point to decarbonisation and integration

54. **Based on the review of their transport strategies, other IFIs have been prioritising decarbonisation increasingly. Some of them (e.g. EIB and ADB) are prioritising improvements to existing airports rather than expansions.** They also want to support key drivers of sustainability in transport, such as electrification (of vehicle fleets, railways, equipment, etc) and enabling a modal shift from more to less carbon-intensive types of transport, and reducing the need for transport – all types of projects with potential for internal synergies at the Bank (see Annex 4).

Moreover, according to transport sector experts (including IEvD's consultants), the most sustainable transport projects are those that limit or eliminate the need for transport. This includes projects integrating long-distance with urban transport, reducing the need for movement between different points of journey. The Bank financed several projects aiming at this kind of integration, but they were mainly in urban transport and are not therefore included in the transport portfolio (or this evaluation). However, as EBRD's new transport strategy is to integrate long-distance and urban transport, there will be potential for driving higher integration. For examples of such projects from urban (and one from long-distance) transport, see Box 5. These

are commendable efforts, but with hindsight, the Bank could have done more, for example under the airport projects, to support links to city centres or main tourist destinations, cutting GHG emissions from individual road trips. For example, few Greek islands airports (with extensions financed by the Bank), have public transport connections to their urban or tourist centres, making taxis the only mode of transport for the millions of tourists visiting them.

Box 5: EBRD projects supporting the integration of urban and long-distance transport

Rail
46507 STT Train Fleet Renewal - TGM Line (Tunisia)
Suburban rail line (financed by the Bank), connecting with the long-distance rail line and tram system, serving the suburb of La Marsa in Tunis.

Roads and road transport
49840 Sarajevo urban roads (BiH)
Includes easier and shorter connections of urban roads with the highway and national roads.
48466 Albanian Railways (signed end 2016 but implemented during the evaluation period)
Includes a bus link from Tirana's central station to the airport.

City logistics
53003 Netlog capex (Türkiye)
Includes funding for urban micro e-delivery fleets to support the creation of city micro-hubs for more efficient last-mile logistics, resulting in fewer and shorter deliveries.

Urban transport policy
46489 Pristina Urban Transport Project (Kosovo)
Includes TC for Pristina Sustainable Urban Mobility Plan ("SUMP") – traffic management measures to enable improved city traffic flows from completion of a future ring road and reduced transit traffic in the city.

55. **Transport clients interviewed by IEvD have expressed considerable interest in further enhancing sustainability measures as they typically also contribute to lowering their operating costs.** The recent rise in energy/fuel prices and the prospect of carbon pricing means that many of these clients planned to invest in further energy efficiency measures, the electrification of their fleet or the deployment of their own renewable energy generation facilities. In IEvD's view, this constitutes an opportunity for the Bank to strengthen and "mainstream" sustainability in its future transport operations.

2.2. The Bank successfully promoted private participation in transport with strong additionality, but with modestly ambitious transition targets

Summary findings

The Bank's support to the private sector in transport shrank in recent years compared to the previous period as the Bank supported more SOEs in polycrisis. However, those operations that were realized were important and included some landmark projects for which evidence shows they achieved an important demonstration effect, leading to follow up projects.

Most PPPs demonstrated the benefits of the private option well but operated with transition benchmarks that had limited ambition. Private projects were typically efficiently implemented and far faster than public ones. However, their transition benchmarks often had modest ambitions, with some simply having financial closing or project implementation set as their only transition benchmarks. Where there were additional

objectives unrelated to the projects' core business (e.g. related to Inclusion), they were usually delayed or not implemented.

The Bank's additionality in transport PPPs was particularly strong as it was able to finance up front concession payments that other IFIs were not willing to fund. The EBRD also demonstrated added value by enabling PPPs through its SI3P preparatory unit and the Legal Transition Team's support to the development of legal frameworks conducive to private participation. The Bank's expertise was appreciated by clients and other IFIs, which also valued EBRD's assistance in resolving the environmental and social challenges facing some of the PPPs.

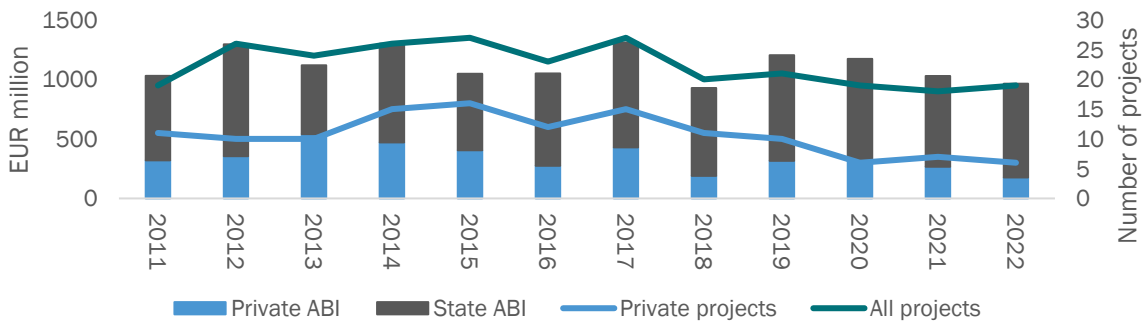
Support to private participation weakened when helping state companies was prioritised in the face of the polycrisis.

This section contains a summary of the analysis of the transport sector's signing portfolio for 2017-22, focused on the identification of the extent to which the Bank promoted private sector participation. A full portfolio analysis is available in the evaluation's Technical Report.

56. **The second half of the evaluation period coincides with the polycrisis of the COVID-19 pandemic, the climate crisis, a slowing global economy, the war on Ukraine and high inflation, hitting energy and fuel prices hard.** These developments profoundly affected the operations of transport companies and also forced changes to the Bank's approach to the sector. Therefore, it is not surprising that during the evaluation period both the aggregate volume of financing and the number of private projects dropped by more than a quarter (28 percent and 26 percent respectively) versus the previous period. This was caused mainly by the dominance of large loans provided to state transport companies to address their liquidity problems during the COVID-19 pandemic and then to Ukrainian state operators struggling for survival during the war. There were 21 state loans over €100 million and only 5 loans of this size to private clients. Large VISP liquidity support loans for Moroccan rail (€250 million) and smaller but still sizable loans for North Macedonian and for Georgian air navigation were typical for the pandemic period. The war on Ukraine prompted emergency relief loans to the state railway company there, while projects that had earlier signed but not yet started projects were repurposed to fund essential supplies and salary payments.

57. **At the same time, the pandemic brought uncertainty to the market and increased risks to the sector.** At least during 2020-21, the appetite of public decision-makers to pursue private options and private investors to invest in transport infrastructure diminished. This brought down the share of the Bank's aggregate private transport financing from a third (35 percent), recorded in the previous period, to a quarter (26 percent) of the total ABI, while the number of projects shrank to below half of all projects signed during the evaluation period (to 44 percent from 51 percent in the Previous Period) (Figure 4).

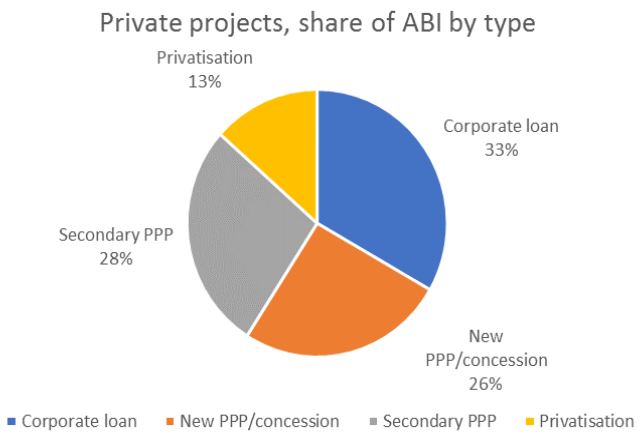
Figure 4: Volume and number of private and state transport projects 2011-22



58. **A decreasing trend in the volume and even more clearly in the number of private projects, had already started in 2018-19, i.e. before the COVID-19 pandemic.** This may point to a shrinking demand for private financing in transport at that time. According to European PPP Expertise Centre's (EPEC) 2023 Market Update Report, the volume of transport sector PPPs in Europe (including Türkiye) did indeed drop by about a half from €10.5 billion in 2018 to €5.5 - €6 billion per year during 2019-22. However, the number of such PPPs has been growing gradually each year (from 10 in 2018 to 17 in 2022). Six of the Bank's COOs closed 28 PPPs for €14.3 billion during that time (although in all sectors, with transport accounting for 77 percent of the value and 50 percent of the number of all PPPs closed during that time in all European countries). As the PPPs represented about half the volume of the Bank's private financing, EPEC's data may give some indication of the demand for financing of private operations in the sector. It confirms the substantially lower value of PPPs in transport in each of the last four years throughout Europe as compared to 2018 (although the EPEC report does not provide values for earlier years). At the same time, it shows a growing number of transport PPPs in Europe, contrary to the trend observed in the Bank's private transport projects.

59. **PPP support was not the most frequently provided type of financing by the Bank in this sector. Corporate loans to private transport companies accounted for the bulk of the number of private projects (70 percent) but only one third of the volume.** This smaller size of PPP financing illustrates the Bank's determination to promote private sector in transport (even with smaller clients) but also the challenges of doing it in the Bank's COOs, where the majority of private operators are still relatively small. Moreover, the Bank also supported 13 PPPs and concessions (new and secondary), which accounted for the largest share of the private financing ABI (over half) but accounted for only a quarter of private projects. The Bank also financed 4 privatisations, which represented 13 percent of private ABI. Figure 5 illustrates the shares of different types of the Bank's engagement in private transport projects.

Figure 5: Private sector financing in transport 2017-22, by type



60. **Funding for private operations was provided mainly to air, water, and intermodal transportation and their related infrastructure.** However, seven private projects also financed railways and one financed a road (BAKAD, evaluated under this report, see the Technical Report). In fact, all airports and ports were financed as private operations except two state port development projects (both in Morocco). The Bank also supported "niche" transport sub-sectors if they were private, such as postal services and taxi operations.

61. **In summary, during the evaluation period, which partly coincided with the global polycrisis, the Bank paid more attention to its state transport sector clients,** providing emergency liquidity financing, often in large volume. Private clients were also supported but substantially elevated risk was not conducive to new larger PPPs and concessions. As a result, the number, volume, and

shares in the total transport ABI decreased. However, there is evidence that despite a difficult external environment, the Bank continued to actively promote private sector participation in transport. Many private projects were relatively small, reflecting private borrowers' limited capacity to accept debt, but they were pursued by the Bank in all sub-sectors (some niche) and in all regions/countries. Importantly, the Bank limited its financing to private projects in more advanced countries and in some sub-sectors. The number of larger PPP/concession projects remained relatively modest (just above 2 per year). Nevertheless, several high profile, successful "landmark" private operations were financed. Summaries of the qualitative assessment of these projects follow.

Landmark PPPs demonstrated the benefits of the private option well but operated with transition benchmarks having limited ambition.

This section presents key findings from the evaluation of the performance of private sector projects among 19 Sample Projects from the transport sector portfolio, signed and implemented during the evaluation period. Their detailed assessments have been contained in the evaluations presented in the Technical Report and their performance ratings are shown in the table in section 2.3.

62. **Private sample projects were typically implemented much more efficiently than public sample projects.** The absence of public procurement rules and the employment of EPC contractors ensured that most private projects progressed generally on schedule. The implementation went particularly well when the clients had clear financial incentives to finish projects on schedule. This was the case with the Greek Airports and the BAKAD projects. Under the former, the increase in the landing and take-off charges (by 42 percent) depended on the completion of the capex programmes at 14 airports. Under BAKAD, the concessionaire saw in the early completion and start of the ring road's operation, an opportunity to start generating revenues earlier. In both cases the EPC contractors were highly experienced and very well organised, while the Greek and Kazakh governments granted them an exception from COVID-related movement restrictions. Both projects were completed before their planned completion dates (see section 2.1 Table 3).

63. **The difference between private and public projects was less pronounced in terms of the achievement of TI benchmarks.** As indicated earlier, most of the benchmarks were achieved under both types of projects but there were shortcomings because private and public clients prioritised their capex investments, leaving transition objectives (some of which were to be supported by TCs) for the implementation sometime in the future. As a result, some TCs (particularly those supporting Inclusive TQ) did not start for several years after a project's signing as construction was ongoing (Box 6).

Box 6: Status of TI-supporting TCs under selected private sample projects

The Almaty airport project targeted Inclusive TQ and envisaged consultants' support to revise the client's HR strategy, with a specific focus on broadening employment opportunities for individuals with disabilities. Additionally, it was envisaged that a TC would support the delivery of accredited training to a minimum of 300 young people working in entry level positions or studying at the national civil aviation academy. It was expected that this would equip the young workforce with valuable qualifications and skills to pursue opportunities for professional development. The consultant's selection for this assignment started three years after the project was signed. The TC is reportedly to start in 2024.

Similarly, Project **Sparrow** targeted Inclusive TQ and was to be supported by a TC that was to develop a training programme in EV maintenance and repair; operational planning and service delivery; and driver training, supporting the development of new skills. It was also to introduce targeted activities to attract female participants, in partnership with local organisations. The programme was to support skills development for 250 young people in the emerging EV sector, enhancing the skills of mechanics and drivers. In the event, no TC started by the time of the project's evaluation (although the team reported in February 2024 that TC had started). During the interview with IEvD, the client stated that it has already

been training drivers under its own programme while mechanics for EVs were being trained by the vehicles' manufacturer (as required by law), so they considered their training needs to be largely satisfied. Nevertheless, the company's training needs were further discussed and the training programme under the TC fine-tuned to respond to such needs.

One reason why these objectives (and related TCs) took so long to initiate was that related TI benchmarks had very long due periods. Even relatively simple ones, like "recruitment of 50 additional people with disabilities" (Almaty airport) were due 10 years after signing. In addition, the preparation of the training programme for mechanics and taxi drivers had a 4-year horizon, similar to another relatively simple benchmark: "cooperation with NGOs to hire more women drivers". These objectives risked becoming irrelevant over the years.

64. **Some private projects had less meaningful TI benchmarks, as they were certain to be achieved if the project went ahead.** They were typically related to PPP or project's implementation, for instance, BAKAD's benchmarks included "PPP concession implemented and delivered according to agreed specifications". Project Pelican (Sofia airport) targeted among others "successful financial closing of the concession" and "timely implementation of capex plan 2027". Its equity sub-project (Project Sophia) set more relevant but still relatively imprecise benchmarks. The Greek airports benchmarked "Financial closing of this PPP" and "At least €200 million capex deployed". The marine port and dock projects in Türkiye had better defined TI benchmarks (in terms of cargo capacity or volumes, number of retrofits, waste reduced, etc).

65. **Private projects demonstrated the benefits of the private option well.** The demonstration effect, in terms of replication of a PPP in the country or the region, was benchmarked only under the Greek airports project. However, the expectation that the Bank's PPP project would serve as an example for others in the country or the region was referred to in the Board reports of almost all other private sample projects. The clients (public grantors and concessionaires) often confirmed that their experience generated interest of other parties, exploring the suitability of the PPP model for their transport projects. The Greek airports was certainly a high-profile project and the initiation of Kalamata airport PPP tender in 2022, indicates satisfactory view of the Greek authorities of the concession related to it. Also, the Bulgarian Deputy Minister of Transport confirmed to IEvD that the positive experience with the Sofia airport encouraged the government to start exploring PPP option for Plovdiv airport, several ports and a bridge across the Danube to Romania. Moreover, the Kazakh authorities confirmed that the amended (with the Bank's assistance) PPP law (Law on Concessions) and good, so far, experience with the BAKAD project, prompted them to initiate a tender process for the Karaganda University Hospital PPP and to start preparing two more projects to follow PPP model. Overall, most of TI benchmarks of the private sector sample projects were achieved. Annex 5 provides information on the status of green-related objectives and benchmarks of private projects and the Technical Report presents evaluations of all sample projects, detailing their achievements.

66. **Some public sample projects had TI benchmarks aiming at introducing private sector participation.** The ENR Locomotives project in Egypt envisaged introducing the private sector to the client's freight operations, while Montenegro Roads project targeted the professionalisation of intercity bus services through transparent tenders and granting long-term contracts to private operators to enable them to purchase better quality, safer buses that would increase ridership (decreasing car use). Both objectives were supported by substantial TCs, whose implementation illustrated challenges in introducing best practices in providing private transport services in the Bank's COOs. The TC in Egypt resulted in the introduction of a private partner, albeit under a structure considerably different than best international models, i.e. entailing the use of one third of ENR's old rolling stock by the private partner, and the transfer of a large part of ENR's staff to the new partner's operations. ENR will retain the remaining freight carriages and decide on the track access. This fairly risky option for the private partner was the only way forward, given the strategic importance still associated with railway services in Egypt (e.g. for military

transportation). The TC consultants in Montenegro produced a report recommending an open tender for long-term intercity bus services but the authorities have not proceeded with it. They did not provide an explanation, but based on interviews with the NGOs, IEvD understands that this was due to the vested interests of local small bus operators and taxi drivers, who wanted to keep the *status quo*.

67. **In summary, the Bank's private transport sector projects were generally efficiently implemented, free of more stringent rules applicable to public procurement and incentivised in some cases by a prospect of increased profitability.** Most of their TI objectives have been achieved, however some were relatively weak, equivalent to a project's signing or implementation. Moreover, TI objectives less related to the clients' core activities were often delayed or were not implemented. Inclusive TQ targets in particular, that were designed to be supported by TCs, suffered as the implementation of capex was prioritised and those TCs were developed only recently or have not yet started. Nevertheless, almost all of the Bank's private projects reviewed can be considered successful and there is evidence that some (particularly high profile PPPs) had positive demonstration effects, resulting in relevant authorities preparing or considering similar follow-up PPPs. Private sector participation in transport was also promoted as part of the Bank's state projects, albeit with mixed results. Some of these attempts failed while in others, the Bank had to accept sub-optimal models to initiate private participation.

The Bank's additionality in promoting the private sector was clearly manifested but the attrition in preparatory TCs was high.

This section examines the Bank's added value in private sector participation, including policy dialogue and its support by LTT, as well as the contribution of the SI3P unit to the preparation of PPPs.

68. **The Bank demonstrated unique, very strong additionality in private sector projects, particularly PPPs, thanks to its flexibility regarding the expenses it was prepared to finance.** Many large transport PPPs required the concessionaire to pay very substantial upfront fees (e.g. €1.2 billion in the case of Greek airports) while all other IFIs were prepared to finance capex but not the payment of such fees. In addition, commercial banks were unwilling to finance upfront fees without IFI participation and even large concessionaires were unable to pay such fees from their equity alone. Thus, EBRD's readiness to finance part of these upfront fees was critically important for several large concessions or privatisations to materialize (e.g. Almaty, Greek and Sofia airports). Financing upfront concession fees did not diminish the Bank's role or prevent it from participating in shaping the PPP projects, including their environmental and social components. But it enabled important infrastructure PPPs to go ahead, with capex investments financed by other IFIs.

69. **The Bank's non-financial additionality in transport projects was also clearly demonstrated through its assistance to prepare PPPs and concessions.** EBRD bankers and SI3P unit's PPP experts were often critical during the origination and conceptualisation stage of such operations, educating and encouraging public partners to consider PPP as an option for their transport projects. The Bank often worked with other IFIs on these projects. However, the long preparatory time for PPP projects (including approvals by different legal bodies, such as parliaments, city councils, etc.), and completing a tender for a private partner meant that political commitment to a PPP could change with political changes in the central or regional governments. This exposed the PPPs' preparatory processes to high risks, which were well illustrated by the experience of the Bank's SI3P's PPP unit[23]. During the evaluation period, it supported the development of 13

[23] The SI3P unit's PPP team was the principal conduit for the origination and development of EBRD PPPs in the transport sector. It managed TCs that provided advisory services to develop concessions and PPPs. However, the SIG

transport sector PPPs with 26 TCs valued at €8.9 million. Of those 13 projects, only 4 of the PPP transactions (30 percent) reached commercial and financial closing, and of those, 2 are operating (Dry port of 6th October in Egypt and Sofia airport) and 2 are on hold because of the war (Ukrainian ports). Two PPPs are still being prepared. Pre-feasibility studies under TCs supporting seven remaining potential PPPs were completed but did not progress further for lack of commitment from the authorities or because the projects' feasibility studies indicated weak suitability for the private option. This demonstrates the challenges of developing PPPs in the Bank's COOs, where there is still relatively little political support for private participation in infrastructure.

70. **The Bank's continued support as an "honest broker" was often needed during the early years of a concession to facilitate the dealings of both parties and avoid legal challenges, which could aggravate their relations**. This was the case when some gaps in the concession agreement (lack of a provision for an early completion of capex and the start of an asset's operation) caused consternation for several months. For instance, the concessionaire under BAKAD finished its capex and started operating the asset sooner than envisaged in the concession contract. Public authorities (required to pay availability charges for it) were unable to effectuate such payments administratively. The Bank's project team provided legal support to arrange for a supplementary agreement to resolve the issue. Under another project, the public authorities sought the Bank's support in renegotiating the provisions they granted to the concessionaire at the beginning of the pandemic (whose effects abated sooner than anticipated). Both cases illustrate the important role that the Bank has been playing and the demand for its continued engagement in the PPPs during their early stage of operation.

71. **Good results are emerging from the Bank's policy dialogue promoting private sector participation in transport.** The Bank's LTT has been engaged in an intensive policy dialogue (typically spread over several years), aiming to improve or introduce the legal frameworks of national PPPs, to facilitate private participation in public services, including transport. During the evaluation period, this kind of policy dialogue was conducted in Azerbaijan, Kazakhstan, Montenegro, Georgia, Tunisia, Uzbekistan and Lebanon, as well as with the CIS Inter-Parliamentary Assembly, which benefited several COOs. This work resulted in new or improved legislations or regulatory acts, which benefited or are expected to benefit transport PPP projects in the future. The Technical Report presents more details on policy dialogue conducted by the Bank regarding PPP legislation in Kazakhstan, and key results achieved in other countries.

72. **A fifth of all transport projects signed during the evaluation period was co-financed with other IFIs (half with the EIB).** The clients confirmed generally good coordination among IFIs, although they also pointed out different reporting requirements, particularly financial, which in one case (Greek Airports) contributed to the prepayment of IFI financing. Intra-IFI coordination was also present in policy dialogues, for instance, for Egyptian National Railways, which attracted technical assistance programmes financed by other IFIs and bilateral agencies. However, except for the joint preparation of PPPs with the IFC and the IFIs joint work on the resolution of the issue of land acquisition in the BAKAD project, IEvD found little evidence in other sample projects of closer Bank cooperation with other IFIs on joint actions or policy engagement. This was likely due to the division of labour among IFIs and the Bank's relatively rare involvement in national-level policy dialogue. In addition, despite similar overall goals, different IFIs had slightly different priorities in the transport sector (see Annex 4).

73. **Other IFIs valued EBRD's participation in large transport projects, as it brought solid expertise, particularly with PPP structuring in addition to co-financing, and its help in resolving**

group's Infrastructure teams also originated and developed some PPPs. The Greek airports and BAKAD projects were examples of the latter.

environmental and social issues. The Bank's legal work leading to the amendment of often unsuitable PPP laws and regulations, ensuring the bankability of projects, was especially highly appreciated as it made it possible for projects to go forward. The Bank's contribution to the resolution of difficult E&S issues was also valued. For instance, although IFC decided not to co-finance the BAKAD project, it appreciated that the Bank joined it and the ADB in their efforts to address the issue of land acquisition in the best possible way. These efforts went for several years and required the coordinated approach of several IFIs to resolve. Importantly, other IFIs valued the Bank's flexibility and its willingness to finance assets such as upfront concession fees and rolling stock, which they were not able to finance because of limitations imposed by their policies. This put EBRD in the position of key enabler of such projects and a valued co-financier.

74. **In conclusion, the EBRD demonstrated relatively strong added value in most of its private transport sector projects.** It played a critical role in the enhancement or introduction of PPP legislation in many COOs, aligning it with international standards. This ensured the bankability of projects, making them feasible to implement. EBRD's LTT and SI3P units played an instrumental role in the preparation of several PPPs, although the latter's "potential PPP's" attrition rate was high. The Bank cooperated mainly with IFC, which valued EBRD's flexibility, expert sector knowledge and contribution to resolving difficult legacy issues.

2.3. Summary project assessments

75. **Table 5 gives the rating of the sample projects in this evaluation.** (The Technical Report includes full evaluations of all sample projects.)

Table 5: Results rating of sample projects[24]

OpId	Project, sub-sector	Portfolio	Country	Relevance	Effectiveness	Efficiency	Overall rating
48405, 50043	**Serbia Voz: TPS Zemun I & II (rail)**	State	Serbia	*Excellent*	*Partly Satisfactory*	*Satisfactory*	***Good-***
49075 (3 tranches)	**Main Roads Reconstruction (roads)**	State	Montenegro	*Satisfactory*	*Partly Unsatisfactory*	*Partly Satisfactory*	***Acceptable-***
48309	**ENR – Locomotive Renewal (rail)**	State	Egypt	*Excellent*	*Partly Satisfactory*	*Partly Satisfactory*	***Acceptable+***
53556	**DFF-Project Sparrow (e-mobility)**	Private	Egypt	*Satisfactory*	*Partly satisfactory*	*Satisfactory*	***Acceptable+***
47986, 48578	**Greek Airports Privatisation A & B (airports)**	Private	Greece	*Excellent*	*Satisfactory*	*Excellent*	***Outstanding-***
52749, 49909	**Project Sophia and Pelican (airport)**	Private	Bulgaria	*Excellent*	*Satisfactory*	*Satisfactory*	***Good-***
47085	**BAKAD Road Concession (road)**	Private	Kazakhstan	*Partly Satisfactory*	*Satisfactory*	*Satisfactory*	***Good***
51186	**A3F Almaty Airport**	Private	Kazakhstan	*Satisfactory*	*Partly Satisfactory*	*Partly Satisfactory*	***Acceptable***
48610	**Tersan Floating Dock (ports and harbours)**	Private	Türkiye	*Satisfactory*	*Satisfactory*	*Excellent*	***Good+***
50172	**Tekirdag Port (ports)**	Private	Türkiye	*Satisfactory*	*Satisfactory*	*Satisfactory*	***Good-***
45782 (2 tranches)	**UZ Electrificaiton (rail)**	State	Ukraine	*Excellent*	*Partly Satisfactory*	*Partly Satisfactory*	***Acceptable***
51975 (2 tranches)	**Ukrposhta**	State	Ukraine	*Excellent*	*Satisfactory*	*Partly Satisfactory*	***Good-***

[24] The rating scale for the three main evaluation categories is: *Excellent, Satisfactory, Partly Satisfactory, Partly Unsatisfactory, Unsatisfactory,* while overall performance is rated *Outstanding, Good, Acceptable, Unacceptable.* Pluses or minuses were added to some overall ratings to reflect differences among similarly rated projects.

3. Insights and recommendations

3.1. Key findings, insights and lessons

76. **In the period 2017-2022 the Bank made an effort to increase the promotion of sustainability in its transport operations by including more GET components in the projects' design.** But in such format, sustainability has been mainly an addition to largely standard, connectivity-supporting transport projects, rather than their main objective[25] - if the Bank wants to achieve its sustainability-related strategic objectives, it needs to mainstream sustainability in its transport operations, start thinking "out of the box" and supporting also less typical projects, which do not entail (or do to a limited degree) an expansion of transport infrastructure or services but rather aim at improving sustainability of such infrastructure or services.

77. **Other IFIs increasingly target the support for green transformation in their Transport strategies** (e.g. electrification, improvement of energy efficiency on a large scale, reduction of transport needs, etc), with the EIB even pledging to stay away from financing expansion of certain types of transport infrastructure, such as airports. The sustainability angle of the Bank's current transport strategy has also been substantially enhanced, nevertheless, most of the Bank's transport operations (although slightly "greened" through sustainability-supporting components), still result overall in more traffic, thus in net increase in GHG emissions.

78. **The Bank has successfully promoted modal shift from road to railways under multiple projects.** Although impact from such projects and its attribution are difficult to assess, there is evidence that they are helping increase ridership on railways, which are much less carbon-intensive than road transportation – a modal shift is one of the key ways of reducing the carbon footprint of the transport sector. A lot is being done to promote it in the urban transport, however such a shift is more difficult to achieve in long-distance transport. The Bank developed expertise in the railways sector, which is essential for such shift. But the Bank could do more in the railways and extend its operations to other less carbon-intensive sub-sectors, such as inland water transport.

79. **The Bank's achievements in supporting the electrification of (non-urban) transport are very modest so far.** Railway electrification projects were signed but their implementation has stalled. The Bank supported several studies about the need for the development of electricity charging infrastructure alongside the COOs' highways, however these studies have not been followed by investments – but electrification of transport is at heart of its "green" transformation. It had a slow start even in the developed world but recent years brough an acceleration of its development. It is still in a nascent stage in most of the Bank's COOs and requires strong support by IFIs to take off on a larger scale.

80. **The Bank has rarely included transport integration components in its transport operations** (slightly more in its urban transport projects), and more could be potentially done. Progress in this area would require inter-team cooperation (between long-distance transport and MEI parts of infrastructure teams) to develop parallel projects with different clients (e.g. central and municipal authorities). These projects would be challenging but could be promoted within certain types of transport operations (e.g. the Bank supporting an airport refurbishment, with a sub-project financing public transport links to a city centre). An integrated transport and municipal infrastructure strategy should facilitate such projects.

[25] Limitation related to assigning Green TQ to transport projects are acknowledged and explained in the earlier sections of the report.

81. **The Bank's policy dialogue in transport has been important and successful.** However, it has been conducted mainly at the level of a transport company. There are very few cases of this kind of dialogue tackling important national policies, hampering the sustainability of transport. The policies of some countries prevent or obstruct the effectiveness of the Bank's projects promoting transport's sustainability. It is critical for the success of such projects (to effectively promote sustainability itself) to address such policies, which are typically politically sensitive. However, such dialogue may be effectively conducted when led by or in cooperation with other IFIs.

Key lessons

82. The Bank's transport operations have changed relatively little over time. This is not sufficient as the Bank has changed a lot. The Bank's transport operations need to be better aligned with EBRD's strategic initiatives and long-term goals so that they do not stand out as continuing to support primarily outdated goals and concepts.

83. The evaluated samples demonstrate that transport infrastructure expansion projects often lead to increased traffic in absolute terms and therefore to more GHG emissions[26]. Even though these projects include and implement green components, this has been ultimately detrimental to the climate and the environment.

84. Better quality, greater reliability and frequency of railway services leads to an increase in ridership, bringing a shift from more to less polluting modes of transport.

85. Electrification of road transport is more suitable for urban transport but there are also opportunities to support it under long-distance transport projects, such as the investments in the charging infrastructure and the electrification of ground services at ports and airports. Some transport clients have been interested in the development of renewable electricity generation at their facilities.

86. Better integration of long-distance and public transport reduces the need for transport, traffic and consequently cuts GHG emissions.

87. National level policies can undermine the effectiveness of some Bank transport projects supporting sustainability, preventing them from achieving the desired or stronger impact.

Operational lessons are presented in Annex 3.

3.2. Recommendations

This evaluation provides two strategic recommendations and three operational recommendations.

Strategic

Recommendation 1: **Make transport decarbonisation a central theme of the new strategy**[27], to be implemented by closely integrated investments, TCs, and policy dialogue as well as the use of cross-sectoral approaches, focusing on the following:

[26] It is acknowledged that some projects may result in the reduction of emissions on per unit basis (e.g. emission intensity).
[27] If the new Infrastructure strategy covers only high-level objectives, operational priorities mentioned as examples for this recommendation should be included in the new GET approach and/or its accompanying documents (e.g. GET handbook).

- The improvement and green transformation of existing infrastructure, with a more selective approach to the extension or development of new infrastructure.

- Promoting a modal shift to less carbon-intensive modes of transport.

- The electrification of all modes of transport (including ground transportation at airports and ports), as well as the development of electricity-charging road infrastructure and renewable energy generation capacity for selected clients.

- Promoting the integration of different modes of transport, particularly long-distance with urban.

Recommendation 2: **Increase the ambition of policy dialogue in the transport sector, to spur systemic change** and to add EBRD's voice and support to other IFIs tackling more sensitive, national-level or global-level policies hindering decarbonisation and a modal shift in transport (where opportunities arise). These include, for example, reducing or eliminating vehicle fuel subsidies, advocating a gradual introduction of carbon pricing in transport services in selected countries, or promoting e-mobility (higher taxes on polluting vehicles channelled to subsidise the purchase of EVs), etc.

Table 6: Articulation of strategic-level recommendations

#	Finding	Lessons	Issue	Strategic-level Recommendation
1.	Sustainability has been mainly an addition to rather than the primary objective of largely standard, connectivity-supporting transport projects.	*In recent years, the Bank's transport operations underwent some changes towards addressing sustainability issues in the sector. However, the rest of the Bank has been shifting more decisively, firmly embracing green operations. If the Bank's transport operations are not better aligned with EBRD's strategic initiatives and long-term goals, they will stand out as still supporting primarily. outdated goals and concepts.*	If the Bank wants to achieve its sustainability related strategic objectives, it needs to mainstream sustainability in its transport operations, start thinking "out of the box," and support less typical projects that do not entail (or do so to a limited degree) an expansion of transport infrastructure or services but rather whose main purpose is to improve the sustainability of such infrastructure or services.	**Make transport decarbonisation a central theme of the new strategy, to be implemented by closely integrated investments, TCs and policy dialogue, and the use of cross-sectoral approaches, focusing on the following:**
	Other IFIs increasingly target the support for green transformation in their transport strategies (e.g. electrification, greater energy efficiency on a large scale, reduction of the need for transport , etc),	*The evaluated samples demonstrate that transport infrastructure expansion projects often lead to increased traffic and therefore more GHG emissions in absolute terms. This has been detrimental to climate and environment.*	Most Bank transport operations (despite being slightly "greened" by sustainability-supporting components), result overall in more traffic, and therefore a net increase in GHG emissions.	- **The improvement and green transformation of existing infrastructure, with a more selective approach to the extension or development of new infrastructure.**
	The Bank has promoted a modal shift from road to railway in multiple projects. Although the impact of these projects and its attribution are difficult to ascertain, there is evidence that they are helping increase ridership on railways, which	*Improved quality, reliability and frequency of railway services leads to an increase in ridership, thus bringing a shift from more to less polluting modes of transport.*	A modal shift is one key way of reducing the carbon footprint of the transport sector. A lot is being done to promote it in urban transport, but this is more difficult to achieve in the long-distance transport. The Bank developed expertise in	- **Promoting a modal shift to less carbon-intensive modes of transport.**

	are far less carbon-intensive than road transportation.		the railway sector, which is key for such a shift. But it could do more in railways and expand its operations to other less carbon-intensive sub-sectors, such as inland water transport.	
	Bank achievements so far in supporting the electrification of (non-urban) transport are very modest. Railway electrification projects were signed but their implementation has been stalled. The Bank supported several studies on the need for developing electricity charging infrastructure alongside highways in the COOs, but no investments have been made.	*Electrification of road transport is more suitable for urban transport but there are also opportunities to support it under long-distance transport projects, such as investments in charging infrastructure and the electrification of ground services at ports and airports. Some transport clients have been interested in the development of renewable electricity generation at their facilities.*	Transport electrification is at the heart of the Bank's "green" transformation. It got off to a slow start even in the developed world, but its development has accelerated in recent years. It remains in a nascent stage in most Bank COOs and requires strong support by IFIs to take off on a larger scale.	- **Electrification of all modes of transport (including ground transportation at airports and ports), and the development of electricity charging infrastructure for roads and renewable energy generation capacity for selected clients.**
	The Bank has rarely included transport integration components in its transport operations (slightly more in its urban transport projects), but much more can be done.	*Better integration of long-distance and public transport reduces the need for transport, traffic and thus cuts GHG emissions.*	Progress in this area would require inter-team cooperation (between Long-distance Transport and the MEI parts of Infrastructure teams). It could be also promoted under certain types of projects (e.g. support for bus-city links included under the airport development projects).	- **Promoting the integration of different modes of transport, particularly long-distance with urban.**
2.	Bank PD in transport has been important and successful. However, it has been conducted mainly at a transport company level, with very few cases tackling important national policies, thus hampering transport's sustainability.	*The effectiveness of some of the Bank's transport projects supporting sustainability can be undermined by national policies, preventing such projects from achieving their desired or stronger impact.*	The policies of some countries prevent or obstruct effectiveness of the Bank's projects promoting transport sustainability. It is critical for the success of such projects (and for sustainability itself) to address such policies. They are typically politically sensitive, but such dialogue may be effectively conducted in cooperation with other IFIs.	**Increase the ambition of policy dialogue in the transport sector, to spur systemic change to add EBRD's voice and support to other IFIs tackling more sensitive, national-level or global-level policies hindering decarbonisation and a modal shift in transport (where opportunities arise). These include, for example, reducing or eliminating vehicle fuel subsidies, advocating a gradual introduction of carbon pricing in transport services in selected countries, or promoting e-mobility (higher taxes on polluting vehicles channelled to subsidise the purchase of EVs), etc.**

Operational

Recommendation 3: **Set ambitious TI benchmarks for private transport projects (beyond project signing or implementation).** Consider setting emissions/resource reductions targets in relative terms, e.g., per square metre of infrastructure in expansion projects, rather than targeting overall reduction, when applicable.

Recommendation 4: **Improve project implementation planning using more realistic timelines,** paying more attention to local capacity gaps and factoring them into implementation schedules, including the time needed for a loan to reach effectiveness and for permitting processes. Step up support for project implementation.

Recommendation 5: **If possible and agreed with a regulator, include clear monetary incentives in concession agreements** to complete capex programmes on time, e.g., linking them to hikes in service charges.

Table 7: Articulation of operational-level recommendations

#	Finding	Lesson	Issue	Strategic-level Recommendation
3	Sustainability objectives in some transport projects were of limited ambition (e.g. signing of financing) or were unsuitable (e.g. expressed as a reduction of GHG or resource use in absolute terms).	*Set more ambitious demonstration effects, sustainability or inclusion-related TI benchmarks for private transport projects. Use per square meter metrics to measure the results of energy efficiency increases in infrastructure expansion projects rather than targeting overall reduction.*	Simply signing or implementing a project makes for a poor transition benchmark. The expansion of infrastructure almost always results in more space to light, ventilate or heat, while more traffic causes the use of more resources	**Set ambitious TI benchmarks for private transport projects (beyond signing or implementation). Consider setting emissions/resource reduction targets in relative terms, e.g. per square meter in infrastructure expansion projects rather than overall reduction, when applicable.**
4	Almost all transport projects suffered long delays compared to the implementation plans presented in Board reports.	*Failure to consider the time needed to make loans effective and to obtain a large number of administrative permits, leads to unrealistic project implementation schedules from the start.*	The time needed for the loan to become effective and the need to obtain administrative permits has not been considered when preparing project Implementation schedules.	**Improve project implementation planning using more realistic timelines, paying more attention to local capacity gaps and factoring them into implementation schedules, including the time needed for a loan to reach effectiveness and for permitting processes. Step up support for project implementation.**
5	Complex capital investment projects under private Transport concessions have been completed usually on or before schedule.	*The prospect of higher service charges upon the completion of an investment programme serves as a powerful incentive for concessionaires, mobilising them to a complete their capex programmes in a timely way.*	Timely completion was usually motivated by an increase in service charges or starting collection from the new asset (e.g. airport charges, toll fees, etc)	**If possible and agreed with a regulator, include clear monetary incentives in concession agreements to complete capex programmes on time, e.g., linking incentives to service charge increases.**

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Annex 1. Evolution of EBRD's sustainability-related strategic initiatives

The GET approach put in place in mid-2015 was built on a decade of experience of the Sustainable Energy Initiative (SEI) launched in 2006 and the Sustainable Resource Initiative (SRI) launched in 2013. These Bank initiatives were approved within the context set by the Capital Resources Review 3 (2006) and Capital Resources Review 4 (2010). Between 2006 and 2015, operational response defined within the SEI and SRI consisted of the following.

- direct energy efficiency financing for industrial and corporate clients
- sustainable energy financing facilities involving credit lines for on-lending to energy efficiency projects
- supply-side energy efficiency supporting energy efficiency enhancements for thermal power generation and for transmission and distribution
- direct financing of renewable energy
- municipal infrastructure energy efficiency
- resource efficiency (water efficiency and waste minimisation) related investments supporting climate adaptation.

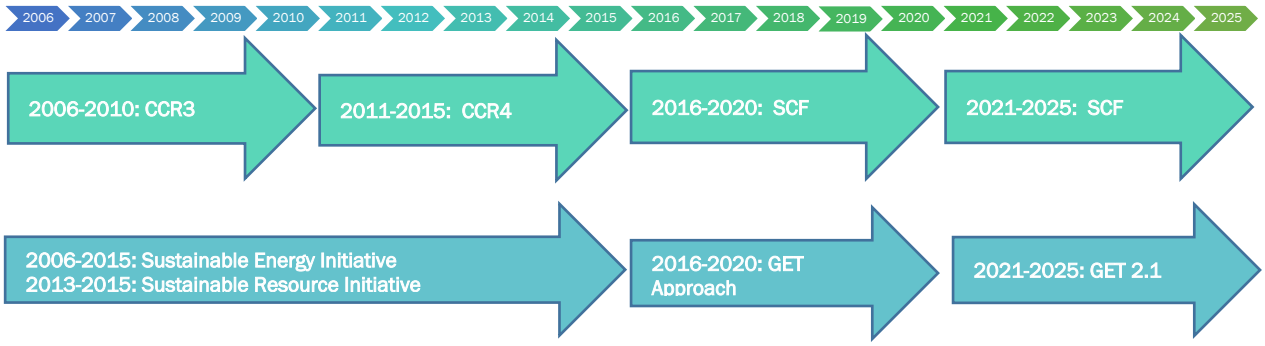
In 2015, before the GET approach was approved, cumulative EBRD financing under the SEI and SRI was €17.2 billion and they represented 34 percent of the Bank's ABI in 2014.

The GET approach translated environment and climate related priorities set out in the Bank's first SCF (2015), the successor of Capital Resource Review) (CRR4, into a specific approach designed to scale up the Bank's transition impact (TI) and environmental financing. The new "GET Approach" aimed especially to increase the Bank's green financing by around 60 percent over the SCF period, by doing the following:

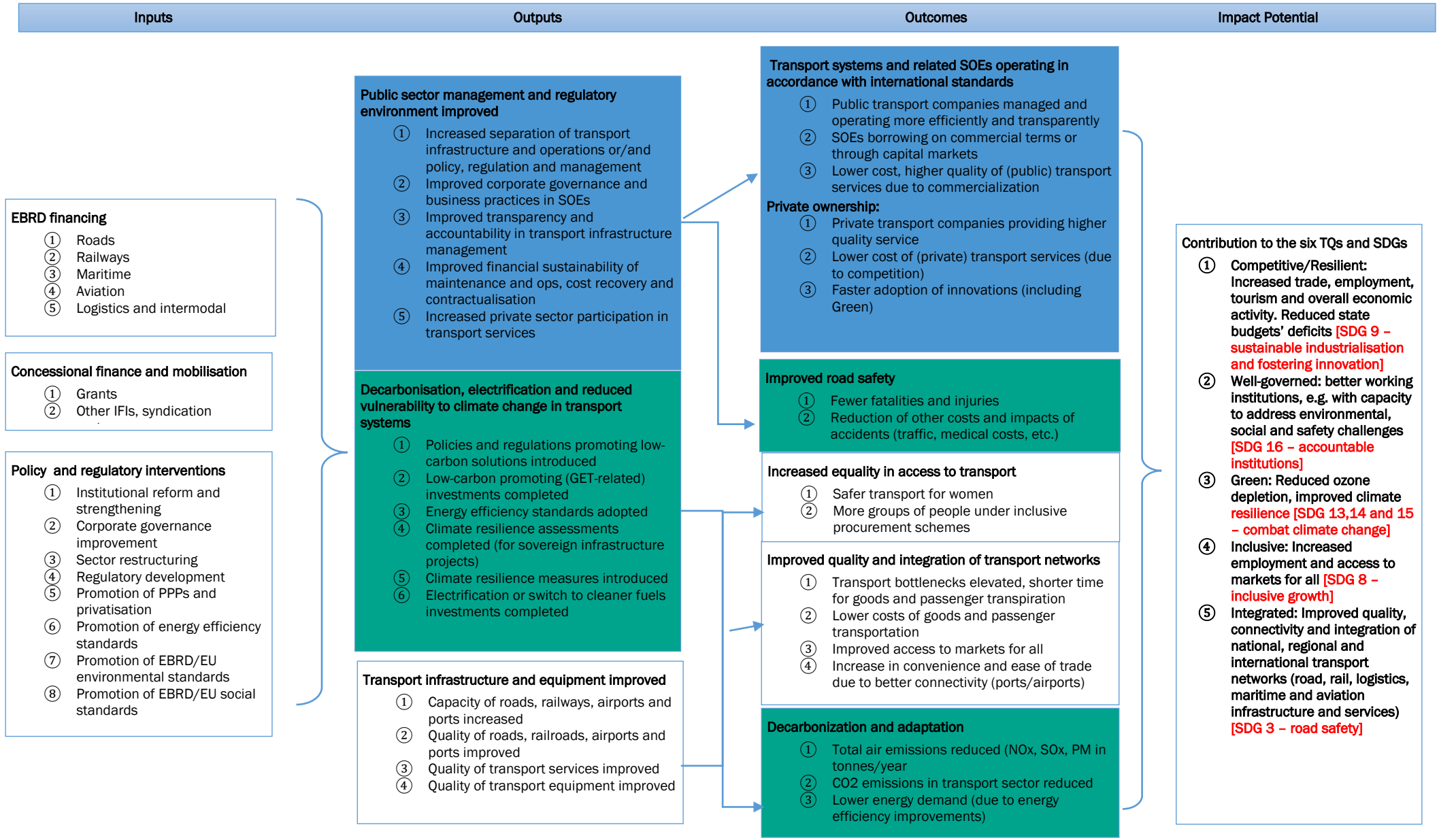
- ramping up existing activities to tap into scale effects
- enhancing innovation, i.e. focussed technology transfers stimulating business growth in EBRD COOs
- natural capital projects, i.e., supporting pollution prevention and avoiding/reducing ecosystem degradation
- deepening the Bank's engagement in PD to enhance the positive impact of regulation and legislation.

Figure A1 illustrates the evolution of EBRD's strategic initiatives to boost its support for sustainability and green finance.

Figure A1. Timeline of EBRD initiatives supporting sustainability



Annex 2. Transport Strategy Theory of Change



Annex 3. Key lessons from project evaluations

A number of specific operational-level lessons have been drawn from the evaluation of sample projects.

Project implementation

- The prospect of an increase in service charges after the completion of an investment programme serves as a powerful incentive for concessionaires, mobilising them to complete their capex programmes in a timely manner.

- Capital investments in some countries require many administrative permits. Getting them can substantially delay the investment process. The time needed to secure the permits and make loans effective has not been taken into account in project implementation schedules, making them unrealistic from the outset.

Legal issues in infrastructure projects

- Gaps or unclear provisions in a concession agreement (e.g., lack of clarity enabling the start of payments to the concessionaire in the case of early completion of capex investments) can create serious problems at the start of a PPP, jeopardizing its otherwise good image and straining relations between the concessionaire and the public partners.

- Land acquisition and the resettlement process are key factors in large infrastructure projects and constitute a serious legal and reputational risk for IFIs that can be decisive in decisions to engage in a project or not.

- Cultural heritage preservation issues can substantially delay infrastructure development projects. Moreover, it is difficult to find consultants in the Bank's COOs qualified to assess such issues and provide recommendations to resolve them, which can cause further delays.

Sustainability - general

- Almost all types of transport activities result in negative impacts on climate, suggesting that the best way to increase transport's sustainability would be to reduce or eliminate the need for it. The EIB has taken the lead among IFIs, reflecting this concept in its recent transport sector strategy by aiming to support the green transformation of existing airports (rather than their expansion), and better integrating long-distance and urban transport to reduce the need for mobility.

- Although urban transport is better suited for e-mobility projects, the need for charging infrastructure alongside COOs highways also creates opportunities for Bank transport operations to contribute to e-mobility.

- Bank clients are generally keen to introduce cost-cutting green components into infrastructure projects. However, other sustainability-related measures desired by EBRD (e.g., monitoring CO_2 and other emissions, ISO certification, introduction of EMS on a larger scale, etc.) were rarely implemented as they were perceived to bring additional costs with little practical benefit.

Railways

- A modal shift from road to railways is critical for increasing the sustainability of transport systems. However, measuring and attributing the shift to any particular project is very challenging given the many measures, policies and investments that influence passenger behaviour. The shift is easier to capture for freight transportation.

- Restructuring, enhanced governance, and the introduction of the private sector in large railway operations requires a gradual approach through multiple projects over a long time, each with substantial TC support, given the "strategic" and political role that such companies still play in many countries, e.g. as major employers and critical for state security and economy.

Roads/mobility

- State subsidies for hydrocarbon-based fuel are a strong disincentive for most smaller transport companies in Bank COOs to electrify their vehicle fleets. However, larger players see substantial long-term savings in maintenance, spare parts, and fuel, which EVs can deliver.

- The vested interests of small bus operators can undermine efforts to professionalise and improve inter-city bus services.

Airports/aviation

- The production of sustainable aviation fuel (SAF) is a key factor in greening the aviation industry (and is supported by IATA's requirement to include at least 2 percent SAF in the fuel blend as of 2025, going to 70 percent by 2050). This requires major investments in the production of SAF, which are currently missing in the Bank's COOs.

- Third party operators provide many critical airport services (check-in, passport control, luggage delivery, etc.) over which the airport's concessionaire has limited leverage. This has implications for an airport to meet KPIs agreed with regulators or lenders and depends on the nature of cooperation between the service providers and the airport's operator.

Inclusion components/TCs

- Inclusion-related interventions are often deprioritized by clients implementing complex infrastructure projects. But this should not prevent the Bank from working with a client's HR department or procuring TC consultants to start supporting the implementation of inclusion-related measures.

- Electric car suppliers provide maintenance and repair training for EVs (purchased in large quantities), while fast-growing private companies are focused on their critical business and generally have established training programmes for their employees. This requires careful assessment and selectivity in identifying training needs for such clients.

- Setting long implementation periods for TCs supporting relatively simple training programmes and other inclusion measures encourages the Bank's operating teams to "take time" procuring consultants and initiating the TCs. This exposes these projects to the risk that a client change priorities or lose interest in the TCs.

Annex 4. Sustainability and private sector participation in other IFIs' transport strategies

This overview examines the approaches to transport sector investment of four IFIs: the European Investment Bank (EIB), the World Bank (WB), the Asian Development Bank (ADB), and the African Development Bank (AfDB). From green urban mobility to regional infrastructure development, each institution has a unique perspective to address the challenges and opportunities in the evolving landscape of transportation.

EIB

The EIB has been engaged in mobility projects since 1958. Aligned with its **Climate Bank Roadmap**, the EIB adopts a technology-neutral approach to enhance the green, safe, and accessible nature of transport through its **Transport Lending Policy**.

In urban mobility, the EIB prioritizes collective transport, digitalization, and a shift to public and shared modes, with a focus on zero-emission technologies for public fleets. Key priorities include supporting collective mobility schemes, zero-emission bus transport for projects in the EU, and a global emphasis on all public transport. Active and shared mobility, intelligent transport systems, and safety measures for urban roads are focal points, alongside investment in intermodal hubs and charging infrastructure for zero-emission fleets.

For extra-urban rail, the EIB strives to increase rail's modal share for passenger and freight. The Bank supports market opening and innovative models such as rolling stock pools and regional ownership. Priorities include electrified rail infrastructure within the EU (particularly the Trans-European Transport Network [TEN-T], non-electrified rail outside the EU, and diverse rolling stock options. In the realm of extra-urban roads, the consolidation of the TEN-T, emphasizing a balanced approach to territorial development is also the strategic focus. The integration of an intelligent transport system and a steadfast commitment to road safety underscores every project. Upgrading and rehabilitating infrastructure fostering climate change resilience take high priority. EIB supports the deployment of zero-emission vehicles and the development of connected infrastructure.

Regarding inland waterways, the EIB envisions a modal shift from roads to alternative modes, necessitating the expansion of waterway capacities and waterside infrastructure. Besides expanding capacities, the emphasis is on zero and low-emission vessels. Priorities in this area include the upgrade and rehabilitation of existing infrastructure, the elimination of bottlenecks, the digitalization of transport systems for improved connectivity, and fleet renewal to integrate modern and environmentally friendly vehicles. In maritime transport, the EIB directs its focus to strategic port infrastructure and multimodal connections, with an emphasis on hinterland access infrastructure. Key areas include digitalization and deploying zero direct CO_2 ships.

In the aviation sector, the EIB adopts a cautious approach, refraining from investing in increasing airport capacity. Rather, the focus is on supporting the development and deployment of zero direct CO_2 emission aircraft, alongside a strong push for digitalization.

Recognizing the evolving landscape of the transport sector, the EIB acknowledges the need for increased private sector involvement. The historical reliance on public funding has prompted a search for alternative financing models, aligning with the principles of "user pays" and "polluter

pays." The EIB strives to strike a balance between public and private actors, which ensures sustainable and efficient transport infrastructure for the future.

The World Bank

The WB bases its approach to transport sector funding on four strategies: the **Global Facility to Decarbonize Transport**, the **Sustainable Mobility for All**, the **Global Road Safety Facility** and the **Africa Transport Program**.

The **Global Facility to Decarbonize Transport** is a multi-donor trust focused on promoting innovation and investment in low carbon mobility solutions in developing countries. It focuses on pilot projects with measurable climate benefits using innovative technologies, funding for research and capacity building to modernize policies, regulations and institutions. Its objectives are based on two pillars: “Inclusive and Safe Mobility and Accessibility” and “Integrated and Competitive Logistics and Connectivity”. The objective of the first pillar is to promote inclusive and safe mobility and overcome barriers to access to jobs, markets, health care, schools, services, and other opportunities. The projects in this pillar fund primarily public transport and active mobility, making them more attractive, enhancing efficiency and resilience.

The objective of the second pillar is to enhance country integration into regional and global value chains and the integration of lagging regions through effective and reliable connectivity and efficient logistics. Funding in this pillar goes to projects enhancing inter-modality, modal shift, the development of logistics networks, adopting cleaner energy and enhancing resilience.

The **Sustainable Mobility for All** programme seeks to achieve improved sustainability in global transport systems, emphasizing universal and equitable access, safety, efficiency and green mobility. Besides advocacy, outreach and knowledge dissemination, it engages in country level pilots and activities as well as the gathering of data and evidence.

The **Global Road Safety Facility** provides funding for research projects aimed at improving safe road infrastructure management, crash data management, economic impact assessments and capacity building. It also funds the establishment of road safety observatories.

The **Africa Transport Programme** supports the regional integration, connectivity and cohesion through PD and capacity building. Its activities include assessments, case studies, capacity building, dissemination of best practices, and advocacy. In the area of road safety, it assists African member countries in developing capacities, creating safety agencies, and implementing strategies with a focus on data improvement. Regarding urban transport, SSATP disseminates effective policies for sustainable urban transport and enhances the capacities of cities to design, adopt and implement such policies.

Finally, through the **Public–Private Infrastructure Advisory Facility**, the WB Group (primarily the IFC) provides support to developing countries in attracting private sector investments in transport. PPIAF contributes to institutional reforms and provides technical assistance to authorities for the identification and implementation of PPP projects.

ADB

The ADB recognizes transport as a top operational priority in its **Strategy 2030**. As Asian cities grow by 44 million people every year, ADB focuses on addressing the challenges of urban transport through comprehensive and integrated transport systems. This includes the development of integrated, multimodal transport systems that provide equitable access through

rural, urban, and regional connectivity. Priority is given to rail-based mass transit, bus and paratransit modernization. Infrastructure investments encompass both transformational new infrastructure and the maintenance, operation, and management of existing transport sector assets. Private sector engagement in transport system operations is encouraged to improve accessibility and affordability.

Acknowledging that roads will continue to be the most important mode of transport in its developing member countries thanks to flexibility and cost competitiveness, ADB prioritizes road safety, decarbonisation and the protection of communities and vulnerable groups. Priority is given to investments that eliminate missing links and contribute to equitable access and higher sustainability.

Concerning rail infrastructure, ADB promotes the renaissance of railways for long-distance and urban transport. ADB supports transformative rail system development and rail infrastructure upgrades as well as operating systems, connected facilities, and the modernization of operations.

In the aviation area, ADB provides targeted assistance for projects in countries where aviation constitutes the lifeline of connectivity. The focus os on infrastructure improvements to meet future demand. Recognising private sector involvement in aviation operations, ADB sees possibilities for partnerships with the private sector.

ADB seeks to increase its focus on the maritime subsector with the aim of fostering regional connectivity. Priorities include international trade routes as well as coastal shipping and inland water transport. The maritime sector plays an important role in ADBs Healthy Oceans approach, so projects promoting cleaner port facilities and alternative fuels will be prioritized.

Concerning cross-border transport, ADB prioritises lending for regional transport infrastructure to make trade among countries more efficient. To accompany these investments, ADB engages in policy dialogues with member countries to simplify border formalities and custom processes, as well as to adhere to international standards.

ADB actively supports transport investments aimed at reducing energy consumption and promoting the shift to zero emission transport systems. This involves collaboration with the private sector. To accommodate private sector participation, ADB engages in dialogue with authorities to enhance government and regulatory systems. ADB is in the process of developing improved analytical tools to systematically integrate climate adaptation measures into its transport operations, ensuring that engineering specifications, master planning, maintenance and contract scheduling all account for climate adaptation. ADB further focuses on post-disaster reconstruction works with an emphasis on resilience.

AfDB

The AfDB's **High 5s Strategy** outlines the institution's five development priorities: Feed Africa, Improve the Quality of life for people in Africa, Industrialize Africa, Integrate Africa and Light Up and Power Africa. While transport does not figure among these featured sectors, it plays a key role in achieving these five priorities.

The strategy for transport sector investments focuses on the national and regional levels. At the national level, AfDB prioritizes reducing infrastructure shortages to stimulate economic growth, while regionally, the focus is on facilitating the exchange of goods and services between countries. PPPs and multi-sectoral projects are emphasized at both levels.

The main national-level project selection criteria are a project's potential to ensure the seamless movement of commodities and products along a value chain to contribute to economic growth. Projects on a national level also should contribute to improving the quality of people's lives by providing safe. efficient access to socio-economic services and employment opportunities. Selected projects are accompanied with measures to strengthen local capacity in managing and implementing projects.

At the regional level, AfDB prioritizes strategic projects in collaboration with organizations such as NEPAD, the African Union, and regional economic communities. The development of strong regional infrastructure systems is seen as critical for unlocking Africa's potential and reinforcing competitiveness. Sectoral priorities include regional transport corridors, rural roads, and multimodal transport projects, with an emphasis on rehabilitation, maintenance, and institutional capacity building.

Conclusion

In conclusion, the EIB, the WB, the ADB, and the AfDB are strategically addressing sustainability and promoting private sector involvement in the transport sector. They take different approaches, ranging from EIB's emphasis on green, safe, accessible urban mobility to the WB's multifaceted strategies encompassing decarbonization, sustainable mobility, road safety, and regional integration. The ADB recognizes the importance of road and air-based transport for its members, and therefore prioritizes comprehensive, integrated systems with a focus on private sector engagement. The AfDB emphasizes the pivotal role of transport in achieving development priorities, and attenuating transport poverty. Collectively, these IFIs reflect a shared commitment to fostering sustainability while enhancing accessible mobility.

Annex 5. Implementation status of sustainability components in the sample projects

Project Sub-sector OpId	Portfolio Country GET share – initial and verified by CSD	Sustainability components implemented (or not)	Outcomes stemming from sustainability components
Serbia Voz: TPS Zemun I & II (rail) 48405, 50043	State Serbia 100% Verified to 100%	- New depot building insulated and equipped in modern EE measures (LED lighting, double-glazing, air recovery, BMS). - Old oil heaters replaced with new oil boilers - System for cleaning and recycling of 80% of train cleaning water installed. - Energy Management System (EMS) - being developed.	- Direct CO_2 reduction not measured but when EMS is fully implemented, some data may come. - Contributing to higher train availability and reliability, which impacted the increase of passenger figures by 50% between 2019 and 2023, eliminating about 3 mil car trips per year. Modal shift to rail is to result in 3,5kt/y CO_2 savings in the long term (but combines effect of many projects and investments).
Main Roads Reconstruction (roads) 49075 (3 tranches)	State Montenegro 66%(1) 0%(2) 0%(3) Verified to 66%(1) 20%(2) 20%(3)	- Climate resilience measures (reinforced walls, nets preventing falling rocks, expanded drainage system, etc) implemented at 2 sections (out of 3 planned, with the implementation of the third starting in late 2023), accounting for 4.2% of costs (below planned 17%, and 66% for tranche A). - Reinforced, heat and frost resistant asphalt is being used (mainly on Rozaje-Spiljani section). - LED lighting for roads' tunnels, sections and signs. - Strategy for Climate Change Adaptation and Climate Resilience Action Plan completed. - Study on the Improvement of Intercity bus service, multi-year tendering completed. - Road Safety Audits completed, recommendations provided. - Tivat-Jaz section is designed to have lighting on entire 16 km (due to safety recommendations. All lighting will be LED. Also LED lighting is being used for signage on all sections.	- Journey time on 2 completed sections cut by half with improved safety and climate resilience. Traffic as projected. - Most Safety audit's recommendations incorporated. - Strategy for Climate Change adopted but the Action Plan has not been implemented. - No follow-up on Intercity bus TC (no tenders for professional, improved service to encourage modal shift).
ENR – Locomotive Renewal (rail) 48309	State Egypt 100% Verified to 100%	- 60 new, more fuel efficient (diesel) locomotives delivered (40 more expected in 1Q24). - 22 workshops on environmental management capacity building delivered. - Pilot Environmental Management System at 1 workshop implemented but not rolled out to the rest of ENR's workshops.	- Efficiency of freight transport increased 50% (new locomotives take more wagons). -19% less diesel used by new locomotives. When 40 more delivered, it should result in 25,2kt CO_2/year saving (32kt saving planned). - Improved service likely contributing to modal shift, evidenced by passenger numbers increase by 50% in 2022 but mainly due to the end of the pandemic (new locomotives account for only 10% of all for now), rail accounts still for only 8% of passenger journeys and 6% of fright (increases to 16% and 25% of each targeted by 2030. If achieved, could save 700 kt CO_2/y).
DFF-Project Sparrow (e-mobility) 53556	Private Egypt 100% Verified to 100%	-146 electric taxis (REEVs) acquired and operating, replacing petrol (60% of the target)	- 33% (1,500 t CO_2/y reduced) reported by the client for whole fleet (but 528 t/y was expected from 250 REEVs, thus client's data or baseline in doubt. - No SO_2 or NOx monitoring (although their decrease targeted).
Greek Airports Privatisation A & B (airports) 47986, 48578	Private Greece 0% Verified to 5%(1) 6%(2)	- Green components for about €10 m – value as planned (but 2.5% of all CAPEX, rather than 5-6%) implemented (new HAVAC, LED lighting, electric ground service, wastewater treatment plants or connection to sewers, new waste management systems). - ESMS implemented but not certified to ISO or OSHAS as planned.	- Expected overall 5kt CO_2 reduction per annum and 180,000 m^3 water savings per annum at all 14 airports. However, the client reported overall CO_2 emissions increase due to some terminals' expansion (same with water use due to higher passenger traffic). Reductions per passenger more likely (not measured) at selected airports, which were refurbished only.

Project Sophia and Pelican (airport) 52749, 49909	Private Bulgaria 20%(1) 0% (2) Verified to 16% (1) 0ss (2)	-- Provision of green fuel for airlines (SAF) –has not happened and is not envisaged for now due to absence of its production in the region. - Terminal 1 refurbished with energy efficient HVAC and lifts, half lights changed to LED (more to follow). - 40 diesel ground service vehicles replaced with hybrid (220 to be added in the coming years) - Electric buses for terminal 1 with 2 connections - 2024-27 CAPEX to add 5MW PV solar plant and new insulated Terminal 3 (with BREEM certification) - Sustainability Road Map completed, envisages airport's carbon neutrality by 2036 - GRI Sustainability Report published for 2022.	- So far estimated as modest (based on modest measures implemented so far) but the client's GRI Sustainability Report states almost 50% reduction of CO_2 per passenger (to 1.7 kgCO2/PAX) and waste reduction by 10%
BAKAD Road Concession (road) 47085	Private Kazakhstan 0% Verified to 0%	- Ring road operating. - Air filters and alternators for windows installed in the impact zone.	- Heavy trucks traffic diverted from city centre. Early city centre air quality measurement results indicate improvement but attribution uncertain.
A3F Almaty Airport 51186	Private Kazakhstan 40% Verified to 52%	- Construction of a new, "resource efficient" international passenger terminal ongoing (to be completed in August 2024) $74 m or 37% of EPC contract invested in EE measures such as thermal insulation, metal roofing, aluminium curtain walls, metal sandwich panels, EE floor and wall finishes, mechanical, electrical and plumbing works in line with EDGE2.15 requirements. - Central utility plant and water tanks constructed. - Noise barriers installed. - Procedures for the storage of hazardous materials during construction developed.	- Preliminary measurements (construction ongoing). - Energy use for terminal reduced by 51%. - Water use reduced by 56% (both to pre-project baseline), exceeding target of 40%. - Material use reduced by 33%. - EDGE 2.15 certification obtained.
Tersan Floating Dock (ports and harbours) 48610	Private Türkiye 75% Verified to 100%	- New docks completed, about 5 high-impact new waste-minimisation and energy efficiency technologies introduced (scrubbers, pressure jet de-rusting, oil-water separation, iron plates coating, etc). - All diesel power equipment replaced with electric-powered (cranes, pumps, compressors, etc.).	- 30% reduction in dust emission, 25kt waste grit saved (exceeding 14kt target) and air pollution through grit significantly reduced. - Oil and water separation reduced grit waste by 10% and oil waste by 26% (30% target) both recycled. - New docks enabled retrofitting of 29 ships with environmentally friendly Ballast Water Management System (BWM), contributing to increased green efficiency of shipping fleet.
Tekirdag Port (ports) 50172	Private Türkiye 18% Verified to 18%	- New admin building with insulation and LED. - Renovated Ro-RO Terminal. - Liquid terminal pipeline channel built. - Renewal of drainage system. - LED lighting throughout the port. - Waste reception facility constructed. -ISO 14001 for Environmental Management System obtained. - Green Port Certificate and Zero Waste Facility Certificate obtained.	- Unknown for now. After Phase 2 is implemented (by 2028, not part of Bank project), CO_2 savings are to amount to 4.6 kt per year.
UZ Electrification (rail) 45782 (2 tranches)	State Ukraine 100% verified to 0%	- Originally very "green" project (electrification of Dolynska-Mikolayv line) had to be re-purposed due to the war to support UZ's liquidity. - Energy Management Strategy completed by consultants.	- Loan repurposed and unlikely to be implemented soon due to the war. - Liquidity enabled UZ to continue operation, including transportation of 4 million refugees to safety.
Ukrposhta 51975 (2 tranches)	State Ukraine 40% (1) 100% (2) Verified to 0% (1) 100% (2)	- 1,605 postal vans acquired (86% of planned) - Delivery of 5,100 e-bikes awaited. - Development of 3 regional sorting centres (to BREEAM standard) postponed due to the war.	- Modest, higher milage of new vans but lower operating (fuel) costs, pointing to some CO_2 savings. - Mobile logistical model (replacement of stationary with mobile offices) implemented but most stationery offices stay opened as Ukrposhta lost some in the occupied territories. No CO_2 emission savings from it for now.