

**DOCUMENT OF THE EUROPEAN BANK  
FOR RECONSTRUCTION AND DEVELOPMENT**

Approved by the Board of Directors on 6 July 2022<sup>1</sup>

**EGYPT**

**GrCF2 W2 E2 – CML 2: Sustainable Urban Transport  
Loan**

*[Redacted in line with the EBRD's Access to Information Policy]*

*[Information considered confidential has been removed from this document in accordance with the EBRD's Access to Information Policy (AIP). Such removed information is considered confidential because it falls under one of the provisions of Section III, paragraph 2 of the AIP]*

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<sup>1</sup> As per section 1.4.8 of EBRD's Directive on Access to Information (2019), the Bank shall disclose Board reports for State Sector Projects within 30 calendar days of approval of the relevant Project by the Board of Directors. Confidential information has been removed from the Board report.

For the avoidance of any doubt, the information set out here was accurate as at the date of preparation of this document, prior to consideration and approval of the project.

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**ABBREVIATIONS / CURRENCY CONVERSIONS**

AFD	Agence Française de Développement / French Development Agency
AfDB	African Development Bank
AMI	Annual Mobilised Investment
Capex	Capital Expenditure
CBE	Central Bank of Egypt
CML1	Cairo Metro Line 1
CML2	Cairo Metro Line 2
COP27	UN Climate Change Conference 2022: 27 <sup>th</sup> session of the Conference of the Parties
CPI	Consumer Price Index
CTA	Cairo Transport Authority
CUIA	Cairo Urban Integrated Approach
ECEPP	EBRD's Client E-Procurement Portal
ECM	Egyptian Company for Metro
EGP	Egyptian Pound
EBRD	European Bank for Reconstruction and Development
EHSS	Environmental, Health and Safety, and Social
EIB	European Investment Bank
EIRR	Economic Internal Rate of Return
ENR	Egyptian National Railways
ERP	Enterprise and Resource Planning
ESAP	Environmental and Social Action Plan
ESDD	Environmental and Social Due Diligence
ESMS	Environmental and Social Management System
ETI	Expected Transition Impact
FDI	Foreign Direct Investment
FIDIC	International Federation of Consulting Engineers
FY	Fiscal Year (July 1 <sup>st</sup> to June 30 <sup>th</sup> for Egypt)
GARBLT	General Authority for Roads, Bridges & Land Transport
GBVH	Gender Based Violence and Harassment
GCAP	Green City Action Plan
GCF	Green Climate Fund
GCTRA	Greater Cairo Transport Regulation Authority
GDP	Gross Domestic Product
GET	Green Economy Transition
GHG	Greenhouse Gasses
GoC	Governorate of Cairo
GoE	Government of Egypt
GrCF2	Green Cities Framework 2
IMF	International Monetary Fund
LTRA	Land Transport Regulatory Authority
MEI	Municipal and Environmental Infrastructure
MOIC	Ministry of International Cooperation
MOLD	Ministry of Local Development
MOT	Ministry of Transport
MOU	Memorandum of Understanding
NAT	National Authority for Tunnels
NUCA	New Urban Communities Authority
O&M	Operation and Maintenance
Opex	Operating expenses
PTI	Portfolio Transition Impact
PEPs	Politically Exposed Person(s)
PIU	Project Implementation Unit
PP&R	Procurement Policies & Rules
PSC	Public Service Contract
PRs	Performance Requirements
SSF	EBRD Shareholder Special Fund
TC	Technical Co-operation
TVET	Technical and Vocational Education and Training

**PRESIDENT'S RECOMMENDATION**

This recommendation and the attached Report concerning an operation in favour of the Government of The Arab Republic of Egypt (“GoE”) for the benefit of the National Authority for Tunnels (“NAT”), a central government agency under the jurisdiction of the Ministry of Transport (“MoT”), are submitted for consideration by the Board of Directors.

The facility will consist of a sovereign loan to the GoE in the amount of up to EUR 250 million. The Project is part of a total financing package of EUR 553.9 million, which will include a [REDACTED] loan from the European Investment Bank (“EIB”), a [REDACTED] contribution from the GoE, and [REDACTED] technical assistance grant funds mobilised by the Bank.

The operation will enable NAT to rehabilitate and upgrade Cairo Metro Line 2 (“CML 2”) to reduce the operational headway between trains to 105 seconds (from 160 seconds) and, in turn, increase capacity of the line [REDACTED] (the “Project”). The Project will also serve as the trigger investment for the city of Cairo under the Green Cities Framework 2 - Window II Extension 2 (“GrCF2 W2 E2”) and support the development of a Green City Action Plan (“GCAP”) for Cairo. The expected transition impact of the Project is *Green* and the Project is 100% GET eligible as it will provide a much needed rehabilitation and upgrade of a public and electric mode of transportation and facilitate a shift from an individual to a sustainable, accessible and inclusive mode of public transport, whilst contributing to reductions in Greenhouse Gas (“GHG”) and air pollution emissions. The Project will also support the *Inclusive* transition quality by encouraging private sector contractors to open up on-site nationally accredited training opportunities for [REDACTED] young people in collaboration with local Technical and Vocational Education and Training (“TVET”) schools to enhance their skills and overall employability through inclusive procurement practices.

Pre-signing technical cooperation (“TC”) support for the Project has been provided by the EIB for the feasibility study and technical inputs for the tender documents, while the Bank has provided a TC support for an Advance Procurement Consultant to assist NAT in the development of tender documents.

Post-signing TCs are expected to include (i) Implementation, Procurement, Supervision and Environmental Reporting support [REDACTED]; (ii) Inclusive Procurement support to NAT [REDACTED]; (iii) a Lender’s Monitor [REDACTED]; and (iv) support to the Governorate of Cairo for the development of a GCAP for the City [REDACTED].

I am satisfied that the operation is consistent with the Bank’s Egypt Country Strategy, the Municipal and Environmental Infrastructure Sector Strategy, the Green Economy Transition Approach, the Equality of Opportunity Strategy, Strategy for the Promotion of Gender Equality and with the Agreement Establishing the Bank.

I recommend that the Board approve the proposed loan and SSF TC grant substantially on the terms of the attached Report.

**Odile Renaud-Basso**

## BOARD DECISION SHEET

Egypt - GrCF2 W2 E2 – CML 2: Sustainable Urban Transport Loan - 52385 Framework: Regional - Green Cities 2 – Window II Extension 2 - DTM 53170	
<b>Transaction / Board Decision</b>	Board approval <sup>2</sup> is sought for a sovereign loan of up to EUR 250 million in favour of the Government of Egypt (“GoE”). The Bank’s loan will form part of a EUR 553.9 million financing package, including a [REDACTED] loan from the EIB and a [REDACTED] contribution from the GoE. The Project will entail the (i) rehabilitation and upgrade of CML 2; and ii) upgrade of the communication systems for the existing rolling stock, which are expected to reduce headway and increase capacity of the line. Board approval is also sought for the use of SSF funds from the SSF Work Plan 2021-22 for (i) Implementation, Procurement, Supervision and Environmental reporting support, (ii) Lender’s Monitor and (iii) Green Cities Action Plan [REDACTED].
<b>Client</b>	The Borrower is the GoE. The beneficiary is the NAT, a state-owned executive agency under the jurisdiction of the MoT, which will be responsible for the Project’s implementation. The operator is the Egyptian Company for Metro (the “ECM”), with which the Project will be closely coordinated. As of March 2022, ECM’s shares are 49% owned by the Egyptian National Railways (“ENR”) and 51% by NAT.
<b>Main Elements of the Proposal</b>	<p><b>Transition impact:</b> The Project’s primary transition quality will be <i>Green</i> as it will serve as the trigger investment for the city of Cairo under the GrCF2 W2 E2 and support the development of a GCAP for Cairo. The Project will provide much needed rehabilitation and upgrade of a public and electric mode of transportation and address Green House Gas (“GHG”) emissions and air pollution by abating [REDACTED] CO<sub>2</sub>, [REDACTED]PM<sub>2.5</sub> and [REDACTED]NO<sub>x</sub> per year. The Project’s secondary transition quality will be <i>Inclusive</i> as it will encourage private sector contractors to open an on-site nationally accredited training programme for [REDACTED] young people in partnership with local TVET schools through inclusive procurement practices.</p> <p><b>Additionality:</b> The Bank’s financing is additional through the financing structure, knowledge, innovation &amp; capacity building and standard setting. The Bank’s financing provides long term finance to the GoE to close a funding gap for a large scale infrastructure project. The Bank will also assist in addressing environmental challenges for Cairo through the development of a GCAP and assist the GoE to undertake inclusive procurement practices.</p> <p><b>Gender Smart:</b> Gender additionality will be achieved by following the GCAP’s 2.1 methodology, which covers gender and inclusion considerations, as part of the Green City Actions.</p> <p><b>Sound banking:</b> Egypt is a creditworthy borrower, which had one of the few economies that still registered positive growth in fiscal years 2019-20 and 2020-21, at 3.6% and 3.3% respectively.</p>
<b>Key Risks</b>	<p><b>Sovereign Risk:</b> Risks include volatility in global energy and food prices, including wheat prices, as well as the global recovery challenges from COVID-19 as well as the war on Ukraine spilling over into key sectors (tourism) and supply chains. However, the outlook is positive and the country’s recovery is expected to be more robust than for other regional countries. Egypt’s credit ratings are B2 negative by Moody’s, B stable by S&amp;P, and B+ stable by Fitch.</p> <p><b>Project Implementation Risk:</b> The risk is mitigated by incorporating a number of lessons learnt from previous projects with NAT in addition to employing an Advance Procurement Consultant, an integrated Implementation, Procurement, Supervision and Environmental Reporting consultant as well as a Lender’s Monitor to assist in the Project implementation and monitoring.</p> <p><b>Green Cities Implementation Risk:</b> The risk is mitigated by the signing of a Green Cities Memorandum of Understanding (“MOU”), which formalised tasks and next steps to develop the GCAP for Cairo.</p> <p><b>Cost overrun risk:</b> The risk is mitigated by the inclusion of contingency amount [REDACTED].</p>
<b>Strategic Fit Summary</b>	The Project is in line with the Bank’s Egypt Country Strategy, the Municipal and Environmental Infrastructure Sector Strategy, the Green Economy Transition Approach, the Equality of Opportunity Strategy, the Strategy for the Promotion of Gender Equality and with the Agreement Establishing the Bank.

<sup>2</sup> Article 27 of the AEB provides the basis for this decision.

## ADDITIONAL SUMMARY TERMS FACTSHEET

<b>EBRD Transaction</b>	<p>A Sovereign loan of up to EUR 250 million to the GoE to finance the (i) rehabilitation and upgrade of CML 2; and ii) upgrade for the existing rolling stock to include updated on-board communication systems which together will reduce train headway to 105 seconds (from 160 seconds) and increase overall capacity [REDACTED]. The Bank’s loan will form part of a EUR 553.9 million financing package, which will include a [REDACTED] loan from the EIB, a [REDACTED] contribution from the GoE and EUR 3.9 million in technical assistance grants mobilised by the Bank.</p> <p>Carrying 292 million passengers in 2019, 196 million in 2020 (a 32% decrease due to COVID-19) and 201 million passengers in 2021, the 23-year old CML 2 suffers from obsolescence of systems and a lack of modern standards and comfort for passengers, while being unable to cope with normalised demand. The Project will i) improve service quality and availability and increase CML 2’s capacity; ii) improve air quality by delivering average yearly savings of [REDACTED] CO<sub>2</sub>, [REDACTED] PM<sub>2.5</sub> and [REDACTED] NO<sub>x</sub> per year; iii) serve as the trigger investment for Cairo to join EBRD Green Cities and support the development of a GCAP for Cairo, which will include gender and inclusion considerations, and iv) provide nationally accredited training opportunities for youth through inclusive procurement practices.</p>
<b>Existing Exposure</b>	Egypt sovereign portfolio is EUR 1.73 billion [REDACTED] as of April 2022.
<b>Maturity / Repayment</b>	Tenor of up to 18 years [REDACTED].
<b>Potential AMI eligible financing</b>	<i>Not Applicable</i>
<b>Use of Proceeds</b>	<p><b>Project Scope:</b> The rehabilitation of CML 2 will provide for i) upgrade/replacement of signalling, safety, power, control &amp; electromechanical systems and civil works necessary for an operational headway of 105 seconds (from the current 160 seconds); and ii) upgrade for the existing rolling stock to include updated on-board communication systems (45 train sets). [REDACTED]</p> <p><b>Implementation &amp; Disbursement:</b> The Project will be implemented by NAT and closely coordinated with the metro operator ECM. NAT will receive support from project implementation consultants in procurement preparation, construction supervision, environmental and social management, financial control monitoring and reporting. Procurement will be under EBRD’s Procurement Policies &amp; Rules (“PP&amp;R”). The Project will be co-financed with EIB [REDACTED].</p> <p>Documentary evidence approved by the supervision engineer is to be submitted for disbursements as per the EBRD Disbursement Handbook for Public Sector Projects, including the option to use a dedicated Special Account. [REDACTED]. Monitoring will be conducted through regular review of periodic progress reports and monitoring visits, including those provided and conducted by a Bank appointed, TC funded, Lender’s Monitor.</p>
<b>Investment Plan</b>	[REDACTED]
<b>Financing Plan</b>	[REDACTED]
<b>Key Parties Involved</b>	<p><i>Borrower:</i> Arab Republic of Egypt  <i>Beneficiary and the Implementing Entity:</i> NAT  <i>Metro operator:</i> ECM  <i>Green Cities Partners:</i> Governorate of Cairo and the Ministry of Local Development (“MOLD”), with support from the Ministry of International Cooperation (“MOIC”).</p>
<b>Conditions to effectiveness</b>	[REDACTED]
<b>Key Covenants</b>	[REDACTED]
<b>Security / Guarantees</b>	Sovereign loan.
<b>Other material agreements</b>	[REDACTED]

<p><b>Associated Donor Funded TC and co-investment grants / concessional finance</b></p>	<p><b><u>TC 1: Implementation, Procurement, Supervision and Environmental reporting:</u></b> The assignment will include support to NAT on (i) project procurement following EBRD’s PP&amp;R, (ii) effective implementation of the capex component as well as the Environmental and Social Action Plan (“ESAP”), as well as (iii) reconciliation of the Special Account to ensure use of proceeds in line with the Bank’s requirements. [REDACTED].</p> <p><b><u>TC 2: Lender’s Monitor:</u></b> Due to the complexity/risks relating to the delivery of the Project, in coordination with the co-financier (EIB), the Bank will require an independent Lender’s Monitor to monitor the implementation of the Project as well as NAT’s compliance with the Project covenants. [REDACTED].</p> <p><b><u>TC 3: Green City Action Plan:</u></b> The Project will serve as the trigger investment for Cairo under the GrCF2 W2 E2. The Project will therefore also include an assignment for the development of a GCAP [REDACTED].</p> <p><b><u>TC 4: Advance Procurement:</u></b> An expert to assist in the advance procurement of the Project has been engaged from the PPAD’s expert panel. [REDACTED].</p> <p><b><u>TC 5: Inclusive Procurement:</u></b> The assignment will support the design and implementation of the inclusive procurement component, to open up on the job training and employment opportunities for youth, including the revision of the relevant procurement clauses [REDACTED].</p> <p><b>Reimbursement &amp; Cost Sharing:</b> The above TC assignments are non-reimbursable transactional TCs [REDACTED] required to structure the Project and achieve the Project objectives. NAT will make a parallel contribution to the Project through funding the majority of the cost of the <i>Implementation, Procurement, Supervision and Environmental Reporting</i> assignment from the EBRD loan. [REDACTED]. In addition, NAT will make a further parallel contribution in the form of any VAT and other indirect taxes that are applied to the post-signing TC assignments.</p>
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[REDACTED]

## 1. STRATEGIC FIT AND KEY ISSUES

### 1.1 STRATEGIC CONTEXT

#### Cairo City

Egypt is one of the most populous countries in the Middle East with a population estimated at around 100 million. Cairo Governorate is one of the largest cities in Africa and ranked as one of the most densely populated in the world, with a total population of around 10 million (reaching by some estimates up to 20 million if neighbouring urban communities and new developments are included). The city's topography is characterised by urban sprawl, a consequence of absorbing surrounding villages into the metropolis and urban migration. This has resulted in a capital characterised by congestion, pollution, inefficient usage of municipal resources with significant pockets of environmental degradation and socio-economic deprivation.

This situation is further exacerbated by a complex and by and large unregulated, lattice of transportation networks within the city. The urban transport sector in Cairo is highly fragmented and suffers from chronic underinvestment and overutilization. Moreover, traffic congestion is a serious problem in Cairo and has negative consequences on both the quality of life and the economy. In addition to the time wasted due to standstill traffic, congestion results in unnecessary fuel consumption, increases harmful emissions and inflates transport costs, which makes Cairo an unattractive location for businesses. By some estimates, these adverse effects cost Egypt around 4% of GDP annually<sup>3</sup>. According to the World Health Organisation's Global Ambient Air Quality Database, Cairo was the third most polluted mega city in 2015 in terms of fine particulate matter, with the cost of environmental degradation linked to air pollution accounting for around 1.35% of GDP annually<sup>4</sup>.

Other public utilities, like waste and wastewater, are also highly strained municipal services in Cairo. The waste management sector suffers from lack of regulation in which the informal sector plays a significant role in the collection and transport of waste. In an effort to enhance management capacity and efficiency in the sector, Egypt issued its first Waste Management Law and the Executive Regulations in October 2020 and March 2022 respectively. By some estimates, only 65% of the 15,000 tons per day of Municipal Solid Waste generated in Cairo is collected for processing, disposal and/or treatment. The water sector in Egypt is also facing enormous challenges, including meeting the water demands of a growing population. The Nile River represents 96% of the available resources for the country with 85% of the Nile water being used for irrigation. As a trans-boundary river, Egypt is highly dependent on upstream countries for its water security. The supply-demand deficit in Cairo is estimated at 218 million m<sup>3</sup> per annum, which equates to 12% of demand<sup>5</sup>. The reuse of drainage water, as well as securing new sources such as using desalination, will play a key role to meet increasing demand in a more sustainable way.

#### Cairo – A Green Trajectory

The overarching scarcity and inefficiency of public infrastructure in Cairo makes the city a prime candidate for the Bank's EBRD Green Cities initiative and the development of a GCAP. The GCAP, a comprehensive diagnostics, policy dialogue and investment prioritisation plan, will be developed to support the sustainable development for Cairo. The goal will be to achieve significant environmental improvements and promote the **Green** transition quality among others. The GCAP methodology has been expanded to include spatial clustering, which will allow for a more comprehensive analysis given the size and population of the city.

Given the size and nature of the GoC and the centralised nature of the GoE, it is critical for the GCAP trigger Project to be a meaningful, impactful and visible project that is able to bring together the necessary partners in the GoE in an inclusive and cohesive way. The proposed investment is such a project and will serve as the basis to develop a GCAP which will include all of Cairo Governorate.

<sup>3</sup> <https://www.worldbank.org/en/country/egypt/publication/cairo-traffic-congestion-study-executive-note>

<sup>4</sup> <https://www.sciencedirect.com/science/article/abs/pii/S2210670720300779>

<sup>5</sup> <https://www.sciencedirect.com/science/article/pii/S2210670720305163>

### Alignment with the Bank's Strategies

The Project is in line with the Egypt Country Strategy, which recognizes that the quality/sustainability of municipal infrastructure is insufficient to meet growing demand & environmental pressures. As outlined in the strategy, “*improved quality, efficiency and environmental sustainability of infrastructure*”, such as through support of greener modes of transport (e.g. metro) and decarbonisation through fleet renewal, are key to accelerating Egypt's Green Economy Transition. The Project will also promote international best practices on inclusive procurement in line with the Egypt Country Strategy as well as the Equality of Opportunity Strategy by encouraging private sector contractors to open on the job training opportunities for young people and thereby enhance their employability. The Project is fully in line with the Bank's Municipal and Environmental Infrastructure (“MEI”) Sector Strategy which stresses the importance of promoting: “*...growth and the development of enhanced, accessible and sustainable municipal and environmental infrastructure...*”. The Project will also deliver a number of environmental benefits and is fully in line with the GET Approach and eligible for inclusion under the GrCF2 W2 E2. As part of the GCAP development, the Project will also contribute to the Strategy for the Promotion of Gender Equality. [REDACTED].

### 1.2 TRANSITION IMPACT

The GrCF2 represents a strategic and multi-project approach seeking to help identify and address environmental challenges in selected large cities in the Bank's countries of operation. The primary goal is to achieve significant environmental improvements and to promote the **Green** transition quality within the relevant cities. In addition to the environmental objective, the GrCF2 also promotes sustainable cities through inclusive, resilient, well-governed and smart urban development. Depending on which area can generate the strongest and most relevant transition impact, either **Well-governed, Inclusive, Resilient or Competitive** will be pursued and presented as the secondary transition quality for each sub-Project under the framework. These transition objectives are supported by the development and implementation of a city-specific GCAP aiming to identify environmental challenges, facilitate better coordination and buy-in among stakeholders and help to prioritise and develop the best ways to address the environmental challenges through targeted investments, services and policy instruments which are also gender responsive.

The Project will *primarily* help to promote the **Green** transition quality by increasing the capacity of the public and electric CML 2 [REDACTED], while abating emissions of [REDACTED] CO<sub>2</sub> [REDACTED], [REDACTED] PM2.5 and [REDACTED] NO<sub>x</sub> per year, through a combination of rehabilitative investments in signalling, communications, power supply, safety and computerised maintenance management systems. As CML 2 reaches its design capability, the Project will provide the capacity to shift [REDACTED] individual projected trips annually from carbon intensive modes (cars, minivans and buses) to an electric and public mode of transportation with road congestion savings [REDACTED]. In addition, as the trigger investment for the City, the Project will support the development of Cairo's GCAP.

The Project will also support the **Inclusive** objective. Economic inclusion impact will be achieved through incorporating standards and practices to the public procurement process, which in turn will support private sector contractors to open up on-site nationally accredited training programme opportunities for young people to enhance their skills and overall employability. As part of the tender process, NAT will introduce procurement clauses that require bidders to provide a training to [REDACTED] young people, who will be selected based on their education and previous experience through participating vocational schools, thereby equipping them with more practice-oriented skills.

**Delivery Risks:** The main risks to delivery of the transition impact are related to: (i) the capacity/willingness of the GoC to approve the GCAP recommendations; (ii) capacity constraints and implementation delays [REDACTED], and (iii) delays in the ratification of the legal agreements under the proposed Project. These risks are mitigated by the: (i) selection of cities with a clear commitment to embark on both a green and institutional reform agenda (MOU signed with the GoC and the MoLD in relation to the Governorate's commitments under EBRD Green Cities) and inclusion of appropriate covenants in the loan documentation to achieve Green Cities' objectives; (ii) NAT's experience with the Bank and its procurement process under the previous Cairo Metro projects as well as inclusion of relevant covenants and TC support in the Project

structure; and (iii) familiarity of the stakeholders with the ratification procedures with the ratification of the second Cairo Metro project [REDACTED].

### 1.3 ADDITIONALITY

Identified triggers	Description
A subsequent / consecutive transaction (issuance) with the same client/group.	The Project is a critical, high priority investment for the GoE in light of the growing congestion in Cairo with large and adverse effects on quality of life and the economy. The Bank's previous engagements with the NAT involved CML 2 Purchase of trains and CML1 Modernisation.
Additionality sources	Evidence of additionality sources
<b>Financing Structure -</b> Public sector: EBRD investment is needed to close the funding gap.	The Bank's loan is part of a large scale investment programme that is expected to be co-financed by the EIB and the GoE. The Bank is therefore providing long-term financing unavailable from commercial banks given the absence of a long-term funding base in Egypt.
<b>Knowledge, innovation, and capacity building</b> EBRD provides expertise, innovation, knowledge and/or capabilities that are material.	The Bank has relevant sector and municipal knowledge and will mobilise TC funding to support the Client in implementing the Project as well as support the GoC in the development of a GCAP.
<b>Standard-setting</b> EBRD helping the client to achieve higher standards	Client makes use of EBRD expertise on higher inclusion and gender standards as part of the GCAP development and inclusive procurement.

### 1.4 SOUND BANKING - KEY RISKS

Risks	Prob/Effect	Comments
Project Implementation risk	Med /High	The Project is technically complex and will be implemented by NAT alongside two existing projects, Cairo Metro Line 2 Purchase of trains and Cairo Metro Line 1 Modernisation as well as a new Project, GrCF2-W2 – Alexandria Metro Project, signed in December 2021. Reduced capacity may delay procurement, implementation and disbursement of the Project. Nonetheless, project implementation risk is expected to be manageable given (i) NAT has previous experience with the Bank and its procurement process, (ii) the Project is using advance procurement procedures; (iii) steps have been taken to increase the procurement and project management capacity of NAT by dedicating a locally-based PPAD procurement specialist to provide hands-on guidance and bespoke capacity building workshops to NAT, alongside dedicated infrastructure staff at EBRD Resident Office, and (iv) an integrated <i>Implementation, Procurement, Supervision and Environmental reporting</i> consultant will ensure oversight on all the procurement and construction activities and the EBRD appointed and grant funded Lender's Monitor will also provide additional Project monitoring and support. EIB funded technical consultant, mobilized as part of defining the technical scope of the Project, will also ensure that all required interface and integration requirements are suitably defined in the inputs for the tender documents to ensure effective implementation and operation of the complete metro system.
Green Cities Implementation risk	Med /Med	The GCAP will be implemented by entities (MOLD and GoC) separate to those directly involved in the implementation of the Project (NAT and ECM). There is therefore a risk of implementation delays [REDACTED]. This risk is mitigated by the fact that EBRD has signed the green cities MOU with the MOLD and the GoC in April 2021, under the guidance and auspices of the MOIC. The signing of the MOU has therefore formalised responsibilities, tasks and next steps to develop and implement the GCAP. This trajectory is further supported from the GoE's green credentials and trajectory after the submission of its first Nationally-Determined Contribution (2017), issuance of its first USD 750 million green bond (2020) and hosting COP27 (November 2022).
Sovereign Risk	Med/High	Risks include volatility in global energy and food prices as well as the global recovery challenges spilling over into key sectors (tourism) and supply chains. Furthermore, Egypt is a net oil importer, one of the world's biggest wheat importers and depends on imports for other food products as well, all of which are likely to face elevated prices in light of the war on Ukraine. The GoE's announcement of a stimulus package, including measures to contain imported inflation, should mitigate the impact for the population but will likely lead to a higher than expected public deficit. However, the outlook remains positive and the country's recovery is expected to be more robust than in other regional countries, even though the war in Ukraine moderates the outlook somewhat. After strong growth in the first half of FY2021-22, GDP is

		expected to grow [REDACTED] until the end of the fiscal year <sup>6</sup> (“FY”) despite rising prices for wheat, food products and petroleum due to the war in Ukraine. On the upside, higher demand and prices for Egypt’s gas exports could sustain growth in the medium term, and the IMF-supported programme will improve reform implementation and investor confidence. Egypt’s credits ratings are B2 negative by Moody’s as given on 27 May 2022, B stable by S&P as given on 11 May 2018 and confirmed on 24 April 2022, and B+ Stable by Fitch as given on 21 March 2019 and confirmed on 21 April 2022.
Cost increase and time overrun risk	Med/High	As part of additional assessments being carried out by NAT in parallel for CML2 (NAT will be responsible for financing these components), NAT is considering the mid-life rehabilitation for the existing rolling stock, station related upgrades and electro mechanical asset upgrades, which could cause delays in the overall delivery of the Project. This is mitigated by the fact that the additional assessments are underway and being diligently pursued by NAT. These parallel elements, together with issues, such as any unforeseen defects in civil engineering structures and coordination between the future mid-life rehabilitation contractor and the Projects contractor could lead to indirect cost and time increase in the Project. This risk is mitigated by the contingency amount integrated within the Project costs [REDACTED].

## 2. MEASURING / MONITORING SUCCESS

Overall objectives of project	Monitoring benchmarks	Implementation timing
- On time project implementation - GCAP Development	[REDACTED]	[REDACTED]

This sub-project will be monitored individually. Information collected at sub-project level will be aggregated and used to inform Framework level monitoring.

Transition Impact Monitoring Indicators and Benchmarks (FW)								
Primary quality: Green								
Obj	FW Monitoring Indicator	Corresponding Sub-Project Monitoring Indicator	Details for Framework	Details for Specific Sub-Project	Baseline (sub operation)	Target (sub operation)	Due date (sub operation)	TC
1.1	Number of recommended policy or strategy agreed by relevant stakeholder(s)	Recommended policy or strategy agreed by relevant stakeholder(s)	<b>New Green City Action Plans:</b> [REDACTED] new GCAPs finalised and submitted for approval by relevant authorities, and includes priority actions and a monitoring strategy in each participating City. Baseline target of the GrCF and GrCF2 combined is [REDACTED] GCAPs.	Cairo’s GCAP sent to the City Council (or equivalent) for approval including an implementation and monitoring strategy	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1.2	Performance or action plan implemented by the client	Performance or action plan implemented by the client	<b>Strong follow-on support:</b> [REDACTED] of transactions (under GrCF2 and future extensions) are follow-on investments addressing priority environmental challenges identified in the GCAPs.	Trigger – the Project is Cairo’s first with EBRD Green Cities, and includes a GCAP that will enable follow on opportunities.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1.3	Performance or action plan implemented by the client	Performance or action plan implemented by the client	<b>Multiple green investments:</b> Each participating city makes [REDACTED] investments (with or without EBRD financing) that address priority environmental challenges identified by the GCAP, where all EBRD financed projects will meet the extended Framework’s eligibility criteria for investments.	The Project will be signed and implemented, and meets the eligibility criteria for investments under GrCF2. The project reduced GHG emissions [REDACTED].	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

<sup>6</sup> Egypt’s Fiscal Year is July 1<sup>st</sup> to June 30<sup>th</sup>

1.4	Performance or action plan implemented by the client	Performance or action plan implemented by the client	<b>Effective GCAP implementation:</b> The Framework achieves at least 50 per cent of all verifiable targets, set in the GCAP, [REDACTED] (including both investments and well-defined policy measures).	Trigger – the Project will support the City to develop a GCAP that sets verifiable targets.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1.5	Improved environmental standards	Improved environmental standards	<b>Environmental impact:</b> The Framework achieves significant environmental improvements for at least one priority environmental challenge, i.e. the promotion or protection of certain performance levels (colour codes) for priority environmental challenges as specified in the GCAPs, for more than 50 per cent of the Green Cities.	While the Project reduces GHG and air pollution emissions, the relevant environmental improvements within the respective cities will not be monitored at project level.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
<b>Secondary quality: Inclusive</b>								
2.1	Number of training programs developed and implemented	Tailored training programme developed and implemented	The sub-Project will introduce a new, replicable and accredited training programme in partnership with local training institutions. Training numbers will be set in line with client's workforce size and training needs. Typically, this will be [REDACTED] individuals from the relevant target group. Gender-disaggregated data will be reported and, where relevant, specific targets for female participants will be set.	As part of the tender process, NAT will require bidders to provide a training to [REDACTED] young people. The approved candidates will be offered on the job training.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2.2	Number of stakeholders with practices improved (e.g. inclusive infrastructure services/design, inclusive HR policies and practices, equal opportunities, inclusive procurement practices)	Practices of the relevant stakeholder improved	Relevant stakeholders will develop and adapt new or substantially improved policies and practices to accommodate previously excluded target groups, on topics such as infrastructure service delivery and design (accessibility, safety and security, etc.), HR policies and practices, support for equal opportunities and/or inclusive procurement approaches.	NAT will adapt inclusive procurement practices.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

### Additional Indicators

Objective	FW level aggregate indicator	Indicator (sub-Project)	Details (sub project)	Baseline (Sub-Project)	Target (Sub-Project)	Due date (Sub-Project)	TC-Related?
Core client indicators	Total Population benefitting (individuals)	Total Population benefitting from improved metro services (individuals)	Estimated as a function of the increase in peak hour traffic	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	Annual reduction in tonnes of CO <sub>2</sub> equivalent savings (tonnes CO <sub>2</sub> eq / yr)	Annual reduction in tonnes of CO <sub>2</sub> equivalent savings (tonnes CO <sub>2</sub> eq / yr)	Annual reduction in tons of CO <sub>2</sub> equivalent savings.(tonnes CO <sub>2</sub> eq / yr). Estimated tons saved as a function of modal shift from road trips to Metro among others	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Gender SMART	Number of Cities in which Gender-responsive GCAPs was agreed	Recommended policy or strategy agreed by relevant stakeholder(s)	The GCAP for the City of Cairo includes a gender assessment, which aggregates the analysis and information gathered throughout the GCAP development (such as gender-disaggregated data, and the analysis the gender specific needs and barriers in access to services and infrastructure in cities in the various sectors covered by the GCAP 2.1 methodology), and the recommendations to address gender and inclusion in the City (as subset of Green city actions) that are the results of the analysis.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
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### 3. KEY PARTIES

#### 3.1 THE BORROWER

The Borrower is the Arab Republic of Egypt, as represented by the MOIC. Egypt's credits ratings are B2 negative by Moody's as given on 27 May 2022, B stable by S&P as given on 11 May 2018 and confirmed on 24 April 2022, and B+ Stable by Fitch as given on 21 March 2019 and confirmed on 21 April 2022. Egypt is one of the few economies with positive growth in FY7 2019-20 and 2020-21, at 3.6% and 3.3% respectively, thanks to a relatively short lockdown and resilience of key domestic sectors, including retail trade, oil and gas, telecommunications, financial institutions and construction. The fiscal deficit narrowed from 8.0% to 7.2% in FY2020-21. The current account deficit widened to 4.6% of GDP due to modest tourism revenues and rising imports as global energy prices increased steadily during FY2021. Net FDI contracted significantly, but at the same time remained positive at 1.3% of GDP. Inflation also remained moderate in single digits, and reserves are adequate, covering over six months of imports. After strong growth in the first half of FY2021-22, GDP is expected to grow [REDACTED] until the end of the fiscal year despite rising prices for wheat, food products and petroleum due to the war in Ukraine. Further information of Egypt's macroeconomic outlook is included in Annex 2.

#### 3.2 THE IMPLEMENTING ENTITY

The implementing entity is the NAT, a central government agency under the jurisdiction of the MoT established in 1983 to plan and execute tunnels and metro projects in Egypt, including the management of the full process of tendering and procurement of the rolling stock. The metro and tunnel projects are planned, designed and constructed by the MoT through the NAT. The NAT does not generate revenues as it is a service entity with no economic activity, with its expenses and investment costs included in the government's general budget. As such, the NAT prepares illustrative financial statements summarised below and does not produce formal accounts: [REDACTED].

#### 3.3 THE MANAGEMENT ENTITY

The operation and management entity (following the Project completion) will be the ECM, the principal operator of Cairo Metro Lines 1 and 2 under a PSC arrangement with the NAT. In 2020 and 2021, ECM carried 559 million passengers and 526 million passengers respectively, which due to the COVID-19 pandemic, marked a 33% and 37% decrease from 2019 ridership (or 843 million passengers). [REDACTED] ECM is 49% owned by ENR, which is constituted as a General Authority under the MoT and carries out both

<sup>7</sup> Egypt's Fiscal Year is July 1<sup>st</sup> to June 30<sup>th</sup>

service operation and infrastructure management, under the 1980 Railway Law. The remaining 51% of ECM shares are owned by NAT and were acquired in March 2022<sup>8</sup>.

### 3.4 THE GREEN CITIES PARTNER(S)

The GoC covers an area of 3,084 km<sup>2</sup> and consists of 4 areas divided into 38 districts with a population of circa 10 million inhabitants. The GoC will serve as the Bank's main implementing partner for the GCAP and the subsequent policy dialogue. The GoC will be further supported by the MOLD, who has an overarching responsibility for all 27 Governorates in Egypt and the MOIC, whose mandate covers the economic cooperation and multilateral engagement between Egypt and other countries, international and regional finance institutions as well as specialized agencies of the United Nations.

### 3.5 THE CO-FINANCIERS

The EIB is expected to provide [REDACTED] [a] sovereign loan towards the financing needs of the Project under its "Urban Transport Infrastructure Framework", a [REDACTED] loan for Egypt to cover urban rail schemes in cities across Egypt. The framework loan was approved by the EIB Board in May 2020 and signed by the GoE in two tranches in December 2020 and May 2021. At the same time the GoE will be expected to contribute [REDACTED] towards the financial needs of the Project.

## 4. MARKET CONTEXT

### *Market snapshot:*

Cairo relies heavily on public transport. Each day the population of about 20 million (Cairo Governorate plus neighbouring urban communities) make about the same number of motorised trips, two-thirds of which are by public transport. Around 20% of the public transport trips are made by metro, while the remaining share are made by conventional buses (both public and private), minibuses/microbuses and shared taxis. Metro remains as the only high capacity, electric mode of transportation in Cairo. Metro fares depend on the number of stops and the metro line, with the base rate starting from EGP 5 (~EUR 0.27) for CML1, 2 and 3. Over the last number of years, NAT has continued evolving to include the private sector in its operations as the main metro infrastructure is updated and improved. Examples of this can be seen with the NAT having signed an O&M agreement with French company RATP for the operation and maintenance of the CML 3.

### *Regulatory snapshot:*

Urban transport planning in Cairo is carried out by various authorities, including the GoC through the Cairo Transport Authority (the "CTA"), the New Urban Communities Authority ("NUCA") and the MoT through NAT. Multiple and functionally different entities involved in the regulation, planning, licencing for private transport, has previously led to an overlap and significant inefficiencies in defining standards, especially in the urban transport sector. However, these inefficiencies are now expected to improve in due course through the establishment of the Land Transport Regulatory Authority ("LTRA"), which was formed under the Transport Regulatory Law of June 2019 as an amalgamation of the General Authority for Roads, Bridges & Land Transport (the "GARBLT"), i.e. the national transport regulation authority, and the Greater Cairo Transport Regulation Authority (the "GCTRA"), as an overarching "Regulator of Inland and International Land Transport".

### *CML 2:*

Cairo Metro Line 2 is a north-south line running from Shubra el-Kheima in Qalyubia Governorate on the right bank of the Nile, through Central Cairo, to el-Monib on the left bank of the Nile in Giza Governorate. It is – at present – the only line in the network which crosses the Nile, serving Giza and the island of Gezira. Annual passenger numbers on CML 2 have remained stable for the last 10 years (excluding COVID-19 impact in 2020) as CML 2 has been operating around maximum capacity since 2010. The Project is expected to improve

<sup>8</sup> NAT acquired 51% of ECM's shares from ENR for EGP 264 million in March 2022.

the quality and sustainability of a public and electric mode of transport for Cairo City's growing population; increase ridership and in turn electrification and decarbonisation of public transport in Cairo, delivering significant reductions in CO2 emissions and air pollution in the city; and improve services to reach [REDACTED] capacity increase once the rehabilitation is complete. The capacity increase is expected to be supplemented by additional trains, to be acquired separately by ECM/NAT outside the scope of the Project, as passenger demand increases over time.

Please see Annex 4 for further information.

## **5. FINANCIAL / ECONOMIC ANALYSIS**

### **5.1 FINANCIAL ANALYSIS AND PROJECTIONS**

[REDACTED]

### **5.2 ECONOMIC ANALYSIS**

[REDACTED]

### **5.3 SENSITIVITY ANALYSIS**

[REDACTED]

### **5.4 PROJECTED PROFITABILITY FOR THE BANK**

[REDACTED]

## 6. OTHER KEY CONSIDERATIONS

### 6.1 ENVIRONMENT

Categorised B (2019 ESP). The Project is expected to result in significant Environmental, Health and Safety, and Social (“EHSS”) benefits through the improvement of the quality of transport services, its infrastructure, availability and reliability. Environmental and Social Due Diligence (“ESDD”) was undertaken by independent consultants, and confirmed that the EHSS risks associated with this project are readily identifiable and can be managed and mitigated through a set of targeted measures. Mitigation measures have been compiled in an Environmental and Social Action Plan (“ESAP”) which will form part of the Project Agreement.

The Client has started progressing on the ESAP items for two previously signed Cairo Metro projects [REDACTED]. This consultancy support was needed to assist NAT in further developing and enhancing their EHSS management procedures and strengthen their capacity; elements that are in need of improvement to reach compliance with EBRD’s E&S Performance Requirements (“PRs”). The ESAP implementation support technical assistance is currently under procurement, and the new ESAP that has been developed for this Project reiterates the requirements for an Environmental and Social Management System (ESMS) in line with international standards to be in place, with its subsequent procedures for both NAT, the Operator, and the Contractor.

Adverse EHSS risks identified are temporary and specific to the CML 2 area and its direct surroundings. Key impacts include: labour, occupational health and safety associated with workers’ activities and site management; sourcing and transport of ballast; waste management; noise, dust and air emissions and management of nuisance caused during the rehabilitation works; and stakeholder engagement. ESDD confirmed that all rehabilitation works will be undertaken within the footprint of the current line so no additional land acquisition is needed. New equipment will be in line in relevant EU standards, and current operational standards of the stations and rolling stock and include provisions related to passenger’s safety and Gender Based Violence and Harassment (“GBVH”). This includes presence of CCTV and a special taskforce of policewomen patrolling the metro line.

The ESAP includes requirements for further enhancing the occupational health and safety, passengers and community safety and environmental and social procedures to reach compliance with international standards and the PRs.

A Non-Technical Summary and a Stakeholder Engagement Plan have been developed for the Project and will be disclosed on both EBRD’s and NAT’s websites. The Project will be closely monitored by the Bank.

### 6.2 INTEGRITY

In conjunction with OCCO, integrity due diligence was undertaken on NAT, senior management and other relevant parties. The review did not identify any new integrity concerns since the Bank’s last project with NAT. [REDACTED]. It has therefore been concluded that this project does not present unacceptable integrity or reputational risks to the Bank. [REDACTED].

All actions required by applicable EBRD procedures relevant to the prevention of money laundering, terrorist financing and other integrity issues have been taken with respect to the proposed Project, and the project files contain the integrity checklists and other required documentation which have been properly and accurately completed to proceed with the Project.

**ANNEXES TO OPERATION REPORT**

ANNEX 1	Implementation Progress of GrCF / GrCF2
ANNEX 2	Macroeconomic Outlook
ANNEX 3	Project Structure
ANNEX 4	Regulation, Tariffs, Cairo Metro System and CML 2
ANNEX 5	Project Implementation (Procurement Plan)
ANNEX 6	Green Assessment
ANNEX 7	Sovereign Portfolio Summary
ANNEX 8	SSF Funding

## **ANNEX 1: Implementation Progress of GrCF / GrCF2**

Since 2016, the GrCF and GrCF2 have mobilised nearly EUR 5 billion in EBRD and donor funding. The Green Cities Framework (GrCF), approved by the Board in November 2016, set an ambitious agenda for the Bank's municipal business, with the over-arching aim being 'to serve as a sector-wide catalyst for addressing environmental challenges at the City level'. [REDACTED] [I]n October 2018 a new Framework was approved by the Board, Green Cities Framework 2 (GrCF2) [REDACTED].

## ANNEX 2: Macroeconomic Outlook

### ECONOMIC CONTEXT

**Solid macroeconomic policies supported the economy’s resilience during the pandemic.** Egypt is one of the few economies that still registered positive growth in fiscal years<sup>9</sup> 2019-20 and 2020-21, at 3.6 and 3.3% respectively. [REDACTED]

#### **Selected economic indicators**

<b>Fiscal years</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
GDP growth (% y-o-y)	4.1	5.3	5.6	3.6	3.3
CPI inflation (% avg.)	23.5	20.9	13.9	5.7	5.2
Government balance (% GDP)	-10.9	-9.7	-8.1	-8.0	-7.2
Current account balance (% GDP)	-6.1	-2.4	-3.6	-3.1	-4.6
Net FDI (% of GDP) { minus = net inflow }	-3.4	-3.1	-2.7	-2.0	-1.3
General gov’t gross debt (% GDP)	103	92.4	83.7	87.9	90.6
Unemployment (% labour force)	11.3	8.9	8	9.6	7.3
Nominal GDP (\$bn)	236.5	250.3	302.3	363.2	396.3

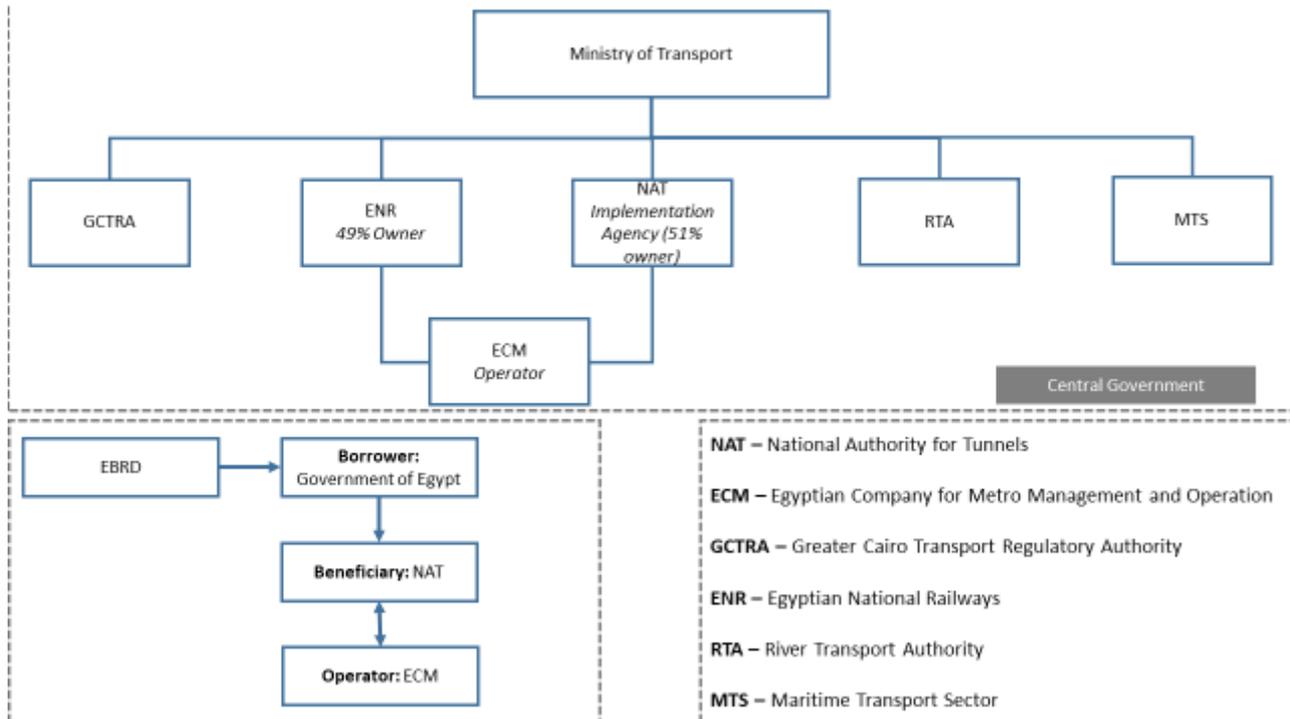
Source: IMF and authorities’ data.

**Public (and private) investments to support the green transition will remain a driver of future growth – also aligned with Egypt nominated to host the COP27 in 2022.** The government remains committed to continued reforms under Vision 2030 and the second-phase reform planning. [REDACTED]

<sup>9</sup> Egypt’s Fiscal Year is July 1st to June 30th

### ANNEX 3: Project Structure

The metro network in Cairo is owned by the ENR (49%) and NAT (51%) and operated by the ECM. The chart below maps out the structure of the sector. The EBRD will extend a sovereign loan to the Government of Egypt for the benefit of the NAT.



## ANNEX 4: Regulation, Tariffs, Cairo Metro System and CML 2

### Regulatory snapshot:

Urban transport planning in Cairo is carried out by various authorities, including the Cairo Governorate through the Cairo Transport Authority (the “CTA”), the New Urban Communities Authority (“NUCA”) and the Ministry of Transport (the “MoT”) through the National Authority for Tunnels (the “NAT”). Multiple and functionally different entities involved in the regulation, planning, licencing for private transport, has led to an overlap and significant inefficiencies in defining standards, especially in the urban transport sector. With exception of the metro, regulations for all urban transport modes in Cairo is de facto delegated by the Cairo Governorate to CTA with a dual role as an operator and regulator of the metro system. The CTA was allowed to grant concessions/licenses to operate minibuses on dozens of lines, which led to a very broad proliferation of less efficient, small-scale road transport modes.

In an effort to integrate the urban transport regulation and create a set of overarching standards and regulations, the Land Transport Regulatory Authority (the “LTRA”) was formed under the Transport Regulatory Law of 2019 as an amalgamation of the General Authority for Roads, Bridges & Land Transport (the “GARBLT”), i.e. the national transport regulation authority, and the Greater Cairo Transport Regulation Authority (the “GCTRA”), i.e. the Greater Cairo transport authority, as an overarching “Regulator of Inland and International Land Transport” in charge of regulating all services for goods and passengers on land based transport modes. The LTRA is currently responsible for the (i) urban transport regulatory matters in all cities of Egypt; (ii) long distance land passengers and freight transport between governorates all over Egypt; and (iii) outbound and inbound land passengers and freight transport on the borders of Egypt.

### Tariffs

Given the significant investments being jointly led between the Bank and the Egyptian Government, the Bank engaged on policy discussions to possibly increase tariffs for passenger railways to more sustainable rates which would enable a more sustainable urban transport system in addition to alleviating maintenance gaps across this high capacity mode as part of the policy engagement under the Cairo Urban Integrated Approach (“CUIA”). In March 2017, the Government passed regulation which ECM utilized to increase its fare, doubling the tariff from EGP 1 to EGP 2. Furthermore, the government increased the tariff prices (Cabinet session number 116 on 11 April 2018) less than a year later, implementing a multi-layered fare depending on the number of stations commuted. A base fare of EGP 3 for the first nine stops, EGP 5 for seven more stations, and the highest ticket price has been fixed at EGP 7 if the commuter travels more than 16 stations. In 2019, rates were increased again with Cairo Metro Line 3 having separate rates. In August 2020, rates were harmonised across all 3 lines subject to the number of stops.

Data as of April 2022		EGP			EUR (FX rate 17.48)		
Date of tariff change	Number of stops	CML1	CML2	CML3	CML1	CML2	CML3
Prior March 2017	Flat rate	1			0.06		
From March 2017	Flat rate	2			0.11		
From April 2018 (multi-layered fare depending on the number of stops)	9 stops	3			0.17		
	10 - 15 stops	5			0.29		
	16 stops or more	7			0.40		
From June 2019 (separate rates for CML3)	9 stops	3	5		0.17	0.29	
	10 - 15 stops	5	7		0.29	0.40	
	16 stops or more	7	10		0.40	0.57	
From August 2020 (EUR/EGP 19.8945)	9 stops	5			0.25		
	10 - 15 stops	7			0.39		
	16 stops or more	10			0.55		

### Metro System:

Egypt is one of the most populous countries in the Middle East with a population estimated at around 100 million. Cairo Governorate is one of the largest cities in Africa and ranked as one of the most densely populated in the world, with a total population of around 10 million (reaching by some estimates up to 20 million if neighbouring urban communities and new developments are included). The city’s topography is characterised by urban sprawl, a consequence of the absorption of surrounding villages into the metropolis and on-going urban migration, albeit the latter has diminished somewhat in recent years. The net result is a capital characterised by congestion and pollution, with significant pockets of environmental degradation and socio-economic deprivation. With more than 20 million motorized daily trips and projected at 25 million by 2022, the City is facing tremendous urban transport problems such as a high level of traffic congestion, air and noise pollution, poor public transport systems, high accident rates and underinvestment in basic infrastructure and services.

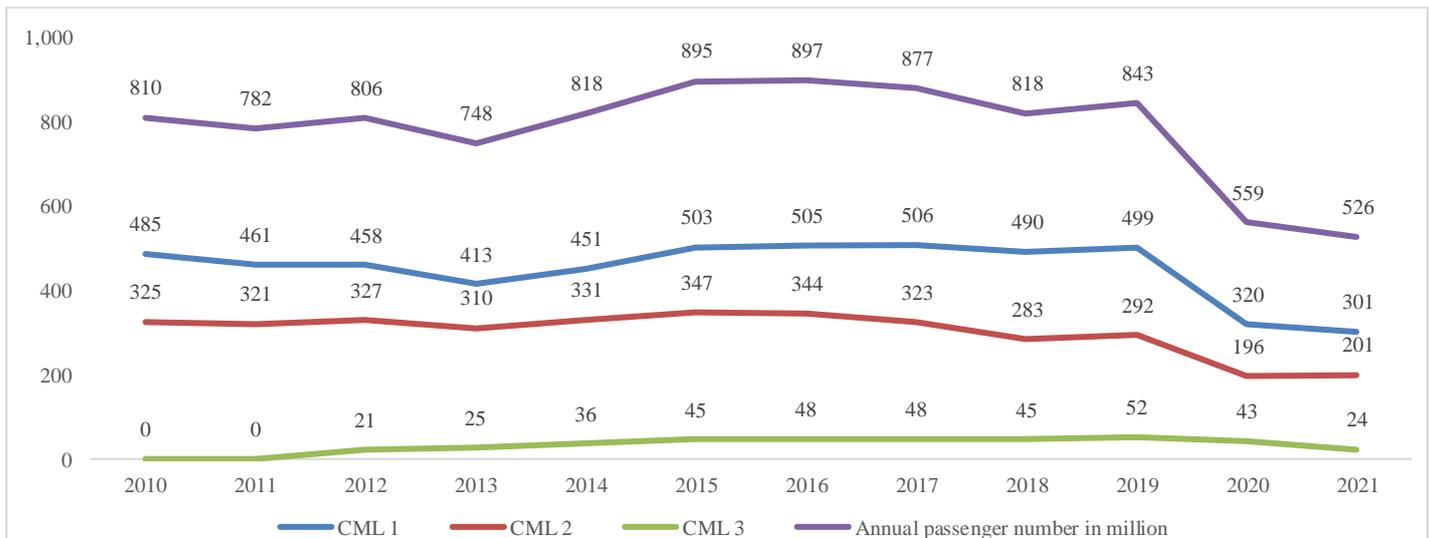
The Cairo Metro is the first metro to open on the African continent with the first section starting service in 1987. Since then, the network has grown gradually and today comprises three lines of around 86.7 km in length fully operating. As the population of Cairo increases due to the underlying population growth and high rate of urbanization, the metro system has become the backbone of the urban transport mobility in Cairo as it provides a rapid, safe and reliable form of transport and will need to expand in size and capacity to cope with the inevitable increase in demand for rapid transit.

This issue has been in part addressed through the expansion of the network to comprise a total of 5 lines:

- **Cairo Metro Line 1 (CML1):** Fully operational, consisting of 41.5 km with 35 stops. The line operates 45 train sets with 405 total carriages and carried 319.5 million passengers in 2020.
- **Cairo Metro Line 2 (CML2):** Fully operational, consisting of 21.6 km with 20 stops. The line operates 39 train sets with 240 total carriages and carried 196.5 million passengers in 2020. [A]dded an additional 6 trainsets added to the fleet, taking the total fleet to 45 trainsets.
- **Cairo Metro Line 3 (CML3):** Fully operational consisting of 23.6 km with 19 stops. The line operates 13 trainsets with 104 carriages and carried 42.8 million passengers in 2020.
- **Cairo Metro Line 4 (CML4):** Expected to connect 6<sup>th</sup> of October City to New Cairo City / Ring Road. Construction is expected to begin in 2022 and be completed by 2026.
- **Cairo Metro Line 5 (CML5):** Expected to connect the lines together in a circular format and currently under feasibility study.

However, in addition, and in order to absorb increasing demand fed from an expanding network, the metro system also critically needs to sustain and improve capacity and operating efficiency on existing lines.

Data as of April 2022	CML1	CML2	CML3	Total
Total length of track in km	41.5	21.6	23.6	<b>86.7</b>
Total number of stops	35	20	19	<b>74</b>
Total number of train sets available (in operation)	45	45	13	<b>88</b>
Total number of carriages available	405	288	104	<b>797</b>
Average number of carriages per trainset	9	8	8	<b>25</b>



### Cairo Metro Line 2

CML 2 is a north-south line running from Shubra el-Kheima in Qalyubia Governorate on the right bank of the Nile, through Central Cairo, to el-Monib on the left bank of the Nile in Giza Governorate. It is – at present – the only line in the network which crosses the Nile, serving Giza and the island of Gezira. The line, built in 5 stages between 1996 and 2005, currently has a length of 21.6 km with 20 stops. CML 2 is very busy throughout its entire length, as it runs through densely-built urban areas. The depot of the line is located between Shubra and Koleyet el-Zeraat stations at the northern end of the line, with additional stabling sidings on the line between Omm el-Misyreen and Sakiat Mekki stations; trains are also stabled at the terminal stations overnight.

The entire metro system carried around 559 million passengers in the 2020, of which 196.5 million passengers were on CML 2, representing 35% of total ridership. CML 2 is served by 45 train sets (39 train sets + 6 additional trains delivered). [REDACTED]

## ANNEX 5: Project Implementation

### Procurement classification – *Public (Sovereign)*

[REDACTED]

*Contracts risk assessment* - *High*

The investment programme for the Project is expected to include two contracts. First contract, will encompass the CML 2 infrastructure rehabilitation and related signalling and communication upgrades for the existing train fleet. The contract will be procured using a two stage open tendering procedure for procurement of Works with prequalification and will use FIDIC Yellow Book contract terms. Second contract will be to hire *Project Procurement, Management and Supervision and Environmental* (PIU + Supervision, or PIUS) Consultant Both contracts for the infrastructure rehabilitation works & consultancy will require comprehensive procurement procedures, which results in the assessment of the respective contracts' risks as "High".

#### **Project implementation arrangements:**

The Project will be implemented by NAT with the support of a professional engineering consultant (PIUS), which will be selected for procurement and project implementation support as well as supervise construction works using a two stage tendering process.

The Project is supported by a Framework Advance Procurement Consultant, who will support capacity building of NAT via on the job training and will help NAT in the procedures of advance contracting based on PP&R (as amendment from time to time) article 3.29 for; i) prequalification stage of works contract "CML 2 infrastructure rehabilitation" and ii) selection of the PIUS Consultant.

Once selected and in place the PIUS Consultant will finalise the procurement of the remaining project components and provide the services of the FIDIC Engineer for Infrastructure Rehabilitation works and assist with environmental and social management, financial control, monitoring and reporting. The PIUS Consultant will be financed [REDACTED]. The Lender's Monitor will assist the Bank in comprehensive monitoring of the project implementation and compliance with Bank's requirements.

#### **Procurement arrangements:**

The Project is classified as a public sector operation for procurement purposes. With regards to the works contract financed from the Bank's loan, these will be procured using two stage open tendering procedure in accordance with Section III Article 3 of the Bank's PP&R dated May 2022 (as amendment from time to time) for the Public Sector and will use the Bank's Standard Tender.

With regards to the consultancy contracts, these will be tendered based on the Corporate Procurement Policy or PP&R dated May 2022 (as amendment from time to time) section III Article 3. Namely, 1) the *Implementation, Procurement, Supervision and Environmental Reporting* (i.e. PIUS) consultant will be procured using a two stage open tendering procedure and contracted by the Client. The other contracts are to be contracted by the Bank and tendering will be in accordance with the Corporate Procurement Policy, namely 2) Advance Procurement consultant was selected directly through the Framework under which it was approved, 3) the Inclusive Procurement consultant is to be selected competitively, 4) the Lender's Monitor is to be selected using a one stage procurement method; and 5) the GCAP consultant is to be selected competitively using a one stage procurement method.

All Contracts under the Project will be subject to prior review by the Bank. [REDACTED].

## ANNEX 6: Green Assessments

### Introduction

The Project is assessed as **aligned with the goals of the Paris alignment**. The Project will provide much needed rehabilitation and upgrade of a public and electric mode of transportation and facilitate a shift from an individual to a sustainable, accessible and inclusive mode of public transport, while contributing to reductions in GHG and air pollution emissions, resulting in a **GET attribution of 100%**.

### Paris alignment assessment

#### *General screening of alignment with the mitigation goals of Paris Agreement*

The Project/economic activity is **included in the 'aligned list'**. There are no activities included in the 'non-aligned list'.

#### *Alignment with the adaptation goals of Paris Agreement*

The Project was assessed for exposure to physical climate hazards as part of due diligence. This resulted in the following physical climate risks identified as being potentially material to the project:

- *Heavy precipitation and flash flooding*
- *Heatwaves*

In response to the physical climate risks identified, **a set of impact mitigation and impact control measures was developed**, recommending structural (e.g. adjustments to the spacing and integration of expansion joints to reduce the need for welded segments – which are most vulnerable to heat stress) and non-structural interventions (e.g. updates to the track maintenance management systems are recommended to reduce the potential of rail buckling going unnoticed) to adapt and make the Project more resilient to physical climate change impacts. Additionally, **the Project does not contravene national adaptation plans or legislation and does not have a significant impact on the wider system in which it operates**.

### GET attribution

The Project will capture passengers currently travelling by car, bus and collective taxi who will instead travel by Metro. This generates reductions in vehicle-km for the road modes and increases in Metro rail vehicle-km. The differences in fuel and energy consumption resulting from the change in vehicle-km are estimated using fuel consumption per vehicle-km, taking into account the level of congestion on the road network in the Cairo Metro Line 2 corridor, and energy consumption for the Metro services, as measured from the Metro substations. The change in GHG emissions (CO<sub>2</sub>) is derived from emission factors giving the amount of GHG emitted per unit of fuel. For the road modes, these are tank-to-wheel figures (i.e. excluding the emissions associated with the upstream activities of exploration, refining and distribution) and for electricity it is the emission factor for Egypt given in IFI (Interim) Dataset of Harmonized Grid Factorsv2 as adopted by EBRD. [REDACTED].

### Climate-related financial risks

As a sovereign transaction, this project is not subject to Carbon Transition or Physical Climate Risk assessment.

## **ANNEX 7: Sovereign Portfolio Summary**

[REDACTED]

## **ANNEX 8: SSF Funding**

[REDACTED]