

GREEN FINANCE FRAMEWORK OF GUANGZHOU METRO GROUP CO., LTD.

广州地铁集团有限公司绿色融资框架



Background

Guangzhou Metro Group Co., Ltd. (“GZ Metro” or the “Group”) is a state-owned company wholly owned by the Guangzhou Municipal Government. It is directly supervised by Guangzhou SASAC, the Guangzhou Municipal Development and Reform Commission and the Guangzhou Municipal Bureau of Finance. GZ Metro is the sole construction and operating entity and is also responsible for the construction and operation of rail transit in the Greater Bay Area.

It also engages in a range of diversified rail related ancillary businesses including property development, resources operation and provision of professional services to external entities. In light of the current guidance from the State Council and National Environmental Plan for the 14th Five-Year Strategic Plan for environmental protection and development of low carbon economy, GZ Metro is committed to ensuring its economic performance is beneficial to the environment and society.

Sustainable development is the key foundation of GZ Metro’s business. Coupled with development strategies and operating models, the Group strives to promote social responsibilities and meet the expectations of stakeholders including government, passengers, industry, employees, business partners, and communities. The Group also aims to accelerate structural reform of the society in the aspects of public transport, industrial development and social civilization.

To this end, GZ Metro adopts proactive environmental protection policies which establishes sound polices to minimize negative environmental impacts brought by subway construction and operation. At the same time, GZ Metro actively promotes energy conservation and emission reduction to put forth the concept of environmental protection to every work detail.

背景

广州地铁集团有限公司 (“广州地铁”或“集团”) 成立于 1992 年，是经广州市人民政府批准设立的企业，担负着广州市及大湾区轨道交通的建设及运营管理重任，同时负责经营以地铁相关资源开发为主的多元化产业。根据国务院目前的指导和“国家环境保护”十四五“规划基本思路”的环境保护和低碳经济发展，广州地铁致力于确保其经济效益有利于环境和社会。

广州地铁将可持续发展作为公司经营之基，结合发展战略和运营模式持续推进社会责任工作，努力满足政府、乘客、行业、员工、合作伙伴和社区等利益相关方的期望，致力于为城市发展提速、为公众出行提速、为行业发展提速、为社会文明提速。

为此，广州地铁采取积极的环保政策，建立完善的规章制度，将地铁建设和运营对环境的负面影响降至最低。同时，广州地铁积极推进节能减排工作，将环保理念贯彻到工作的每项细节。

Rationale of GZ Metro’s Green Finance Framework

Low-carbon transport has a key role to play in facilitating a modal transportation shift, enabling the transition to a low carbon economy and to support future climate change mitigation efforts. GZ

Metro's Green Finance Framework ("GFF"), covering low-carbon transport, will be an opportunity to emphasize the group's strategy in terms of sustainability and climate change, and to diversify GZ Metro's investor base, thanks to a reinforced dialogue with Socially Responsible Investors.

The GZ Metro's Green Financing Transactions ("GFT") will also help ensure the progress of the State Council and the Country's goal of environmental protection under the 14th Five-Year Plan, and beyond, is fulfilled.

广州地铁发行绿色融资框架的原因

低碳交通在促进模式运输转变, 实现向低碳经济转型和支持未来减缓气候变化的努力方面发挥着关键作用。广州地铁的绿色融资框架覆盖低碳交通方面, 为集团提供一个机会以强调其在可持续发展和气候变化方面的战略, 并通过与社会责任投资者加强对话, 使广州地铁的投资者基础多样化。

广州地铁绿色融资交易也将有助于确保国务院和国家在“十四五计划”以及后续在环境保护方面的目标得以实现。

- GZ Metro conveys the concept of green development to the design, construction, operation and management of the subway. The Group attaches great importance to environmental-protection. It carries out the research project on “Energy Management System of Urban Railway Transportation”, constantly improves policies and systems related to energy conservation, emissions reduction, and environmental governance, and encourages to apply the ideas of energy conservation and environmental protection into detailed work at all levels.
- GZ Metro combines budget management with energy-saving goals and energy-saving planning to achieve dual monitoring of energy saving and consumption reduction. It promotes the application of new energy-saving technologies. The comprehensive energy consumption of its subway network operation has been decreasing over the years, from 0.064 kwh/person·km in 2015 to 0.058 kWh/person·km in 2017.
- While improving its own green development, GZ Metro also proposes green construction to construction companies and other partners. And through the implementation of “metro + shared bicycles”, etc., the Group calls on and promotes citizens to establish green travel intentions and practice the concept.
- 广州地铁集团将绿色发展理念融入地铁的设计、建设、运营和管理。广州地铁集团高度重视节能环保，专门开展《城市轨道交通能源管理系统研究》项目，不断完善节能减排与环境治理的相关政策制度，各极推动各部门的节能环保融入具体工作。
- 广州地铁集团将预算管理与节能目标、节能规划相结合，实现节能降耗双监控，推进节能新技术应用。其地铁线网运营综合能耗连年递减，由2015年的0.064千瓦时/人·公里减少至2017年的0.058千瓦时/人·公里。
- 在完善自身绿色发展的同时，广州地铁集团亦对施工单位等合作方提出绿色施工等环保要求，并通过推行“地铁+共享单车”等方式，号召、推动市民树立绿色出行意识，践行绿色出行理念。

Framework Overview

This bespoke GZ Metro’s GFF has been developed to demonstrate how GZ Metro and its group entities intend to enter into GFT to fund projects that will deliver environmental benefits to support GZ Metro’s business strategy and vision. Fundraising will include bonds, loans and other debt instruments GFT with structures tailored to contribute to sustainable development by application of the proceeds to Eligible Projects as defined in this Framework.

- With respect to bonds, bonds issued under GFF will be in alignment with the International Capital Market Association (“ICMA”) Green Bond Principles (“GBP”) 2021¹ and *Green Bond Guidance, National Development and Reform Commission (NDRC)* or as they may be subsequently amended.

¹ In alignment with ICMA Green Bond Principles, June 2021, <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

- With respect to loans, loans issued under GFF will be in alignment with the Loan Market Association (“LMA”) Green Loan Principles (“GLP”) 2021² or as they may be subsequently amended.
- Other forms of financing may conform to other sustainable or green finance principles as may have been established at the time of such financing transaction being undertaken.

In aligning with the above principles and guidelines, the GZ Metro’s GFF is presented through the GBP’s/GLP’s four core components as well as its recommendation for external review:

- (a) Use of Proceeds
- (b) Process for Project Evaluation and Selection
- (c) Management of Proceeds
- (d) Reporting

Bond(s) issued under this Framework may take the form of public transactions or private placements, in bearer or registered format, and may take the form of senior unsecured or subordinated issuances. Such bonds and loans entered into under this Framework will be standard recourse-to-the-issuer obligations and investors will not bear the credit risk of the underlying allocated eligible asset exposures.

GFTs may be done in any jurisdiction and market reflecting GZ Metro’s current and future business needs.

框架概述

此次制定的《广州地铁绿色融资框架》旨在展示广州地铁及其集团打算如何透过绿色融资交易为带来环境保育效益的项目提供资金，以支持广州地铁的业务战略和愿景。融资方式包括债券，贷款及其他绿色融资工具，其结构会根据本框架中所定义的可可持续发展项目来定制。

- 关于债券，绿色融资框架下发行的债券将符合 2021 年国际资本市场协会³和 年国家发展和改革委员会(国家发改委)的绿色债券原则 (“绿色债券原则”)，随后或会进行修订。
- 关于贷款，绿色融资框架下发放的贷款将符合 2021 年贷款市场协会的绿色贷款原则⁴ (“绿色贷款原则”)，随后或会进行修订。
- 关于其他绿色融资工具，绿色融资框架下的融资可能符合在进行融资交易时已确立的可持续或绿色融资原则。

根据上述原则和指南，广州地铁绿色融资框架通过绿色债券原则/绿色贷款原则的四个核心组成部分及其对外部审查的建议提出：

- (a) 所得款项用途
- (b) 项目评估和选择过程
- (c) 收益管理
- (d) 报告

² In alignment with LMA Green Loan Principles, February 2021, <https://www.lsta.org/content/green-loan-principles/>

³ 根据国际资本市场协会的绿色债券原则，2021 年 6 月，<https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

⁴ 根据贷款市场协会的绿色贷款原则，2021 年 2 月，<https://www.lsta.org/content/green-loan-principles/>

根据本框架发行的债券可以采用公开交易或私募、不记名或记名，高级无担保或次级发行的形式。根据本框架签订的债券和贷款对发行人有一般标准追索权义务，投资者将不承担相关资产的信用风险。

绿色融资框架可在任何反映广州地铁当前和未来业务需求的司法管辖区和市场实行。

1. Use of Proceeds 募集资金用途

GZ Metro will allocate an amount at least equivalent to the net proceeds of the Green Financing Instruments issued under this Framework to finance and/or re-finance, in whole or in part, projects which meet the eligibility criteria of the following Eligible Green Project categories (“Eligible Green Projects”), as defined as below.


广州地铁将分配至少相当于本框架发行绿色融资工具的净收益金额，用于全部或部分融资和/或再融资合格绿色项目。项目将符合以下合格绿色项目类别的资格（“合格绿色项目”），其定义如下。


A maximum 3-year look-back period would apply for refinanced projects and GZ Metro expects each issuance under this framework to be fully allocated within 2 years from the date of issuance.



再融资项目最长回溯期为 3 年，广州地铁预计其框架下的每笔发行将在发行之日起 2 年内完成分配。

Eligible Green Projects Categories and examples of Eligible Green Projects.

符合条件的绿色项目类别和符合条件的绿色项目示例。

Eligible Green Projects Categories 符合条件的绿色项目类别	Example of Eligible Green Projects 符合条件的绿色项目示例
Low Carbon Transportation 低碳交通 	<p><u>Technology Research & Development and Preliminary Planning:</u></p> <ul style="list-style-type: none"> - Research costs associated with but not limited to surveying, planning and assessing site suitability <p><u>技术研究及前期策划:</u></p> <ul style="list-style-type: none"> - 前期研究支出，包括但不限于勘察、计划及选址 -
	<p><u>Electric Rail Infrastructure and Rolling Stock</u></p> <ul style="list-style-type: none"> - Development, construction and operation of electric mass transit rail system, as well as expansions, maintenance and upgrades of these infrastructures that result in improved service levels or extended asset lifespan with preserved carrying capacity. This includes: <ul style="list-style-type: none"> o Purchase and maintenance of electric rolling stock (excluding projects or assets which advance the use or

	<p>generation of fossil fuel, diesel or nuclear energy) / carriages</p> <ul style="list-style-type: none"> ○ Construction of the related infrastructure (including tunnels), including but not limited to track construction <p>电动铁路基础设施和机车车辆</p> <ul style="list-style-type: none"> - 电动公共交通轨道系统的开发、建设和运营，以及这些基础设施的扩展、维护和升级，以提高服务水平或延长资产寿命并保留载容量。这包括： <ul style="list-style-type: none"> ○ 电力机车的购买和维护(不包括使用或生产化石燃料、柴油或核能的项目或资产)/车厢 ○ 相关基础设施(包括隧道)的建设，包括但不限于轨道建设
	<p><u>Rail Transit Stations:</u></p> <ul style="list-style-type: none"> - Construction of station buildings, including internal modernisation/ investment into ventilation / lighting / fire / water / waste management - Establishment and refurbishment of existing ticketing equipment to allow for automation - Upgrade of escalators and safety doors to save energy and ensure safety <p><u>轨交车站:</u></p> <ul style="list-style-type: none"> - 车站建造，包括内部现代化装修、通风、水、火、照明、废物管理等方面的投资 - 新建或翻修已有售票系统以达到自动化服务 - 更新扶梯和安全门以确保安全和节能
	<p><u>Associated Rail Infrastructure:</u></p> <ul style="list-style-type: none"> - Construction of infrastructure that supports low carbon transportation such as signaling equipment, network interfaces including passenger access, facilities required for the safe, clean and efficient operation of the network, utilities and other enabling infrastructure <p><u>相关铁路基础设施:</u></p> <ul style="list-style-type: none"> - 建设支持低碳交通的基础设施，如信号设备、网络接口、包括乘客通道、保障网络安全和高效运行所需的设施、公用设施和其他基础设施
<p>Pollution Prevention and Control 污染防治</p> 	<p><u>Technologies Related To:</u></p> <ul style="list-style-type: none"> - Enhancing air quality such as to increase air circulation and air filtration - Noise reduction technologies such as noise barriers, modification of turnouts, rail dampers and insulation booths - Modernization and maintenance of ventilation and drainage system <p><u>与以下相关技术:</u></p> <ul style="list-style-type: none"> - 提高空气质量，例如加强空气循环和过滤

	<ul style="list-style-type: none"> - 降噪科技，例如隔音板、避车道和出口道的现代化、减震铁轨、隔绝室等 - 现代化升级和维修通风及下水道系统
<p>Energy Efficiency 能源效率</p> 	<p><u>Design, manufacture and installation of energy-efficient systems, products and technology associated with low-carbon transportation systems that:</u></p> <ul style="list-style-type: none"> - Reduce energy consumption or improve operational energy efficiency by at least 20% - Modernization of lighting systems such as upgrades to LED <p><u>与低碳交通相关的系统、产品或技术的设计、制造或安装:</u></p> <ul style="list-style-type: none"> - 减少能源消耗、或提高至少 20%的能源效率 - 现代化照明系统，例如升级为 LED
<p>Renewable Energy 可再生能源</p> 	<p>Design, manufacture and installation of renewable energy systems, products and technology, such as solar panels, at transit stations, buildings, real estate properties and facilities</p> <p>设计、制造或安装与可再生能源相关的系统、产品或技术在中转站、建筑物、房地产和设施，例如太阳能板。</p>

2. Project Evaluation and Selection 项目评估和筛选

GZ Metro has a robust internal control and policy mechanism to ensure environmental and social risks are mitigated in GZ Metro’s operation. In addition, it complies with <Energy Saving Regulation of the People’s Republic of China> (《中华人民共和国节约能源法》), <Energy Efficiency Standards for Public Buildings> (《公共建筑节能设计标准》), <Regulation for Green Construction> (《建筑工程绿色施工规范》) and other related Policies and Regulations enforcing sustainability considerations. 广州地铁拥有强大的内部控制和政策框架，以确保广州地铁运营中的环境和社会风险得到缓解。此外，它符合《中华人民共和国节约能源法》，《公共建筑节能设计标准》，《建筑工程绿色施工规范》以及其他执行可持续性考虑的相关政策和法规。

Additionally, during the design stage, environmental impact assessments will be conducted in accordance with application regulations to identify environmental and social impact, controls and mitigation measures will be made to minimize the impact on environment. During the construction stage, mitigation measures and protection of the eco-system are strictly implemented and monitored. 此外，在设计阶段，项目将根据申请规定进行环境影响评估，以识别环境和社会影响，并采取控制和缓解措施以尽量减少对环境的影响。在施工阶段，严格执行和监控保护生态系统的缓解措施和控制。

GZ Metro’s Green Finance Working Group (“GFWG”) is responsible for the management of this GFF and the compliance of all financing instruments issued under the Framework. The GFWG consists of senior representatives from the following departments, including:

- Financial Management Department
- Strategic Development Department

- Construction Business Headquarters
- Chief Engineer Office
- Legal Contract Department

广州地铁绿色融资工作组负责本框架的管理和框架下所有融资工具的合规性。工作组成员由来自以下部门的高级代表组成，包括：

- 财务管理部
- 战略发展部
- 建设事业总部
- 总工程师室
- 法律合约部

The GFWG may be supplemented from time to time, or expanded, by the inclusion of representatives from other relevant teams.

The GFWG will:

- Meet at least two times each year, endeavoured to be distributed evenly throughout the year
- Ratify Eligible Green Projects, which are initially proposed by the constituent team members
- Undertake regular monitoring of the asset pool to ensure the eligibility of Green and/or Social Projects with the criteria set out in GZ Metro's GFF Section 1, Use of Proceeds, whilst replacing any ineligible Green and/or Social Projects with eligible new Green and/or Social Projects
- Ensure that projects comply with GZ Metro's Environmental and Social Risk Management framework as well as applicable local governmental regulations and projects no longer meeting the selection criteria detailed in this Framework will be removed and/or substituted on a best efforts basis
- Facilitate regular reporting on any Green, Social or Sustainability issuance in alignment with our Reporting commitments
- Manage any future updates to this Framework
- Ensure that the approval of Eligible Green Projects will follow the Company's existing credit/loan/investment approval processes

工作组成员可能会不时补充或扩大，以包括其他相关团队的代表。

工作组成员将：

- 每年至少见面两次，力求全年平均分配
- 批准由组成团队成员动议的合格绿色项目
- 对资产池进行定期监控，以确保绿色和/或社会项目符合上述第 1 节收益使用中规定的标准，同时将任何不合格的绿色和/或社会项目替换为符合条件的新绿色和/或社会项目
- 确保项目符合广州地铁的环境和社会风险管理框架以及适用于当地政府法规，不再符合本框架标准的项目将在尽最大努力的基础上被删除和/或替换
- 根据我们的报告规条，进行任何绿色、社会或可持续问题的定期报告
- 管理及更新此框架
- 确保符合条件的绿色项目将遵循公司现有的信贷/贷款/投资审批流程进行审批

3. Management of Proceeds 募集资金管理

The proceeds of each GZ Metro's GFT will be deposited in the general funding accounts and earmarked for allocation towards the Eligible Green Projects. GZ Metro will maintain a GFT Register to track the use of proceeds for the GFT. Green Finance Allocation Register will be established to record the allocation of green finance proceeds.

广州地铁绿色融资交易募集资金将被存入一般性账户，并根据分配和使用情况拨给指定合格绿色项目。公司将对绿色融资交易进行注册，以追踪绿色债发行募集资金的具体使用。绿色融资募集资金注册，建立后将用于绿色融资资金用途记录。

The Register will contain, for each GFT launched, information including:

注册将包括每笔绿色融资交易的以下信息：

1. GFT Details: ISIN (if applicable), Pricing Date, Maturity Date and etc.

绿色融资交易详情：ISIN (如适用)、定价日期、到期日等。

2. Eligible Green Project Allocation List: Information including:

- The Eligible Projects List, including for each Eligible Project, the Eligible Green Project category, project description, project location, Group's ownership percentage, total project cost, amount allocated, settled currency, etc.
- Amount of unallocated Proceeds

符合条件的绿色项目分配清单：信息包括：

- 合格项目清单，包括每个合格项目、合格绿色项目类别、项目描述、项目位置、集团所有权百分比、项目总成本、分配金额、结算货币等。
- 未分配的收益金额

It is GZ Metro's intention to deploy proceeds of each GZ Metro's GFT to Eligible Green Projects within a 2 years. A small amount of issuance proceeds not allocated to Eligible Green Projects will be held in accordance with GZ Metro's normal liquidity management policy, such as Notice Deposits. 广州地铁希望每笔绿色融资交易募集资金都能在 2 年内投入到合格绿色项目的使用中。若有少量资金无法投入合格的绿色项目，集团将做符合公司例行一般流动性管理政策的操作，例如将资金存入通知存款。

4. Reporting 报告

Allocation Reporting 分配报告

GZ Metro will provide information on the allocation of the net proceeds of its Green Financing Instruments in a Green Finance Report. Such information will be provided on an annual basis until all the net proceeds have been allocated. The information will contain at least the following details:

- 1) List of Eligible Green projects
- 2) The amount of Proceeds allocated to each Eligible Green Project category
- 3) When possible, descriptions of the Eligible Green Projects financed, such as project locations, amount allocated, etc.

- 4) Selected examples of projects financed
- 5) Percentage of financing vs. refinancing
- 6) Amount of unallocated Proceeds

集团将每年发布绿色融资年报，提供有关绿色融资工具的净收益分配资讯，直到交易募集资金被完全分配。信息将至少包含以下细节：

- (1) 合格的绿色项目清单
- (2) 分配给每个合格绿色项目类别的收益金额
- (3) 在允许的情况下，对符合条件的绿色项目的绿色项目进行说明，例如项目地点、分配金额等
- (4) 受资助项目的例子
- (5) 融资与再融资的百分比
- (6) 未分配收益金额

Furthermore, GZ Metro will confirm that the use of proceeds of the GFT conforms to this GFF.

此外，广州地铁将确认绿色融资交易所得款项的使用符合此绿色融资框架。

Impact Reporting 影响报告

Where possible and subject to data availability, the Group will provide reporting on the environmental benefits of the Eligible Green Projects potentially with the following impact indicators. In addition, calculation methodologies and key assumptions will be disclosed.

当情况允许并有可用数据时，集团将提供符合条件绿色项目环境效益的报告，报告可能具有以下影响指标。此外，集团将披露计算方法和主要假设。

Eligible Green Projects Categories 符合条件的绿色项目类别	Impact Indicators 影响指标
Low Carbon Transportation 低碳运输	<ul style="list-style-type: none"> ▪ Km of tracks built 建造的轨道公里数 ▪ No. of passenger 乘客人数 ▪ Annual GHG emissions reduced or avoided in (in tonnes of CO2 equivalent p.a.) 温室气体年度减排量(每年以吨计的二氧化碳)
Pollution Prevention and Control 污染预防和控制	<ul style="list-style-type: none"> ▪ No. of noise barriers installed 安装的隔音屏障数量 ▪ Reduction in NOx, PM10 and PM2.5 emissions (in tonnes) 氮氧化物、PM10和PM2.5的减排量(吨)
Energy Efficiency 能源效率	<ul style="list-style-type: none"> ▪ Amount of energy saved (in MWh) 节省的能源量(兆瓦时) ▪ Percentage annual energy efficiency gain relative to an established baseline 相对于既定基线的年度能源效率增益百分比

Renewable Energy 可再生能源	<ul style="list-style-type: none"> ▪ Installed renewable energy production capacity 安装可再生能源生产能力
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The Green Finance Report will be made public on GZ Metro's website.

绿色融资交易报告将在广州地铁官网上公开发布。

External Review 外部核查

GZ Metro has engaged Sustainalytics to assess this GFF and its alignment with the ICMA's GBP and LMA's GLP and issue a Second Party Opinion accordingly. In addition, the green bond has been certificated under HKQAA's Pre-Issuance Stage Certification of Green and Sustainable Finance Certification Scheme.

广州地铁已聘请 Sustainalytics 评估此绿色融资框架及其与 ICMA 的绿色债券原则和 LMA 的绿色贷款原则的一致性，并发布了第三方意见。另外，本框架下的绿色债券已经完成 HKQAA 绿色和可持续金融认证计划下的发行前阶段认证。

GZ Metro's GFF, together with Sustainalytics's Second Party Opinion and HKQAA's Pre-issuance Stage certificate will be made public via GZ Metro's website.

广州地铁的绿色融资框架以及 Sustainalytics 的第三方意见及 HKQAA 的发行前阶段证书将通过广州地铁的网站公布。

Amendments to this Framework

The GFWG will review this Framework on a regular basis, including its alignment to updated versions of the Principles as and when they are released, with the aim of adhering to best practices in the market. Such review may result in this Framework being updated and amended. The updates, if not minor in nature, will be subject to the prior approval of the Group and Sustainalytics and HKQAA. Any future updated version of this Framework that may exist will either keep or improve the current levels of transparency and reporting disclosures, including the corresponding review by an external reviewer. The updated Framework, if any, will be published on GZ Metro's website and will replace this Framework.

本框架的修订

工作组成员将定期审查本框架，包括确保原则在发布时与更新版本一致，以达到最佳市场守则。此类审查会导致本框架的更新和修订。这些更新，如果并非次要，将需经过本集团、Sustainalytics 和 HKQAA 的事先批准。本框架的任何更新版本将保持或提高当前的透明度和报告披露水平，包括由外部审查员进行的相应审查。更新后的框架(如有)将发布在广州地铁官网上，并取代本框架。