Sustainable Fitch
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Public Finance
Public Entities
United Kingdom

Greater London Authority

Second-Party Opinion — Green Framework

Excellent ☑ | Good | Aligned | Not Aligned

Framework Type	Green
Alignment	✓ Green Bond Principles 2021 (ICMA) ✓ Green Loan Principles 2023 (LMA/LSTA/APLMA)
Date assigned	2 November 2023

See Appendix B for definitions.

Pillar	Alignment	Key Drivers
Use of Proceeds	**Excellent**	• All use of proceeds (UoP) categories described within this framework are aligned to the ICMA Green Bond Principles (GBP) and Green Loan Principles (GLP), and demonstrate clear environmental benefit.
Use of Proceeds – Other Information	**Good**	• Clear descriptions of eligible projects and a ban on controversial activities positively affect this section's score. • Whilst the framework's score for this section is positive, it is limited by its degree of commitment to prioritise the financing of new projects.
Evaluation and Selection	**Excellent**	• The framework describes a multi-layer project approval process with clear separation of functions. This is a clear demonstration of best practice, aligned to the GBP and GLP. Furthermore, a good balance of relevant expertise is utilised in the process.
Management of Proceeds	**Excellent**	• The use of an SPV to segregate funds is a demonstration of best practice, aligned to the GBP and GLP.
Reporting and Transparency	**Good**	• The Greater London Authority (GLA) commits to annual allocation and impact reporting until full allocation of proceeds and will seek third-party verification of this reporting. This is aligned to the GBP and GLP. • The selection of impact metrics also aligns with the ICMA Harmonized Framework for Impact Reporting.

Use of Proceeds Summary

Green	Renewable Energy Energy Efficiency Clean Transportation

Source: London green financing framework 2023

Relevant UN Sustainable Development Goals

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Framework Highlights

Sustainable Fitch considers transactions under this green finance framework to be aligned with the ICMA GBP and GLP.

The 2023 London green financing framework will be utilised by the GLA to issue green bonds. The proceeds of these green bonds will finance expenditure to tackle the climate crisis and some of London's other environmental challenges. All proceeds issued under the framework will support the Mayor of London's carbon reduction and environmental goals, as laid out in the London Environment Strategy. The Mayor of London has declared a climate emergency and has set a net-zero carbon by 2030 target for London.

The scale and speed of activity required to meet London's 2030 net-zero target will need to be supported by large levels of financing. The aim of the green bond programme to be issued under this framework is to attract significant investment from the private sector for green projects that can help London transition to a low-carbon society.

The financing for green projects will initially come from GLA's own cash resources. However, upon favourable bond market conditions, the GLA will look to launch the green bond programme, with the proceeds being used to refinance any initial commitments made. Further bond issuance under the programme would finance any new projects identified on a rolling annual basis. The minimum amount of debt to be provided to eligible organisations is GBP1 million for up to 25 years.

A host of organisations will be eligible for financing via a green finance facility. These include GLA Group; London local authorities; social housing providers; National Health Services' bodies; and universities and colleges. Eligible projects are encouraged by the GLA to stick to suggested timescales. For example, procurement should start within six months of finance allocation, construction within 18 to 21 months and projects should be operational within three years.

Source: Sustainable Fitch, London green financing framework 2023

Entity Highlights

The GLA was established in 2000 and is the democratically elected strategic authority for London. It serves a population of almost nine million people and consists of two distinct branches: the Mayor of London, Sadiq Khan, and the London Assembly.

The mayor has an executive role, providing citywide leadership and creating policies.

The London Assembly consists of 25 members, who are elected by Londoners, and are responsible for holding the mayor accountable. The assembly publicly examines the policies the mayor wishes to implement.

The GLA Group consists of five functional bodies:

- Transport for London (TfL): the integrated transport authority, responsible for running most of the capital's transport network.
- The Mayor's Office for Policing and Crime: oversees the work of the Metropolitan Police Service.
- The London Fire Commissioner: responsible for providing London's fire and rescue service.
- The London Legacy Development Corporation: responsible for delivering the legacy of the London 2012 Olympic Games by further developing the Queen Elizabeth Olympic Park.
- The Old Oak and Park Royal Development Corporation: manages the regeneration of the Old Oak opportunity area.

In 2018, the mayor published an environment strategy that outlined plans to turn London into a zero-carbon city by 2050. This was published alongside the 1.5°C climate action plan, which outlined the pathways, policies and actions needed to achieve this goal. The mayor subsequently declared a climate emergency for London as a result of scientific consensus

converging upon the need for more rapid climate action. The mayor also brought forward London's net-zero target from 2050 to 2030 to address the need for more rapid action.

The GLA commissioned Element Energy to analyse four possible pathways for London to reach the new net-zero carbon by 2030 target. The mayor's preferred option from the report is the accelerated green pathway, which estimates the need for a nearly 40% reduction in the total heat demand of London's buildings, requiring over 200,000 homes to be retrofitted each year; 2.2 million heat pumps in operation in London by 2030; and a 27% reduction in car vehicle kilometres travelled by 2030.

Investments in capital infrastructure across buildings, energy networks and transport systems will be required to transform London into a zero-carbon city. For example, the accelerated green scenario requires at least GBP75 billion of investment between now and 2030 in infrastructure, and GBP108 billion in total by 2050.

The GLA has initiated various programmes in pursuit of its green targets. TfL, for instance, has a strategy to move the more than 1.5TWh of the electricity it uses annually to 100% renewable energy. Plans are currently being explored to jointly procure renewable electricity in this way for the entire GLA Group. Public and private investors are also being encouraged to invest directly into new renewable projects, which will in turn supply energy to the GLA Group.

A non-exhaustive list of other programmes underway include:

- Warmer Homes, which provides grant funding for heating and insulation measures that will improve the energy efficiency of fuel-poor Londoners.
- London Power, a landmark fair-priced, green energy company, available exclusively to Londoners to cut fuel bills and help make the capital a zero-carbon city.
- Retrofit Accelerator, the award-winning programme to reduce carbon emissions and increase energy efficiency in London's non-domestic public buildings through retrofitting.
- London Community Energy Fund, helping community groups to develop local community power projects such as putting solar panels on schools, community halls and sports centres.

Source: Sustainable Fitch, London green financing framework 2023, Greater London Authority website

Use of Proceeds – Eligible Projects	**Alignment: Excellent**
Company Material	**Sustainable Fitch's View**
Renewable Energy	
• Financing investments to decarbonise and increase flexibility of the energy system. • Investments will be dedicated to generation, transmission and distribution, and storage of energy, from renewable and secondary or waste heat sources, operating at life-cycle emissions of less than 100gCO2e/kWh. • This category includes schemes that contribute to the decarbonisation and flexibility of the energy system. • Investments will also be available for the utilisation of secondary or waste heat sources, often in conjunction with heat pumps, in district heat networks, system-level storage and demand management or flexibility services. • Biomass for combustion is not included.	• For the assessment of this UoP, we analyse potential investments that span the renewable energy value chain. This includes energy production, distribution and storage. • The GLA's description of this UoP is broad, and as such, is inclusive of a wide range of technologies to produce both electricity and heat. This is understandable given the wide remit of the GLA's green finance facility. The GLA's environment team has confimed that, to date, the vast majority of the renewable energy projects financed by the organisation have been solar PV. This is likely to be the case going forward as well, as the environment team views solar PV projects, as the most feasible renewable projects for London's dense urban environment. Wind projects, such as on-shore wind in the Thames Estuary, are yet to be financed by the GLA, but they are eligible under this framework. • Solar and wind energy projects help to displace the use of fossil fuels and contribute to avoided GHG emissions. Generating electricity from wind and solar energy has low environmental impact and does not create any CO2 emissions at the point of generation. The EU taxonomy does not set thresholds for alignment with technical screening criteria (TSC) for solar and wind projects. As such, solar and wind projects, by definition, are aligned to the EU taxonomy's TSC. • There are environmental impacts, such as GHG emissions and land use change, associated with the extraction of materials (e.g. rare earth mineral mining) to build solar panels and wind turbines. Similarly, the manufacture of solar panels and wind turbines will have associated GHG emissions. Measures to properly manage waste from these assets, such as recycling of wind turbines and solar panel, and measures that assist biodiversity, can act to minimise negative environmental impacts. Examples of suitable mitigation measures are detailed within the DNSH criteria of the science-based EU taxonomy. • Waste heat projects will also be a target of the GLA's green financing facility. The GLA is looking to enable projects to access sources of waste heat to support the creation of new low-carbon heat networks or the decarbonisation of existing heat networks. An example of such a district heating project is the Meridian Water Heat Network. This communal heat network will replace local energy generation by supplying heat and hot water through a network of new pipes. The network is forecast to save nearly 5,000tCO2 per year compared to gas-fired heating, once it starts receiving waste heat from the Edmonton Energy Recovery Facility, a waste incineration plant, from 2026 onwards. • This project is eligible under the EU taxonomy's TSC for distric heating distibution. In order for a distict heating system to align with the TSC of the EU taxonomy, it must demonstrate that it meets the EU's definition of an efficient district heating system. This is defined as using at least 50% renewable energy, 50% waste heat, 75% cogenerated heat or 50% of a combination of such energy and heat. It remains to be seen whether all district heating systems financed under this UoP category will algn with the efficient district heating system defintion.

- As per the GLA's summary report on secondary heat published in 2013, other sources of waste heat that may be utilised in London include waste heat from industry and London underground ventilation shafts. For example, the Bunhill 2 Energy Centre utilises waste heat from TfL's London Underground network to provide heating and hot water to more than 1,350 homes, a school and two leisure centres in the London Borough of Islington.

- Heat is often produced by combusting fuels such as natural gas. The combustion of fossil fuels and municipal waste negatively impacts the environment, as these activities produce toxic air pollution and emit GHGs. However, waste heat recovery can provide environmental benefit by lowering GHG emissions per building served compared to gas-fired heating, which is typical in London. As such, waste heat recovery can contribute to avoided GHG emissions.

- The Meridian Heat Network will utilise waste heat from a waste incineration plant. Investments in such projects risks locking in the heavily polluting industry of waste incineration if the network remains dependent on the plant for heat. Using waste as a feedstock increases its economic value, as waste can be burned profitably, thus increasing demand for municipal waste. This practice risks undermining waste reduction efforts. The discourse above highlights the trade offs of environmental impacts that need to be balanced when choosing waste heat sources to utilise.

- The construction and operation of facilities that produce heat/cool using waste heat is not subject to TSC under the EU taxonomy. As a result, such projects are aligned. These projects are eligible under this UoP, alongside investments in electric heat pumps.

- An example of a heat pump project is Southwark Council's use of ground water source heat pumps that utilise the London aquifer to keep 2,000 Southwark homes warm. In the case of operating electric heat pumps, in order to meet the EU taxonomy TSC thresholds, projects must demonstrate that the global warming potential of refrigerants in use does not exceed 675. There are also energy efficiency requirements that need to be fulfilled, which vary depending on the use case of the heat pump. It remains to be seen whether heat pumps funded under this UoP category will align with these TSC.

- The distribution and storage of energy derived from wind, solar and waste heat help to displace the use of energy derived from fossil fuels. These activities are aligned with the TSC of the EU taxonomy.

- The development of electrolysers for the production of green hydrogen will be eligible for funding under this UoP category. Green hydrogen can help to displace the use of fossil fuels in hard-to-abate sectors such as those with high heat demands that cannot be met via electricity. Measures addressing pollution prevention and impacts to water quality and biodiversity can act to minimise environmental harms from this activity.

- The production and storage of hydrogen under a GHG emissions threshold of 3tCO2e/tH2 that achieves emissions savings of 73.4% relative to a fossil fuel comparator of 94gCO2e/MJ is aligned with the screening criteria thresholds of science-based taxonomies such as the EU

	taxonomy. For hydrogen projects, which may be funded under this UoP, granular information on the verification of energy savings achieved is required to fully align with the EU taxonomy TSC. • The framework contains a clear ban on biomass projects, this ban extends to biogasses and biofuels. Projects that involve environmental harm, the replacement of fossil fuel boilers, waste incineration and blue hydrogen are all banned as well. • We expect funds to be disbursed in line with the ICMA's renewable energy green bond category.	
Energy Efficiency • Financing investments that improve energy efficiency in existing buildings to improve the energy performance certificate (EPC) ratings, with the aim of helping London's buildings get to an average EPC B rating. • Expectations will be to improve buildings by a minimum of one, but preferably by two EPC bands; to uplift the energy efficiency score (or reduce consumption) of a building by at least 30%; or to get to a "good practice" Energy Utilisation Index (measured in kWh/m2) for the building according to its typology. • This also includes investments that: – enable monitoring and optimisation of the amount and timing of energy consumption such as smart meters, load control systems, sensors or building information systems; – reduce losses in the delivery of bulk energy services or enhance integration of intermittent renewables such as energy storage, smart grids and demand response; and – upgrade street lighting to LED lighting.	• For the assessment of this UoP, we analyse potential investments in energy efficiency improvements to buildings; energy storage and distribution improvements; and LED street lighting. • Green buildings are essential to progress towards net-zero emissions by 2050. The UN Environmental Programme estimates that the real estate sector contributes around 30% of worldwide GHG emissions and accounts for nearly 40% of energy consumption. The long lifespan of buildings places further emphasis on the need to improve energy efficiency in order to mitigate energy consumption over time and achieve net-zero emissions by 2050. • The EU taxonomy, which has stringent criteria for climate change mitigation, looks specifically at energy performance indicators. For the renovation of an existing building to be aligned with the TSC of the EU taxonomy, the renovation must result in primary energy demand (PED) reductions of at least 30%. Energy efficiency projects funded under this UoP will be aligned to the EU taxonomy TSC, provided that initial PED and estimated improvements are based on a detailed building survey, an energy audit conducted by an accredited independent expert or any other transparent and proportionate method, and are validated through an EPC rating. • The GLA expects that its investments in energy efficiency projects will result in buildings achieving an improvement of at least one EPC band. The GLA aims to achieve an average EPC B rating for London's buildings. As it stands, EPC B-rated buildings perform in the top 15% of London's housing stock. As such, achieving this level of energy performance confers environmental benefit and aligns with the TSC for buildings built before 31 December 2020. New buildings from 1 January 2021 onwards need to have 10% less PED than nearly zero-energy buildings. It remains to be seen how many buildings or renovations to be financed by the green finance facility will reach 30% PED reduction or achieve EPC B certification, as of the time of our assessment. • The installation, maintenance and repair of energy efficiency equipment within buildings can be seen as beneficial to the environment by lowering energy consumption and	

associated GHG emissions. This ultimately contributes to avoided GHG emissions. These activities are eligible with the TSC of the EU taxonomy. For full alignment, individual components and systems are required to be rated in the highest two classes of energy efficiency. It remains to be seen whether energy efficiency equipment funded under this UoP category will meet this requirement. Choosing low impact components and materials as part of works can help to avoid environmental harm.

- Investments in smart grids, smart meters and lithium-ion/nickel-metal hydride batteries contribute to the grid's modernisation. They enable integration and grid visibility of renewables and energy storage. These activites are aligned with the TSC of the EU taxonomy. Actions to upgrade and/or expand grid infrastructure, pay due regard to the management of waste, electromagnetic radiation and avoidance of polychlorinated biphenyls (PCBs), which can have toxic effects on wildlife. These actions can mitigate harmful impacts to the environment.

- The GLA's project approval process lists exclusionary criteria that states fossil fuel boilers and any project that has a negative impact on the environment will not be considered. Greater granularity for how this applies to building works can be beneficial to the environmental credentials of this framework.

- An example of a building retrofit project eligible for financing under the green finance facility is that of the former Granada/EMD Cinema, on Hoe Street in Waltham Forest. The funded measures will reduce the energy consumption of the building compared to a baseline by 68% and Waltham Forest Council's CO2 consumption by 387t per annum. The energy conservation measures include air source heat pumps, a building fabric upgrade, new lighting and controls, a building management system and roof top solar PV.

- Implementing more efficient public lighting contributes positively to making cities more sustainable by reducing energy demand and associated GHG emissions. This activity is eligible under the EU taxonomy's TSC. However, more granular information on the components used and the energy efficiencies achieved is required to assess full alignment of this activity with the TSC of the EU taxonomy. For example, individual components and systems need to be rated in the highest two populated classes of energy efficiency to meet TSC thresholds.

- The positive environmental impacts of more efficient LED public outdoor lighting has been shown to negatively affect biodiversity. A study by Newcastle University found that LED streetlights reduce insect populations by 52% compared to the 41% reduction observed when traditional sodium bulbs are used. Considerations, such as the choice of light wavelength, may be important in mitigating environmental harms from outdoor lighting.

- An example of a LED lighting project eligible for financing under the green finance facility is the upgrade of about 11,000 LED streetlights in the London Borough of Richmond upon Thames. The new LED street lights will be monitored by Richmond upon Thames Council's computer management software and will have lower running costs, using up to 60% less energy than a conventional sodium street light. The roll out is estimated to save 1,185tCO2 annually.

	• We expect funds to be disbursed in line with the ICMA's energy efficiency green bond category.
Clean Transportation	
• Finance investments in low-carbon transport projects, such as: – operations that reduce emissions, both GHG and pollutants, of vehicles or the transport system, for example, ultra-low emission zones (ULEZ); – zero direct emission vehicles, including public transport and electric vehicles, and associated infrastructure, including electric vehicle charging points; and – infrastructure to support the expansion of active travel modes and options, specifically walking and cycling infrastructure.	• For the assessment of this UoP, we analyse potential investments in London's ULEZ; zero tailpipe emissions vehicles and their infrastructure; and walking and cycling infrastructure. • TfL is the integrated strategic transport authority for London. Its main activity is to provide integrated transport facilities and services in Greater London, including buses, the London Underground, light railway, trams, river services, a cable car and the management of certain roads in London and the congestion charge scheme. It is likely to be the foremost receipient of funds under this UoP. • The mayor's 2018 transport strategy is underpinned by a target for 80% of all journeys to be made by walking, cycling or using public transport by 2041. Bus, cycling and walking action plans are in place to support this target. The mayor revised his strategy in November 2022 by adding a supplementary proposal. This proposal would allow TfL to expand the ULEZ across London. • The creation of ULEZ is environmentally positive, as it drives behavioural change through policy regulation to promote the uptake of more efficient and less polluting vehicles. The implementation of ULEZ in London has increased air quality significantly in the city. • TfL estimates that the ULEZ has contributed to a transformational impact on air quality by reducing roadside NO_2 levels by 46% in central London and 21% in inner London compared to what they would have been without the scheme (as of October 2022). NO_2 pollution is associated with negative health outcomes. NO_2, for example, inflames the lining of the lung and reduces immunity to lung infections such as bronchitis. Other common health impacts associacted with NO_2 are respiratory symptoms such as shortness of breath and coughing. Carbon emissions from vehicles have also reduced. Cumulatively since 2019, it is estimated that the ULEZ has led to a reduction of around 800,000 tonnes of CO_2 emissions from vehicles across London over the four-year period compared to without the ULEZ, a saving of 3% • The environmental benefits of the ULEZ span beyond the GLA boundaries, since a lot of the transportation entering London comes from other regions of the UK and other countries. Therefore, this business activity has positive environmental knock-on effects. • Despite the positive environmental effects, there are more stringent environmental criteria that could be deployed to tighten emission standards to include more types of vehicles and ensure more positive environmental effects. For example, EU taxonomy states that for urban and suburban road passenger transportation, vehicles should have zero direct tailpipe emissions to adhere to the most stringent sustainability criteria. However, these EU taxonomy criteria are targetted at individual car manufacturers and may be difficult to replicate at the scale of a city. Infrastructure gaps in London, such as an insufficient number of electric vehicle	11 SUSTAINABLE CITIES AND COMMUNITIES

charging points to support the expansion of electric vehicle use, also limit TfL's ability to tighten emission standards to include more types of vehicles. Similarly, there are socio-economic constraints such as the cost of acquiring new low-emitting vehicles for lower income drivers.

- The London energy and GHG emissions inventory is produced annually. The latest data, for 2020, was published in January 2023. The data shows that, in 2020, London's CO2e emissions were 28.1 million tonnes. This showed that transport was responsible for 6.4tCO2e emissions, equal to 22.6% of total emissions. Investing to decarbonise this industry can contribute significantly to GHG emissions reductions targets. Electric vehicles and low-emitting vehicles can help to avoid tailpipe GHG emissions.

- Currently, nearly 27 million trips are made every day in London, but only six out of every 10 trips are made on foot, by cycling or by public transport. Within the mayor's transport strategy that projected that by 2041, 33 million trips will be made every day. TfL aims for eight out of every 10 trips to be made on foot, by cycle or by public transport in this same year.

- The GLA's description of zero direct emission vehicle projects and their supporting infrastructure (e.g. electic vehicle charging points) is aligned with the TSC of the EU taxonomy. Examples of zero direct emission vehicles include cars; buses; underground and elevated railways; and various forms of public transportation. TfL has a target to make London's bus fleet zero emission by 2030. Such a programme of investment would be eligible for financing under this UoP. Considering the recyclability of components, as well as noise pollution, can mitigate negative environmental impacts from vehicles. In the case of road vehicles, paying due regard to pollution from tyres is important to mitigating environmental harms.

- Building infrastructure that enables active travel modes, such as walking and cycling, can benefit the environment. Active modes of transport can help to displace road vehicle use. This can reduce congestion and its associated affects on air quality. Similarly, displacing road vehicle use avoids associated GHG emissions. In 2022, there were 1.2 million daily cycle journeys in London. TfL set a target to have 1.6 million daily cycle journeys in London by 2030. Since the publication of TfL's first cycling action plan in 2018, over 340km of high-quality routes have been built under a unified Cycleways brand, doubling the size of the network since 2018.

- To mitigate potential environmental harms from the construction of this infrastructure, projects should pay due regard to proper management of construction waste. This includes making efforts to recycle and reuse materials. Measures to reduce noise, dust and pollutant emissions during construction are also important mitigation measures.

- Vehicles powered through fossil fuel combustion and ethanol are banned from receiving financing under this framework.

- We expect funds to be disbursed in line with the ICMA's clean transportation green bond category.

Source: London green financing framework 2023	Source: Sustainable Fitch, London Environment Strategy 2018, TfL sustainability report 2021, TfL bus action plan, TfL cycle action plan 2, TfL walking action plan, GLA website

Use of Proceeds – Other Information	Alignment: Good
Company Material	**Sustainable Fitch's View**
• An amount equivalent to the net proceeds raised under this framework will be exclusively applied to finance or refinance, in part or in full, new or existing, eligible green projects. • The distribution between new financing and refinancing will be reported on in the annual green bond impact report. • The GLA's aims and associated environmental strategies align with the high-level climate change mitigation environmental objective of the GBP. • Dependent on the nature of the project, the investment in the eligible projects can be measured through asset value (refinancing existing assets) or capex. For capex, a lookback period of 24 months prior to the time of debt issuance will be applied. The GLA intends to allocate the net proceeds, or an amount equivalent to the net proceeds, raised according to this framework to eligible projects within 24 months of issuance.	• The GLA has stated that it intends to allocate at least 25% of net proceeds to current and future expenditures. Committing to a minimum threshold of new project financing ensures the additionality of positive environmental impacts for the funds raised. • The financing for the GLA's green finance fund (GFF) will initially come from the GLA's own cash resources. However, subject to favourable bond market conditions, the GLA will launch a green bond programme, with the proceeds being used to refinance any initial commitments made from the GFF. Further bond issuance under the programme would finance any new projects identified, on a rolling annual basis. • The green bond framework has stated that net proceeds from the issuance of green bonds can be used to refinance existing projects and expenditures, with a lookback period of24 months prior to the date of issuance. We deem this to be aligned with standard market practice amongst labelled bond issuers. • The GLA has clearly laid out the criteria for a project to be selected for green financing, which is positive for the assessment. • The GLA has provided an exclusion list of controversial activities it will not finance under its green finance framework. Disclosure of this exclusion list provides good assurance that all proceeds will be allocated with the intention to deliver positive environmental impact.
Source: London green financing framework 2023	Source: Sustainable Fitch

Evaluation and Selection	Alignment: Excellent
Company Material	**Sustainable Fitch's View**
• The process to evaluate, select and allocate green bond proceeds under the framework will be administered by subsidiary London Treasury Limited (LTL). This will be done through the following steps: – potential projects will be screened to ensure compliance with the GFF's gateway selection criteria and the framework. All projects submitted for approval will identify and quantify the expected outputs and outcomes, in line with the UoP criteria for this gramework; – suitable projects will be submitted to the GLA's green finance steering committee to confirm they have no objections to those that will go forward for detailed assessment; – eligible projects will undergo detailed assessment before being recommended to the GFF credit committee; and – GFF credit committee will be solely responsible for approving eligible projects for financing. Decisions to allocate finance will require a consensus decision by the credit committee and will be documented and filed. • Members of the credit committee shall consist of the following GLA officers: executive director of resources (committee chair); executive director of good growth; chief investment officer; and the assistant director of environment and energy.	• The GFF's credit committee is responsible for approving eligible projects for financing under this framework. This committee consists of GLA officers from multiple departments, which includes members of the resources, investment, environment and energy departments. In addition, the committee will include at least two independent members with relevant experience and expertise. • We positively view the fact that this evaluation and selection process is overseen by a multi-disciplinary team, with a broad range of skillsets. The committee contains a member with environmental expertise. This provides confidence to stakeholders that relevant environmental knowledge has been used in the approval process. • A green finance steering committee is involved in the process of proposing projects to be financed. Providing details of the members of this committee can be of value to stakeholders and benefit the ESG credentials of this green finance framework. • The evaluation and selection of eligible projects under this green finance framework will be administered by LTL. • There are multiple layers of control over the evaluation and selection process. Initially, potential projects are screened against GFF gateway selection criteria and the green finance framework. They are then submitted to GLA's green finance steering committee for further screening. If the committee raises no objection, then the project undergoes detailed assessment before being recommended to the GFF credit committee who makes the final decision on whether to approve a project for funding on a consensus basis. We deem this to be a comprehensive project evaluation and selection process. Project proposal and project approval are separate processes overseen by

Evaluation and Selection	Alignment: Excellent
Company Material	**Sustainable Fitch's View**
• In addition, the committee will include at least two independent members, with relevant experience and expertise.	different committees; this is a demonstration of best practice and helps to mitigate conflicts of interest.
Source: London green financing framework 2023	Source: Sustainable Fitch

Management of Proceeds	Alignment: Excellent
Company Material	**Sustainable Fitch's View**
• In line with the recommendations of the Green Finance Institute, the mayor will establish an internally manged facility called the GFF. It will be administered by LTL, the GLA's investment and treasury management subsidiary, which is authorised and regulated by the Financial Conduct Authority. The proceeds raised by a SPV pursuant to a green bond issuance under this framework will be deployed via the GFF and allocated to eligible projects of the GLA Group, as well as strategic public sector partners across London, to support capital investment in their decarbonising and environmental projects. • Unallocated proceeds issued under the framework will be held as cash deposits or in sterling denominated money market funds in line with GLA's treasury management policy.	• The GLA has established an internally managed facility called the green finance fund, which is administered by LTL, the GLA's investment and treasury management subsidiary. The GLA has confirmed within its green finance framework that green bond proceeds will be raised by an SPV. • Segregating funds via an SPV prevents comingling and provides enhanced assurance that funds will be used to bring about positive environmental impacts throughout an instrument's term. • Unallocated proceeds issued under this framework will be held as cash deposits or in sterling denominated money market funds in line with GLA's treasury management policy. GLA's decision to keep unallocated proceeds invested in company liquidity is common market practice. However, investing unallocated proceeds in short-term green projects that fully comply with green principles can help maximise positive environmental impact throughout the instrument's term. • GLA has committed to undertaking regular monitoring of its asset pool to ensure the eligibility of green projects with the criteria set out in the green finance framework. The fund also commits to replacing any green projects that become ineligible with new eligible green projects on a best-effort basis. We positively view these monitoring measures and removal powers, as they help ensure funds raised are invested in projects delivering positive environmental impact, as intended, throughout the instrument's term. • We view the green financing framework and the information enclosed within to be aligned with the management of proceeds' section of the ICMA Green Bond Principles.
Source: London green financing framework 2023	Source: Sustainable Fitch

Reporting and Transparency	Alignment: Good
Company Material	**Sustainable Fitch's View**
• The GLA will annually, and until full allocation of the green finance debt instrument, publish a green bond impact report on its website. The report will cover, amongst other things, the following: – the net proceeds outstanding from the green financing; – the amount of proceeds allocated to eligible projects; – the amount of unallocated proceeds (if any); and – a complete list of eligible projects financed. • In addition to reporting on broader initiatives and the delivery of objectives in an annual green bond impact report, GLA will publish metrics in line with those referenced in the London green finance framework.	• The GLA has fully committed to reporting on the allocation of its green bonds annually until full allocation of proceeds. This aligns with the recommendations of the ICMA'S Green Bond Principles. • We positively view GLA's commitment to disclosing the proportion of allocated and unallocated proceeds of each bond issued under this framework in its future reporting. Reporting in this way provides transparency to stakeholders. • The GLA intends to procure third-party verification services to provide assurance that the impact and allocation reporting and the data within is an accurate representation of the GFF's activities. • The GLA commits to reporting annually on the positive environmental impact of eligible green projects financed under this framework. This includes reporting on GHG emissions avoided, annual energy savings and installed renewable energy capacity. The GLA discloses a detailed list of impact metrics it will report for each eligible green bond category. The impact metrics chosen are specifically measurable and many align

	with the recommendations of the ICMA Handbook – Harmonised Framework for Impact Reporting. We positively view the GLA's selection of impact metrics, as they align with recognised international market standards.
Source: London green financing framework 2023	Source: Sustainable Fitch

UoP – Examples of Projects / UoP – List of Projects

Renewable Energy	**Meridian Water Heat Network** The Meridian Water Heat Network is part of a GBP6 billion regeneration programme led by Enfield Council. The communal heat network replaces local energy generation by supplying heat and hot water through a network of new pipes. This method of energy supply is a proven technology to help reduce the amount of carbon emissions generated in heating London's homes. The network is forecast to save nearly 5,000tCO2 per year compared to gas-fired heating once it starts receiving the waste heat from the Edmonton Energy Recovery Facility at the North London Waste Authority EcoPark from 2026 onwards. **Retrofit of district heating scheme with water source heat pumps** The project involved the installation of Water Source Heat Pumps (WSHP) to replace existing gas boilers across three council housing estates. The intention is to use the water from the London aquifer and use the WSHP technology to take the naturally heated water to the temperatures required for the district heat network requirements. The heat pumps will use heat from aquifer water, which will be extracted from newly drilled boreholes and installed wellheads. This has significant green credentials, as it is a renewable form of heating. The scheme provides heat to 2,175 households and has forecasted to save 1,774tCO2 per annum.
Energy Efficiency	**Retrofit of the former Granada/EMD Cinema** Funding was provided to the London Borough of Waltham Forest to finance the retrofit of energy efficiency measures within the former Granada/ EMD Cinema, on Hoe Street in Waltham Forest. The Waltham Forest Council, which acquired the former Granada/EMD Cinema in 2019, is in the process of converting it into a theatre, while also preserving the unique heritage of the area. The funded measures will reduce the energy consumption of the building compared to a baseline by 68% and the Council's CO2 consumption by 387t per annum. The energy conservation measures include air source heat pumps, a building fabric upgrade, new lighting and controls, a building management system and rooftop solar PV. **Low-carbon streetlighting for the London Borough of Richmond upon Thames** This project involved the upgrade of about 11,000 LED streetlights for the London Borough of Richmond upon Thames. The new LED street lights will be monitored by the Richmond upon Thames Council's computer management software and will have much lower running costs, using up to 60% less energy than a conventional sodium street light. The roll out is estimated to save annually 1,185t of carbon, the equivalent to taking over 1,000 cars off the road. The project is estimated to save the council GBP440,000 per year in energy costs. The LED street lights will have a colour rendition that provides the optimum ability to reduce the lighting levels at night, and they are designed to produce the same lighting levels as the existing bulbs. The new lights also have an average design life of 25 years compared to about six years for traditional bulbs. **Low-carbon infrastructure to support the new extension at the Tate Modern** Through combining retrofit activities and a pioneering design to link the energy systems of the site's new and old sections, the Tate Modern was able to increase its gallery space by 60% without increasing its carbon footprint and become overall carbon neutral. Energy conservation measures included pioneering transformer waste heat recovery; River Thames bore-hole water cooling; passive measures to building fabric; and "gallery standard" lighting and controls.

Source: London green financing framework 2023

Relevant UN Sustainable Development Goals

• **7.2:** By 2030, increase substantially the share of renewable energy in the global energy mix	
• **9.4:** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.	
• 11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons. • 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.	

Source: Sustainable Fitch, UN

Appendix A: Principles and Guidelines

Type of Instrument: Green

Four Pillars	
1) Use of Proceeds (UoP)	Yes
2) Project Evaluation & Selection	Yes
3) Management of Proceeds	Yes
4) Reporting	Yes

Independent External Review Provider	
Second-party opinion	Yes
Verification	No
Certification	No
Scoring/Rating	No
Other	n.a.

1) Use of Proceeds (UoP)	
UoP as per Green Bond Principles (GBP)	
Renewable energy	Yes
Energy efficiency	Yes
Pollution prevention and control	No
Environmentally sustainable management of living natural resources and land use	No
Terrestrial and aquatic biodiversity conservation	No
Clean transportation	Yes
Sustainable water and wastewater management	No
Climate change adaptation	No
Certified eco-efficient and/or circular economy adapted products, production technologies and processes	No
Green buildings	No
Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP	No
Other	n.a.

2) Project Evaluation and Selection	
Evaluation and Selection	
Credentials on the issuer's social and green objectives	Yes
Documented process to determine that projects fit within defined categories	Yes
Defined and transparent criteria for projects eligible for sustainability bond proceeds	Yes
Documented process to identify and manage potential ESG risks associated with the project	No
Summary criteria for project evaluation and selection publicly available	Yes
Other	n.a.

Evaluation and Selection, Responsibility and Accountability	
Evaluation and selection criteria subject to external advice or verification	No
In-house assessment	Yes
Other	n.a.

3) Management of Proceeds	
Tracking of Proceeds	
Sustainability bond proceeds segregated or tracked by the issuer in an appropriate manner	Yes
Disclosure of intended types of temporary investment instruments for unallocated proceeds	Yes
Other	n.a.

Additional Disclosure	
Allocations to future investments only	No
Allocations to both existing and future investments	Yes
Allocation to individual disbursements	n.a.
Allocation to a portfolio of disbursements	n.a.
Disclosure of portfolio balance of unallocated proceeds	Yes
Other	An allocation report is yet to be published. As such, we are unable to determine additional disclosures.

4) Reporting	
UoP Reporting	
Project-by-project	n.a.
On a project portfolio basis	n.a.
Linkage to individual bond(s)	n.a.
Other	An allocation report is yet to be published. As such, we are unable to determine UoP reporting structure.

UoP Reporting/Information Reported	
Allocated amounts	n.a.
Green bond-financed share of total investment	n.a.
Other	An allocation report is yet to be published. As such, we are unable to determine UoP reporting structure.

UoP Reporting/Frequency	
Annual	Yes
Semi-annual	No
Other	n.a.

Impact Reporting	
Project-by-project	n.a.
On a project portfolio basis	n.a.
Linkage to individual bond(s)	n.a.
Other	An impact report is yet to be published. As such, we are unable to determine the impact reporting structure.

Impact Reporting/Information Reported (exp. ex-post)	
GHG emissions/savings	Yes
Energy savings	Yes
Decrease in water use	No
Other ESG indicators	Yes

Impact Reporting/Frequency	
Annual	Yes

Semi-annual	No
Other	n.a.

Means of Disclosure	
Information published in financial report	No
Information published in ad hoc documents	Yes
Information published in sustainability report	No
Reporting reviewed	No
Other	n.a.

Note: n.a. – not applicable.
Source: Sustainable Fitch, ICMA

Appendix B: Definitions

Term	Definition
Debt types	
Green	Proceeds will be used for green projects and/or environmental-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Green Bond Principles or other principles, guidelines or taxonomies.
Social	Proceeds will be used for social projects and/or social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Social Bond Principles or other principles, guidelines or taxonomies.
Sustainability	Proceeds will be used for a mix of green and social projects and/or environmental and social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines, taxonomies.
Sustainability-linked	Financial and/or structural features are linked to the achievement of pre-defined sustainability objectives. Such features may be aligned with ICMA Sustainability-linked Bond Principles or other principles, guidelines or taxonomies. The instrument is often referred to as an SLB (sustainability-linked bond) or SLL (sustainability-linked loan).
Conventional	Proceeds are not destined for any green, social or sustainability project or activity, and the financial or structural features are not linked to any sustainability objective.
Other	Any other type of financing instrument or a combination of the above instruments.
Standards	
ICMA	International Capital Market Association. In the Second-Party Opinion we refer to alignment with ICMA's Bond Principles: a series of principles and guidelines for green, social, sustainability and sustainability-linked bonds.
LMA, LSTA and APLMA	Loan Market Association (LMA), Loan Syndications and Trading Association (LSTA) and Asia Pacific Loan Market Association (APLMA). In the Second-Party Opinion we refer to alignment with Sustainable Finance Loan Principles: a series of principles and guidelines for green, social and sustainability-linked loans.
EU Green Bond Standard	A set of voluntary standards created by the EU to "enhance the effectiveness, transparency, accountability, comparability and credibility of the green bond market".

Source: Sustainable Fitch, ICMA, UN, EU Technical Expert Group

Appendix C: Second-Party Opinion Methodology

Second-Party Opinion

Second-Party Opinions (SPO) are a way for issuers to obtain an independent external review on their green, social, sustainability and sustainability-linked instruments.

As per the ICMA Guidelines for External Reviewers, an SPO entails an assessment of the alignment of the issuer's green, social, sustainability or sustainability-linked bond or loan issuance, framework or programme with the relevant principles. For these purposes, "alignment" should refer to all core components of the relevant principles.

Sustainable Fitch analysts vary the analysis based on the type of instruments, to consider whether there are defined uses of proceeds or KPIs and sustainability performance targets. The analysis is done on a standalone basis, separate to the entity.

Analytical Process

The analysis considers all available relevant information (ESG and financial). The reports transparently display the sources of information analysed for each section and provide a line-by-line commentary on the sub-factors analysed. The ESG analysts working on an SPO will also engage directly with the issuer to acquire any additional relevant information not already in the public domain or in instrument-related documentation.

An important part of the analysis is the assessment of the E and S aspects of the use of proceeds. In addition to the alignment with ICMA Principle and Guidelines, the analysis may also refer to major taxonomies (e.g. the EU taxonomy for E aspects, and the UN Sustainable Development Goals for S aspects).

Once the analyst has completed the analysis, with commentary for the related SPO, it is submitted to the approval committee, which reviews it for accuracy and consistency. Based on issuer preference and mandate, an SPO can be monitored (annually or more frequently, if new information becomes available) or on a point-in-time basis.

Scale and Definitions

	ESG Framework
Excellent	Sustainable finance framework and/or debt instrument structure is fully aligned to all relevant core international principles and guidelines. Practices inherent to the structure meet excellent levels of rigour and transparency in all respects and are well in excess of the standards commonly followed by the market.
Good	Sustainable finance framework and/or debt instrument structure is fully aligned to all relevant core international principles and guidelines. Practices inherent to the structure meet good levels of rigour and transparency; in some instances, they go beyond the standards commonly followed by the market.
Aligned	Sustainable finance framework and/or debt instrument structure is aligned to all relevant core international principles and guidelines. Practices inherent to the structure meet the minimum standards in terms of rigour and transparency commonly followed by the market.
Not Aligned	Sustainable finance framework and/or debt instrument structure is not aligned to relevant core international principles and guidelines. Practices inherent to the structure fall short of common market practice.

Source: Sustainable Fitch

SOLICITATION STATUS

The Second Party Opinion was solicited and assigned or maintained by Sustainable Fitch at the request of the entity.