

Green, Social and Sustainability Lending Programme – Criteria

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LGFA



New Zealand Local
Government Funding Agency
Te Pūtea Kāwanatanga ā-rohe

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About this Report

The LGFA Green, Social and Sustainability Lending Programme – Criteria (**Criteria**) was developed to provide a detailed background to LGFA borrowers on how to access LGFA Green, Social and Sustainability loan funding.

This document is available at www.lgfa.co.nz

1. Introduction

1.1 Purpose of this Criteria

New Zealand Local Government Funding Agency Limited (**LGFA**) recognises the risks inherent in climate change for both New Zealand and local Councils, and wishes to support New Zealand's shift to a low-carbon economy. LGFA also recognises it has a role to play in New Zealand's contribution to meeting the United Nations' Sustainable Development Goals (**UN SDGs**) and helping its member councils and council-controlled organisations (**CCOs**) to build a stronger and more resilient society.

To help achieve these goals, LGFA lends funds to Councils and CCOs to enable them to undertake green, social and/or sustainability (**GSS**) projects that will help drive forward ambitious climate, environmental and social projects in the New Zealand local government sector (**GSS Loans**). The GSS Loans will be documented as debt securities under LGFA's Multi-issuer Deed, however, we refer to these debt securities as 'GSS Loans' in this Criteria.

This Green, Social and Sustainability Lending Programme – Criteria (**Criteria**) sets out the basis on which LGFA members that are Councils or CCOs (**Borrowers**) can access a GSS Loan.

1.2 Introduction to GSS Loans

LGFA can provide GSS Loans for projects that provide a documentable reduction in energy consumption and/or greenhouse gas emissions, that strengthen the level of local adaptation to challenges posed by climate change, or that have an identified social objective. The projects must target requirements higher than or at least the minimum requirements in the relevant legislation, policies or principles and must have explicit climate, environmental, social, or sustainable ambitions. The projects should have regional climate and energy plans or social plans as their foundation, or should in some other way form part of a Borrower's systematic work on climate change, the environment or society.

The purpose of GSS Loans is for financing new green or social projects, and as a general rule GSS Loans will not be made available to finance projects that were completed more than eighteen months prior to the application date. When existing GSS Loans mature these can be refinanced within the economic lifetime of the project, but the projects will be reassessed against LGFA's latest Criteria.

In order to help fund GSS Loans, LGFA may issue green, social and/or sustainability bonds (**GSS Bonds**) in the debt capital markets using a LGFA Sustainability Bond Framework (**Framework**) to be established in the future. If LGFA issues GSS Bonds in the future, the Framework will outline the basis on which GSS Bonds will be issued by LGFA. The Framework will also outline how LGFA would report to investors in GSS Bonds upon how the proceeds of the GSS Bonds will be allocated towards environmental and social projects. Compliance with this Criteria would also enable LGFA to comply with the Framework and issue GSS Bonds to help finance GSS Loans.

1.3 Structure of this Criteria

Section 2 of this Criteria sets out the application and selection process for GSS Loans.

Section 3 of this Criteria outlines the project types for which LGFA may provide Borrowers with a GSS Loan and sets out the criteria for projects and the information required by LGFA to verify the project is in line with this Criteria.

Section 4 of this Criteria outlines how LGFA will use information Borrowers send LGFA relating to their GSS Loans in LGFA's GSS Bond impact reporting.

The final section of this Criteria, Section 5, looks at some of the calculation methods LGFA requires Borrowers to use when calculating values for energy savings, emission reductions etc. for applications for GSS Loans.

This Criteria will be reviewed regularly (and updated from time to time) by the LGFA Sustainability Committee (the consultative body at LGFA responsible for reporting to the Chief Executive and assisting the Chief Executive and Board on all material matters in relation to sustainability within LGFA, including overseeing GSS Loans and LGFA's potential issuance of GSS Bonds) (**Sustainability Committee**).

If you have any questions or comments on this Criteria, we ask that you get in touch with LGFA's Head of Sustainability.

2. Application Process

All Borrowers are eligible to apply for a GSS Loan from LGFA. Applications for GSS Loans will be subject to a separate assessment process based on the criteria set out in Section 3 of this Criteria in conjunction with the normal process to assess a Borrower's creditworthiness.

2.1 Application Form

The application process is started by the Borrower filling out the GSS Loan application form, which can be requested by contacting LGFA. There is a separate form for each of the ten categories of green projects and one for the six categories of social projects. If requested loans are to finance or refinance projects in more than one category, a separate application form needs to be completed for each category. Our aim has been to ensure the application forms are easy to complete and that the information requested is easily available from proposals with contractors etc. Attachments should be provided to verify the figures and information provided in the completed application form, as far as possible. For example, we expect the energy needs calculated for new builds and the expected reductions resulting from energy efficiency measures to be documented by an energy report from a contractor. For other types of investment, impact calculations in the proposals submitted by contractors, project descriptions or similar can be used as supporting documentation.

LGFA will consider applications for projects that have already commenced, provided that the date of commencement does not exceed a period of 18 months prior to the date of the GSS Loan application(s).

All the information we ask for is *ex ante*, which is to say energy consumption, emission reductions, car kilometres saved or other indicators *as calculated in advance*.

We need at least ten working days to assess applications, so we ask that applicants send us the completed forms and necessary attachments in good time, before you need to draw a GSS Loan. If you need assistance with filling out the form, please contact LGFA's Head of Sustainability who will be able to assist you.

2.2 Assessment of Applications

Once we have received an application and the necessary attachments, we will then assess it against the criteria for the relevant project category. We will normally be able to determine whether the project does or does not qualify in the course of ten working days. If we need more information to decide whether the project qualifies, we will be in touch to request the necessary information and the process may take more time. Applications are, in the first instance, assessed by LGFA's management team, before a final recommendation is made by our Sustainability Committee.

2.3 Loan Confirmations

Where a project satisfies our GSS Loan criteria, we will confirm in writing that a GSS Loan can be made to the Borrower. Where a project does not satisfy LGFA's GSS Loan criteria, the Borrower can continue to borrow under our normal financing terms.

By borrowing a GSS Loan, a Borrower agrees to the information provided about the project being used in our impact reporting. You can find more information on how we use this information in Section 4.

2.4 Changes to a GSS Project

If a project changes during the construction or use phase, such that it is probable that it will no longer satisfy the criteria set out in this Criteria, the Borrower is required to notify LGFA.

3. Categories and Criteria

3.1 About this Section

This section sets out the criteria a project must meet in order for it to be financed using a GSS Loan. We offer GSS Loans for a wide range of projects across ten green project categories and six social project categories. The criteria a project has to satisfy in order to qualify for a GSS Loan are set out in the sub-sections of this section, each of which addresses a specific project category. Each of the categories also includes the purpose of each project type, example projects, and documentation requirements and conditions specific to each category, where appropriate. We recognise that not all the points in the 'Documentation that must be provided' sections will be relevant or viable for every project. Please contact us if you would like to apply for a GSS Loan for an activity or project that is not covered by any of the categories below.

A Borrower should start by making a list of which projects in their existing asset pool or future investment budget could potentially qualify for a GSS Loan. The next step is to find the appropriate category in this section and, on the basis of the nature of the project, find the type of project that is the closest fit. For each project, Borrowers only need to meet the criteria set for one type of project.

A Borrower will then complete the application form for the category selected and attach the required documentation.

3.2 Summary List of Eligible Green and Social Categories:

Green Project Categories (address environmental challenges)

- Energy Efficiency
- Green Buildings
- Clean Transportation
- Sustainable Water and Wastewater Management
- Renewable Energy
- Pollution Prevention and Control
- Environmentally Sustainable Management of Living Natural Resources and Land Use
- Climate Change Adaptation
- Terrestrial and Aquatic Biodiversity Conservation
- Eco-efficient and/or Circular Economy Adapted Products, Production Technologies and Processes

Social Project Categories (address social issues for target populations)

- Affordable Basic Infrastructure
- Access to Essential Services
- Affordable Housing
- Employment Generation
- Food Security
- Socioeconomic Advancement and Empowerment

3.3 General Criteria

All projects that qualify for LGFA's GSS Loans must do one or more of the following:

- Promote the transition to a low-carbon society;
- Lead to verifiable reductions in greenhouse gas emissions (accumulated impact where possible) or energy consumption;
- Promote resilience to climate change;
- Support adaptation to climate change or adaptations that are, in some other way, related to New Zealand's national energy, climate and environment targets;
- Form part of a Borrower's systematic work on climate change and the environment, and have relevant plans and strategies as their foundation; or
- Provide clearly defined social benefits to the community.

In addition to the category-specific documentation, all applications must provide information on:

- The estimated total cost of the project;
- The date on which construction work is expected to start;
- The expected completion date; and
- The expected lifetime of the project.

3.4 Green Projects (address environmental challenges)

3.4.1 Energy Efficiency

Purpose

Investments in this category are intended to reduce the energy requirements of existing buildings and to phase out their use of fossil energy sources and to generally encourage more efficient use of energy.

Example projects

Energy-conservation measures such as fitting additional insulation, replacing windows, installing hot water heating, heat pumps, LED lighting and central operational control systems. Renovating buildings to improve their energy efficiency (e.g. LED lighting). Replacing oil and gas boilers. Energy efficient appliances and products, as well as systems for energy management.

This list is not exhaustive.

3.4.1.1 Measures to reduce energy usage

Conditions

Applicants must be able to demonstrate that the investment will generate an estimated reduction in annual energy consumption of at least 25%. For comprehensive renovation projects, applicants must be able to demonstrate that the building is expected to use 35% less energy per square metre or will satisfy the requirements for newly constructed buildings, as set out in the MBIE Building Code (Section H1 Energy Efficiency) compliance regulations on technical requirements for building works.

Summary of documentation to be provided if available and applicable:

- Heated surface area included in the project, in square metres.
- Estimate of the avoidance/reduction in annual energy requirements, measured in kWh.
- For projects to phase out fossil fuel heating sources: An estimate of the annual reduction in greenhouse gas (GHG) emissions, measured in tonnes of CO₂ equivalent (CO₂^e).
- Annual energy savings in MWh/GWh (electricity) and GJ/TJ (other energy savings).
- Annual GHG emissions reduced/avoided in tonnes of CO₂^e.
- Annual Absolute (gross) GHG emissions from the project in tonnes of CO₂^e.
- Number of people to benefit.

3.4.2 Green Buildings

Purpose

The purpose of investments in this category is the construction of new buildings and retrofit of existing buildings, to address broad environmental considerations such as water usage and waste management, in addition to energy consumption. A focus solely on energy-efficiency and low carbon in buildings comes under the International Capital Markets Association (ICMA) Green Bond Principles (GBPs) category 'energy efficiency', as covered by section 3.4.1 above.

Example projects

Buildings that satisfy the relevant industry norms to qualify as energy-plus buildings or as near zero-energy buildings. Such buildings will be low-heat-loss buildings that make good use of local energy resources, e.g. solar heating. Buildings meet regional, national, or internationally recognised standards or certifications.

More specific measures applying to existing building stock include:

3.4.2.1 Individual energy efficiency measures

Minor measures that help reduce energy consumption, e.g. installing a central operational control system, re-insulating external walls, conversion from electric room heating to water-borne heating etc. (Documentation required – Expected annual energy saving (kWh/year)).

3.4.2.2 Major renovation projects

Major renovation projects must satisfy criteria such as the required lower estimated energy demand compared with the pre-project level; extensive use of climate-friendly materials, e.g. mass timber/glulam, low-carbon concrete (class A), or extensive use of previously used materials; the renovation project helps the building to produce energy from renewable sources equivalent to its energy demand. (Documentation required where available, e.g. detailed renovation plans, where available).

3.4.2.3 Adapting existing buildings to climate change

Climate change adaptation measures, such as green roofs, rain gardens, damp proofing etc. (Documentation required – The climate change-related challenge that the project is intended to address, and how this will be achieved).

3.4.2.4 Renewable energy in buildings

Installing renewable energy in buildings, such as bioenergy, solar power, heat pumps or connections to local heating systems. (Documentation required – Expected annual energy production (kWh/year)).

3.4.2.5 Energy storage in buildings

Installing solutions for storing locally produced renewable energy, e.g. batteries. (Documentation required – Expected storage capacity (kW)).

For new buildings, more specific measures include:

3.4.2.6 New low-energy buildings

New low-energy buildings, defined as buildings calculated to have a 20% lower net energy demand than the limit stipulated for the relevant building category in the building regulations that are in force during the design phase. (Documentation required – Estimated energy demand per square metre of heated space (kWh/m²/year)).

3.4.2.7 New buildings with climate-friendly materials

Extensive use of climate-friendly materials, e.g. timber-based superstructures/weightbearing structures (e.g. mass timber), low-carbon concrete (class A), or extensive use of previously used materials. (Documentation required – A description of the chosen materials. Estimated energy demand per square metre of heated space (kWh/m²/year)).

3.4.2.8 Eco-certified buildings

New buildings that will be certified according to the relevant level of New Zealand certification (e.g., NZGBC Green Star Rating, NABERSNZ or Homestar as outlined below in 'Conditions'). Other relevant verifiable definitions of a very high level of performance from a climate, environmental or energy perspective will also be considered. (Documentation required – Certification achieved or adopted. Estimated energy demand per square metre of heated space (kWh/m²/year)).

3.4.2.9 Buildings with locally produced energy

Buildings that produce energy from renewable sources equivalent to at least 70% of their energy demand. This also includes energy-plus buildings. (Documentation required – Estimated energy demand per square metre of heated space (kWh/m²/year). Expected annual energy production (kWh/year)).

3.4.2.10 Other – Projects that are innovative and solutions that are not yet well known in the market can qualify under “Other”. We will assess projects based on the documentation provided e.g., documentation that which demonstrates that the project has a significant, positive climate or environmental impact. This will need to include a project description and the rationale for the investment decision.

Conditions

Applications must be able to demonstrate that the building’s energy consumption is estimated to be 20% lower than the requirement set by the applicable building regulations as in force at the time, or satisfies relevant industry classification such as an energy-plus building or another relevant, verifiable definition of highly efficient energy use. Mass timber buildings will be considered, regardless of energy standards. In situations where existing energy standards or norms are regarded to be irrelevant or unachievable for a specific project, exceptions can be made if the applicant can demonstrate that they have made significant efforts to reduce the building’s energy consumption and GHG emissions.

For building upgrades, the reduction in GHG emissions must be 30-50% (based on the term of the GSS Loan) from a baseline. For example, for commercial properties in Auckland, the performance requirement for a commercial building is for a calculated carbon intensity target of 7.4t CO₂^e/m².

For buildings meeting regional, national, or internationally recognised standards or certifications, the minimum ratings include:

- The **NZGBC Green Star rating**. Green Star assesses the overall environmental impact of a building covering the following categories: Energy, Water, Materials, Indoor Environment Quality, Transport, Land Use & Ecology, Management, Emissions, and Innovation. Buildings must have a minimum rating of 5 or 6 Stars to be ‘market leading.’
- **NABERSNZ** assesses the actual environmental operational performance of office buildings from an Energy perspective. Buildings must achieve a 4, 5, or 6 Star rating to be included.
- **Homestar** rating for new or existing residential buildings, to be at least a 6 Star Homestar rating.

Summary of documentation that must be provided if available and applicable:

- Green building certifications obtained.
- Estimate of the annual energy consumption per square metre of heated area.
- Estimate of the annual energy and/or GHG emissions reduced/avoided in comparison with an equivalent building that complies with the applicable MBIE Building Code compliance regulations on technical requirements for building works (Section H1 Energy Efficiency) in kWh/tonnes of CO₂^e.
- Information on planned use of bio-based / renewable materials, materials with a high proportion of recycled content, low-carbon concrete, and other climate-friendly construction materials.

3.4.3 Clean Transportation

Purpose

Investments in this category are intended to create transport solutions that produce minimal or zero emissions, with no fossil fuels used.

Example projects

Cycling and walking

3.4.3.1 Bicycles – Procurement of electric scooters, bicycles, and electric bicycles. (Documentation required – Investment decision or other documentation on the project).

3.4.3.2 Facilitating walking and cycling – Possible projects include constructing new footpaths and cycle paths, lighting for footpaths/cycle paths, and bike parking facilities/stations. (Documentation required – Investment decision or other documentation on the project).

Land transport

- 3.4.3.3 Light or heavy vehicles, and electric public transportation** – Procurement of light or heavy vehicles, including buses that run on electricity, biogas or green hydrogen (produced using renewable energy). Plugin hybrids do not qualify for GSS Loans. For vehicles that use biogas, there must be a contractual agreement that fossil fuels will not be used. (Documentation required – Type of vehicle. Estimated annual mileage. If biogas: A contract to confirm that fossil fuels will not be used).
- 3.4.3.4 Equipment for rail-based public transport** – Procurement of new carriage and other equipment for rail-based public transport. The fleet must run on either electricity, green hydrogen (produced using renewable energy) or biogas. For vehicles that use biogas, there must be a contractual agreement that fossil fuels will not be used. (Documentation required – Investment decision or other documentation on the project. If biogas: A contract to confirm that fossil fuels will not be used).

Maritime transport

- 3.4.3.5 Maritime Transport** – Procurement of ferries, high-speed craft and other types of maritime transport vessel that run on electricity, biogas, green hydrogen/ammonia (produced using renewable energy) as fuel. For vessels that use biogas, there must be a contractual agreement that fossil fuels will not be used. A fossil-fuel back-up solution is permitted. Hybrid solutions will be considered, but in normal operations propulsion must be zero-emissions for at least 50% of operating hours. (Documentation required – Type of vessel. If biogas: A contract to confirm that fossil fuels will not be used, unless as a back-up solution).

Heavy machinery

- 3.4.3.6 Heavy machinery** – The procurement of heavy machinery that only uses electricity, biogas or green hydrogen (produced using renewable energy). If biogas is used, there must be a contractual agreement that fossil fuels will not be used. (Documentation required – Type of heavy machinery. If biogas: A contract to confirm that fossil fuels will not be used).

Infrastructure

- 3.4.3.7 Charging points for vehicles** – Installing new or upgrading existing charging points for electric cars. Includes both high-speed chargers and normal chargers. (Documentation required – Investment decision or other documentation of the project).
- 3.4.3.8 Filling stations for green hydrogen and biogas** – Construction of green hydrogen (produced using renewable energy) or biogas filling stations that are open to the public. (Documentation required – Investment decision or other documentation of the project).
- 3.4.3.9 Operating equipment for public transport** – Equipment for operating public transport services, such as ticketing systems, real-time display systems and information equipment as well as tram depots. The vehicle(s) must run on either electricity, green hydrogen (produced using renewable energy) or biogas. For vehicles that use biogas, there must be a contractual agreement that fossil fuels will not be used. (Documentation required – Investment decision or other documentation of the project. Type of vehicle and fuel composition. If biogas: A contract to confirm that fossil fuels will not be used).
- 3.4.3.10 Trackway and other infrastructure** – Trackway, electrical systems, and other infrastructure for public transport services. The vehicle(s) must run on either electricity, green hydrogen (produced using renewable energy) or biogas. For vehicles that use biogas, there must be a contractual agreement that fossil fuels will not be used. (Documentation required – Investment decision or other documentation of the project. Type of vehicle and fuel composition. If biogas: A contract to confirm that fossil fuels will not be used).
- 3.4.3.11 Shore-side power connections and charging points** – Installation of shore-side power connections/charging points for ferries, ships etc. (Documentation required – Estimated amount of shore-side power supplied annually (kWh/year)).
- 3.4.3.12 Other port infrastructure** – Zero-emission port infrastructure that only uses electricity or green hydrogen (produced using renewable energy), e.g. cranes. (Documentation required – Investment decision or other documentation of the project that describes the technology).
- 3.4.3.13 Infrastructure for zero-emission heavy machinery** – Infrastructure associated with the use of zero-emission heavy machinery, e.g. charging points and energy stations. (Documentation required – Investment decision or other documentation of the project that describes the technology).

3.4.3.14 Other – Projects that are innovative and solutions that are not yet well known in the market can qualify under “Other”. We will assess projects based on the documentation provided e.g., documentation which demonstrates that the project has a significant, positive climate or environmental impact. This will need to include a project description and the rationale for the investment decision.

Conditions

The project must be a low-emission or preferably zero-emission option for transporting people or goods. No fossil fuels can be used, except as a back-up solution in the case of maritime transport.

Summary of documentation that must be provided if available and applicable:

- The number of people the project will affect each year.
- If possible: Annual energy saving, reduction in GHG emissions and/or local emissions, or amount of GHG emissions and/or local emissions that will be avoided as a result of the investment in tonnes CO₂ e p.a.
- Reduction in air pollutants: particulate matter (PM), sulphur oxides (Sox), nitrogen oxides (NOx), carbon monoxide (CO), non-methane volatile organic compounds (NMVOCs).
- Estimated reduction in car use, in number of kilometres driven or as a share of total transport ridership.

3.4.4 Sustainable Water and Wastewater Management

Purpose

Investments in this category are intended to deliver future-oriented water and wastewater systems that are dimensioned to accommodate population growth and higher precipitation levels, and that use innovative technologies to make good use of the resources contained in wastewater.

Example projects

Significant upgrades to water and wastewater networks, water treatment plants, treatment of discharges to watercourses, construction of biogas plants, and investment in energy and heat recovery from water and wastewater networks. Sustainable urban drainage systems and river training, and other forms of flooding mitigation. These can be classified into four areas:

Surface runoff management financed by wastewater charges:

3.4.4.1 Separating wastewater and surface runoff – Separate pipes for surface runoff that carry the surface water to a watercourse/fjord. Water supply pipes that are replaced at the same time as the separate surface runoff pipes are installed and that use the same route can also be included as part of applications. (Documentation required – Project description).

Small scale energy production measures:

3.4.4.2 Heat recovery – Installations for recovering heat from wastewater. (Documentation required – Expected annual energy production (kWh/year)).

3.4.4.3 Energy recovery – Energy recovery from gravity distribution networks. (Documentation required – Expected annual energy production (kWh/year)).

Climate-friendly facilities:

3.4.4.4. Measures at existing water facilities – Measures at an existing water facility that achieve one of the following: a) Delivers a 20% increase in energy efficiency, b) Adapts the facility in response to a need for climate change adaptation, or c) Reduces the use of chemicals or leakages. (Documentation required – If a) Energy saving (kWh/year) including calculation method. If b) or c) Project description, investment decision, competitive tender documents or other documentation that describes how the measure meets the criterion).

3.4.4.5 Measures at existing wastewater facilities – Measures at existing wastewater facilities that achieve one of the following: a) Delivers a 20% increase in energy efficiency, b) Adapts the facility in response to a need for climate change adaptation, or c) Reduces the use of chemicals or the facility's pollution. (Documentation required – If a) Energy saving (kWh/year) including calculation method. If b) or c) Project description, investment decision, competitive tender documents or other documentation that describes how the measure meets the criterion).

3.4.4.6 Phosphorous recovery – Facilities or installations that recover plant-available phosphorus from wastewater without using precipitant chemicals. At least 30% of the phosphorus must be able to be recovered. Covers both the installation of new facilities and upgrading existing processing

facilities. (Documentation required – Description of the technology selected. Expected proportion of phosphorus recovered. For new facilities, if available: a risk and vulnerability assessment).

3.4.4.7 Sludge treatment facilities for biogas production – Facilities for treating sludge as a precursor to biogas production. Covers both the construction of new facilities and upgrading existing processing facilities. The sludge must be used to produce biogas to meet the criteria.

(Documentation required – Expected amount of sludge produced per year (dry matter/year). For new buildings/facilities, if available: Risk and vulnerability assessment).

3.4.4.8 New facilities for water – New drinking water facilities that meet one of the following criteria:

a) The facility is 20% more energy efficient than the previous solution or a likely other solution, b) The facility is built in response to a need for climate change adaptation, or c) The facility uses less chemicals or has a smaller adverse impact on the local environment. (Documentation required – If a) Energy saving (kWh/year), including basis for calculation. If b) or c) Project description, investment decision, competitive tender documents or other documentation that describes how the measure meets the criterion. For new buildings/facilities, if available: Risk and vulnerability assessment).

3.4.4.9 New facilities for wastewater – New wastewater facilities that meet one of the following requirements:

a) The facility is 20% more energy efficient than the previous solution or a likely other solution, b) The facility is built in response to a need for climate change adaptation, or c) The facility uses less chemicals or has a smaller adverse impact on the local environment. (Documentation required – If a) Energy saving (kWh/year), including basis for calculation. If b) or c) Project description, investment decision, competitive tender documents or other documentation that describes how the measure meets the criterion. For new buildings/facilities, if available: Risk and vulnerability assessment).

Climate-friendly construction projects:

3.4.4.10 Zero-emission excavation works/construction sites – Excavation projects that are completed using zero-emission heavy machinery and vehicles (bulk haulage). (Documentation required – Competitive tender documents or other documents that document the site is zero-emission. Avoided CO₂ emissions over the course of the project (including basis for calculation)).

3.4.4.11 No-dig projects – Pipe/cable replacement carried out using no-dig methods. (Documentation required – Project description).

Other

3.4.4.12 Other infrastructure – Projects that are innovative and solutions that are not yet well known in the market can qualify under “Other”. We will assess projects based on the documentation provided e.g., documentation which demonstrates that the project has a significant, positive climate or environmental impact. This will need to include a project description and the rationale for the investment decision.

Conditions

The investment must significantly and innovatively upgrade or upscale the infrastructure for water and wastewater, and must play a clear role in the Borrower’s work to adapt to climate change. Investment to carry out routine maintenance to, or to replace or construct, water and wastewater pipes without clear environmental ambition does not qualify for a GSS Loan.

Summary of documentation that must be provided if available and applicable:

- Number of metres of piping/conduit laid, upgraded, or replaced.
- Number of person equivalents (PE) of water or wastewater the plant processes, identifying any increase that can be attributed to the investment.
- Qualitative indicators/targets for adaptation to climate change (managing urban runoff etc.), with a description of weather-related or climate-related problems that will be mitigated by the investment.
- Where relevant, amount of electricity, biogas or other energy carrier expected to be produced each year.
- For sustainable water management services delivering annual water savings: Annual absolute (gross) water use before and after the project, and reduction in water use in %.
- For wastewater treatment projects: Annual absolute (gross) amount of wastewater treated, reused, or avoided before and after the project.

- **For treatment and disposal and/or reuse of sewage sludge:** Annual absolute (gross) amount of sludge that is reused (in tonnes of dry solids p.a. and in %) or annual absolute (gross) amount of raw/untreated sludge that is treated and disposed of (in tonnes of dry solids p.a. and in %).
- Number of people and/or enterprises (e.g. companies or farms) benefitting from measures to mitigate the consequences of floods and droughts.
- Area covered by sustainable land and water resource management practices.

3.4.5 Renewable Energy

Purpose

Projects in this category are intended to utilise the energy potential of the sun, the wind, the ground, the sea, biomaterials and other renewable energy carriers, and thereby to replace energy produced from fossil fuels and other energy sources that produce GHGs.

Example projects

Renewable energy production (Documentation required – Expected annual energy production (kWh/year)). Applies to the following:

- 3.4.5.1 Biogas plants
- 3.4.5.2 Geothermal wells
- 3.4.5.3 Solar cells or solar thermal collectors
- 3.4.5.4 Pellet or wood chip heating systems
- 3.4.5.5 Other renewable energy sources

Energy storage in connection with energy production facilities (Documentation required – Expected storage capacity (kW)): Storage of locally-generated energy using one of the following methods:

- 3.4.5.6 Electrical storage, e.g. batteries
- 3.4.5.7 Thermal storage
- 3.4.5.8 Storage as hydrogen

Energy infrastructure (Documentation required – Expected increase in capacity (MW)):

- 3.4.5.9 Network capacity
- 3.4.5.10 Local heating/cooling

Other

- 3.4.5.11 **Other** Projects that are innovative and solutions that are not yet well known in the market can qualify under “Other”. We will assess projects based on the documentation provided e.g., documentation which demonstrates that the project has a significant, positive climate or environmental impact. This will need to include a project description and the rationale for the investment decision.

Conditions

The energy production plant must only use non-fossil, renewable energy sources during both base and peak load periods. Waste incineration and excess heat from other processes can be used for district heating plants. The use of mineral-fuel-based back-up in, for example, local and district heating systems may be approved for clearly defined back-up situations.

Summary of documentation to be provided if available and applicable:

- Output to be installed, measured in kW (as well as Wp for solar farms).
- Estimate of the renewable energy to be produced each year, measured in kWh or other appropriate unit.
- Estimate of the annual reduction in GHG emissions, measured in tonnes of CO₂^e, if the facility is to replace energy from fossil fuels.
- Annual GHG emissions reduced/avoided in tonnes of CO₂^e.
- Annual renewable energy generation in MWh/GWh (electricity) and GJ/TJ (other energy).
- Capacity of renewable energy plant(s) constructed or rehabilitated in MW.
- Capacity of renewable energy plant(s) to be served by transmission systems (MW).
- Annual Absolute (gross) GHG emissions from the project in tonnes of CO₂^e.

3.4.6 Pollution Prevention and Control

Purpose

Investments in this category are intended to ensure sustainable, energy efficient and resource-saving waste management.

Example projects

Upgrading old or building new waste management facilities, building biogas plants, central automated vacuum waste collection systems that minimise transport requirements, garbage trucks that run on renewable fuels, carbon capture plants. These can be classified into two areas:

Waste prevention and reuse:

3.4.6.1 Measures to reduce waste – Measures that contribute to waste prevention, e.g. setting up a new reuse centre. (Documentation required – Expected impact (qualitative or quantitative). For new buildings/facilities: Risk and vulnerability assessment for the planning area, if available).

Waste collection, processing and treatment:

3.4.6.2 Measures to increase the waste sorting rate – Measures that help increase the waste sorting rate at the point of collection, e.g. introducing a collection scheme for a new waste fraction. (Documentation required – Material recovery rate before investment (in %) and expected recovery rate following investment (in %)).

3.4.6.3 More efficient waste collection – Measures that reduce the transportation requirement associated with collecting waste. Example projects include automated vacuum collection systems, underground waste solutions, or containers that compress waste. (Documentation required – Project description).

3.4.6.4 New facilities for sorting waste – Setting up new waste sorting facilities for which there is a clear ambition from a climate and environmental perspective, e.g. residual waste sorting plants. (Documentation required – Project description that explains the climate and environmental ambition).

3.4.6.5 New facilities for treating waste – Setting up new waste treatment facilities for which there is a clear ambition from a climate and environmental perspective, e.g. facilities that help increase the material recovery rate. (Documentation required – Project description that explains the climate and environmental ambition).

3.4.6.6 Organic waste treatment facilities for biogas production – Facilities for treating organic waste as a precursor to biogas production. Covers both the construction of new processing facilities and upgrading existing facilities. (Documentation required – Project description that explains the climate and environmental ambition).

3.4.6.7 Measures at existing facilities – Upgrading existing waste facilities with a clear climate and environmental ambition. Example projects include measures that increase the recycling rate or improve waste quality. (Documentation required – Project description that explains the climate and environmental ambition).

3.4.6.8 Measures at existing landfill sites – Measures that reduce methane emissions or leachate at existing landfill sites. (Documentation required – Project description with the expected reduction in emissions).

3.4.6.9 Carbon capture and storage – Measures in the area of carbon capture and storage. (Documentation required – Project description with the expected reduction in emissions).

Other:

3.4.6.10 Other – Projects that are innovative and solutions that are not yet well known in the market can qualify under “Other”. We will assess projects based on the documentation provided e.g., documentation which demonstrates that the project has a significant, positive climate or environmental impact. This will need to include a project description and the rationale for the investment decision.

Conditions

The investment must improve the waste management chain, for example by increasing the recovery rate, or by reducing the use of incineration, CO₂ emissions or transport requirements, or by improving resource use. The investment must contribute to the applicant complying with relevant guidelines such as applicable New Zealand requirements. Investment to maintain or replace facilities or equipment without any clear environmental benefit will not qualify for a GSS Loan.

Summary of documentation to be provided if available and applicable:

- Number of tonnes of waste expected to be processed by the facility each year.
- The amount of waste reduced, reused, recycled and/or diverted from landfill (tonnes p.a. or % total waste).
- The amount of waste that is separated and/or collected and treated (including composted) or disposed of (in tonnes p.a. and in % of total waste).
- The number of people or % of population with improved district or regional waste treatment or disposal services.
- Absolute or % reduction in local air pollutants.
- Number of households whose waste will go to the facility.
- Estimate of the reduction in GHG emissions/the amount of GHG emissions that will be avoided as a result of the investment, measured in tonnes of CO₂^e.
- If possible: An estimate of the annual energy saving attributable to the investment, measured in kWh.
- Expected improvement in material recovery rate or other target for improved resource use.
- Applicable to the construction of biogas plants: Expected annual production volume.

3.4.7 Environmentally Sustainable Management of Living Natural Resources and Land Use

Purpose

Investments in this category are intended to ensure sustainable land use.

Example projects

Converting land from a car park into a recreation area, development of areas for car sharing, planting new forests. Environmentally sustainable agriculture, environmentally sustainable animal husbandry, climate smart farm inputs such as biological crop protection or drip-irrigation, environmentally sustainable fishery and aquaculture, environmentally sustainable forestry, including afforestation or reforestation, and preservation or restoration of natural landscapes. These can be classified into two areas:

Anti-pollution measures:

- 3.4.7.1 Measures against pollution on land** – Examples include measures that reduce runoff from roads, cleaning measures to prevent the spread of microplastics or other measures against local pollution. (Documentation required – Project description).
- 3.4.7.2 Measures against water pollution (ports, seas, rivers, watercourses etc.)** – Measures that improve the water quality status classification from ‘good’ to ‘very good’. Other measures that help improve water quality or strengthen biological diversity where the status classification is not relevant will also be considered. (Documentation required – Status classification before and after the measure).

Area development and land usage:

- 3.4.7.3 Sustainable area development** – Example projects include major new residential, commercial, or recreational developments that are clearly and comprehensively ambitious from a climate and environmental perspective. A Borrower should provide LGFA with information on the management of nature-, climate- and environmental risk (which could take the form of a risk and vulnerability assessment for the planning area, if available). (Documentation required – Project description. If available: A risk and vulnerability assessment).
- 3.4.7.4 Nature restoration** – Converting an area into a green space. Example projects include compensation for the construction of a road by converting a separate area in another location (ecological compensation). A Borrower should provide LGFA with information on the management of nature-, climate- and environmental risk (which could take the form of a risk and vulnerability assessment for the planning area, if available). (Documentation required – Project description. If available: A risk and vulnerability assessment).

Other:

- 3.4.7.5 Other** – Projects that are innovative and solutions that are not yet well known in the market can qualify under “Other”. We will assess projects based on the documentation provided e.g., documentation which demonstrates that the project has a significant, positive climate or environmental impact. This will need to include a project description and the rationale for the investment decision.

Conditions

The project must clearly be green in nature and have an explicitly formulated climate/environmental objective.

Summary of documentation that must be provided if available and applicable:

- Surface area of the land converted, measured in square metres or square kilometres.
- If possible: Annual energy saving and/or reduction in GHG emissions or other emissions achieved as a result of the investment.
- Qualitative indicators/targets in terms of environmental impact.

3.4.8 Climate Change Adaptation

Purpose

Investments in this category are intended to ensure local communities are adapting to climate change.

Example projects

Facilities and installations to manage urban runoff, floods, landslides, avalanches, rising sea levels etc. This may include information support systems, such as climate observations and early warning systems. These can be classified into three areas:

Surface runoff management:

3.4.8.1 Surface runoff management – Measures to manage surface runoff that are not financed by wastewater charges, e.g. opening streams, constructing flood bypasses, local surface runoff disposal measures through artificial swales, etc. (Documentation required – The need for the measure).

Climate change adaptation:

3.4.8.2 Protection against natural disasters – Protecting buildings, facilities, infrastructure, and cultural heritage sites against natural disasters such as floods, landslides, avalanches, and storm surges. (Documentation required – The need for the measure).

3.4.8.3 Infrastructure relocation – Moving infrastructure or other built structures as a preventative measure to protect against climate-related damage. (Documentation required – The need for the measure).

Emergency preparedness:

3.4.8.4 Warning systems and emergency preparedness – Warning systems and other emergency preparedness measures in areas with a risk of natural disasters such as floods, avalanches, landslides, and storm surges. (Documentation required – The need for the measure).

Other:

3.4.8.5 Other – Other measures that will ensure local communities are more resilient to climate change. We will assess projects based on the documentation provided. (Documentation required – The need for the measure).

Conditions

The project must clearly constitute an adaptation to climate change.

Summary of documentation that must be provided if available and applicable:

- Qualitative targets/indicators relevant to the adaptation to climate change with a description of the weather-related and climate-related problems that will be mitigated by the investment.

3.4.9 Terrestrial and Aquatic Biodiversity Conservation

Terrestrial and Aquatic Biodiversity Conservation Purpose

Investments in this category are intended to prevent habitat loss and degradation, unsustainable harvesting of species, climate change, invasive species, and pollution.

Protection of the life supporting capacity of ecosystems through avoiding, remedying, or mitigating (in that order of priority) the adverse effects of activities, substances and introduced species on the functioning of natural ecosystems.

Protection of areas of significant indigenous vegetation and the significant habitats of indigenous fauna.

Example projects

The greatest threat to the biodiversity of oceans is loss and degradation of habitat.

1. Coral reefs, mangrove forests, and coastal wetlands are under great pressure from human activities.
2. Trawling and dredging are major threats to sea bottom habitats.

For terrestrial biodiversity conservation, the main focus is on animal pest management strategies and plant management strategies.

3.4.9.1 Conservation Investments – Measures to prevent habitat loss and degradation, unsustainable harvesting of species, climate change, invasive species, and pollution.

3.4.9.2 Protection of the Life-Supporting Capacity of Ecosystems – Measures to avoid, remedy or mitigate the adverse effects of activities, substances and introduced species on the functioning of natural ecosystems.

3.4.9.3 Indigenous Vegetation and Fauna Protection – Measures to protect areas of indigenous vegetation and habitats of indigenous fauna.

Conditions

The project must seek to reduce the threat of either terrestrial or aquatic biodiversity degradation and have an explicitly formulated climate/environmental objective.

Summary of documentation that must be provided if available and applicable:

- Qualitative indicators/targets in terms of environmental impact.

3.4.10 Eco-efficient and/or Circular Economy Adapted Products, Production Technologies and Processes Purpose

Investments in this category are intended for projects such as the development and introduction of more environmentally friendly products, with an eco-label or environmental certification, resource efficient packaging and distribution.

Example projects

Expenditure related to the implementation of circular products and solutions, packaging reduction or elimination initiatives, research and development in materials innovation and recycling technology and infrastructure. Some examples that may be relevant to Borrowers include recycling of artificial turf, re-use of local construction materials, material reuse community education initiatives, learning about recycling and repairs, and digital/e-waste reuse/repair/recycling services. Note: there will be crossover with the section above entitled 'Pollution Prevention and Control' that also includes recycling and waste management.

Environmental Product Development / Introduction:

3.4.10.1 Measures to develop and introduce more environmentally friendly products, with an eco-label or environmental certification, resource efficient packaging and distribution.

Summary of documentation that must be provided if available and applicable:

- Re-used and recycled products (in metric tonnes).
- Re-used components (in metric tonnes).
- New material use avoided (in metric tonnes).
- Amount of recycled plastics purchased (in tonnes).

3.4.11 Projects not Covered by these Categories

The green project categories specified in this Criteria are based on the ICMA GBPs as at June 2021. International principles, taxonomies, standards and market practice are all evolving. We recognise that there can be rapid developments in these areas and that we may receive financing requests for genuinely climate-friendly projects not covered by any of the existing categories. In such instances, LGFA will assess requests on a case-by-case basis. Such requests must contain documentation that demonstrates that the project will be of clear environmental benefit and complies with all the other requirements set out in this Criteria.

3.5 Social Projects (address social issues for target populations)

Social projects directly aim to address or mitigate a specific social issue and/or seek to achieve positive social outcomes especially, but not exclusively, for a target population(s). A social issue threatens, hinders, or damages the well-being of society or a specific target population. For the avoidance of doubt, it is acknowledged that the definition of target population can vary depending on local contexts and that, in some cases, such target population(s) may also be served by addressing the general public.

Please refer to the seventeen UN SDGs for more details on the individual target goals.

www.un.org/sustainabledevelopment/sustainable-development-goals

3.5.1 Affordable Basic Infrastructure – Clean drinking water, sewers, sanitation, transport, or energy.

SDG No 2 – Zero Hunger

SDG No 3 – Good Health and Well-Being

SDG No 6 – Clean Water and Sanitation

SDG No 7 – Affordable and Clean Energy

SDG No 9 – Industry, Innovation, and Infrastructure

SDG No 11 – Sustainable Cities and Communities

3.5.2 Access to Essential Services – Health, education and vocational training, healthcare, financing and financial services.

SDG No 1 – No Poverty

SDG No 2 – Zero Hunger

SDG No 3 – Good Health and Well-Being

SDG No 4 – Quality Education

SDG No 5 – Gender Equality

SDG No 8 – Decent Work and Economic Growth

SDG No 9 – Industry, Innovation, and Infrastructure

SDG No 10 – Reduced Inequalities

3.5.3 Affordable Housing – Public or private partnerships to build social housing.

SDG No 1 – No Poverty

SDG No 11 – Sustainable Cities and Communities

3.5.4 Employment Generation Including through the Potential Effect of SME Financing and Microfinance – Youth employment programmes, vocational education and training programmes.

SDG No 8 – Decent Work and Economic Growth

SDG No 9 – Industry, Innovation, and Infrastructure

3.5.5 Food Security – Physical, social, and economic access to safe, nutritious, and sufficient food that meets dietary needs and requirements; resilient agricultural practices; reduction of food loss and waste; and improved productivity of small-scale producers.

SDG No 2 – Zero Hunger

SDG No 12 – Responsible Consumption and Production

3.5.6 Socioeconomic Advancement and Empowerment – Equitable access to, and control over, assets, services, resources, and opportunities; equitable participation and integration into the market and society, including reduction of income inequality.

SDG No 1 – No Poverty

SDG No 2 – Zero Hunger

SDG No 4 – Quality Education

SDG No 5 – Gender Equality

SDG No 8 – Decent Work and Economic Growth
SDG No 10 – Reduced Inequalities
SDG No 11 – Sustainable Cities and Communities
SDG No 14 – Life Below Water
SDG No 15 – Life on Land

3.5.7 Projects not Covered by these Categories

The social project categories specified in this Criteria are based on the ICMA Social Bond Principles (SBPs) as at June 2021. International principles, taxonomies, standards and market practice are all evolving. We recognise that there may be areas not covered by any of the existing categories. In such instances, LGFA will assess requests on a case-by-case basis. Such requests must contain documentation that demonstrates that the project will be of clear social benefit and complies with all the other requirements set out in this Criteria.

3.6 Excluded Categories

1. Manufacture or wholesale trade of tobacco products;
2. Manufacture or wholesale/retail trade of alcoholic beverages;
3. Ownership or operation of gambling enterprises;
4. Production or distribution of adult entertainment materials;
5. Manufacture or retail sale and distribution of weapons and small arms;
6. Transportation of live cattle;
7. Whaling;
8. Predatory lending activities;
9. Production or refining of palm oil;
10. Extraction or refining of fossil fuels¹;
11. Transmission infrastructure and systems where 25% or more of electricity transmitted to the grid is fossil-fuel-generated; and
12. Restricted by CBS requirements (if applicable).

4. Reporting

LGFA may decide to finance its GSS Loans by issuing GSS Bonds in the debt capital markets. Investors that provide money for green and social projects want to see evidence that their capital is being used in accordance with the norms applicable to GSS bonds. It is therefore essential that we gather documentation on the individual projects we finance with GSS Loans. There is at present no universal industry standard for impact reporting for GSS bonds, but templates and best practice are developing and LGFA intends that its impact reports align to these. The ICMA GBPs (June 2021) and SBPs (June 2021) reflect this development, as does the ICMA Harmonised Framework for Impact Reporting initiative (June 2021). LGFA wishes its reporting to be in line with international best practice.

¹ For projects that encompass fossil energy to a non-negligible extent, impact analysis and impact reporting will be a firm requirement for approval. LGFA will not approve investment projects that lead to a lock-in of fossil energy-based infrastructure. Maximum fossil fuel component for district heating projects is 10% (peat is treated as a fossil energy source); including fossil component of waste used for energy extraction the share of fossil energy is a maximum 20%. Maximum fossil energy component for public transportation is 20%.

4.1 Processing and Disclosure of Documentation

All the information on eligible GSS Loans that Borrowers send to LGFA will be processed such that it can be used for LGFA's own reporting. This may, for example, involve converting between different energy and emission units. We reserve the right to use any information provided about a project as part of our ongoing reporting activities, which may include:

- 'GSS Loan Summaries' on LGFA's website.
- Featuring in LGFA's annual reports and investor letters.
- Featuring in presentations on GSS Loans and/or on LGFA more generally.
- LGFA media releases around GSS Loans.
- Inclusion of the project(s) on the aggregated list of all GSS Loans that will be available via LGFA's website.

LGFA anticipates that building up an overview of the projects financed by the GSS Loans will both satisfy investors' expectations in terms of reporting, and also motivate Borrowers to undertake highly sustainable investment projects. We regard sharing expertise as a central part of our commitment to being sustainable.

5. Calculation Methods

The impact of our GSS Loans for green projects can be calculated either by reference to the reduction in energy consumption or GHG emissions achieved or the contribution made to strengthening local adaptation to climate change. Any GSS Loans provided on a social basis will have any calculations or targets pre-agreed between LGFA and the relevant Borrower. We have outlined below the general methodological choices related to the categories covered by the concept of 'greenhouse gas mitigation investments', which include the following categories outlined in section 3 of this Criteria:

- Energy Efficiency;
- Green Buildings;
- Clean Transportation;
- Renewable Energy;
- Pollution Prevention and Control; and
- Environmentally Sustainable Management of Living Natural Resources and Land Use.

We also outline below guidelines on calculating the impact of investments covered by the concept of climate change adaptation.

5.1 Methodological choices for greenhouse gas mitigation investments

This section addresses the method of calculating the impact of greenhouse gas mitigation investments, as defined above. Investments in these categories lead to direct reductions in GHG emissions or reduce energy consumption and thereby indirectly reduce GHG emissions. The impact of the first type of investment is measured in CO₂^e savings, while the impact of the second type of investment is measured in kWh of energy saved. The impact of an investment or part-investment must be measured either in CO₂^e or kWh of energy, with no double counting permitted. We report the impact of investments on an ex-ante basis, which is to say on the basis of estimates.

5.1.1 Starting point

To calculate the climate and environmental impact of a greenhouse gas mitigation investment, the completed project has to be compared with an alternative scenario. In some cases, it will be appropriate to consider the investment in relation to a base scenario – a reference scenario in which the investment

does not exist. This applies, for example, to transport projects: the reduction in GHG emissions that can be attributed to a public transport project is calculated on the basis of the emissions that the transport sector would have produced if the project had not happened. Also, where an investment involves improving existing facilities, for example measures to improve the energy efficiency of a building or measures to improve a waste processing plant, a base scenario will be a natural starting point for calculating the investment's impact. In such cases, the calculation will be as follows:

Annual climate impact = (emissions produced by, or energy consumption of, the sector or unit in the base scenario) – (emissions produced by, or energy consumption of, the sector or unit after investment completed).

In other cases, for example where the investment in question is a new building, the approach will naturally be to assume that the building will be built regardless, but that the borrower could have chosen to adhere to less strict climate standards. In such instances, the climate impact is calculated on the basis of an alternative scenario in which the investment meets the minimum requirements contained in the applicable building regulations. The calculation would thus be as follows:

Annual climate impact = (emissions produced by, or energy consumption of, equivalent investment if minimum standards were followed) – (emissions produced by, or energy consumption of, actual investment).

5.1.2 Units and conversion

Investments included in LGFA's GSS Loan portfolio can generate many types of emission and emission savings. In order to be able to compare the impact of projects in different categories, we convert all emission figures to CO₂^e. Values for making such conversions are taken from the Greenhouse Gas Protocol's matrix¹ for Global Warming Potentials (GWP) over a 100-year time horizon, which were calculated using the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report. For example, we take methane as having 28 times the global warming potential of carbon dioxide, meaning that one unit of methane represents 28 CO₂^e units.

www.ghgprotocol.org

5.1.3 Time

Time is an important parameter when calculating the climate impact of a project. Advanced lifetime models take into account that materials and structures deteriorate with age, and the fact that the impact of an investment will therefore decrease at a certain rate. LGFA does not have the resources to carry out such analysis in relation to each individual project we finance, and we similarly do not expect Borrowers to carry out such accounting for all investments. We therefore calculate the climate impact of investments in a simplified fashion as follows:

Climate impact over investment's lifetime = (annual climate impact) x (expected lifetime of investment).

5.2 Methodological choices for climate adaptation investments

This next section addresses the method of calculating the impact of climate adaptation investments, which include the following categories outlined in section 3 of this Criteria:

- Sustainable Water and Wastewater Management;
- Climate Change Adaptation.

The impact of investment in climate change adaptation measures is frequently more difficult to quantify than the impact of investment in greenhouse gas mitigation measures. We therefore accept that in the case of climate change adaptation investments, the methodology applied may need to be adapted to individual projects to a somewhat greater extent. Qualitative descriptions of a project's purpose and its expected results can supplement or replace quantitative indicators where this creates a better picture of the impact of the investment.

5.2.1 Starting point

The impact of investments in climate change adaptation measures will, as a general rule, be calculated using a base scenario as described above.

5.2.2 Units

The measurement units used to quantify the impact of climate adaptation investments are more complicated than for greenhouse gas mitigation investments. Recommended units are set out for each project category.

5.3 General Methodological Choices

5.3.1 Climate impact 'accounting'

Investments included in LGFA's GSS Loan portfolio are not necessarily financed in their entirety by loans from LGFA. In order for us to be able to quantify the impact of the funds allocated to climate-friendly investments, we need to know what proportion of each investment LGFA is financing:

LGFA proportion of a GSS investment = (amount lent by LGFA) / (total cost).

In the aggregate report on LGFA's portfolio of GSS Loans, 'our' proportion of the climate impact of an investment over its lifetime is recognised in the year the investment is financed. If the loan is drawn down in several instalments, the climate impact is recognised in the respective years in the same proportion as the loan instalments.

A project remains in LGFA's aggregate GSS bonds impact report for the duration of the loan. In other terms, the climate impact of a project will be removed from the total when the loan is paid back in its entirety or is for other reasons removed from LGFA's portfolio of GSS Loans.

Appendix I – Green Bond Principles High Level Mapping to the UN SDGs

www.un.org/sustainabledevelopment/sustainable-development-goals

There are 169 targets associated with the 17 UN SDG. As at June 2020, 15 of the UN SDGs have been identified as being relevant to the ICMA GBPs and SBPs. As far as the GBPs are concerned, the list below indicates the most relevant associated targets.



Ensure healthy lives and promote well-being for all at all ages

Target 3.9 – By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

Target 3.d – Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.



Ensure availability and sustainable management of water and sanitation for all

Target 6.1 – By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

Target 6.2 – By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

Target 6.3 – By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

Target 6.4 – By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

Target 6.5 – By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

Target 6.6 – By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Target 6.b – Support and strengthen the participation of local communities in improving water and sanitation management.

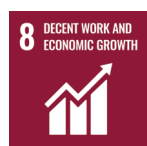


Ensure access to affordable, reliable, sustainable and modern energy

Target 7.2 – By 2030, increase substantially the share of renewable energy in the global energy mix.

Target 7.3 – By 2030, double the global rate of improvement in energy efficiency.

Target 7.a – By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.



Sustained, inclusive and sustainable economic growth and decent work for all

Target 8.2 – Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.

Target 8.4 – Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Target 9.1 – Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

Target 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.



Make cities inclusive, safe, resilient and sustainable

Target 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.

Target 11.3 – By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

Target 11.5 – By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

Target 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.

Target 11.7 – By 2030, provide universal access to safe, inclusive, and accessible, green, and public spaces, in particular for women and children, older persons, and persons with disabilities.

Target 11.b – By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.



Ensure sustainable consumption and production patterns

Target 12.2 – By 2030, achieve the sustainable management and efficient use of natural resources.

Target 12.3 – By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

Target 12.4 – By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

Target 12.5 – By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.



Take urgent action to combat climate change and its impacts

Target 13.1 – Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

Target 13.2 – Integrate climate change measures into national policies, strategies and planning.

Target 13.3 – Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Target 14.1 – By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

Target 14.2 – By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

Target 14.3 – Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.

Target 14.4 – By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.

Target 14.5 – By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

Target 14.6 – By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.

Target 14.a – Increase scientific knowledge, develop research capacity, and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.

Target 14.b – Provide access for small-scale artisanal fishers to marine resources and markets.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Target 15.1 – By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

Target 15.2 – By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

Target 15.3 – By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.

Target 15.4 – By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

Target 15.5 – Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

Target 15.7 – Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

Target 15.8 – By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.

Target 15.a – Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.

Target 15.b – Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.

Target 15.c – Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.

Appendix II – Social Bond Principles High Level Mapping to the UN SDGs

www.un.org/sustainabledevelopment/sustainable-development-goals

There are 169 targets associated with the 17 UN SDGs. As at June 2020, 15 of the UN SDGs have been identified as being relevant to the GBPs and SBPs. As far as the SBPs are concerned, the list below indicates the most relevant associated targets.



End poverty in all its forms everywhere

Target 1.1 – By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.

Target 1.2 – By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

Target 1.3 – Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

Target 1.4 – By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

Target 1.5 – By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.



Zero Hunger

Target 2.1 – By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

Target 2.2 – By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

Target 2.3 – By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists, and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

Target 2.5 – By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional, and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

Target 2.a – Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.

Target 2.c – Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.



Ensure healthy lives and promote well-being for all at all ages

Target 3.1 – By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.

Target 3.2 – By 2030, end preventable deaths of new-borns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.

Target 3.3 – By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

Target 3.4 – By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

Target 3.5 – Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

Target 3.6 – By 2020, halve the number of global deaths and injuries from road traffic accidents.

Target 3.7 – By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

Target 3.8 – Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

Target 3.b – Support the research and development of vaccines and medicines for the communicable and noncommunicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.



Quality Education

Target 4.1 – By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and Goal-4 effective learning outcomes.

Target 4.2 – By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

Target 4.3 – By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

Target 4.4 – By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

Target 4.5 – By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

Target 4.6 – By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

Target 4.7 – By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and nonviolence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.

Target 4.a – Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all.

Target 4.c – By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states.



Achieve gender equality and empower all women and girls

Target 5.1 – End all forms of discrimination against all women and girls everywhere.

Target 5.4 – Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.

Target 5.5 – Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life.

Target 5.b – Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.



Ensure access to water and sanitation for all

Target 6.1 – By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

Target 6.2 – By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

Target 6.3 – By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

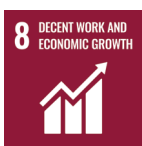
Target 6.4 – By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

Target 6.b – Support and strengthen the participation of local communities in improving water and sanitation management.



Ensure access to affordable, reliable, sustainable and modern energy

Target 7.1 – By 2030, ensure universal access to affordable, reliable and modern energy services.



Sustained, inclusive and sustainable economic growth and decent work for all

Target 8.2 – Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.

Target 8.3 – Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

Target 8.5 – By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

Target 8.6 – By 2020, substantially reduce the proportion of youth not in employment, education or training.

Target 8.7 – Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.

Target 8.8 – Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

Target 8.9 – By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

Target 8.10 – Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance, and financial services for all.



Build resilient infrastructure, promote sustainable industrialization and foster innovation

Target 9.1 – Develop quality, reliable, sustainable, and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

Target 9.2 – Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.

Target 9.3 – Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.

Target 9.c – Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.



Reduce inequality within and among countries

Target 10.1 – By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.

Target 10.2 – By 2030, empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

Target 10.3 – Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.

Target 10.7 – Facilitate orderly, safe, regular, and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.



Make cities inclusive, safe, resilient and sustainable

Target 11.1 – By 2030, ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums.

Target 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.

Target 11.5 – By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.



Ensure sustainable consumption and production patterns

Target 12.3 – By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.



Conserve and sustainably use the oceans, seas and marine resources

Target 14.b – Provide access for small-scale artisanal fishers to marine resources and markets.



Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

Target 15.6 – Promote fair and equitable sharing of the benefits arising from the utilisation of genetic resources and promote appropriate access to such resources, as internationally agreed.



Auckland Level 5, Walker Wayland Centre, 53 Fort Street
Wellington Level 8, City Chambers, 142 Featherston Street
PO Box 5704, Lambton Quay, Wellington 6145
PH +64 4 974 6530 www.lgfa.co.nz