Trelleborg Municipality
Green Bond Second Opinion

2 June 2023

Executive Summary

Trelleborg is Sweden's southernmost Municipality, with approximately 45 000 residents. Within the Municipality, the central city of Trelleborg is an important industrial and port city on the Baltic coast. Sweden's Municipalities are responsible by law for a number of areas that are vital to the public good. Responsibilities include healthcare, schooling, social care, public transport, waste and water, energy supply, environmental protection and so on.

The Municipality is expecting the biggest share of financing to be allocated to new real estate projects (e.g. elderly homes, housing, sports-arenas, schools, etc). Other investments could be e.g. financing projects within water and waste management, refinancing public transport or supporting infrastructure within clean transportation. While Trelleborg is currently working on multiple development projects that could be eligible for green financing (such as adaptation measures, urban development or the production of hydrogen), it expects that these projects will need 3-5 years before they are ready to start.

We rate the framework **CICERO Light Green** and give it a governance score of **Good.** Trelleborg has developed climate and environmental policies and works actively with climate adaptation and biodiversity. The shading reflects that most proceeds will be allocated to green buildings, where associated framework criteria for new construction demonstrate an improvement compared to the norm however critera are limited to energy use.

SHADES OF GREEN

CICERO Light Green

GOVERNANCE ASSESSMENT

GREEN BOND PRINCIPLES

Based on this review, this framework is found aligned with the principles.

Strengths

The Municipality works actively with climate adaptation. Climate adaptation plans are important to mitigate physical climate risks, it is therefore positive that the Municipality is considering sea level rise and storm water flooding for its projects and is currently assessing other potential climate risks such as heavy rainfall and heat waves. In its adaptation work, relevant scenarios have been considered and nature-based solutions are prioritized.

Pitfalls

There are limited considerations given to embodied emissions for construction projects. For new construction, the construction phase of buildings heavily influences total emissions and environmental impact. It is therefore a pitfall that Trelleborg does not have a developed strategy, nor targets tied to the construction phase

and embodied emissions beyond what is required by Swedish regulations[1]. It informs us that it has started to implement some considerations in its procedures, such as requesting improvement proposals from contractors at an early stage of the building process. Further, it informs us that it uses the criteria for the environmental certification Miljöbyggnad as guidelines in its projects, where some considerations on material choices are made. While it is positive that Trelleborg uses the criteria set out in the Miljöbyggnad certification, when the certification is not obtained there is no third-party assurance that properties meet all criteria. While the issuer has started to consider embodied emissions, systematic work to reduce such emissions in the design phase and construction of buildings is needed to significantly reduce the emissions associated with these buildings.

Projects that can be financed under this framework vary in their impacts, e.g. in their emission reductions potentials, lock-in effects, biodiversity risks and environmental benefits. The eligibility criteria are quite broad. This is for example true for energy efficiency projects, where the different projects have different environmental benefits and risks. One example is the electrification of harbours, which long term can enable zero emission vessels, while short term will be primarily used for cold ironing. While this enables emission reductions compared to status quo, shipping and cruising are associated with significant emissions and other environmental concerns.

[1] Currently, Swedish regulations demands that a climate declaration is produced for all buildings that are to be built, where the global warming potential (GWP) is calculated for phase A1-A5. With time, it is expected that the regulation will also set threshold values for the GWP.

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Company description

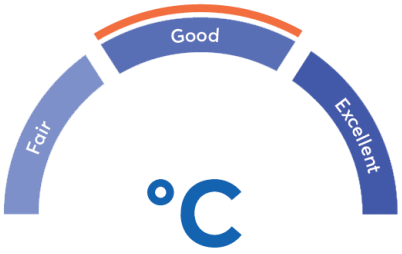
Trelleborg is Sweden's southernmost Municipality, with approximately 45 000 residents. The central city of Trelleborg is an important industrial and port city on the Baltic coast. Sweden's Municipalities are responsible by law for a number of areas that are vital to the public good. Responsibilities include healthcare, schooling, social care, public transport, waste and water, energy supply, environmental protection and so on. Trelleborg Municipality is in a phase of rapid development with several large-scale projects.

The Municipality owns a group of companies, including Visit Trelleborg, Trelleborg Hamn AB, Trelleborg Energy AB and TrelleborgsHem AB. Trelleborg Hamn AB (The Port of Trelleborg) is Scandinavia's largest RoRo port (Roll on Roll off), the largest rail ferries port in the Baltic Sea and a part of the Trans-European Transport Network with CORE status in the EU.

Governance assessment

Trelleborg has developed climate and environmental policies and works actively with climate adaptation and biodiversity. It performs yearly emissions reporting to CDP-ICLEI, however, does not include emission reporting in its annual public sustainability reporting. It currently has a 2045 net zero target but is currently working on updating its environmental strategy and targets, with the goal of publishing them by February 2024.

The selection process is clear and involves environmental expertise. It is positive that the selection committee will invite relevant experts, from the relevant business areas, including subsidiaries, when assessing eligibility of projects, and that the sustainability representative holds a veto when voting on projects to be financed. When projects are assessed, life cycle assessments might be used, and other considerations such as biodiversity and resilience will be considered for relevant projects.



Reporting will be done on a project-by-project basis. Trelleborg intends to report on allocation and impacts through quantitative impact indicators where reasonable and where relevant data is available for several indicators. Impact reporting will not be externally reviewed, however it indicated that experts within the organization will be consulted so that the correct method and analysis is made to reflect the avoided emissions. When reporting on avoided emissions, mainly emissions associated with energy use will be reported on. Investors should be aware, that especially for the construction of new buildings, embodied emissions account for a substantial part of the total impact of the project.

The overall assessment of the Municipality's governance structure and processes gives it a rating of **Good.**

Sector risk exposure

Physical climate risks. For the Nordics, the most severe physical climate impacts will likely be increased flooding, changing snow/ice patterns, and urban overflow, as well as increased storms and extreme weather. For activities within the Municipality, mitigation and adaptation measures should be mapped for its current building stock and activities, to limit damages and consequently potential financial impacts from damage costs.

Transition risks. The Swedish government is targeting climate neutrality by 2045, a strategy that includes coping with environmental issues that concerns multiple of Trelleborg's responsibilities, such as minimizing the carbon footprint of the real estate sector. Therefore, Trelleborg is exposed to transition risks from stricter climate policies e.g., reducing its GHG emissions, upgrading the energy efficiency of its industries, buildings, etc.

Environmental risks. Trelleborg is responsible for several vital areas; therefore, it is associated with heavily emitting sectors such as industrial processes and the real estate sector. Consequently, it is at risk of polluting the local environment for example during the erection of the properties, e.g., from poor waste handling and so on.

Environmental strategies and policies

Trelleborg's sustainability policy and its accompanying goals are under revision, and are expected to be completed in February 2024. Currently, Trelleborg has a long-term target to achieve net zero by 2045, however there are no short-term emission reduction targets. The scope of the current net zero by 2045 target is territorial emissions. It has identified that transport and agriculture represent the biggest emission sources in the Municipality, constituting 33% and 32,8% respectively of total territorial emissions (numbers from 2020).

The sustainable development unit at the department of municipal management is responsible for the Municipality's sustainability work. Trelleborg publishes a yearly sustainability report, where it summarises its governing documents, strategies, and plans. The report does not include emission reporting. It informs us it performs yearly emissions reporting to Carbon Disclosure Project - Local Governments for Sustainability (CDP-ICLEI), the EU Covenant of Mayors, and WWF's One Planet City Challenge. According to the framework, current challenges in Trelleborg's work to become a fully sustainable Municipality are identified in a yearly report, where the areas that need to be prioritized in the coming year are identified so that funds can be allocated.

To support the reduction of territorial emissions, Trelleborg has developed an energy plan as a basis and a guide for the Municipality's long-term work with the transition to a sustainable energy system with low climate impact. Trelleborg offers energy and climate advice to private individuals, small and medium-sized companies, associations and non-profit organizations on issues related to energy efficiency, energy use, climate impact and renewable energy. The most common questions are from private individuals concerned with the installation of solar cells and conversion of heating systems. Between 2019-2022, this service received 396 inquiries.

In its climate adaptation strategy, it has so far worked on identifying and mitigating risks associated with rising sea levels, and it is currently developing its adaptation strategy concerning rainfall and heat waves.

Trelleborg participates in multiple partnerships with other Swedish Municipalities and regions. It was a partner in the project "Cirkulära Skåne" 2019 – 2022, which focused on providing general guidance on circularity and procurement of single use materials and re-used materials within the building sector.

Trelleborg Municipality is in a phase of rapid development with several large-scale projects. Coastal City 2025 is the largest development project in Trelleborg's history and includes 1) The planning and building of a new ring road and port entrance to the port's new eastern location, 2) Developing Business Center Trelleborg, next to the port's new entrance and with direct connection to Intermodal transportation and 3) The urban development project Sea City in the old port area with approx. 7,000 new residences. The ambition in Sea City is to create a climate-positive area[2]. In 2022, Trelleborg completed a sustainability program based on the United Nations Sustainable Development Goals (SDGs) that will be used to ensure the project's sustainable development. It plans to certify the program using the Swedish certification system, Citylab[3].

Green bond framework

Based on this review, this framework is found to be aligned with the Green Bond Principles. For details on the issuer's framework, please refer to the green bond framework dated March 2023.

Use of proceeds

For a description of the framework's use of proceeds criteria, and an assessment of the categories' environmental impacts and risks, please refer to section 2.

Selection

Trelleborg Municipality has established a green financing committee (GFC) that meets on a regular basis or when needed, and it will keep a record of meetings and decisions. The GFC consists of members from the treasury and sustainability department as well as internal and external experts related to the projects or assets considered. The GFC decides on eligible projects in consensus, however, the sustainability representative has a veto right. The GFC is responsible for evaluating the compliance of proposed eligible projects with the eligibility criteria. An external auditor had been appointed to annually assure that the selection process is done in accordance with the framework.

Eligible projects will also adhere to applicable laws and regulations as well as Trelleborg Municipality's established long-term plans for environmental and social sustainability.

Management of proceeds

Green bond proceeds are tracked by the issuer, with amounts identified forming an "earmarked portfolio" within the Municipality's internal systems. Trelleborg Municipality's Group Treasury team is responsible for tracking funds and allocation of proceeds. If there are green financing instruments outstanding, and the earmarked portfolio has a positive balance, funds may be deducted from the earmarked portfolio and added to Trelleborg Municipality's lending pool in an amount up to all disbursements from that pool made in respect of eligible projects and assets.

If, for any reason, an eligible project ceases to comply with the requirements set out in the framework, such project will be removed from the portfolio of eligible projects. The GFC is responsible for ensuring that the pool of eligible projects is aligned with the framework categories and criteria. Proceeds not yet allocated towards eligible projects

[2] As an area that binds 10% more CO2 than it releases during its construction phase and a life span of 50 years.
[3] Citylab provides support in the work with sustainable urban development, where both national and international sustainability goals are translated into what is relevant for urban development projects in Sweden, based on local conditions. Certifiering av hållbarhetsprogram - Sweden Green Building Council (sgbc.se)

will be placed in the liquidity reserves and managed as such. According to Trelleborg, this means that unallocated proceeds are either held as cash or invested in short-term money market instruments such as commercial paper. The Municipality clarified that this does not include investments in instruments issued by private sector entities.

Reporting

Trelleborg Municipality will provide a public green finance investor report on an annual basis. The GFC approves the final report. The report will cover allocation and impact reporting where feasible and relevant information is available. The reporting will be aggregated across all green bond issuances on a yearly basis.

Allocation reporting

• Allocated proceeds to each project or asset
• A summary of green financing developments
• The outstanding amount of green financing instruments
• The distribution of new financing and refinancing of approved eligible projects and assets
• The year when the eligible project and assets was taken into operation

An external auditor had been appointed to annually assure that the allocation of the proceeds is done in accordance with the framework.

Impact Reporting

The impact report will include qualitative and where feasible quantitative information as well as publicly available data. The impact reporting will be measured on a best effort basis and it will be transparent on the methodologies used. Reporting will be done on a project-by-project level. Table 1 describes possible impact indicators.

Eligible Green Project and Asset Categories	**Example indicators**
Renewable energy	• Annual renewable energy generation in MWh/GWh (electricity) and GJ/TJ (other energy) • Capacity of renewable energy plant(s) constructed or rehabilitated in MW
Energy efficiency	• Annual energy savings in MWh/GWh (electricity) and GJ/TJ (other energy savings)
Green buildings	• Energy consumption disclosure by absolute consumption (kWh) per year and intensity (kWh per m2/year) • Expected/actual energy use per green building as well as estimated saved/avoided greenhouse gas emissions when possible. Saved green house gas emission depending on saved energy is calculated in comparison to the energy grid's average green house gas emission. • % Energy demand under BBR/building
Clean transportation	• Kilometers of constructed or improved bicycle lane • Estimated reduction in fuel consumption • Number of vehicles • Number of charging points of electricity or biofuel installed or upgraded • Annual GHG emissions reduced/avoided (tonnes of CO2e emissions)
Climate Change Adaptation	• Increase in area under wetland management in km² • Reduction in land-loss from inundation and/or coastal erosion in km² • Improved measures to reduce risk from adverse flooding impact

Sustainable water and wastewater management	• Annual water savings: Annual absolute (gross) water use before and after project in m3, in % water use reduction • Annual energy savings from new technique (kWh/m3)
Terrestrial and aquatic biodiversity	• Maintenance/safeguarding/increase of protected area/OECM/habitat in km² and in % for increase
Pollution prevention and control	• Reduction in contaminant levels in mg contaminant/kg soil

2 Assessment of Trelleborg Municipality's green bond framework

The eligible projects under Trelleborg Municipality's green bond framework are shaded based on their environmental impacts and risks, based on the "Shades of Green" methodology.

Shading of eligible projects under Trelleborg Municipality's green bond framework

- The majority of investments are expected to be new financing, and refinancing is expected to constitute maximum 25% of total financing.
- It is expected that only capital expenditures will be financed. The issuer informed us that it will not finance expenditures for buying fossil fuel vehicles, vessels, or equipment, nor the procurement of fossil fuels for any projects.
- Trelleborg expects that green buildings will receive the majority of financing in the near future. In the medium term it expects that projects in water and waste management will be allocated a significant share.
- Proceeds will not be allocated to fossil energy production or potentially environmentally harmful resource extraction (such as rare-earth elements or fossil fuels).

Category	Eligible project types	Green Shading and considerations
Renewable energy 	Financing of renewable energy production facilities and supporting infrastructure, smart grids etc., from the following renewable sources: *Solar energy* The construction of facilities generating electricity using solar photovoltaic (SPV) technology, concentrated solar power (CSP) technology, and production of heat/cool from solar thermal heating. *Wind power* The construction of facilities generating electricity from offshore and onshore windpower.	**Dark Green** ✓ Renewable energy is key to the low carbon transition and represents a Dark Green solution. ✓ Trelleborg has clarified that renewable energy facilities will only feed electricity into the grid and will not be dedicated to any specific assets. ✓ Trelleborg Energy, the local energy company owned by the Municipality, has been assigned to lead the Municipality's work in developing sustainable energy solutions. Work involves, among other things, realizing hydrogen solutions for transportation and self-sufficient housing projects. ✓ Long term, Trelleborg aims to start producing hydrogen in Trelleborg. It is currently in the planning phase and expects to use electricity from wind turbines in the harbour of

	Green hydrogen The construction of facilities to manufacture green hydrogen and green hydrogen synthetic fuels. *Supporting infrastructure* Energy storage including, but not limited to, battery and hydrogen.	Trelleborg and sea water. Most planned hydrogen projects are already funded, and the Municipality therefore expects the share of allocated proceeds to green hydrogen projects to be minimal. ✓ Green hydrogen production and storage may become an important element in a green energy transition, but comes with risks associated with leakage. Leakage of stored hydrogen is difficult to avoid due to small molecule size and low density. Impacts from leakage of stored hydrogen to the atmosphere are not yet well-understood but emerging research indicates it increases the atmospheric lifetime of methane and its climate impacts, partially offsetting its emissions reduction benefits, and may contribute to Antarctic ozone depletion.[4] High flammability also entails a hazard. ✓ There are no plans to invest in green hydrogen synthetic fuels. ✓ Trelleborg is currently planning to increase the security of energy supply and improve the possibilities for buildings to be independent from the grid. Energy storage and hydrogen production is planned to support this strategy. It has confirmed that investments in hydrogen storage is limited to storage of green hydrogen.
Energy efficiency	Financing of installation, maintenance and repair of energy efficiency equipment leading to at least 30% less energy use including, but not limited to: • Addition of insulation to existing envelope components, • The replacement of existing windows with new energy efficient windows, doors, light sources (such as exchanging public lamppost lights to LED), and lightning control systems,	**Medium to Dark Green** ✓ Focusing on improving energy performance in existing buildings is essential to decrease the climate footprint of the real estate sector. Measures such as window replacements, upgrading ventilation systems and similar generally give high energy savings. ✓ Trelleborg has indicated eligible projects could include smaller projects that aggregated will reach the 30% reduction in energy use.

[4] Atmospheric implications of increased hydrogen use - GOV.UK (www.gov.uk)

	• The installation, replacement and maintenance of heating, ventilation and cooling as well as zoned thermostats, and energy management systems, • Low temperature district heating distribution,	✓ Investments in district heating will go towards pipes for low temperature distribution and possibly techniques to reuse residual heat, and not investments in district heating facilities themselves. Trelleborg informs us that it does not own any district heating facility and do not have any production. The district heating facility that supplies Trelleborg with heat does not use waste as fuel in the district heating system today. However, it is planned to invest in a new incinerator, where the waste incinerated will mainly consist of reclaimed wood and construction waste. The incinerator will not be financed with green proceeds. ✓ Adapting district heating systems to lower temperature regimes is beneficial[5] from an environmental perspective because it reduces the energy lost in converting and transporting energy to buildings. It also enables the integration of renewable and waste-heat sources for heating.
Green buildings	Financing of new and existing buildings as well as major renovations, including: *New buildings* Buildings (built after 31 december 2020) that have or will receive a Primary Energy Demand (PED) at least 20% more energy efficient than the level required by the national building regulation (BBR) at the investment decision. The energy performance is certified using an Energy Performance Certificate (EPC). *Existing buildings*	**Light Green** ✓ The Light Green shading reflects that the majority of financing will be allocated to new construction projects, which has solid criteria that ensure that energy-efficient buildings are financed, however, lack systematic considerations of life cycle emissions for building materials, which are particularly important for new construction. ✓ The energy criteria that the PED will be at least 20% lower than NZEB for new construction is a solid ambition, that goes beyond the criteria set by the EU taxonomy. ✓ For new construction, the construction phase of buildings heavily influences total emissions and environmental impact. Trelleborg adhere to Swedish regulations, which makes it mandatory to calculate the GWP. It informs us that it has started to implement

[5] Low-temperature district heating: heating our homes at lower cost – Analysis - IEA

Buildings (built before 31 December 2020) that have an Energy Performance Certification (EPC) class A or being within the top 15% most energy efficient of the national or regional building stock expressed as operational Primary Energy Demand (PED).

Major renovations
Major renovations that achieve a reduced PED of at least 30% per square meter A-temp and year compared to the building's pre-investment level.

some considerations of embodied emissions in its procedures, such as requesting improvement proposals from contractors at an early stage of the building process. Further, it informs us that it uses the criteria for the environmental certification Miljöbyggnad as guidelines in its projects, where some considerations on material choices are made. While the issuer has started to consider embodied emissions, systematic work to reduce such emissions in the design phase and construction of buildings is needed to significantly reduce the emissions associated with these buildings.

✓ While it is positive that it is taking steps to further consider such impacts for projects, such as requiring control and documentation of building materials in its own new construction, we encourage Trelleborg to further develop its strategies and procedures to reduce embodied emissions for projects

✓ The main investments expected under this project category include, but is not limited to, the construction of sport arenas, pre-schools, schools, multifamily housing, health care and nursing homes.

✓ According to Trelleborg, when designing and constructing new buildings in coastal areas climate risks such as sea level rise and storm water flooding are assessed, as required in the local plan and by the regional administrative board[6]. An in-depth risk assessment of storm water for the entire Municipality has just started. It has started to look at shading from greenery at e.g., schools and care homes for elderly during periods of excessive heat.

✓ Trelleborg clarified that it will use the top 15% of national or regional building stock as assessed by Fastighetsägarna, as an official definition is yet to be defined. How ambitious the top 15% threshold is depends on the type of building, but generally they

[6] Trelleborg Municipality use the 83rd percentile in the probable interval of SSP5-8.5 for sea level rise, as projected by IPCC and SMHI.

		are less ambitious than current regulations for energy demand when building new. Whether a building meets the top 15% PED threshold will depend, among other, on its energy source, where different sources are weighed differently in the calculation of its PED. The weighting favours district heating over electricity, meaning that, all else equal, it will be easier for a building connected to district heating to meet the threshold for top 15% than for a building with electric heating. ✓ In the transition to a low-carbon society, it is vital to renovate and improve existing properties. With that perspective in mind, refurbishments with a 30% reduction in energy consumption could qualify for a Medium to Dark shade.
Clean transportation °C °C	Financing of zero direct (tailpipe) CO2 emission and low carbon transport solutions for public, passenger and freight purposes, including: *Sea, rail and road transport*[7] • Zero direct tailpipe CO2 emissions and biofuels and/or other renewable fuels vehicles and public transport vehicles. *Supporting infrastructure* Infrastructure dedicated to sea, rail, and road transport, including but not limited to: • Non-motorized mobility, such as bike lanes, and • Electric and hydrogen charging and fueling stations	**Medium to Dark Green** ✓ Transport with zero tailpipe CO2e emissions is vital to decarbonize the transport sector. Electric modes of transportation are an important low-carbon solutions. ✓ Investors should however be aware of the indirect GHG emissions stemming from the production of new vehicles. The production of such vehicles, in particular the production of batteries and the sourcing of raw materials, can have substantial climate and environmental impacts. ✓ Trelleborg shared that it expects to finance zero emissions (battery or hydrogen) or biofuel-powered school busses, cars, garbage trucks and supportive infrastructure. In 2022, Trelleborg signed a memorandum of understanding with an Australian hydrogen vehicle producer regarding the delivery of waste truck and a school bus powered by green hydrogen. ✓ Investments in hybrid vehicles and vessels are excluded from the framework.

[7] The trains and wagons, vessels and road transport will not be dedicated to the transport of fossil fuels

- ✓ Trelleborg informs us that the refinancing of investments made within public transport, more specifically a commuter train to Malmo, could be financed. Investments could also include pedestrian and bicycle lanes and renewable charging infrastructure. Trelleborg informs us that for financing relating to supporting infrastructure will exclusively go towards supporting infrastructure for electricity and hydrogen.

- ✓ A possible investment is increasing the power supply in harbours. Electric infrastructure at harbours is often used for cold ironing. Cold ironing can help reduce air and noise pollution and reduce emissions from ships as they do not need to use diesel when at shore[8]. Be aware that power used by cruise ships in particular is associated with significant emissions and other environmental concerns[9].

- ✓ Note that biofuel sourcing could include climate risks, such as from direct and indirect land use change and transportation emissions. The biofuel element is considered to be a Medium Green element in the project category. Be aware of lifecycle emissions and broader impacts on biodiversity and the environment.

- ✓ Biofuels procured must be certified by a third-party, such as international sustainability & carbon certification (ISCC). Potential feedstock are animal fats, palm fatty acid distillate, rapeseed oil, and used vegetable oils. The issuer has informed us that it will use Neste as its supplier of biofuels. For the European market, Neste's feedstock will meet the sustainability criteria of the Renewable Energy Directive II (RED II).

- ✓ Financing for green hydrogen production is related to the Nordic Hydrogen Corridor, [10] which is a project that will create eight new hydrogen refueling stations through the Nordics, where Trelleborg is one of the locations. In the beginning, green hydrogen will

[8] Cold ironing is the process of providing shoreside electrical power to a ship at berth while its main and auxiliary engines are turned of
[9] https://theicct.org/marine-cruising-flying-may22/
[10] Nordic Hydrogen Corridor – Nordic Hydrogen Corridor

		be shipped from Frederica in Denmark. The long-term plan is to establish a local small-production facility in Trelleborg. As most projects are funded Trelleborg Municipality expects little to be funded for green hydrogen.
Climate change adaptation 	Financing of climate resilience enhancements with the objective of increasing resilience to physical climate risk. Such investments include, but are not limited to: • Multifunctional areas for stormwater collection and management, • Sea level protection and erosion measures by means such as raising of land and creating beach areas, • Open stormwater solutions, • Urban heat protection measures such as tree planting.	**Dark Green** ✓ Even in the most optimistic climate scenarios, some level of climate change is most likely unavoidable. It is therefore crucial to plan and mitigate potential risks to reduce the potential financial and environmental impact of such events. ✓ Several cost- benefit analyses are ongoing to identify nature-based solutions. Trelleborg indicated that nature-based solutions are its first option, however, that other types of constructions will be considered if they suit the purpose better in that specific area. Financed projects would not target specific buildings or assets, but would be for larger areas of infrastructure where there is a public interest. Currently dikes, dune re-construction and beach nourishment are being considered as possible projects. While Trelleborg is working internally to develop adaptation plans, it does not expect to finance any projects under this project category in the short term. ✓ Since 2013, Trelleborg has had a climate adaptation plan[11]. It has identified areas that need protection against flooding due to rising sea levels and/or erosion and when the protection needs to be in place. In addition, the Municipality specifies acceptable risks and reserves land where flood protection can be built. Trelleborg has mapped areas where stormwater may cause a problem and conducted risk- and vulnerability analysis. An in-depth action plan regarding stormwater in a future climate is planned to be initiated in 2023. From a research project from 2018, heat island maps from satellite

[11] Trelleborg Municipality use the 83rd percentile in the probable interval of SSP5-8.5 for sea level rise, as projected by IPCC and SMHI. Storm water is multiplied by a climate factor of 1,25.

		imagery and in-depth interviews about heat waves is being used to create a baseline picture to build on its work ahead. ✓ For measures that require construction, emission intensity and resilience of materials and equipment should be considered. There should also be considerations on how measures impact the local environment.
Sustainable water and wastewater management 	Financing of the conservation of water and/or wastewater sustainably by means including, but not limited to: • The renewal of water and/or wastewater collection, treatment and supply systems, including distribution infrastructures for domestic and industrial needs, water purification, water saving, water conservation and the re-use of water, • Improved water efficiency through reduced leakage • The construction and extension of water and/or wastewater collection, treatment, sustainable urban drainage systems and supply systems	**Light to Medium Green** ✓ The Light to Medium shading reflects a lack of quantitative eligibility criteria for investments under this project category ✓ Energy consumption and limiting leakage are important considerations in the sustainability of such projects. The EU taxonomy has defined thresholds to define ambitious water and wastewater management. Trelleborg has set no quantitative criteria, however, specifies that such considerations will be assessed on a project-by-project basis. Further, the issuer has confirmed it will report on the reduction in average energy consumption compared to pre-investments, and leakage levels. ✓ Trelleborg informs us that most of the water facilities run on electricity for operations and heat generation, while one facility uses district heating. The wastewater treatment plant in Trelleborg city use residual heat from biogas production on site. ✓ Projects should seek to minimize emissions from the construction phase and supply chain (e.g., from cement production).

Pollution and prevention and control 	Financing of projects related to pollution prevention and control measures in the Municipality including but not limited to: *Soil remediation* The removal of harmful substances in the soil mainly from past human activity. The conduct of a soil survey will be required to identify the harmful substances and make take necessary measures in substance removal. Emphasis is placed on the reuse of the material. *Removal of Harmful Substances* Investments in the removal and replacement of harmful substances in products, assets or projects, such as asbestos, PCBs, mould, chemicals or metals, that have been linked to negative effects on biodiversity, human health and/or the environment. *Waste Management* Investments in waste management, such as collection, prevention, reduction or recycling of waste, as well as in enabling infrastructure and facilities.	**Medium Green** ✓ Investments in waste management would be related to the pre-collection sorting to facilitate better recycling. No investments in sorting or recycling facilities are planned. Trelleborg has procedures in place to ensure that waste is sorted and recycled when possible. It provides its residents with the option to sort its waste in eight categories, where waste that does not fit into seven of the options is sent to incineration. ✓ Trelleborg has confirmed that it is only investments in the collection of municipal solid waste that can be financed, there are no plans to start collecting industrial waste. ✓ Trelleborg does not process collected waste itself, together with 14 other Municipalities it has commissioned Sydskånes avfallsaktiebolag (SYSAV) to manage the household waste. All waste is shipped to SYSAV's facility in Malmo. ✓ Soil remediation and removal of harmful substances can help to reduce contaminants from the soil, which can help to prevent the spread of pollutants to other areas. However, it can also disrupt ecosystems, especially if it involves digging up or removing large amounts of soil. Overall, climate impact of such projects will depend on the project.

Terrestrial and aquatic biodiversity  	Financing of the conservation, preservation and/or restoration of nature and biodiversity, as well as natural habitats and ecosystems including, but not limited to: • The protection and restoration of coastal, marine and watershed environments, • Protection and preservation of biodiversity and natural ecosystems	**Medium to Dark Green** ✓ Biodiversity conservation, preservation and restoration can produce climate mitigative effects and improve climate resilience provided they are implemented properly and do not lead to indirect land use change. ✓ Only direct conversation, preservation and/or restoration projects can be financed. ✓ According to the framework, Trelleborg aims to preserve and develop green infrastructure when planning and building new areas. Examples include: i) combating invasive flora, both inland and along the coast, ii) leaving some grass areas uncut to create meadows with greater biodiversity, iii) creating a nature reserve along a river in the outskirts of the city, and iv) create wetlands and less steep riverbanks along Ståstorpsån to capture nutrient from farmland, increase biodiversity and the rivers carrying capacity.

Table 2. Eligible project categories

3 Terms and methodology

This note provides CICERO Shades of Green's second opinion of the client's framework dated March 2023**.** This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Shades of Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the client's policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

'Shades of Green' methodology

CICERO Shades of Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

Shading	Examples
Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	Solar power plants
Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	Energy efficient buildings
Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	Hybrid road vehicles

The "Shades of Green" methodology considers the strengths, weaknesses and pitfalls of the project categories and their criteria. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised, including potential macro-level impacts of investment projects.

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. CICERO Shades of Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.

Assessment of alignment with Green Bond Principles

CICERO Shades of Green assesses alignment with the International Capital Markets' Association's (ICMA) Green Bond Principles. We review whether the framework is in line with the four core components of the GBP (use of proceeds, selection, management of proceeds and reporting). We assess whether project categories have clear environmental benefits with defined eligibility criteria. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed. The selection process is a key governance factor to consider in CICERO Shads of Green's assessment. CICERO Shades of Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Shades of Green places on the selection process. CICERO Shades of Green assesses whether net proceeds or an equivalent amount are tracked by the issuer in an appropriate manner and provides transparency on the intended types of temporary placement for unallocated proceeds. Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs.

Appendix 1:
Referenced Documents List

Document Number	Document Name	Description
1	Trelleborg Kommun Green Bond Framework March 2023	
2	Hallbarhetsrapport 2021	Sustanability reporting for 2021
3	Hallbarhetspolicy for Trelleborg Kommun	Trelleborg's sustainability policy
4	Energiplan	The energy plan is a basis and a guide for the Municipality's long-term work with the transition to a sustainable energy system with low climate impact.
5	Klimatilpasningsplan	Climate adaptation plan, with the purpose is also to convey and evaluate which measures the Municipality has carried out, plans to carry out and will need to carry out in the future.
6	Miljoplansmal	Environmenta program for Trelleborg with local environmental targets from 2021 – 2030.
7	Naturplan	Nature plan for Trelleborg

Appendix 3:
About CICERO Shades of Green

CICERO Shades of Green, now a part of S&P Global, provides independent, research-based second party opinions (SPOs) of green financing frameworks as well as climate risk and impact reporting reviews of companies. At the heart of all our SPOs is the multi-award-winning Shades of Green methodology, which assigns shadings to investments and activities to reflect the extent to which they contribute to the transition to a low carbon and climate resilient future.

CICERO Shades of Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Shades of Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Shades of Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

Environmental Finance Bond Awards 2022 Winner External assessment provider of the year

- **2021 Largest External Reviewer,** Climate Bonds Initiative Awards
- **2020 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2020 Largest External Review Provider In Number Of Deals,** Climate Bonds Initiative Awards
- **2019 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2019 Largest Green Bond SPO Provider,** Climate Bonds Initiative Awards
- **2018 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2018 Largest External Reviewer,** Climate Bonds Initiative Awards
- **2017 Best External Assessment Provider,** Environmental Finance Green Bond Awards
- **2016 Most Second Opinions,** Climate Bonds Initiative Awards