



City of Łódź Green Bond Second Opinion

10 November 2021

The City of Łódź is located in Central Poland with a population of 672 thousand people spread across 293 km². Due to its central location, various industries are rapidly expanding their activity and their presence within the city since the last few years.

Green project categories include water and wastewater management (i.e., approx. 90%), and clean transportation (i.e., approx. 10%). Well-conceived water and wastewater projects that are not powered by fossil fuels are important climate adaptation projects, and zero-emission clean transportation projects represent a green solution in a 2050 perspective. Investors should however be aware that negative impacts on the local environment, as well as potential construction emissions, do not appear to be considered in a systematic manner across all projects. Further, investors should be aware that plug-in hybrid cars partly still run on fossil fuels. There may be also elements of fossil fuels used in the investments and maintenance of railway networks and in other related technology and infrastructure.

The City of Łódź could improve its governance procedures and consider supply chain emissions, along with implementing a more systematic approach towards climate risks. Despite having set specific targets for 2030 (i.e., emissions reduction, energy consumption reduction and increased share of renewables), the city does not have specific policies towards subcontractors and suppliers, nor has implemented the TCFD recommendations. The issuer commits to annual reporting and aims to align on the metrics from the Position Paper on Green Bonds Impacts Reporting. However, the issuer did not provide any specific metrics they will report on yet, nor on the methodology they would use, which could represent a significant transparency issue. Despite being publicly available, the reporting will not be externally reviewed.

Based on the overall assessment of the eligibility criteria in this framework, governance and transparency considerations, and the prioritized use of proceeds, the framework receives a **CICERO Medium Green** shading and a governance score of **Fair**. In order to improve the framework, the City of Łódź could implement concrete and ambitious targets, consider supply chain emissions, and improve its reporting practices. We further encourage the issuer to systematically require environmental impact assessments prior to project development and to implement the TFDC recommendations, using climate risk scenarios.

SHADES OF GREEN

Based on our review, we rate the City of Łódź green bond framework **CICERO Medium Green**.

Included in the overall shading is an assessment of the governance structure of the green bond framework. CICERO Shades of Green finds the governance procedures in the City of Łódź's framework to be **Fair**.



GREEN BOND PRINCIPLES

Based on this review, this Framework is found to be aligned with the principles.





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1 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated October 2021. 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 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.

Expressing concerns with 'Shades of Green'

CICERO 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:

CICERO Shades of Green



Dark green is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Ideally, exposure to transitional and physical climate risk is considered or mitigated.



Medium green is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Physical and transition climate risks might be considered.



Light green is allocated to projects and solutions that are climate friendly but do not represent or contribute to the long-term vision. These represent necessary and potentially significant short-term GHG emission reductions, but need to be managed to avoid extension of equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the physical and transitional climate risk without appropriate strategies in place to protect them.

Examples



Wind energy projects with a strong governance structure that integrates environmental concerns



Bridging technologies such as plug-in hybrid buses



Efficiency investments for fossil fuel technologies where clean alternatives are not available

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 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.



2 Brief description of City of Łódź's green bond framework and related policies

The City of Łódź is located in Central Poland with a population of 672 thousand people spread across 293 km². Due to its central location, industries, such as business service centres, logistics, household appliance manufacturing, electronics, biotechnology, video game development, as well as modern textiles are rapidly expanding their activity and their presence within the city since the last few years. According to the city, the modern business services (e.g., the IT sector), with over 25,900 people employed in 2020 and 90 modern business service centres operating in Łódź, are the industries that are developing the most rapidly, following by robotics companies.

Environmental Strategies and Policies

In 2017, the city reported on its scope 1 and 2 emissions, where most of these emissions arise from the housing sector, followed by the personal transport sector, and the industry and services sector. The city is not yet reporting on scope 3 emissions. The total energy consumption was also reported by the city, where the large majority comes from the housing sector, followed by the personal transport sector, and the industry and services sector. The other sectors that contribute to the annual CO₂ emissions and the energy consumption are the public facilities, the public transport, and the roads lights for which their emissions and energy consumptions are reported by the city. By 2030, compared to the 2013 baseline and in line with the Polish national targets, the city aims to achieve:

- Reduction of CO₂ emissions by 19%;
- Reduction of final energy consumption by 5%;
- Increase in the share of energy from renewable energy sources by 0.14%.

To achieve these goals, the City of Łódź implemented in March 2021 the Low Carbon Economy Plan which sets out goals which focus on the improvement of air quality (i.e., reducing emissions of substances into the air (e.g., particulate matters PM10 and PM2.5)), energy efficiency (mostly in buildings in relation with the district heating), and reduction of emissions of pollutants, including greenhouse gases. The plan covers both investment and non-investment measures in the sectors of individual housing, public buildings, spatial development, heat and energy supply and private and public transport. The plan is meant to determine measures to reduce energy consumption, increase the use of renewable sources and reduce greenhouse gas emissions.

Łódź is also working on reducing the emissions from the city's transport fleet, with the aim to replace its current bus fleet with zero emission electric buses. According to the issuer, In Q1 2022, 17 electric buses along with charging stations at the depot and at bus loops are scheduled for delivery. The city also plans to purchase 70 electric buses and install more charging stations. No specific timeframe is given on that matter. Also, 22 modern trams have been recently delivered as part of a series of purchases of new rolling stock. Furthermore, the city is now conducting a tender procedure for the lease of 22 electric office cars for the needs of the City of Łódź office.

The city mentioned experiencing climate extreme events, such as heavy rain events, followed by periods of droughts. Therefore, the city mentioned having constructed impounding reservoirs for better water retention and collection, and aims to replace the existing concrete surfaces, among others in parks being restored, with water-permeable ones. In 2020, the city launches the scheme of subsidies for small retention facilities. On that point, the city also mentioned focusing on architecture favorizing better water flow and absorption. The city is however



not reporting in line with the TCFD recommendations nor the GRI Standards and is not carrying out climate risk assessments using climate scenarios analysis.

Use of proceeds

An amount equivalent to the net proceeds from Green Bonds shall be used to finance or refinance, in part or in full, green projects. New financing is defined as financing of green projects implemented during the previous 12 months prior to issuance of a Green Bond. Eligible green projects are attributed to the following two project categories: sustainable water and wastewater management (i.e., approx. 90% of the proceeds for acquisitions, investments and expenditures related to wastewater treatment, the associated infrastructure and water efficiency measures), and clean transportation (i.e., approx. 10% acquisitions, investments and expenditures related to low carbon transportation solutions and associated infrastructure in the following categories: low carbon public transport, low carbon vehicles, and low carbon transport infrastructures). The issuer informed that the allocation of proceeds from the issue of Green Bonds to the currently selected green projects will depend on the actual expenditure incurred from own resources and EU funds received until project completion.

Green Bonds will not be used to finance investments linked to fossil energy generation, nuclear energy generation, research and/or development in the field of weapons and defense, potentially environmentally negative resource extraction, gambling or tobacco.

Selection

The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO 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 Green places on the governance process.

An environmental project committee has been established and consists of relevant people from the Department of Strategy and Development, Ecology and Climate Department and Public Finance Department. The committee is responsible of the following: green project evaluation and selection for financing with green bonds, control of the correct use of funds, implementation of green projects, and assessment of the achievement of environmental effects. Decisions are made by consensus, and the Public Finance Department keeps a register of approved green projects. The same group also monitors the development of the green finance market and proposes updates to the framework to the extent there are material changes in market practices or standards (i.e., Green Bond Principles, the EU Taxonomy, EU Green Bond Standard, etc.). The issuer further informed that should it turn out that the implementation of the currently selected two projects will be delayed, the green bond committee will select another project eligible as a green project compliant with the eligibility criteria and within the two project categories.

The issuer does not have systematic procedures within the selection process to screen for controversial projects, nor to include supply chain, resilience considerations, as well as rebound effects.

Management of proceeds

CICERO Green finds the management of proceeds of the City of Łódź to be in accordance with the Green Bond Principles.

An amount equal to the net proceeds from green bonds will be released into the main bank account of the city and used for financing and/ or refinancing of green projects. Ongoing monitoring of expenditure for green projects will be carried out by units directly implementing the projects within the two project categories.

Any unallocated proceeds temporarily held by the City of Łódź will be placed in the main bank account of the city and released as needed in the respective financial year. The city informed that if green bond proceeds are not fully



used in a given financial year for the selected projects, the green bond committee will select an additional environmental project(s) to be financed or refinanced with green bonds that qualify under the eligibility criteria and within the two project categories. This information will be made public. It is however unclear if unallocated proceeds these can be invested in fossil fuel related assets.

Reporting

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs. Procedures for reporting and disclosure of green finance investments are also vital to build confidence that green finance is contributing towards a sustainable and climate-friendly future, both among investors and in society.

A green bond report will be made available on the City's Public Information Bulletin (BIP) website. The green bond report will include an allocation report and an impact report and will be published annually as long as there are Green Bonds outstanding or until full allocation. The framework and this second-party opinion will also be available on the city's (BIP) website. The issuer informed that the annual green bond report will be drawn up separately for each project and verified internally. However, the reporting is not externally reviewed. The city's reporting is the responsibility of the mayor.

For the allocation report, the issuer will report on the total amount of green bonds outstanding; share of proceeds used for financing vs refinancing; share of proceeds split between the two key categories (sustainable water and wastewater management and clean transportation); share of unallocated proceeds (if any); and examples of projects being financed with green bonds.

The impact report aims to disclose the environmental impact of the green projects financed under the framework. Impact reporting will, to some extent, be aggregated and depending on data availability, calculations will be made on a best intention basis. The issuer informed that it would report on changes in energy consumption, avoided CO₂ emissions, and production of energy from renewable energy in relation to the baseline year and assumed targets. The impact assessment may, where applicable, be based on relevant metrics defined in the Position Paper on Green Bonds Impacts Reporting. The issuer further mentioned that the impact reporting will refer to the assessment of the achievement of metrics stipulated in applications for project funds from the European Union. However, the issuer did not provide any specific metrics that they will report on yet. The issuer will not report on the methodology to calculate impacts, including, e.g., which grid factor has been used.



3 Assessment of the City of Łódź's green bond framework and policies

The framework and procedures for City of Łódź's green bond investments are assessed and their strengths and weaknesses are discussed in this section. 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 in this section to note areas where the City of Łódź should be aware of potential macro-level impacts of investment projects.

Overall shading

Based on the project category shadings detailed below, and consideration of environmental ambitions and governance structure reflected in the City of Łódź's green bond framework, we rate the framework **CICERO Medium Green**.

Eligible projects under the City of Łódź's green bond framework

At the basic level, the selection of eligible project categories is the primary mechanism to ensure that projects deliver environmental benefits. Through selection of project categories with clear environmental benefits, green bonds aim to provide investors with certainty that their investments deliver environmental returns as well as financial returns. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed and that the selection process should be "well defined".

Category	Eligible project types	Green Shading and some concerns
Sustainable water and wastewater management  	<p>Acquisitions, investments and expenditures related to wastewater treatment, the associated infrastructure and water efficiency measures.</p> <p>Near term examples of such investments include the following project:</p> <ul style="list-style-type: none">Wastewater management, phase 3 in Łódź (Reduction of the contamination of groundwater, surface water and soil with sewage generated in the Group Sewage Treatment Plant of the Łódź Agglomeration by the use of improved wastewater treatment systems and improvement	<p>Medium to Dark Green</p> <ul style="list-style-type: none">✓ 90% of the proceeds is expected to be attributed to this project category.✓ The issuer is currently only having one project planned under this project category.✓ The issuer informed that the 7 investments tasks are the following: 1. Construction of retention reservoirs; 2. Modernization of the sludge dewatering system; 3. Modernisation of the activated sludge wastewater treatment process.; 4. Modernisation of the sand node; 5. Sludge thermal hydrolysis system; 6. Installation for nitrogen removal from leachate; and 7. Installation for phosphorus recovery from leachate.✓ Well-conceived water and wastewater projects not powered directly by fossil fuels are important climate adaptation projects. The issuer informed that 65% of all the energy used come from biofuel (biogas) and other renewable sources, and that the remaining 35% is generated from the grid.✓ The issuer informed that the biogas is formed in the sludge fermentation processes, and that the biogas is used to generate electricity used for wastewater



of their quality. This includes the implementation of 7 investment tasks aimed to reduce the contamination of groundwater, surface water and soil with sewage generated in the Group Sewage Treatment Plant of the Łódź Agglomeration).

treatment plant's own purposes.

- ✓ Sustainable water and wastewater management is part of the necessary adaptation to a changing climate. However, projects that include the construction of retention reservoirs might have negative impacts on the local environment, ecosystem services, and biodiversity. The issuer mentioned that due to their location in an existing facility, they had no impact on ecosystem services and biodiversity, and that an environmental impact assessment has been carried out for the construction of retention reservoirs at one facility. However, it seems that environmental impact assessments are not standard practices across all projects.
- ✓ Investors should be aware that potential emissions from the construction phase are not considered in a systematic manner.
- ✓ Discharge of effluents and wastewater to the marine environments can cause toxic algae blooms and negative effects on wild fish. Investments under this category can contribute to reducing such problems.
- ✓ According to the issuer, the waste generated in the combustion of biogas process will be disposed in a separate landfill.
- ✓ The sewage system collects the water sewage from industrial and residential waste, as well as from cities around Lodz.
- ✓ Physical climate risk is currently not systematically assessed by the city, and long-term climate resilience is not yet considered.

**Clean
Transportation**



Acquisitions, investments and expenditures related to low carbon transportation solutions and associated infrastructure in the following categories:

1. Low Carbon Public Transportation (Public transport systems such as trains, trams, buses, ferries and cableway systems, with no direct emissions).

Medium Green

- ✓ 10% of the proceeds are expected to be attributed to this project category.
- ✓ Electric vehicles and other zero emission solutions contribute to the transition to a low-carbon society. However, be aware of the electricity grid emissions (around 791gCO₂/Kwh in 2020¹) where hard coal accounted for 47% of primary energy production in 2020².
- ✓ Acquisitions, investments and expenditures related to public transportation with no direct emissions represents a medium to dark green shading.

¹ [2020_07_emissions_factors_sources_for_2020_electricity_v1_3.pdf\(carbonfootprint.com\)](#)

² [Poland - Energy Sector \(trade.gov\)](#)



<p>2. Low Carbon Vehicles (Fully electrified, biofuel, plug-in hybrid electric, or hydrogen passenger and freight vehicles).</p> <p>3. Low Carbon Transportation Infrastructure (Infrastructure supporting low carbon passenger and freight transport such as dedicated charging and alternative fuel infrastructure; bus rapid transit systems, bus lanes and electrified railways, that support modal shift from private to public transportation; infrastructure for bicycles and pedestrians).</p> <p>Near term example of such investments include the Low- emission urban transport programme (reconstruction of the tram line in Przybyszewskiego Street, together with the construction of an interchange node and reconstruction of tram tracks.</p>	<ul style="list-style-type: none"> ✓ light green projects are also included under this category (e.g., plug-in hybrid). Some of the plug-in hybrids can run on fossil fuels. ✓ Land use change has been found to put into question the climate benefit from biofuels and bioenergy, which could also increase competition for land when scaled up³. ✓ The construction of train tracks is supported under low-emission urban transport, according to the issuer. ✓ The financing of transport from and to the airport is excluded from the framework, according to the issuer. ✓ The financing of fossil fuel powered ferries is excluded from the framework according to the issuer. ✓ It is unclear if this project category could include elements of fossil fuels used in the investments and maintenance of railway networks and in other related technology and infrastructure. ✓ The scope of the task for “low carbon transportation infrastructure” comprises the reconstruction of the tramway tracks, road system to the extent necessary, end-to-end construction of an interchange node along Przybyszewskiego Street, aimed at integrating tram and bus transport, individual car traffic, bicycle traffic, pedestrian traffic and railway traffic, which can represent a risk of lock-in and can have rebound effects. However, the issuer informed that car parks and extension of access roads to car parks related to the interchange node construction are excluded.
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Table 1. Eligible project categories

Background

In 2019, the Polish fuel combustion sector, which includes coal burning, transport, industrial processes and products use, accounted for 92% of the country’s CO₂ emissions. The City of Łódź is ranked number 112 with the highest levels of air pollution in Europe⁴. The EU has committed itself to a clean energy transition, which will contribute to fulfil the goals of the Paris Agreement. To deliver on this commitment, the EU has set binding climate and energy targets for 2030, such as reducing greenhouse gas emissions by at least 40%, increasing energy efficiency by at least 32.5%, and increasing the share of renewable energy to at least 32% of EU energy use. To

³ IPCC, 2019: Interlinkages Between Desertification, Land Degradation, Food Security and Greenhouse Gas Fluxes: Synergies, Trade-offs and Integrated Response Options. Chapter 6 in: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*

⁴ [World's Most Polluted Cities in 2020 - PM2.5 Ranking | AirVisual \(iqair.com\)](https://www.airvisual.com/en-us/worlds-most-polluted-cities-2020-pm25-ranking)



ensure that the EU targets are met, EU legislation requires that each Member State drafts a 10 years National Energy and Climate Plan (NECP), setting out how to reach its national targets⁵. Poland's final integrated NECP shows that significant additional measures are required to achieve its 2030 greenhouse emissions target of 7% below 2005 levels. The plan describes some planned climate policies and measures, mostly in the transport and buildings sector, to cover the gap of 18 percentage points with existing measures⁶. However, despite these measures, Poland is lacking ambitions in its energy policy until 2040⁷.

Sustainable water and wastewater

In 2018, the EU has set the Best Available Techniques (BAT) Reference Document for Waste Treatment. Waste management is an essential part of the EU's transition to a circular economy and is based on the 'waste hierarchy'. The BAT conclusions provide national authorities with the technical basis for setting permit conditions for installations. While the main aim of these BAT conclusions is to reduce emissions from different waste treatments, other environmental issues, such as energy efficiency, resource efficiency, management of residues, are also covered⁸. In Poland, only 67% of Poles had homes connected to sewers in 2013. In 2018, this number increases to 70%. Existing treatment facilities undergo upgrades to reduce nitrogen and phosphorus levels in their wastewater by 75%. Flooding has sparked interest in stormwater management systems, while water scarcity in the long-term has generated concern over water efficiency through wastewater reuse. The Polish government ordered a contract for the design and development of river management systems, and implemented a new water pricing scheme to promote water reuse and conservation for consumers, factories, and farms. The National Plan includes the modernization of water infrastructure in 1,578 agglomerations⁹.

Clean transportation

CO₂ emissions from transport of Poland increased from 29 Mt CO₂e in 1970 to 60 Mt CO₂e in 2019, growing at an average annual rate of 1.69%¹⁰. A shift in transport fuels and technologies is needed to avoid greater levels of energy consumption and emissions. Electro-mobility is one of the major ongoing shifts in the transport sector worldwide. This has been identified as a new area of priority for Poland, and legislation to support it is currently being prepared¹¹. According to its NCEP, Poland aims to have 1 million electric vehicles by 2025 and has indicated new measures on energy efficiency in transport. While electrification of transport is covered well as a cross-cutting issue in various sections of the plan, Poland should consider measures fostering sustainable transport, including developing and modernising the public transport infrastructure, promoting intermodal transport networks and electromobility¹².

Governance Assessment

Four aspects are studied when assessing the City of Łódź's governance procedures: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) the reporting on the projects to investors. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: 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.

⁵ [necp_factsheet_pl_final.pdf\(europa.eu\)](#)

⁶ [staff_working_document_assessment_necp_poland_en.pdf\(europa.eu\)](#)

⁷ [Disappointing lack of ambition in Poland's Energy Policy 2040 - Ember\(ember-climate.org\)](#)

⁸ [New EU environmental standards for waste treatment | EU Science Hub\(europa.eu\)](#)

⁹ [export.gov](#)

¹⁰ [Poland CO2 emissions from transport, 1970-2020 - knoema.com](#)

¹¹ [Energy Policies of IEA Countries - Poland 2016 Review\(windows.net\)](#)

¹² [staff_working_document_assessment_necp_poland_en.pdf\(europa.eu\)](#)

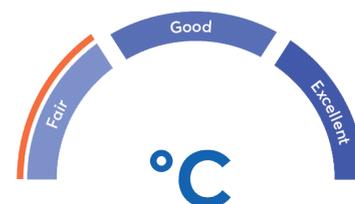


The City of Łódź has set specific targets for 2030 in relation with reduction of CO₂ emissions, reduction of final energy consumption, and increased share of renewable energy. However, no specific metrics that could be measured on an annual basis have been given. The city mentioned being aware of extreme events, such as heavy rain and droughts, however, it is not reporting in line with the TCFD recommendations or the GRI standards, and it is not using climate scenarios analysis.

The city has established an environmental project committee, formed with representatives from the Department of Strategy and Development, the Ecology and Climate Department and the Public Finance Department. Decisions are made by consensus. Life cycle and supply chain considerations are not standard practices within the selection process, and the issuer does not require GHG reporting from suppliers. The issuer further does not have in place a systematic approach to exclude potentially controversial projects.

A green bond report will be made available on the City's Public Information Bulletin (BIP) website. The green bond report will include an allocation report and an impact report and will be published annually. The issuer aims to align and choose metrics from the Position Paper on Green Bonds Impacts Reporting. The issuer further mentioned that the impact reporting will refer to the assessment of the achievement of metrics stipulated in applications for project funds from the European Union. However, no information has been provided on the specific metrics that would be reported on, nor on the methodology that would be used to calculate impacts. Furthermore, the reporting will not be externally reviewed.

The overall assessment of City of Łódź's governance structure and processes gives it a rating of **Fair**.



Strengths

Well-conceived water and wastewater projects not powered directly by fossil fuels are important climate adaptation projects.

It is a strength that the City of Łódź aims to achieve a shift towards public transportation with net zero emissions. Clean and zero emissions urban transport represents a 2050 perspective and contributes to the necessary transition of the transport sector in Poland.

Weaknesses

We find no material weaknesses in the green bond framework.

Pitfalls

The City of Łódź has set specific targets for 2030 in relation with reduction of CO₂ emissions, reduction of final energy consumption, and increased share of renewable energy. However, the current governance structure of the City of Łódź can limit the likelihood to reach the goals set. It could be a potential pitfall that the issuer does not have specific and relevant policies or goals towards subcontractors and suppliers. We encourage the City of Łódź to consider if more specific and concrete policies can be developed, and to request GHG reporting from suppliers. The suggested reporting also constitutes a pitfall. Despite being publicly available, the reporting will not be externally reviewed and will not be transparent on methodology, for e.g., transparency on the grid factor. Further, the issuer aims to align and choose metrics from the Position Paper on Green Bonds Impacts Reporting, and mentioned that the impact reporting will refer to the assessment of the achievement of metrics stipulated in applications for project funds from the European Union. However, the issuer did not provide any specific metrics they would report on yet, which could represent a transparency issue.



Developing projects with climate risk and resilience in mind is critical for cities, and the issuer would benefit from a systematic inclusion of climate risk and resilience into both decision making and reporting. The City of Łódź does not assess climate risks based on the TCFD recommendation, nor uses scenarios.

As above mentioned, water and wastewater projects are important climate adaptation projects. However, projects that include the construction of retention reservoirs, as well as transportation infrastructure, might have negative impacts on the local environment, ecosystem services, and biodiversity. However, the issuer mentioned that due to their location in an existing facility, they had no impact on ecosystem services and biodiversity, and that an environmental impact assessment has been carried out for the construction of retention reservoirs at one facility. However, it seems that environmental impact assessments are not standard practices across all projects. Furthermore, construction emissions are not taken into account in a systematic matter.

The clean transport project category can include some pitfalls. Plug-in hybrid cars represent a step towards the long-term vision, but are not quite there yet since they partly still run on fossil fuels. Furthermore, investors should be aware that some plug-in hybrids could have a low battery range, and thus relying on fossil fuels. There may be also elements of fossil fuels used in the investments and maintenance of railway networks and in other related technology and infrastructure. We encourage the city to apply the highest standards for all its activities such as buying zero emission vehicles where feasible and apply strict environmental requirements in the supply chains.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Framework Green Bonds	Dated October 2021
2	Integrated Development Strategy For Lodz 2020+	From the City of Lodz
3	List Activities planned for the period covered by the Low Carbon Economy Plan	Translated to English
4	Summary of the Low Carbon Economy Plan for the City of Łódź	Translated to English



Appendix 2: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO 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 Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University, the International Institute for Sustainable Development (IISD) and the School for Environment and Sustainability (SEAS) at the University of Michigan.

