



# Québec Green Bond Second Opinion

31 August 2022

## Executive Summary

**The Province of Québec (“Québec”) is the largest province in Canada.** It has a surface area of nearly 1.7 million km<sup>2</sup> and ranks second in terms of population with 8.6 million people.

**Most proceeds under the updated framework will finance clean transportation, followed by green buildings.** Other project categories included under the framework are sustainable water and wastewater as well as climate change adaptation. However, the issuer does not yet have plans or specific projects for these categories. This is an update of the framework dated 2017 under which the province issued green bonds to finance infrastructure projects with a focus on public transit and energy efficiency. In the updated framework, Québec has removed five project categories and added the project category “green buildings”. According to the issuer, these updates align the framework more closely to the actual investments that it will finance and improve the timing of allocations to eligible projects.

We rate the framework **CICERO Dark Green** and give it a governance score of **Good**. The overall shading reflects that most proceeds are expected to be allocated to Dark Green solutions (electrified public transport and related infrastructure). Another significant share of the proceeds will also finance Medium Green elements, such as new or refurbishment of government or government-subsidized buildings with environmental certifications and energy efficiency improvement requirements. We encourage the issuer to report on scope 3 emissions and on impact for all project categories under the framework, and to have the impact reporting externally reviewed for better transparency.

## Strengths

**Québec has a focus on zero emission elements within its framework, which represents a strength.** Investing most of the proceeds raised under the framework in Dark Green elements, such as electrified public transport and related infrastructure, is a key avenue for the decarbonization of the transport sector. It is also positive that buses and metro cars heated by fossil fuels are not eligible under the framework, and that buildings related to clean transportation e.g., rail depots, must also meet the requirements for green buildings.

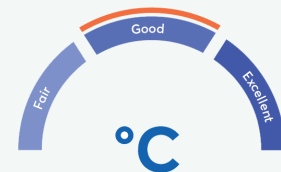
**It is also a strength that Québec has set relevant and timebound targets at the provincial level.** Through its “2030 Plan for a Green Economy”, the province has set ambitious targets, including to reduce emissions by 37.5% by 2030 compared to 1990 levels, in view of reaching carbon neutrality by 2050. CICERO Green is also encouraged by the clear and relevant approach that Québec is setting to reach its goals, such as by increasing the

## SHADES OF GREEN



°CICERO  
Dark Green

## GOVERNANCE ASSESSMENT



## GREEN BOND PRINCIPLES

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



share of renewable energy supply in off-grid systems, including bioenergy, and by increasing the number of net zero emissions government buildings, including changing fossil fuel heating systems.

### Pitfalls

**While its framework focuses on electric buses, Québec will still subsidise transit authorities in the province to purchase fossil fuel powered and hybrid vehicles until 2025.** As the fleet will grow, the number of non-zero emission vehicles may increase in absolute terms. This may also impact certain impact metrics under the framework, more specifically the total fuel consumption of its bus fleet may increase. However, it is worth noting that the STM, Montreal's transit authority and the biggest in Québec, will not buy hybrid or fossil fuel powered buses after 2022.

**While electrified public transport is crucial in a 2050 future, the production and disposal of batteries and sourcing of raw materials can have substantial climate and environmental impacts.** Thus, we encourage the issuer to put greater emphasis on such elements in its procurement policies and decisions.

**Québec's quantitative targets for both new constructions and refurbishment of older buildings are good but could include other important criteria.** In a low carbon 2050 perspective the energy performance of buildings is expected to be improved, with passive or plus house technologies becoming mainstream and the energy performance of existing buildings greatly improved through refurbishments. Québec is not there yet, and we encourage the issuer to put greater emphasis on embodied emissions, GHG emissions reduction and decommissioning considerations.



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# 1 Québec's environmental management and green bond framework

## Issuer description

The Province of Québec (“Québec”) is the largest province in Canada with a surface area of nearly 1.7 million km<sup>2</sup> and ranks second in terms of population with 8.6 million people. Québec City is the capital of the province, and its biggest city is Montréal.

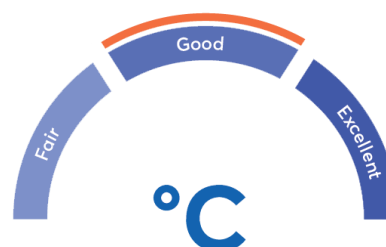
Québec's first green bond framework is dated 2017 under which the province issued seven green bonds to finance infrastructure projects with a focus on public transit and energy efficiency, including the upgrades of metro stations, the construction of a light rail transit system, and the purchases of electric buses. In the updated framework, Québec has removed five project categories (i.e., energy efficiency, renewable energy, sustainable waste management, sustainable land development, and forest, agricultural land and land management). The issuer has added under the updated framework the project category “green buildings” and extended the lookback period from six to twelve months. According to the issuer, these updates align the framework more closely to the actual investments that it will finance through green bonds and improve the timing of allocations to eligible projects.

## Governance assessment

Québec calculates and reports emissions for scope 1 and 2 but would benefit from reporting scope 3 emissions. Québec has set quantifiable and timebound targets at the provincial level, including to reduce emissions by 37.5% by 2030 compared to 1990 level, in view of reaching carbon neutrality by 2050. CICERO Green is encouraged by the clear and relevant approach that Québec is setting to reach its goals. According to the issuer, it collaborates with non-profit organizations and universities to assess physical climate impacts and takes into account observed climatic hazards in its economic and financial forecasting.

Québec has a clear and well-defined selection process in place, including environmental competence. EIAs are always required when selecting eligible projects, and the impacts of projects on biodiversity and habitats must be evaluated. According to the issuer, climate resilience assessments are a standard aspect of EIAs, which include an analysis of the anticipated impacts and risks of climate change on the project and the environment where it will be carried out as well as measures to adapt the project to the current and future climatic conditions for the duration of the project. Moreover, the issuer also confirmed assessing indigenous rights in areas where the projects are located. According to the issuer, life cycle assessments are also always required as part of its project selection process.

Québec publicly reports on allocation and impact, as well as on various indicators, and disclosed methodologies, baselines and factors used. The province currently only indicates specific metrics for the clean transport project category due to its high importance in the framework. While the issuer mentioned that it will report on other metrics for other project categories going forward, no specific timeframe or metrics have yet been set. The allocation reporting is externally reviewed, but the issuer would benefit from having the impact reporting also externally reviewed.



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



### Sector risk exposure

**Physical climate risks.** Québec is already being affected by the impacts of climate change. The impacts however vary by regions and their consequences are experienced differently from one community to another. Floods (most likely in the South), coastal erosion, thawing permafrost (most likely in the North), increasing heat waves, more frequent and intense rainfalls, more numerous and intense storms, and changes in the water regimes are important impacts the province is facing.<sup>1</sup> Regarding the transportation sector more specifically, some roads are at risk in a few regions, due to coastal erosion, permafrost degradation or submersion during heavy storms.

**Transition risks.** Against the backdrop of the Paris Agreement, in which countries negotiated and committed to their Nationally Determined Contributions in order to collectively limit warming to well below 2°C, sovereign states are setting the stage for climate action in their respective states. Canada's updated NDC is to reduce emissions by 40-45% below 2005 levels by 2030. Additionally, Canada is committed to reducing its emissions to net-zero by 2050.<sup>2</sup> The province, on its side, aims to reduce its emissions by 37.5% by 2030 relative to 1990 emission levels in view of reaching carbon neutrality by 2050.<sup>3</sup> Regarding the transport sector, the number, scope, and ambition of regulatory requirements regarding greenhouse gas emissions are expected to increase significantly in the future, especially concerning vehicle fuel efficiency regulations and emissions standards. Thus, the issuer might be exposed to such regulatory risks and risks related to tightening emission standards.

**Environmental risks.** While public transport has major environmental benefits, the constructions of new metro lines may cause air, water, and noise pollution, deforestation and destruction of wetlands, as well as the degradation of terrestrial and aquatic ecosystems, leading to reduced habitat/species diversity, disturbance of animal and plant species movement, etc.<sup>4</sup>

### Environmental Strategies and Policies

Québec calculates and reports emissions for scope 1 and 2. Quebec's GHG emissions in 2019 represented 84.3 million tons, which represents a reduction of 2.7% compared to 1990 level according to the issuer. Québec has set in 2020 the "2030 Plan for a Green Economy" which will serve as the province's roadmap over the next 10 years for climate change policy. The 2030 Plan sets a greenhouse gas (GHG) reduction target of 37.5% by 2030 compared to 1990 level, in view of reaching carbon neutrality by 2050. To reach these emissions reduction targets, the 2030 Plan sets other relevant targets, such as 70% renewable energy supply in off-grid systems by 2025, as well as 60% reduction in emissions from government buildings by 2030 in order to have net zero emissions buildings by 2040, 50% reduction in emissions related to heating for buildings, and 50% increase in bioenergy production by 2030. Multiple measures will be implemented to reach the bioenergy goal by 2030 according to the issuer, including the implementation of a bioenergy program for business, the construction of composting and biomethanization facilities, and the increased financial support to the production and distribution of renewable natural gas, as well as in innovation.

As the transport sector represents a large share of the province's total emissions (43.3% of Québec's total emissions), the issuer also aims at electrifying its transport. The province aims to have 1.6 million electric vehicles on the road by 2030, 55% of city buses and 65% of school buses electrified by 2030, as well as 100% of governmental cars, SUVs, vans, and minivans and 25% of pickup trucks electrified by 2030. In support of this target, the Société des Transports de Montréal (STM), Montreal's transit authority and the biggest in Québec, will

<sup>1</sup> [Adapt to climate change | Gouvernement du Québec \(quebec.ca\)](https://www.quebec.ca/gouvernement/actualites/actualites-quebec/2020/03/10/adaptation-climat-quebec)

<sup>2</sup> [Microsoft Word - Canada's Enhanced NDC Submission FINAL EN \(Aug. 16\).docx \(unfccc.int\)](https://www.unfccc.int/documents/1362837/1362838/microsoft-word-canada-s-enhanced-ndc-submission-final-en-aug-16.docx)

<sup>3</sup> [Engagements du Québec \(gouv.qc.ca\)](https://www.gouv.qc.ca/engagements)

<sup>4</sup> [5 Major Environmental Impact of Transport Development \(geographynotes.com\)](https://www.geographynotes.com/montreal-environmental-impacts)



not buy hybrid or fossil fuel powered buses after 2022, and the province will only subsidise the acquisition of fully electric buses after 2025. Additionally, the province aims to stop the sale of new fossil fuel vehicles by 2035.

Regarding electricity, Québec produces electricity derived from sources that are more than 99.8% renewable, mainly hydropower. The electrification of transportation, buildings, and industrial activities, as well as increasing production of green energy, including bioenergy, are some of the main focus areas of the 2030 Plan. Québec also aims to increase its electricity exports to the United States and to the other provinces of Canada.

Québec is committed to increase the resilience of its population and communities, infrastructures, economy, and environment to the impacts of climate change. To increase its resilience, the province informed that between 2022 and 2027, it will put in place various resilience measures, including greening to reduce heat islands, flood risk prevention measures, and coastal erosion and landslide risk prevention measures. Further, Quebec informed that it uses climate scenarios to assess physical climate risks. Furthermore, organizations leading Québec's projects must carry environmental impact assessment over the lifetime of the project prior to project start, and use as least two climate scenarios, including the RCP 4.5 scenario<sup>5</sup>. While it does not participate in CDP's States and Regions environmental reporting program, the province is using climate scenarios provided by Ouranos, a non-profit organization.

### **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 July 2022.

### *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*

Québec has established a Green Bond Advisory Committee (GBAC) comprised of representatives from various government departments and agencies, including the Ministry of Finance, the Ministry of the Environment and the Fight against Climate Change, the Ministry of Transport, the Treasury Board, and the Québec Society of Infrastructures.

The GBAC evaluates and selects projects among a list of eligible projects that comply with the policies and standards of the Québec government and that are in line with the criteria set out in table 1. Projects that are considered eligible are presented to the GBAC by the relevant partner – the organization which spearheads the project. According to the issuer, this is an update to the selection process from the previous framework that was introduced, where before information was simply gathered to make a decision, in order to improve the GBAC's ability to evaluate projects by asking direct and more specific questions to the relevant partner/organization. The GBAC votes for the selected project to be included in the eligible projects pool. Decisions are taken by unanimity.

The issuer confirmed that EIAs, which systematically include an analysis of the anticipated impacts and risks of climate change on the project and the environment where it will be carried out as well as measures to adapt the project to the current and future climatic conditions for the duration of the project, are always required when selecting eligible projects. The impacts of projects on biodiversity and habitat must also be evaluated and is regulated under the Environmental Quality Act and the environmental assessment process. According to the issuer, life cycle assessments are a minimum requirement when contractors bid for projects, and winning contractors'

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<sup>5</sup> "In Canada, RCP 4.5 would mean an average temperature increase of 3.2°C by the end of the century compared to a baseline period of 1986-2005". [Emissions Scenarios: RCPs — Climate Data Canada](#)



sustainability-related obligations are also extended to their sub-contractors. Moreover, the issuer also confirmed assessing indigenous rights in areas where the projects are located via the “Directive<sup>6</sup> sur la gestion des projets majeurs d’infrastructure publique”. The issuer expects that projects with significant controversies will not be approved by the GBAC.

If a project no longer fulfils the eligibility criteria or is not delivering the anticipated environmental benefits, the GBAC will remove the project from the eligible pool.

### *Management of proceeds*

An amount from the general fund of the province of Québec, equal to the net proceeds from the green bond, is credited to a designated account to track the use and allocation of funds related to eligible projects. If the account balance is positive, the amount equivalent to the funds disbursed are deducted from the balance of the designated account.

If proceeds cannot be immediately fully allocated to eligible green projects, the province invests the unallocated funds in short term treasury bills or short-term notes guaranteed by the Québec government or another Canadian government only. The net proceeds from green bonds are expected to be fully allocated to eligible green projects in the 12 months following an issue. Investments in fossil fuel related assets such as car/oil and gas company stocks are excluded.

### *Reporting*

The province promotes its initiative to issue green bonds in a dedicated section of the Québec’s Ministry of Finance website. It already publishes and will keep publishing an annual bulletin (i.e., green bond newsletter) until every green bond has matured or if there are major project changes. The reporting is specific to individual bonds and done on a project-by-project level. This annual bulletin discloses and will keep disclosing the following information:

- Progress in green bond projects;
- Fund allocations to green bond projects and category;
- Total cost of the projects and portion financed with green bonds;
- Amount of unallocated proceeds (if any);
- Proportion of green bond net proceeds used to finance new projects and proportion used for refinancing.

For the impact reporting, the issuer is and will keep reporting on various indicators in the annual bulletin, on a project-by-project basis and/or on a project category basis. As of now, the province currently only indicates specific metrics for the clean transport project category. The issuer shared that it will report on impacts for other project categories going forward and aims to provide clearer metrics to investors, but has not specified any specific metrics or timeline yet. The methodology, baselines and factors used are disclosed in the annual bulletins.

Québec is and will keep providing on an annual basis an independent review of the allocation and the use of proceeds. The impact reporting will however not be externally reviewed.

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<sup>6</sup> “The Directive on the management of major public infrastructure projects determines the measures required to ensure the rigorous management of major public infrastructure projects”. [Directive sur la gestion des projets majeurs d’infrastructure publique \(gouv.qc.ca\)](https://www.gouv.qc.ca)




## 2 Assessment of Québec’s green bond framework

The eligible projects under Québec’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 Québec’s green bond framework

- Québec will issue green bonds to finance sustainable investments that promote the transition to renewable energy usage in addition to a low carbon environment, and which comply with Québec’s environmental protection status and regulations. The green bond’s net proceeds can be applied towards new financing or refinancing of capex assets and projects with a look back period of up to 12 months. The issuer does not yet have visibility on the expected share of new financing vs refinancing. Eligible projects can be located anywhere in the Province of Québec. However, as of now, most proceeds have been allocated to projects in Montréal.
- As of June 2022, 96% of green bond proceeds have been allocated to clean transportation and 4% to green buildings. For the new issuance, the issuer expects to allocate most proceeds to clean transportation, followed by green buildings.
- The net proceeds for green bonds will not be allocated to projects linked to fossil fuel, including extraction, processing, transportation of fossil fuel, construction of new roads, construction and maintenance equipment powered by fossil fuel, nuclear energy generation, the weapons and defence industry, potentially environmentally negative resource extraction (such as rare earth elements or fossil fuels), gambling or tobacco.

Category	Eligible project types	Green Shading and considerations
 Clean Transportation	<ul style="list-style-type: none"> <li>• Funding of new public transit projects (e.g., light-rail trains, metro line) and improvement of current public transit fleets (e.g., metro cars, electric buses, and their charging stations).</li> <li>• New and upgraded transportation infrastructure as well as infrastructure maintenance that promotes a shift to lower-emission modes of transportation (e.g., metro’s operational stationary equipment, improvement of universal accessibility of</li> </ul>	<p><b>Dark Green</b></p> <ul style="list-style-type: none"> <li>✓ Improving public transport infrastructure and increasing its access is part of a Dark Green solution. Furthermore, Québec will only finance electrified public transport (e.g., electric buses), which is crucial in a 2050 future.</li> <li>✓ Structures financed under this category can include infrastructure for public transit, e.g., rail depots, as well as the construction of new metro lines.</li> <li>✓ The issuer confirmed that building related to clean transportation e.g., rail depots, must also meet the requirements for green buildings.</li> <li>✓ Buses and metro cars heated by fossil fuels are not eligible according to the issuer, nor is the construction of new parking lots.</li> </ul>





metro stations, development of pedestrian pathways and bike paths).

- ✓ At this stage, there is no project involving the Montréal airport that is expected, according to the issuer.
- ✓ It is unclear whether life cycle assessments required by the issuer fully consider emissions and other impacts from raw material extraction, manufacturing, and decommissioning of assets at end of life (e.g., recyclability). The production and disposal of batteries, for example, and sourcing of raw materials can have substantial climate and environmental impacts, therefore, we encourage the issuer to put greater emphasis on such elements.

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## Green Buildings



- New or refurbishment of government or government-subsidized buildings that are intended to receive one of those two certifications:
  - LEED Gold or better with 30% energy efficiency improvement compared to building standards.
  - Zero Carbon Building Standard (ZCB Standard v2) ZCB-Design v2 or ZCB-Performance v2 or better, excluding GHG compensation to maximize GHG reductions and including measures to improve buildings adaptation and with 30% energy efficiency improvement compared to building standards.

### Medium Green

- ✓ This category focuses on environmentally certified and energy efficient buildings. The Medium Green shading reflects that these buildings represent significant steps towards the low carbon vision, while not being completely there yet.
- ✓ Eligible green buildings include government buildings or buildings that the government subsidizes (E.g., Société des Transports de Montréal (STM)'s office green buildings). Buildings financed so far have been related to the clean transport project category, but in the future the issuer could finance other types of buildings, such as government buildings, hospitals, schools, etc. One example of eligible project could be the replacement of windows in school buildings.
- ✓ The ZCB standards consider embodied emissions and is allocated to highly energy efficient buildings that produce on-site, or procure renewable energy. Buildings receiving a ZCB standard must minimize greenhouse gas emissions from building materials and operations<sup>7</sup>.
- ✓ The LEED Gold and ZCB certifications alone do not ensure improved climate resilience and reduction in GHG emissions. Additional requirements on these aspects are hence important.

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<sup>7</sup> [CaGBC Zero Carbon Building Standard v2 Performance.pdf \(netdna-ssl.com\)](https://www.ca-gbc.com/en/zero-carbon-building-standard-v2-performance)



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Sustainable Water and  
Wastewater



- Infrastructure that collects, treats, recycles or reuse water, wastewater or rainwater.
- Improvement of water-use efficiency, such as re-use of water and reduce leakage in networks.
- Value sewage sludge and reduce GHG emissions by using composting or biomethanization management methods.

- ✓ The refurbishment criteria (i.e., LEED Gold or ZCB Standard v2 certification with a minimum of 30% energy efficiency improvement compared to building standards) are in line with the IEA recommendations for energy efficiency.
- ✓ For refurbishment, the issuer informed that it also aims to replace fossil fuels use by renewable energy.
- ✓ Buildings that use fossil fuels as primary heating source are excluded. Investments in fossil fuel-based heating refurbishment are not eligible.
- ✓ The issuer is not considering decommissioning of the assets at end of life including disposal of hazardous materials, nor considers the potential for re-use or recyclability of building materials.

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**Medium to Dark Green**

- ✓ Within the water and wastewater sector, the level of maintenance of existing infrastructure is generally too low. Whenever maintenance is planned, it is highly needed for public health and climate resilience reasons. Furthermore, well-conceived water and wastewater projects not powered directly by fossil fuels are important climate adaptation projects.
- ✓ The issuer does not yet have plans or specific projects for this category but shared that projects would likely include managing stormwater overflows to avoid pollution and reducing potable water loss from pipe leakage. According to the issuer, agricultural projects, e.g., irrigation, are not envisioned.
- ✓ Treatment plants that are powered by fossil fuels are not eligible.
- ✓ Projects should seek to minimize emissions from the construction phase and supply chain (e.g., from cement production).
- ✓ Generating and using methane from anaerobic digestion of sludge can be considered a renewable energy source and can generate substantially lower GHG emissions than energy generation from fossil fuels. For the same amount of energy, energy recovery from sewage sludge emits



58% fewer emissions than natural gas and 80% less than hard coal and fuel oil<sup>8</sup>.

Climate Change Adaptation



- Funding to make infrastructure more resilient to impacts of climate change such as shoreline protection or landscape strengthening

**Dark Green**

- ✓ Measures to increase climate resilience are important given Québec’s exposure to physical climate risks (particularly floods, coastal erosion, and thawing permafrost).
- ✓ The issuer informed having no plans nor specific projects for this project category yet but shared that projects would likely include investments to protect Quebec’s shoreline, as well as investments to increase the resiliency of the energy grid from, for e.g., ice storms.
- ✓ Considering potential emissions and impacts on terrestrial/marine biodiversity and ecosystems in supply chains and construction phase. E.g., dams can have substantial local impacts and have high embodied emissions. Thus, implementing nature-based solutions and green infrastructure where possible to take advantage of climate mitigative effects should be prioritized.
- ✓ Adaptation planning is approached holistically to address the various risks associated with climate change in an integrated way, rather than addressing each risk individually, according to the issuer.

Table 1. Eligible project categories

<sup>8</sup> <https://www.mdpi.com/1996-1073/12/10/1927/pdf>









## 3 Terms and methodology

This note provides CICERO Shades of Green’s (CICERO Green) second opinion of the client’s framework dated **July 2022**. 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.

### ‘Shades of Green’ methodology

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:

Shading	Examples
 <b>Dark Green</b> is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	 Solar power plants
 <b>Medium Green</b> is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	 Energy efficient buildings
 <b>Light Green</b> 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 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 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 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 selection process. CICERO 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	Québec 's Green Bond Framework	Dated July 2022
2	Québec's Green Bonds website	<ul style="list-style-type: none"><li>• <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Green_Bonds.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Green_Bonds.asp</a></li><li>• Eligible Projects and Framework <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Eligible_Projects.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Eligible_Projects.asp</a></li><li>• Projects <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Projects.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Projects.asp</a></li><li>• Credit Quality <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Credit_quality.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Credit_quality.asp</a></li><li>• Green Bond Issues <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Green_bond_issues.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Green_bond_issues.asp</a></li><li>• Reporting <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Reporting.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Reporting.asp</a></li><li>• Investor Presentations <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Investor_presentation.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Investor_presentation.asp</a></li><li>• Frequently Asked Questions <a href="http://www.finances.gouv.qc.ca/en/RI_GB_FAQ.asp">http://www.finances.gouv.qc.ca/en/RI_GB_FAQ.asp</a></li><li>• External Links <a href="http://www.finances.gouv.qc.ca/en/RI_GB_External_links.asp">http://www.finances.gouv.qc.ca/en/RI_GB_External_links.asp</a></li><li>• Épargne Placement Québec <a href="http://www.finances.gouv.qc.ca/en/RI_GB_Epargne_Placements_Quebec.asp">http://www.finances.gouv.qc.ca/en/RI_GB_Epargne_Placements_Quebec.asp</a></li></ul>
3	List of Laws and Regulations	<a href="https://www.quebec.ca/en/government/mini-stere/environnement/statutes-and-regulations/">https://www.quebec.ca/en/government/mini-stere/environnement/statutes-and-regulations/</a>



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4	2013-2020 Climate Change Action Plan (CCAP)	Document <a href="https://www.environnement.gouv.qc.ca/changes/plan_action/pacc2020-en.pdf">https://www.environnement.gouv.qc.ca/changes/plan_action/pacc2020-en.pdf</a> Information: <a href="https://www.environnement.gouv.qc.ca/changesclimatiques/plan-action-en.asp">https://www.environnement.gouv.qc.ca/changesclimatiques/plan-action-en.asp</a>
5	2013-2020 Government Strategy for Climate Change Adaptation	Document <a href="https://www.environnement.gouv.qc.ca/changes/plan_action/strategie-adaptation2013-2020-en.pdf">https://www.environnement.gouv.qc.ca/changes/plan_action/strategie-adaptation2013-2020-en.pdf</a> Information <a href="https://www.environnement.gouv.qc.ca/changesclimatiques/strategie-adaptation-en.htm">https://www.environnement.gouv.qc.ca/changesclimatiques/strategie-adaptation-en.htm</a>
6	Plan for a Green Economy	Document <a href="https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-economie-verte-2030-en.pdf?1635262991">https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-economie-verte-2030-en.pdf?1635262991</a> Information <a href="https://www.quebec.ca/en/government/policies-orientations/plan-green-economy/">https://www.quebec.ca/en/government/policies-orientations/plan-green-economy/</a>
7	2030 Plan for a Green Economy – 2022-2027 Implementation Plan (French only)	<a href="https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-mise-oeuvre-2022-2027.pdf">https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-mise-oeuvre-2022-2027.pdf</a>
8	Cap and Trade System for Greenhouse Gas Emissions Allowances	<a href="https://www.environnement.gouv.qc.ca/changesclimatiques/marche-carbone_en.asp">https://www.environnement.gouv.qc.ca/changesclimatiques/marche-carbone_en.asp</a>
9	Québec’s GHG Emissions Reduction Targets	<a href="https://www.environnement.gouv.qc.ca/changesclimatiques/engagement-quebec-en.asp">https://www.environnement.gouv.qc.ca/changesclimatiques/engagement-quebec-en.asp</a>
10	Émissions annuelles de gaz à effet de serre au Québec de 1990 à 2019 (French only)	<a href="https://www.environnement.gouv.qc.ca/changes/ges/2019/tableaux-emissions-annuelles-GES-1990-2019.pdf">https://www.environnement.gouv.qc.ca/changes/ges/2019/tableaux-emissions-annuelles-GES-1990-2019.pdf</a>

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11	Provincial and Territorial Energy Profiles – Quebec (cer-rec.gc.ca)	<a href="https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-quebec.html">https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-quebec.html</a>
12	Québec Infrastructure Plan 2022-2032	<a href="https://www.tresor.gouv.qc.ca/fileadmin/PDF/budget_depenses/22-23/6-Quebec_Infrastructure_Plan.pdf">https://www.tresor.gouv.qc.ca/fileadmin/PDF/budget_depenses/22-23/6-Quebec_Infrastructure_Plan.pdf</a>
13	Directive sur la gestion des projets majeurs d'infrastructure publique	<a href="https://www.tresor.gouv.qc.ca/fileadmin/PDF/infrastructures_publices/Directive_gestion_projets2016_Anglais.pdf">https://www.tresor.gouv.qc.ca/fileadmin/PDF/infrastructures_publices/Directive_gestion_projets2016_Anglais.pdf</a>
14	Politique de mobilité durable 2030 (French only)	Information <a href="https://www.transports.gouv.qc.ca/fr/ministere/role_ministere/Pages/politique-mobilite-durable.aspx">https://www.transports.gouv.qc.ca/fr/ministere/role_ministere/Pages/politique-mobilite-durable.aspx</a> Document <a href="https://www.transports.gouv.qc.ca/fr/ministere/role_ministere/DocumentsPMD/politique-mobilite-durable.pdf">https://www.transports.gouv.qc.ca/fr/ministere/role_ministere/DocumentsPMD/politique-mobilite-durable.pdf</a>
15	Électrification des transports (French only)	<a href="https://www.quebec.ca/gouv/politiques-orientations/electrification-des-transport">https://www.quebec.ca/gouv/politiques-orientations/electrification-des-transport</a>
16	Plan de mise en œuvre 2022-2027 (French only)	<a href="https://www.quebec.ca/gouv/politiques-orientations/electrification-des-transport">Plan de mise en œuvre 2022 2027 du Plan pour une économie verte 2030 (quebec.ca)</a>
17	Société de Transport de Montréal (STM) Sustainable Development Plan 2025 (2017)	<a href="https://www.stm.info/sites/default/files/pdf/en/a-pdd2025.pdf">https://www.stm.info/sites/default/files/pdf/en/a-pdd2025.pdf</a>
18	STM 2021 Sustainable Development Report (in French only)	<a href="https://www.stm.info/fr/a-propos/informations-entreprise-et-financieres/rapport-annuel-2021/rapport-de-developpement-durable">https://www.stm.info/fr/a-propos/informations-entreprise-et-financieres/rapport-annuel-2021/rapport-de-developpement-durable</a>
19	STM Complete Table of Sustainable Development Indicators 2011-2021 (French only)	<a href="https://www.stm.info/sites/default/files/pdf/fr/indicateursdd2021.pdf">https://www.stm.info/sites/default/files/pdf/fr/indicateursdd2021.pdf</a>

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20	STM GRI Content Index 2021 (French only)	<a href="https://www.stm.info/sites/default/files/pdf/frrdd2021_gri.pdf">https://www.stm.info/sites/default/files/pdf/frrdd2021_gri.pdf</a>
21	ZCB Standard – Information and Resources	<a href="https://www.cagbc.org/CAGBC/Zero_Carbon/Information_and_Resources/CAGBC/Zero_Carbon/The_CaGBC_Zero_Carbon_Building_Program.aspx?hkey=11a25b31-5577-4da0-b6d1-6e26da879696">https://www.cagbc.org/CAGBC/Zero_Carbon/Information_and_Resources/CAGBC/Zero_Carbon/The_CaGBC_Zero_Carbon_Building_Program.aspx?hkey=11a25b31-5577-4da0-b6d1-6e26da879696</a>
22	ZCB – Design Standard v2	<a href="https://portal.cagbc.org/cagbcdocs/zerocarbo n/v2/CaGBC_Zero_Carbon_Building_Stand ar d_v2_Design.pdf">https://portal.cagbc.org/cagbcdocs/zerocarbo n/v2/CaGBC_Zero_Carbon_Building_Stand ar d_v2_Design.pdf</a>
23	ZCB – Performance Standard v2	<a href="https://www.cagbc.org/wp-content/uploads/2022/06/CaGBC_Zero_Carb on_Building_Standard_v2_Performance.pdf">https://www.cagbc.org/wp-content/uploads/2022/06/CaGBC_Zero_Carb on_Building_Standard_v2_Performance.pdf</a>
24	Energy Transition Master Plan	<a href="https://transitionenergetique.gouv.qc.ca/en/energy-transition-master-plan">https://transitionenergetique.gouv.qc.ca/en/energy-transition-master-plan</a>
25	Regulation respecting municipal wastewater treatment works (Q-2, r.34.1)	<a href="https://www.legisquebec.gouv.qc.ca/en/document/cr/Q-2,%20r.%2034.1">https://www.legisquebec.gouv.qc.ca/en/document/cr/Q-2,%20r.%2034.1</a>

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## 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.



- ★ **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