



# Sustainability Report 2023

[View the report →](#)

Highlights

CDPQ Infra

Réseau express métropolitain



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**CATALYST  
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Planning for  
integrated mobility

Enhancing communities  
through architectural  
integration, public art  
and archaeology

- Integrating the REM into the urban architecture
- Showcasing public art by Québec artists throughout the network
- Preserving Québec's heritage

Cultivating strong  
community ties

Providing universal  
accessibility

- Designing for people's needs
- Building infrastructures suitable for all realities
- Offering intuitive digital tools

Stimulating the local  
economy for a sustainable  
and prosperous future

Influencing urban  
development  
in the territory

A first year of  
constant improvement

## A word from the President

Climate change is a significant challenge for all societies. Its increasingly dire consequences compel us to rapidly and significantly reduce greenhouse gas (GHG) emissions generated by human activity. At the same time, the growing needs of populations and the pursuit of a better quality of life give us further reasons to develop sustainable cities.

At CDPQ Infra, we firmly believe that developing public transit infrastructure adapted to the needs of the population is vital to achieving our collective goals. To bring this ambition to life, we, too, are looking to take action, to do more, and to do it with the utmost urgency and determination.

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### **Our achievements**

We have demonstrated that CDPQ Infra excels at proposing, developing and efficiently commissioning impactful transit solutions. The launch of the first branch of the Réseau express métropolitain (REM) in July 2023, just five years after construction began, exemplifies our ability to deliver. With 67 kilometres in service, the REM is projected to save 100,000 tonnes of GHG emissions annually.

In 2024, at the request of the Québec government, we introduced the CITÉ Plan, a comprehensive strategy to enhance mobility within the Communauté métropolitaine de Québec. This phased plan envisions 95 kilometres of integrated lanes dedicated to public transit. In October, CDPQ Infra accepted the mandate to plan the first phase of the CITÉ Plan, which includes establishing the framework for a 19-kilometre tramway project to better address the growing mobility needs of the community.

### **Our teams**

These projects are made possible by our diverse, multidisciplinary teams, which bring together world-class experts within a single organization. Their synergy yields a range of complementary perspectives focused on a shared objective: building major infrastructure for the benefit of communities.

Our approach ensures that we consider all aspects of our projects: technical quality, social equity, environmental protection, social acceptability, respect for heritage and economic benefits.

With their outstanding integrity, work ethic and collaboration with stakeholders, our teams carry out major projects that make us proud and affirm CDPQ Infra's position as a key player in sustainable development.



Jean-Marc Arbaud  
President and Chief Executive Officer



# About CDPQ Infra

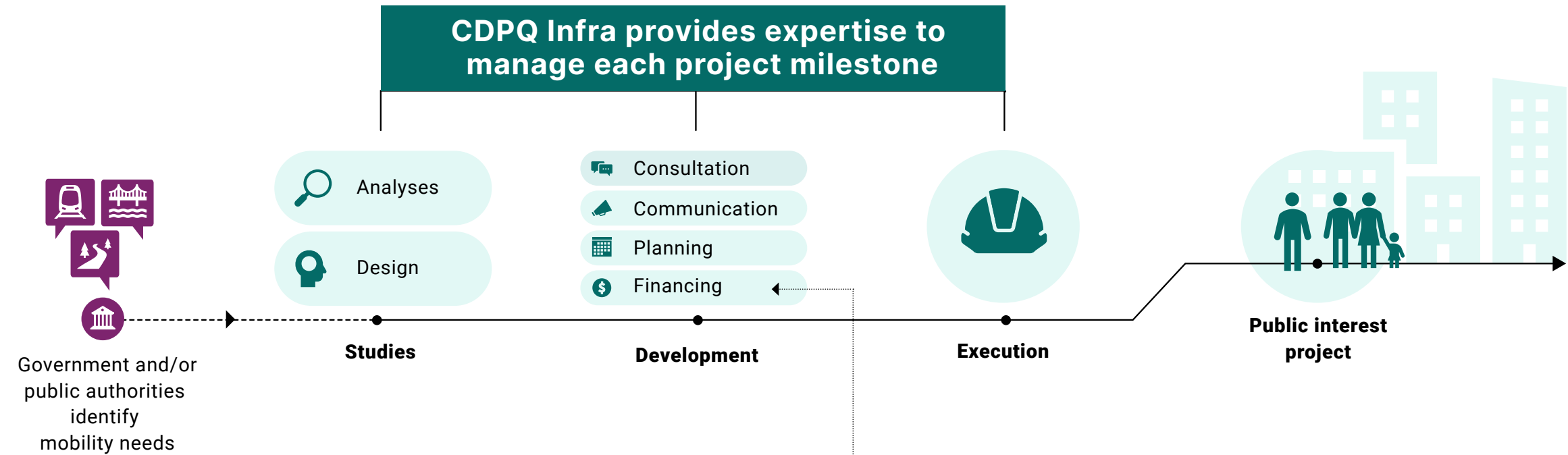
Founded in 2015, CDPQ Infra specializes in executing major public infrastructure projects.

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The CDPQ Infra model integrates financial capacity with technical expertise to successfully execute major infrastructure projects.

Its teams consist of multidisciplinary specialists in planning, engineering, operations assessment, environment, communications, and relations with communities and public authorities.





CDPQ Infra takes a rigorous approach to all its projects. Its team excels at planning, financing, developing and completing major infrastructure projects, ensuring timely delivery to meet future needs in Québec and globally. CDPQ Infra places significant emphasis on sustainable development, integrating sustainable principles into every stage of the project life cycle.

**CDPQ's contribution**

CDPQ Infra is a wholly owned subsidiary of the Caisse de dépôt et placement du Québec (CDPQ), which has the mission to grow Quebecers' savings in order to finance their public insurance and pension plans. This fundamental principle guides the way projects developed by CDPQ Infra are financed.

The expertise of CDQP Infra has become a valuable CDPQ tool for **supporting the achievement of its objectives for investing in Québec and pursuing sustainable development.**

In addition to holding \$60 billion in infrastructure assets, the largest portfolio in this asset class among institutional investors worldwide, CDPQ is taking a lead role in sustainable investment and currently holds \$53 billion in low-carbon assets.

## About this report

This inaugural sustainability report outlines CDPQ Infra's sustainability strategy, detailing how environmental, social and economic factors are integrated into the organization's projects. It also describes the governance structures established to embed sustainability into the management of activities and projects.

This report also provides an opportunity to reflect on the REM project, from the start of construction in 2018 to December 2023.

CDPQ Infra is proud to share its sustainability report for its first major infrastructure project, highlighting the tremendous efforts of all partners and individuals involved, as well as its positive impact on communities.





# Highlights

## Economic development

89%

of construction expenses  
were incurred in Québec

More than

19,500  
housing units

built or planned near one of the network's stations  
since 2018.

1,964  
suppliers

of Québec products and services involved  
in the construction of the REM

## Environment

250,000 trees

planted by the end of 2025 to partially offset  
certain construction-related GHG emissions

Ultimately, the REM will prevent nearly

100,000  
tonnes of CO<sub>2</sub>  
equivalent per year

An environmental compensation program  
built around

4 dimensions

- Agricultural land
- Wetlands
- Reforestation
- At-risk animal and plant species

## Heritage and community

66 archaeological  
interventions

carried out on network sites,  
contributing to our knowledge of  
archaeological cultural heritage

\$7.8 million

dedicated to the integration of unique  
artwork designed for the network

37 public  
meetings were held and

21 neighbourhood  
committees have been created





# Taking action on our values

Adopting consistent practices aligned with our Sustainability Policy supports a healthier, more prosperous future.

# Sustainability strategy

In 2022, CDPQ Infra established a sustainability strategy, providing a solid foundation to guide the organization's actions.

The process that led to the development of this strategy included:

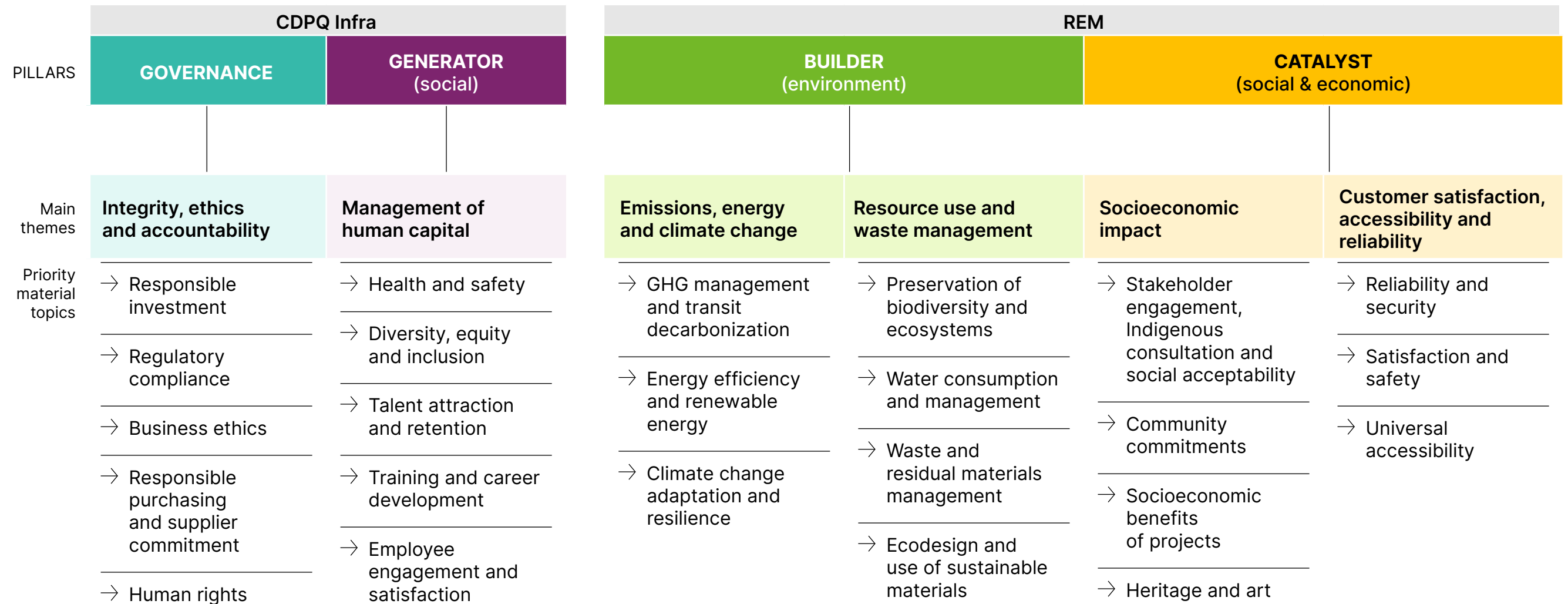
- Consulting with internal teams
- Considering industry trends and international reference frameworks for sustainable development
- Drawing takeaways from the REM
- Holding sustainability workshops with senior management with topics prioritized based on organizational, environmental and societal impact

This materiality exercise identified issues that are likely to affect the organization's performance and ability to create value, as well as the impact of its activities on the environment and communities.

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## Today, our sustainability strategy is guided by four main strategic pillars



These pillars, along with the orientations, are described in the [Sustainability Policy](#).

This policy contributes to eight United Nations sustainable development goals.



## GOVERNANCE

CDPQ Infra has established an ethical governance framework to ensure its actions align with international best practices and meet stakeholder expectations.

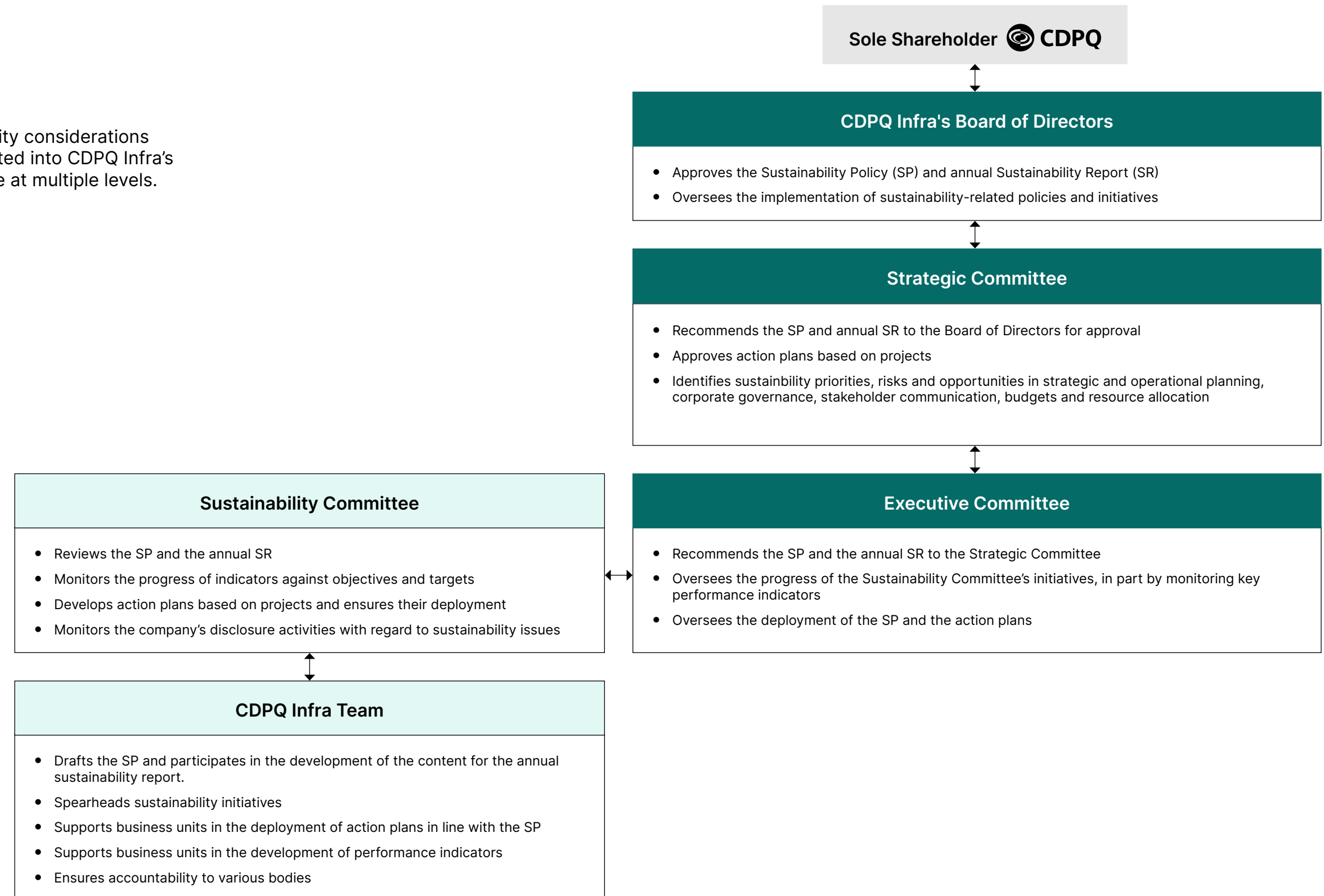
This governance is grounded in transparency and accountability at every stage of the organization's projects.

With this robust governance, CDPQ Infra can not only enhance its environmental and social performance, but also strengthen the trust of the communities and partners it collaborates with daily.



# Governance structure

Sustainability considerations are integrated into CDPQ Infra's governance at multiple levels.





# Ethical framework

Guided by exacting principles, our ethical vision is based on three core values:

Integrity

Respect

Professionalism

These principles are essential to preserving the trust of stakeholders and upholding the organization's reputation.

## A set of mandatory training courses

To ensure that our teams and consultants understand and adhere to these requirements, mandatory training is provided as soon as they begin their roles.

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→ Code of Ethics

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→ Prevention of conflicts of interest

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→ Prevention of fraud, corruption and collusion

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→ Protection of confidential information

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# Responsible procurement

The procurement strategy is crucial to the success of major infrastructure projects. CDPQ Infra continually refines its approach to ensure optimal management.

The Procurement Policy governs CDPQ Infra's process for acquiring or leasing goods and services, adhering to best international practices.

Transparency

Fairness

Integrity

Sound management

Sustainable development

are the key principles that must guide any procurement process.

To view the Report on forced labour and child labour in supply chains

## Enhancing our approach to achieve ambitious targets

The organization has implemented a tool to identify seven sustainability criteria applicable to supplier selection processes and contracts.

→ Governance

→ Climate and energy

→ Biodiversity, water and pollution

→ Raw materials, materials and waste

→ Working conditions and modern slavery in supply chains

→ Diversity, equity and inclusion

→ Health, safety and well-being

# GENERATOR

(social)

## Generator of talent and innovation

CDPQ Infra stands out as a generator of talent and innovation. The organization is defined by the quality of its employees and their commitment to innovative projects, fostering the development of new skills and local expertise.

CDPQ Infra has assembled a diverse team of specialists with experience on every continent and involvement in the world's largest infrastructure projects. Additionally, it has built a network of top-tier partners engaged at every project stage.

The organization offers a dynamic and stimulating environment that promotes knowledge sharing and development and values diversity and inclusion among its employees and partners, while providing a safe working environment.





# Promoting diversity, equity and inclusion

## Encouraging diversity

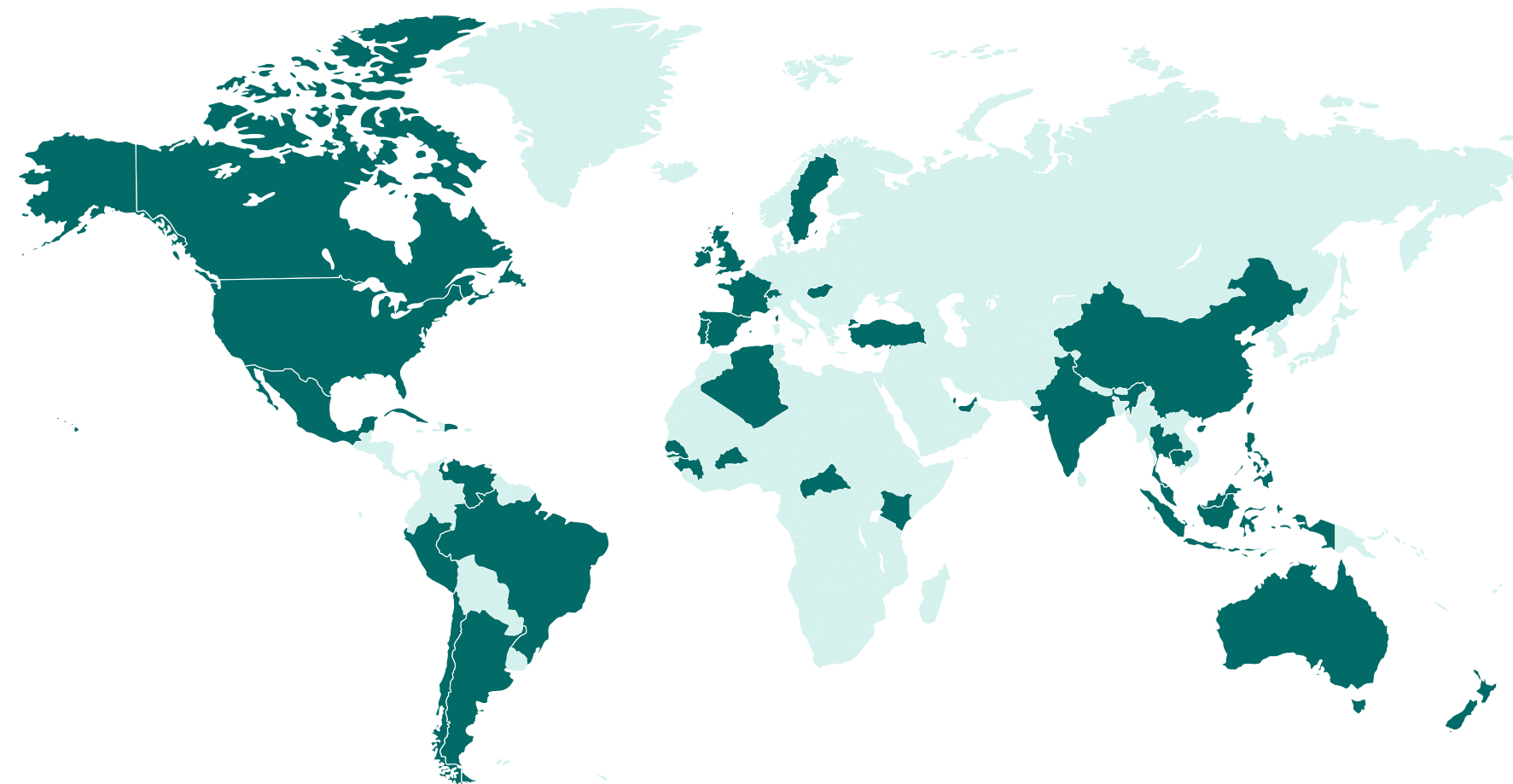
CDPQ Infra has assembled a highly skilled team for the development of infrastructure projects.

By recruiting international talent with experience in numerous countries, we have cultivated high-calibre local expertise.

This diversity is one of CDPQ Infra's strengths, allowing us to leverage lessons learned on major projects around the world.

[More](#)

## The team's international experience on major infrastructure projects



Algeria | Argentina | Australia | Brazil | Burkina Faso | Cambodia | Canada | Central African Republic  
Chile | China | Cuba | Dominican Republic | France | Great Britain | Guinea-Conakry | Hungary  
India | Indonesia | Ireland | Kenya | Malaysia | Mexico | Monaco | New Zealand | Peru  
Philippines | Portugal | Qatar | Senegal | Spain | Sweden | Switzerland | Thailand | Türkiye  
United Arab Emirates | United States | Venezuela



This specialized and diversified experience supports the exchange of ideas, perspectives and skills in order to rise to new challenges.

In all work environments, whether in offices or on construction sites, diverse viewpoints, open communication and collaboration are essential for designing optimal solutions.



This diversity contributes to the company's overall performance and will enable continued growth in the years ahead.

In 2023, the organization assessed its talent and the measures in place to promote diversity, equity and inclusion (DEI). This led to an enhanced DEI approach, with several initiatives to be rolled out in 2024.

## Maintaining equity in hiring and employment

Equal opportunity in hiring and employment is a fundamental principle for the organization. The recruitment and talent management processes are designed to be inclusive and free from all forms of discrimination.

Maintaining pay equity at CDPQ Infra means upholding the principles of internal, external, and individual equity, and providing fair and competitive compensation.

## Demographic portrait of CDPQ Infra

on December 31, 2023

111  
employees

47  
men

64  
women

10  
senior management  
members  
7 3

75  
professionals  
25 50

26  
directors  
15 11

41  
years old  
on average

16 years  
of experience  
on average

3 years  
of service  
on average



## Fostering engagement, growth and satisfaction

Building and maintaining our employees' sense of

engagement

growth

satisfaction

is essential to achieve the organization's objectives.

To this end, measures have been taken to provide a working environment that effectively meets employees' needs.

- Personalized development plans are established to acquire and reinforce competencies.
- The organization covers the full cost of training and professional dues.
- Talent management aligns individual aspirations with internal growth opportunities.



## Health and safety, a core value

The health and safety of the team, its partners and the general public is an absolute priority for CDPQ Infra. Prevention, awareness and training measures have been rolled out within the organization and with our partners to provide a safe working environment for everyone at CDPQ Infra worksites and facilities.

Thorough monitoring is conducted by the Human Resources and Governance Committee and the Projects Committee for all suppliers, including tracking performance indicators and reviewing suppliers' contractual requirements regarding occupational health and safety (OHS).

CDPQ Infra continuously and rigorously monitors and verifies its suppliers' compliance with health and safety commitments.

### Taking action for prevention:

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- **Implementation of a prevention program and procedures:** establishing a comprehensive OHS management system.

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  - **Risk analysis at multiple levels:** conducting risk assessments during project planning, implementation, and operational activities, including work methods and specific tasks performed by employees.

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  - **Training programs:** providing onboarding training to identify primary risks associated with activities, and offering targeted training for more complex professional activities that entail particular risks.

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  - **OHS exchange visits:** facilitating discussions on work activities, the associated risks and mitigation strategies.

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  - **Onsite monitoring activities:** identifying deviations in procedure application, emerging risks, and the need for adapting procedures, training, and worker support.
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Réseau  
express  
métropolitain



# Redefining urban mobility





Réseau  
express  
métropolitain



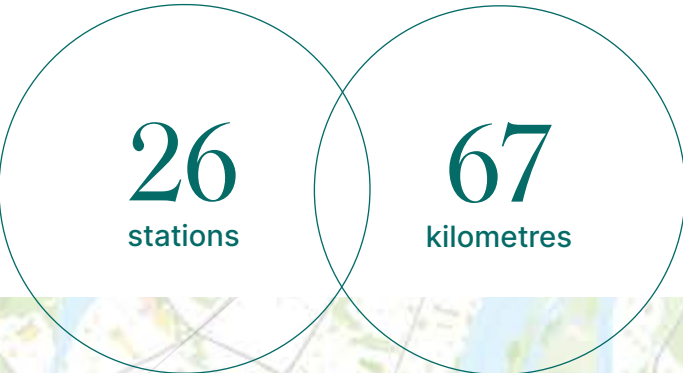
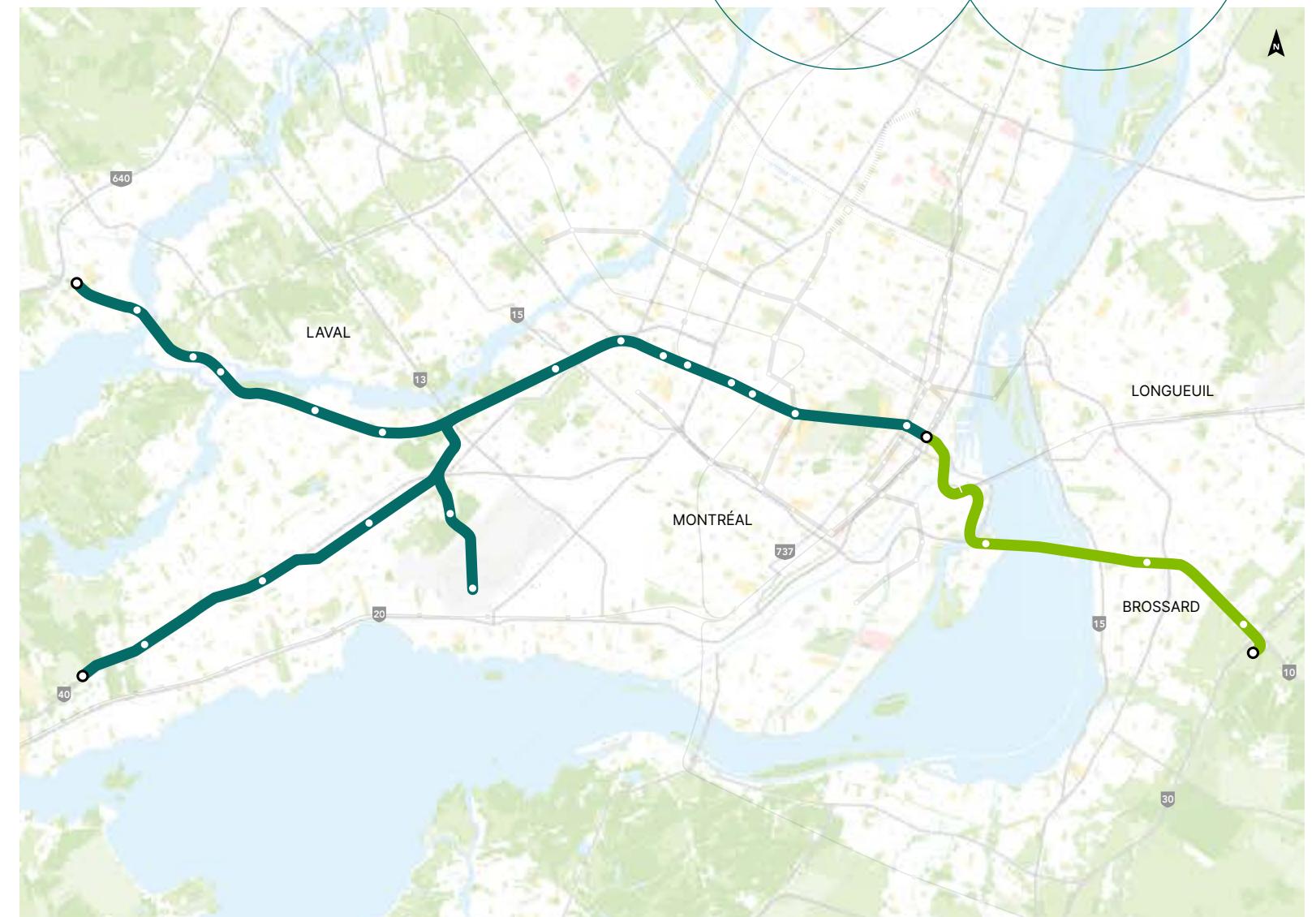
The REM is a transformative project set to redefine urban mobility in Greater Montréal. The light-rail network will eventually feature 26 stations and span over 67 kilometres, connecting key locations such as downtown Montréal and the Montréal-Trudeau Airport. Fully automated and electric, the REM enhances mobility by integrating with existing transit systems, including metros, commuter trains and buses.

The project is divided into four branches: the South Shore branch links Brossard to Montréal's Gare Centrale (in service); the Deux-Montagnes and Anse-à-l'Orme branches extend the network to the north and west; and the last branch serves the Montréal-Trudeau Airport.

This project supports the decarbonization objectives of both the federal and provincial governments, which aim to significantly reduce GHG emissions. The Québec government has also launched a transportation electrification strategy, outlined in the Plan for a Green Economy, for which the REM is a major asset.

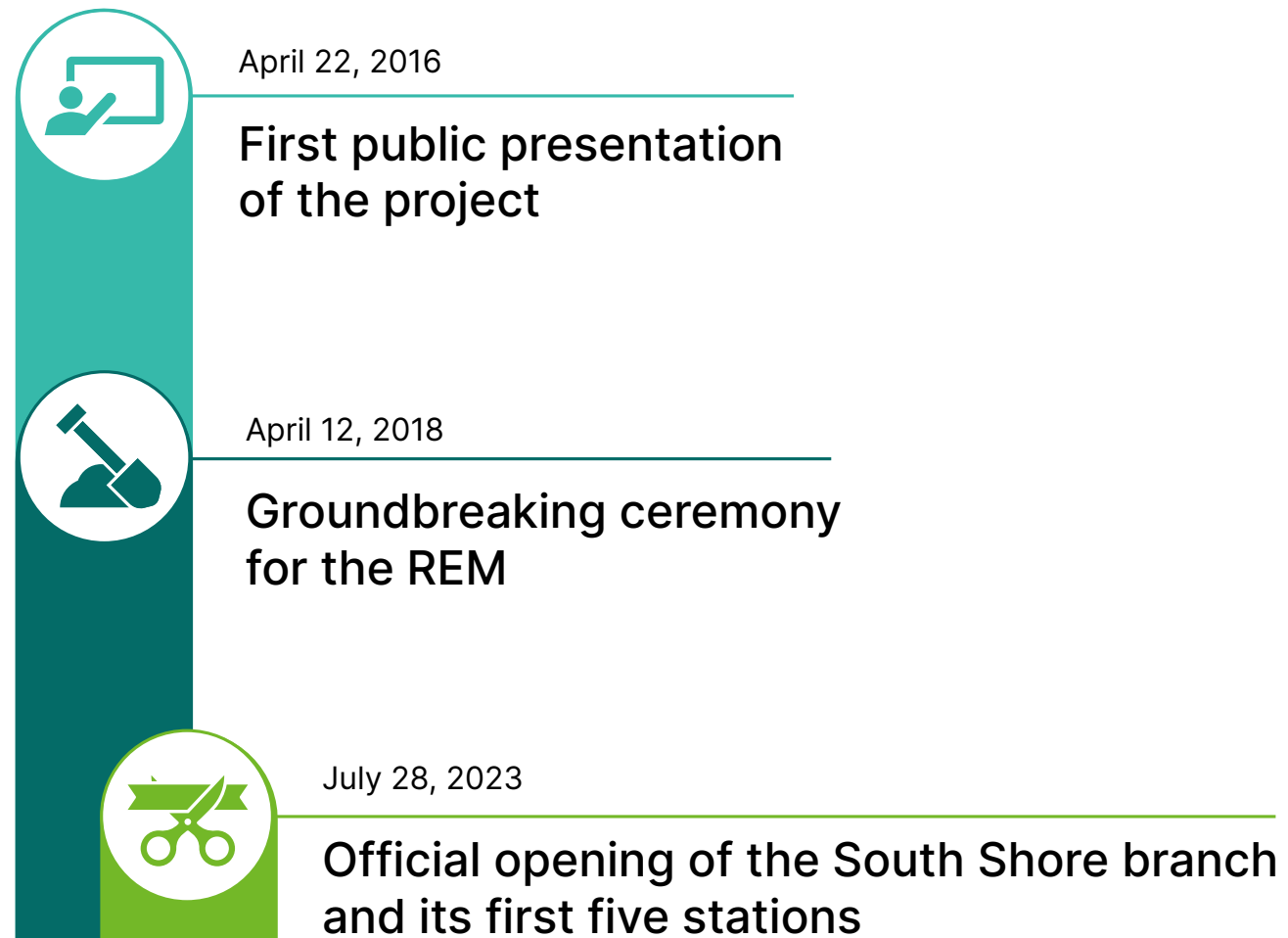
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### Network map



- Under construction
- In service

## Key milestones



## Main contributors





# The REM: On track with sustainability

The REM exemplifies  
collaboration and innovation  
every step of the way.



## BUILDER

(environment)

CDPQ Infra's mission is to create sustainable infrastructure projects that accelerate the decarbonization of cities. By continuously monitoring technical innovations and environmental issues, CDPQ Infra proposes sustainable solutions tailored for the transition to a green economy.

The following section presents the environmental assessment of the design and construction of the REM, CDPQ Infra's inaugural project. It outlines the best practices implemented in the REM project, based on each chosen dimension, and highlights the lessons learned to enhance the environmental performance of future projects.





## Accelerating the decarbonization of transit


In Québec, the road transport  
sector accounts for  
**34%**  
of GHG emissions.

This fact is especially meaningful in the Greater  
Montréal area, where:

 **68%** of work-related trips are made by car

 **24%** by public transit

 **7%** by active transport (walking, cycling)

 **1%** with another mode of transportation

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To address the urgency of climate change, the Intergovernmental Panel on Climate Change (IPCC) recommends investing in the development of transformative transit networks that offer significant potential for reducing GHG emissions.

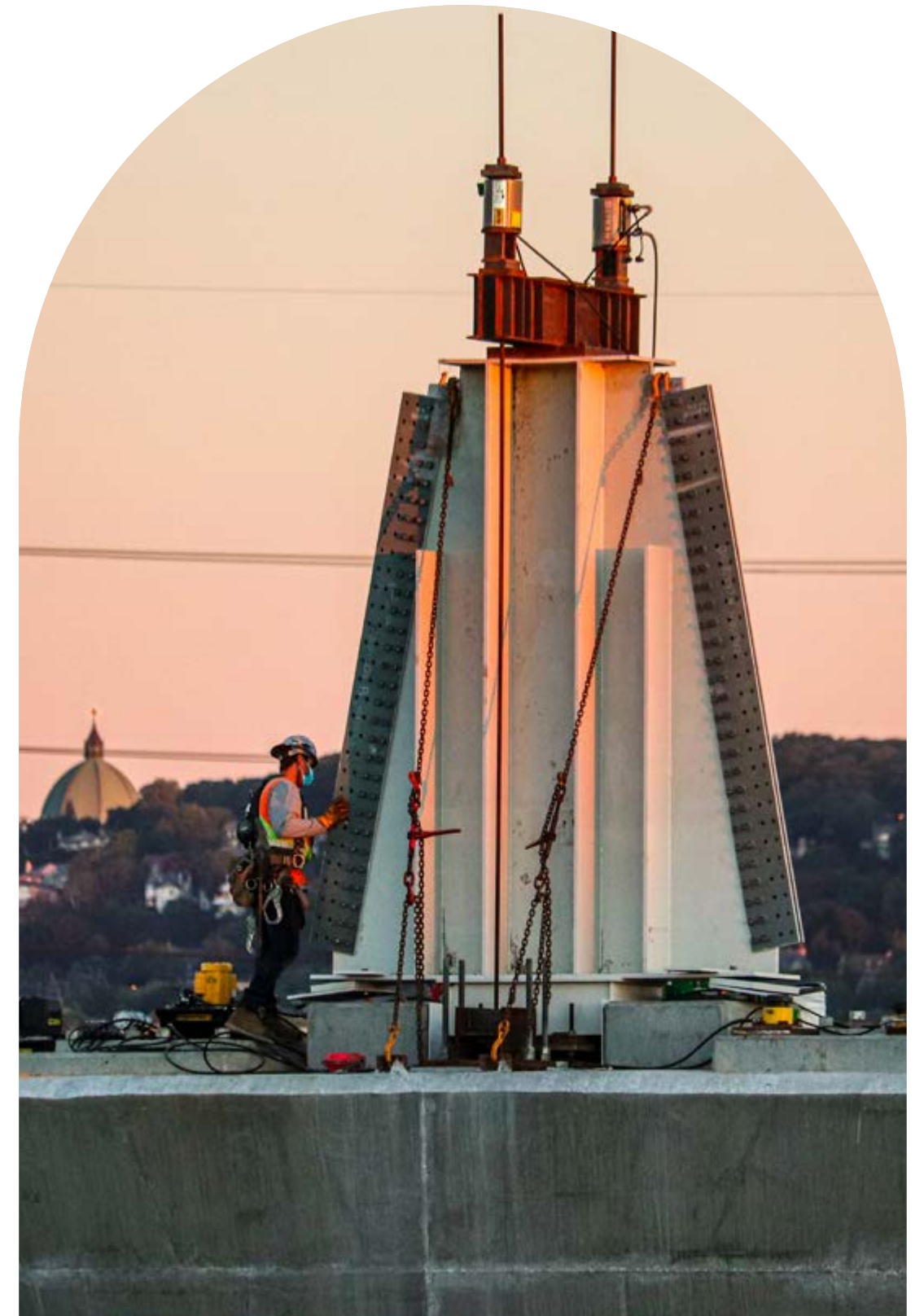
To actively participate in the fight against climate change, CDPQ Infra has quantified the GHG emissions associated with the construction phase. It has also estimated the GHGs avoided in the operational phase. Ultimately, this will allow us to assess the project's positive impact and contribution to combatting climate change.

### **Construction-related GHG emissions**

Throughout the course of the work, the data recorded by NouvLR was evaluated according to the ISO 14064-1 standard as established with CDPQ Infra. These data were consolidated for all GHG emissions associated with the construction of the REM.

During the design phase in 2017, GHG emissions related to the construction of the project were estimated at 87,000 tonnes of CO<sub>2</sub> eq.

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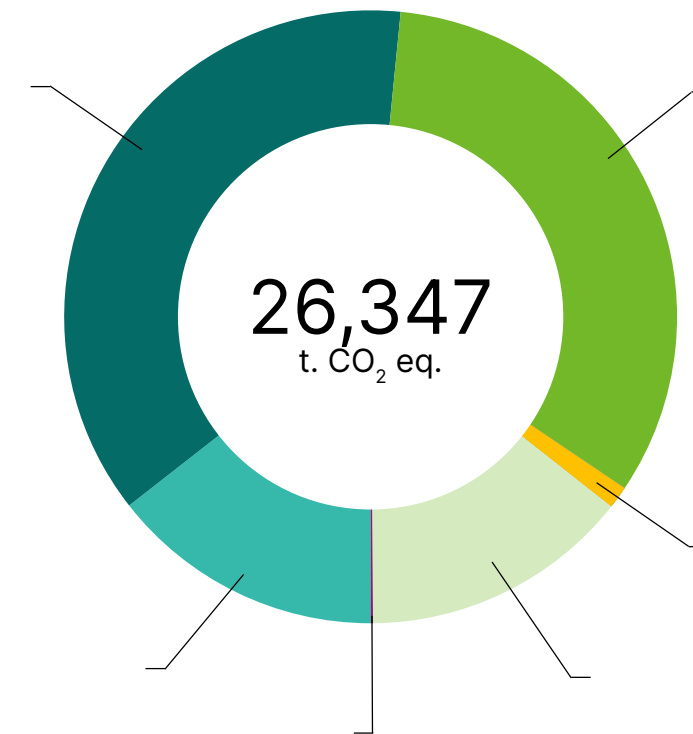


**GHG emissions balance according to ISO standard 14064-1  
from April 2018 to December 2023**

Categories		Total GHGs
<b>Direct emissions from the construction of the REM</b>	Fixed and mobile equipment operating on project sites (including travel between sites)	<b>136,049</b> t. CO <sub>2</sub> eq.
<b>Indirect emissions from the construction of the REM</b>	Electricity consumption, transport of raw materials, waste, contaminated soil, deforestation	<b>26,347</b> t. CO <sub>2</sub> eq.
<b>Total construction emissions of the REM as defined above</b>		<b>162,396</b> t. CO <sub>2</sub> eq.
<b>Offsetting through tree planting</b>	Partnership to plant 250,000 trees for carbon sequestration	<b>87,000</b> t. CO <sub>2</sub> eq.

More

**Indirect emissions 2018–2023**



## Offsetting emissions

GHG emissions linked to construction site activities are challenging to reduce with current technologies. This is why CDPQ Infra has chosen to offset part of these GHG emissions upstream of the construction.

Conducted in partnership with Earth Day Canada this initiative aims to plant 250,000 trees in Montréal's green belt by the end of 2025. By December 2023, approximately 189,000 trees had already been planted. The established protocol with the organization requires follow-up to ensure the survival of the planted trees.

This initiative will offset more than 87,000 tonnes of CO<sub>2</sub> equivalent, accounting for more than 50% of the [GHG emissions linked to the construction](#).

After the construction period, the organization will be able to draw up a GHG emissions balance sheet in order to more accurately assess the necessary compensatory measures.

**250,000**  
trees planted by 2025



## Avoiding emissions

### Urban development around REM stations plays a key role in reducing GHG emissions.

While the specific impact of this densification in terms of GHGs has not yet been calculated for the REM, the Société de transport de Montréal (STM) estimated in 2016 that densification around existing public transit, in Greater Montréal, avoids 2.3 million tonnes of GHGs per year.



CDPQ Infra carried out a study in 2022 to estimate the GHG emissions avoided by the commissioning of the REM. The purpose of this study is to provide CDPQ Infra with information and to more accurately identify the project's positive impacts and its contribution to the fight against climate change.

It is estimated that during the first 25 years of operation of the complete network, the REM will avoid nearly **100,000** tonnes of CO<sub>2</sub> equivalent per year.

**This reduction can be attributed to two main factors:**

→ **Modal shift:** people switching from cars to the REM.

→ **Road decongestion:** lower traffic volumes improve traffic flow, reducing emissions from idling vehicles.



## Adopting eco-design practices

- Use materials and assemblies with low environmental impact
  - Optimize the energy consumption of cars
- 
- Create green spaces and manage runoff water
  - Improve the design to preserve biodiversity
- 
- Use wood in the transit network stations
  - Maximize energy efficiency in REM stations



## REM car innovations

An eco-design approach was undertaken to reduce the environmental impact of REM cars throughout their life cycle.

### Use materials and assemblies with low environmental impact

#### Use of recycled materials

The car bodies incorporate 15% recycled stainless steel, and the windscreens are made from 22% recycled laminated glass, promoting the reuse of materials and reducing the ecological footprint.

#### Durability and recyclability

The car assemblies are designed for easy disassembly, reducing waste and encouraging the recycling of the materials at the end of their life. The modular design also means that the components are standardized, reducing spare parts inventory.



### Optimize energy consumption

#### Regenerative braking

Maximize fuel efficiency by reusing the energy generated during braking, thanks to an electrodynamic braking system.

#### Insulation and thermal properties

Optimize the insulation and thermal properties of the cars to reduce energy consumption for heating and air conditioning.



## Eco-responsible landscaping

In keeping with best design practices, soft landscaping has been incorporated into the landscaped areas along the REM route and around stations.



### Sustainable landscape approaches

Adoption of landscape strategies that include thoughtful management of runoff water and the inclusion of bioretention devices (infiltration trenches, filter strips, rain gardens) in parking spaces and along the elevated structures.

### Impact on biodiversity and ambient temperature

Selection of low-maintenance native plant species to promote biodiversity, and planting of trees near the stations to reduce ambient temperature by providing shade.

## Improving the design to preserve biodiversity

### Wildlife crossings

Adaptation of the track design to create four wildlife crossings under the REM Deux-Montagnes branch line, promoting ecological continuity between the Bois-de-Liesse, Bois-de-Saraguay and Rapides-du-Cheval-Blanc parks and enabling wildlife to move around safely.







## Eco-design for the stations

### Construction optimization

The station ceilings are made of cross-laminated timber (CLT) slabs from Chibougamau, Québec. This simplifies construction and maintenance processes while utilizing local resources more effectively.

#### Environmental benefits of engineered wood:

##### Renewable resource

Wood is a renewable building material that generates far fewer GHG emissions than its main alternatives, concrete and steel.

##### Carbon sequestration

The use of wood in the stations has sequestered almost 3,900 tonnes of CO<sub>2</sub>, helping to reduce GHG emissions.

[More](#)



### Glazed structures

The stations feature glazed structures that allow natural light to penetrate, reducing dependence on artificial lighting. Additionally, the transparency of the structures enhances the feeling of security (“see and be seen”) for users, making the experience more pleasant.

### Use of fritted glass

Fritted glass reduces the penetration of the solar rays that cause overheating. It offers a high level of transparency and minimizes the risk of birds colliding with glazed surfaces, a particularly important feature for stations located close to bird-rich natural environments.



### Modular coatings

The wall cladding, both inside (ceramic and metal panels) and out (glass, metal and concrete panels), is modular and prefabricated. This type of construction reduces construction waste and facilitates maintenance and replacement over the life of the building.

### Light-coloured exterior cladding

With the exception of certain distinctive stations, all the exterior cladding is pale in colour, which is effective for limiting the creation of heat islands.



### Thermal comfort in the stations

The temperature inside the stations is managed through strategies designed to minimize energy consumption associated with abundant windows.

During summer, the platforms are ventilated instead of air-conditioned to maintain comfort. In winter, the temperature is kept at a steady 10 degrees Celsius thanks to the radiant heating system installed in the platforms.

The sliding doors in the stations enhance thermal insulation for both the heated stations and the trains, as their frequent opening to the tempered air from the stations helps prevent excessive heating in the trains.

## Taking concrete measures to protect biodiversity and natural environments

The “**avoid** — **minimize** — **compensate**”  
mitigation sequence

recommended by Québec’s Ministère de l’Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) has been implemented to reduce the impact on biodiversity and natural environments.

It applies to various sensitive components of natural environments: wetlands, at-risk species of flora and fauna, fish habitats and forested areas.





## Mitigating the loss of wetlands

Following the measures to avoid and minimize the REM's footprint on wetlands, a compensation plan was developed according to MELCCFP criteria with municipal partners and non-profit organizations (NPOs). Compensation work and investments have been carried out on several segments of the network, in collaboration with key partners.



22.8  
hectares

### Compensation for the South Shore Branch

Funding for the acquisition by the Ville de Brossard of 22.8 hectares of land, including 12 hectares of wetlands and 10 hectares of terrestrial environments, which will be annexed to the Bois de Brossard.

Additionally, Nature-Action Québec has restored this site by controlling the invasive species phragmites (common reed).



2.8  
hectares

### Collaboration with the Mohawk community of Kahnawà:ke

An Indigenous project for which CDPQ Infra financed the development of 2.8 hectares to restore the aquatic uses of the bay, remove invasive plants, create new wetlands and habitats for at-risk species such as brown snakes and turtles.



0.5  
hectares

### Compensation for the Anse-à-l'Orme branch

Funding for the acquisition of four lots totalling 0.5 hectares containing a tree swamp by the Ville de Sainte-Anne-de-Bellevue, to expand the Anse-à-l'Orme Nature Park and preserve natural environments.

## Taking action to preserve at-risk species

When at-risk plant or animal species were present in the work areas, a relocation program was implemented by biologists, in accordance with protocols established by the MELCCFP. Additionally, new habitats were created or existing ones were enhanced.



→ **Bobolink**  
Creation of suitable habitats for this species in Brossard, particularly along the riparian zones of the Ruisseau des Prairies.



→ **Turtles**  
Partnership with the Mohawk Council of Kahnawà:ke to fund the creation of turtle habitats.



→ **Brown snakes**  
Ongoing development of a compensation project for the loss of habitat for this species.



→ **Fish**  
Development of a 7,000 m<sup>2</sup> spawning ground in the Mille-Îles River to create habitats conducive to fish spawning, particularly walleye and lake sturgeon.



→ **At-risk plant species**  
Relocation and in situ protection of at-risk floral species impacted by the project, with a five-year follow-up to validate the success of these initiatives.

## Compensating for the loss of forested areas

In addition to the trees planted by Earth Day Canada, compensation for the loss of forested areas has been implemented, as required by the MELCCFP.

In close collaboration with authorities and local communities, compensation sites have been identified, with the completion of planting scheduled for 2025.

### Forested area summary

	Forested areas
<b>Losses</b>	<b>13.1</b> hectares
<b>Compensation achieved</b>	<b>9.9</b> hectares
<b>Compensation to come</b>	<b>3.2</b> hectares

The measures put in place have allowed for the full compensation of forest area losses.

With regard to the ornamental trees cut down for the project, a complete assessment will be carried out in 2025. The selected compensations for ornamental trees include planting street trees, and landscaping around stations and other strategic project locations to limit the visual impact of the infrastructure.





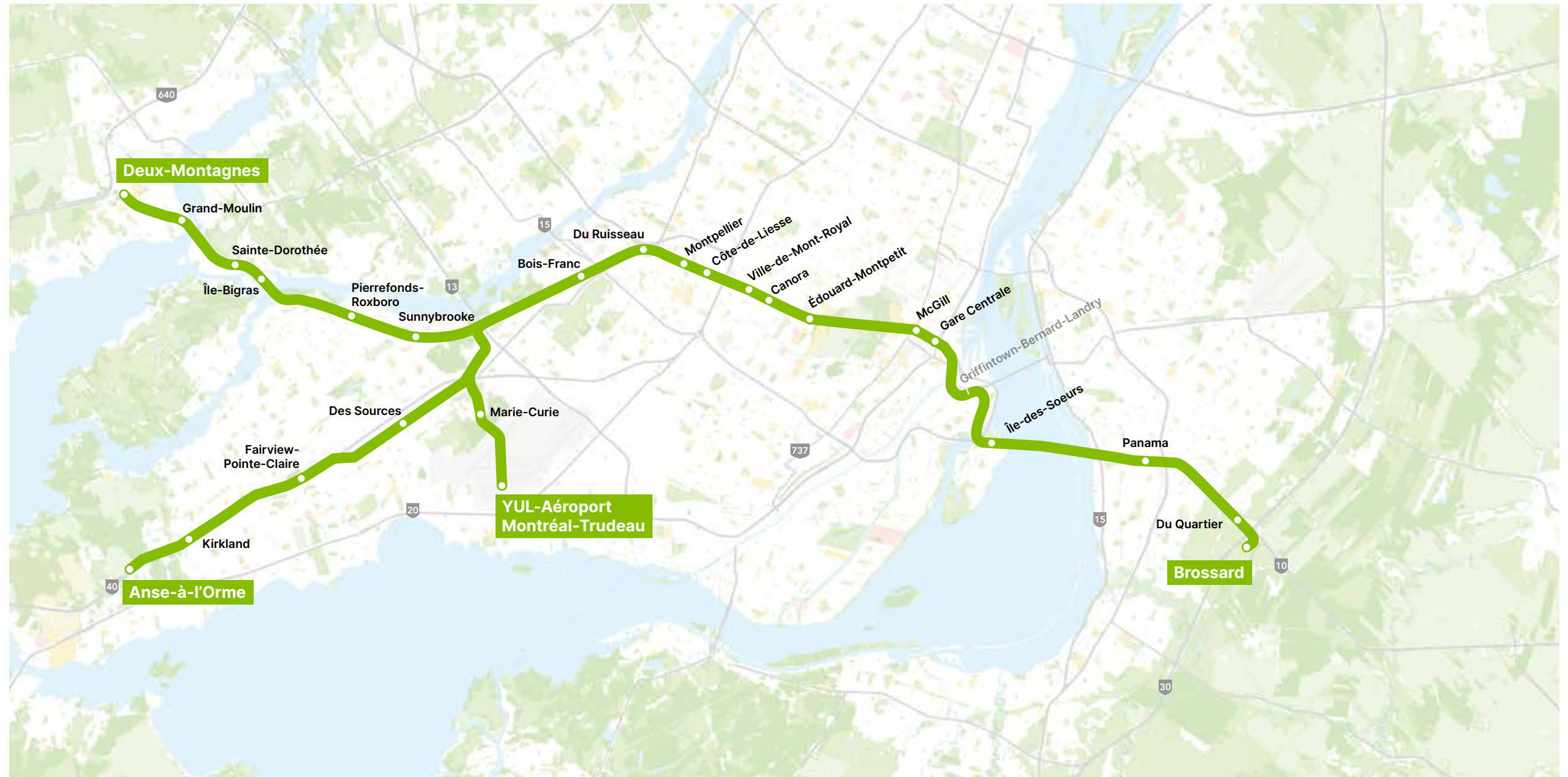
## Activities to protect natural environments

Creation of habitats for wildlife (3)

Forest plantations (9)

Protection and/or restoration of natural environments (6)

Relocation or in situ protection of at-risk plant species (5)





CASE STUDY

## The REM agricultural land trust

To compensate for the loss of agricultural land due to the construction of the Brossard station, an innovative partnership between the Union des producteurs agricoles (UPA) and CDPQ Infra led to the creation of the Fiducie agricole REM in 2019. With a budget of \$2.9 million provided by CDPQ Infra, this social utility trust aims to acquire agricultural land and lease it to young farmers to protect agricultural heritage in perpetuity and limit urban sprawl around the Brossard station.

In the spring of 2022, a first 11-hectare site was acquired in Brossard, followed by a second 34-hectare acquisition in Carignan in December of the same year. Soybeans, wheat and corn are grown on a significant portion of the land, while a smaller portion is planned for market gardening.

Budget of  
**\$2.9**  
million provided by  
CDPQ Infra

Total acquisition of  
**45** hectares



## Managing waste responsibly

As part of the REM project, CDPQ Infra set targets to recycle at least 80% of the concrete, brick and asphalt debris and to sort 70% of other construction debris at source or forward it to a sorting centre.

Not only were these objectives achieved, but **the recycling targets were exceeded**, with 147,000 tonnes of waste materials processed by December 2023.

### Summary of recycled materials by type of debris

Types of waste materials	Target	Result
<b>Concrete</b>	<b>80%</b>	<b>93%</b>
<b>Brick</b>	<b>80%</b>	<b>98%</b>
<b>Asphalt</b>	<b>80%</b>	<b>88%</b>
<b>Other construction debris</b>	<b>70%</b>	<b>78%</b>

In addition to the targets set by material type, the reuse of the concrete from demolished structures and the excavated soil and rock was a priority, where possible, within the project. This objective reduces the need to extract new resources, lowering the environmental impact of the project.

[More](#)



## Examples of reuse



### Reuse of excavated rock

Nearly 100,000 tonnes of rock were excavated from the access shaft of the Édouard-Montpetit station. NouvLR used this rock to produce new aggregate, some of which was used in the construction of the REM. The remaining rock was sent to a supplier to be crushed and reused in concrete production.



### Reuse of ballast

Over 150,000 tonnes of ballast from the old exo line were crushed and reused on the Deux-Montagnes branch instead of using new granular materials.



### Reuse of soils

Following chemical analyses confirming their good quality, approximately 85,000 tonnes of soil were reused in berms and agricultural lands.



### Reuse of residual granular materials

Nearly 24,000 tonnes of granular residual materials, from the dismantling of work platforms or access roads, were reused by specialized companies.



CASE STUDY

## The old bridge over Mille-Îles River

### Adapting existing infrastructure

The old bridge over the Mille-Îles River, acquired from exo, has been adapted to meet the needs of the REM's electrified light trains. To minimize the project's impact on natural environments, NouvLR innovated by deploying a metal platform installed halfway up the existing pillars. This allowed excavators to drill and reinforce their load-bearing capacity, extending their lifespan.

This approach preserved the original foundations of the pillars, avoiding the construction of a new bridge and encroachment into the Mille-Îles River.



## CATALYST

(social & economic)

CDPQ Infra acts as a catalyst for socioeconomic development by accelerating the introduction of sustainable infrastructure for the benefit of communities. Special attention is given to integrating these infrastructures by preserving cultural heritage and creating public art.

CDPQ Infra's aim is to build high-quality projects that meet the needs of the populations they serve, ensuring that people embrace them.





# Planning for integrated mobility

## Aligning the REM with urban mobility goals

The REM plays a crucial role in Greater Montréal's sustainable mobility strategy. Designed as an integrated network, it encourages users to combine various modes of transportation, such as metro, bus, bicycle, walking, car, and car-sharing.

This plan aims to create seamless travel solutions that meet the real needs of the population.

[Interactive map →](#)

The REM network is fully integrated with other transportation networks in the Greater Montréal area, including the metro and bus systems. Since REM ridership modelling is conservative, it is likely that the [GHG avoidance benefits](#) of REM use will be revised upwards.





### Connecting to bus and metro lines

- Ridership modelling in collaboration with the ARTM, the OPTC, the cities and the various organizations involved, allowing for a complete overhaul of the South Shore networks: 75 bus routes were completely reconfigured, leading to a network of feeder lines offering more frequent service for better connection to the REM.
- Construction of three major bus infrastructures – the Brossard, Panama and Fairview–Pointe-Claire terminals – to provide an integrated public transit service.
- Use of the network with the OPUS card without any change in customer habits.



### Encouraging active transportation

- Development of sidewalks and safe bicycle paths to connect stations to existing municipal infrastructure.
- A bicycle path plan within the REM right-of-way is under study in response to municipal requests.



### Increasing the appeal of the network through park-and-ride lots

- Over 10,000 parking spaces, available at 12 stations, will be offered to users once the network is fully operational, including Communauto and EV charging spaces.

## Enhancing communities through architectural integration, public art and archaeology





## Integrating the REM into the urban architecture

To ensure the harmonious integration of the REM into its environment and enhance the project's social acceptability, a partnership was established with Ville de Montréal. This collaboration enabled the launch of a consultation process with an advisory committee composed of specialists.

They examined the architectural design components as well as the urban and landscape integration of the REM.



[Details of the REM station colour strategy →](#)



## Showcasing public art by Québec artists throughout the network

The REM art program, called “UNIR,” is inspired by the union of art, the people who use the network and the neighbourhoods it serves. Offering artists a unique creative universe, the network will eventually feature a dozen large-scale works showcasing Québec talent.

This initiative highlights the commitment to promoting art in public spaces and supporting the local arts community.

Recognizing the importance of art, CDPQ Infra is devoting nearly **\$7.8 million** to installing artwork designed specifically for the REM network.



# UNIR

REM public art program

The three-pronged program is designed to showcase the talents of Québec artists and encourage emerging artists.

Permanent works of art feature the places the REM passes through and encourage interaction with the public. The works reflect the social, geographical and cultural diversity of the environments offering a wide range of experiences.

Through its innovative approach, this temporary art program encourages collaboration among art students from Montréal universities . With the support of established artists, these students are creating temporary works that contribute to the beautification of the network and the development of the next generation of artists.

An additional contribution to support the public arts field will be made through special projects deployed in the network over the coming years.



## Preserving Québec's heritage

The construction of the REM provided a unique opportunity to uncover significant archaeological remains, thanks to the numerous inventories carried out prior to the construction to identify areas requiring an archaeological dig.

These efforts allowed for the documentation and preservation of remnants and artifacts before construction began, safeguarding this archaeological heritage.

66

archaeological  
interventions

22

sites with  
identified  
historical  
remnants

4

sites with  
prehistoric  
remnants  
identified





CASE STUDY

## Irish cemetery

Period documents and maps consulted by the archaeologists indicated that part of the REM construction would likely take place on the Irish cemetery in Pointe-Saint-Charles. This cemetery was hastily established in 1847 when a large influx of Irish immigrants to Montréal were struck by a typhus epidemic. Historians estimate that around 6,000 people were buried there.

The designers were tasked with minimizing the number of pillars installed in the cemetery. Ultimately, a single REM pillar, 3 metres in diameter, was placed within its perimeter. Due to the severe constraints of the terrain, a novel archaeological excavation technique was used. A basket with a removable floor was built, allowing archaeologists to safely descend into the REM pillar housing and excavate the ground in search of burial places.

As a mark of respect, the teams maintained constant communication with the Irish community throughout the work, which took place in November 2019. The bones of 14 individuals were found and, after laboratory analysis, will be returned to the community.





## Cultivating strong community ties

### Engaging with local communities using active communication tools

CDPQ Infra ensures that its sustainable infrastructure projects are carried out in harmony with communities.

The REM crosses through many municipalities and boroughs, each with its own characteristics.

A community relations office was set up to maintain an ongoing dialogue with the population and with the municipalities, for the duration of the construction phase. The office is staffed by sector managers who maintain direct relations with stakeholders, especially the people living along the worksite.

Between 2018 and 2023, we held:

more than  
**37** public  
meetings and

**21** neighbourhood  
committee meetings





## Providing universal accessibility

Throughout the design and construction process, the organization made sure to inform, listen to and implement the recommendations of associations, specialists and people with disabilities who would be using the REM.

[More](#)



## Designing for people's needs

During the car design phase, a workshop was held in collaboration with the Accessibility Committee. People with various disabilities were invited to take part, so they could explore a model car and offer comments and suggestions. Their recommendations, along with those of the committee, were incorporated into the design of the REM car. The development of a backrest was added to all the REM cars following the completion of a pilot project.

NouvLR also enlisted the services of Société Logique to design universally accessible stations that comply with [CSA standard B651-12](#), the most recent standard in force at the time of design.

## Building infrastructures suitable for all realities

During the construction phase, people with reduced mobility were invited to tour the facilities in order to test the various layouts and make recommendations on any necessary modifications.

## Offering intuitive digital tools

To offer a fully accessible website, the Accessibility Committee was called on to form focus groups. Usability tests were carried out throughout the development process, with the help of disabled people, particularly those with visual impairments.

The REM website aims to offer content that complies with the norms and standards for website accessibility (SGQRI 008-01) adopted by Québec's Conseil du trésor.



## Stimulating the local economy for a sustainable and prosperous future

The REM has become a reality thanks to the commitment of many professionals from Québec, from development to construction.

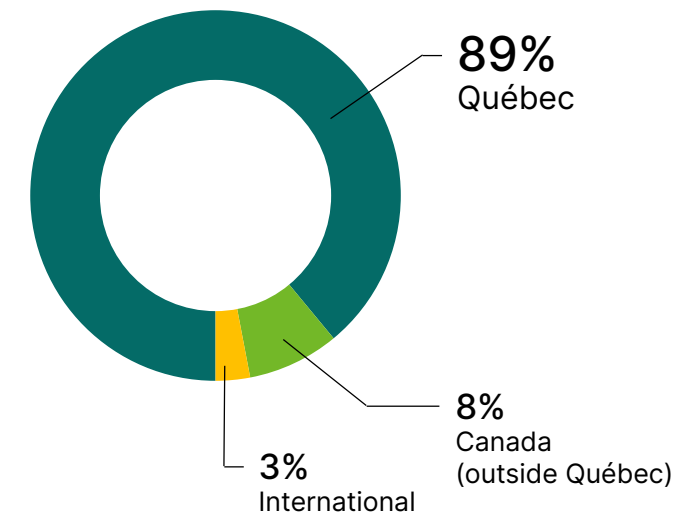
In addition to meeting essential needs, major infrastructure projects offer a unique opportunity to stimulate and develop the local economy.

**The project's economic balance sheet shows that 89% of the construction expenses were incurred in Québec.**

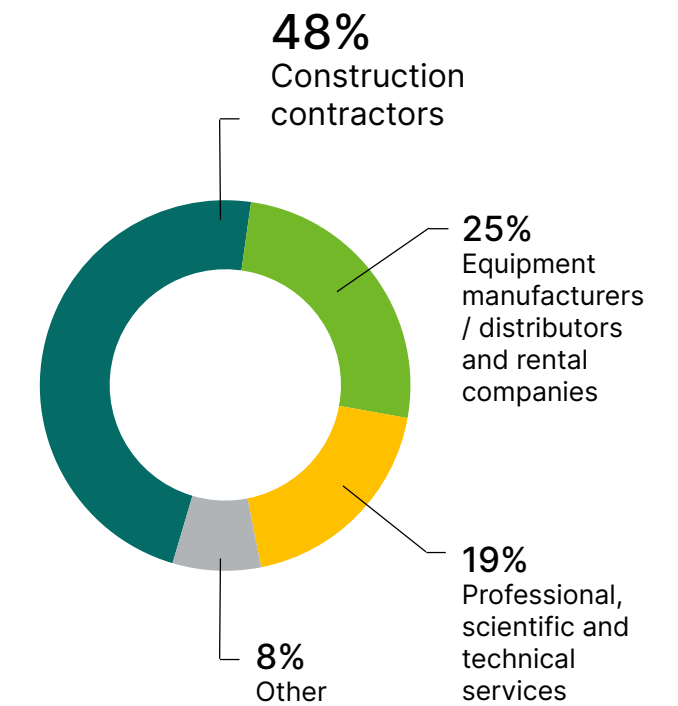
NouvLR, a consortium of five companies – three from Québec, one from Canada outside Québec and one international – played a central role in the project's success. Thanks to this synergy, NouvLR has supported numerous sectors in Québec, such as construction, manufacturing, distribution of equipment and materials, as well as various professional services.

This collaboration helped boost the local economy and showcase Québec know-how, illustrating how major infrastructure projects can strengthen local skills.

**Breakdown of construction expenses by location of service providers**



**Share of expenses in Québec by category**



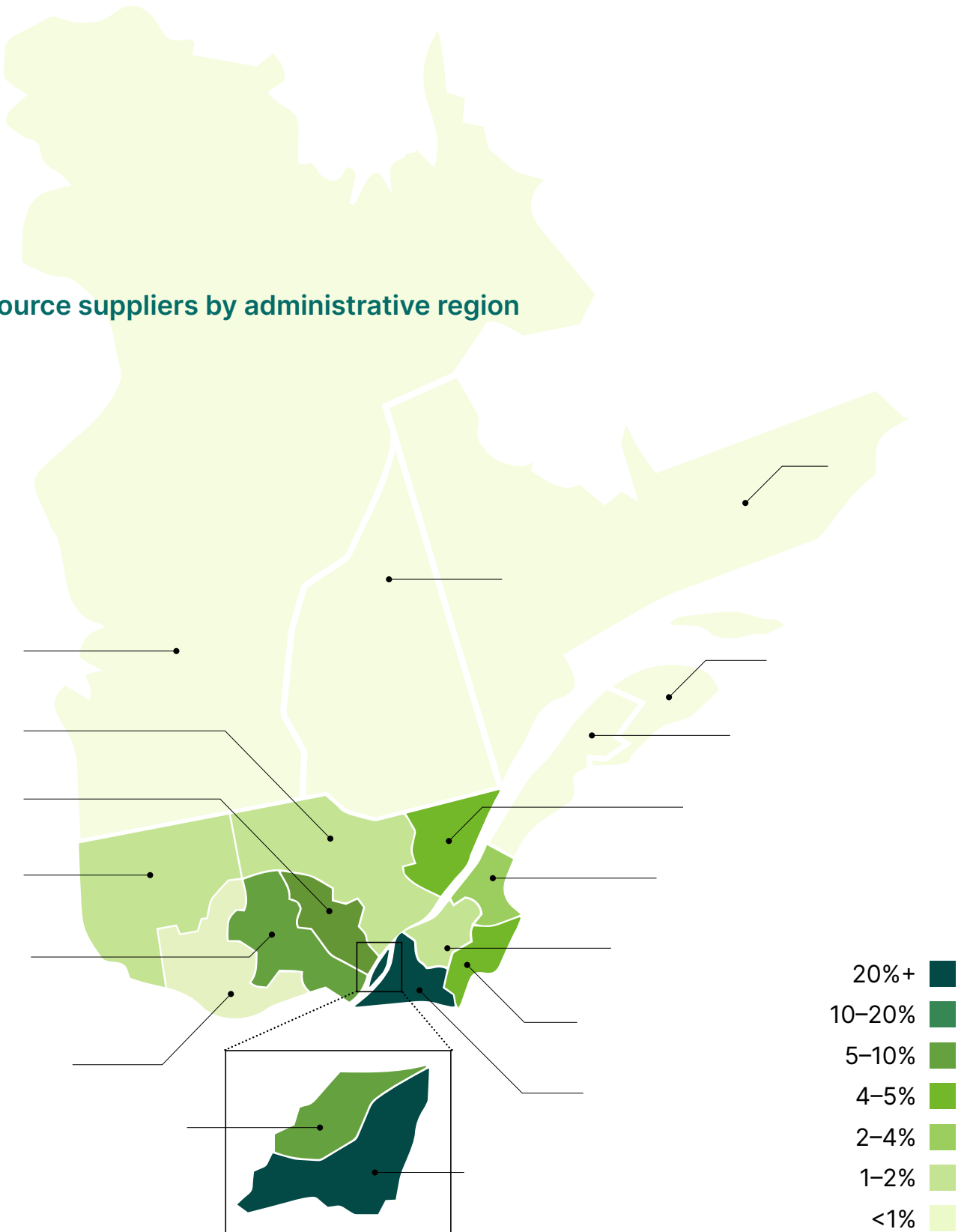


The larger geographic footprint of the construction expenses highlights the significant contribution made by Québec companies to this major project.

A total of  
**1,964** suppliers  
of separate products and services  
in Québec were involved in  
the construction of the REM.

The REM contributes significantly to the local economy and to the development of expertise all across Québec.

Share of sole-source suppliers by administrative region



CASE STUDY

Nordic Structures

**Reduce the carbon footprint of buildings**

Chantiers Chibougamau, the parent company of Nordic Structures, is a family business founded in 1961 that operates sawmills in Nord-du-Québec and Abitibi-Témiscamingue.

This innovative company developed engineered wood products in the early 2000s to maximize the use of black spruce, a boreal forest resource, and reduce the environmental footprint of construction projects.

Today, the company uses almost 100% of the wood it harvests in the production of lumber, kraft pulp and engineered wood, applying the principles of the circular economy by maximizing the use of renewable resources.

The REM project has given the company the opportunity to demonstrate its know-how and add to its portfolio of achievements in the infrastructure sector. The company has since won a similar contract for the platforms at Montréal's Lucien-L'Allier station.

“We are proud to have participated in the REM project.

It allowed us to add a major infrastructure project to our portfolio.

It is an excellent showcase to help us develop the market for transport infrastructure.”

**Simon Adnet**

Manager, Pre-Construction and Sales  
Nordic Structures



CASE STUDY

BPDL (Béton Préfabriqué du Lac)

Founded in 1976, BPDL has established itself as a major player in construction and infrastructure in Québec. As specialists in the manufacture of precast concrete products, the company offers customized solutions for architecture, structures and landscaping.

In the REM project, BPDL played a central role by supplying more than 4,550 precast segments for the construction of the REM elevated track. Each segment was meticulously tailored to the specific needs of the project.

Despite the challenges posed by the pandemic and a labour shortage, BPDL demonstrated remarkable creativity and expertise in meeting the logistical challenges and tight deadlines. Thanks to this and the work of nearly 200 dedicated employees, more than 14 kilometres of overhead track were erected.

“For BPDL, producing the segments for the REM was a unique experience, adding to our already impressive portfolio of almost 50 years of experience in precast concrete. Thanks to the expertise of Rizzani De Eccher, the teams were able to build know-how that no other company in Québec possesses, paving the way for similar projects that require coupling international expertise with that of our Québec workforce.

The recruitment, carried out at the height of a labour shortage in Québec, prompted BPDL to be creative in finding quick and lasting solutions.”

**Christine Bouchard**  
Director, Corporate Projects  
BPDL





# Influencing urban development in the territory

## **Planning: Key to a transformational network**

During the planning of the REM route, data on ridership, travel and population density were collected through collaboration with public transit authorities. This made it possible to identify travel-generating hubs and those with growth potential.

The REM was strategically designed to include a majority of stations that are conducive to the introduction of transit-oriented development (TOD), as designated in the Plan métropolitain d'aménagement et de développement (PMAD).

[More](#)

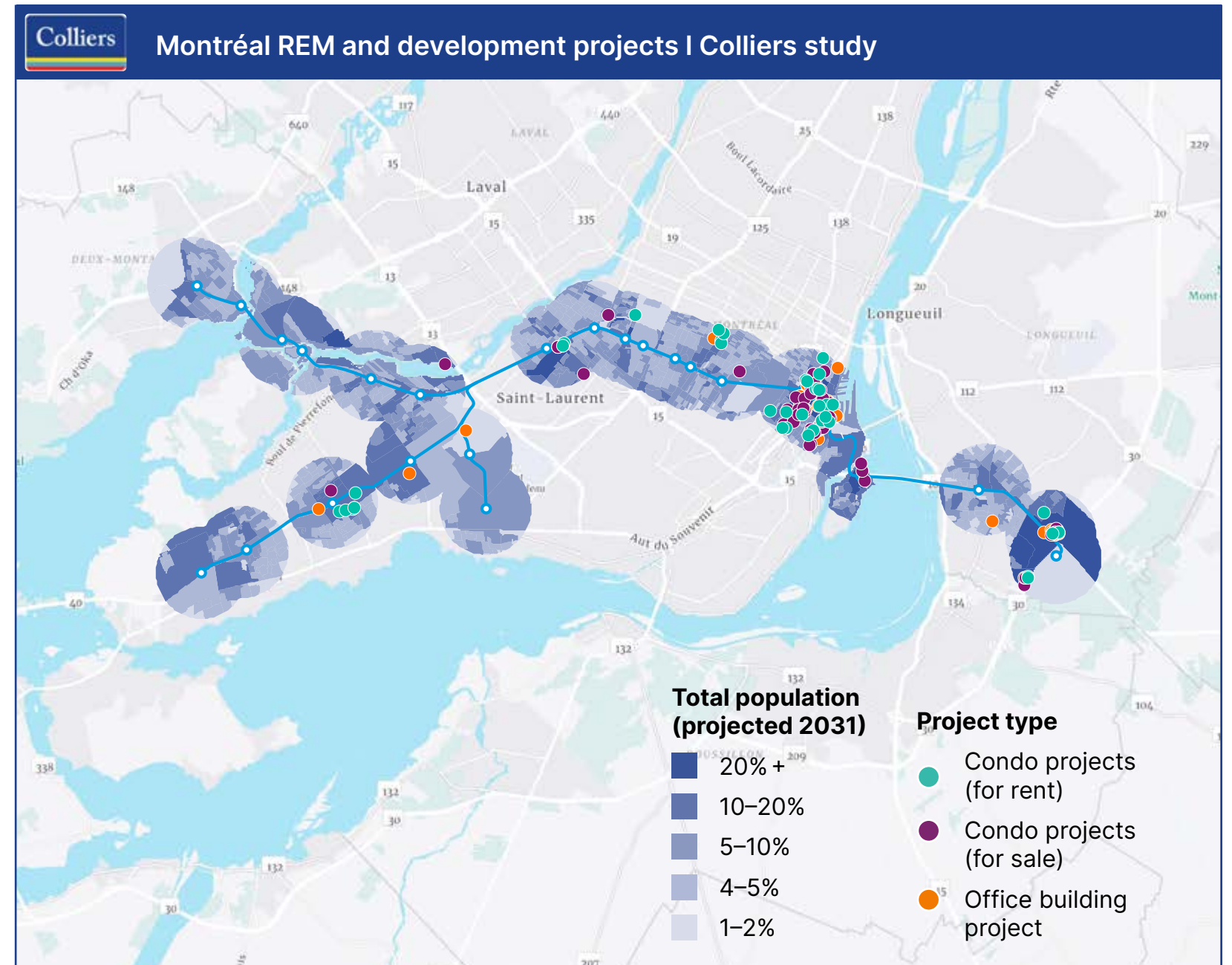


## Shaping the urban landscape

Since the project's announcement, there has been significant enthusiasm for real estate development around the stations. The real estate services firm Colliers recently published a report examining the REM's impact on the urban landscape of the Montréal region. The map highlights completed and ongoing developments, including condos, apartments and office buildings, as well as the current and projected population living and working near the stations.

Although the REM is just beginning its operation, the urban landscape is already transforming, not only in residential areas but also in employment and commercial hubs, which are now more accessible. Several cities are now planning to integrate REM stations into their urban plans, encouraging densification around these infrastructures.

More than  
**19,500**  
housing units built or under development near stations, since 2018



[Read the Colliers Research review of the impact Montréal's REM →](#)



## CASE STUDY

# Urban development in Brossard near REM stations

### Du Quartier station

Du Quartier station is adjacent to the Solar Uniquartier development. This transit-oriented development includes a variety of residences, offices, hotels and businesses, as well as a convention centre. The bustling neighbourhood has become a real magnet for the South Shore, with more than 6,000 residential units slated for development.

Nearby, the DIX30 district is also benefitting from the arrival of the REM: the office space vacancy rate is falling, with companies considering the accessibility offered by the REM in their office location decisions.

### Panama station

Panama station is the gateway to the REM for the South Shore, offering the REM's largest bus terminal, with 30 platforms. The station is surrounded mainly by single-family homes, with few services within walking distance. However, the Ville de Brossard plans to transform this area into a downtown district, densifying it and further developing its infrastructure.

In total, Brossard could accommodate up to 12,000 housing units downtown and up to 25,000 units accross the entire city, giving the city the opportunity to actively contribute to Greater Montréal's housing demand.







# Sustainable, frequent and efficient

The REM offers a comfortable, safe and fast experience, with impressive views of Montréal and its surroundings.

## A first year of constant improvement

The South Shore branch was  
officially inaugurated  
on July 28, 2023.

Hundreds of guests celebrated the first departure of the REM cars. The general public then had the opportunity to discover the REM during an open house weekend during which over 120,000 people visited its first five stations. The network's first day of commercial operation was July 31.

This automated network now links downtown Montréal to Brossard in less than 20 minutes, offering a renewed public transit option that is a fast, frequent and safe alternative to individual transport.

[More](#)

“Taking an idea and bringing it to fruition is quite an accomplishment for the thousands of people who’ve worked tirelessly for 5 years now on building this major project for the greater metropolitan region.

I would like to personally thank all these REM artisans. Their collective work now allows thousands of people to have access to a brand new sustainable, frequent, and efficient mobility service.”

**Jean-Marc Arbaud**  
President and CEO  
CDPQ Infra



Average of  
**38,000\***  
daily trips

Peaks of up to  
**44,000\***  
daily trips

With an average of 38,000 daily trips and peaks of up to 44,000, the REM and GPMM teams are making every effort to continuously improve the user experience.

Among other things, the teams have prioritized enhancing communications with the public during service interruptions to provide clear and quick information through multiple channels: screens and speakers in trains and stations, the website, social media, and text messages.

At the beginning of 2024, significant optimizations were made to the train operating systems and certain processes to increase service reliability and response speed when an event occurs.



\*Data from September 2024





After the South Shore branch was commissioned, a detailed analysis was carried out, and corrective measures were implemented to mitigate noise impacts in key areas the REM passes through.

The measures that have generated positive results will be implemented when the next branches are commissioned.



Continuous dialogue is maintained with the Accessibility Committee to improve the user experience.

GPMM staff likely to be in contact with the public are also trained in best practices for interacting with people experiencing disabilities, homelessness or mental health issues.



A specific sustainability report will be issued after one full year of operation, providing a baseline year for setting improvement targets. Disclosure data, such as energy consumption, GHG emissions and water and gas consumption will be explored.

# Appendix



## Appendix – GHG calculation methodology for construction

From April 1, 2018, to December 31, 2023

### Methodology and limitations

NouvLR calculated the greenhouse gas (GHG) emissions resulting from construction activities carried out for the REM project.

According to ISO 14064-1, GHG emissions from stationary and mobile equipment operating on project sites are direct emissions; these calculations are based on the volume of fuel consumed.

Indirect emissions include:

- All mobile equipment related to the transport of raw materials and equipment from a supplier to one of the project construction sites and to the removal of materials or debris from construction sites. These calculations are based on kilometrage.
- Emissions from electricity generation on the Hydro-Québec grid, calculated on the basis of actual consumption in kWh.
- Emissions associated with the tree cover area cleared during construction, calculated on the basis of the annual quantity of cut biomass.

The geographical limits of the REM project include all REM construction zone sites located in the entire territory of the Montréal region.

### GHGs considered in the inventory

Types of GHGs	Carbon dioxide (CO <sub>2</sub> )	Methane (CH <sub>4</sub> )	Nitrous oxide (N <sub>2</sub> O)
Global warming potential	1	25	298

### Sources of GHG emissions

The emission sources considered in the inventory are:

- Emissions related to the use of equipment on project sites
- Emissions associated with the transport of raw materials and equipment to a construction site and between project construction sites
- Emissions associated with the transport of dismantled materials and excavated materials moved outside the geographical boundaries of the project
- Emissions linked to electricity consumption on the construction sites
- Emissions associated with the area of biomass cut during the project

### Exclusions

Some emission sources are excluded from this inventory:

- Transportation of personnel to the site by their own means of transport
- Transportation of light material provided by a shared-load carrier (Canada Post, UPS, etc.)
- Extraction of raw materials and processing into building materials\*
- Fugitive emissions from ventilation systems, for example
- GHG emissions from the degradation of residues or biomass stored temporarily on construction sites

Some data, received from partners post-construction, has not yet been included in the calculation of GHG emissions as of December 31, 2023.

\* CDPQ Infra acknowledges the significant impact of GHG emissions associated with the extraction and processing of raw materials into construction materials. However, in 2018, these emissions were not included in the inventory because this practice was not yet common in the Canadian construction sector. Moving forward, CDPQ Infra will account for these emissions in its future projects.



