

# Greater Montréal, a Booming Cleantech Industry



# A world leading economic development agency







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# 01

## Montréal, A Prosperous City and a Strategic Location





# A strong and growing metropolis, strategically located in North America



## Population

- 4.3 million residents
- 23% of population are foreign-born (34% for the city of Montréal)



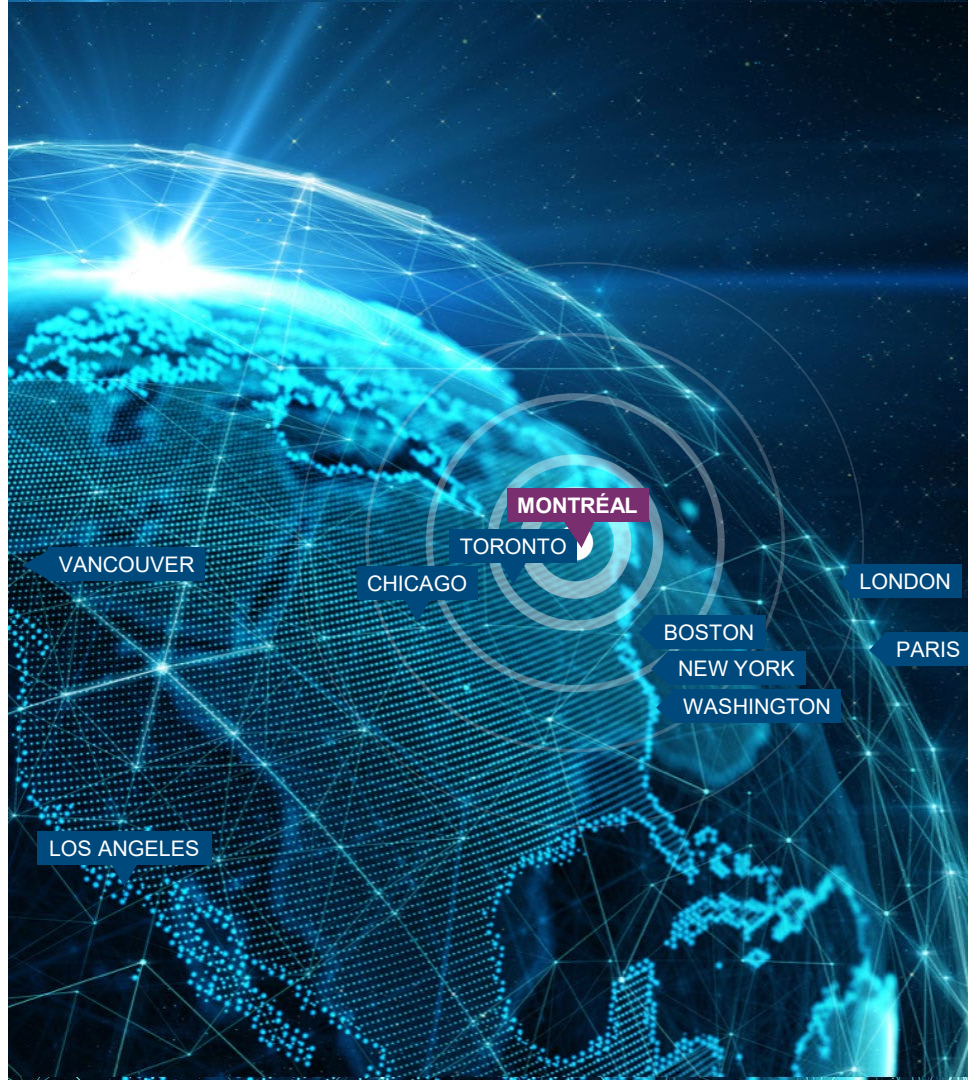
## Economy

- Fastest economic growth in Canada in 2021
- Among the strongest economic growth forecasts in Canada in 2022
- \$3.765 billion in foreign direct investment in 2021 supported by Montréal International



## Location

- 82 municipalities, 1 metropolitan area
- A 90-minute flight to Boston and New York City
- Less than a one-hour drive to the U.S. border



# 02

## Québec, a Key Player in the Fight against Climate Change





# Québec, a key player in the fight against climate change



**No. 1 renewable energy producer** in North America



More than **99% of the electricity is produced from a clean and renewable source** (hydroelectricity, wind power, biomass)



Government of Québec's 2030 Plan for a Green Economy: **Reduce GHG emissions by 37.5%** compared to 1990 by 2030 and reach carbon neutrality by 2050



Member of **several international groups** for reducing GHG



THE CLIMATE GROUP



# Strong government commitment to support clean technologies and the ecological transition

## Federal support



- **\$8B+** in funding to **decarbonize** and invest in **cleantech**
- **\$2.2B over 7 years** to expand the Low Carbon Economy Fund
- **\$1.4B** for cleantech development and its commercialization
- **\$2.6B over 5 years** in tax credit to spark CCUS technologies

## Provincial support



- **Nearly \$150M over 5 years** to support Québec companies in the development of cleantech
- **\$152.4M over 5 years** to spur energy transition
- Close to **\$25G over 10 years** on infrastructures to reduce GHG emissions and adapt to climate change

## Metropolitan support



- Significant budgets and efforts to ensure the **ecological transition** by 2030: sustainable mobility, green economy, zero waste future, green infrastructure, etc.
- **Reduce GHG emissions by at least 55%** below 1990 levels by 2030 and **achieve carbon neutrality by 2050**





# Québec's electricity industry, a strategic asset to decarbonize the economy

- 7<sup>th</sup> global hydropower producer
- **Hydro-Québec**, Canada's largest electricity producer and one of the largest hydropower producers in the world
- Québec's electricity industry, a thriving sector:
  - **63,000** jobs
  - **\$16.9B** contribution to Québec's GDP
  - **\$5B** in export to over 170 countries

**Many industry leaders** are operating in Greater Montréal

**SIEMENS**

**Schneider**  
Electric



**Hitachi**  
Energy

Source: Association de l'industrie électrique du Québec, L'industrie électrique du Québec : Pilier d'une économie carboneutre, Annual Report 2021.

# A world-class R&D hub

- **Québec, 1<sup>st</sup> in Canada for R&D investment** in % of GDP with expenditures of \$9.7B per year\*
- **Montréal, 1<sup>st</sup> city in Canada for university research funding** with close to \$2B per year
- **Research institutions in Montréal are among the world's top universities**

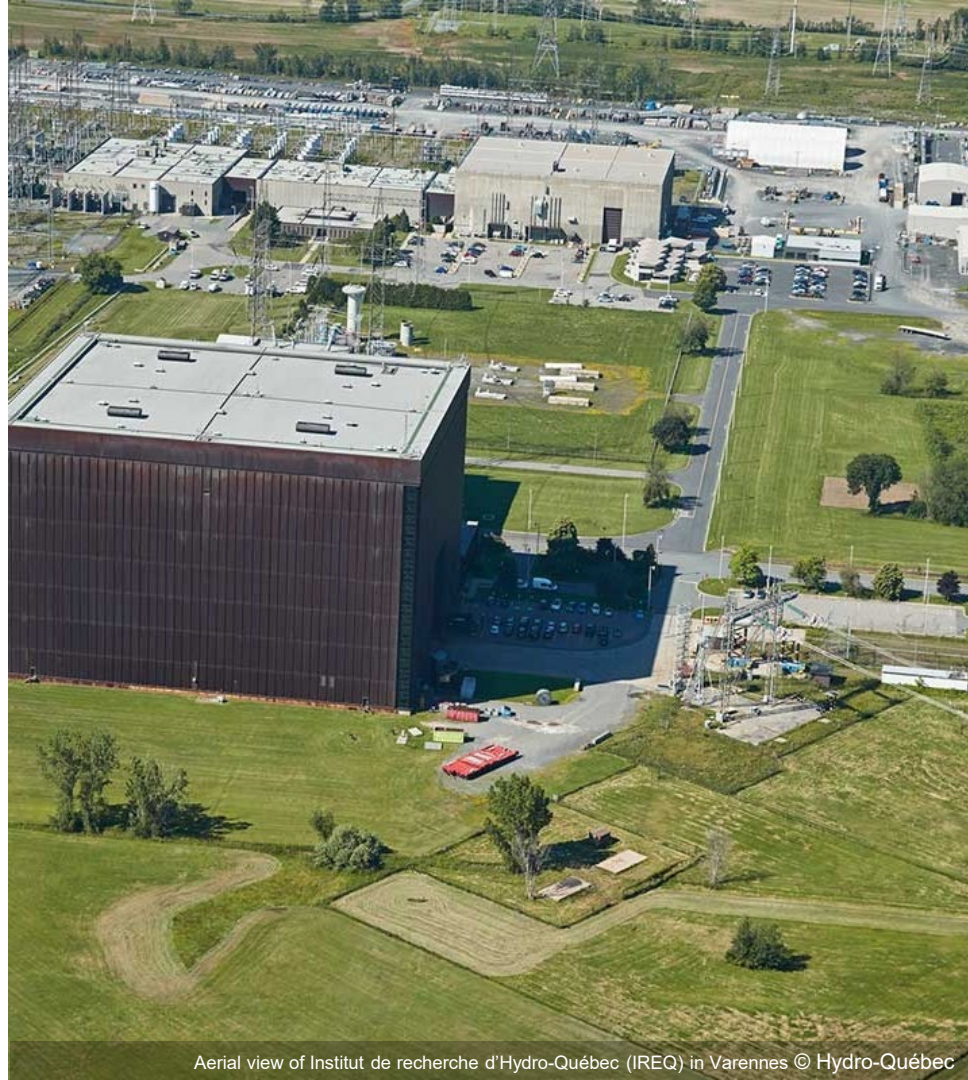


- **Home to several renowned research organizations** related to cleantech



Note: \* Including \$9.3B spent on businesses and universities and \$0.4B spent on the government sector.

Source: Research InfoSource, 2021; Statistics Canada, Table 27-10-0359-01, 2016, and Table 27-10-0273-01, 2017; QS World University Rankings 2023



Aerial view of Institut de recherche d'Hydro-Québec (IREQ) in Varennes © Hydro-Québec





## A culture of sustainable, low-carbon urban mobility

- Québec, no. 1 for vehicle electrification in Canada
- Largest charging network with 3,400+ electric stations, including 600 fast charging stations
- A public transportation networks adopting sustainable mobility technologies



Acquire only electric vehicles as of 2025 and achieve zero emissions for vehicles by 2040



Pioneer of car-sharing in North America with 3,000+ vehicles, including 200+ electric vehicles



Bicycle-sharing system with 2,400+ electric BIXI bikes and 7,000+ regular BIXI bikes in 700+ stations



67 km of light rail system with 26 stations (under construction)



# Québec, a pioneer of the circular economy in North America

- **Québec expertise** and solid **collaborative networks**, including:



- **Réseau québécois de recherche en économie circulaire (RQREC)**, a network bringing together 110 researchers from 16 universities and 6 colleges
- A **circularity index** developed for the Québec economy in 2021 along with 7 societal goals
- **Key high-potential sectors:** agri-food, energy, construction, and metals







Aerial view of downtown Montréal © Montréal International

# Montréal stands out for its commitment to the environment

- The city is actively involved in **sustainable development networks across the world:**



- Montréal mayor was appointed **Global Ambassador for Local Biodiversity** by Local Governments for Sustainability
- Many international organizations fighting climate change are present, such as:



- Montréal chosen to host **NATO Climate Change and Security Centre of Excellence** and the second part of the **UN Biodiversity Conference (COP15)**

# 03

## A Booming Cleantech Industry





# A booming cleantech industry



## A favourable business environment

- Canada is the second-most attractive country for cleantech companies



## Québec's cleantech sector by the numbers

- **85,000+** jobs
- **Close to \$8B** in total annual revenue
- **200** public research groups
- **1,000** organizations revolving around the sector

Source: 2021 Global Cleantech Innovation Index; Ecotech Québec, 2018; EY, 2018; Statistics Canada, Tables 36-10-0632-01, 38-10-0087-01, 38-10-0031-01, 2021.



# A collaborative ecosystem that drives the industry's development

## Cluster organizations



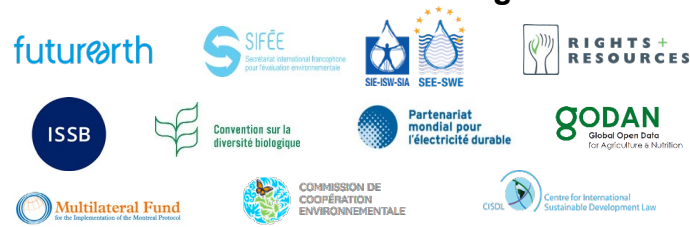
## Innovation and research centres



## Accelerators and venture capital



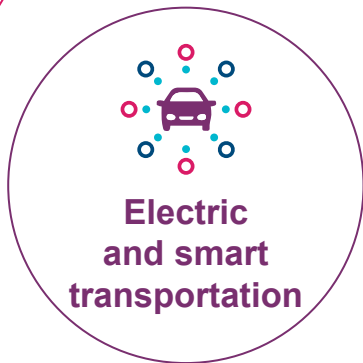
## International organizations




- And many more!





# Fast-growing cleantech sectors in Greater Montréal




# A world-class hub in artificial intelligence

 Global leaders, including **Google**, **Microsoft** and **Meta**, have made Montréal their AI R&D centre

 Close to **900 researchers** MSc, PhD, post-doc and applied AI students at **Mila**, the world's largest academic research lab in deep learning and reinforcement learning

 Home of **Scale AI**, Canada's AI supply chain supercluster

 Sample of major players located in Greater Montréal:





# A strategic hub for solving environmental challenges with AI



**Several members of Mila**, specialize in research that can help fight the harmful impacts of climate change, such as:

- **David Rolnick**, McGill University
- **Yoshua Bengio**, Université de Montréal



Examples of AI research projects on **climate change** and **environmental research**:

- Using AI to visualize the **impacts of climate change**
- AI and climate change: opportunities, considerations, and policy levers to **align AI with climate change goals**



Mila has numerous projects with industry and academic partners including the **carbon footprint of AI** and the **reduction of greenhouse gas (GHG) emissions** in the energy sector:



An open-source software that help track the carbon footprint of algorithms and code. A collaboration between BCG's GAMMA, Comet, and Haverford College



An organization with the goal of catalyzing impactful work at the intersection of climate change and machine learning

# Cutting-edge expertise in electric and smart transportation

## A solid industry

- Close to 150 companies
- 6,200+ jobs
- \$1.3B in GDP

## A large ecosystem and a strategic location

- **A large ecosystem with expertise across the value chain from active materials to recycling**
- **Specialized vehicle expertise:** buses, coaches, trucks, garbage trucks, armoured vehicles, ambulances, police vehicles, motorcycles, snowmobiles, three-wheel vehicles

Many industry leaders are operating in Greater Montréal



TM4



NOVABUS



Lithium-ion battery recycling







# Intelligent infrastructure powered by a thriving technology sector



**160,000+ IT professionals and 7,000+ companies** in Greater Montréal



**Lowest operating costs in North America** for software development



**An AI and cybersecurity hub** contributing to the development of advanced smart infrastructures



**Broadly diversified expertise:** smart parking, advanced traffic management Systems, advanced transportation pricing system, automotive collision avoidance systems

## Major companies in Greater Montréal



Source: Montréal International's estimate based on the 2018 TECHNOCompétences' Labour Diagnostic in ICT in Québec; fDi Benchmark, 2022.

# Sustainable buildings, an industry built on solid foundations



**A construction sector at the heart of Québec's economy with 280,000+ workers and 30,000+ companies in 2021**



**Public investments expected to reach \$130B between 2020 and 2030**



**An expertise in advanced materials:** engineered wood, polymers, coating concrete, ceramic, glass, etc.



**Multiple fields of application:** building automation, property management, energy efficiency, rental management, etc.

**Key actors in smart buildings, such as:**

**Schneider**  
Electric



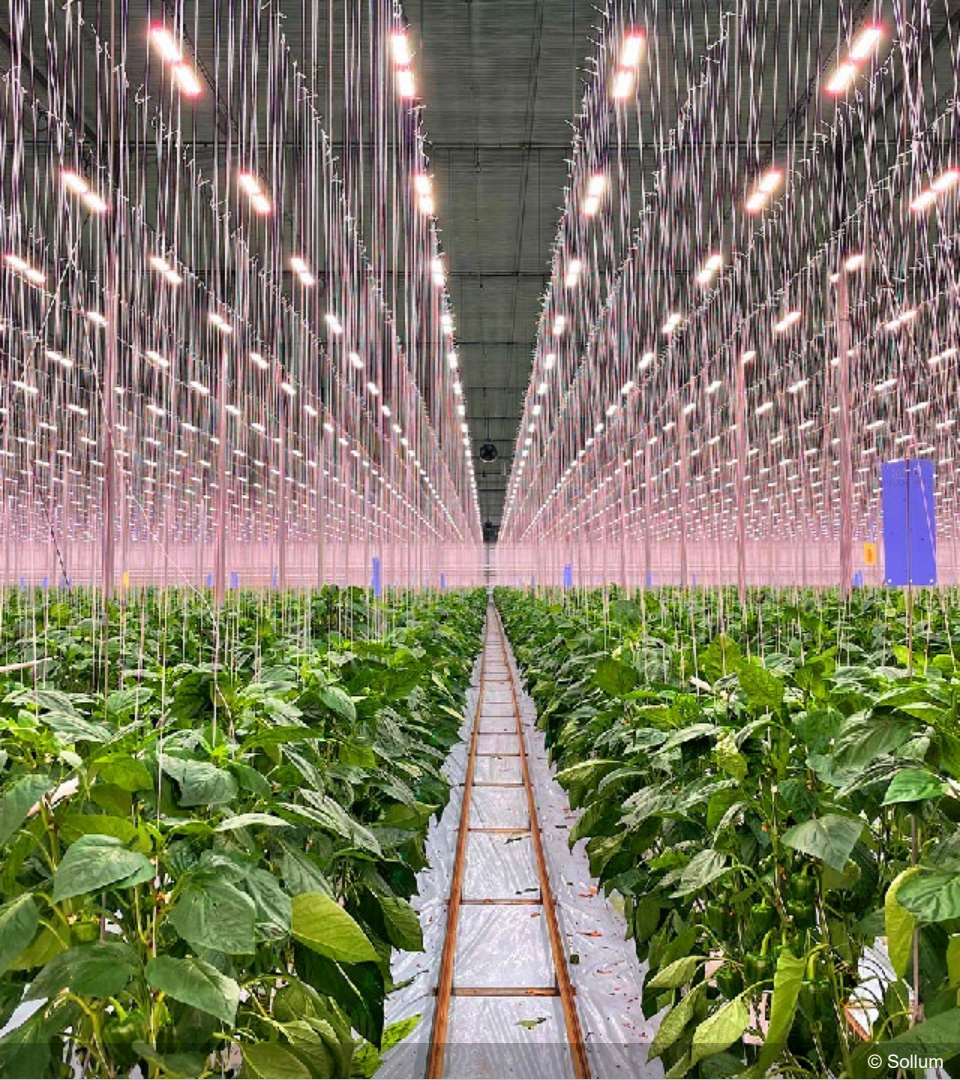
BRAINBOX AI



DIMONOFF







# An AgTech industry at the forefront of innovation



**The agri-food industry, a major contributor to Québec's economy** with 450,000+ jobs and 80,000+ companies



**\$2.4B in government funding for innovative manufacturers** to foster their digital transformation (2020-2024)



**A large scope of applications, such as :** precision agriculture, vertical farming, robotics, cultured meat, alternative farming methods (permaculture, biodynamic farming), etc.

## Zone AgTech in Repentigny

An incubator that promotes innovative businesses to advance **technology-based agriculture**







# A booming startup ecosystem

- Canada is the **most attractive country** in the world for entrepreneurs according to the OECD
- **\$8 B+** in VC investments between 2017 and 2021 in Québec
- **Six of Canada's ten most active venture capital (VC) funds** in 2021 are based Montréal
- **30+ incubators/accelerators**
- **Close to 60 coworking spaces**





# A place where startups scale and raise in cleantech

- **850M\$+ in VC investments** between 2017 and 2022 in Cleantech in Québec
- Presence of **many specialized VC funds**, such as:



- **Examples of recent funding in Cleantech (US\$):**



**\$51M** (2022)  
*Series A*

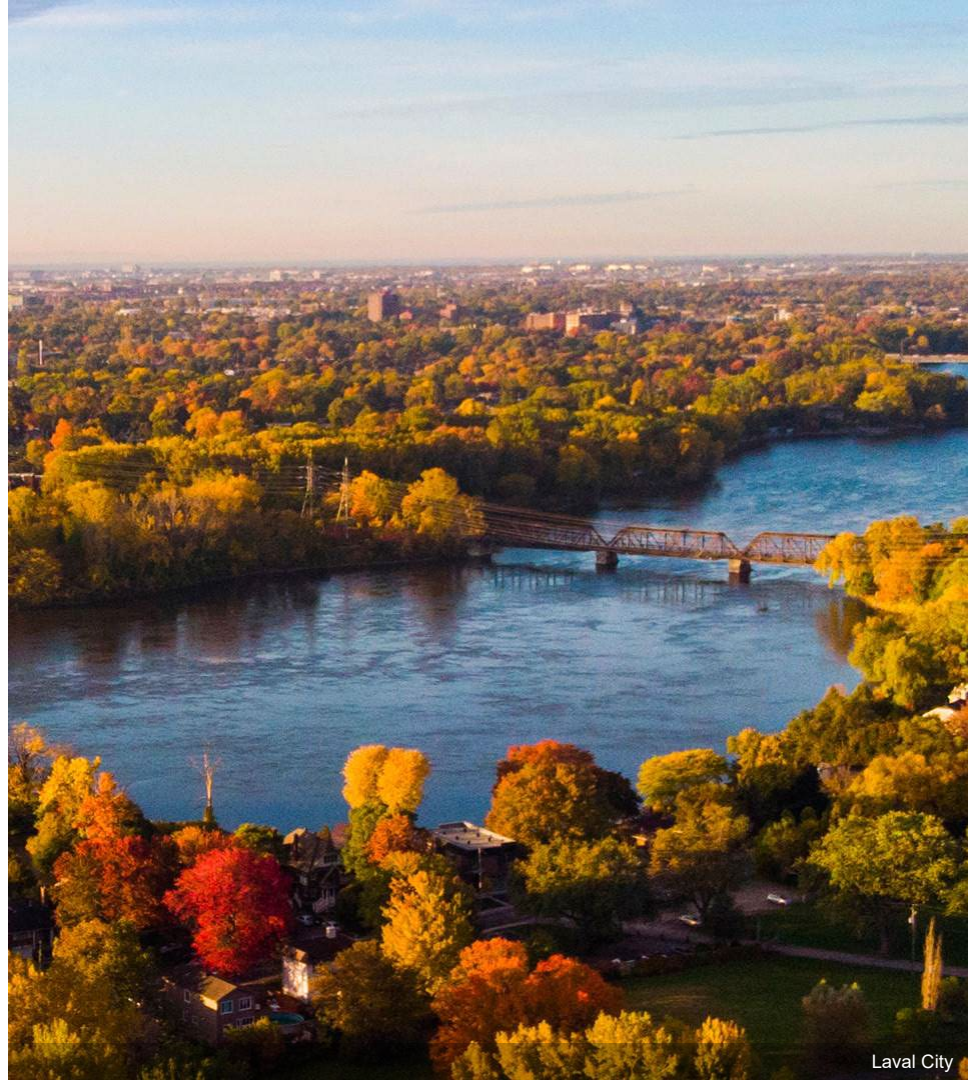
BRAINBOX AI **\$24M** (2021)  
*Series A*



**\$45M** (2021)  
*Series B*



**\$12M** (2022)  
*Series A*



# Many promising cleantech startups are based in Montréal

BRAINBOX AI

BrainBox AI is redefining building automation and pioneering **grid-interactive buildings through artificial intelligence** to address the energy transition challenge

SOLLUM

Inspired by nature, Sollum Technologies offers greenhouse producers **the only smart LED lighting solution** which dynamically recreates and modulates the full spectrum of the Sun's natural light



GHGSat has developed satellites and aircraft sensors to **measure greenhouse gas emissions** directly from industrial sites, providing actionable insights to businesses, governments, and regulators

PYROWAVE

Pyrowave is a pioneer in the **electrification of chemical processes based on low carbon footprint** microwaves and leader in the plastic's circular economy and chemical recycling

CarbiCrete

Carbicrete's patented technology allows manufactures to **produce cement-free carbon-negative concrete with waste and CO2**



Xebec specializes in deploying a portfolio of proprietary **technologies for the distributed production of hydrogen, renewable natural gas, carbon capture, oxygen and nitrogen**



# 04

## A Large Pool of Highly Qualified Talent



# Among the best student city in the Americas and Canada's university capital

- **Canada's university capital:** 15 university institutions and 100+ colleges
- **600,000+ post-secondary students in Québec**, including **350,000+ university students** and **65,000+ international students**
- **Over half of Québec's students** are located in Greater Montréal
- **1<sup>st</sup> in Canada for university research funding** with nearly \$2B per year



**Among the best student cities in  
the world and Best student city of  
Canada**

QS Best Student Cities Rankings 2023

Source: QS Best Student Cities in the World 2023; Québec Ministry of Education and Higher Education, 2022; Research Infosource Inc., 2022.



Université de Montréal

ÉTS  
Le génie pour l'industrie

Université Concordia

UNIVERSITÉ TÉLUQ

McGill

HEC MONTRÉAL

UQÀM

UQV Université de Sherbrooke

ÉNAP ÉCOLE NATIONALE D'ADMINISTRATION PUBLIQUE

INRS Institut national de recherche en santé et sécurité

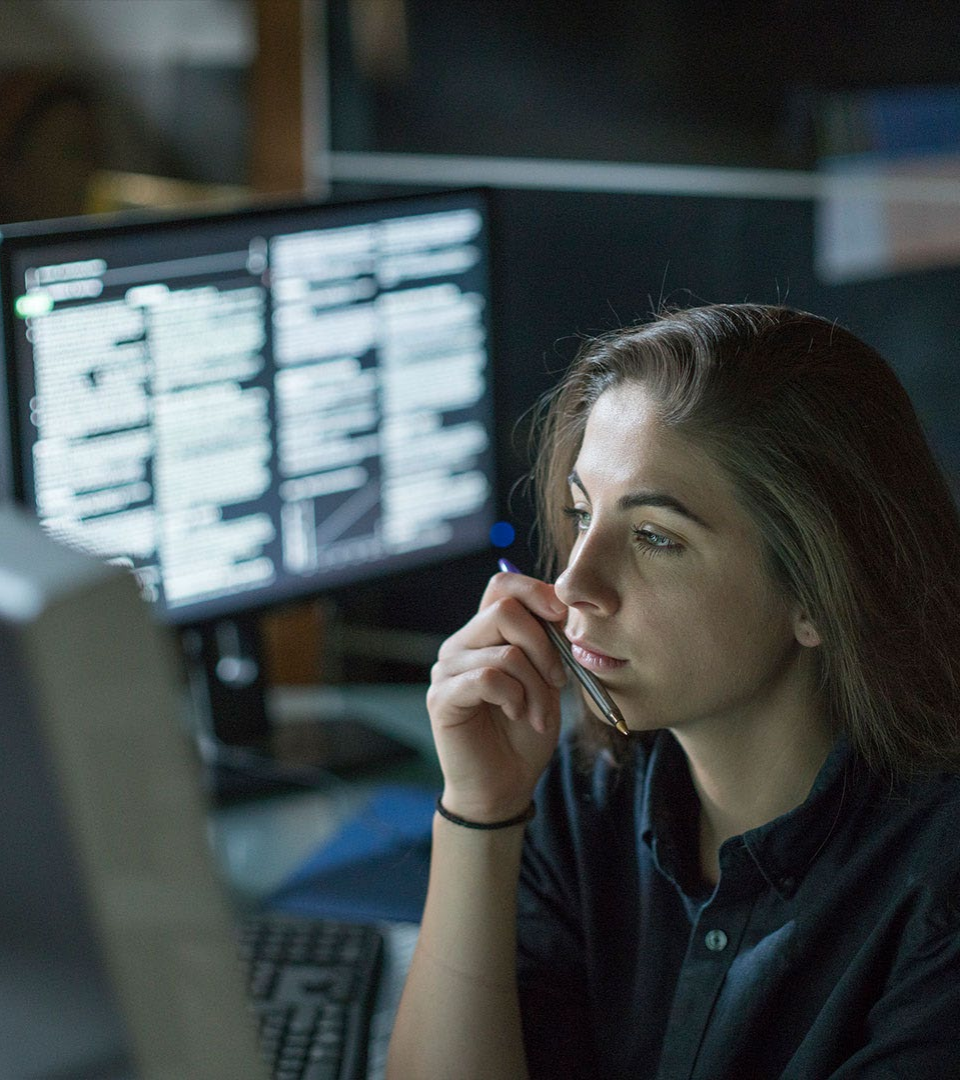
ITHQ

UQAC

UQTR Université du Québec à Trois-Rivières

UQAT UNIVERSITÉ DU QUÉBEC EN ABITIBI-TÉMISCAMINGUE





# A deep pool of highly skilled talent

- **1,087,900 direct and indirect jobs\*** in **STEM\*\*** in Québec
  - Close to **63,000 members** registered with Québec's Order of engineers
- **Close to 34,000 students** enrolled in engineering programs
  - **12,000+ graduates** in engineering
  - Research institutions ranked among top universities worldwide



Note: \* Including 33% STEM professions (e.g., chemists, engineers, and mathematicians) and 67% STEM-related professions (e.g., land surveyors and industrial designers).  
\*\* STEM: Science, technology, engineering, and mathematics.  
Source: Statistics Canada, special compilation based on data from Labour Force Survey, 2019; Ministère de l'Éducation et de l'Enseignement supérieur, 2021; Montréal International compilation; Ordre des ingénieurs du Québec, 2021.



## 110,000+ university students in programs related to sustainable development in Québec

University programs related to sustainable development	Students enrolled, 2021-2022	Graduates 2021
Engineering	53,722	12,348
Applied sciences	36,215	6,742
Pure sciences	23,518	3,764
Environment (environmental quality and pollution)	3,537	743



# 05

## Attractive Costs and Incentives



# Funding provided for major projects and investment



## Strategic Innovation Fund (SIF) – Net Zero Accelerator Initiative

- **Provide up to \$8B to support large-scale investments** in key industrial sectors across Canada: decarbonization of large emitters, Cleantech and battery ecosystem development, etc.



## ESSOR Program (Volet 3 - Reduction of the environmental footprint)

- Repayable contributions (interest-free or low-interest loans) and non-repayable contributions
- **Up to 20% of eligible expenditures** (minimum \$100,000)





# Several programs to spur innovation



## Scientific Research and Experimental Development (SR&ED) Program

- **15% credit from the Government of Canada, and 14% non-repayable credit from the Government of Québec**



## InnoVÉÉ/PROMPT

- Contribution up to **40% of eligible expenses** for **university-company collaborative R&D projects**



## INNOV-R

- Funding for **projects aiming to reduce GHG emissions in Québec. Covers up to 50% of eligible expenses** for a collaborative partnership between an academic organization and a business operating in Québec



## Québec Technoclimat program

- **Up to \$3M per project** (50% of eligible expenses) to support innovation in relation to energy and the reduction of GHG emissions



## Compétivert

- Loan for projects related to the green economy to increase sustainable productivity of businesses with a funding of **\$50,000+**



## Tax Holiday for Foreign Researchers and Experts

- **Five-year Québec income tax exemption** at the personal level: 100% of salary for the 1<sup>st</sup> and 2<sup>nd</sup> year; 75% for the 3<sup>rd</sup> year; 50% for the 4<sup>th</sup> year; 25% for the 5<sup>th</sup> year



Seaway terminal of Sainte-Catherine © MRC de Roussillon

# Tax credits to support cleantech development

## Federal tax credit for investments in cleantech

- **Up to 30%** in credit focused on net-zero technologies, battery storage solutions and clean hydrogen\*

## Investment Tax Credit for Carbon Capture, Utilization, and Storage (CCUS)

- Repayable credit for eligible corporate expenditures in CCUS\*\*
- **Up to 60% in credit** to purchase CO<sub>2</sub> capture equipment and **37.5%** for transportation, storage and use equipment **between 2022 and 2030\*\*\***

Note: \* Details of the design of the credit to come at the next fiscal update in fall 2022; \*\* Depending on eligible uses (CO<sub>2</sub> storage in concrete and/or dedicated geological storage) and CCUS projects; \*\*\* Credit rates will be set at 50% between 2031 and 2040.

Source: Department of Finance Canada, 2022.



# 06

## Montréal International: Personalized, Free and Confidential Services



# Montréal International, a single point of access to a series of personalized, free and confidential services



**Long-term  
strategic support**



**Economic data  
and communication  
services**



**Government  
relations facilitation**



**Incentive programs  
assistance**



**Foreign workers  
immigration  
assistance**



**International  
recruiting solutions**





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