The Suncor Montreal refinery has been in operation for more than 60 years. It manufactures a full range of refined petroleum products intended for consumers in Quebec and Eastern Ontario and distributed by Suncor’s Petro-Canada brand, through 350 service stations in Quebec.

Suncor supports the local economy, through employment and wages, purchase of goods and services, mainly through local suppliers, and taxes payable to the federal, provincial and municipal governments.

The refinery produces asphalt and petrochemical products such as toluene and benzene. It also manufactures xylenes, one of the basic elements in the polyester chain. This chain also includes three other petrochemical companies located in Montreal’s East End that produce granules of polyethylene terephthalate (PET), the plastic used for manufacturing products such as bottles and polyester clothing.

Brief history

Under the ownership of Petrofina Canada Ltd., the Montreal (city of Pointe-aux-Trembles at the time) refinery was put into service on September 15, 1955.

In 1981, Petro-Canada acquired all of Petrofina’s assets, including the Montreal refinery.

In 2009, Suncor Energy and Petro-Canada merged their operations. The new company is now operated under the Suncor name for its general and trading purposes, and under the Petro-Canada trademark for its refined products and its retail and wholesale network.
What the refinery produces

**GASOLINES**
Several grades of automotive gasoline.

**DIESEL FUEL**
Low-sulphur fuel designed for diesel-powered cars and trucks.

**MARINE DIESEL FUEL**
Low-sulphur fuel designed for diesel-propelled ships.

**DISTILLED HOME HEATING OILS**
*Uses*: central heating systems of private homes, small residential buildings and office buildings.

**RESIDUAL HEATING OILS**
*Uses*: steam generators, cement kilns and blast furnaces.

**ASPHALT**
*Uses*: road surfacing, roof sealing and protective coating.

**PETROCHEMICAL PRODUCTS**
*Uses*: plastics and solvents manufacturing.

**INDUSTRIAL GASES**
*Use*: fuel gas.

**LIQUEFIED PETROLEUM GASES**
Propylene, propane, butylene, and butane.

**CARBON DIOXIDE (CO₂)**
*Uses*: gasification of water and beverages.

---

Refining and storage capacity

In the early days, the Montreal refinery’s crude oil refining capacity was 20,000 barrels a day.

In the Seventies, expansion work was undertaken to bring capacity to 95,000 barrels per day and increase the capacity to produce value-added products. Since 2003, refining capacity has been in the order of 137,000 barrels per day.

With its approximately 200 tanks, the refinery can store up to 1.4 billion litres of crude oil ready to be processed or finished products ready to be distributed. It also has access to petroleum product terminals in Montreal East and in Rimouski.

The refinery also uses the services of Suncor’s sulphur plant in Montreal East, which recovers sulphur from crude oil refining processes. The sulphur has numerous uses, for instance, to manufacture fertilizer.

---

Operating the Suncor Montreal refinery

The Montreal refinery is in operation 24 hours a day, 365 days a year. Maintenance and other activities at the refinery take place mainly in the daytime.

Approximately 600 employees work for Suncor in Montreal. The staff includes engineers, technicians, planners, sales managers, administrative personnel, and employees of various other professions.

Planned maintenance, which could last between four and six weeks on average and generally takes place in the spring and fall, could have 200 to 1,000 additional workers on-site.

Employees who enter the production units must always wear their personal protective equipment which includes an emergency escape mouth-bit respirator, safety footwear, a safety helmet, hearing protection, safety gloves, and goggles, as well as fire-resistant Nomex clothing.
We regularly monitor the sound levels coming from the different units at the Montreal refinery to detect anomalies and take action to reduce the sound levels generated.

The refining process

A petroleum refinery is a processing plant that uses crude oil and other raw materials as feedstock to produce a wide range of refined products. The refined product blends vary according to the processing units. These units have one of the following three functions:

1. Separating the various types of hydrocarbons that can be used as feedstock for the units located downstream
2. Transforming the chemical structure of the petroleum fractions, which are modified to manufacture value-added products
3. Removing the undesirable components and contaminants such as sulphur, nitrogen and metals

The Montreal refinery manufactures mainly gasoline and distillate (diesel) fuels, but also asphalt and petrochemical products (used in the polyester chain). It covers an area equivalent to that of 450 football fields. It encompasses 1,600 km of piping and over 2,000 pieces of equipment (distillation towers, heat exchangers, reactors, pumps, and compressors) that together form a complex production facility with an average capacity of 137,000 barrels per day.
Safety first at Suncor

The refinery works to continuously maintain safe and reliable operations. We embrace our Journey to Zero, which is Suncor’s vision for creating a culture of safety, at work and everywhere else, that is shared by every Suncor employee and contractor. We work closely with the various government agencies.

**EMPLOYEE SKILLS**

- Qualified personnel, who benefit from continuous training, ensures the operation and maintenance of the equipment.
- A multidisciplinary team comprised of engineers and technologists ensures rigorous monitoring of operations and systematic management of changes, including compliance with the Operational Excellence Management System (OEMS).

**OTHER MEASURES IN PLACE**

- Inspection and preventive maintenance programs to assist in the rigorous monitoring of equipment
- Inspection and auditing of processes and systems
- Systems for continuous, computer-assisted control and monitoring of operations
- Safe work permit systems
- Emergency plan validated through regular drills
- Marine spill plan coordinated with specialized teams

Emergency response equipment is located on the premises:
The refinery has its own fire hall, its own fire trucks and highly qualified and trained fire-fighting personnel, a network of fire hydrants, a fire fighting foam inventory, fire detection systems, and spill response equipment. We work closely with the neighbouring industrial plants and the various government agencies regarding safety matters.

Safe transportation of our products

**PIPELINES**
Most of the crude oil comes from North America and is delivered to the Montreal refinery through several channels, including Enbridge’s Line 9B pipeline.

Certain finished products are shipped to Ontario through the Trans-Northern Pipeline.

**MARINE VESSELS**
The Montreal refinery has a marine dock that allows it to ship finished products or to receive petroleum products, and occasionally crude oil.

**TRAINS**
The Montreal refinery has access to railway docks located at the refinery and at ParaChem’s plant in Montreal East.

**TRUCKS**
A large volume of gasoline and diesel fuel is loaded into trucks. Each day on average, 250 tank trucks come to the facility to load supplies.
Sustainability

For many years, the Suncor Montreal refinery has reduced its environmental footprint:

- 40% reduction in greenhouse gases (GHG) intensity compared to 1990.
- 102 kilotonnes (kt) CO₂ reduction in GHG thanks to the projects implemented between 2010 and 2015, which is equivalent to removing 30,000 cars from the road.
- Reduction of air emissions by 70% for SO₂, 35% for NOₓ and 53% for VOCs from 2007 to 2014, as measured by the sampling station located east of the refinery.

The refinery uses renewable components in its products:

- 10% ethanol is added to gasoline.
- 4% renewable diesel is added to the diesel supplied to Ontario. Renewable diesel requirement could be applicable to Quebec by 2020.
- Suncor and its partners are involved in four operational wind power facilities in Alberta, Saskatchewan and Ontario.

Environmental protection

The Suncor Montreal refinery complies with more than 280 federal and provincial regulations and municipal by-laws concerning environment issue. Audits have been performed every year since 2004 to maintain our international environmental certification, ISO 14001. We also take part in the Cap and Trade system.

The water we use daily to cool our processing units comes from the St. Lawrence River. It is used in a closed-loop system before being returned to the river. It circulates through a three-stage water treatment plant that uses mechanical, chemical and bacteriological processes. We eliminate the impurities that the water collects as it flows through our units. Before effluents are released, they are analyzed to ensure that they comply with the strict requirements of Suncor and regulatory authorities.

The odours that are sometimes associated with the operation of a refinery are generally due to the emission of sulphur-containing compounds.

Excess gases produced during refining are reused in the process or burned in a safe and controlled manner at the top of the flare stack. This is done in compliance with all environmental requirements. Finally, all gases, including liquefied petroleum gases, undergo a treatment to eliminate sulphur.

Suncor is engaged in the transition toward a lower-carbon-footprint economy and in the fight against climate change. Sustainable development is an integral part of Suncor's vision and mission. It must include three components: economic prosperity; the well-being of the community; and a healthy environment.

“Our mission is to create energy for a better world.”
Scholarship Program

The Suncor Montreal Scholarship Program was established in 2009. Through this initiative, Suncor aims to help broaden access to a Diplôme d’Études Collégiales (DEC) in Techniques de procédés chimiques (chemical process techniques) at Collège de Maisonneuve to a larger number of students from secondary schools of Montreal’s East End community who wish to pursue studies in industrial chemical processes. The program has allowed numerous students from the Pointe-aux-Trembles and Daniel-Johnson secondary schools to distinguish themselves as laureates. In 2017, the program was also offered to students of Collège St-Jean-Vianney in Pointe-aux-Trembles and Calixa-Lavallée secondary school in Montreal North.

Eight scholarships of $2,000 are awarded annually, two per participating school. The scholarships offered cover tuition fees and the purchase of books, educational materials and safety equipment. At the end of their training, scholarship holders may complete their traineeship at the Suncor Montreal refinery. Once they have completed their studies, in accordance with the conditions set out by Suncor.

In the second year of their participation in the program, scholarship recipients receive the additional sum of $500 to purchase a laptop computer.

Suncor’s Chemical Process Techniques Scholarship Program is conducted in partnership with Collège de Maisonneuve, the Fondation du Collège de Maisonneuve and the participating secondary schools.

Working with our neighbours

The Suncor Montreal refinery established the Montreal Suncor Citizens Liaison Committee in 2006. It is composed of four to six residents of neighbourhoods surrounding the refinery and four Suncor employees, including the vice-president of the Montreal refinery. Its role is to establish and maintain communications between local residents and Suncor regarding the refinery’s operations and their potential impact on the community.

The Liaison Committee’s responsibilities include to raise the questions, the concerns and the interests of the community with respect to Suncor’s operations and discuss them; maintain a link between the community and Suncor; help Suncor manage enquiries and complaints; ensure the follow-up of enquiries by the community; help Suncor inform the community regarding the activities and projects planned, the anticipated impacts and the mitigation measures; and review on a regular basis the environmental and safety performance of the refinery.

Each year, Suncor employees in Montreal invest many hours of volunteering to encourage their colleagues and our subcontractor’s employees to financially support United Way of Greater Montreal through various events such as Suncor’s Défi-Actif.
Building blocks of Aboriginal business development

We work with Aboriginal communities across Canada to increase their participation in energy development. One of the ways we do this is through Aboriginal business development opportunities. Suncor has worked with more than 150 Aboriginal communities, including the Regional Municipality of Wood Buffalo, home to our oil sands operations, and other locations through our Petro-Canada branded retail, wholesale, and services.

In Quebec, in November, 2017, Suncor purchased a 41 per cent equity interest in PetroNor, a petroleum products distributor across the James Bay and Abitibi-Témiscamingue regions of Quebec. Owned and operated by the James Bay Cree Nation, PetroNor services commercial, industrial, aviation, mining, and residential clients.

As part of the agreement, under our Petro-Canada brand, we will continue to supply PetroNor on an exclusive basis with fuel and distillate delivered from our Montreal refinery to the northwest Quebec region.

This partnership is another example of strengthening relationships in the communities where we operate.

Supporting our community

The Montreal refinery’s contributions to the community are made primarily through the Suncor Energy Foundation (SEF), a private, non-profit, charitable foundation established by Suncor in 1998 to receive Suncor’s contributions and support Canadian charitable organizations.

Since the inception of the Suncor Energy Foundation, Suncor and the SEF have contributed nearly $300 million.

The SunCares employee program, supported by Suncor and the SEF, is a community engagement program to inspire Suncor employee and retirees to contribute to social well-being, support the causes that are important to them, and help us all work together to strengthen our communities and create energy for a better world. Our employee’s community engagement is supported by the SunCares Community Giving Network which is an employee-driven, year-round network rooted in employee choice and participation. Employees receive SunCares Rewards for every hour volunteered, which can then be donated to charitable organizations of their choice.

SEF and the Montreal refinery are key partners with a number of local community organizations.
Suncor Montreal refinery
11 701 Sherbrooke Street East, Montreal, Quebec  H1B 1C3
Telephone: 514-640-8000
Email: raffineriemontreal@suncor.com
www.suncor.com

A member of Dow Jones Sustainability indexes, FTSE4Good and CDP, Suncor is working to responsibly develop petroleum resources while also growing a renewable energy portfolio. Suncor is listed on the UN Global Compact 100 stock index.