Environmental Assessment Report 2023

Air Quality In Montréal
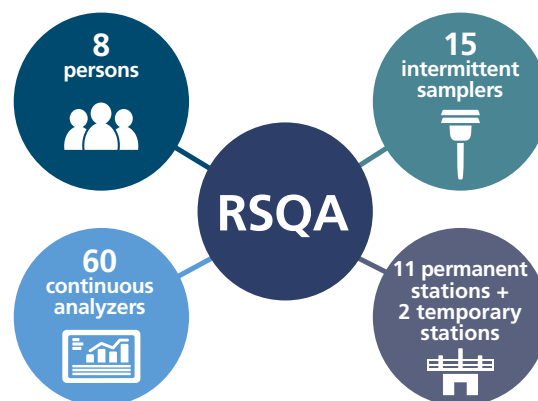
Service de l'environnement

Air quality monitoring
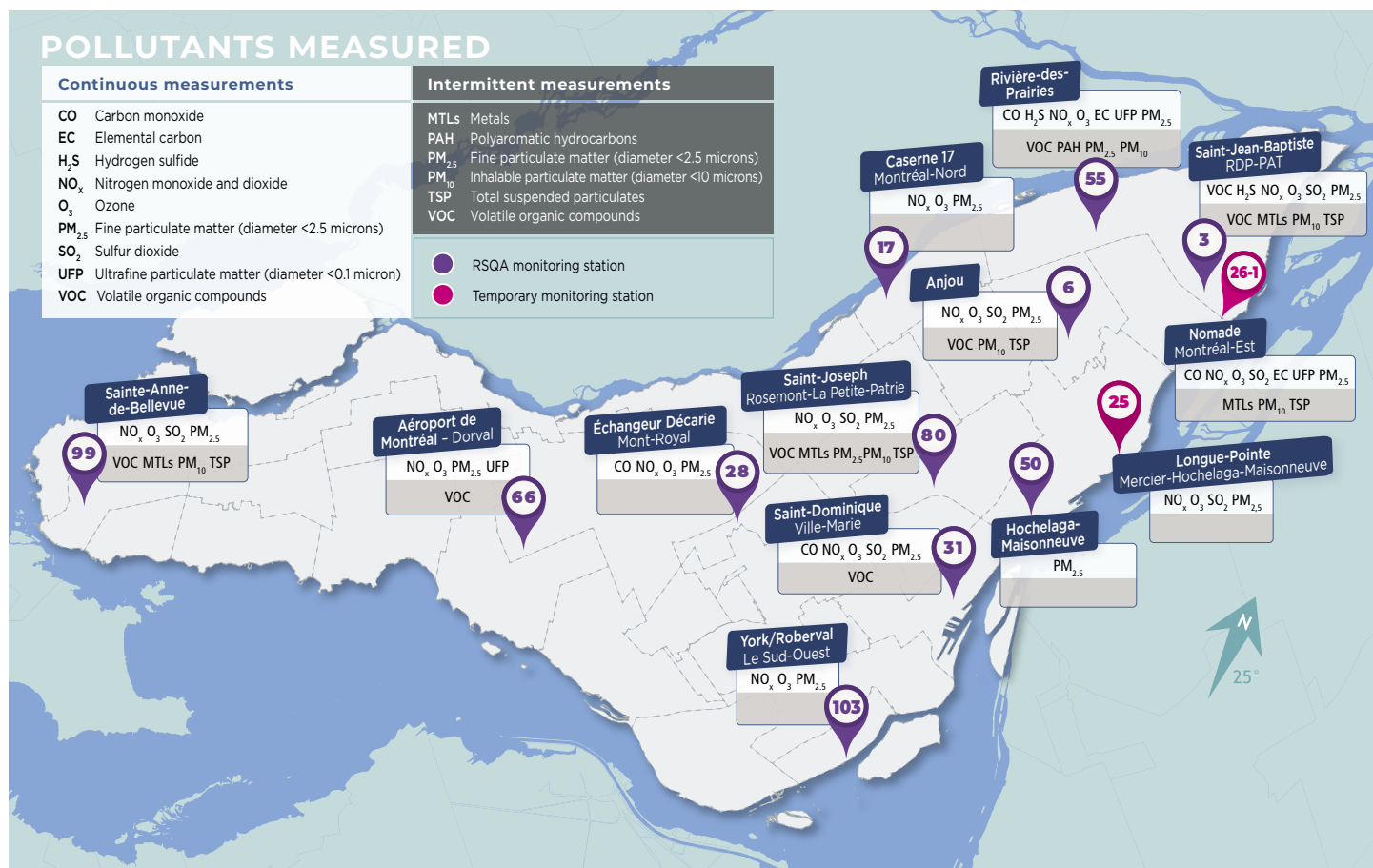
An overview of the network

The Réseau de surveillance de la qualité de l'air (RSQA) was integrated within the National Air Pollution Surveillance (NAPS) program 55 years ago. This program is managed by Environment and Climate Change Canada (ECCC). The objective of each of the program's networks is to provide a long term register of reliable, defendable and easily accessible data by following the Ambient Air Monitoring and Quality Assurance/Quality Control guidelines.

As such, each year, any equipment that has reached the end of its useful life according to the guidelines is replaced. In 2023, the replacement of measuring instruments focused on fine particles, the Sharp 5030 analyzers being progressively replaced by Teledyne T640 instruments.

A technical team composed of eight persons oversees the maintenance of the equipment, the measurement accuracy of the instruments and the validation process of the numerous results collected. All of the data, once validated, are accessible on the RSQA's open data site.

8 persons

15 intermittent samplers

RSQA

60 continuous analyzers

11 permanent stations + 2 temporary stations

Map of permanent and temporary stations

POLLUTANTS MEASURED

Continuous measurements

CO	Carbon monoxide
EC	Elemental carbon
H_2S	Hydrogen sulfide
NO_x	Nitrogen monoxide and dioxide
O_3	Ozone
$PM_{2.5}$	Fine particulate matter (diameter <2.5 microns)
SO_2	Sulfur dioxide
UFP	Ultrafine particulate matter (diameter <0.1 micron)
VOC	Volatile organic compounds

Intermittent measurements

MTLs	Metals
PAH	Polyaromatic hydrocarbons
$PM_{2.5}$	Fine particulate matter (diameter <2.5 microns)
PM_{10}	Inhalable particulate matter (diameter <10 microns)
TSP	Total suspended particulates
VOC	Volatile organic compounds

- RSQA monitoring station
- Temporary monitoring station

Rivière-des-Prairies
CO H_2S NO_x O_3 EC UFP $PM_{2.5}$
VOC PAH $PM_{2.5}$ PM_{10}
55

Saint-Jean-Baptiste RDP-PAT
VOC H_2S NO_x O_3 SO_2 $PM_{2.5}$
VOC MTLs PM_{10} TSP
3

Caserne 17 Montréal-Nord
NO_x O_3 $PM_{2.5}$
17

26-1

Anjou
NO_x O_3 SO_2 $PM_{2.5}$
VOC PM_{10} TSP
6

Nomade Montréal-Est
CO NO_x O_3 SO_2 EC UFP $PM_{2.5}$
MTLs PM_{10} TSP

Saint-Anne-de-Bellevue
NO_x O_3 SO_2 $PM_{2.5}$
VOC MTLs PM_{10} TSP
99

Saint-Joseph Rosemont-La Petite-Patrie
NO_x O_3 SO_2 $PM_{2.5}$
VOC MTLs $PM_{2.5}$ PM_{10} TSP
80

25

Longue-Pointe Mercier-Hochelaga-Maisonneuve
NO_x O_3 SO_2 $PM_{2.5}$

Aéroport de Montréal – Dorval
NO_x O_3 $PM_{2.5}$ UFP
VOC
66

Échangeur Décarie Mont-Royal
CO NO_x O_3 $PM_{2.5}$
28

Saint-Dominique Ville-Marie
CO NO_x O_3 SO_2 $PM_{2.5}$
VOC
31

Hochelaga-Maisonneuve
$PM_{2.5}$
50

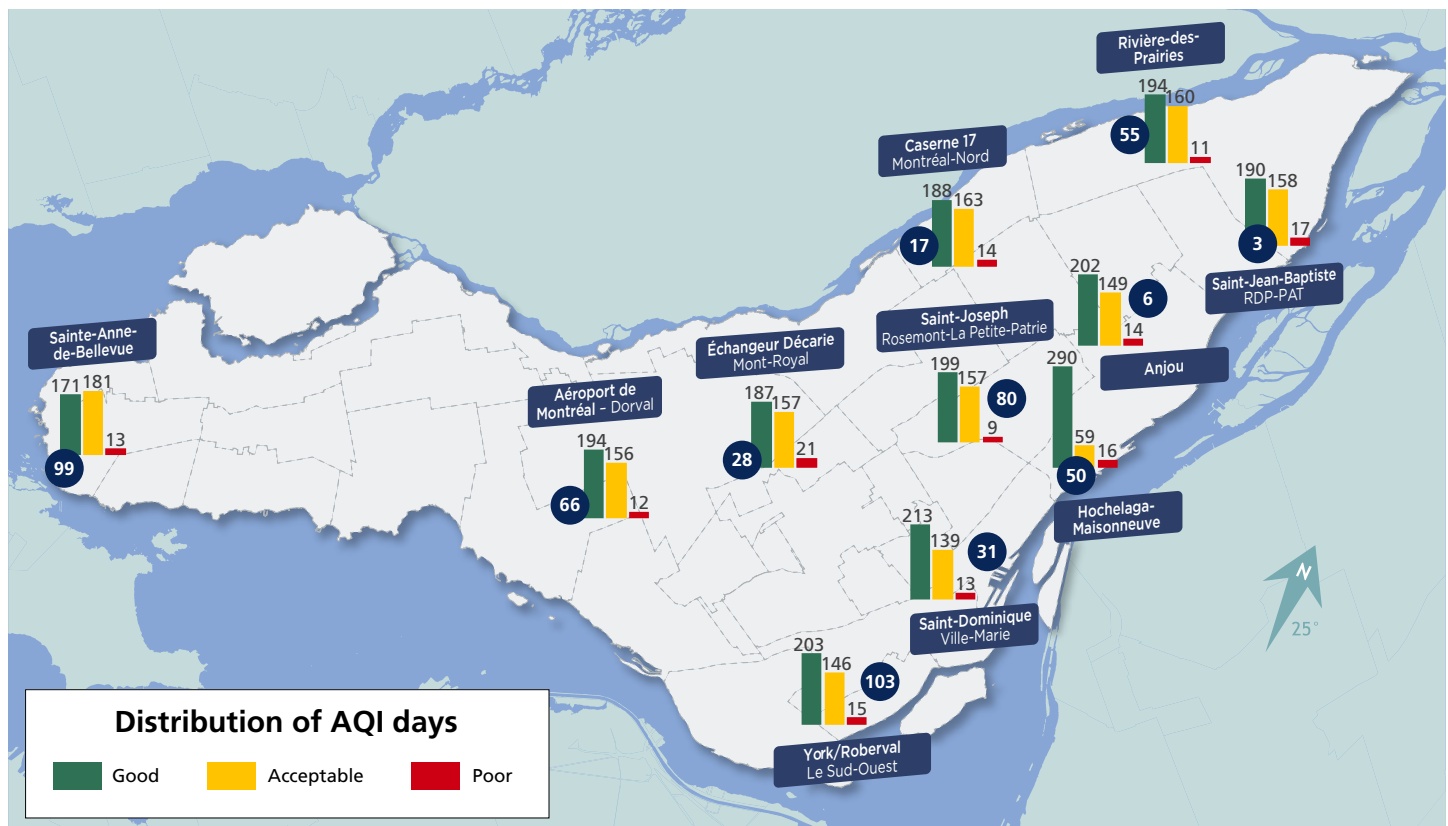**York/Roberval** Le Sud-Ouest
NO_x O_3 $PM_{2.5}$
103

25°

Air Quality Indexes (AQI) by station

Did you know that the stations closest to sources of human activities are those where poor air quality days are the most frequent? Here are a few examples of factors responsible for poor air quality days in Montréal in 2023:

- Station 3: the Montréal East-End industries and the bitumen reservoir fire;
- Station 17: the Montréal-Nord transit yard workshops;
- Stations 28 and 103: the traffic on highways;
- Station 31: the fire at the Monastère du Bon-Pasteur;
- Station 50: the Port of Montréal activities, the traffic on Notre-Dame Est Boulevard and the La Ronde fireworks;
- Station 55: wood heating during the winter;
- and all stations: forest fires and other human activities local in scope.

Air quality index (AQI) by permanent monitoring station in 2023

Rivière-des-Prairies
55 — 194, 160, 11

Caserne 17 Montréal-Nord
17 — 188, 163, 14

Saint-Jean-Baptiste RDP-PAT
3 — 190, 158, 17

Saint-Joseph Rosemont-La Petite-Patrie
6 — 202, 149, 14

Anjou
80 — 199, 157, 9

Sainte-Anne-de-Bellevue
99 — 171, 181, 13

Échangeur Décarie Mont-Royal
28 — 187, 157, 21

Aéroport de Montréal – Dorval
66 — 194, 156, 12

Hochelaga-Maisonneuve
50 — 290, 59, 16

Saint-Dominique Ville-Marie
31 — 213, 139, 13

York/Roberval Le Sud-Ouest
103 — 203, 146, 15

Distribution of AQI days

- Good
- Acceptable
- Poor

3

Portrait of air quality

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Poor air quality days

Ville de Montréal measures its air quality using numeric values called an "air quality index (AQI)". The value 50 of this index corresponds to the acceptable upper limit for each of the pollutants measured, which value varies from one station to another. The hourly index recorded is the highest value of all sub-indexes calculated for each of the pollutants measured continuously at the RSQA stations: CO, NO_2, O_3, $PM_{2.5}$ and SO_2.
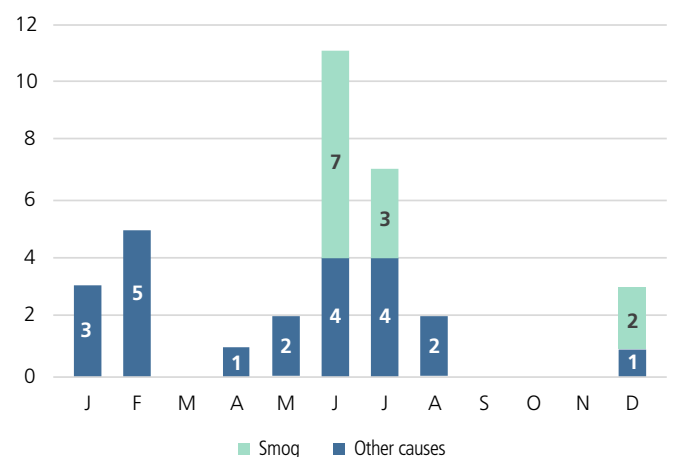
Good	Acceptable	Poor
0-25	>26-50	>51

The AQI was calculated for each of the 11 permanent stations for the year 2023. Overall, the AQI was predominantly good in a proportion of 55.6% i.e. 203 days over 365 days, acceptable in a proportion of 40.5% (148 days) and poor in a proportion of 3,9% (14 days).

In 2023, from 9 to 21 poor air quality days were recorded by station on the territory of Montréal

for a total of 34 days. Of this number, 12 days were deemed to be smog days. The pollutants responsible for these poor air quality days were fine particles (33) and both fine particles and ozone (1). Smog days were observed in June, July and December. There were no poor air quality days in March, September, October and November.

Poor air quality days per month in Montréal in 2023

Smog   Other causes

A historic season for forest fires

The majority of smog days observed in Montréal occurred in June and July (10) and were caused by the smoke of forest fires in Northern Québec. This was the most important forest fire season ever recorded in Québec. June was characterized by a particularly intense and early forest fire season. A drought and abnormally hot temperatures contributed to these episodes, exacerbated by climate changes[1]. Also, according to the Société de protection des forêts contre le feu (SOPFEU), a total of 566 forest fires decimated more than 1.1 million hectares in 2023, a seasonal record for Québec[2]. It's worthwhile mentioning that the average of hectares burned between 2012 and 2022 was 17,147 hectares, about 60 times less than the value for the 2023 season[3].

The total number of poor air quality days increased by one relative to 2022, but remains under the pre-COVID averages, some 40 days in each of 2018 and 2019. However, the number of smog days increased significantly and record numbers have been recorded since 2020. It should be pointed out that the number of smog days fluctuates from one year to another depending on weather conditions.

Poor air quality days per year in Montréal since 2017

A closely monitored smog episode

The smog episode of June 25 and 26, 2023 was the most significant ever measured by the RSQA in terms of the level of fine particle concentrations reached but not in terms of its duration. Indeed, in the past, some smog episodes had lasted over 3 to 4 consecutive days, but the concentrations of fine particles had never reached the levels of this smog episode, and this, ever since they have been measured continuously (1998).

The graph showing the variation in hourly concentrations of fine particles, obtained by computing the average of all stations, clearly reveals that these have reached record levels, being 5 to 6 times greater than the criterion of 35 µg/m^3 for 3 moving hours, the limit established to qualify a day as being a poor air quality day. For reference purposes, the average hourly concentrations of $PM_{2.5}$ for the same days in 2022 are represented by the orange line. At the worst time during the night, the results for $PM_{2.5}$ were up to 35 times greater than those of a normal day. These data well represent the impact of an event of this scope on concentrations of fine particles.

Variation in $PM_{2.5}$ average concentrations during the smog episodes of June 25 and 26, 2023 compared to 2022

1. https://spiral.imperial.ac.uk/bitstream/10044/1/105981/17/scientific%20report%20-%20Canada%20wildfires.pdf, accessed February 15, 2024.
2. https://sopfeu.qc.ca/communiques/bilan-de-la-saison-2023-une-saison-de-tous-les-records-pour-la-sopfeu/, accessed February 15, 2024.
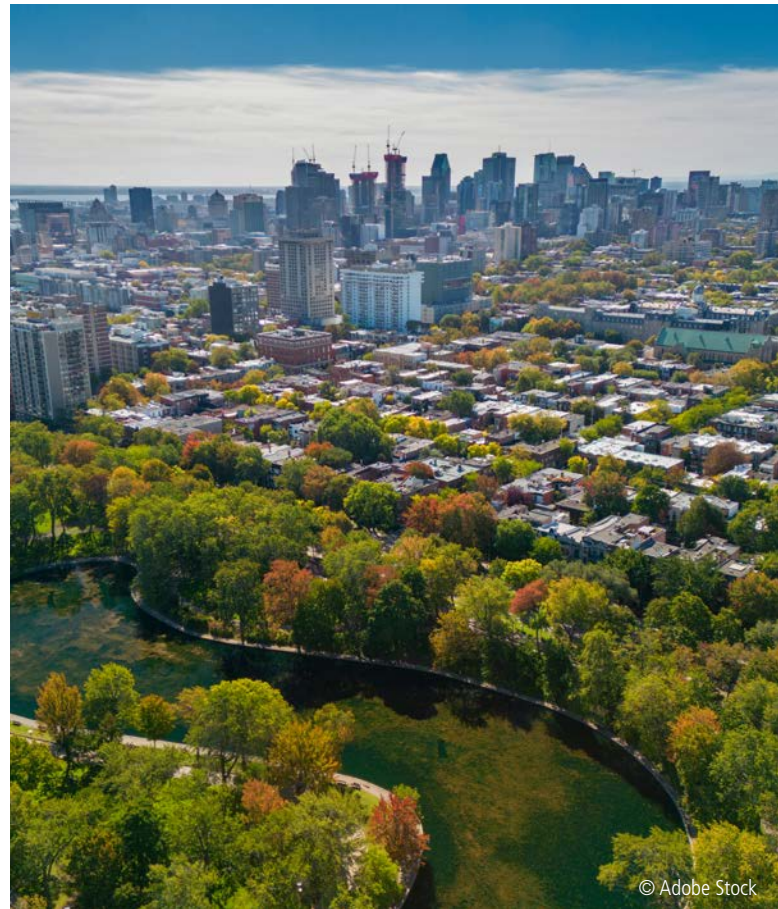3. https://sopfeu.qc.ca/statistiques/, accessed February 16, 2024.

Dossier on Fine particles

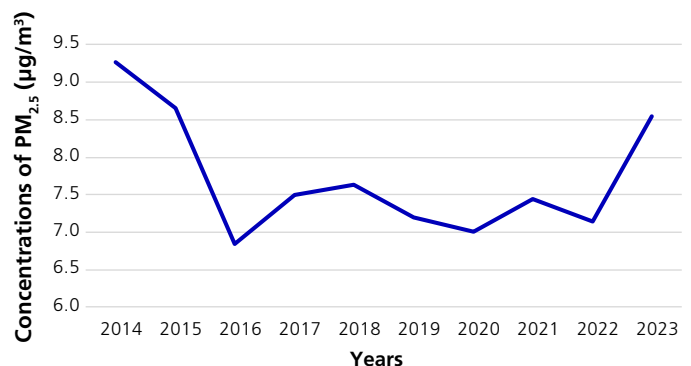## Evolution of fine particle concentrations in the ambient air

Fine particles have a diameter smaller than 2.5 micrometres (μm) and penetrate deeply into the respiratory system. These particles are either emitted directly into the atmosphere by various human and natural activities, and are then referred to as primary particles, or formed in the atmosphere from precursor particles, and are then referred to as secondary particles. Fine particles are complex pollutants because they are composed of a multitude of chemical species[4]. In addition to their adverse impacts on the environment and air quality, the International Agency for Research on Cancer of the World Health Organization established in 2013 that air pollution of the ambient air and fine particles were carcinogenic[5].

The average concentrations of $PM_{2.5}$ vary from one year to the next. These differences are partly due to the variations in emissions of precursor pollutants, the variations in weather conditions influencing their dispersion and the regional dispersal of $PM_{2.5}$ as well as the variations in the cross-border flows of pollution, mainly from the United States.

In Montréal, the annual average of fine particles ($PM_{2.5}$), which includes all RSQA stations, decreased significantly by 33% between 2014 and 2016 due, among other factors, to regulatory changes affecting fine particles by the U. S. Environmental Protection Agency (EPA) and the closing of many coal-fired thermal power stations in that country. Thereafter, the average fluctuated between 7.0 and 7.6 μg/m³ from 2017 to 2022. The impact of the historic season of forest fires was keenly felt in 2023, as the annual concentrations of $PM_{2.5}$ varied from 7.5 to 10.5 μg/m³ depending on the stations, thus explaining the increase in the island's annual average to 8.5 μg/m³. Nevertheless, this average for 2023 represents a decrease of 7.8% compared to the 2014 average of 9.3 μg/m³.

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Variation in the average of fine particles ($PM_{2.5}$) in Montréal 2014-2023

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4. https://www.epa.gov/pmcourse/what-particle-pollution, accessed February 16, 2024.

5. https://www.who.int/fr/news/item/22-09-2021-new-who-global-air-quality-guidelines-aim-to-save-millions-of-lives-from-air-pollution, accessed February 16, 2024.
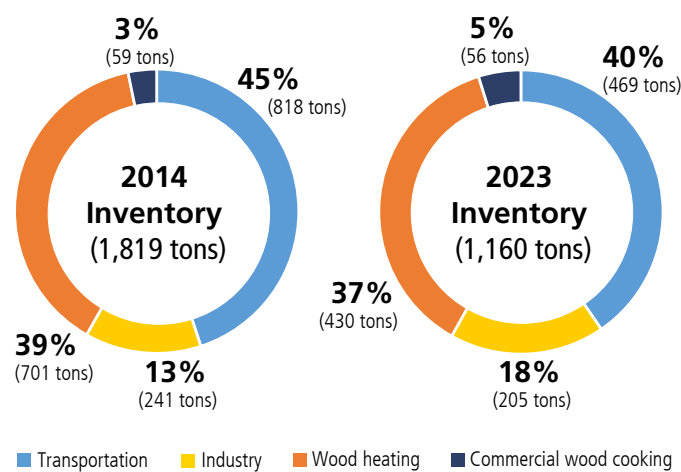
Inventory of emissions – Montréal

Based on various estimates and hypotheses, an inventory of fine particle emissions for the Montréal agglomeration was conducted in 2023 relative to the following activity sectors: transportation (air, rail, maritime, road), industry (e.g.: refineries, plating), residential home heating (fireplaces, stoves) and commercial cooking with wood stoves (pizza/bagel ovens). This inventory of $PM_{2.5}$ emissions in Montréal is an update of the exercise conducted in 2014 within the RSQA's air quality report. The same four activity sectors were considered in this update.

The updating of the inventory of $PM_{2.5}$ emissions for comparative purposes reveals that the transportation sector remains the largest emitter of $PM_{2.5}$ in the atmosphere in Montréal, with a contribution of 469 tons (40%), followed by the residential wood heating sector (430 tons, or 37%), the industrial sector (205 tons or 18%) and the commercial cooking sector relying on wood stoves (56 tons, or 5%). The results of these calculations show that the residential wood heating sector recorded a significant decrease of 39% in its $PM_{2.5}$ emissions (430 tons vs 701 tons). However, the emissions from this sector are still second only to those of the transportation sector.

$PM_{2.5}$ emissions by activity sector in Montréal

2014 Inventory (1,819 tons)
- 3% (59 tons)
- 45% (818 tons)
- 13% (241 tons)
- 39% (701 tons)

2023 Inventory (1,160 tons)
- 5% (56 tons)
- 40% (469 tons)
- 18% (205 tons)
- 37% (430 tons)

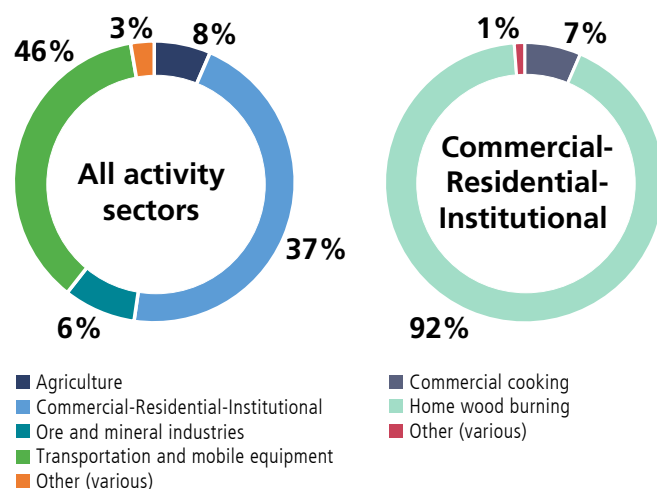■ Transportation ■ Industry ■ Wood heating ■ Commercial wood cooking

The data bases used to determine the estimates were mainly sourced from Environment and Climate Change Canada (ECCC), more specifically from the data in Canada's Air Pollutant Emission Inventory (APEI). In this regard, the decrease in the total $PM_{2.5}$ emissions between the 2014 and 2023 inventories must be interpreted cautiously, since it is mainly due to changes in the methods of calculation by ECCC of the source data in the transportation sector rather than an actual decrease of emissions in that sector. However, we believe that the decrease in the wood heating sector is related to the implementation of Ville de Montréal's By-law 15-069 concerning solid-fuel-burning devices and fireplaces.

Although a significant decrease can be observed in terms of total $PM_{2.5}$ emissions, i.e. 36% from 2014 to 2023, the proportion associated with each sector has hardly changed between 2014 and 2023.

Even though commercial cooking on grills or plates (regardless of the fuel used) represents a significant proportion of atmospheric emissions of $PM_{2.5}$ according to the APEI's annual reports, this activity sector had not been considered, due to a shortage of data, in the inventory presented in 2014. According to the definition used by the APEI, commercial cooking refers to cooking meat and french fries in commercial food service operations on grills or trays (for. ex.: grills with a chain conveyor, under-fired grills and baking trays with flaps). It is worthwhile mentioning that according to the APEI's definition of commercial cooking, this sector does not include wood stoves.

In 2019, the APEI's data showed that $PM_{2.5}$ emissions mainly derived from commercial cooking activities in Québec contributed about 7% of the total emissions of $PM_{2.5}$ of the "commercial-residential-institutional"sector, thus representing about 3,000 tons of $PM_{2.5}$ emissions. As shown in the following figure, 37% of the total $PM_{2.5}$ emissions in Québec are derived from the "commercial-residential-institutional" sector, thus representing a significant proportion of all $PM_{2.5}$ emissions and again, the contribution by the commercial cooking on grills/trays sub-sector is significant (7%).

Emission of fine particles in Québec in 2019

All activity sectors

46% 3% 8% 37% 6%

Commercial-Residential-Institutional

1% 7% 92%

- ■ Agriculture
- ■ Commercial-Residential-Institutional
- ■ Ore and mineral industries
- ■ Transportation and mobile equipment
- ■ Other (various)
- ■ Commercial cooking
- ■ Home wood burning
- ■ Other (various)

In terms of regulations dealing with air quality, in 2020, plans were afoot to regulate the sector of commercial wood stoves, such as pizzerias and bagel shops, but the draft regulation was suspended owing to the impacts of the COVID-19 pandemic on the sector.

Since then, the work was resumed to regulate this sector given the important local nuisances associated with its activities. The City's Service de l'environnement also pursued its reflections in order to identify the best measures to regulate the existing commercial grills and wood stoves.

Ultrafine particles in Canada

Ville de Montréal's RSQA is now equipped with three ultrafine particle (UFP) analyzers. The one located at station 55-Rivière-des-Prairies was the first installed in the fall of 2020 to assess concentrations in residential neighborhoods influenced, among other factors,

by wood heating. The annual UFP averages at this station varied between 7,164 particles/cm^3 (2023) and 7,629 particles/cm^3 (2021), which represents a decrease of 6% from 2021 to 2023.
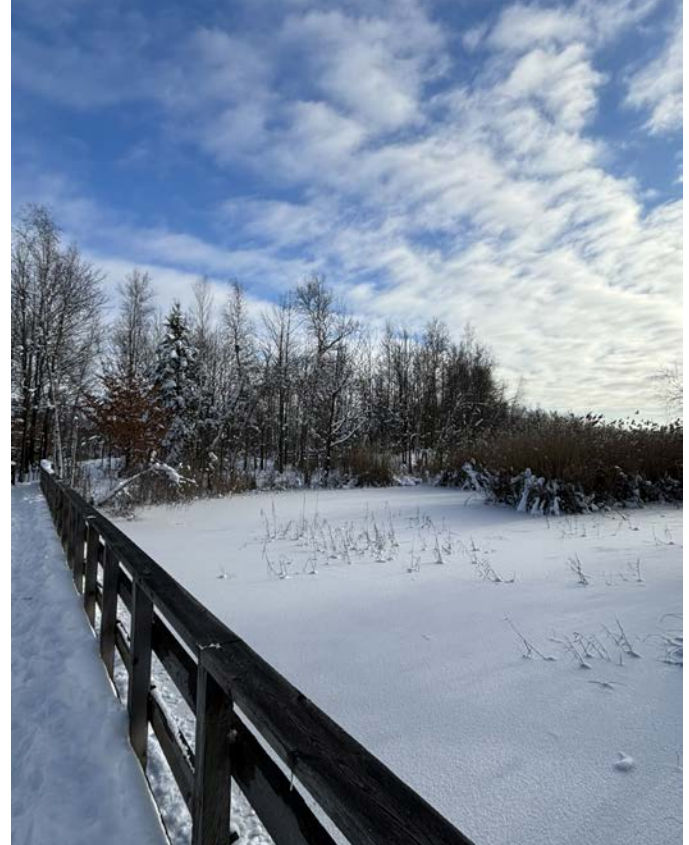
In order to expand the measure of this pollutant, two new UFP analyzers were installed: one at station 66-Aéroport de Montréal and the other at station 26-1-Nomadic, temporarily located in Montréal-Est. This allows for the assessment of concentrations at a station influenced by air traffic and the other in a residential setting influenced by an industrial environment.

The continuous measurement of ultrafine particles is rather recent and not too prevalent in air quality monitoring networks. In Canada, there are only nine such analyzers, five of which are located in Québec. Of these, three are operated by the RSQA and two by the ministère de l'Environnement et de la Lutte contre les changements climatiques de la faune et des parcs (MELCCFP). An instrument of this type can also be found in Vancouver, British Columbia, and is operated by Metro Vancouver (MV) whereas the last three are located in Ontario and managed by the Ministry of the Environment, Conservation and Parks. It should be noted that the MELCCFP's UFP analyzers and those of other provinces are provided by the NAPS program and are part of near-road stations that measure the impact of road traffic. The RSQA is now working on the installation of a future near-road station in the borough of St-Laurent alongside Autoroute 13 with a gradual commissioning scheduled for the autumn of 2024.
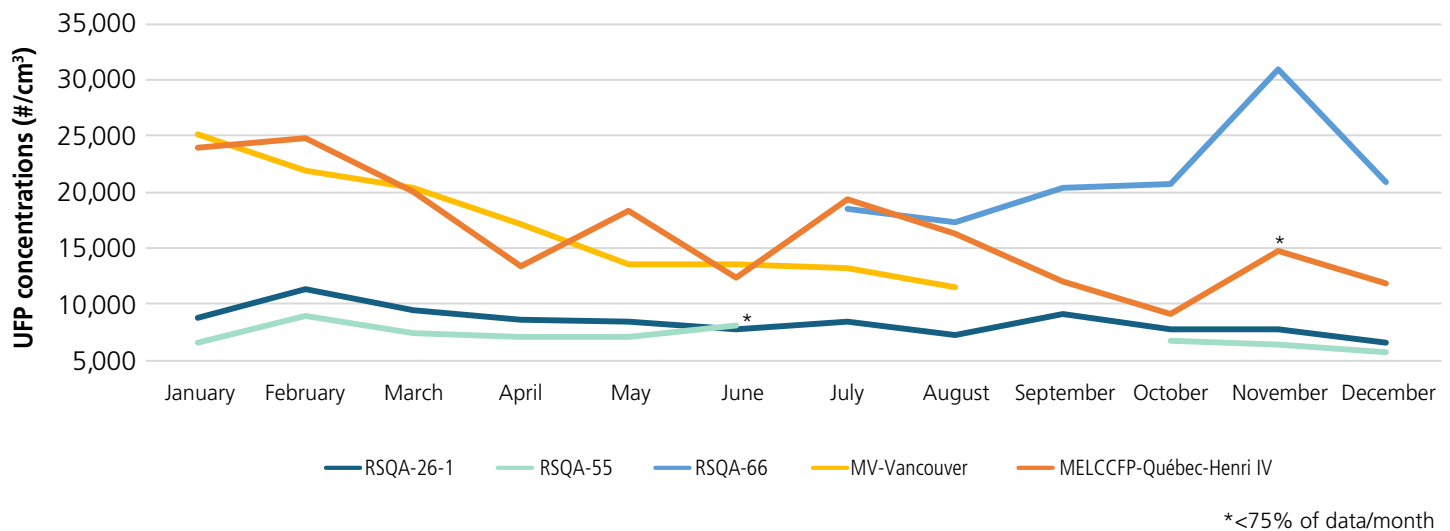
Ultrafine particles are measured relative to their numbers in the atmosphere and expressed in particles per cubic centimetre (#/cm^3), contrary to larger particles that are measured relative to their mass and expressed in micrograms per cubic metre (µg/m^3). Unlike other particles, ultrafine particles are not regulated, because they are considered to be emerging pollutants. The RSQA continues to contribute to the eventual elaboration of a future regulation of these particles.

Moreover, UFP are hard to monitor using the existing air quality monitoring technologies. The continuous measurement instruments for UFP must be sent to the United States for an annual calibration and require a specific maintenance, as they are prone to many problems, thus impacting the quantity of data available in a given year. Indeed, no data were collected during a few months at the two RSQA stations as well as at the Metro Vancouver station in 2023.

The graph below shows the monthly concentrations in Canada for the year 2023. It should be noted that one of the MELCCFP's instruments was unavailable for any sampling in 2023, namely that instrument located at the Québec-Collège St-Charles-Garnier station which is being relocated. Also, Ville de Montréal was unable to obtain any UFP results from Ontario.

Monthly ultrafine particle concentrations in Canada in 2023

*<75% of data/month

UFP concentrations at stations RSQA-26-1 and RSQA-55, in a residential neighborhood, are much lower (6,000 and 11,000 particles/cm³) than those at near-road stations in Québec City (MELCCFP-Québec-Henri IV) and Vancouver (MV-Clark Dr.) which vary from 9,000 to 25,000 particles/cm³ per month. The concentrations at the two near-road stations are quite similar for the months of January to August and depend on the road traffic. The station influenced by air traffic (RSQA-66), with values fluctuating between 17,000 and 31,000 particles/cm³, shows concentrations greater than those measured elsewhere. The results are representative of those observed internationally and confirm that air traffic generates an increase in UFP levels near airports[6].

6. https://www.airparif.fr/actualite/2024/de-hauts-niveaux-de-particules-ultrafines-mesures-proximite-dun-aeroport, accessed March 13, 2024.

Canadian Ambient Air Quality Standards (CAAQS)

The CAAQS deal with fine particulate matter (PM$_{2.5}$), ozone (O$_3$), sulfur dioxide (SO$_2$) and nitrogen dioxide (NO$_2$). The CAAQS are used for reference purposes only, because, while the province of Québec supports the objectives of the Air Quality Management System (AQMS) put forth by the Canadian Council of Ministers of the Environment (CCME), the province has its own air quality standards covered by Bylaw 2001-10 of the Communauté métropolitaine de Montréal (CMM) for the Agglomeration of Montréal and the Règlement sur l'assainissement de l'atmosphère in the rest of the province.

Within the framework of the following comparative exercise, the averages are computed using the data of all RSQA stations. These data are presented in micrograms per cubic metre (µg/m³) or in parts per billion (ppb).

An analysis of the results since 2017 reveals a stability in the 3-year averages of the annual 98th percentile of PM$_{2.5}$ at around 20 µg/m³. The historical season of forest fires has had an impact on the 3-year average of the average annual concentrations which increased from 7.2 to 7.7 µg/m³, but still remained below the standard of 8.8 µg/m³ set in 2020. Although the average of the RSQA stations is less than the CAAQS, two stations heavily influenced by road traffic showed 3-year averages that exceeded this criterion in 2021-2023 (stations 28 and 103). The 2030 standards for fine particulate matter are being studied and the CCME expects to announce them by the summer of 2025.

Fine Particulate Matter (PM$_{2.5}$) Concentrations Expressed in µg/m³

3-year average of the annual 98th percentile of the daily 24-hour average concentrations Standard = 28 in 2015 and 27 in 2020				
2017-2019	2018-2020	2019-2021	2020-2022	2021-2023
20	20	20	20	21

3-year average of the annual average concentrations Standard = 10 in 2015 and 8.8 in 2020				
2017-2019	2018-2020	2019-2021	2020-2022	2021-2023
7.4	7.3	7.2	7.2	7.7

Although the average of the stations for ozone concentrations recorded on the Island of Montréal is lower than the 2025 standard of 60 ppb, two stations exceeded this criterion with a 3-year average of 61 ppb (stations 80 and 99). The trend for O$_3$ shows a slight increase with 3-year averages fluctuating between 54 and 58 ppb from 2017 to 2023.

The summer of 2023 featured many periods of high temperatures. Indeed, it set a record as the hottest summer in Québec over the last 104 years. The formation of ozone being closely related to the action of the rays of light on certain precursor pollutants present in the ambient air, a hot summer is thus conducive to high concentrations of ozone. Although ozone concentrations are compliant with the Canada-wide standard in a majority of stations, this pollutant must nevertheless be carefully monitored.

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7. https://www.environnement.gouv.qc.ca/climat/Faits-saillants/2023/ete.htm, accessed March 1, 2024.

Ozone (O₃) Concentrations
Expressed in ppb

3-year average of the annual 4th highest daily maximum 8-hour average concentrations Standard = 62 in 2020 and 60 in 2025				
2017-2019	2018-2020	2019-2021	2020-2022	2021-2023
55	54	55	56	58

The results for SO_2 are compliant with the 2025 standards and rather stable, their averages showing little variations in recent years. Moreover, none of the stations has exceeded the standard on an individual basis.

Sulfur Dioxide (SO₂) Concentrations
Expressed in ppb

3-year average of the annual 99th percentile of the daily maximum 1-hour average concentrations Standard = 70 in 2020 and 65 in 2025				
2017-2019	2018-2020	2019-2021	2020-2022	2021-2023
17	16	16	14	15

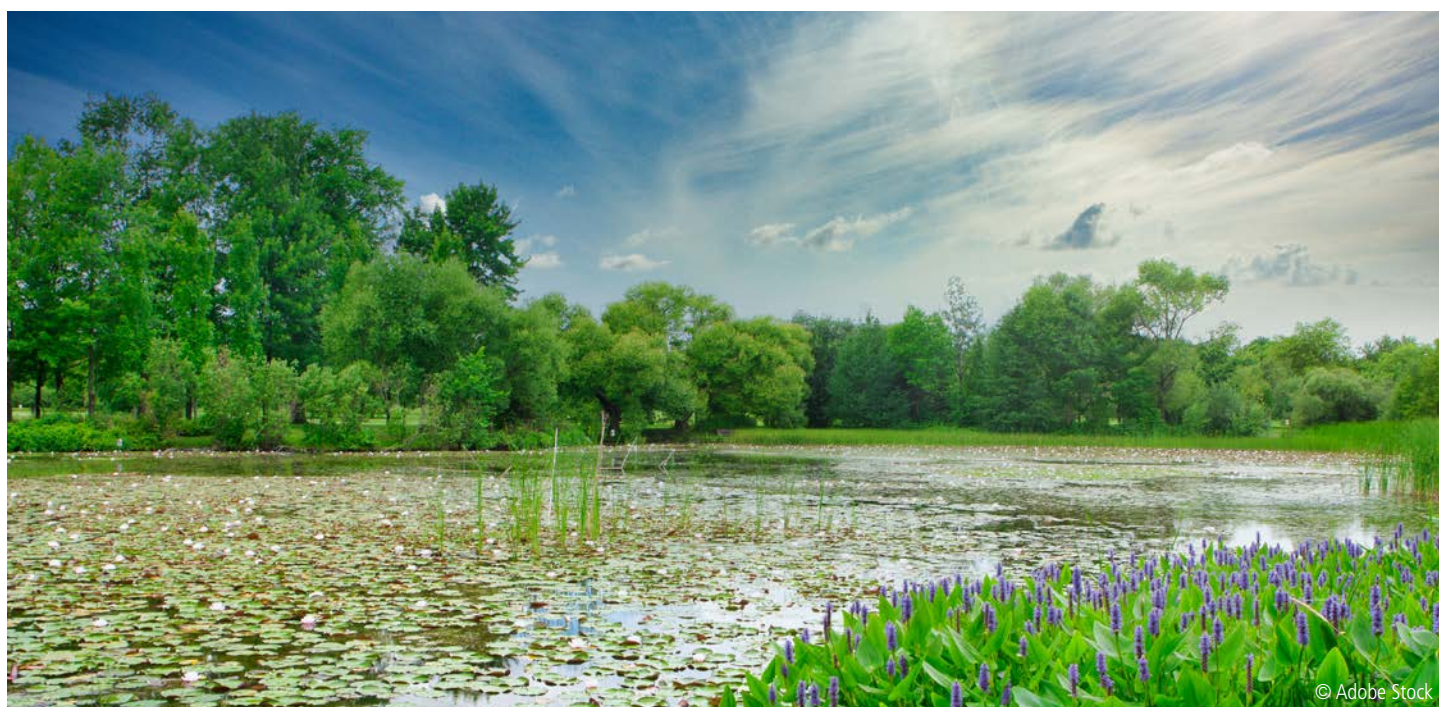| Arithmetic average over a single calendar year of all 1-hour average concentrations Standard = 5 in 2020 and 4 in 2025				
2019	2020	2021	2022	2023
0.5	0.4	0.4	0.5	0.4

The 3-year averages for NO_2 show a slight downward trend. The average concentrations of 41 ppb recorded for all RSQA stations are just below the 2025 standard. However, stations 28 and 66, at respectively 49 and 46 ppb, exceeded this standard. As far as the annual averages are concerned, they have varied from 8.0 to 8.5 ppb since 2020 and comply with the standard of 12 ppb for 2025, although the average computed for station 28 exceeds this standard (13.0 ppb).

Nitrogen dioxide (NO₂) Concentrations
Expressed in ppb

3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations Standard = 60 in 2020 and 42 in 2025				
2017-2019	2018-2020	2019-2021	2020-2022	2021-2023
46	44	43	42	41

Arithmetic average over a single calendar year of all 1-hour average concentrations Standard = 17 in 2020 and 12 in 2025				
2019	2020	2021	2022	2023
9.1	8.4	8.0	8.5	8.0

For further information on air zones and regional airsheds and compliance with the CAAQS in Québec, please consult the documentation available on the Web sites of the MELCCFP and CCME.

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Microsensors

• **What is a microsensor?**

It's a miniaturized sensor allowing for the measurement of compounds present in the air but with a high degree of uncertainty.

Conversely, the sensors used by the RSQA measure them very accurately. Consequently, the RSQA's instruments can be used to calibrate microsensors.

• **What is the difference with a monitoring station?**

A monitoring station is equipped with a range of instruments to analyze the quality of the ambient air.

• **Why is the RSQA interested by this technology?**

The technology, which is inexpensive and thus widely accessible, allows one to raise awareness among the general public about the complexity and importance of air quality monitoring.
The RSQA will assess the relevance of using this technology during special events (forest fires, etc.) as a first step.

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Micro and nanoplastics project

In September 2023, the RSQA concluded a research partnership with Université de Montréal in order to conduct an exploratory study over two years on airborne microplastics (MP) and nanoplastics (NP) over the territory of Montréal.

To attain their objective, four sub-objectives were identified:

1) Conduct a literature review on airborne MP/NP in urban settings. This review is intended to collect information on:

a) the sources of MP/NP, their concentrations, chemical compounds and particle sizes,

b) the apparatus used and sampling protocols of MP/NP as well

c) their health impacts on the population.

2) Perform outdoor air sampling of the MP/NP present on the territory of the island of Montréal. This sampling will be done in the RSQA's stations.

3) Characterize MP/NP in order to obtain a relevant assessment of the pollution of outdoor air in urban settings due to these contaminants.

4) Assess the use of an approach focusing on the oxidant potential to characterize the health impacts of the MP/NP collected.

The results of this research partnership will be communicated in upcoming reports.

First measurement campaign of the nomadic station

The nomadic station (26-1) was installed at the Jardins collectifs de Montréal-Est at the intersection of Victoria Street and Marien Avenue for its first measurement campaign. The station will be soon moved to a second location, 26-2, downtown near the St-Laurent Metro station.

A report and all of the data collected in the first location, 26-1, will be accessible on the open data portal before the end of 2024.

This station was commissioned in line with the recommendations of the committee formed by Ville de Montréal, the Direction régionale de santé publique de Montréal (DRSP), the Institut national de santé publique du Québec (INSPQ) and the Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP). Indeed, all of the committee's recommendations have been implemented except for that recommendation concerning the addition of a compact air quality monitoring station (multipollutants) East of the Louis-Hippolyte-La Fontaine Tunnel. After three attempts to install it in different locations, the commissioning of this station was delayed due to the complexity of the authorizations required for its electrical connection.

Measurement of metals

At the RSQA, the measurement of metals is done over a period of 24 hours every 6 days according to the NAPS calendar relative to particles of a size smaller than 10 µm sampled on filters.

In 2023, the results for 25 different metals were accessible on the open data site at three monitoring stations (3, 80 and 99). It is worthwhile mentioning that this year, there were fewer than 75% of valid samples following the transition to a new sampling technology. Indeed, the new equipment was installed in the late autumn for a start-up at the beginning of 2024. This equipment has the advantage of being automated and boasts a greater sampling capacity.

Interested by air quality?

Issue	Link
Air quality	https://montreal.ca/en/topics/air-quality
The ins and outs of an air quality station	https://montreal.ca/en/articles/ins-and-outs-air-quality-station-12026
Air quality in Montréal: most recent report	https://montreal.ca/en/articles/air-quality-montreal-2022-report-card-14887
Monitoring air quality in Montréal	https://montreal.ca/en/articles/monitoring-air-quality-montreal-8820
Air quality index (AQI)	https://experience.arcgis.com/experience/81905068380240fbb27407b3373eed9a
Summary page of the RSQA on the open data site	https://donnees.montreal.ca/dataset/?q=rsqa
Previous annual air quality reports	https://donnees.montreal.ca/dataset/rsqa-bilans-annuels-qualite-air
Report an environmentally harmful event	https://montreal.ca/en/how-to/report-environmentally-harmful-event
Health impact of air quality (Document by the Direction régionale de santé publique (DRSP) of the CIUSSS du Centre-Sud-de-l'Île-de-Montréal)	https://santemontreal.qc.ca/professionnels/drsp/publications/publication-description/publication/2380

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