Air Pollutant Emissions in Canada

1990-2019

(Note: This infographic poster presents data based upon latest publicly available secondary dataset on Statistics Canada Website)

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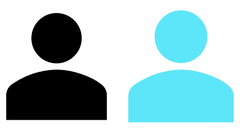
Deaths Due to Indoor and Outdoor Air Pollution

In 1990



1 in 2200

In 1999

1 in 2458

In 2019

1 in 4273

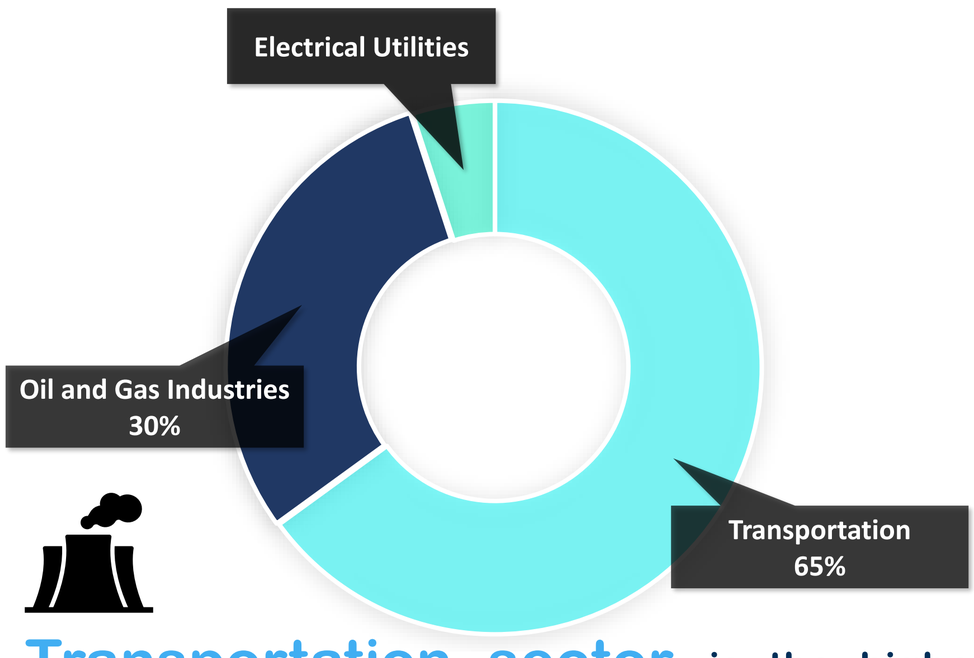
From 7 % in 1990, to 4 % in 2019, the death tally **decreased** by 3 %

Government Policy- CEPA, 1999

Government of Canada introduced the Canadian Environmental Protection Act (CEPA) to reduce air pollutants emissions in 1999.

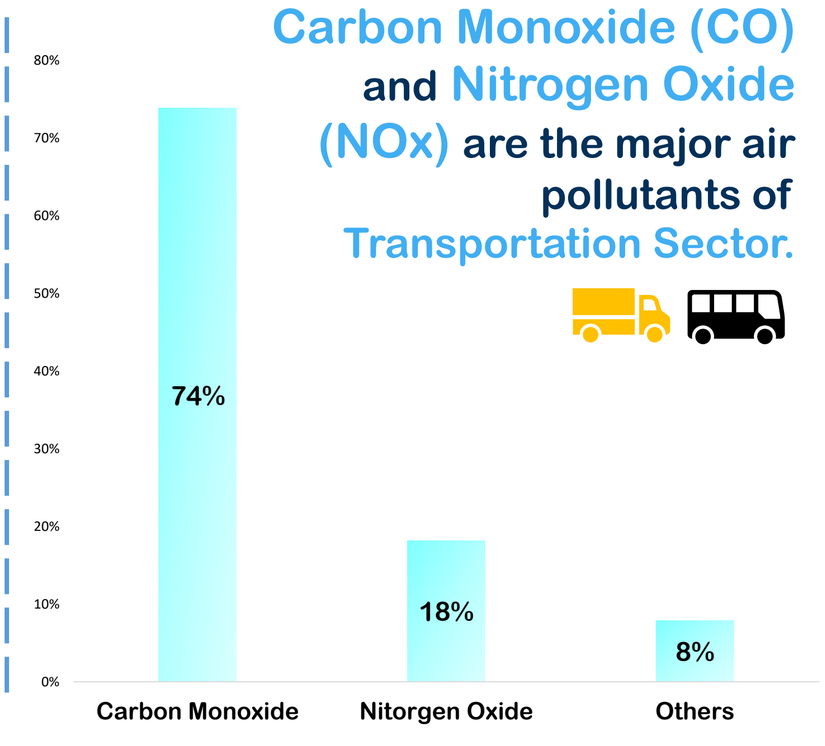
CEPA led to decrease of approximately 1.3% in 1999-2009.

Air Pollutant Emissions by Sectors in 2019



Transportation sector is the highest contributor of Air Pollutant Emissions with 65%.

Major Air Pollutant Emissions from Transportation Sector in 2019



Carbon Monoxide (CO) and Nitrogen Oxide (NOx) are the major air pollutants of Transportation Sector.

CO emissions from Transportation Sector are **10 times** more than that of Oil and Gas Industry.

NOx emissions from Transportation Sector are **3 times** more than that of Oil and Gas Industry.

Province and Territories Contribution towards CO and NOx in 2019

Top Contributors of Nitrogen Oxide (NOx) in 2019

1. Alberta 42%
2. Ontario 16 %
3. British Columbia 14 %

Top Contributors of Carbon Monoxide (CO) in 2019

1. Quebec 25%
2. Ontario 24 %
3. Alberta 21 %

Nitrogen Oxide (NOx) emissions within Alberta **INCREASED** from 33% in 1999 to 42 % in 2019.

Carbon Monoxide (CO) emissions within Quebec **INCREASED** from 19% in 1999 to 25 % in 2019.

How CO and NOx affect Canadians' health?

Chen et al (2021) stated that there was 1% increase in **Daily mortality rate** resulted due to an increase of an average of 1 mg/m^3 CO in the previous day.

Jerett et al (2009) stated that they saw a 40% increase in Cardiovascular mortality due to Nitrogen Dioxide (NO_2).

Bai et al (2021), confirmed that they observed a Positive Association between Nitrogen Dioxide (NO_2) and Congestive Heart Failure.

Impact of CEPA during 1999-2019

Areas of Positive Impact

Total CO emissions decreased by 50% and NOx emissions decreased by 40%.

In Transportation Sector, CO emissions decreased by 57 % and NOx emissions decreased by 51%

Areas for Improvement

CEPA was unable to reduce NOx emissions within Alberta and CO emissions within Quebec.

Recommendations to Control Carbon Monoxide (CO) & Nitrogen Oxide (NOx) Emissions

- Impose Strict regulation on the Province of Alberta, Ontario and British Columbia to reduce Nitrogen Oxide (NOx) emissions
- Impose Strict regulation on the Province of Quebec, Ontario and Alberta to reduce Carbon Monoxide (CO) emissions
- Strengthen the Canadian Environmental Protection Act (CEPA), 1999 specifically in the Transportation sector
- Incorporate Rebate programs to individuals and organizations for complying with CEPA, 1999
- Government should continue to promote Enticements for Zero-Emission Vehicles (iZEV) program.

Data Source and References

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