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Report for International Day of Clear Air for Blue Skies

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CANADA'S EFFORTS ON CLEAN AIR

In Canada air pollution is linked to an estimated 15,300 premature deaths every year. Non-fatal health outcomes include asthma and acute respiratory symptoms.

Sources of air pollution include forest fires, the use of fossil fuels in transportation and power generation, production of oil and gas, and certain products such as paints and solvents.

The increase in heat and lack of rain in some areas is drying the landscape and causing more forest fires. It has been particularly bad this summer with many large fires in British Columbia and Northern Ontario with the smoke travelling long distances.

Emissions of many air pollutants have generally declined in Canada over the past few years with the implementation of regulations, and the technological improvements of vehicles and industrial processes. For example, the amount of sulphur allowed in diesel engines has gradually been reduced and is now set at 15 ppm sulphur for on-road vehicles, locomotives and marine vessels. Transportation and Mobile Equipment are by far the most important sources of black carbon in Canada, accounting for 19 kt (61%) of total emissions in 2019. Ships built in 2016 or later have to control sulphur oxides and nitrogen oxides according to Tier III standards. Smoke density for marine vessels with diesel engines has been greatly reduced. Rail transportation in 2015 was responsible for 12.3% of nitrogen oxide and 5.7% of particulate matter from all forms of transport. On April 1, 2021 the federal government increased the levy on diesel fuel by 33%.

The national emission caps are for four air pollutants commonly associated with smog and acid rain, namely nitrogen oxides, sulphur oxides, volatile organic compounds and particulate matter. There are also limits for other air pollutants such as mercury from fuel-based electricity generation and benzene from the natural gas and steel industries.

There is an on-going debate about whether Canada should build new pipelines. The government subsidizes the fossil fuel industry with tax breaks, low royalties and pipeline purchases. This financial support amounted to \$18 billion in 2020.

The federal government is promoting the sale of electric vehicles by offering a \$5,000 rebate on a fully electric vehicle. Some provinces are also offering their own rebates on top of this. More EV charging stations are also being built by both government and private companies. The government has mandated that all new cars will have to be electric by 2035.

The government has banned the creation of new coal-fired power plants but Canada still uses coal to generate some electricity. Canada ships large amounts of coal to other countries such as South Korea, Japan and India.

The following indicates Canada's renewable resources for energy:

Canada, with its large landmass and diversified geography, has substantial renewable resources that can be used to produce energy; these resources include moving water, wind, biomass, solar, geothermal, and ocean energy.

Canada is a world leader in the production and use of energy from renewable resources. Renewable energy sources currently provide about 18.9 per cent of Canada's total primary energy supply.

Canada gets 67% of its electricity needs from renewable sources.

Moving water is the most important renewable energy source in Canada, providing 59.3 per cent of Canada's electricity generation. In fact, Canada is the second largest producer of hydroelectricity in the world.

Wind is the second most important renewable energy source in Canada. It accounts for 3.5 per cent of electricity generation in Canada.

Biomass is the third largest renewable source of Canada's electricity generation. Its share in Canada's electricity generation is 1.4 per cent.

Wind and solar photovoltaic energy are the fastest growing sources of electricity in Canada.

Wind and solar generation now meet 40 percent of electricity demand in Prince Edward Island and 18 percent in Nova Scotia, with the contribution now approaching 10 percent in other Canadian provinces. Saskatchewan and Alberta are increasing their solar and wind farms but Ontario has cancelled many contracts for solar and wind projects and has made insufficient investments in energy conservation and alternate forms of energy such as geothermal, solar and wind over several years. Nova Scotia is the only province with tidal power generation.

Hydroelectric stations have been developed in Canada where the geography and hydrography were favourable, particularly in Quebec. Other areas producing large quantities of hydroelectricity include British Columbia, Newfoundland and Labrador, Manitoba, and Ontario. With its large landmass and active forest and agricultural industries, Canada has access to large and diversified biomass resources that can be used for energy production. Currently, bioenergy is the second most important form of renewable energy in Canada.

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