

## **ECCC Opening Remarks – ENVI Committee**

- Good [morning/afternoon] Madam Chair. I want to thank you and the Committee members for the opportunity to provide Environment and Climate Change Canada's perspective on this important and timely subject.
- Together with my colleagues from Transport Canada, Natural Resources Canada, and Innovation, Science, and Economic Development Canada, we will provide you with an overview of the light and heavy-duty vehicle sectors in Canada and the approach to achieve our targets for Zero Emission Vehicles.
- I will also speak to emissions from the transportation sector and provide an overview of the current regulations for light-duty and heavy-duty vehicles.
- My colleagues will address their Departments' responsibilities, including vehicle safety, ZEV purchase incentives, market-enabling measures for ZEVs, and the economic market profile and considerations for automakers.
- The on-road transportation sector is composed of light-duty vehicles (or passenger vehicles) and of heavy-duty vehicles such as delivery vehicles, garbage trucks, buses, long haul transportation trucks.
- There are over 24 million passenger vehicles on the road today consisting of cars, SUVs, and pick-up trucks. These passenger vehicles are on the road for, on average, almost 13 years. Manufacturers currently offer over 400 different new vehicle configurations and each year Canadians purchase about 2 million new passenger vehicles.
- The heavy-duty vehicle sector is composed of a range of heavy-duty vehicles that perform a broad range of services. Vehicles in this sector range from delivery vehicles, garbage trucks, buses, to long-haul transportation trucks.

- There are approximately 2.5 million heavy-duty vehicles on the road. Some classes of heavy-duty vehicles remain on the road for, on average, 10-15 years, while other classes often remain on the road for more than 20 years. Each year there are over 150,000 new heavy-duty vehicles purchased in Canada.
- The off road sector is the most diverse. There are approximately 210 types of equipment that range from industrial heavy-duty diesel machines used at mines, such as dump trucks and excavators, to personal hand-held gasoline equipment used by homeowners to maintain lawns and gardens, such as lawn mowers.
- Year over year, the transportation sector accounts for approximately a quarter of Canada's greenhouse gas emissions. In 2017, that was 193 Mt. Of that, the light-duty vehicle sector accounted for 43% or 83Mt and the heavy-duty vehicle sector was second at 31% or 60Mt.
- In 2018, transportation and mobile equipment were the largest emitters of carbon monoxide and nitrogen oxides; respectively emitting 56% and 51% of Canada's total emissions of these substances.
- Specifically, light-duty vehicles are the major contributor to air pollutant emissions of nitrogen oxides and polycyclic aromatic hydrocarbons. In addition, transportation associated with the combustion of gasoline is a major contributor to emissions of volatile organic compounds and carbon monoxide.
- Environment and Climate Change Canada is responsible for the development and implementation of regulations to reduce greenhouse gas emissions and air pollutants from light-duty and heavy-duty vehicles, as well as off-road vehicles.
- Environment and Climate Change Canada has legislative authority to regulate these sectors under the Canadian Environmental Protection Act, 1999 (CEPA). ECCC has implemented six regulations under CEPA.

- Environment and Climate Change Canada works with Health Canada during the development of regulations to assess the health and environmental impacts of the changes in primary emissions of air quality criteria expected to result from regulations developed and administered by Environment and Climate Change Canada.
- Emissions modelling (completed by Environment and Climate Change Canada) indicates that by 2030 the emissions from light-duty vehicles will have peaked and will be decreasing while emissions from the heavy-duty vehicles will continue to increase.
- Additionally, the air pollutant emission trends, published by Environment and Climate Change Canada, indicate that although transportation and mobile equipment are the major contributors of some air pollutant in Canada, the sector's emissions of nitrogen oxides, polycyclic aromatic hydrocarbons, volatile organic compounds, and carbon monoxide have decreased substantially since 1990 due to effective implementation of federal regulations.
- Government is considering further policy options to reduce GHG emissions.
- The *Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations*, establish progressively more stringent GHG emission standards for new light-duty vehicles offered for sale in Canada starting with model year 2011.
- The performance-based nature of these standards allows companies to choose the most cost-effective technologies to comply. The regulations include multiplier provisions to encourage the introduction of advanced technology vehicles such as plug-in hybrid electric vehicles, battery electric vehicles and fuel cell vehicles by awarding these vehicles extra credit when a company calculates its emissions performance.
- Environment and Climate Change Canada releases an annual report on the performance of these regulations. The *Greenhouse Gas Emissions Performance for the 2018 Model Year Light-Duty Vehicle Fleet* report highlighted that the regulations have resulted in new 2018 light-duty

vehicles emitting 15% to 20% fewer GHGs than comparable vehicles of the 2011 model year. The increasing number of vehicles on the road, the associated increased kilometres driven and shifting consumer preferences towards larger vehicles mean that overall emissions from light-duty vehicles have not been falling in line with the reductions in per vehicle emissions.

- Environment and Climate Change Canada also administers the *Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations* that establish greenhouse gas emission standards for the whole range of new on-road heavy-duty vehicles, including heavy-duty pick-up trucks and vans. The flexibility provisions in these regulations include multipliers to encourage the introduction of zero-emission heavy-duty vehicles. The multiplier provisions award extra credit to plug-in hybrid, battery electric and fuel cell vehicles when a company calculates its emissions performance.
- In addition to GHG regulations, Environment and Climate Change Canada also administers a range of regulations to reduce air pollutant emissions from transportation, and are aligned with the standards of the U.S. Environmental Protection Agency.
- The *On-Road Vehicle and Engine Emission Regulations* set progressively more stringent air pollutant emission standards for light-duty and heavy-duty vehicles of the 2004 and later model years.
- The *Off-Road Small Spark-Ignition Engine Emission Regulations* set progressively more stringent air pollutant emission standards for small engines such as those found in residential lawn and garden equipment, portable generators and small logging equipment.
- The *Off-Road Compression-Ignition Engine Emission Regulations* set progressively more stringent air pollutant emissions standards for large diesel engines such as those found in construction, farming and mining equipment.
- The *Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations* set progressively more stringent air pollutant

emission standards for gasoline-fuelled engines found in personal watercraft and off-road vehicles such as snowmobiles and ATVs.

- As demonstrated in Environment and Climate Change Canada's published emissions, inventories and projections, since their implementation, these regulations have reduced both greenhouse gas and air pollutant emissions from the transportation sector. This has resulted in improved air quality and health benefits for Canadians and their environment.
- That said, the long-term technological transformation of the transportation sector remains a significant challenge.
- Success will require all departments to work collaboratively to use their respective authorities and programs to increase the deployment of clean technology and zero emission vehicles in order to exceed Canada's 2030 Paris target and enable Canada to achieve net-zero emissions by 2050.
- ECCC is willing and ready to work collaboratively with others to take the necessary actions to achieve the results needed to meet Canada's targets and goals.

Thank you for your time. I would be happy to answer any questions.

Links to ECCC publications referenced above:

National GHG Emissions Inventory

<https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/inventory.html>

National GHG Emissions Projections

<https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/projections.html>

National Air Pollutants Emissions Inventory

<https://www.canada.ca/en/environment-climate-change/services/pollutants/air-emissions-inventory-overview.html>

*Greenhouse Gas Emissions Performance for the 2018 Model Year Light-Duty Vehicle Fleet* report

<https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/greenhouse-gas-emissions-performance-2018.html>