Decarbonizing Canadian medium– and heavy–duty vehicles

Emissions from medium- and heavy-duty vehicles (MHDVs) need to be a priority for Canada's climate ambitions — they account for approximately 35% of national transportation-related greenhouse gas emissions, the largest of any sub-sector. By 2030, freight emissions are expected to surpass passenger-vehicle emissions in Canada. The 2030 Emissions Reduction Plan in March 2022 set out ambitious targets to reach 35% of new MHDV sales being zero emission by 2030, and 100% by 2040 (based on feasibility).[66] However, the current suite of MHDV policies will not achieve these targets without additional near-term supports to defray the cost of adopting zero-emission vehicles (ZEVs).

1. Medium- and Heavy-Duty Zero-Emission Vehicles (iMHZEV) Program

Budget 2022 announced $547.5 million over four years for the Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles (iMHZEV) program, which offers up to $200,000 or 50% of the purchase costs of the ZEV.[67] To achieve a target of most MDVs reaching 50% ZEV sales by 2030, we estimate that the federal government will need to increase its financial support by approximately $4 billion through 2030, by which time ZEVs are expected to reach cost parity with diesel vehicles in terms of total cost of ownership.

Recommended Investment:

$4 billion over six years (to 2029–30) to iMHZEV [TC]

2. Green Freight Program

NRCan is launching Stream 2 of the Green Freight Program in 2023.[68] This program provides 50% cost-share contributions up to a maximum of $5,000,000 to truck owners who retrofit their diesel exhaust systems with alternative cleaner technologies. Retrofitting, in general, consists of removing certain mechanical components of a vehicle (e.g., engine, transmission) and replacing them with newer, cleaner systems such as a compressed natural gas engine,[69] or an electric drive train/propulsion system, and in some cases with a hydrogen range extender (H2 tanks).[70] We support this initiative, and recommend that the program's scope be expanded to include electric engine retrofits. Retrofitting a diesel truck with an electric engine costs about two-thirds the price of buying a new electric truck ($200,000 vs $300,000).[71] Other jurisdictions such as France and New York have already been including electric engines in their retrofit programs. To ensure an adequate number of trucks receive support under the Green Freight Program, more funding is needed.

Recommended Investment:

At least $1 billion for the Green Freight program [NRCan]

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