**Medium- and High-Impact Template**

**Regulatory Impact Analysis Statement (RIAS)**

# *Executive Summary*

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| **Issues:**  Greenhouse Gases (GHGs) are primary contributors to climate change. The most significant sources of anthropogenic GHG emissions are a result of the combustion of fossil fuels, including gasoline and diesel. In 2009, Canada signed the Copenhagen Accord, committing to reduce its GHG emissions to 17% below 2005 levels by 2020, establishing a target of 607 Mega tonnes (Mt). This mirrors the reduction target set by the United States. Canada is moving forward to regulate GHGs on a sector-by-sector basis, aligning with the U.S where appropriate. The Government of Canada has started with the transportation and electricity sectors – two of the largest sources of Canadian emissions – and plans to move forward with regulations in partnership with other key economic sectors, including oil and gas.  The transportation sector is a significant source of GHG emissions in Canada, accounting for 24% of total emissions in 2010[[1]](#footnote-1). In that year, passenger automobiles and light trucks (hereinafter referred to as light-duty vehicles) accounted for approximately 13% of Canada’s total GHG emissions or 53% of transportation emissions.  **Description:**  The proposed *Regulations Amending the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations (2017-2025)* (hereinafter referred to as the proposed Regulations) would build on the success of the current Regulations covering model years 2011 through 2016. They have been developed in collaboration with the United States (U.S.) Environmental Protection Agency (EPA) to ensure alignment of Canada’s regulations with those of the U.S. in a manner that is consistent with the authorities provided under the *Canadian Environmental Protection Act, 1999* (CEPA 1999). The proposed Regulations would continue to apply to companies that manufacture or import new light-duty vehicles into Canada for the purpose of sale to the first retail purchaser. Similar to the current Regulations, the proposed Regulations would establish progressively more stringent annual fleet average GHG emission standards over the 2017 to 2025 model years, while providing companies with flexibility mechanisms to allow them to comply in a cost-effective manner.  **Cost-Benefit Statement:**  Over the lifetime operation of all 2017 to 2025 model year vehicles sold in Canada, the proposed Regulations are estimated to result in a cumulative reduction of 163 mega tonnes (Mt) of carbon dioxide equivalent (CO2e) in GHG emissions (or an average incremental reduction of 18 Mt CO2e per model year)[[2]](#footnote-2). The present value of benefits from the proposed Regulations is estimated to be $41.9 billion[[3]](#footnote-3). The benefits quantified include pre-tax fuel savings, reduced refuelling time, additional driving and, reductions in GHG emissions. The present value of costs from the proposed Regulations is estimated to be $11.2 billion. This includes costs to consumers (new technology costs) and costs to government (vehicle testing, compliance promotion, enforcement and administration). Both benefits and costs are increased due to the *rebound effect*, which is considered to be the additional driving or mobility associated with a reduction in driving costs. The rebound effect provides additional benefits to vehicle owners in the form of increased vehicle-kilometres driven, but can also increase costs to society due to increased traffic congestion, motor vehicle crashes, and noise. The present value of net benefits of the proposed Regulations is therefore estimated to be $30.7 billion. Overall, the total benefits exceed total costs by a ratio of nearly 4:1.  The proposed Regulations are anticipated to increase the cost of manufacturing passenger automobiles and light trucks. These costs are expected to be passed on directly to consumers purchasing these vehicles. For example, the proposed Regulations will add an additional $707 for the average purchase price of a 2021 model year vehicle, rising to an additional $2,095 for a 2025 model year vehicle, as compared to the baseline in absence of the proposed Regulations (i.e. a continuation of the standards for 2016[[4]](#footnote-4) model year vehicles). The benefits resulting directly from the proposed Regulations include fuel savings of approximately 66 billion litres over the lifetime of the vehicles of 2017 to 2025 model years. It is estimated that the added costs to these vehicles will be more than offset by fuel savings with a payback period of 2 to 5 years.  **“One-for-One” Rule and Small Business Lens:**  On January 18, 2012, the Government of Canada announced it would implement a “One-for-One” Rule to control the administrative burden that regulations place on business. Environment Canada has reviewed the administrative burden imposed by the current Regulations in an attempt to identify areas in which the burden could be reasonably reduced. As of the coming into force of the proposed Regulations, companies would no longer be required to submit an annual preliminary model year report which represents a noticeable decrease in their administrative burden. Companies would still be required to submit annual end of model year reports to enable Environment Canada to assess individual company compliance with the Regulations.  **Domestic and International Coordination and Cooperation:**  The proposed standards for GHG emissions from new light-duty vehicles of model years 2017 through 2025 have been developed in cooperation with the U.S. Environmental Protection Agency (EPA), continuing a harmonized Canada-U.S. regulatory approach.Thealignment approach is consistent with the Regulatory Cooperation Council’s Joint Action Plan, announced by Prime Minister Harper and President Obama on December 7, 2011, which establishes an enhanced level of regulatory cooperation and alignment between Canada and the U.S. The proposed Regulation also reflects the global trend towards the regulation of improved automotive fuel economy and GHG emission reductions.  **Performance Measurement and Evaluation Plan:**  The Performance Measurement and Evaluation Plan (PMEP) describes the desired outcomes of the proposed Regulations, such as GHG emissions reductions, and establishes indicators to measure and evaluate the performance of the proposed Regulations in achieving these outcomes. The measurement and evaluation will be tracked on a yearly basis, with a five-year compilation assessment, and will be based on the information and data submitted in accordance with the reporting requirements and records of the companies. |

1. Background

In 2009, the Government of Canada committed in the *Copenhagen Accord* to reducing total greenhouse gas (GHG) emissions by 17% from 2005 levels by 2020, a national target that is aligned with that of the U.S. This target was reaffirmed by the Government of Canada in the *Cancun Agreements* in 2010.

The Government of Canada has a plan to reduce national GHG emissions based on a sector-by-sector regulatory approach. Taking action to reduce GHG emissions from new light-duty vehicles is an important element of the Government’s plan to introduce an integrated, nationally consistent approach to reduce emissions GHGs, in order to achieve its Copenhagen 2020 target.

In October 2010, the Government of Canada published the final *Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations[[5]](#footnote-5)* (hereinafter referred to as the current Regulations) covering new vehicles of model years 2011 through 2016, under the *Canadian Environmental Protection Act, 1999* (CEPA, 1999). These Regulations prescribe progressively more stringent annual emission standards for new light-duty vehicles of model years 2011 to 2016, in alignment with those of the U.S[[6]](#footnote-6). Also in October 2010, the Government of Canada published a Notice of Intent[[7]](#footnote-7) to continue working with the U.S. and build upon the standards already in place to develop more stringent GHG emission standards for new light-duty vehicles of model years 2017[[8]](#footnote-8) and beyond.

In November 2011, Environment Canada released a Consultation Document[[9]](#footnote-9) related to the development of the proposed Regulations. The Document described the key elements being considered for inclusion in the proposed Regulations and sought early input from interested parties, for a 30-day period.

The North American automotive manufacturing market is highly integrated. Canada exports almost 90% of the vehicles produced in Canada to the U.S. The automotive manufacturing sector is Canada’s largest manufacturing sector. In 2010, the sector accounted for over 12% of manufacturing GDP and 1.5% of Canada’s total GDP.[[10]](#footnote-10)  The Canadian Automobile and Light-Duty Motor Vehicle Manufacturing sector[[11]](#footnote-11) is labour and capital intensive. Export-oriented Canadian automotive assemblers include General Motors, Ford, Chrysler, Toyota, and Honda. In 2010, the Automobile and Light-Duty Motor Vehicle Manufacturing sector[[12]](#footnote-12) directly employed approximately 29 thousand people. Also in 2010, auto manufacturing exports totaled $37.5 billion while auto manufacturing imports totaled $30 billion, reflecting a trade surplus of $7.5 billion. In 2010, 90 percent of Canadian automotive industry exports were destined for the U.S[[13]](#footnote-13).

In 2008, Canadian light-duty and heavy duty vehicle manufacturing sector accounted for about 16 percent of North American vehicle production and domestic sales represented 10 percent of the North American market[[14]](#footnote-14).

1. Issue

GHGs are primary contributors to climate change. The most significant sources of anthropogenic GHG emissions are a result of the combustion of fossil fuels, including gasoline and diesel fuel. The anthropogenic emissions of GHGs have been increasing significantly since the industrial revolution. This trend is likely to continue unless significant action is taken. In Canada, 80% of total national GHG emissions are associated with the production and consumption of fossil fuels for energy purposes[[15]](#footnote-15). Canada is a vast country with a diverse climate, which makes the impacts of climate change all the more important.

According to the International Energy Agency, Canada’s CO2 emissions from fuel combustion in 2009 accounted for approximately 2% of global emissions. Canada’s share of total global emissions, like that of other developed countries, is expected to continue to decline in the face of rapid emissions growth from developing countries[[16]](#footnote-16). In 2010, Canada’s GHG emissions totalled 692 Mt. Canada is moving forward to regulate GHGs on a sector-by-sector basis, aligning with the U.S where appropriate. The Government of Canada has started with the transportation and electricity sectors – two of the largest sources of Canadian emissions – and plans to move forward with regulations in partnership with other key economic sectors, including oil and gas.

Transportation is a significant source of GHG emissions in Canada. In 2010[[17]](#footnote-17), 24% of total Canadian GHG emissions came from transportation sources (air, marine, rail, road and other modes). In that year, light-duty vehicles accounted for approximately 13% of Canada’s total GHG emissions or 53% of transportation emissions. Given that there are over 18 million light-duty vehicles on Canadian roads, they are a major contributor to GHG emissions in Canada[[18]](#footnote-18).

1. Objectives

The Government of Canada’s is taking action to reduce GHG emissions from new passenger cars and light duty trucks. The proposed Regulations are a key initiative that address climate change, protect the environment and support the deployment of technologies that reduce GHG emissions.

The Joint Action Plan for the Canada-United States Regulatory Cooperation Council announced that “In addressing climate change, both Canada and the U.S. have implemented aggressive emissions targets in the transportation sector. Continuing progressive and aligned action to reduce greenhouse gases from vehicles is a priority for both countries. There is an opportunity for regulators to work more closely with the aim of better synchronizing implementation of regulations and leveraging existing expertise.”[[19]](#footnote-19)

1. National Inventory Report 1990 - 2010: www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=8BAF9C6D-1 [↑](#footnote-ref-1)
2. Lifetime emission reduction associated with model year 2017 vehicles are estimated to be 3.2 Mt, while lifetime emission reductions associated with 2025 vehicles are estimated to be 33.2 Mt. The resulting average lifetime emission reduction associated with the regulated model years (2017 to 2025) is 18 Mt.” [↑](#footnote-ref-2)
3. Unless otherwise stated, all monetized values in this document are represented in a net present value for 2012, using 2011 Canadian dollars. [↑](#footnote-ref-3)
4. The model year 2017 to 2025 standards in the proposed Regulations represent the ‘with policy’ scenario, whereas a continuation of the 2016 model year standards represents the business as usual, or BAU scenario. The margin between these represents the assessed impacts of the proposed Regulations. [↑](#footnote-ref-4)
5. http://www.ec.gc.ca/lcpe-cepa/eng/regulations/detailReg.cfm?intReg=192 [↑](#footnote-ref-5)
6. U.S. fuel economy regulations for 2011 and U.S. GHG regulations for 2012 – 2016 model years [↑](#footnote-ref-6)
7. Environment Canada (October 1, 2010) *Canada Announces Final GHG Emission Regulations for New Light Duty Vehicles.* <http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=3C7732ED-B2B7-4E45-8A54-A495500E58DB> [↑](#footnote-ref-7)
8. Environmental Protection Agency (September 30, 2010) *Notice of Intent to Establish 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and CAFE Standards.* [*http://www.epa.gov/oms/climate/regulations.htm#noticeI*](http://www.epa.gov/oms/climate/regulations.htm#noticeI) [↑](#footnote-ref-8)
9. Environment Canada (November 16, 2011) *Canada Working With the United States to Address Emissions from Passenger Cars and Light Trucks for Model Years 2017 and Beyond*. http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=A10DE3DE-5767-49EA-979B-44D169574367 [↑](#footnote-ref-9)
10. For the purposes of this report, the Automobile and Light-Duty Motor Vehicle Manufacturing (NAICS 33611), for which GDP figures were unavailable. GDP figures here represent the entire auto sector, including NIACS 3361, motor vehicle manufacturing; NAICS 3362, motor vehicle body and trailer manufacturing; and NAICS 3363, motor vehicle parts manufacturing. [↑](#footnote-ref-10)
11. Industry Canada, NAICS Code 33611, http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic3361defe.html [↑](#footnote-ref-11)
12. http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic33611defe.html [↑](#footnote-ref-12)
13. Industry Canada, Canadian Industry Statistics, NAICS 33611: http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic33611inte.html [↑](#footnote-ref-13)
14. WardsAuto InfoBank: http://wardsauto.com/keydata/historical/NamPr01summary [↑](#footnote-ref-14)
15. <http://climatechange.gc.ca/default.asp?lang=En&n=F2DB1FBE-1> [↑](#footnote-ref-15)
16. http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=253AE6E6-5E73-4AFC-81B7-9CF440D5D2C5 [↑](#footnote-ref-16)
17. Canada’s Emission Trends 2012: http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=253AE6E6-5E73-4AFC-81B7-9CF440D5D2C5 [↑](#footnote-ref-17)
18. <http://www.ec.gc.ca/air/default.asp?lang=En&n=EC8E75D0-1> http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=A10DE3DE-5767-49EA-979B-44D169574367 [↑](#footnote-ref-18)
19. # Joint Action Plan for the Canada-United States Regulatory Cooperation Council

    http://actionplan.gc.ca/en/page/rcc-ccr/joint-action-plan-canada-united-states-regulatory-cooperation-council#s4.4 [↑](#footnote-ref-19)