



December 30, 2014

Canada Transportation Act Review Secretariat  
350 Albert Street, Suite 330  
Ottawa, ON K1A 0N5

Subject: Submission to the Canada Transportation Act Review Secretariat:

The Canadian Gas Association and the Canadian Natural Gas Vehicle Alliance are making this submission as their joint comment in the review process for *Canada's Transportation Act*. We welcome the opportunity to demonstrate – through this document and through any stakeholder consultative process – the role natural gas can play as a clean, affordable fuel for transportation in Canada.

This submission focuses on the following sections of the *Canadian Transportation Act Review Discussion Paper*: Section 3: The Canadian Context; Section 5: Strategic Infrastructure; Section 9: The Environment; and Section 11: Regulation, Harmonization and Trade. Recommendations are provided with our comments on sections 5 and 11.

The Canadian Gas Association (CGA) is the voice of Canada's natural gas distribution industry. Our members are distribution companies, transmission companies, equipment manufacturers and other service providers. Today, natural gas meets 30% of Canada's energy needs and Canadian natural gas distribution companies serve approximately 6.5 million customers - over half of all Canadians in their homes and at work.

The Canadian Natural Gas Vehicle Alliance (CNGVA) is a federally-incorporated not-for-profit trade association whose mission is to promote the sustainable growth of natural gas vehicles and refueling infrastructure in order to provide economic and environmental benefits for Canadians. The CNGVA's membership includes natural gas producers, local gas distribution companies, and organizations active in the supply chain for natural gas vehicles and refueling stations as well as fleets and research organizations.

# CGA and CNGVA Submission to the Review of the Canadian Transportation Act

## December 30, 2014

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### Section 3: The Canadian Context

#### *The North America Natural Gas Market: Supply, Price and New Markets*

Canada operates within an integrated North American natural gas market with over 2.5 million kilometers of pipeline delivering natural gas to over 75 million homes, businesses and industries in Canada and the United States.

Over the last decade, the North American natural gas market has seen a dramatic increase in economically recoverable supply. In the early 2000s, natural gas production was flat to declining while consumption continued to trend upward in both Canada and the U.S. As a result, periods of high prices were common. This changed in 2007 as natural gas producers began to economically extract large quantities of shale gas using new horizontal drilling and hydraulic fracturing technologies. These new techniques unlocked significant supplies of natural gas across North America previously deemed unrecoverable. In Canada alone, the natural gas resource base has doubled since the year 2000 and is currently estimated at 1,300 trillion cubic feet, equal to approximately 200 years of supply at current production levels. The new supply has resulted in a significant reduction in price across the continent.

Forecasts suggest that large quantities of low-cost shale gas will be available to the market well into the future. As a result, the National Energy Board forecasts that Canadian natural gas prices will remain below \$6 per million British thermal units (MMBtu) to 2035. For comparison, the average price for natural gas in Canada at AECO in Alberta, which is the primary pricing point in Canada, averaged just over \$5/MMBtu between January 2001 and November 2014.

Canada needs new markets for its natural gas resources. The National Energy Board is forecasting steady declines in exports of natural gas to the U.S. given the growth in US domestic supply. In addition, most conventional uses in Canada are expected to see only modest growth (largely due to continued efficiency gains). While liquefied natural gas (LNG) exports to Asia offer an important new market opportunity, these remain somewhat speculative given aggressive global competition.

Transportation represents one significant energy market sector where natural gas has yet to make significant in-roads, and where a combination of circumstances make the opportunity for the commodity an exciting one.

#### *Natural Gas as a Transportation Fuel: On Road Vehicles*

Natural gas offers significant potential as a transportation fuel in North America. Currently, crude oil fuels meet over 97% of Canadian and US transportation energy needs. Introducing natural gas as a fuel option increases choice for consumers. Leveraging our natural gas resource advantage to derive

economic, environmental, and competitiveness benefits in the transportation sector, represents an important strategic opportunity for Canada.

Natural gas has been used as a transportation fuel vehicle in Canada for over 30 years. Today, there are an estimated 12,650 natural gas vehicles in Canada and 130,000 in the United States. This compares to the over 11 million natural gas vehicles globally. In Canada, the majority (over 85%) of the natural gas vehicles are “legacy” vehicles from the 1990’s and early 2000’s that include older generation transit buses and aftermarket light-duty vehicles.

Since 2012, there has been a major push in Canada to advance the use of natural gas as a vehicle fuel, principally in the larger engine markets such as highway tractor trailers and waste haulers. The interest is being driven by a number of factors including the (to date) 30-40% cost advantage of natural gas vs. diesel fuel, environmental regulations demanding lower emission profiles, and improved natural gas engine technology. In the past two years, an estimated 650 new factory-built medium- and heavy-duty vehicles have gone into use in 25 return-to-base and regional corridor fleets in five provinces. Of these new vehicles, an estimated 60% operate on compressed natural gas (CNG) and 40% operate on LNG. Total natural gas demand for transportation has more than doubled in this same timeframe and now exceeds 2 billion cubic feet per year. Despite this growth, natural gas accounts for less than 0.5% of the transportation fuel mix in Canada.

#### *Natural Gas for Off-road Markets: Marine, Rail and Mining Transportation*

While several off-road transportation opportunities are of interest in Canada, the primary area of activity has been in the marine sector. New regulations requiring a 90% reduction in sulphur come into force in January 2015 as a result of International Maritime Organization Emission Control Area requirements. The reduction in allowed sulphur emissions will be followed by a significant required reduction in NOx emissions effective January 2016. These stringent new requirements apply within 200 nautical miles of the east and west coasts of North America as well as for the Great Lakes and St. Lawrence Seaway.

These more stringent emission regulations and the opportunity to reduce fuel costs have helped stimulate the development of four major new marine LNG initiatives in Canada. BC Ferries is adding three new LNG passenger ferries to their west coast operation and converting two of its largest Spirit Class ferries. Seaspan is adding two new LNG truck ferries on the west coast and the Société des traversiers in Québec is adding three new LNG passenger ferries to operate on the St. Lawrence River in eastern Canada. In addition, private company Groupe Desgagnés, plans to purchase two LNG-powered bulk asphalt carriers for operation on the St. Lawrence Seaway.

Work is ongoing to identify and make recommendations regarding how to address the barriers to natural gas use as a marine fuel. Current Transport Canada regulations prohibit the use of LNG as a low flashpoint fuel. Adjusting the regulatory framework to allow for the review and approval of LNG projects is an important priority. To this end, a broad range of stakeholders including Transport Canada recently released the first phase report for a study focused on the potential benefits of greater use of LNG as a marine fuel on the west coast of Canada. A copy of this report accompanies this submission. Phase 2 and 3 work is also now underway focused on the Great Lakes and the East Coast. The results of the Phase 2 and 3 work are expected to be available by September 2015.

In addition to marine opportunities, early trials related to LNG rail locomotives and heavy mining trucks have also been undertaken by industry in Canada. Both areas hold considerable interest, although these opportunities are at an earlier stage of development compared to the marine sector where commercial engine technologies are available.

### *Market Drivers for Natural Gas as a Vehicle Fuel in Canada*

Market demand is being driven by a number of factors including fuel cost savings, increased availability of factory-built truck and bus models, improved performance for the natural gas technologies, emissions reductions, public sector tender requirements, and incentives to support early adoption. The provinces of British Columbia and Québec both have incentives to support fleet adoption of natural gas vehicles with the main policy driver being provincial greenhouse gas emissions reductions.

Another significant advantage that is in place for natural gas as a transportation fuel in Canada is the exemption of federal excise fuel tax (\$.04/litre) and provincial fuel tax (\$.09-\$.16/litre) in most provinces. This fuel tax advantage can be expected to change over time as natural gas continues to gain market share. At this early stage with natural gas having a less than 1% share of total transportation fuels, industry is advocating for an exemption until 2020.

Stakeholder alignment has been an important contributor to focused market development in Canada. This alignment has been achieved via the development of the *Natural Gas Use in the Canadian Transportation Sector – Deployment Roadmap* which was released in late 2010. Natural Resources Canada facilitated a process involving a broad range of stakeholders including fleet end users, industry, academics, environmental groups, and provincial governments. The high-level outcome of this work was to document the business case for natural gas and to secure a consensus regarding medium and heavy-duty vehicles as the most appropriate area for near-term market development.

In addition, industry is collaborating with the federal government (through Natural Resources Canada's Office of Energy Efficiency) on the five-year, \$3.0 million *ecoEnergy for Alternative Fuel* program which aims to address technical barriers and provide education and outreach to fleet end users. Many results have been achieved to date related to codes and standards issues as well as regulatory harmonization.

With respect to outreach activities, a new fact-based, bilingual website was launched in October 2012 at [www.gowithnaturalgas.ca](http://www.gowithnaturalgas.ca). In addition, several communications tools were developed for fleets and other audiences. All tools are being disseminated via the website. Also in place as of January 2014 are three fleet Outreach Hubs that distribute information to fleets, deliver fleet workshops, and provide assistance with payback calculations.

## **Section 5: Strategic Infrastructure**

With an estimated 70% of Canada's exports going to the U.S. market, Canada's competitive position in the North American market relies, in part, on integrated infrastructure for the movement of commercial goods by truck, by ship or by rail. A new network of more than 150 natural gas truck corridor refueling stations is being built in the U.S. along the interstate highway system. For US trucking companies, this will serve to reduce fuel costs and improve the competitive position of American trucking fleets. By

comparison, Canadian trucking fleets have only limited access to natural gas, with nine natural gas refueling stations built to date. Stimulating private sector investments in new natural gas refueling infrastructure is important to ensure Canada's ongoing competitiveness in the integrated North American market for goods movement.

***It is recommended that the Transportation Act Review undertake a strategic review of the needed natural gas refueling infrastructure requirements for Canada in order to ensure that Canadian competitiveness and cross border trade of goods by truck, rail and marine is not harmed by the absence of comparable infrastructure north of the border.***

## **Section 9: The Environment**

Canada's transportation sector is characterized by high energy use and significant emissions. In 2013, transportation accounted for nearly one third of energy use, making it Canada's second-largest sector in terms of energy consumption. Unlike most other sectors of the Canadian economy though, transportation relies on a single energy source (crude oil-based fuels) to meet the vast majority of its energy needs. Energy demand for transportation is increasing, and vehicle energy use is projected to increase by over 25 percent by 2035. GHG emissions from transportation sources are also rising. More than one-third of the increase in Canada's GHG emissions between 1990 and 2013 was attributable to transportation sources. To address the transportation sector's increasing energy demand and emissions challenges, a comprehensive solution is required to improve vehicle efficiency, increase the use of lower-emitting fuels, and reduce costs. The increased use of natural gas in the transportation sector offers a significant opportunity to address all these elements.

Natural gas is a clean burning alternative transportation fuel. Natural gas is particularly well-suited as a fuel for medium- and heavy-duty trucks and buses for which there are few other affordable, commercially-available options to reduce emissions. As a transportation fuel, natural gas can reduce greenhouse gas emissions by 20 percent when compared to diesel and gasoline, according to extensive analysis by the California Air Resources Board and other organizations. Due to the low emission profile of natural gas relative to gasoline and diesel, the production of natural gas vehicles could help truck and bus manufacturers meet future emission reduction targets. It is estimated that if one out of every 10 new medium and heavy duty natural gas vehicles in Canada were natural gas powered, carbon emission would be reduced by nearly 2 megatonnes annually by 2020.

## **Section 11: Regulation, Harmonization and Trade**

Over the last 12 months, three important Canada- U.S. regulatory/policy initiatives have commenced that provide an opportunity to advance natural gas as a transportation fuel. The CGA, the CNGVA, and their member companies are engaged in and supportive of these government-led initiatives.

First is the work underway between Canada and the U.S. under the Regulatory Cooperation Council (RCC). For the first time since its inception, the RCC announced in 2014 that natural gas for transportation has been included in the list of priority areas for discussion between Canada and the United States. An initial transportation work plan is set for release in February 2015 and it will set the stage on actions needed between Canadian and US government departments to address regulatory

barriers to the deployment of natural gas vehicles.

Second is the Memorandum of Understanding (MOU) on Energy Cooperation signed in September 2014 by Natural Resources Canada and the U.S. Department of Energy. Under this MOU, the departments will participate in cooperative activities such as sharing knowledge, technology and research, facilitating training, and sharing best practices related to natural gas as a transportation fuel. Sharing information on successes, as well as highlighting areas of improvement, will benefit future natural gas vehicle deployment efforts in both countries. An initial draft work plan is proposed for December 2014. The MOU provides an important occasion to address new market opportunities of mutual interest to Canada and the U.S. with respect to natural gas as a transportation fuel. It also complements the RCC *Joint Forward Plan* that focuses on codes and standards development and harmonization between Canada and the United States.

Third is the consultation and outreach by Environment Canada on the next phase of heavy-duty transportation emission regulations. Harmonized regulations are a priority of the Government of Canada as they ensure there is a level playing field between Canada and the U.S. As the level of GHG performance of new heavy duty trucks continues to improve, there is a strategic role for natural gas in this marketplace.

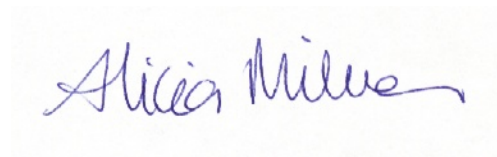
***Given the breadth of activity underway between Canada and the US, it is recommended that the Transportation Act Review committee engage with CGA and CNGVA to review and comment on efforts underway in Canada to support the deployment of natural gas as a transportation fuel in Canada including the broader benefits within the North American market.***

Thank you for this opportunity to provide the views of our associations as part of the review of the *Canadian Transportation Act*. We would welcome any inquiries based on the above or other issues where you think the views of our industry might be of support.

Sincerely,



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Canadian Gas Association



Alicia Milner  
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