

Canadian Natural Gas Vehicle Alliance

Responses

1. Economic Recovery and Growth

Given the current climate of federal and global fiscal restraint, what specific federal measures do you feel are needed for a sustained economic recovery and enhanced economic growth in Canada?

To ensure sustained economic recovery and economic growth, Canada needs to focus on responsibly developing new markets and value added opportunities for its abundant natural resources, both at home and abroad. For natural gas, there is particular urgency as per customer use is declining due to efficiency and conservation while exports are decreasing (16% volume decline since 2007) as American natural gas supply increases. In parallel with declining demand, Canada's own natural supply is growing and exceeds 100 years based on current demand. A very promising and competitively demanding new market for natural gas is the transportation sector. Transportation is the largest consumer of energy in Canada. The market is harmonized with Canada and the U.S. having an integrated vehicle manufacturing sector, aligned vehicle emissions standards, and similar vehicle safety requirements. Starting with the medium and heavy truck and bus portion of the market, natural gas can create choice in the market, improve fuel affordability, generate economic activity in the supply chain for fuel, vehicles and stations, and reduce greenhouse gas emissions. These benefits were clearly documented in the Natural Gas Use in the Canadian Transportation Sector – Deployment Roadmap report issued by Natural Resources Canada in January 2011. Greater use of natural gas use in Canada's transportation sector would not only leverage an abundant Canadian resource, but it would also maximize value-add economic and job creation benefits with Canadian companies in the supply chain for fuel, vehicles, and stations. Industry is ready to invest in the necessary infrastructure to bring natural gas into the transportation market and to help transition this part of the economy to a lower carbon future. A private sector-funded build-out of trucking corridor stations and related fuel supply facilities would generate more than \$500 million in investments across Canada. These investments would also establish linkages with emerging "green truck corridors" in the U.S. leading to an integrated, continental system of lower emission goods movement. The CNGVA recommends that the federal government provide a short-term measure that reduces the cost difference between a heavy natural gas vehicle and a heavy diesel vehicle over a five year timeframe.

2. Job Creation

As Canadian companies face pressures resulting from such factors as uncertainty about the U.S. economic recovery, a sovereign debt crisis in Europe, and competition from a number of developed and developing countries, what specific federal actions do you believe should be taken to promote job creation in Canada, including that which occurs as a result of enhanced internal and international trade?

To promote job creation, Canada needs to encourage the development of new industries where Canadian companies have demonstrated strength, an innovation advantage, and world-class expertise. The natural gas for transportation industry meets these criteria. The industry has had many successes including developing the lowest emission engine in the world, selling hundreds of natural gas refueling stations annually in China and other markets, supplying engines to more than 20 North American truck and bus manufacturers, and developing biogas upgrading systems that produce near-zero emission renewable natural gas. With global demand for natural gas vehicles growing at more than 10% per

year, Canadian companies are proving to be effective job creators. BC-based IMW Industries manufactures refueling stations and more than doubled its workforce in the past 18 months from 125 to 260 employees. Vancouver-based Westport Innovations manufactures heavy engines for natural gas highway tractors. The company has grown to keep up with export market demand, adding 220 employees over the past 18 months. By rewarding these job creators, Canada can help increase sustainable demand for their products by supporting the development of a domestic natural gas vehicle market. In addition to increasing employment in the natural gas for transportation supply chain, encouraging the development of a new natural gas for transportation industry can also help to retain jobs in the Canadian trucking industry. More than two-thirds of Canada's trade with the U.S. moves by truck. By the end of 2013, American truckers will have access to a nationwide network of approximately 250 LNG refueling stations at existing truck stops. These stations will dispense fuel at prices up to 30% below the cost of diesel fuel. Canadian truckers will not be able to compete and there is a risk of job losses for Canadian drivers if Canada does not keep pace with the U.S. and ensure its own build-out of LNG refueling stations at Canadian truck stops. The CNGVA recommends industry and government collaboration to develop the natural gas for transportation market, spurring the deployment of innovative "made in Canada" green technology solutions and supporting ongoing research, development, and commercialization.

3. Demographic Change

What specific federal measures do you think should be implemented to help the country address the consequences of, and challenges associated with, the aging of the Canadian population and of skills shortages?

In order to meet future human resource demands and address the challenge of an aging workforce, Canada needs to identify and support the development of skills that can take the country into a new clean energy future. Canada's natural resource wealth will be an important contributor to future prosperity. The environmental impacts of resource production and use need to be managed responsibly. An educated workforce with capabilities in the areas of engineering, environmental management, construction, and maintenance is needed and its development can create value-added economic activity tied to Canada's natural resources. The aging population and departure of older workers from the workforce risks the erosion of the knowledge and skills base in Canada. The federal government needs to partner with industry to ensure that critical knowledge and skills are transferred to successive generations and that there are adequate supports and programs in place for this transition. The natural gas for transportation industry recognizes the challenges associated with an aging workforce and with skills shortages. The industry is collaborating with Natural Resources Canada to establish a National Training Strategy to address human resource development needs through a comprehensive, national training initiative. This work seeks to build on past Canadian expertise and leverage regional education organizations in order to deliver training at the local level. The CNGVA recommends that the federal government recognize the importance of emerging "green energy" industries that will play an important role in transitioning the economy to a lower carbon future and partner with industry to develop the needed human resource capacity to support future growth.

4. Productivity

With labour market challenges arising in part as a result of the aging of Canada's population and an ongoing focus on the actions needed for competitiveness, what specific federal initiatives are needed in order to increase productivity in Canada?

In order to increase productivity, Canada needs to foster innovation and reward its innovative companies and industries. Canada can spur greater innovation by strengthening the linkages between university-based research and promising new cleantech industries such as the natural gas for

transportation industry. Canada is already home to many leading natural gas for transportation innovators including Westport Innovations, IMW Industries, Kraus Global, Xebec Adsorption, and Dynetek Industries. By collaborating with the private sector for research and development activities, Canada can leverage the early lead established by these companies and build on existing private sector investments to generate greater value and enhanced productivity. Canada's automotive Centre of Excellence, AUTO 21, is one channel through which private sector research priorities have been advanced using university-based research, yet nearly all of the projects funded by AUTO 21 have focused on conventional crude-oil based fuels and vehicle applications. Similarly, the federal government's investments in research chairs as part of the federal Science and Technology have also focused exclusively on crude oil-based fuel and vehicle applications. By contrast, industry itself has stepped forward with funding to establish a research chair in natural gas as a transportation fuel at Oshawa-based University of Ontario Institute of Technology. With global demand for natural gas vehicles growing at a rate of more than 10% per year and Canadian companies having an early lead in the supply chain for heavy engines, vehicle components, and refueling stations, the natural gas for transportation industry has the potential to be a key environmental industry that aligns with Canadian strengths and industry capabilities. The CNGVA recommends that the federal government review its research investments and ensure that technologies such as natural gas vehicles that can transition the economy to a lower carbon future are well-represented and prioritized for funding support.

5. Other Challenges

With some Canadian individuals, businesses and communities facing particular challenges at this time, in your view, who is facing the most challenges, what are the challenges that are being faced and what specific federal actions are needed to address these challenges?

The greatest challenge facing Canada is maintaining the quality of life that Canadians are accustomed to both for current and future generations given the very turbulent global economy and environmental challenges. Canada needs to continue to focus on competitiveness and ensure a strong and diversified economy that is capable of underpinning the programs and services that Canadians expect. Canada can leverage its natural gas resource advantage by developing new markets that build demand, diversify energy use, and provide fuel choice for Canadians. While Canada is a net exporter of oil, most of Eastern Canada relies on imported crude oil to produce gasoline and diesel fuel for the transportation market. Greater use of natural gas in the transportation sector is one strategy to reduce reliance on imported oil in Eastern Canada which, in turn, can help shelter Canada from the price volatility and economic risks associated with crude oil as a global commodity. Natural gas also provides a cost effective alternative to reduce emissions from one of Canada's fastest growing sources, heavy diesel vehicles. While regulations limiting greenhouse gas emissions come into force in 2016, greater natural gas truck and bus use complements regulatory objectives with well-to-wheels greenhouse gas reductions of 15-20%. Deploying affordable, made-in-Canada natural gas vehicle and station technologies can result in better economic and environmental outcomes for Canadians. Canada's transportation sector remains uniquely vulnerable since only one type of energy (crude oil-based fuels) supplies 95% of total demand. While market forces must be respected, there is also a need to lower barriers for new entrants like natural gas that provide a range of benefits to Canadians including introducing fuel choice where there currently is none. Industry investments in infrastructure for the heavy truck market can help to bring natural gas into other new areas including the marine and rail sectors. Liquefied natural gas-powered marine vessels can reduce air pollutants (NOx and particulate matter) by more than 80% and natural gas does not create any sulphur emissions. The CNGVA recommends that the federal government establish policies to increase the use of natural gas as a transportation fuel in Canada.