CANADA'S 2019 NATURAL GAS SOLUTIONS

REDUCING EMISSIONS, PROVIDING AFFORDABLE ENERGY, DRIVING INNOVATION, AND GROWING THE ECONOMY

CANADIAN GAS ASSOCIATION
ASSOCIATION CANADIENNE DU GAZ

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LETTER FROM THE CANADIAN GAS ASSOCIATION LEADERSHIP

Timothy M. Egan and Leigh Ann Shoji-Lee

The Canadian Gas Association is proud to share a vision for how Canada's natural gas energy delivery industry will continue to support Canada's energy, environment and economic objectives.

Today, natural gas meets 35 per cent of Canada's energy needs and is the single largest source of energy for the buildings and industrial sectors of the economy. Over the last decade Canada's natural gas utilities added over one million new customers including homes, businesses and industries, to the gas system. Looking forward, the National Energy Board forecasts natural gas will become the largest energy source in Canada by 2035. Globally, the International Energy Agency forecasts natural gas end-use will increase to 43 per cent by 2040.

The natural gas delivery industry is poised and ready to deliver on the sustainable energy needs of Canada for the long term. Already, Canada's natural gas delivery companies have been meeting the energy needs of Canadians for over 100 years. Today, through 550,000 kilometers of transmission and distribution pipeline and natural gas storage facilities, affordable natural gas is delivered to over seven million customer locations. This means an estimated two-thirds of the Canadian population benefits from affordable, clean, safe and reliable natural gas solutions. First and foremost Canadians use natural gas to heat our homes, schools, hospitals and businesses; but we also use it to generate electricity, fuel vehicles, and power appliances. A map of the Canadian natural gas service area is on page six.

This publication identifies how natural gas and the natural gas delivery industry can continue to support a number of government objectives including a competitive economy, Canadian technology and innovation leadership, lower emissions, cyber security engagement, and rural and remote energy affordability.

We know that now is the time to harness more of Canada's natural gas potential – both for domestic and for global energy needs. We know now is the time to innovate and support natural gas cleantech and we are committed as an industry to doing just that. We know now is the time to collaborate with our public sector partners to achieve these positive outcomes for Canada.

Looking forward, we will build on our past success. This means a commitment to investment in natural gas infrastructure and a commitment to serve our customers – both of which have played an important role in helping Canadians achieve the quality of life which we enjoy today. The natural gas solutions described in the pages that follow provide opportunities to extend that quality of life to more Canadians, and to position Canada as a world leader in energy safety, affordability and innovation.

We look forward to continuing this important conversation with Canadians and Canadian energy decision makers from coast to coast to coast. For more information, visit www.cga.ca and be sure to subscribe to our YouTube channel.

Timothy M. Egan
President and CEO
Canadian Gas Association

Leigh Ann Shoji-Lee
President, Pacific Northern Gas (PNG)
Chair, Canadian Gas Association

NATURAL GAS: ATTRIBUTES

Natural Gas is Resilient

Over 550,000 kilometres of underground transmission and distribution infrastructure and storage facilities have been built out to bring natural gas across the country to over 7 million customer locations. Since 2005, the natural gas distribution sector has invested over $25 billion in this extensive Canadian national network and investment continues to be brought forward to maintain and update the system.

Natural Gas is Clean

Natural gas is an efficient and clean energy choice with fewer emissions than many other fuels. As well, natural gas is an important partner for intermittent renewable electricity by providing quick ramping power generation services. In addition, renewable gases are a growing part of the supply mix.

Natural Gas is Abundant

Canada has more than 200 years of supply at current production levels. The affordability of natural gas in Canada is reinforced by the stable and growing supplies from across the North American marketplace.

Natural Gas is Affordable

Any reduction in energy costs while maintaining the same or an improved level of comfort, service or production output, means money in the pockets of consumers – for families in their homes, or for businesses to become more competitive and to expand. Households that use natural gas for space and water heating save in the order of $2,000 per year compared to homes using propane, electricity, and heating oil for the same applications.

Natural Gas is Safe

The natural gas distribution industry is committed to the safe, secure, reliable, and environmentally responsible delivery of natural gas to its customers. Natural gas systems are designed, built and operated to meet or exceed the highest codes and standards. In addition, CGA member companies believe safety is their primary responsibility and they strive to continuously improve through ongoing learning, innovation and sharing of knowledge while committing to an open and transparent dialogue with all stakeholders.

NATURAL GAS: DEFINITIONS

Renewable Natural Gas

This is a CO_2 neutral, 100 per cent renewable energy source produced from organic waste. The gas is captured, cleaned and delivered for use in the same way as natural gas in homes, businesses and institutions.

Compressed Natural Gas

CNG is natural gas that is compressed to high pressure to reduce its volume by up to 300 times compared with regular natural gas. CNG is ideal for passenger cars, pick-up trucks, cube vans, buses, shuttles, short-haul tractor-trailers, dump trucks, and refuse trucks.

Liquefied Natural Gas

LNG is natural gas that is cooled to a liquid state at -162 degrees Celsius, reducing its volume by 620 times compared to regular natural gas. LNG contains a lot of energy per unit volume making it an ideal fuel for long haul trucks, ferries, ships, rail, mining applications, industrial uses, and communities in northern and remote areas.

CANADA'S NATURAL GAS SOLUTIONS:
EXECUTIVE SUMMARY

Support the Increased Production of Renewable Gases:

- Renewable gases, including renewable natural gas, hydrogen and synthetic methane, are produced from a variety of feedstocks and processes. These gases are blended in natural gas pipelines and used in the same way as traditional natural gas by homes, businesses, transportation fleets, and industries.
- **Recommendation:** Create a Renewable Gas Technology Commercialization Fund – a six-year, two-stream fund for the development of renewable gases in Canada.
    - Stream 1: The Renewable Gas Technology Commercialization Fund ($175 million)
    - Stream 2: The Renewable Gas Supply Fund ($575 million)

Connect Rural and Remote Communities to Natural Gas:

- As of 2018, 53 per cent of Canada's rural communities relied on energy sources that were between 100 and 300 per cent more costly and higher emitting than natural gas.
- **Recommendation:** Commit $450 million of federal infrastructure funding to match utility funding to connect new communities to natural gas (by pipeline or by trucked-in liquefied natural gas).

Drive Canada Forward with Natural Gas:

- Natural gas is a clean burning fuel with minimal NO_x, SO_x and particulate matter emissions. It also generates up to 25 per cent lower greenhouse gas emissions.
- **Recommendation:** Drive transportation cost and emissions reductions by:
    - ensuring that regulatory initiatives for the transportation sector recognize the importance of natural gas vehicles (NGVs);
    - providing up-front funding for fleets to defray a portion of incremental costs associated with the purchase of NGVs and to de-risk investment;
    - providing funding to assist in the development of key refueling infrastructure – on highways, at ports and at rail depots – to encourage more fleet operators to switch; and
    - providing project funding for required facility upgrades – for indoor maintenance facilities in particular – to ensure a safe workplace that can accommodate NGVs.

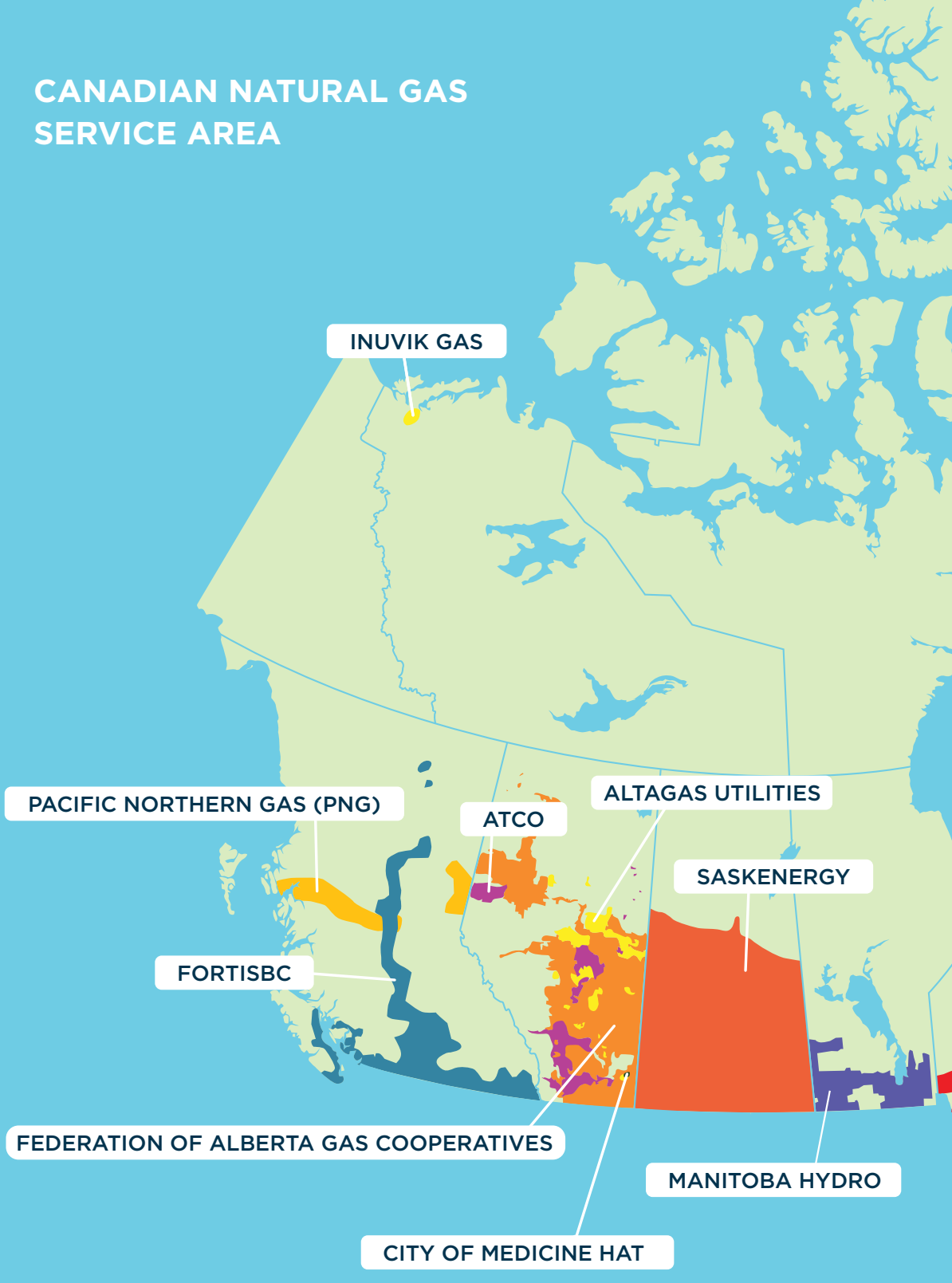
Support Energy Efficiency and Gas Technology Innovation

- Canada's natural gas utilities invest $250 million each year in energy efficiency programs.
- **Recommendation:** Advance Canada's energy efficiency potential, by:
  - allocating $15 million over five years to expand funding to NRCan to support residential and commercial market transformation activities including technology deployment (e.g., gas heat pumps), development of new codes and standards, and funding to advance long-term aspirational energy efficiency regulations to 2035; and
  - creating a three-year, $300 million fund to advance clean technologies for natural gas. The Fund would support small and medium enterprises and clean technology commercialization to accelerate emissions performance in the natural gas industry.

Maintaining and Enhancing Safety and Security

- Canada's natural gas delivery industry is committed to the safe, secure, reliable and resilient supply of natural gas to consumers.
- **Recommendation:** Enhance cyber security collaboration with the natural gas industry by:
  - ensuring that the Canadian Centre for Cyber Security includes provisions for skills transfer between government and industry in the areas of industrial control systems; and
  - maintaining and strengthening safety and security processes by developing partnerships and collaborating with stakeholders including governments, regulatory and security agencies.

CANADIAN NATURAL GAS SERVICE AREA



National Summary – 2016/2017		
Key Indicators	CGA Member National Totals	
	2016	2017
Number of active customers (installed gas meters in use)	6,843,132	7,054,330
Kilometers of pipeline (kilometers)	456,657	550,441
Natural gas sales in Canada (trillions of cubic feet)	3.134	3.339
Natural gas exports (trillions of cubic feet)	2.895	2.990
Average residential gas use (trillions of cubic feet)	2,468	2,444
Average residential delivered cost of natural gas ($/year)	$1,038	$1,061
Sector employment (full-time persons)	15,978	16,972
10-yr capital investment ($Cdn millions)	$20,445	$21,203
CGA member new capital and O&M spending	$4,036	$4,464
GDP of NG distribution sector ($Cdn 2007 constant millions)	$4,679	$5,040

Source: CGA, Statistics Canada

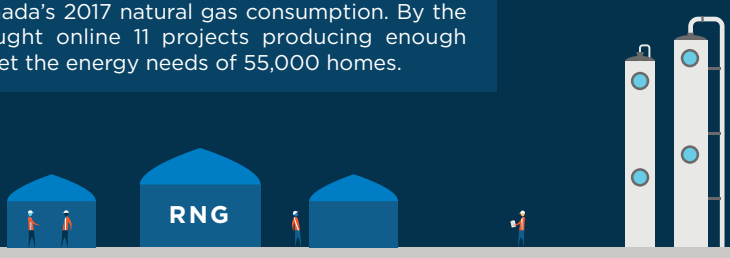
INCREASE PRODUCTION OF RENEWABLE GASES

Renewable Natural Gas

RNG is natural gas produced from organic waste from farms, forests, landfills, and water treatment plants. The gas is captured, cleaned, and injected into the pipeline to be used in the same way as natural gas from any other source.

RNG Production

Estimates in a 2013 report completed by the Alberta Research Council suggest Canadian potential is equivalent to 1,200 billion cubic feet per year – equal to 36% of Canada's 2017 natural gas consumption. By the end of 2018, utilities brought online 11 projects producing enough renewable fuel to meet the energy needs of 55,000 homes.



The Future of RNG

Canada's natural gas utilities have set an aspirational target of 5% RNG blended into natural gas streams by 2025 and 10% by 2030. Nationally, the increased RNG content would result in 14 MT of GHG emission reductions per year by 2030, equivalent to removing 3.1 million passenger cars from the road.

THE SOLUTION: Increase Production of Renewable Gases
HOW: Support a Renewable Gas Commercialization Fund

Background:

Renewable gases include renewable natural gas from organic waste (from farms, forests, landfills, etc), hydrogen from power to gas facilities and synthetic methane. These products can be blended with natural gas in the pipeline and used to meet the energy needs of Canadians in the same way as traditional natural gas.

As low or zero emitting gaseous fuels, renewable gases can play a meaningful role in lowering emissions. In addition, by their use of otherwise waste feedstocks, their production will support new economic partnerships for Canadian companies and feedstock supply holders, including forestry and agricultural operators, municipalities, and Indigenous communities who operate/own landfills or forestry operations.

The Solution:

Canada has an untapped opportunity in the production of renewable gases. To date however, Canadian clean energy programs have focused on trying to create renewable electricity and renewable liquid fuels markets. By supporting a renewable gas fund for Canada, we can capitalize on existing gas infrastructure including 550,000 km of pipeline and natural gas storage facilities that can store enough natural gas to meet 80 days of Canadian demand. In addition to its widespread abundance, renewable gases offer an economic advantage: they can be produced, cleaned, blended and delivered to customers at a cost equal to or lower than any other renewable

energy option. Today, delivered residential renewable gas costs are in the range of 6-14 cents per kilowatt hour (Kwh). This is much more than conventional natural gas, but far cheaper than other renewables; public money spent on renewables would go much further if spent on renewable gases.

Renewable gas funding support will offer Canada a host of benefits including a pathway for natural gas companies to comply with the federal clean fuel standard – promising up to 10-14 MT of GHG emission reductions. Support for this technology will also advance Canadian cleantech companies active in renewable gas commercialization, for which there is a global market.

Federal Leadership:

The federal, Quebec and British Columbia governments have shown leadership in the past with an investment in RNG projects in Saint-Hyacinthe, Quebec and Surrey, British Columbia. Both projects are currently producing and delivering renewable natural gas.

Recommendations:

- Create a Renewable Gas Technology Commercialization Fund – a six-year, two-stream fund for the advancement of renewable gases in Canada.
  - Stream 1: The Renewable Gas Technology Commercialization Fund ($175 million) allocates:
    - $150 million to support renewable gas technology demonstrations across Canada. Project intake, screening, evaluation and selection would be conducted jointly between NRCan and the Natural Gas Innovation Fund (NGIF).
    - $15 million to support the creation of a hub for renewable gases at CanmetENERGY federal laboratories in Ottawa.
    - $10 million to fund a competitive process for collaborative projects that address specific gaps in capacity building, codes and standards and bench scale research.
  - Stream 2: The Renewable Gas Supply Fund ($575 million) would support project deployment activities across Canada with the goal of achieving five per cent renewable gas content by 2030. Project support could be made available through a production incentive, capital cost contribution or a hybrid capital cost and production incentive approach.

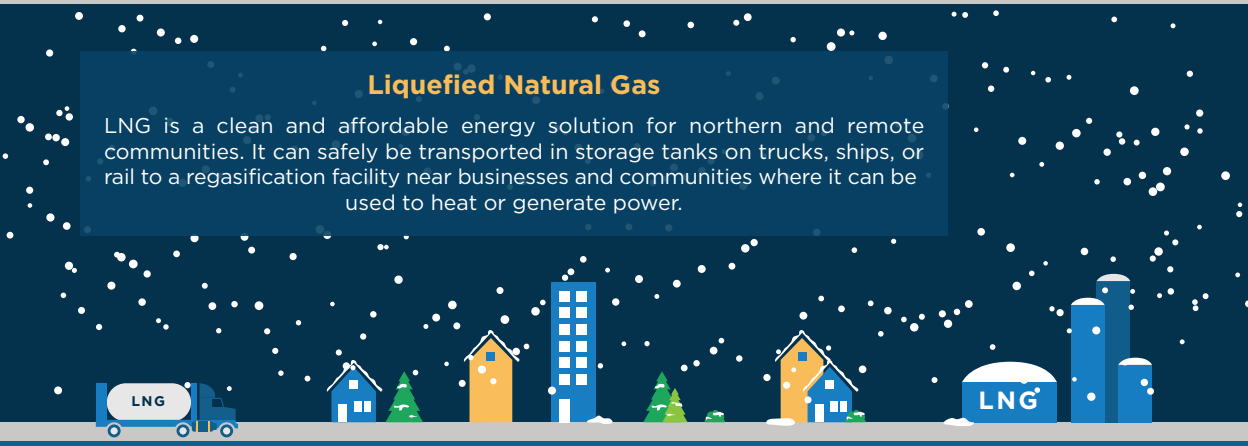
CONNECTING RURAL AND REMOTE COMMUNITIES TO NATURAL GAS

Expanding Access

A significant number of families and businesses across Canada don't have access to natural gas. They are dependent on diesel, propane or other fuels for heating and to generate power. These fuel options are higher emitting, more expensive, and less reliable than natural gas.

Liquefied Natural Gas

LNG is a clean and affordable energy solution for northern and remote communities. It can safely be transported in storage tanks on trucks, ships, or rail to a regasification facility near businesses and communities where it can be used to heat or generate power.



Natural Gas Benefits

Natural gas emits lower levels of greenhouse gases and air pollution than other fuel sources like heating oil, propane, and, in some jurisdictions, electricity. As well, natural gas technology is highly efficient and an ideal partner for renewables like wind and solar.

THE SOLUTION: Connect Rural and Remote Communities to Natural Gas

HOW: Allocate infrastructure funding to provide natural gas to rural and remote communities

Background:

Natural gas has been a reliable and affordable source of energy for many communities across Canada. This access means these communities can realize greater economic development and investment opportunities and real savings for homeowners.

However, in many rural and remote communities, natural gas is not an option. As of 2018, 53 per cent of Canada's rural communities relied on energy sources that are higher emitting and from 100 to 300 per cent more costly than natural gas. These communities have not received natural gas due to regulatory limitations on utility funding or simply due to their remote location and distance from the pipeline system.

The Solution:

Natural gas can be a solution for both rural and remote communities that are currently relying on higher emitting, more expensive energy sources such as diesel, propane or heating oil. Where expansions from an existing gas pipeline network are not feasible the natural gas can be liquefied (or compressed - CNG) and trucked to communities in need.

Liquefied natural gas (LNG) is produced when pipeline quality natural gas is cooled to -162 degrees Celsius liquefying the gas and thereby reducing its volume by 620 times compared with regular natural gas. LNG can then be safely transported in storage tanks to a regasification facility located near large industrial facilities (like mines) or communities in the North where it can be used for direct heat or to generate electricity.

Federal Leadership:

Examples of recent cooperatively funded pipeline extension projects include:

- a $40 million project that was funded by the federal and Ontario governments, Goldcorp, the Municipality of Red Lake and Union Gas to bring natural gas to Red Lake, ON; and
- the federal government and Énergir co-funded projects to bring natural gas from Vallée Jonction to Thetford Mines and Asbestos in Quebec. The projects lowered emissions and brought lower cost natural gas to industry, businesses, retailers and institutions.

Recommendations:

- Commit federal infrastructure funding of $450 million to leverage the capital investment provided by the natural gas utility; and
- Include LNG and CNG as eligible recipients in the Clean Energy for Rural and Remote Communities Fund.

DRIVE CANADA FORWARD WITH NATURAL GAS

It's Affordable...

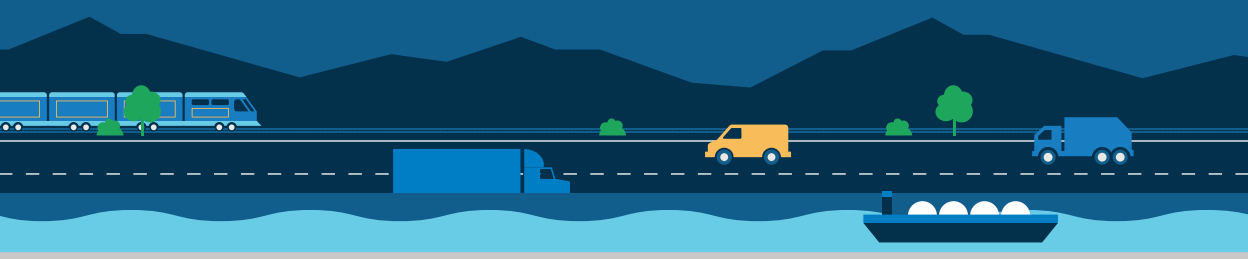
Natural gas used as a transportation fuel can result in fuel cost savings of as much as 10-20% compared to diesel.

It's Cleaner....

Natural gas used as an alternative transportation fuel offers minimal NO_x, SO_x, and particulate matter emissions, and lower GHG emissions (between 10 and 25%) over conventional fuels. A recent study by ICF International shows that by converting heavy duty vehicles to natural gas, Canada could reduce GHG emissions by approximately 25% by 2030.

It's Available Technology....

Natural gas is being used or demonstrated in many modes of transportation including heavy duty and medium duty trucks, rail, marine, off road, transit and fleets that operate at Canada's ports.



THE SOLUTION: Drive Canada Forward with Natural Gas

HOW: Provide a suite of policy and programming to support the transition to natural gas vehicles

Background:

Transportation is Canada's second largest source of greenhouse gas (GHG) emissions. Unlike passenger vehicle emissions which have begun to decline, GHG emissions from medium and heavy-duty vehicles continue to grow.

The Solution:

Natural gas vehicles offer a ready-now solution to Canada's growing transportation emissions challenge. Natural gas can help reduce the operating costs and emissions of heavy duty and medium duty trucks, transit, rail, marine, and off-road fleets which help keep the Canadian economy moving.

Natural gas is a clean fuel with minimal NO_x, SO_x and particulate matter emissions. Furthermore, it provides up to 25 per cent lower greenhouse gas emissions. Despite the lower costs of natural gas as a fuel for freight (10 to 20 per cent savings compared to diesel) and the emissions reductions potential, the industry requires capacity building and funding support to realize its potential.

Federal Leadership:

There are several examples of recent initiatives by governments to help give customers the choice of natural gas as a transportation fuel.

In the 2016 and 2017 Budget, the federal government committed a total of $180 million to support the deployment of alternative (electric, gas, and hydrogen) re-fueling infrastructure. Natural gas projects competed for a portion of this funding. In 2018, with assistance from the federal and provincial governments, Union Energy Solutions, a subsidiary of Union Gas – a company of Enbridge Gas Inc. - and Clean Energy Fuels Inc. launched three new public-access compressed natural gas (CNG) stations to deliver cleaner transportation solutions along Ontario's 401 corridor. The stations in London, Windsor and Napanee, Ontario allow heavy-duty truck fleets travelling these routes to have more reliable access to natural gas supply.

NRCan has been leading an effort to publish a second Natural Gas Roadmap for Canada and Transport Canada has collaborated with industry on marine LNG roadmaps.

Public Transit fleet operators in BC have received federal-provincial infrastructure funding to purchase CNG fueled vehicles for their fleets.

Recommendations:

Drive transportation cost and emissions reductions by:

- ensuring that regulatory initiatives for the transportation sector recognize the importance of natural gas vehicles (NGVs);
- providing up-front funding for fleets to defray a portion of incremental costs associated with the purchase of NGVs and de-risk investment;
- providing funding to assist in the development of key refueling infrastructure – highway refueling, ports and rail depots – to encourage more fleet operators to switch; and
- providing project funding for required facility upgrades – for indoor maintenance facilities in particular – to ensure a safe workplace that can accommodate NGVs.

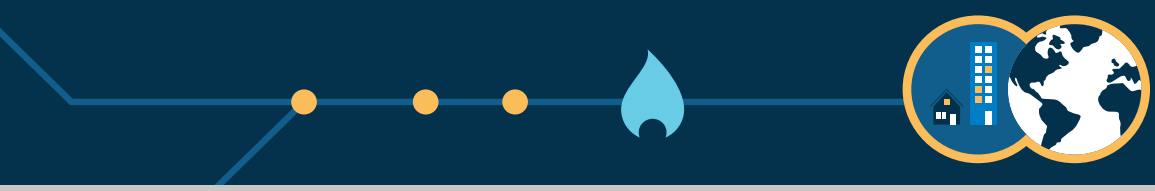
DRIVE ENERGY EFFICIENCY AND CLEANTECH INNOVATION

Long, Successful History of Driving Energy Efficiency

Since 2013, CGA members have invested almost $400 million in their energy efficiency programs. This has saved customers over 250 million cubic metres of natural gas and cut GHG emissions by over 820,000 tonnes CO_2eq.

Committed to Driving Innovation

The Natural Gas Innovation Fund™ (NGIF) supports the funding of cleantech innovation in the natural gas value chain. It seeks to fill a technology development gap in the sector and invests in innovation enabling natural gas solutions for current and emerging challenges facing Canada's energy system.



Lots of Potential

New natural gas solutions include hybrid heating, natural gas heat pumps, micro combined heat and power, and small scale residential/commercial carbon capture. Canada's natural gas delivery industry is working hard to drive innovation that will make sure Canadian homes, businesses, and institutions have access to affordable, clean, safe and reliable energy.

THE SOLUTION: Drive Energy Efficiency and Cleantech Innovation
HOW: Support investment in energy efficiency initiatives and gas technology innovation

Background:

Natural gas distribution utilities have been developing successful energy efficiency programs for their residential, commercial and industrial customers for more than 20 years. These programs help customers invest in more efficient equipment and provide energy saving tips. Since 2013, CGA members have invested almost $400 million in their energy efficiency programs. This has saved customers over 250 million cubic metres of natural gas and cut GHG emissions by over 820,000 tonnes CO_2eq.*

The Solution:

Looking to the next decade, utilities are focused on continuing existing programs but are seeking collaboration to develop new natural gas solutions including hybrid heating, natural gas heat pumps, micro combined heat and power, and small scale residential/commercial carbon capture.

Canada's natural gas utilities also have a long history of partnering with organizations such as Canmet ENERGY, the Office of Energy Efficiency, the Office of Energy Research and Development, the National Research Council and the Natural Gas Technology Centre to support the testing, demonstration, and development of innovative technologies. These important relationships should continue and more should be done in the future to leverage them.

In 2016, the Natural Gas Innovation Fund™ (NGIF) was created by the Canadian Gas Association to support further funding of cleantech innovation in the natural gas value chain. Through NGIF and its precursors since 2011, so far utilities have invested $8 million — leveraging $70 million from industry and government — in 14 natural gas cleantech projects. More information on NGIF innovation priorities and recently funded projects can be found at www.ngif.ca.

NGIF
NATURAL GAS INNOVATION FUND
GAZ NATUREL FINANCEMENT INNOVATION

Federal Leadership:

In 2017, the federal government invested $800,000 in G4 Insights Inc. for the development of technology to convert forestry waste into renewable natural gas that can be distributed through existing natural gas pipelines in Canada. G4 Insights also received a combined $1.35 million towards the project from NGIF, Alberta Innovates, FP Innovations and several CGA utility members.

At the end of 2018, NGIF, together with Natural Resources Canada (NRCan), Emissions Reduction Alberta (ERA), Alberta Innovates (AI) and the Province of British Columbia Innovative Clean Energy ICE Fund (ICE Fund) collaborated on a $3 million call for funding applications to advance cleantech solutions directed at natural gas producers under trusted partner relationships.

* Not all natural gas utilities conduct energy efficiency/demand-side management program, some programs are run by independent provincial agencies/departments.

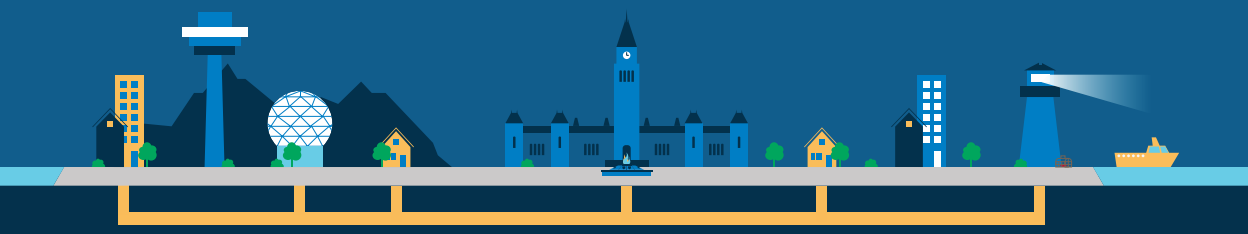
Recommendations:

- Allocate $15 million over five years to expand funding to NRCan to support residential and commercial market transformation activities including technology deployment (e.g., gas heat pumps), development of new codes and standards and funding to advance long-term aspirational energy efficiency regulations to 2035.
- Create a three-year, $300 million fund to advance clean technologies for natural gas. The fund would support small and medium enterprises and clean technology commercialization to accelerate emissions performance in the natural gas industry.

MAINTAINING AND ENHANCING SAFETY AND SECURITY

Safety and Security is Our Highest Priority

Canada's natural gas delivery industry places safety and security as its top priority, enabling us to deliver a safe and reliable supply of natural gas to consumers from coast to coast to coast.



Meeting the Highest Codes and Standards

Natural gas delivery systems are designed, built and operated to meet and exceed the highest Canadian codes and standards. Our industry works to ensure all business activities meet the needs and expectations of today's Canadians.

Canada's Natural Gas Delivery Industry's Commitment

- Foster a culture driven by principles of public and worker safety and security;
- Promote ongoing industry learning, innovation and sharing of knowledge via transparent dialogue with all stakeholders; and
- Pursue an aspirational goal of faultless safety, integrity and reliability, together with exemplary environmental stewardship.

THE SOLUTION: Maintaining and Enhancing Safety and Security

HOW: Opportunities for collaboration and partnerships to maintain and strengthen safety and security in the natural gas industry in Canada

Background:

Canada's natural gas delivery industry places safety and security as its top priority, enabling us to deliver a safe and reliable supply of natural gas to consumers across Canada. Natural gas delivery systems are designed, built, operated and maintained to the highest codes and standards, and our industry is continuously improving through a culture focused on public and worker safety, customer service, reliability, security and resilience.

The Solution:

The natural gas delivery industry has a long history of collaborating with government and other stakeholders to develop, implement and share best practices related to safety and security.

For instance, CGA, along with Natural Resources Canada, co-chairs the Energy and Utilities Sector Network which has been bringing together industry and government stakeholders for over 15 years to discuss cyber and physical security issues. CGA and its members are engaged with the Communications Security Establishment which, under the new Canadian Centre for Cyber Security, will enable collaborative and innovative work improving cyber security for Canadian industry. CGA's participation in Public Safety Canada's Cyber Security Cooperation Program has further enabled the industry to improve its cyber security posture. CGA members are also active participants in the Downstream Natural Gas Information Sharing and Analysis Centre which provides secure and timely physical and cyber threat information to its members.

In 2014, the CGA developed an awareness training program for first responders focusing on natural gas properties and emergency response considerations. This program is widely used across Canada, supporting first responders in their work.

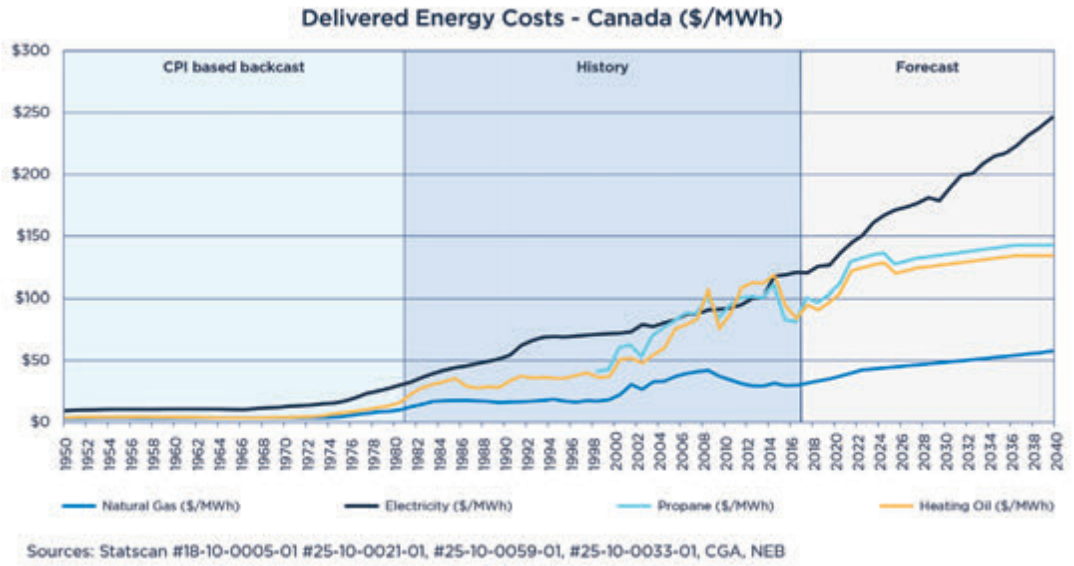
The prevention of damage to buried critical infrastructure is also important. CGA is a founding member of the Canadian Common Ground Alliance (CCGA), an organization that encourages Canadians and excavators to "click or call before they dig". CCGA has worked closely with various provincial governments as well as federal departments in order to expand this prevention system across jurisdictions.

Recommendations:

- Increase support for the collaboration between government and the private sector on cyber security via the Cyber Centre, Public Safety Canada's Cyber Security Cooperation Program, and the Energy and Utilities Sector Network.
- Support organizations such as the Canadian Common Ground Alliance and continue to support initiatives such as the damage prevention pilot project enabled by the PSPC-CCGA MOU.

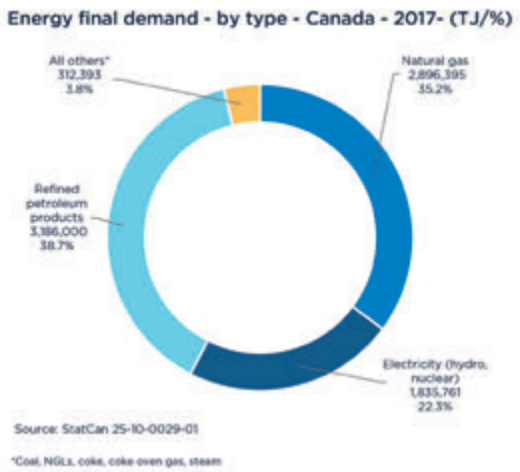
NATURAL GAS FACTS

Natural gas is Canada's most affordable fuel. National Energy Board forecasts, which currently go to 2040, say that natural gas will remain 50-75 per cent more affordable than heating oil, propane, and electricity.



Sources: Statscan #18-10-0005-01 #25-10-0021-01, #25-10-0059-01, #25-10-0033-01, CGA, NEB

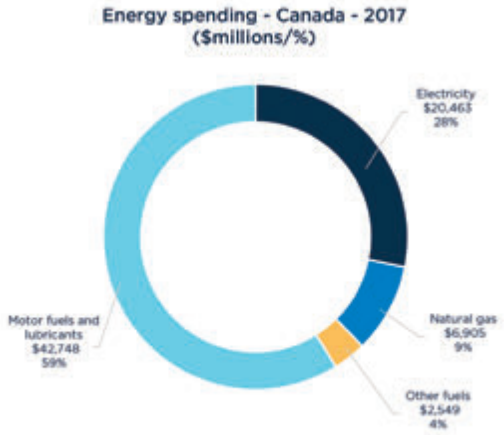
In 2017, natural gas met 35 per cent of Canada's energy needs. By 2035, the National Energy Board forecasts natural gas will become Canada's largest fuel source.



Source: StatCan 25-10-0029-01

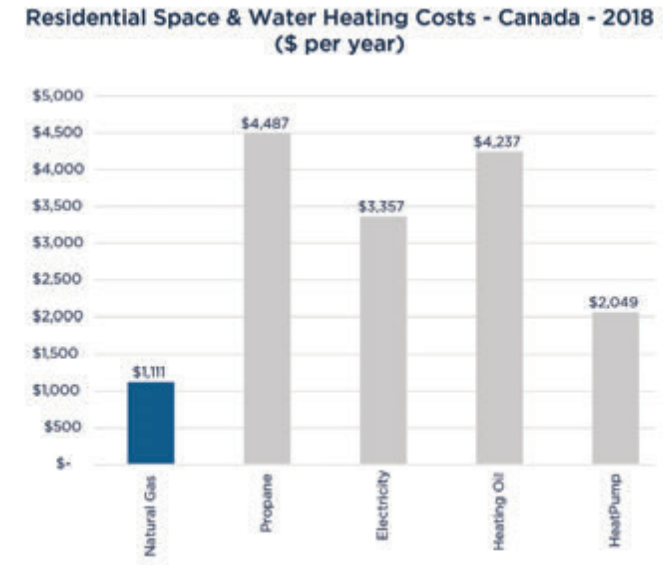
*Coal, NGLs, coke, coke oven gas, steam

In 2017, Canadian consumers spent $20 billion on electricity to meet 22 per cent of the country's energy needs while spending only $7 billion on natural gas to meet 35 per cent of our energy needs.



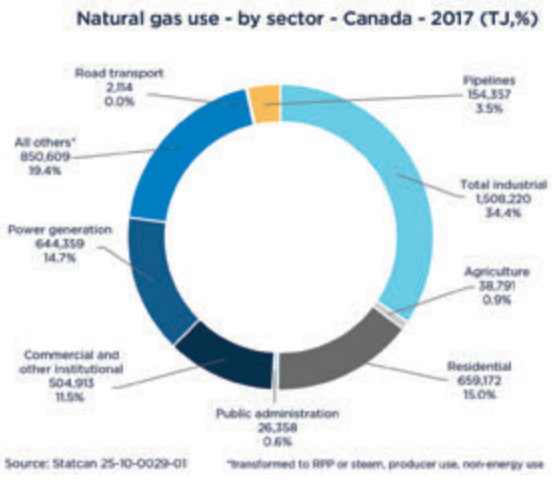
Source: StatCan 380-0085

On average, the cost of heating a home and water nationally with natural gas was $1,100 compared to $4,400 with propane, $3,300 with electricity and $4,200 with heating oil.



Source: StatsCan, Kent Marketing, CGA

Natural gas is used in every major sector in Canada. Almost 50 per cent of Canada's natural gas is consumed by industry and power generators. Residential and commercial users accounted for 15 per cent and 12 per cent respectively.



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