



Canadian
Gas Association
Association
canadienne du gaz

CANADIAN NATURAL GAS AND CLIMATE CHANGE

CONTEXT

The Canadian Gas Association and its member companies are committed to the promotion and encouragement of responsible energy use within our operations and for our customers. The CGA supports the Government's objectives to reduce emissions. However, it has serious concerns around the means required to meet the objectives, and around the possible economic impacts of required measures.

As part of the negotiations that led to the signing of the Kyoto Protocol, Canada agreed to reduce national emissions to 6% below 1990 levels. Since 1990, Canada's greenhouse gas emissions have significantly increased. In fact, if Canada were to ratify the agreement and it were to come into force, Canada would have to reduce its emissions by about 29% below the currently-projected 2008-2012 level.

CANADIAN NATURAL GAS – A MAJOR CONTRIBUTOR TO OUR ENERGY NEEDS AND OUR ECONOMY

Natural gas meets 28% of the country's energy requirements for consumption of over 2900 petajoules. Excluding energy use in the transportation sector, the contribution of natural gas to Canada's overall energy portfolio exceeds 40%:

- In the residential sector, over four million homes, representing more than 50% of Canadian households, rely on the services of Canadian pipelines and distribution companies to deliver the natural gas they need for space and water heating as well as other household applications. In 2001, over 100,000 new households adopted cleaner burning natural gas to meet their needs.
- The manufacturing sector relies on natural gas for over 50% of its energy requirements.

- Natural gas also represents a dominant energy source in the iron/steel, petroleum refining, and chemical manufacturing industries.

Furthermore, the upstream and downstream natural gas industry contributes significantly to the economy. More than 20,000 Canadians are employed in the transportation and distribution sector, and more than 200,000 jobs directly rely on oil and gas-related activities in the upstream sector.

Natural gas related infrastructure also contributes significantly to municipal government revenues in the form of municipal taxes. In fact, in many parts of the country, natural gas pipelines are the largest single contributor to municipal budgets.

Canada is the third largest natural gas producer in the world. While production originates primarily in the Western Canadian Sedimentary Basin, other emerging supply regions such as offshore Nova Scotia, contribute an ever-increasing percentage of total Canadian output. Total Canadian natural gas production topped 6 Tcf in 2001 – a 4% increase over year 2000.

Natural gas sales to Canadian and U.S. markets generated approximately \$40 billion in revenues for Canada in 2001 (25% over 2000 levels), and 40% of this sum came from sales to the Canadian market. A

combination of factors were responsible for the higher revenues in 2001 – higher production, increased sales to the U.S. market, and robust market prices.

The importance of the U.S. market to Canadian natural gas producers has increased steadily since deregulation occurred over 15 years ago. In 2001, according to Statistics Canada data, over 60% of total Canadian natural gas production was exported to the United States. Sustained strong demand from the United States is expected to support high demand for Canadian natural gas over the coming years.

CANADIAN NATURAL GAS AND THE ENVIRONMENT

The use of natural gas results in fewer environmental impacts than other fossil fuels. For example:

- On an energy content basis, natural gas is a cleaner-burning fuel than coal or crude oil. Although a number of fossil fuel sources can meet the energy requirements of many industrial and commercial applications, natural gas is the energy source that contributes the least to harmful emissions – by far.
- When natural gas burns, it releases up to 50% less carbon dioxide than coal, and 20-30% less than crude oil.
- Those products that do result from burning natural gas are less harmful to the environment. The combustion of natural gas

produces lower levels of carbon monoxide, volatile organic compounds, oxides of nitrogen (No_x), sulphur dioxide and particulate matter than other fossil fuels. The continued and increasing use of this energy resource can therefore fulfil society's energy requirements and at the same time significantly contribute to reduce emissions, improve local air quality and address public health issues.

- Vehicles powered by natural gas produce 20-30% fewer carbon dioxide emissions than vehicles powered by petrol.
- Transporting and distributing natural gas has less environmental impact than transporting other energy sources. Pipelines are more energy-efficient than marine transportation, railways or trucks.

CGA POLICY RECOMMENDATIONS

Principles

- Policy development should emphasize the environmental benefits of natural gas and recognize its role as a transition fuel to a cleaner energy-based economy of the future.
- It is important to ensure that any emissions reduction policies that are developed are consistent with North American natural gas market and policy trends.
- Policies that encourage the expanded use of natural gas can assist in lowering greenhouse gases and air pollutants.

Natural gas contributes significantly to the economy and the environment in all parts of the country. Policy development and programs aimed at reducing greenhouse gases (GHG) emissions should therefore not act as disincentives to the development, production, and delivery of cleaner energy sources, including natural gas. **Policy development should emphasize the environmental benefits of natural gas and recognize its role as a “bridge fuel” to a cleaner energy-based economy of the future.**

Integration of North American Market

It is essential that efforts to address complex issues such as climate change acknowledge the broader context of continental energy integration – and that Canadian policy directions should not be adopted in isolation. Indeed, the implications of Canada’s integration in a broader North American market cannot be underestimated.

As indicated above, Canada exports over 60% of its natural gas production exclusively to the U.S., and Canada’s export-oriented industries are energy-intensive. Consequently, **it is important to ensure that any emissions reduction policies that are developed are consistent with North American natural gas market and policy trends.**

Canadian natural gas prices are set in an increasingly integrated North American market. Canadian producers will have to bear any costs they incur in order to comply with Canada’s decisions to impose carbon emission constraints. These higher costs will contribute to reduced Canadian competitiveness, and could influence investment decisions, especially when investors compare Canada to potential projects located outside countries that plan to adhere to the Kyoto Protocol. Furthermore, in the continental marketplace, Canada’s natural gas basins such as the Western Sedimentary Basin in Alberta and the Scotian Shelf in the Maritimes compete directly with natural gas sources in the U.S., and may eventually compete with those in Mexico.

In the context of this highly integrated continental market, the prospect of inconsistent approaches to climate change among jurisdictions raises competitiveness concerns. If Canadian companies are required to operate under the Kyoto Protocol and other continental energy firms are not, non-Canadian firms may gain a significant competitive advantage. It is critically important that Canada and the U.S. take compatible approaches in their efforts to reduce GHGs, in order to ensure that natural gas companies continue making a viable economic contribution to Canada.

Climate Change and Regional Air Quality – the role of natural gas

Natural gas is a key part of the solution to both climate change and regional air quality issues. **Policies that encourage the expanded use of natural gas in electricity generation and industrial applications can assist in lowering greenhouse gases and air pollutants such as oxides of nitrogen, that cause smog in major urban areas.**

Increased natural gas use in urban areas will lead to improved air quality. The identification and removal of barriers to natural gas usage will create market conditions that will lead to the displacement of fuels that pollute more than natural gas.

Regulations and initiatives to address both issues should be consistent and continentally integrated. As well, **any climate change related policies should recognize the importance of new natural gas-based technologies that are under development as a response to this issue.** Such policies should allow for a competitive environment that will permit the easy introduction of these new technologies into the marketplace.

Analysis and Implementation Mechanisms

Although Canada has signed the Kyoto Protocol, and the federal government has stated its commitment to the process, decisions enabling ratification remain outstanding. Before Canada decides to implement a broad national portfolio of measures required to achieve our Kyoto commitments, **further work on the economic, social, and environmental implications for Canada is necessary.**

So far, there is insufficient analysis available to assess the potential impacts of implementing the objectives set out in the Kyoto Protocol. **CGA contends that additional work is required to assess the impacts of the various contemplated**

measures and implementation mechanisms. At this time, the relative benefits or costs to the natural gas industry have not been assessed, either. While it is generally assumed that limits on carbon emissions would lead to relative increased natural gas usage, compared to other fossil fuel sources, the effects on the industry have not been quantified.

Recognizing the positive contribution of natural gas is another emerging issue significant to the natural gas industry. Lately, for instance, credits for cleaner energy exports have been touted as important components of Canada's environmental policy goals. But to date Canada's international partners have not recognized credits for natural gas sales to U.S. markets as a valid mechanism to foster reduced global emissions. Moreover, the U.S. government may recognize its own citizens' actions to substitute higher-carbon energy sources with cleaner burning natural gas under a U.S. credit mechanism. The fact is, international negotiations leading to the recognition of the positive contribution of natural gas usage will be lengthy – and the final outcome is uncertain.

Furthermore, it is generally assumed that Canadians can achieve significant emissions reductions through a mix of market-based instruments and targeted measures.

The most important market-based instrument is widely considered to be emissions trading. This mechanism would provide financial market-based incentives to use cleaner fuels, implement efficiency measures, and develop new technologies. Companies would be allowed to offset some high-cost emissions reduction activities by purchasing the lower-cost "rights" or credits of other firms. These incentives, if designed properly, offer society considerable potential for lowering the overall costs of reducing GHGs. At this time, however, emissions trading is widely misunderstood. Neither the

structure nor the methodology for allocating the rights for an emissions trading system has been fully developed, and many other issues are unresolved.

Furthermore, the effectiveness of emissions trading in Canada is complicated by the fact that neither of Canada's major trading partners – the United States and Mexico – are involved. A Canada-wide trading system linked to the international market, but set up independently of the United States, would greatly affect the value and liquidity of emissions credits, and diminish the efficiency of this market-based instrument.

As part of the Government's broader initiatives under review, targeted measures to encourage the increased use of natural gas could be an immediate and potentially cost-effective strategy for Canada. CGA member companies, for instance, provide incentives and educational tools on the merits of wise and efficient energy use. They are leaders in promoting consumer engagement in actions to reduce emissions.

We believe that the Government could magnify such industry actions by embarking on similar complementary types of programs promoting the merits of cleaner energy sources, including the efficient use of natural gas. For example, the Government might choose to encourage consumers to replace less efficient appliances with models that provide efficiency rates as high as 97%. Such initiatives would lead to immediate emissions reductions, and provide more cost efficiency than the carbon abatement costs in many parts of the natural gas supply chain. This type of activity would provide the added benefit of engaging the Canadian public in actions to reduce emissions.

As an environmentally-preferred energy source widely used by Canadians, natural gas should be recognized as the transition fuel to a cleaner energy-based economy of the future. And the CGA believes that individual actions by Canada's five million natural gas customers can contribute to significantly reduce emissions.

CONCLUSION

Natural gas is part of the global solution to climate change. Just as Canada's natural gas industry is an increasingly integral part of a broader continental market, we must reconcile our environmental objectives with the natural

gas industry's contribution to North America's energy needs. Furthermore, Canadian policies and program development should be developed to serve as an incentive for the use of cleaner burning natural gas.