CGA BY THE NUMBERS

THE IMPACT OF POLICY DRIVEN ELECTRIFICATION IN CANADA

In Canada today, there has been growing discussion around electrification, but little analysis of the overall costs, system requirements, benefits and implications of such policies. To shed light on the implications of electrification, the Canadian Gas Association (CGA) commissioned ICF to undertake a study that would help us understand the requirements and impacts of such a policy-driven strategy on the Canadian natural gas industry, and on Canadian consumers.

Beginning with assumptions biased towards electrification (that advanced technology will be available, that the move to such technology can be quick, that cost increases will be low, that system reliability will not suffer, etc.), the study assesses four scenarios. Here are some highlights:

Policy-driven **electrification could increase the total energy cost by between $580 billion to $1.4 trillion** over the 30 year period between 2020 and 2050.

	Renewables Only	Renewables and Existing Gas	Market Based Generation	Integrated Energy System
Required Incremental Increase in Generation Capacity	252 GW*	232 GW*	169 GW*	108 GW*
	**Canada's current generating capacity is 141 GW.*	**Canada's current generating capacity is 141 GW.*	**Canada's current generating capacity is 141 GW.*	**Canada's current generating capacity is 141 GW.*
Cost of Added Generation Capacity	$851 billion	$829 billion	$597 billion	$325 billion
Cost of Added Equipment and Energy	$291 billion net energy and equipment costs over the 30 year period			$170 billion net energy, equipment, and RNG costs
Added Cost of Electrification per Canadian Household	$3,200 per year	$3,100 per year	$2,300 per year	$1,300 per year
GHG Emissions Reductions by 2050	311 million tonnes of CO_2	279 million tonnes of CO_2	146 million tonnes of CO_2	279 million tonnes of CO_2
Cost of Emissions Reductions	$289 per tonnes of CO_2 reduction	$291 per tonnes of CO_2 reduction	$411 per tonnes of CO_2 reduction	$129 per tonnes of CO_2 reduction

NATURAL GAS FACTS:

Over 570,000 kilometres of underground transmission and distribution infrastructure and storage facilities to bring natural gas across the country to **over 7 million customer locations serving over two-thirds of Canadians.**

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.

RENEWABLE GASES

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 use is growing faster than the use of any other energy in our country.

The National Energy Board projects that **natural gas will be meeting close to 40 per cent of our energy needs** within 20 years.

CANADIAN GAS ASSOCIATION
ASSOCIATION CANADIENNE DU GAZ

ELECTRIFICATION STUDY

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