Application for Inquiry into the Canadian Gas Association's false and misleading representations about natural gas

Overview

This application requests that the Competition Bureau of Canada investigate representations made by the Canadian Gas Association (CGA) in their "Fuelling Canada" advertising campaign. The CGA represents that natural gas is "clean" and "affordable." That is, good for the planet, for human health, and for our wallets, including compared to other home energy systems. However, the significant impact that natural gas has on the climate, the environment, and human health means that it is not clean. Natural gas is also less affordable than other home energy systems and will become less affordable over time. As such, the CGA's representations are false and misleading.

The CGA is an organisation established to advance the business interests of its members, who are natural gas companies. The CGA has made these representations to help its members sell more natural gas. The representations seek to convince consumers and governments that more homes should be connected to natural gas for heating and cooking. The CGA wants to sustain and increase its members' customer base and expand natural gas infrastructure in Canada.

These representations come at a time when mounting evidence indicates that natural gas is dangerous for the environment and for human health and that we need to phase out gas use to address climate change. As a result, governments at all levels across Canada are committing to reducing emissions in the building sector. To do so, some are proposing to ban new gas hook-ups in buildings and are encouraging the replacement of natural gas systems with low-carbon electric heating systems and appliances. CGA's representations, if false, serve to deceive consumers into believing that natural gas is part of a healthy and sustainable future and threaten the transition towards a net zero sustainable economy.

This application asserts that the CGA's representations that natural gas is "clean" are false and misleading because:

- The production and use of natural gas releases significant greenhouse gas (GHG) emissions that contribute to climate change. Taking into account the entire lifecycle of natural gas and the global warming effects of methane, natural gas has a similar climate impact as coal, one of the dirtiest fossil fuels;
- 2. The production of natural gas pollutes the environment. The natural gas extraction and refining process uses thousands of chemicals, is water intensive, and pollutes the local air and surface and groundwater sources; and
- 3. The use of natural gas for home heating and cooking causes indoor air pollution. The combustion of natural gas releases air pollutants such as nitrogen dioxide, which causes a range of human health impacts.

The application asserts that the CGA's representations that natural gas is "affordable", including in comparison to other home energy systems, are false and misleading because:

- 1. **Natural gas is less affordable than other energy options.** The heat pump is cheaper to operate than a natural gas heating system in most parts of Canada and will become increasingly more affordable into the future as natural gas prices rise;
- 2. The price of natural gas is highly volatile. Natural gas is one of the most price-volatile commodities; its price is influenced by a range of global factors and can rise sharply in a short period of time. Since claims about affordability must consider the entire 10-25 year lifespan of a natural gas heating system, the volatility of natural gas makes it very difficult for anyone to claim that natural gas will be affordable for this period;
- 3. The price of natural gas will increase due to climate policies and carbon pricing. As our governments implement policies to help address climate change, natural gas companies will have to adopt new technologies to reduce their emissions or pay the increasing carbon price. These added costs will drive up the price of natural gas for consumers over the lifespan of their energy system; and
- 4. The price of natural gas will increase as consumers leave the natural gas system. As climate policies and the escalating carbon price cause the price of natural gas to increase, consumers will switch to cheaper and lower carbon energy systems, leaving fewer consumers to pay for the fixed costs of operating the natural gas distribution system. This will further increase the costs for those consumers, making natural gas even less affordable.

These misrepresentations are material because consumers are concerned about climate change and because climate and environmental considerations affect their purchasing decisions. Consumers also make purchasing decisions based on concerns about their health, while cost is always a primary consideration. Further, consumers do not understand the full impacts of natural gas on the climate, the environment, or their health, in part because of the lack of information available to them, including data about the toxicity of chemicals used in natural gas production and data about "fugitive" methane emissions. The volatility of natural gas prices and the range of factors that influence the price of natural gas also make it difficult for consumers to assess whether a natural gas system is affordable over its entire lifespan. This leaves consumers unable to assess the accuracy of the CGA's misrepresentations.

If the inquiry finds that the CGA has made materially false and misleading representations to the Canadian public, the Complainants submit that the CGA should be required to, at a minimum:

- 1. Remove all claims of "clean" and "affordable" or the like from its public communications about natural gas;
- 2. Issue a public retraction of these representations;
- 3. Pay a \$10 million fine, credited to the Environmental Damages Fund, and to be paid to a person or organization for the purposes of public climate education about clean fuels and health impacts related to fossil fuel use and climate change.

These penalties will allow Canadians to make accurate and informed choices about the uptake of natural gas-based energy systems in their homes and will deter other natural gas companies from making false and misleading claims about natural gas.

Applicants

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Contents

| Overview | 1 |
|--|----------|
| 1. Legal Framework | 5 |
| 2. Background | 7 |
| 2.1 The Canadian Gas Association | 7 |
| 2.2 Natural Gas | 8 |
| 2.3 Climate Change | 9 |
| 3. CGA's representations about natural gas are false and misleading in a material respect | 11 |
| 3.1 CGA has made representations about the nature of natural gas | 11 |
| 3.1.1 Natural Gas is "clean" | 11 |
| 3.1.2 Natural Gas is "affordable" | 13 |
| 3.1.3 The General Impression conveyed by CGA's representations | 15 |
| 3.2 CGA's representations were made for the purpose of promoting the business interests of its members | 17 |
| 3.3 CGA's representations are material | 18 |
| 3.4 CGA's representations are false and misleading | 20 |
| 3.4.1 Natural gas is not clean because it contributes to climate change, harms the environment and causes indoor air pollution | t, 21 |
| 3.4.2 Natural gas is not "affordable" | 29 |
| 4. Request for inquiry | 36 |
| Appendices | 37 |
| Appendix A: Representations on Facebook & Instagram | 37 |
| Appendix B: Representations on Twitter | 41 |
| Appendix C: Representations on "Fuelling Canada" website | 42 |
| Appendix D: Representations in the media | 43 |
| Appendix E: Statutory Declarations | 47 |

1. Legal Framework

This application is made under s.9 and s.10 of the *Competition Act* (the "Act") for an inquiry into whether grounds exist for the Commissioner to make an order under s.74.01(1) of the Act. Under s.74.1 of the Act, the Commissioner may apply to a court to determine whether a person has engaged in "reviewable conduct." Following a determination, the court may make orders prohibiting the conduct, requiring the publication of a public notice describing the conduct, and/or imposing a monetary penalty.

Under s.74.01(1) of the Act, "reviewable conduct" includes making a representation to the public that is false or misleading in a material respect for the purpose of promoting, directly or indirectly, the supply or use of a product or for the purpose of promoting, directly or indirectly, any business interest, by any means whatever. As per s.52(1.2) of the Act, a "representation" includes making, sending, or permitting a representation to be made or sent.

There are three elements to a violation of the civil prohibition against false or misleading representations:

- 1) A person has made a representation to the public by any means whatever;
- 2) The representation was made for the purpose of promoting, directly or indirectly, any business interest; and
- 3) The representation is false or misleading in a material respect or is made in the form of a statement, warranty or guarantee of performance, efficacy or length of life of a product that is not based on an adequate and proper test thereof, the proof of which lies on the person making the representation.¹

The Commissioner must establish each of these elements on a balance of probabilities.

A representation is "material" if it is so pertinent, germane, or essential that it could affect the decision to purchase the product.² It is not necessary to establish that any person was actually misled by the representation. It is sufficient to establish that an advertisement is published for public view and that it is untrue or misleading in a material respect.³

Section 74.03(5) of the *Competition Act* provides that, in proceedings under s.74.01, the "general impression conveyed by a representation, as well as its literal meaning, shall be taken into account in determining whether or not the person who made the representation engaged in the reviewable conduct."

The "general impression test" in the *Competition Act* has been interpreted by the Supreme Court of Canada to mean the general impression that a credulous and inexperienced person has after an initial contact with the entire advertisement.⁴ It relates to both the layout of the advertisement and the meaning of the words used. The general impression conveyed by a representation must be analyzed in the abstract – without considering the personal attributes of the consumer who has instituted the proceedings.⁵ As the Competition Bureau notes, the general impression test recognizes the power of the

¹ Competition Act, RSC 1985, c. C-34, ("Competition Act") s.74(1)(a).

² *R. v. Tege Investment Ltd.* (1978), 51 CPR (2d) 216 at para 7; cited and adopted by *Canada (Commissioner of Competition) v. Sears Canada Inc.*, 2005 Comp. Trib. 2, (*"Sears Canada"*) at para 334; *Apotex Inc. v. Hoffmann-La Roche Ltd.* (2000) O.J. No. 4732 at para 16.

³ Canada (Commissioner of Competition) v. Sears Canada Inc., ibid at para 334.

⁴ *Richard v. Time Inc.*, 2012 SCC 8, at paras 57, 70. Note that in this case the SCC interpreted the General Impression Test as it applied to Quebec's Consumer Protection Act, RSQ., c. P-40.1.

"sum of the parts" in advertising, and ensures that the Competition Bureau or reviewing court consider the overall impression that an advertisement as a whole makes on consumers.

Competition Bureau guidance on environmental claims

The Competition Bureau has previously emphasised the importance of reliable environmental representations that are accurate, substantiated, and verifiable and are not misleading or likely to result in misinterpretation.⁶

The Competition Bureau's webpage on environmental claims and greenwashing acknowledges that Canadians' growing concern about climate change and the environment has led some businesses to engage in "greenwashing"; that is, making false or misleading environmental claims in order to sell their products or services.⁷ The webpage acknowledges that businesses that legitimately offer a product or service with a lower environmental impact may be harmed by greenwashing claims made by their competitors.

The Competition Bureau states that businesses "should avoid vague claims such as 'eco-friendly' or 'safe for the environment.'"⁸ It also states that claims must not be misleading, must be specific, must not result in misinterpretations, and must not exaggerate the environmental benefits of a product.

Although it has been archived, the Competition Bureau's "Environmental Claims: A Guide for Industry and Advertisers" provides further guidance applicable to this case.⁹ For example, the guide recommends that "environmental claims must be subject to a consideration of the life cycle of a product."¹⁰ While a detailed life cycle analysis is not required, the guide states that there must be a "net environmental benefit," when the lifecycle of the product is taken into account. Considerations include the emissions created during production and the toxicity of those emissions and materials, and the environmental impacts that occur during use of the product.

2. Background

2.1 The Canadian Gas Association

The Canadian Gas Association (CGA) is an industry association that calls itself "the voice of Canada's natural gas industry." It is a federally registered not-for-profit corporation.¹¹ The CGA is also federally

- https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02701.html#s4_6 ("Environmental Claims Guide"); Competition Bureau (23 Jan. 2017). It's not easy being green. Businesses must back up their words, accessed 18 Nov. 2021 online: https://www.canada.ca/en/competition-bureau/news/2017/01/not-easy-being-greenbusinesses-must-back-up-their-words.html
- ⁷ Competition Bureau Canada (n.d.). *Environmental claims and greenwashing*, accessed Sept. 2022 online: https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04607.html#sec04

⁸ Canadian Gas Association (n.d.). About Us, accessed Sept. 2022 online: <u>https://www.cga.ca/about-us/</u>

⁵ Richard v. Time Inc., ibid at para 49.

⁶ Canadian Standards Association and Competition Bureau Canada (2008). *Environmental Claims: A Guide for Industry and Advertisers*, PLUS 14021 at v, accessed 18 Nov. 2021 online:

⁹ Canadian Standards Association and Competition Bureau Canada (2008). *Environmental Claims: A Guide for Industry and Advertisers*, accessed Sept. 2022 online: <u>https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02701.html#s3_3</u> ¹⁰ Canadian Standards Association and Competition Bureau Canada (2008). *Environmental Claims: A Guide for Industry and Advertisers*, accessed Sept. 2022 online: <u>https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02701.html#s3_1</u> (CAN/CSA-ISO 14021, Clause 3.1.8)

¹¹ Government of Canada (2022) *Federal Corporation Information – 034676-4 – Canadian Gas Association*, accessed 1 Sept. 2022 online:

registered as a lobbyist that "advocates for support to bring natural gas pipeline infrastructure to new communities, to support transportation fuel infrastructure, and to support energy technology innovation."¹²

The CGA's stated vision is that "Canada's natural gas and its natural gas delivery infrastructure are recognized as essential to meet the long-term energy service needs of customers and the economy as a whole in an affordable, reliable, and environmentally sound manner."¹³The purpose of the CGA is to maintain and expand the use of natural gas, which its members produce, transport, and distribute to users.

The CGA's members include natural gas production, transmission, and distribution companies, utilities, pipeline construction companies, and municipalities. Members include: Inuvik Gas, Pacific Northern Gas, FortisBC, ATCO, AltaGas Utilities, the Federation of Alberta Gas Cooperatives, the City of Medicine Hat, SaskEnergy, Manitoba Hydro, Union Gas, Enbridge Gas Distribution, Utilities Kingston, Gazifere, Energir, Enbridge Gas New Brunswick, Heritage Gas, and TransCanada. The CGA's board of directors is also composed of natural gas companies, including: Enbridge, FortisBC, ATCO Gas, TC Energy, and Energir.¹⁴

The CGA has an active and broad public presence. Its social media presence includes Twitter, Facebook, LinkedIn, Youtube, and an electronic newsletter. The CGA also produces a quarterly magazine called "Energy."

In November 2021, the CGA launched the "Fuelling Canada" campaign, which has its own website, Twitter handle, Facebook page, and Instagram account. The Fuelling Canada web page describes itself as a "resource hub for Canadians to learn more about natural gas and its essential role in the Canadian economy." The mission of Fuelling Canada is to "drive positive conversation about natural gas and its role in the Canadian economy."¹⁵

The fact that Fuelling Canada is a campaign of the CGA is not made evident in the CGA's or Fuelling Canada's materials; the Fuelling Canada website only indicates that CGA is a partner and states that "our partners include cleantech companies, equipment manufacturers, home builders, innovation funds, and energy youth and transportation associations." However, a blog by Alberta's Canadian Energy Centre states that Fuelling Canada is a campaign of the CGA and Facebook transparency rules reveal that the Fuelling Canada Facebook ads were paid for by the CGA.

As public awareness has grown around climate change and the need to reduce emissions, the CGA has sought to position natural gas as "clean energy."¹⁶ The CGA oversees the Natural Gas Innovation Fund, which funds research and development into areas such as carbon capture and storage and renewable natural gas.¹⁷ It also more recently launched a "Net-Zero Hub," which produced a "Pathways to Net-

https://www.ic.gc.ca/app/scr/cc/CorporationsCanada/fdrlCrpDtls.html?corpId=346764&V_TOKEN=null&crpNm=canadian%20g as%20association&crpNmbr=&bsNmbr=

¹² Office of the Commission of Lobbying for Canada (2022). *Registration – In-house Organization: Canadian Gas Association,* accessed 1 Sept. 2022 online: <u>https://lobbycanada.gc.ca/app/secure/ocl/lrs/do/vwRg?cno=191®Id=922070&blnk=1</u>

¹³ Canadian Gas Association (n.d.). *Join CGA*, accessed Sept. 2022 online:<u>https://www.cga.ca/about-us/join-cga/</u>

¹⁴ Canadian Gas Association (n.d.). *About Us,* accessed Sept. 2022 online: <u>https://www.cga.ca/about-us/</u> ¹⁵ Fuelling Canada (n.d.). *About Us,* accessed Sept. 2022 online:<u>https://fuellingcanada.ca/about-us/</u>

¹⁶ Fuelling Canada (2 April 2022). *Brief to Standing Committee on the Environment and Sustainabile Development Build Environment Study*, accessed Sept. 2022 online: <u>https://www.cga.ca/submissions/brief-to-standing-committee-on-the-</u>environment-and-sustainable-development-build-environment-study/

Zero" report claiming to show how natural gas can be part of a net-zero economy.18

2.2 Natural Gas

Natural gas is a naturally occurring mixture of gases consisting primarily of methane, which is a type of greenhouse gas (GHG). Natural gas forms underground and is extracted by drilling a well or through other "unconventional" techniques such as hydraulic fracturing (also known as "fracking"). Fracking involves the injection of a fluid (which contains a mixture of sand and chemicals) into the ground under very high pressure to shatter the subsurface rock formation and release the natural gas trapped in the rock.

Natural gas is a fossil fuel and is primarily used by residential and commercial users as a source of heat, including space and water heating, in cooking appliances, and to produce electricity. The energy produced by natural gas can be measured in gigajoules (GJ) (metric) or one million British thermal units (MMBtu) (imperial).¹⁹

The production and consumption of natural gas produces GHG emissions (mainly carbon dioxide and methane) which contribute to climate change, as well as other pollutants that impact the environment and human health.

"Renewable" natural gas (RNG) is chemically similar to natural gas but differs in where it comes from. RNG comes from biogas (which is mostly methane) that is captured from landfills, wastewater treatment plants, and livestock farms.²⁰ It can be piped into existing natural gas transmission infrastructure where it mixes with conventional natural gas. RNG is often claimed to be a climate solution because capturing and burning it for energy produces carbon dioxide, which has a lower impact on the atmosphere than letting biogas escape into the atmosphere as methane. Nevertheless, it still contributes to global warming and is often used to add to natural gas consumption instead of replacing it. While there has been an expansion of "renewable natural gas" facilities in Canada,²¹ RNG represents a very small percent of the total volume of gas in the distribution system. For example, In Quebec in 2017 it represented less than 1% of gas in the province.²²

2.3 Climate Change

Climate change is primarily caused by the burning of fossil fuels, which release GHGs such as carbon dioxide, methane, and nitrous oxide into the atmosphere.²³

¹⁷ Canadian Gas Association (2020). *Overview of the Natural Gas Innovation Fund,* accessed Sept. 2022 online: https://www.cga.ca/energy-magazine-post/overview-of-the-natural-gas-innovation-fund/

¹⁸ Canadian Gas Association (n.d.) Net Zero Hub, accessed 12 Sept. 2022 online: https://www.cga.ca/netzero

¹⁹ Natural Resources Canada (n.d.). *Natural Gas: A Primer,* accessed Sept. 2022 online: <u>https://www.nrcan.gc.ca/energy/energy-</u> sources-distribution/natural-gas/natural-gas-primer/5641

²⁰United States Environmental Protection Agency (n.d.). *Renewable Natural Gas*, accessed Sept. 2022 online: <u>https://www.epa.gov/Imop/renewable-natural-gas</u>

²¹ Stephenson, A. (20 Feb. 2022). '*Renewable natural gas' boom coming, advocates say, as companies turn waste into fuel.* CTV News Calgary, accessed Sept. 2022 online: <u>https://calgary.ctvnews.ca/renewable-natural-gas-boom-coming-advocates-say-as-companies-turn-waste-into-fuel-1.5788945</u>

²² Renewable natural gas production in Québec: A key driver in the energy transition. Assessment of technical and economic potential in Québec (2018–2030). October 2018

²³ United States Environmental Protection Agency (n.d.). *Overview of Greenhouse Gases,* accessed Sept. 2022 online: <u>https://www.epa.gov/ghgemissions/overview-greenhouse-gases</u>

The effects of climate change include increases in extreme temperatures, severe weather events, wildfires, and flooding, all of which have extreme consequences for economies, food systems, communities, health, and wellbeing. Researchers at the Institute for Sustainable Finance recently calculated that climate change, if not addressed, could cost Canada between \$2.8 trillion and \$5.5 trillion between 2015 and 2100.²⁴

The impacts of climate change are already occurring as global temperatures have already increased 1.1°C above pre-industrial levels.²⁵ Climate change is impacting Canadians' health through extreme heat, wildfires, and increasing incidents of zoonotic diseases, such as Lyme disease.²⁶ Health Canada predicts that rates of physical and mental illness, injuries, and death will increase as the climate effects described in the paragraph above intensify.²⁷ These health effects will be exacerbated as severe weather events also damage health infrastructure and disrupt access to health services.²⁸

In 2019, buildings in Canada were responsible for 91 million tonnes (Mt) of carbon dioxide equivalent (CO₂e),²⁹ which accounted for 12% of Canada's total annual GHG emissions.³⁰ Approximately 85% of those emissions came from space and water heating using fossil fuels, mostly natural gas.³¹ Also in 2019, Canadian natural gas production and processing contributed 53 Mt of CO₂e, or 7% of Canada's total annual GHG emissions.³²

Under the Paris Agreement, a climate treaty signed by Canada and 195 other countries in 2015, the international community has agreed to limit global warming to "well below" 2°C above pre-industrial levels and to make efforts to keep warming to only 1.5°C.³³ The Intergovernmental Panel on Climate Change (IPCC), a United Nations authority on climate change, has determined that in order to reach the 1.5°C goal, we must reduce global emissions by approximately 45% by 2030 (below 2010 levels) and reach net-zero emissions by 2050.³⁴

²⁴ Cleary, S., Willcott, N. (April, 2022). *The Physical Costs of Climate Change: A Canadian Perspective*, Institute for Sustainable Finance, Queen's University, accessed Sept. 2022 online: <u>https://smith.queensu.ca/centres/isf/pdfs/ISF-Report-PhysicalCostsOfClimateChange.pdf</u>

²⁵ Intergovernmental Panel on Climate Change (2022). *IPCC Sixth Assessment Report: Impacts, Adaptation and Vulnerability – Summary for Policymakers,* accessed Sept. 2022 online:

https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf (A.1.3)

²⁶ Health Canada (Feb. 2022). *Health of Canadians in a Changing Climate*, accessed Sept. 2022 online:

https://changingclimate.ca/site/assets/uploads/sites/5/2022/02/CCHA-REPORT-EN.pdf

²⁷ Health Canada (Feb. 2022). *Health of Canadians in a Changing Climate*, accessed Sept. 2022 online: https://changingclimate.ca/site/assets/uploads/sites/5/2022/02/CCHA-REPORT-EN.pdf

²⁸ Health Canada (Feb. 2022). *Health of Canadians in a Changing Climate*, accessed Sept. 2022 online: https://changingclimate.ca/site/assets/uploads/sites/5/2022/02/CCHA-REPORT-EN.pdf

 $^{^{29}}$ A CO₂ equivalent (CO₂e) is a unit of measurement that is used to standardise the climate effects of various GHGs emissions. Different kinds of GHGs can be converted to CO₂e, which states the equivalent climate effect in terms of CO₂.

³⁰ Environment and Climate Change Canada (2022). 2030 Emissions Reduction Plan, accessed 5 Sept. 2022 online: <u>https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/erp/Canada-2030-Emissions-Reduction-Plan-eng.pdf ("2030 Emissions Reduction Plan")</u> (p. 35).

³¹ Environment and Climate Change Canada (2022). 2030 Emissions Reduction Plan, accessed 5 Sept. 2022 online: <u>https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/erp/Canada-2030-Emissions-Reduction-Plan-eng.pdf ("2030 Emissions Reduction Plan")</u> (p. 35).

³² Environment and Climate Change Canada (2022). 2030 Emissions Reduction Plan, accessed 5 Sept. 2022 online: https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/erp/Canada-2030-Emissions-Reduction-Planeng.pdf ("2030 Emissions Reduction Plan") (p. 219).

³³ United Nations (2015). Paris Agreement, accessed Sept. 2022 online:

https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf [Article 2(a)].

Reducing the use of fossil fuels, including natural gas, is necessary to help reach the 1.5°C goal. A recent study in the journal *Nature* concluded that to achieve the 1.5°C goal, the world must refrain from extracting 59% of its natural gas by 2050.³⁵ The study also calculated the proportion of "unextractable" fossil fuels for different regions of the globe, based on the economics of extraction. This analysis concluded that Canada must keep 81% of its natural gas in the ground to contribute to achieving the 1.5°C goal.

The International Energy Agency (IEA) has also provided guidance on the future of fossil fuel use in a world that is serious about addressing climate change. In 2021, the IEA published the Net-Zero Roadmap — a "technically feasible, cost-effective, and socially acceptable" pathway to achieving net-zero emissions and the 1.5°C goal by 2050.³⁶ To achieve these goals, global natural gas use must decline 55% by 2050 (below 2020 levels) and global natural gas use for heating must drop 98% by 2050 (below 2020 levels).³⁷ This rapid decline means that no new natural gas exploration is required and no new natural gas fields are required beyond those that were approved for development in 2021.³⁸

3. CGA's representations about natural gas are false and misleading in a material respect

The CGA has made a number of representations about natural gas being "clean" and "affordable" that give the general impression that natural gas is good for the climate, good for the environment, good for human health, and affordable including when compared to other energy sources. These representations are made to promote the uptake of natural gas home energy systems and the use of natural gas. These are the business interests of the CGA's members, who are companies that produce and distribute natural gas.

However, these representations are false and misleading. Natural gas is not "clean" because it produces significant GHG emissions, giving it a comparable climate impact as coal, when measured over its entire lifecycle. Further, the production of natural gas pollutes the local airshed and local water sources and its use causes harmful indoor air pollution.

Natural gas is not "affordable", including in relation to all other energy sources, because the heat pump is cheaper to operate in most parts of Canada. Natural gas will become less affordable in the future as

³⁴ Intergovernmental Panel on Climate Change (2022). Special Report: Global Warming of 1.5 – Summary for Policymakers, accessed Sept. 2022 online: <u>https://www.ipcc.ch/sr15/chapter/spm/</u>. "Net-zero" emissions is a state where residual human-caused GHG emissions into the atmosphere are balanced by human-caused removals of carbon out of the atmosphere.
³⁵ Welsby, D. et al. (2021). Unextractable fossil fuels in a 1.5 °C world, Nature, 579 (230-234), accessed 15
Sept. 2021 online: https://www.nature.com/articles/s41586-021-03821-8#Tab1

³⁶ International Energy Agency (Oct. 2021). *Net Zero by 2050: A Roadmap for the Global Energy Sector* ("IEA Net-Zero Roadmap") accessed 5 Sept. 2021 online: <u>https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf</u>.

³⁷ International Energy Agency (Oct. 2021). *Net Zero by 2050: A Roadmap for the Global Energy Sector* ("IEA Net-Zero Roadmap") accessed 5 Sept. 2021 online: <u>https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf</u>. (p.47, 99, 101).

³⁸ International Energy Agency (Oct. 2021). *Net Zero by 2050: A Roadmap for the Global Energy Sector* ("IEA Net-Zero Roadmap") accessed 5 Sept. 2021 online: <u>https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-</u>10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector CORR.pdf. (p.51, 102).

the price of gas increases due to climate policies, the carbon price, and consumers leaving the natural gas system. The price of natural gas is also highly volatile, making it very difficult to claim it will be affordable for any period of time.

These misrepresentations are material because information about climate change and the environment, health effects, and affordability matter to consumers and influence their purchasing decisions. Further, consumers have little information available to them about the climate, environmental, and health impacts of natural gas and the volatile nature of natural gas prices make future prices very uncertain. This leaves consumers unable to assess the accuracy of the misrepresentations for themselves.

3.1 CGA has made representations about the nature of natural gas

Since November 2021, the CGA has made numerous representations about natural gas being "clean" and "affordable." These representations were made via the CGA's "Fuelling Canada" campaign website and Facebook, Instagram, and Twitter accounts, as well as in a CGA sponsored article in the *Globe and Mail*.

3.1.1 Natural Gas is "clean"

a) Facebook (Fuelling Canada) and Instagram (@FuellingCanada)

CGA launched its first set of sponsored "Fuelling Canada" ads on Facebook and Instagram in November, 2021, and has been running ads consistently on both platforms since then. It has spent \$30,097 on Facebook and Instagram ads as of June 20, 2022.³⁹ Information about these ads is accessible via the Facebook ad library and summarised in Table 1 below. Screenshots of the representations are included in Appendix A, below.

| Table 1. CGA's "clean" representations on the Fuelling Canada Instagram and Facebook accounts | | | | | | |
|---|----------------------------------|--------------------------|---|---|--|--|
| Representation | Date displayed | Amount spent (CAD) | Impressions (number of times displayed) | Primary demographics that saw the ad | Regions displayed | |
| A.1 Making natural gas clean and accessible. ⁴⁰ | Mar 7, 2022 - Mar 8, 2022 | <\$100 | 20К - 25К | Ages 25-34, 18-24; more women than men | ON, BC | |
| A.2.1See how natural gas production is leveraging innovative tech to become cleaner than ever; | May 16 2022 - June 26 2022 | \$200-\$299 | 50K - 60K | Ages 25-34, 18-24; more women than men | ON, BC, MB, AB, SK, NS, NB (other | |

³⁹Meta Ad Library (n.d.). *Fueling Canada,* accessed Sept. 2022 online:

https://www.facebook.com/ads/library/?active_status=all&ad_type=political_and_issue_ads&country=CA&id=3491128766465 05&view_all_page_id=106360778489053&search_type=page&media_type=all

⁴⁰ Meta Ad Library (n.d.). *Fueling Canada,* accessed Sept. 2022 online: <u>https://www.facebook.com/ads/library/?id=300251645541968</u> ⁴¹Meta Ad Library (n.d.). *Fueling Canada,* accessed Sept. 2022 online: <u>https://www.facebook.com/ads/library/?id=1060058084395276</u>

| Eco-friendly natural gas production. A.2.2 Clean energy for all Canadians. ⁴¹ | | | | | provinces <1%) |
|--|-------------------------------|------------------|-----------|---|---------------------------------|
| A.3.1 Find out how natural gas produces cleaner heat for less money, making Canadian homes more comfortable and efficient. Natural gas is naturally efficient. A.3.2 Heating homes with lower emissions. ⁴² | Jan 6, 2022 - Feb 27, 2022 | \$500 - \$599 | 35К - 40К | Ages: 25-34, 18-24; more women than men | ON, BC, MB, NS, SK AB, NB |
| A.4 Naturally clean.43 | Jan 5, 2022 - Feb 27, 2022 | \$100-199 | 45К - 50К | Ages: 25-34 and 35-44; equal to or very slightly more men than women | MB SK NB NS |
| A.5 Natural gas burns cleaner than any other fuel, so Canada can breathe easy.44 | Jan 5, 2022 - Feb 27, 2022 | <\$100 | 6K - 7K | Ages 25-34, 18-24; more women than men | MB SK NB NS |

b) Twitter - @FuellingCanada

The CGA made the following representations about the clean nature of natural gas on the Fuelling Canada Twitter account:

- B.1 Natural gas delivers a cleaner, more resilient energy future for Canadians (March 22, 2022)⁴⁵
- B.2 Cleaner, more reliable energy at a lower cost? (November 24, 2021)⁴⁶
- B.3 Natural gas is one of the cleanest-burning fuels.... Learn why natural gas is easier on our wallets and the planet at fuellingcanada.ca (November 24, 2021)⁴⁷

A copy of these representations can be found in Appendix B, below.

c) Website – FuellingCanada.ca

⁴³ Meta Ad Library (n.d.). *Fueling Canada*, accessed Sept. 2022 online: <u>https://www.facebook.com/ads/library/?id=440674651066097</u>
⁴⁴ Meta Ad Library (n.d.). *Fueling Canada*, accessed Sept. 2022 online: <u>https://www.facebook.com/ads/library/?id=349112876646505</u>
⁴⁵ Fueling Canada on Twitter (22 Mar. 2022), accessed Sept. 2022 online:

https://twitter.com/FuellingCanada/status/1506273240213295105

⁴² Meta Ad Library (n.d.). Fueling Canada, accessed Sept. 2022 online: <u>https://www.facebook.com/ads/library/?id=459270229004688</u>

⁴⁶ Fueling Canada on Twitter (24 Nov. 2021), accessed Sept. 2022 online: https://twitter.com/FuellingCanada/status/1463479805966532617

⁴⁷ Fueling Canada on Twitter (24 Nov. 2021), accessed Sept. 2022 online:

https://twitter.com/FuellingCanada/status/1463479141379026951

The CGA made the following representations about the clean nature of natural gas on the Fuelling Canada website:

- C.1 "From heating our homes to generating electricity to fuelling our gas-burning stoves and BBQs — Canada's natural gas industry works 24/7 to ensure affordable, clean, and reliable energy for families and businesses."
- C.2 "The LNG we produce is the cleanest in the world."
- C.3"Key facts: Natural gas companies work every day to deliver affordable, clean, and reliable energy to Canadians at home."
- C.4 "Canada has an abundant supply of the cleanest natural gas in the world."
- C.5 "Our abundant natural gas supply will power Canadians for centuries." 48

A copy of these representations can be found in Appendix C, below. The representations on Facebook, Instagram, and Twitter direct consumers to the Fuelling Canada website.

3.1.2 Natural Gas is "affordable"

a) Facebook & Instagram

Table 2, below contains a summary of CGA's claims via Facebook and Instagram ads on the affordability of natural gas. A copy of these representations can be found in Appendix A, below.

| Table 2. CGA's "affordable" representations on the Fuelling Canada Instagram and Facebook accounts | | | | | | |
|---|--------------------------------------|--------------------------|---|--|----------------------|--|
| Representation | Date displayed | Amount spent (CAD) | Impressions (number of times displayed) | Primary demographics that saw the ads | Regions displayed | |
| A.6 Naturally affordable.49 | June <i>7,</i> 2022- June 26 2022 | <\$100 | 1K-2K | Age: 25-34, 35-55, more women than men | ON, BC | |
| A.7 Natural gas helps Canadians save on bills, and helps our communities thrive; Natural gas is low-cost. ⁵⁰ | Mar 7- Mar 16, 2022 | <\$100 | <1K | Age: 35-44: more women than men | АВ | |

⁴⁸ Fuelling Canada (n.d.), accessed 9 Sept. 2022 online: <u>https://fuellingcanada.ca</u>

⁴⁹ Meta Ad Library (n.d.). *Fueling Canada,* accessed Sept. 2022 online:

https://www.facebook.com/ads/library/?id=572577877865337

⁵⁰ Meta Ad Library (n.d.). *Fueling Canada,* accessed Sept. 2022 online:

https://www.facebook.com/ads/library/?id=278911777650066

⁵¹ Meta Ad Library (n.d.). *Fueling Canada,* accessed Sept. 2022 online:

https://www.facebook.com/ads/library/?id=458392825692814

| A.8 Heating your home and water with natural gas saves up to \$2,000/yr; Naturally cost- effective. ⁵¹ | Jan 5, 2022 - Feb 27, 2022 | <\$100 | 30K-35K | Age: 25-34, very slightly more women than men; 35-44: slightly more men than women | MB SK NS NB |
|--|-------------------------------|-------------|---------|---|----------------|
| A.9 Natural gas is the most affordable energy option for over 20 million Canadians. ⁵² | Jan 6, 2022 - Feb 27, 2022 | \$300-\$399 | 80K-90K | Age: 25-34, 18-24: more women than men | MB SK NB NS |

b) Twitter

The CGA made the following representations about the affordability of natural gas on the Fuelling Canada Twitter account:

- B.3 "Learn why natural gas is easier on our wallets and the planet at fuellingcanada.ca" (November 24, 2021)⁵³
- B.4 Natural gas = affordable winter warmth (November 24, 2021)⁵⁴

A copy of these representations can be found in Appendix B, below.

c) Newspaper

On April 4, 2022 the *Globe and Mail* online published an "advertorial" by Globe Content Studio (a marketing firm) with Fuelling Canada about natural gas energy and cooking systems in new homes.⁵⁵ An advertorial is an advertisement in a newspaper or magazine that is paid for by a brand that gives information about a product in the style of an editorial or objective journalistic article. This makes the advertorial look like an independent news story, which makes its contents seem more legitimate and reliable.

The advertorial describes the benefits of natural gas for heating and cooking with quotes from the CGA, Fuelling Canada, and businesses that sell and install natural gas energy systems. One of these business owners is Doug Tarry of Doug Tarry Homes, who is described as a "builder of net-zero homes" and is listed as a partner on the Fuelling Canada website.⁵⁶

https://www.facebook.com/ads/library/?id=1497889253930949

⁵³ Fueling Canada on Twitter (24 Nov. 2021), accessed Sept. 2022 online:

https://twitter.com/FuellingCanada/status/1463479141379026951

⁵² Meta Ad Library (n.d.). *Fueling Canada,* accessed Sept. 2022 online:

⁵⁴ Fueling Canada on Twitter (24 Nov. 2021), accessed Sept. 2022 online: <u>https://twitter.com/FuellingCanada/status/1463477761645981698</u>

⁵⁵ Globe Content Studio and Fuelling Canada (4 April 2022). *Why natural gas it the smart choice for your new home,* The Globe and Mail, accessed 1 Sept 2022 online: <u>https://www.theglobeandmail.com/life/adv/article-why-natural-gas-is-the-smart-choice-for-your-new-home/</u>

⁵⁶ Fuelling Canada (2022). About us, accessed 6 Sept 2022 online: <u>https://fuellingcanada.ca/about-us/</u>

The advertorial makes the following representations about both the clean and affordable nature of natural gas:

- "...a clean-burning gas barbecue is the best choice for anyone living in an urban area."
- "[o]n average, in Canada, natural gas is cheaper than any other home heating source..."
- "...according to the Canadian Gas Association, residential consumers can save between \$1,000 and \$3,000 a year by heating their space and water with natural gas instead of other fuel sources."
- "As Canadians continue to look for reliable energy solutions, natural gas remains a smart choice for comfort, dependability and affordability."
- "'Gas is affordable, and the best thing we can do is use less and get the most benefit from it,' Tarry says."
- "'When you heat with gas, the cost is lower,' says Doug Tarry of Doug Tarry Homes in St. Thomas, Ont., a builder of net-zero homes".

At the very top of the page, in small print, the advertorial states "Sponsor content," which indicates that it is an advertorial. A copy of the advertorial is included in Appendix D, below.

3.1.3 The General Impression conveyed by CGA's representations

Upon reading CGA's representations about natural gas, a credulous and inexperienced person would have the general impression that natural gas is good for the environment, does not cause pollution, and does not negatively impact your health, including your breathing. These representations also give the general impression that natural gas is a low-cost source of energy that saves you money. In both cases, the general impression is that natural gas is better than other energy options.

The representations create this general impression because they use the following words and phrases that have positive connotations and are easy to understand:

- The word "clean," when used in relation to "energy," most commonly refers to sources of power that do not emit GHGs or other forms of pollution; using it to describe natural gas puts it in the same category as these non-emitting sources.
- The word "clean," when used in the phrase "burns cleaner than any other fuel so Canada can breathe easy", suggests that using natural gas creates fewer pollutants than other fuels and does not cause breathing problems.
- Terms like "eco-friendly" suggest that a product is good for the environment while "cleaner than ever" suggests that a product's environmental contribution has improved over time.
- The use of the adjective "naturally" carries the positive impression that a product has been formed by nature, has not been processed, which is an appealing quality since we associate goods that come from nature and non-processed goods as being good for the environment and for our health.
- "Naturally" also suggests that the qualities of natural gas are inherent to it and will always remain part of it. When used with "affordable", this suggests that natural gas will always be affordable.

- Terms like "affordable," "help Canadians save on bills," "easier on our wallets," and "low-cost" are easy to understand descriptions that a product will not cost much money and are cheaper than other products.
- Statements with amounts of money saved give a clear impression of the amount of money that using natural gas will save you.
- Phrases like "the cleanest in the world," "cleaner than any other fuel," and the "most affordable energy option" indicate that natural gas is comparably better than all other energy options.
- Quoting a builder of net-zero homes who recommends the use of natural gas suggests that a home can rely on natural gas while still being considered net-zero. "Net-zero" is a term that is related to international and Canadian climate goals, is often used by the media, and is familiar to the general public.

The representations are typically accompanied by images of healthy, smiling, active people enjoying nature, or spending time with and cooking for their families. These positive images contribute to the general impression that natural gas is also good for people and the environment.

The other fuels and energy sources that the representations compare natural gas to are not stated, which gives the general impression that natural gas is cleaner and more affordable than all other home energy options.

Further, the representations do not state that time period over which natural gas will "save Canadians money" or will otherwise be affordable. Consumers will know that natural gas appliances (furnaces, boilers, water heaters, stoves, fireplaces, etc.) have a long lifespan; this knowledge, representations like "naturally affordable", and the lack of information about timelines, creates the general impression that natural gas is be affordable now and will continue to be affordable into the future - over the entire lifespan of their home energy system.

3.2 CGA's representations were made for the purpose of promoting the business interests of its members

The CGA's representations are made for the purpose of convincing home-owners to install home energy systems that use natural gas, which is in the business interests of the CGA's members - companies that produce, transport, and distribute gas companies. As a trade association established to represent the interests of these companies, the business interests of the CGA and its members are the same.

3.2.1 The business interests at issue

The CGA's members and board of directors are companies that are involved in the production, transportation, and distribution of natural gas to consumers. It is in the business interests of these companies for Canadians to use more natural gas to heat their homes and to cook. Even if the CGA members do not supply all of Canada's natural gas, they represent a large enough group of producers and distributors that at least some of this increased use will require their gas.

It is in the business interests of the CGA's members to convince consumers that natural gas is "clean" and "affordable" if, due to these representations, they will install natural gas-based home energy systems and use more natural gas. Home energy systems represent a significant initial financial outlay for the purchaser and these systems have long lifespans. Once consumers have chosen to invest in a

home energy system, they are effectively financially "locked in" to that system because the cost of replacing the system (even if an alternative has lower monthly costs) is a significant deterrent. It is, therefore, important to attract new customers and lock them into buying natural gas each month from natural gas companies (that often hold a monopoly on the sale of natural gas) over a long period of time and despite price increases that may occur over that period.

It is also in the business interests of the CGA's members to make these representations in order to respond to a growing movement, driven by climate considerations, to restrict the use of natural gas in Canadian homes. The Fuelling Canada campaign comes at a moment when numerous municipalities in Canada are instituting bans on fossil-fuel powered heating systems in order to reduce their emissions and contribute to meeting Canada's climate commitments. For example:

- In Vancouver, B.C., as of Jan. 1, 2022, equipment for space and water heating in new low-rise residential buildings must be zero emissions and by 2025, all new and replacement heating and hot water systems must be zero emissions.⁵⁷
- In Quebec, starting Dec. 31, 2021, oil-powered heating has been banned in new construction projects and after Dec. 31, 2023, it will be illegal to replace existing furnaces with any sort of heating system powered by fossil fuels.⁵⁸
- The City of Victoria, B.C. will require all new construction to be zero carbon by 2025.59

These bans, especially if they spread to other jurisdictions, will limit the market share of the natural gas industry in the building sector and the ability to attract new customers.

In response to these bans, the natural gas industry appears to be trying to position natural gas in the public eye as a climate-friendly and affordable option. The CGA's representations are part of this effort. The industry is also making this argument directly to our governments through lobbying. In June 2021, the CGA requested an amendment to the federal Greener Homes Grants to include natural gas upgrades as eligible for grants that are intended to help home-owners fight climate change.⁶⁰

3.2.2 The business interests of the CGA and its members are the same

As a trade association, the CGA is a public advocate and government lobbyist for its members. Its role is to advance the interests of its members. Indeed, these types of associations are formed for the purpose of promoting the interests of its members. As such, the business interests of the CGA and its members are the same and the CGA's representations promote the business interests of both the CGA and its members.

Competition Bureau guidance for trade associations supports the principle that trade associations must not make false and misleading representations when promoting the business interests of their members.⁶¹ And further, that both trade associations and their members are liable for the consequences

⁵⁷ City of Vancouver (n.d.). *Zoning amendments to support the Climate Emergency Response*, accessed Sept. 2022 online: https://vancouver.ca/green-vancouver/zoning-amendments-to-support-climate-emergency.aspx

⁵⁸ Grant, J. (31 Dec. 2021). *Quebec bans oil heating in new homes starting Dec.31,* CBC News, accessed Sept. 2022 online: https://www.cbc.ca/news/canada/montreal/quebec-bans-oil-heating-1.6252420

^{so} City of Victoria (8 Aug. 2022). *New Buildings in Victoria to be Zero Carbon by 2025*, accessed Sept. 2022 online: <u>https://www.victoria.ca/assets/City~Hall/Media~Releases/2022~Archive/2022.08.08%20New%20Buildings%20%20to%20be%2</u> <u>0Zero%20Carbon%20by%202025.pdf</u>

⁶⁰ Canadian Gas Association (2 June 2021). *Canadian Gas Association says Government of Canada Takes Energy Choice Away from Canadians in New Canada Greener Homes Grand,* accessed Sept. 2022 online: <u>https://www.cga.ca/news/canadian-gas-</u> <u>association-says-government-of-canada-takes-energy-choice-away-from-canadians-in-new-canada-greener-homes-grant/</u>

of violating the Act.⁶² If this were not the case, then trade associations could make false and misleading representations to promote their members' business interests without consequence - a loophole that would undermine the purpose of the Act to protect consumers from deceptive practices.

3.3 CGA's representations are material

A misrepresentation is material if it is so important, pertinent, germane, or essential that it could affect the decision of a consumer to purchase the product. It is not necessary to establish that any person was actually misled by a representation. It is sufficient to establish that an advertisement is published for public view and that it is untrue or misleading in a material respect.

The following factors demonstrate that CGA's misrepresentations are material:

- 1. Evidence that consumers consider environmental and climate impacts when making purchasing decisions;
- 2. Evidence that consumers consider their health when making purchasing decisions;
- 3. Evidence that consumers consider affordability when making purchasing decisions; and
- 4. Consumers are unable to assess the accuracy of CGA's representations about natural gas.

These factors will be discussed in turn below.

1. Evidence that consumers consider environmental and climate impact when making purchasing decisions

Ecological considerations are of major importance for consumers when making purchasing decisions. The 2021 EY Future Consumer Index concluded that:

- 43% of global consumers want to buy more from organizations that benefit society, even if their products or services cost more.
- 61% of Canadian consumers plan to pay more attention to the environmental impact of what they consume, while 64% intend to focus more on value for money.⁶³
- The survey also found a sustainability education gap among Canadian consumers 73% said they need more information to make better choices when shopping while 66% have a lack of trust due to deceptive marketing.

The influence of environmental impacts on purchasing decisions is borne out in other OECD countries. According to a 2021 European Commission consumer conditions survey, 56% of EU consumers pay attention to the environmental impact of goods and services and 67% of consumers said they buy products that are better for the environment even if they cost more.⁶⁴

https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03691.html ("Trade Associations and the Competition Act"): "If you publicly promote the business interests of your members, ensure your statements are accurate and not misleading." ⁶² Trade Associations and the Competition Act: "Violations of the Act can have serious consequences for both associations and their members, which is why everyone involved in an industry association has a responsibility to stay informed and ensure compliance with the Act."

⁶¹ Competition Bureau (Jan 2022) *Trade Associations and the Competition Act*, accessed 22 Sept. 2022 online:

⁶³ Elshurafa, D. (5 Aug. 2021). *69% of Canadian Consumers Expect Companies to Solve Sustainability Issues,* EY Canada, accessed Sept. 2022 online: https://www.ey.com/en_ca/news/2021/08/sixty-nine-percent-of-canadian-consumers-expect-companiesto-solve-sustainability-issues ("EY Canada Consumer Survey")

⁶⁴ European Commission (2021) *Consumer Conditions Survey: Consumers at home in the single market – 2021 edition*, accessed 9 Sept 2022 online: https://ec.europa.eu/info/sites/default/files/ccs_key_highlights_120321_public.pdf

A survey in China looking specifically at consumer preferences regarding green buildings revealed that green energy was the most preferred attribute of green buildings, exerting an even stronger overall effect on consumer choice than price.⁶⁵

2. Evidence that consumers consider their health when making purchasing decisions

While there are no consumer surveys regarding health as a consideration for purchasing decisions of home energy systems, evidence on Canadian consumers and groceries highlights the importance of healthy options as an important attribute they would pay more for. For example, 55% of Canadian consumers would be willing to pay more for healthier options and 50% for locally produced/sourced products.⁶⁶

3. Evidence that consumers consider affordability when making purchasing decisions

Affordability remains a prime consideration of Canadians regarding purchasing decisions. According to the 2021 EY Consumer survey, value for money was the main concern of 64% of respondents.⁶⁷

The material impact on consumers of these misrepresentations is significant, given the relatively high proportion of their income that households, particularly low-income households, spend on energy and the long-term time commitment of these products. For example, Canadians' residential energy costs represented 3% of their average disposable income. However, 6% of Canadian households, particularly those with below-average income levels, spent 10% or more of their income on energy, putting them in the category of "energy poverty."⁶⁸

4. Consumers are unable to assess the accuracy of CGA's representations about natural gas

Due to the nature of natural gas production and consumption, consumers are unable to evaluate the full impacts of natural gas, which makes them vulnerable to misrepresentations about natural gas.

Natural gas production takes place far away from most consumers who cannot see the impacts of natural gas production on the environment. Consumers, therefore, rely on natural gas companies and governments to publish information about the impacts of natural gas, much of which is technical and difficult to understand. For example, recent research indicates that fugitive methane emissions have been significantly under-reported, which prevents an understanding of the climate impacts of natural gas production.⁶⁹

The link between natural gas and health impacts is also difficult for consumers to fully understand. This is, at least in part, because key information is not even available to consumers. For example, intellectual

https://www.researchgate.net/publication/316157350_Promoting_green_buildings_Do_Chinese_consumers_care_about_green_building_enhancements, p.545-557.

⁶⁵ Luo, W. et al. (2017) *Promoting green buildings: Do Chinese consumers care about green building enhancements?*, International Journal of Consumer Studies, *41*(5), accessed 9 Sept 2022 online:

⁶⁶ PwC Canada (2021). *Canadian Consumer Insights June 2021 pulse survey*, accessed Sept. 2022 online: https://www.pwc.com/ca/en/industries/consumer-markets/consumer-insights-2021-pulse-2.html

⁶⁷ EY Canada Consumer Survey

⁶⁸ Natural Resources Canada (2021). *Energy Fact Book 2021-2022*, accessed Sept. 2022 online: <u>https://www.nrcan.gc.ca/sites/nrcan/files/energy/energy_fact/2021-2022/PDF/2021_Energy-factbook_december23_EN_accessible.pdf</u>

⁶⁹ See section 3.4.1(a) below.

property concerns obstruct access to information about the constituents in fracking fluids and many of the chemicals that are known to be used in fracking fluids lack basic toxicity data.⁷⁰ This prevents public understanding of the environmental and health impacts of natural gas production.

Similarly, consumers are unable to predict prices of natural gas over the lifetime of their home energy systems, as it is a volatile commodity that is subject to a wide range of national and global market forces, many of which are unpredictable and/or out of the control of consumers. This leaves consumers unable to assess representations about the affordability of natural gas.

Due to these information gaps regarding environmental, climate and health impacts of natural gas as well as the price of natural gas, consumers are not well equipped to assess the attributes of CGA's misrepresentations.

3.4 CGA's representations are false and misleading

The CGA's representations that natural gas is "clean" (and cleaner than other fuels) in relation to the climate, environment, and human health are false and misleading. Natural gas has a significant climate impact that is comparable to coal, its production pollutes the local air quality and water sources, and its combustion causes indoor air pollution that causes a range of health impacts. These health impacts disproportionately fall upon Indigenous, low income, racialized communities, children and other communities made vulnerable in Canada.

The CGA's representations that natural gas is "affordable" and cheaper than other energy options are also false and misleading. The heat pump is currently a cheaper energy source in most parts of Canada and natural gas is a highly volatile commodity whose price is going to increase as climate policies take effect, the carbon price increases, and consumers switch to lower carbon options.

3.4.1 Natural gas is not clean because it contributes to climate change, harms the environment, and causes indoor air pollution

Natural gas releases GHGs into the atmosphere throughout its production and use, contributing to climate change. The production of natural gas also pollutes the local environment, and using natural gas appliances in the home releases indoor air pollutants that cause adverse health effects. Natural gas pollutes the climate, environment, and human bodies, and it is therefore false and misleading to claim that natural gas is "clean" and a "clean energy."

Definition of "clean"

The Merriam-Webster dictionary defines "clean" as "free from dirt or pollution."⁷¹ It includes "clean solar energy" as one example. Solar panels do not produce any GHG or other emissions when they produce energy. The secondary definition is "free from contamination or disease," which suggests that something that is "clean" does not adversely impact health.

Definition of "clean energy"

"Clean energy" generally refers to energy that does not produce GHGs or other air pollutants. The term "clean energy" is often used interchangeably with "renewable energy" but it can also refer to nuclear

⁷⁰ Macfarlane, R. & Perrotta, K. (2020). *Fractures in the Bridge: Unconventional (Fracked) Natural Gas, Climate Change and Human Health*, Canadian Associations of Physician for the Environment, accessed 9 Sept. 2022 online: <u>https://cape.ca/wp-content/uploads/2020/01/CAPE-Fracking-Report-EN.pdf</u>, ("Fractures in the Bridge"), p.14.

⁷¹ Merriam-Webster (n.d.). Clean, accessed Sept. 2022 online: <u>https://www.merriam-webster.com/dictionary/clean</u>

energy, which is not renewable. At the most basic level, it is generally understood that the use of clean energy results in clean air.⁷²

The US Department of Energy webpage on clean energy discusses the following sources of clean energy: solar, wind, water, geothermal, bioenergy, nuclear, and hydrogen and fuel cells.⁷³ It does not mention natural gas.

The Natural Resources Canada (NRCan) webpage on clean energy defines "clean fuels" as "fuels that produce much lower greenhouse gas emissions than traditional fuels on a life-cycle basis" and lists the following examples: clean hydrogen, advanced biofuels, liquid synthetic fuels, and renewable natural gas.⁷⁴ It does not include natural gas.

Why CGA's representations re: "clean" are false and misleading

CGA's representations of natural gas as "clean" are false and misleading for three reasons:

- a) The production and use of natural gas releases significant amount of GHG emissions that contribute to climate change;
- b) The production of natural gas pollutes the environment by releasing contaminants into the air, contaminating surface and groundwater, and creating toxic wastewater; and
- c) The use of natural gas for home heating and cooking releases contaminants that lead to high levels of indoor air pollution.

These reasons will each be addressed in turn below.

a) Natural gas produces significant GHG emissions that contribute to climate change

CGA's representations that natural gas is "clean" are false and misleading, because the use and production of natural gas releases GHG emissions that contribute to climate change.

The combustion of natural gas in furnaces, cooking stoves, or electricity generators produces GHG emissions. At the point of combustion, natural gas has a lower "carbon intensity" than other fossil fuels, such as gasoline, diesel, and coal, meaning that given the same amount of fuel combusted, natural gas produces fewer GHGs.⁷⁵ In this narrow respect, it may be arguable that natural gas is cleaner than other fossil fuels.

However, considering only the point of combustion provides a false and misleading impression of the climate impact of natural gas. When considering the emissions that are released over the entire lifecycle of natural gas – production, transportation, processing, and combustion – the climate impact of natural gas is comparable to other fossil fuels.⁷⁶

²² TRC (n.d.). What is Clean Energy, accessed Sept. 2022 online: <u>https://www.trccompanies.com/insights/a-conversation-about-clean-energy/</u>

 ⁷³ US Department of Energy (n.d.). *Clean Energy*, accessed 4 Sept. 2022 online: <u>https://www.energy.gov/clean-energy</u>
⁷⁴ Natural Resources Canada (2022). *Clean fuel – fueling the future*, accessed 4 Sept. 2022 online: <u>https://www.nrcan.gc.ca/our-natural-resources/energy-sources-distribution/clean-fuels-fueling-the-future/23</u>735

⁷⁵ National Energy Technology Laboratory (NETL) (2010). *Cost and performance baseline for fossil energy plants, Volume 1: Bituminous coal and natural gas to electricity. Revision 2. November 2010. DOE/NETL-2010/1397,* United States Department of Energy, accessed Sept. 2022 online: <u>https://www.nrc.gov/docs/ML1217/ML12170A423.pdf</u>

⁷⁶ Schneising, O. et al. (2020). *Remote sensing of methane leakage from natural gas and petroleum systems revisited,* Atmospheric Chemistry and Physics, 20(15), p.9169-9182.

The climate impact of natural gas increases further when considering the significant, yet relatively short term impact of methane, the primary component of natural gas. Methane only lasts 12 years in the atmosphere while carbon dioxide lasts 300-1000 years. The standard timeframe for measuring the impact of GHGs on the climate is 100 years, known as "global warming potential 100" (GWP 100). Using this timeframe, methane is 30 times more effective than carbon dioxide at trapping heat in the atmosphere. However, measuring the impact of GHGs over a 20 year time period – known as "global warming potential 20" (GWP 20) – methane is at least 80 times more effective than carbon dioxide at trapping heat in the atmosphere.⁷⁷ Using GWP 20 more accurately reflects the impact of methane because it aligns better with its lifespan. It also reflects the timeframe within which the international community has agreed to tackle climate change; we must reduce emissions drastically by 2050 in order to achieve the 1.5°C goal.

The figures below, from a report by The Atmospheric Fund, depict the climate impact of different fossil fuels over 100-year and 20-year timeframes:⁷⁸

²⁷ United Nations Environmental Programme (2021). *Methane Emissions are driving climate change. Here's how to redeuce them*, accessed 9 Sept. 2022 online: <u>https://www.unep.org/news-and-stories/story/methane-emissions-are-driving-climate-change-heres-how-reduce-them</u>

⁷⁸ The Atmospheric Fund (May 2022). *Fugitive Methane: New guidelines determine need to curb natural gas emissions in Ontario*, accessed 4 Sept. 2022 online: <u>https://taf.ca/wp-content/uploads/2022/05/TAF_Fugitive-methane-guidelines_2022.pdf</u> ("Fugitive Methane Guidelines").

GWP100



Figure 5: Comparison of the long-term impact of common fossil fuels, GWP100



GWP20

Figure 6: Comparison of the medium-term impact of common fossil fuels, GWP20

These figures demonstrate that, when lifecycle emissions are considered over a 20-year period, natural gas has an almost identical climate impact (measured as GHGs emitted per 1 megajoule of energy produced) as coal, and is very similar to gasoline and diesel.

These figures also show that "fugitive" emissions constitute a significant share of natural gas lifecycle emissions. "Fugitive" emissions is methane that leaks from natural gas production sites, coal mines, and oil production sites. Fugitive emissions make a meaningful contribution to Canada's overall emissions; in 2020, fugitive methane emissions from oil and natural gas systems amounted to 7.5% of Canada's total emissions.⁷⁹ In 2021, Canada accounted for 4.4 Mt of methane emissions, which was 1.2% of global methane output with 55% of the total coming from the energy sector.⁸⁰

⁷⁹ Environment and Climate Change Canada (2022). *National Inventory Report 1990-2020: Greenhouse Gas Sources and Sinks in Canada*, accessed 5 Sept. 2022 online: <u>https://unfccc.int/documents/461919</u> (p. 50).

⁸⁰ International Energy Agency (Sept 2022). *Methane Tracker Data Explorer - Canada*, accessed 5 Sept 2022 online: https://www.iea.org/data-and-statistics/data-tools/methane-tracker-data-explorer

However, it is likely that the full scale of fugitive methane emissions is unknown, in part because the natural gas industry and governments in Canada and around the world are not accurately tracking them. Recent studies show that fugitive methane emissions may be much higher than reported:

- In B.C. oil and gas facilities, methane emissions are 1.6-2.2 times greater than federal inventory estimates;⁸¹
- In Ontario, fugitive methane emissions are at least 90% higher than federal inventory estimates;⁸²
- In Alberta, the majority of oil and gas emissions are unreported under current reporting requirements. Mitigation will most likely require frequent monitoring to identify high-emitting sites and leaky components that are major contributors to emissions;⁸³
- Globally, methane emissions are 25-40% higher than reported,⁸⁴ though other studies have found that methane emissions could be as high as 70% higher than reported.⁸⁵

In summary, natural gas releases similar amounts of GHG emissions over its lifecycle as other fossil fuels, including notoriously dirty fuels like coal. These emissions may be even higher if fugitive methane is accurately measured and reported. Despite this, it is evident that the CGA's representations do not consider the full lifecycle of emissions when describing natural gas as "clean" or a "clean energy." Further, CGA's representations do not specify that it is only considering the emissions from natural gas at the point of combustion nor the GWP that it is using to assess the impact of methane. As such, CGA's representations about natural gas being "clean" or a "clean energy" are false and misleading.

It is worth noting that consumer protection agencies in other countries have also addressed representations by fossil fuel companies about natural gas being "clean" in relation to climate change. In 2017, the Dutch Advertising Code Authority (DACA) ruled that fossil fuel companies Shell and Exxon cannot describe natural gas as the "cleanest" fossil fuel.⁸⁶ The ruling by the DACA stated that "the absolute term "cleanest fossil fuel" is not in line with the [Dutch advertising code]" and that the suggestion that fossil fuels can be "clean" – in that they do not cause environmental damage – is not correct. The DACA permitted Shell and Exxon to use the description "least polluting fossil fuel," but given the evidence about the significant amount of unreported fugitive emissions from natural gas production and the environmental pollution caused by fracking, even this description may not be accurate.

b) Natural gas extraction and production is highly polluting

⁸¹ Tyner, D., Johnson, M. (12 July 2021). Where the Methane Is – Insights from Novel Airborne LiDAR Measurements Combined with Ground Survey Data, Environmental Science & Technology, 55(14), 9773-9783, accessed Sept. 2022 online: https://pubs.acs.org/doi/10.1021/acs.est.1c01572

⁸² The Atmospheric Fund (May 2022). *Fugitive Methane: New guidelines determine need to curb natural gas emissions in Ontario*, accessed 4 Sept. 2022 online: <u>https://taf.ca/wp-content/uploads/2022/05/TAF_Fugitive-methane-guidelines_2022.pdf</u>, p.4.

⁸³ Zavala-Araiza, D. et al. (2018). *Methane emissions from oil and gas production sites in Alberta, Canada*. Elementa: Science of the Anthropocene, 6.

⁸⁴Hmiel, B. et al. (2020). *Preindustrial 14CH4 indicates greater anthropogenic fossil CH4 emissions*. Nature, 578(7795), pp. 409-412.

⁸⁵ IEA Global Methane Tracker (n.d.). *Overview*, accessed Sept. 2022 online: <u>https://www.iea.org/reports/global-methane-</u> <u>tracker-2022/overview</u>

^{se}Nelson, A. (14 Aug. 2017). *Shell and Exxon face censure over claim gas was "cleanest fossil fuel,"* The Guardian, accessed 5 Sept. 2022 online: <u>https://www.theguardian.com/environment/2017/aug/14/shell-and-exxon-face-censure-over-claim-gas-was-cleanest-fossil-fuel</u>

CGA's representations that natural gas is "clean" are also false and misleading because the production of natural gas causes negative environmental impacts – namely air and water pollution, which creates risks to human health.

There are several sources of air pollution at a natural gas production site:

- diesel engines that emit nitrogen oxides (NO_x), fine particulate matter (PM_{2.5}), volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs);
- flaring, the practice of burning of some natural gas at the production site, which generates CO₂, carbon monoxide, sulfur dioxide, NO_x, particulate matter (PM), and VOCs;
- general fugitive emissions that contain VOCs that come from the natural gas, and
- the volatilization of components of fluids that are used in fracking.⁸⁷

In the United States, higher concentrations of hazardous air pollutants have been found around natural gas production sites, especially unconventional natural gas operations.⁸⁸ These pollutants include VOCs and NO_x (precursors of ground-level ozone), as well as radon, hydrocarbons, benzene, PAHs, and heavy metals. ⁸⁹ Drilling wells can also lead to the release of naturally occurring radioactive materials into the air.⁹⁰

The natural gas industry is a significant contributor to air pollution. In 2019, the Canadian oil and gas industry contributed 39% of total national emissions of volatile organic compounds; 37% of sulphur oxides; 30% of nitrogen oxides; and 11% of carbon monoxide.⁹¹ The industry is also a source of fine particulate matter and ammonia. All of these have harmful effects on the environment – contributing to smog and acid rain, while also interfering with plant and crop growth, among other impacts.⁹²

Natural gas production also pollutes local water sources. This can occur through the construction of natural gas well pads, pipelines, and access roads which cause the erosion of dirt, minerals, and other harmful pollutants into nearby waterways.⁹³

Gas production can contaminate groundwater with fracking fluids, methane, and VOCs.⁹⁴ This kind of water contamination, which occurs primarily through well leakages or improperly handled wastewater, can lead to negative impacts on regional drinking water quality.

Fracking poses a particular risk of water pollution due to the large volumes of water and numbers of toxic chemicals that it uses. Over 1,000 different chemicals have been used in fracking fluids, including some carcinogens, reproductive or developmental toxicants, or endocrine disruptors, though toxicity

⁹¹Environment & Climate Change Canada (2022). *Air Pollutant Emissions,* accessed Sept. 2022 online:

https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/air-pollution-drivers-impacts.html

⁸⁷ Fractures in the Bridge, p.18; US Energy Information Administration (2021). *Natural gas explained*, accessed 6 Sept. 2022 online: <u>https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php</u>

⁸⁸ Macey, G.P. et al. (2014). Air concentrations of volatile compounds near oil and gas production: a community-based exploratory study. *Environmental Health*, 13(1), pp.1-18.

⁸⁹ Fractures in the Bridge, p.3.

⁹⁰ Fractures in the Bridge, pp.14-15.

https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/air-pollutant-emissions.html ⁹² Environment & Climate Change Canada (n.d.). *Air pollution: drivers and impacts,* accessed Sept. 2022 online:

 ⁹³ Williams, H.F.L et al. (2008). *Field-based monitoring of sediment runoff from natural gas well sites in Denton County, Texas, USA*. Environmental Earth Sciences, 55(7), accessed 9 Sept 2022 online: DOI:10.1007/s00254-007-1096-9, pp.1463–1471.
⁹⁴ Union of Concerned Scientists (19 Jun 2014). *Environmental Impacts of Natural Gas*, accessed Sept. 2022 online: https://www.ucsusa.org/resources/environmental-impacts-natural-gas#references

data is not available for many of these chemicals.⁹⁵ Fracking can contaminate surface water and groundwater through underground well leakages and spills, through leaks of chemical additives, diesel or other fluids from equipment on-site, and through wastewater from storage, treatment, and disposal facilities. ⁹⁶

Pollution from natural gas production poses serious risks to human health, including respiratory illnesses, cardiovascular disease, and impairments to infant and maternal health.⁹⁷ Fracking in Colorado, USA, has been linked to an increased risk of acute lymphocytic leukaemia (a form of cancer) among children whose mothers live in close proximity to oil and gas wells during pregnancy.⁹⁸ A study conducted in northeastern B.C. also found high levels of benzene metabolites in the urine of pregnant women who live in close proximity to fracking wells.⁹⁹ Benzene is a carcinogen and high levels of exposure in pregnancy is associated with low birth weight, an increased risk of childhood leukemia and a greater incidence of birth defects such as spina bifida.¹⁰⁰ Women, children, the elderly, Indigenous populations and racial and ethnic minority groups experience disproportionate health impacts from air, water and soil pollution associated with gas extraction and refining.¹⁰¹

Due to the air and water pollution caused by natural gas production and the associated risks to human health, it is false and misleading for the CGA to make representations that natural gas is "clean."

c) Natural gas use causes indoor air pollution

Finally, CGA's representations that natural gas is "clean" are false and misleading because household appliances that use natural gas cause indoor air pollution which can lead to serious negative health effects for customers.

Peer reviewed science shows that gas stoves in the home are a serious health risk, particularly for children. Cooking with natural gas produces nitrogen dioxide (NO₂) and other pollutants such as ultrafine particles that are easily inhaled and cause respiratory problems.

A number of scientific studies demonstrate the health risks associated with natural gas use in the home:

 A 2022 study examined eighteen brands of gas cooktops and stoves in homes in California ranging in age from 3 to 30 years and found that emissions of nitrogen oxides surpassed the US Environmental Protection Agency (EPA) guidelines for 1-hour exposure to NO₂ outdoors (there are no indoor standards in the United States) within a few minutes of stove usage when there is

⁹⁹ Caron-Beaudoin, É. et al. (2018). *Gestational exposure to volatile organic compounds (VOCs) in northeastern British Columbia, Canada: A pilot study*, Environment International 110 (2018): p.131-138, accessed 6 Sept. 2022 online: https://www.sciencedirect.com/science/article/pii/S0160412017310309?via%3Dihub

¹⁰⁰ ScienceDIrect (n.d.) *Benzene*, accessed 6 Sept. 2022 online: <u>https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/benzene</u>

⁹⁵ Fractures in the Bridge, p.14.

⁹⁶ Fractures in the Bridge, p.17.; Burton, G.A. et al. (2013). *Hydraulic fracturing in the state of Michigan: Environment/ecology technical report*. University of Michigan, accessed 9 Sept. 2022 online: <u>https://deepblue.lib.umich.edu/handle/2027.42/102577</u> ⁹⁷ Epstein, A.C. (2017). *The human health implications of oil and natural gas development*. In: Advances in chemical pollution, environmental management and protection (Vol. 1, p. 113-145). Elsevier.

⁹⁸ McKenzie, L. et al. (2017). *Childhood hematologic cancer and residential proximity to oil and gas development*, PLoS One 12(2), accessed 6 Sept. 2022 online: <u>https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0170423</u>

¹⁰¹ Hemmerling, S.A., DeMyers, C.A. and Parfait, J., 2021. Tracing the flow of oil and gas: a spatial and temporal analysis of environmental justice in coastal Louisiana from 1980 to 2010. Environmental Justice, 14(2), pp.134-145.

Waldron, I.R., 2021. There's something in the water: Environmental racism in Indigenous & Black communities. Fernwood Publishing. p. 114

insufficient ventilation, or when range hoods were not used or were not functioning sufficiently.¹⁰²

- Studies from California found that natural gas cooking burners can release carbon monoxide, nitrogen oxides, particulate matter, and formaldehyde, which can cause respiratory illness, cardiovascular disease, and premature death – whether used indoors or outdoors.¹⁰³ If used without extract ventilation, moderate use of natural gas cooking burners can produce levels of NO₂ that exceed Californian ambient air standards.
- A meta-analysis of 41 studies on the association between indoor NO₂ and childhood respiratory illness found evidence that NO₂ from gas cooking increases the risk of asthma in children.¹⁰⁴ The analysis suggested that children living in a home with a gas stove have a 42% increased risk of having current asthma and a 24% increased risk of lifetime asthma. Further, the analysis found that every 15 parts per billion (ppb) increase in indoor NO₂ level puts children at a 15% increased risk of having "current wheeze."¹⁰⁵
- Cases of asthma, wheeze, and bronchitis are higher in children whose parents did not report using ventilation when operating their stove.¹⁰⁶
- A U.S.-wide study found a risk factor for respiratory symptoms in children from gas stove use, even adjusted for NO₂ levels.¹⁰⁷
- Research has shown that even indoor levels "well below" 53 ppb of NO₂ (which is the EPA outdoor standard) creates a risk of increased asthma morbidity¹⁰⁸— the Canadian short-term indoor standard is 90 ppb.¹⁰⁹
- Increased risk of respiratory symptoms from gas cooking have been found to be associated not only with children, but also with women.¹¹⁰

¹⁰² Lebel, E. et al. (2022) *Methane and NOx Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes,* Environmental Science & Technology, 56(4), accessed 9 Sept. 2022 online: <u>https://pubs.acs.org/doi/10.1021/acs.est.1c04707</u>, pp. 2529-2539

¹⁰³ Singer, B., et al. (2017). *Pollutant concentrations and emission rates from natural gas cooking burners without and with range hood exhaust in nine California homes,* Building and Environment, 122, accessed 5 Sept. 2022 online:

https://www.sciencedirect.com/science/article/abs/pii/S03601323173025, p. 215-229; Zhu, Y., et al. (2020). Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California, UCLA Fielding School of Public Health, accessed 6 Sept. 2022 online: https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7

¹⁰⁴ Lin, W. et al. (2013). *Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children*, International Journal of Epidemiology, 42(6), accessed 9 Sept. 2022 online: <u>https://doi.org/10.1093/ije/dyt150</u>, pp.1724–1737

¹⁰⁵ "Current" meaning at the present time rather than over a lifetime, and "wheeze" meaning audible breathing which is associated with breathing difficulty.

¹⁰⁶ Kile, M., et al., (2014). A cross-sectional study of the association between ventilation of gas stoves and chronic respiratory *illness in U.S. children enrolled in NHANES III*, Environmental Health, 13(71), accessed 9 Sept. 2022 online: https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-13-71

¹⁰⁷ Garrett, M., et al. (1997). *Respiratory Symptoms in Children and Indoor Exposure to Nitrogen Dioxide and Gas Stoves*, American Journal of Respiratory and Critical Care Medicine, 158(3), accessed 9 Sept. 2022 online: https://www.atsjournals.org/doi/full/10.1164/ajrccm.158.3.9701084

¹⁰⁸ Seals, B. & Krasner, A. (2020). *Indoor pollution from gas stoves can reach levels that would be illegal outdoors*. Accessed Sept. 2022 online: <u>https://rmi.org/insight/gas-stoves-pollution-health</u>, (p.19).

¹⁰⁹ Health Canada (2015). *Residential Indoor Air Quality Guideline: Nitrogen Dioxide*, accessed 9 Sept. 2022 online: <u>https://www.canada.ca/en/health-canada/services/publications/healthy-living/residential-indoor-air-quality-guideline-nitrogen-dioxide.html#c4b</u> ("Health Canada NO₂ Guideline").

Natural gas samples from kitchen stoves and pipelines in Boston, MA. between 2019 and 2021 indicated that this natural gas (sourced in part from Canada) contained varying levels of at least 21 different hazardous air pollutants, including benzene, toluene, ethylbenzene, xylene, and hexane.¹¹¹ Concentrations of the pollutants were highest in the winter when ventilation is poorest. Further, small leaks of up to 10 times the naturally occurring levels were undetectable by smell. These small leaks can still impact indoor air quality and human health due to the close proximity to people.

It is also worth noting that socio-economic disparities influence exposure patterns to indoor air pollution because small homes have poor air circulation and less powerful vents, which leads to greater environmental exposures to NO_2 .¹¹²

Health Canada cautions that long-term exposure to NO₂ may lead to breathing problems, or exacerbate asthma, airborne allergies, or chronic obstructive pulmonary disease.¹¹³ Health Canada also names gas appliances as the main source of NO₂ in Canadian homes and has determined that most Canadian gas stoves exceed their long-term indoor guidelines for NO₂ exposure.¹¹⁴ It should also be noted that due to the Canadian climate and the low ventilation in Canadian homes during the winter, such impacts might be even more significant then –a study of NO₂ levels across homes in several Canadian cities found the highest indoor NO₂ concentrations in winter.¹¹⁵

Health Canada also recommends - reflecting the above findings that proper ventilation makes a difference to indoor air pollution levels - that **users only cook on the back burners of their gas stove**, to ensure that contaminants are being properly captured by the range hood fan.¹¹⁶ Unfortunately, many building codes in Canada do not require range hood fans to vent contaminants outside.

A synthesis of findings on health effects from gas stove pollution, which echoes many of the findings above, recommends policies that will enable and encourage households to switch to electric appliances instead.¹¹⁷

In summary, the use of natural gas in cooking appliances releases a number of contaminants that cause indoor air pollution and a range of human health impacts. Therefore, the CGA's representations that natural gas is "clean" are false and misleading. Further, CGA's promotion of cooking with natural gas and extolling its benefits without disclosing its contribution to indoor air pollution and the associated health

¹¹⁰ Jarvis, D., et al. (1996). Association of respiratory symptoms and lung function in young adults with use of domestic gas appliances, The Lancet, 347(8999), p.426-431, p. 426-431, accessed 9 Sept. 2022 online: https://www.sciencedirect.com/science/article/pii/S0140673696900094.

¹¹¹ Michanowicz, D.R. et al. (2022). *Home is Where the Pipeline Ends: Characterization of Volatile Organic Compounds Present in Natural Gas at the Point of the Residential End User,* Environmental science & technology, *56*(14), p.10258-10268, accessed 9 Sept. 2022 online: https://doi.org/10.1021/acs.est.1c08298

¹¹² Adamkiewicz, G., et al. (2011). *Moving environmental justice indoors: understanding structural influences on residential exposure patterns in low-income communities*, American Journal of Public Health, 101(S1), p.S238-S245, accessed Sept 2022. online: https://pubmed.ncbi.nlm.nih.gov/21836112/

¹¹³ Health Canada (2021), *Nitrogen Dioxide*, accessed 9 Sept. 2022 online: <u>https://www.canada.ca/en/health-</u> canada/services/air-quality/indoor-air-contaminants/nitrogen-dioxide.html ("Health Canada: NO₂")

 $^{^{\}mbox{\tiny 114}}$ Health Canada NO_2 Guideline

¹¹⁵ Health Canada NO₂ Guideline

¹¹⁶ Health Canada: NO₂

¹¹⁷ Seals, B. & Krasner, A. (2020). *Health Effects from Gas Stove Pollution*, accessed 9 Sept. 2020 online: https://rmi.org/insight/gas-stoves-pollution-health, (p.19).

impacts constitutes a serious omission. The omission of such relevant facts supports the argument that the representations are misleading.¹¹⁸

Furthermore, advertising a product known to be a hazard to health is also in contravention to the *Canadian Product Safety Act* (CPSA).¹¹⁹ Section 10 of the CPSA prohibits any person from advertising or selling a consumer product that they know is advertised, packaged, or labelled "in a manner – including one that is false, misleading or deceptive – that may reasonably be expected to create an erroneous impression regarding the fact that it is not a danger to human health or safety."

Conclusion

CGA's representations that natural gas is "clean" are false and misleading. Natural gas contributes significant GHG emissions over its lifecycle – at comparable levels to other fossil fuels – that contribute to climate change, causes air and water pollution during extraction and production, and causes indoor air pollution and a range of human health impacts when used for cooking. These are not attributes of a "clean" fuel or a form of "clean energy."

3.4.2 Natural gas is not "affordable"

The CGA representations that natural gas is "affordable" are false and misleading for the following reasons:

- a) Natural gas is not affordable compared to other energy options;
- b) The price of natural gas price is highly volatile;
- c) The price of natural gas will increase due to climate change policies and carbon pricing; and
- d) The price of natural gas will increase as consumers leave the natural gas system.

Natural gas is not affordable compared to the heat pump, a popular, cost-effective, and low carbon home energy system. Further, natural gas is a volatile commodity, which means that even if it is "affordable" for a certain period of time, prices can shoot up at any time in response to global markets, armed conflict, weather events, and other uncontrollable factors. On top of those patterns of volatility, climate policies such as carbon pricing and the use of renewable natural gas (RNG) guarantee that the cost of heating with natural gas will increase year over year relative to today's price. As carbon policies take effect and consumers switch away from higher GHG emitting sources of energy, there will be fewer natural gas consumers to pay for the fixed costs of operating the distribution system, which will further increase the price and make natural gas less affordable.

Factors that will cause the price of natural gas to change over time are relevant in assessing the CGA's affordability representations because consumers use natural gas over the lifespan of their natural gasbased energy systems, which can range from 10-25 years.¹²⁰ Not only must consumers undertake a significant, upfront investment to install natural gas-based home energy systems but they must also pay monthly costs for the life of the system. The cost of changing systems (particularly mid-way through the

¹¹⁸ Environmental Claims Guide

¹¹⁹ Health Canada (July 2022). *Canada Consumer Product Safety Act Quick Reference Guide*, accessed 9 Sept. 2022 online: <u>https://www.canada.ca/en/health-canada/services/consumer-product-safety/reports-publications/industry-</u> professionals/canada-consumer-product-safety-act-guide.html#a3

¹²⁰ Canadian Gas Association (2021). *Potential Gas Pathways to Support Net-Zero Buildings in Canada,* accessed 9 Sept. 2022 online: <u>https://www.cga.ca/wp-content/uploads/2021/11/Potential-Gas-Pathways-to-Support-Net-Zero-Buildings-in-Canada-CGA-October-2021.pdf</u>, ("CGA Gas Pathways Study"), p.28.

life of a system) poses a significant barrier to consumers, meaning that once a natural gas energy system is installed, consumers are locked into that system for a long period of time. As such, unless representations about affordability of natural gas are qualified to be about a single point in time, they can be easily understood to be relevant to the entire lifespan of the natural gas energy system. Since CGA does not make such qualifications, evidence that natural gas is not affordable now and will not be affordable in the future is relevant to determining whether CGA's representations are false and misleading.

Definition of Affordable

The Merriam-Webster dictionary defines "affordable" as "able to be afforded: having a cost that is not too high."¹²¹ This is a relative term that compares the price of the product in question with the price of similar products as well as the ability of consumers to pay the cost of that product. Affordability is not a fixed quality of a product as it can change based on the price of that product, the price of comparable products, and the consumer's ability to pay for it.

a) Natural gas is not affordable compared to other energy options

The CGA's representations about natural gas being affordable appear to be based on a CGA analysis from 2017. In this analysis, which the CGA presented to the federal Standing Committee on the Environment and Sustainable Development in 2018, the CGA compared the residential heating costs of several forms of energy systems – electric baseboard heating, propane, heating oil, and heat pumps – and concluded that natural gas systems were the most affordable.¹²²

The accuracy of the CGA's conclusion is difficult to check because the underlying methodology or data is not provided or cited in a manner that can be found. Questions of bias also arise given that the CGA has a vested interest in suggesting that natural gas is the most affordable option. This conclusion is also now several years old and is contradicted by more recent analysis, as discussed below. Even so, independent energy analysts were concluding in 2017 that heat pumps were more affordable than natural gas.¹²³

Heat pumps are an efficient, low-carbon, and cost-effective home heating option that is experiencing steady growth in Canada.¹²⁴ Not only do heat pumps provide heat on cold days, but also provide cool air on warm days eliminating the need – and associated costs – for homeowners to have separate heating and cooling systems.

Recent analysis supports the conclusion that heat pumps are more affordable than natural gas. In 2021, the Canada Climate Institute concluded that not only were heat pumps "vital" to helping Canada reach its climate goals, but that the additional upfront costs of this low-emissions energy equipment would be "more than offset by the savings derived from their reduced energy consumption."¹²⁵ It is an added

¹²¹ Merriam-Webster (n.d.). *Affordable*, accessed Sept. 2022 online: <u>https://www.merriam-webster.com/dictionary/affordable</u> ¹²² Canadian Gas Association (2 April 2018), *Brief to Standing Committee on the Environment and Sustainable Development Built Environment Study*, accessed 12 Sept. 2022 online: <u>https://www.cga.ca/fr/submissions/brief-to-standing-committee-on-the-</u> <u>environment-and-sustainable-development-build-environment-study/</u>, p. 2.

¹²³ Heerema, D. (2017). *Gas vs. electricity? Comparing home heating costs in B.C.*, Pembina Institute, accessed 12 Sept. 2022 online: <u>https://www.pembina.org/blog/gas-vs-electricity</u>

¹²⁴ Canada Energy Regulator (2019). *Market Snapshot: Growing heat pump adoption - how does the technology work?*, accessed 9 Sept. 2022online:<u>https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/market-snapshots/2019/market-snapshot-growing-heat-pump-adoption-how-does-technology-work.html</u>; Natural Resources Canada (2022). *Heating and Cooling with a Heat Pump*, accessed 9 Sept. 2022online:<u>https://www.nrcan.gc.ca/energy-efficiency/energy-star-canada/about/energy-star-announcements/publications/heating-and-cooling-heat-pump/6817.</u>

bonus then, that federal and provincial governments in Canada are offering rebates to help consumers offset the upfront costs of heat pumps.¹²⁶

A study published in 2022 by CanmetENERGY (a research centre of NRCan) also concludes that heat pumps are more affordable than natural gas. This study assessed the cost-effectiveness, energy savings, and GHG reductions of a cold climate air source heat pump (a heat pump with efficient and dependable performance in cold Canadian winters) and compared it to conventional home heating systems across Canada.¹²⁷ The study concluded that:

- The heat pump is cheaper to operate than the gas furnace in most regions of Canada. Even where the gas consumed by the furnace costs less than the electricity used by the heat pump, foregoing the gas service and avoiding fixed administration charges creates additional savings that make the heat pump cheaper to operate.
- Expected changes to the price of natural gas in the future will increase the savings that the heat pump system can deliver relative to gas furnaces.
- The heat pump systems were much more efficient than comparable electric, gas, and oil furnaces.
- The heat pump generates lower GHG emissions than gas furnaces in B.C., MB, ON, QC and N.B. (provinces with low-carbon electricity grids).¹²⁸ Note that as electricity grids become increasingly low-carbon –and net zero by 2035 under the forthcoming federal *Clean Electricity Regulations* –heat pumps will have lower GHGs than gas furnaces in all provinces.¹²⁹

The CanmetENERGY analysis used natural gas and electricity prices in 2020, as well as the effective carbon price in 2020, and projected these costs out only as far as 2022. However, actual natural gas prices in 2022 were higher than CanmetENERGY forecast, meaning that the cost savings of a heat pump were even greater than the analysis concluded.¹³⁰

The impact of the increasing carbon price must also be taken into consideration when making costcomparisons between energy systems (see more below). The federal carbon price is scheduled to steadily increase from 50/tonne of CO₂ in 2022 to 170/tonne of CO₂ in 2030.¹³¹ Given that the carbon

¹²⁶ BC Hydro (2022). *Heat pump rebates*, accessed 9 Sept. 2022 online:

¹²⁸ CanmetENERGY Heat-Pump Study.

¹²⁵ Canadian Climate Institute (Feb. 2021). *Canada's Net Zero Future: Finding our way in the global transition*, accessed 12 Sept. 2022 online: <u>https://climatechoices.ca/wp-content/uploads/2021/02/Canadas-Net-Zero-Future_FINAL-2.pdf</u>, ("Canada's Net-Zero Future"), p.38.

https://www.bchydro.com/powersmart/residential/rebates-programs/home-renovation/renovating-heating-

system.html#:~:text=You%20could%20be%20eligible%20for,government's%20Canada%20Greener%20Homes%20Grant ¹²⁷ CanmetENERGY (2022). Cold Climate Air Source Heat Pumps: Assessing Cost-Effectiveness, Energy Saving and Greenhouse Gas Emissions Reductions in Canadian Homes, accessed 9 Sept. 2022 online: <u>https://www.nrcan.gc.ca/maps-tools-and-</u> publications/publications/publications/cold-climate-air-source-heat-pumps-assessing-cost-effectivenessenergy-savings-and-gr/24208 ("CanmetENERGY Heat-Pump Study").

¹²⁹ Environment Canada (July 2022). *Clean Energy Regulations*, accessed 9 Sept 2022 online:

https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/clean-electricity-regulation.html ¹³⁰ The actual total cost in September 2022 of natural gas was \$25.51 per GJ for residential customers in New Brunswick, whereas CanmetENERGY projected a price of \$20.95 in 2022, up from \$19.90 in 2020. See: <u>https://naturalgasnb.com/en/for-home/accounts-billing/gas-price-update/</u>, accessed 23 Sept.

¹³¹ Environment Canada (2021). Update to the Pan-Canadian Approach to Carbon Pollution Pricing 2023-2030, accessed 12 Sept. 2022 online: <u>https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/carbon-pollution-pricing-federal-benchmark-information/federal-benchmark-2023-2030.html</u>

price applies to fuels based on the amount of GHGs they produce (and will not apply to clean electricity), it will affect natural gas prices more than heat pumps and other energy systems that have low or zero emissions. The CGA commissioned study calculates that the average gas-powered Canadian home (with a consumption of 90 GJ annually) that does not take action to reduce emissions will be paying \$682 due to carbon taxes for heating per year in 2030,¹³² substantially increasing its relative cost to low emissions alternatives such as heat pumps.

In summary, natural gas use is less affordable than the heat pump to heat your home in most parts of Canada. Further, natural gas will become increasingly more expensive - and less affordable in comparison to the heat pump - as the carbon price increases. As such, the CGA's representations that natural gas is affordable and more affordable than other energy options are false and misleading.

b) The price of natural gas is highly volatile and determined by geopolitics

Natural gas is amongst the most volatile of energy commodities. Across Canada, residential natural gas rates have bounced between lows of 16.70 cents/m³ to 55.41 cents/m³ over the last thirty years, while steadily increasing overall.¹³³ In the last year, natural gas was the single most price-volatile commodity,¹³⁴ and further volatility is expected for the foreseeable future.¹³⁵ The Alberta Energy Regulator's 10-year projection for Alberta natural gas prices demonstrates the short and long term volatility of natural gas, indicating that prices could double by 2031, stay the same, or drop by half.¹³⁶

Compared to electricity, natural gas is historically more volatile and susceptible to price shocks.¹³⁷ Severe winter weather is one cause of price shocks as it causes demand to spike, and such weather will only increase as climate change progresses.¹³⁸ Natural gas utilities sometimes seek to smooth over price shocks using rate mitigation plans, which allow them to recover the increased cost of price shocks from customers over a longer period of time. For example, in Ontario in the spring of 2022, Enbridge proposed a rate mitigation plan for the third quarter in a row.¹³⁹ While this allows consumers to spread out payment, they are still paying the full cost of these price shocks in the end.

Furthermore, growing exports of liquefied natural gas (LNG) from the United States and soon from Canada (beginning in the mid-2020s when LNG Canada starts exporting from the West Coast of B.C.)¹⁴⁰

¹³² CGA Gas Pathways Study, p. 31, Exhibit 18.

¹³³ Statistics Canada (2016). *Table 25-10-0033-01 – Natural gas, monthly sales,* accessed Sept. 2022 online: https://doi.org/10.25318/2510003301-eng.

¹³⁴ Kurbegovic, D. (2022). U.S. natural gas spike to a 13-year high but more volatility is expected, Finbold, accessed Sept. 2022 online: <u>https://finbold.com/u-s-natural-gas-prices-spike-to-a-13-year-high-but-more-volatility-is-expected/</u>

¹³⁵ Jaremko, G. (29 April 2022). *Cenovus sees continued jolt for oil natural gas prices and uncertainty overseas*, Natural Gas Intelligence, accessed Sept. 2022 online: <u>https://www.naturalgasintel.com/cenovus-sees-continued-jolt-for-oil-natural-gas-prices-and-uncertainty-overseas</u>

¹³⁶ Alberta Energy Regulator (May 2022). *Alberta Energy Outlook - AECO-C Price*, accessed 9 Sept. 2022 online: <u>https://www.aer.ca/providing-information/data-and-reports/statistical-reports/st98/prices-and-capital-expenditure/natural-gas-prices/aeco-c-price#:~:text=Copy%20Error%20Message-,Summary,Cdn%243.06%2FGJ%20in%202024</u>

¹³⁷ Gruenwald, T. (17 Nov. 2021). *Reality Check: The Myth of Stable and Affordable Natural Gas Prices*, RMI, accessed Sept. 2022 online: <u>https://rmi.org/the-myth-of-stable-and-affordable-natural-gas-prices/</u>

¹³⁸ Zhang, X., et al. (2019). *Changes in Temperature and Precipitation Across Canada*; Chapter 4 in Bush, E. and Lemmen, D.S. (Eds.) Canada's Changing Climate Report, Government of Canada, accessed 12 Sept 2022 online: https://changingclimate.ca/CCCR2019/chapter/4-0/, p. 112-193.

¹³⁹ Ontario Energy Board (30 March 2022). *The Rising Market Price of Natural Gas: Helping to Manage Cost Increases for Many Customers Across Ontario,* accessed 12 Sept. 2022 online: <u>https://www.oeb.ca/sites/default/files/backgrounder-qram-20220330.pdf</u>

mean that domestic natural gas markets are increasingly exposed to global markets, for example in Asia and Europe.¹⁴¹ This is another factor that will influence domestic natural gas prices. For example, U.S LNG exports constituted a major source of demand growth and contributed to an 88% increase in natural gas prices between summer 2021 to summer 2022.¹⁴²

In summary, given the volatile and unpredictable nature of natural gas prices, it is impossible for the CGA to predict the price of natural gas over any period of time, particularly for the entire 10-25 year lifespan of a natural gas energy system. Even if current natural gas prices are more affordable in some places in Canada, they cannot be assumed to remain low or affordable over the entire lifespan of a homeowner's natural gas energy system. Therefore, it is false and misleading for the CGA to assert that natural gas is "naturally affordable" or that consumers will save specific amounts of money each year, particularly without stating the period over which the CGA expects natural gas to be affordable or that savings will accrue.

It is also false and misleading to assert that natural gas is "naturally affordable," because this suggests that affordability is an inherent characteristic of natural gas that will not change and will persist for the lifespan of a consumer's natural gas energy system. In reality, the price of natural gas depends on a range of external factors that CGA does not control.

c) The price of natural gas will increase due to climate policies and carbon pricing

Natural gas prices will increase as a result of the transition to a low carbon economy. As governments impose policies to cause emissions reductions and to meet emissions targets, emitters will have to adopt technologies and practices to reduce their own emissions. These new technologies and practices will have costs, most of which will be passed on to the consumer in the form of higher prices.

For example, the addition of RNG to natural gas systems is one way that the natural gas industry is seeking to reduce its emissions.¹⁴³ RNG has similar combustion emissions as natural gas, but because it involves burning methane that would otherwise enter the atmosphere and turning it into less harmful carbon dioxide, it is considered to have an overall lower climate impact.

However, as demonstrated by the following examples, using RNG will affect the affordability of the gas supplied to consumers because RNG is much more expensive than natural gas:

- A study produced for the CGA shows that the production cost of RNG is at least double and up to ten times as much as conventional natural gas.¹⁴⁴
- A 2019 study for the American Gas Foundation found that 56% of potential RNG projects will cost more than \$20 MMBTU.¹⁴⁵

¹⁴⁰ Jang, B. (15 March 2022). *LNG Canada Terminal in British Columbia enters peak construction phase*, The Globe and Mail, , accessed 12 Sept. 2022 online: <u>https://www.theglobeandmail.com/business/article-lng-canada-terminal-in-british-columbia-enters-peak-construction-phase/</u>

 ¹⁴¹ Ialenti, R. (Sept. 2021). *Rising US LNG Exports and Global Natural Gas Price Convergence – Staff Discussion Paper*, Bank of Canada, accessed 12 Sept. 2022 online: <u>https://www.bankofcanada.ca/2021/09/staff-discussion-paper-2021-14/</u>
¹⁴² Federal Energy Regulatory Commission (May 2022). *Summer Energy Market and Reliability Assessment - 2022*, accessed 12 Sept. 2022 online: <u>https://www.ferc.gov/media/report-summer-assessment-2022</u>, p.7.

¹⁴³ Canadian Gas Association (n.d.). *The Renewable Natural Gas Opportunity*, accessed 12 Sept. 2022 online: https://www.cga.ca/natural-gas-101/the-renewable-natural-gas-opportunity/

¹⁴⁴ Pollution Probe (Nov. 2019). *What does the future hold for natural gas? – Summary of findings,* accessed 12 Sept. 2022 online: <u>https://www.pollutionprobe.org/wp-content/uploads/Future-of-Natural-Gas_November-2019_Summary.pdf</u>

- FortisBC currently charges \$13.81/GJ for renewable natural gas, which is about double the conventional rate.¹⁴⁶

As such, natural gas that uses RNG to reduce its emissions and boost its "clean" credentials will make it more expensive and less affordable.

Further, those emissions that the natural gas industry cannot reduce will be subject to carbon pricing. As noted above, the federal carbon price is scheduled to increase from 50/tonne of CO₂ in 2022 to 170/tonne of CO₂ in 2030. An analysis of the impacts of the carbon price estimates that, at 50/tonne, the average household would pay 3,300 in carbon taxes over the life of a typical residential gas furnace for heating.¹⁴⁷ At 170/tonne, the price of natural gas would increase by 8.50 per gigajoule, or about 750 per year, costing the consumer 11,000 over the life of a residential furnace.¹⁴⁸

Interestingly, the CGA was aware of the impacts of the carbon price and new technologies to reduce emissions before it launched its Clean Fuelling campaign in November 2021. A study published by the CGA in October 2021 acknowledged that carbon pricing will have a "significant impact" on how much customers are paying for natural gas. The CGA projected that by 2030, the carbon price of \$170/tonne will increase natural gas rates for residential consumers by 34% to 129% (depending on province or territory).¹⁴⁹

Finally, while engineered negative emissions solutions (which remove carbon from the air or capture carbon as it exits a smokestack and store it in the ground) offer another potential path to continued gas use in buildings, these technologies are only in early-stage development, so their ultimate costs and availability are highly uncertain.¹⁵⁰ Modelling by the Canadian Climate Institute (CCI) suggests that even if negative emissions solutions prove viable, they would only see limited uptake in the buildings sector due to the greater cost-effectiveness of available alternatives.¹⁵¹

In summary, CGA's representations that natural gas is affordable are false and misleading because they do not acknowledge the significant impact that carbon pricing and the uptake of RNG will have on the affordability of natural gas over the coming decade. CGA has information about these impacts but fails to mention this in its representations. This leads customers to believe that natural gas will be affordable over the lifespan of their heating system.

d) The price of natural gas will increase as consumers leave the natural gas system

Modelling by the CCI also points out that more efficient homes and competition from heat pumps over time will cause a decline in total gas use (including natural gas, hydrogen, RNG, and other gases) and will

¹⁴⁶ FortisBC (n.d.). How much does renewable natural gas cost?, accessed 12 Sept. 2022

¹⁴⁵ American Gas Foundations & ICF (Dec. 2019). *Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment*, accessed 12 Sept. 2022 online: <u>https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-</u> <u>Full-Report-FINAL-12-18-19.pdf</u>

online: https://www.fortisbc.com/services/sustainable-energy-options/renewable-natural-gas/how-much-does-renewablenatural-gas-cost_

 ¹⁴⁷ Barnard, M. (2020). A Carbon Price in Canada of \$170 CAD by 2030 is Great Climate News, CleanTechnica, accessed 9 Sept.
2022 online: <u>https://cleantechnica.com/2020/12/11/a-carbon-price-in-canada-of-170-cad-by-2030-is-great-climate-news/</u>

^{(&}quot;CleanTechnica analysis of 2030 Carbon Price")

 $^{^{\}mbox{\tiny 148}}$ CleanTechnica analysis of 2030 Carbon Price.

¹⁴⁹ CGA Gas Pathways Study, p.26.

¹⁵⁰ Canada's Net Zero Future p.44, footnote 16.

¹⁵¹ Canada's Net Zero Future p.44, footnote 16.

cause the customer base for gas heating to shrink.¹⁵² In other words, customers will leave the natural gas system.

As the total number of natural gas users declines, the fixed costs of operating the natural gas production, transmission, and delivery system will need to be recovered from fewer users, which requires charging each user a higher amount. The CCI estimates that this will increase the cost that individual households pay for gas delivery, "raising questions about the long-term economics of clean gases distributed via gas networks."¹⁵³ This also raises considerable equity challenges, since households unable to absorb the upfront cost of switching to electric heat pumps could find themselves stuck with increasingly high fixed costs for their continued use of the gas network.¹⁵⁴ Low-income households that install gas in the near-term based on the misleading promise of affordability will potentially be the most impacted as gas prices rise.

Further, the CCI study shows that as households move towards electrification of heating technologies (electric heat pumps and baseboards), household energy expenditure as a share of income decreases – in other words, electrification results in energy savings for all households due to the superior energy efficiency of electric heating (with heat pumps) and appliances.¹⁵⁵

Conclusion

CGA's representations that natural gas is "affordable", including in relation to other energy systems are false and misleading. Natural gas is less affordable than the heat pump, which is a popular, cost-effective, and low-carbon home energy system. Even if prices of natural gas are currently low, natural gas is a highly volatile commodity and prices are dependent on a range of external factors. This means the price of natural gas will not remain low for the 10-25 year lifetime of the natural gas energy system. In addition, as the CGA admits, the price of natural gas is expected to rise over the coming decades, as the carbon price increases and as climate policies require a shift towards lower emission fuels, such as RNG. The carbon price will make natural gas more expensive and less affordable in relation to low-carbon options like heat pumps.

As such, a family that chooses natural gas on the basis of CGA's representations of affordability are unknowingly locking themselves into these volatile, rising prices for the 10-25 year lifespan of their natural gas energy system, or must face the cost of an expensive renovation to switch energy systems.

4. Request for inquiry

The Applicants request that the Competition Bureau conduct a thorough, rigorous inquiry into the materially false and misleading representations made by the CGA to the Canadian public that natural gas is clean and affordable. The Applicants submit that these representations constitute reviewable conduct under s. 74.01(1)(a) of the *Competition Act*.

If the inquiry finds that CGA and its members have made materially false and misleading representations to the Canadian public, the Applicants submit that the CGA should be required to, at a minimum:

¹⁵² Canada's Net Zero Future, p.44.

¹⁵³ Canada's Net Zero Future, p.44.

¹⁵⁴ Canada's Net Zero Future, p.44.

¹⁵⁵ Canada's Net Zero Future, p.37.

- 1. Remove all representations that natural gas is "clean" and "affordable" or the like from its public communications;
- 2. Issue a public retraction of these representations;
- 3. Pay a \$10 million fine, credited to the Environmental Damages Fund and to be paid to a person or organization for the purposes of public climate education about clean fuels and health impacts related to fossil fuel use and climate change.

These penalties will allow Canadians to make accurate and informed choices about the uptake of natural gas-based energy systems in their homes and deter other natural gas companies from making false and misleading claims about natural gas.

Appendices

Appendix A: Representations on Facebook & Instagram

Facebook: <u>Fueling Canada</u> Instagram: <u>@FuellingCanada</u>

A.1 Mar 7, 2022 - Mar 8, 2022 Impressions: 20K-25K

Fuelling Canada Sponsored • Paid for by Canadian Gas Association

In 2020, natural gas utilities invested over \$250 million into projects to improve the efficiency of natural gas use. Their passion, research, and new technologies are paving the way to a bright future. #FuellingCanada



A.2.1 16, 2022 - June 26, 2022 Impressions: 50K-60K



See how natural gas production is leveraging innovative tech to become cleaner than ever. #FuellingCanada



A.2.2 May 16, 2022 - June 26, 2022 Impressions: 50K - 60K



May

Fuelling Canada

Sponsored • Paid for by Canadian Gas Association

See how natural gas production is leveraging innovative tech to become cleaner than ever. #FuellingCanada



FUELLINGCANADA.CA Meet Kinitics Automation

Learn more

A.3.1 Jan 6, 2022 - Feb 27, 2022 Impressions: 35K - 40K

Fuelling Canada Sponsored · Paid for by Canadian Gas Association

Find out how natural gas produces cleaner heat for less money, making Canadian homes more comfortable and efficient. #FuellingCanada



FUELLINGCANADA.CA Meet Doug Tarry Homes Watch More

A.3.2

Jan 6, 2022 - Feb 27, 2022 Impressions: 35K - 40K



A.4

Jan 5, 2022 - Feb 27, 2022 Impressions: 45K - 50K



Sponsored · Paid for by Canadian Gas Association

Natural gas is one of the cleanest burning fuels. Compared with other sources, it emits 18-34% less greenhouse gas. #FuellingCanada



FUELLINGCANADA.CA Clean energy with natural gas Find out why natural gas and its infrastructure are the foundation of Canada's energy future.

Learn more

A.5 Jan 5, 2022 - Feb 27, 2022 Impressions: 6K - 7K



A.6 June 7, 2022-June 26 2022 Impressions: 1K-2K





A.7 a Mar 7- Mar 16, 2022 p Impressions: <1K



Fuelling Canada Sponsored • Paid for by Canadian Gas Association

Natural gas helps Canadians save on bills, and helps our communities thrive. #FuellingCanada



A.8 Jan 5, 2022 - Feb 27, 2022 Impression: 30K-35K



A.9 Jan 5, 2022 - Feb 27, 2022 Impression: 30K-35K



Appendix B: Representations on ² ²⁴ Nov. 2021 Twitter

Twitter: @FuellingCanada

Fuelling Canada @FuellingCanada · Nov 24, 2021 Cleaner, more reliable energy at a lower cost? It's no wonder natural helps communities across Canada grow and thrive.

> Find out how natural gas lets Canadians worry less and do more at fuellingcanada.ca

#FuellingCanada



Fuelling Canada @FuellingCanada · Nov 24, 2021 Natural gas = affordable winter warmth, hot summer BBQs, and Canadians living our best lives, year-round.

Learn more at fuellingcanada.ca

24 Nov. 2021

#FuellingCanada



B.3

24 Nov. 2021



Learn why natural gas is easier on our wallets and the planet at fuellingcanada.ca

#FuellingCanada



≏ 1J 2 01



22 March, 2022

★ Fuelling Canada @FuellingCanada · Mar 22 The @ngifund provides grants to accelerate innovation in the production, transmission, distribution, and end-use of natural gas.

Follow along at fuellingcanada.ca to learn more about the projects NGIF is supporting, or visit ngif.ca #FuellingCanada #NGIF



B.4

Appendix C: Representations on "Fuelling Canada" website

Fuellingcanada.ca

C.1

Our role

Supporting quality of life

Natural gas is an essential part of our everyday lives. From heating our homes to generating electricity to fuelling our gas-burning stoves and BBQs – Canada's natural gas industry works 24/7 to ensure affordable, clean, and reliable energy for families and businesses.

Fuelling the economy

- The natural gas industry employs more than 38,000 Canadians across the country
- Low energy costs attract commercial and industrial employers and create more jobs

C.2

We have the reputation

The LNG we produce is the cleanest in the world. Our regulations are among the globe's most stringent and transparent, our workforce and supply chain members are extremely environmentally conscious and active, and our technology and innovations are driving the future. The world wants Canadian LNG.

Read more about the cleanliness of Canadian LNG



C.3

Key facts

Natural gas companies work every day to deliver affordable, clean, and reliable energy to Canadians at home. Across Canada, the industry offers several programs and incentives to allow homeowners to take advantage of energy efficiency and equipment upgrades. More recently, Canadians have access to new lower emission supplies of gaseous energy including hydrogen and renewable natural gas.

About Us Our Pillars Global Energy Security Contact Us

Looking for more information about natural gas? Reach out to us at info@fuellingcanada.ca.

C.4



The world needs Canadian natural gas

Energy security is a global issue. Canada has an abundant supply of the cleanest natural gas in the world, and we can help. It's good for the world, and it's good for Canada. **We can do it**.

earn how we can help.

C.5

Providing energy security

- In 2020, Canada's natural gas supply was available all year round
- Our abundant natural gas supply will power Canadians for centuries
- Natural gas will be the most relied upon energy source for Canadians by 2035

Appendix D: Representations in the media

The Globe and Mail sponsored content April 4, 2022



Why natural gas is the smart choice for your new home

CONTENT FROM: GLOBE CONTENT STUDIO PUBLISHED APRIL 4, 2022



A natural gas stove offers the best control over heat and a superior cooking experience. ISTOCKPHOTO / GETTY IMAGES

A SHARE

If you're looking to buy your first home or expect to move this year, you know real estate prices remain stratospheric in Canada. According to the <u>Canadian Real Estate</u> <u>Association</u>, February 2022 prices were 21 per cent higher than they were just a year ago – and they were already sky-high.

Those looking to buy or perhaps renovate need to do what they can to manage the cost of their biggest investment. That means making sure you keep your utility bills under control.

"When you heat with gas, the cost is lower," says Doug Tarry of <u>Doug Tarry Homes</u> in St. Thomas, Ont., a builder of net-zero homes. In fact, according to the Canadian Gas Association, residential consumers can save between \$1,000 and \$3,000 a year by heating their space and water with natural gas instead of other fuel sources.

In addition, this amply available energy resource comes with a versatility that has extra appeal for many home buyers. Whether fuelling the grill or the stove top, or heating water or our homes – natural gas does it all for Canadians, around the clock.

Understanding gas

Canada is home to a world-class natural gas industry that leads the globe in responsibly produced energy. According to <u>Fuelling Canada</u>, the country has over 573,000 kilometres of underground infrastructure, which delivers reliable energy to more than 20 million Canadians every day.

And Canadians will be able to rely on it for years to come. This country has enough natural gas to last for about the next 230 years.

Canada also boasts world-leading manufacturers of some of the most popular home products. Take <u>Napoleon</u>, a maker of gas, electric and wood fireplaces, grills and outdoor living products headquartered in Barrie, Ont.

"All of the products made in Canada are above and beyond in terms of quality and safety," explains David Shulver, vice-president of research and development at Napoleon. "Most products have double redundancy, so customers can be confident there are backups in place that guarantee safety."



Doug Tarry in front of one of his company's net-zero homes in St. Thomas, Ont. 'When you heat with gas, the cost is lower,' Tarry says. SUPPLIED

Keeping warm

On average, in Canada, natural gas is cheaper than any other home heating source. Importantly, gas offers a warm heat while other sources can produce an overly dry heat, which can make you feel dehydrated as well as draw moisture from your skin.

At home, Shulver has a dual-fuel combination gas furnace and heat pump – this device extracts energy from the air outside to heat the house, while still being able to cool it in summer. The heat pump will turn on when electricity rates are low or when it can efficiently do its job. He says the gas furnace runs during the cold days of winter. "As the temperature gets really cold outside, heat pumps lose their ability to produce as much heat, which is when the gas furnace kicks in," Shulver advises.

As Canadians look at energy choices, we know that cost is a top consideration. "Right now, a dual-fuel heating system is a fantastic interim approach," says Tarry.

He often installs a furnace with a heat pump in the homes he builds – he helped design a system with HVAC company <u>Dettson</u> that works seamlessly with a smart ducting system. Regular ducts lose 25 to 30 per cent of their air flow from duct leakage, while a smaller, smart-duct system sheds less than 5 per cent.

Tarry also notes the most efficient homes have proper insulation and sealing. Whatever system they choose, he recommends people look to HVAC products with an Energy Star sticker.



David Shulver, vice-president of research and development at Napoleon, says the grill, fireplace and outdoor-living manufacturer sees people creating full outdoor kitchens with the gas barbecue built in. 'It adds to the resale value,' he says. SUPPLIED

The cooking angle

If you use natural gas, it's straightforward to hook up a gas stove, which offers the best control over heat and a superior cooking experience. As well, with gas in the house, you can run a line to your barbecue – so you'll never run out of fuel, which can happen while cooking a big family meal.

Shulver says pellet grills have become increasingly popular, but a clean-burning gas barbecue is the best choice for anyone living in an urban area. "Your neighbours may not be that pleased with a lot of smoke billowing over into their yard," he says.

He says Napoleon sees people creating full outdoor kitchens with the gas barbecue built right in. "It adds to the resale value," he says, as buyers appreciate these features.

A crackling fire

Having a gas line also allows you to put in a new fireplace or convert a wood-burning fireplace to gas. The latter has a key benefit – old fireplaces lose heat. "You might not feel a draft, as hot air rises, but air is getting sucked out of the room," Shulver says. "You could be losing a lot of energy."

Many Canadians use their gas fireplace as a focal point for cold winter nights in, but they're also great for heating rooms – particularly chilly basements – without having to warm the entire house. Shulver says many Canadians who live in regions with frequent power outages rely on their gas fireplaces to keep them toasty, and pipes from freezing, when the electricity goes out.

Innovations in gas fireplaces make them even more appealing today. Some are designed to push the heat away from the wall, so you can put a TV above them. Increasingly efficient fireplaces produce the look of embers with LED lights, emit less heat and use less energy.

As Canadians continue to look for reliable energy solutions, natural gas remains a smart choice for comfort, dependability and affordability.

"Gas is affordable, and the best thing we can do is use less and get the most benefit from it," Tarry says.

Learn more why natural gas is the smart choice to fuel your home at www.fuellingcanada.ca.

Advertising feature produced by <u>Globe Content Studio</u> with Fuelling Canada. The Globe's editorial department was not involved. Appendix E: Statutory Declarations