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# The Contradictions in Quebec Climate Policy



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## Executive Summary

Canada's provinces have taken broadly similar approaches to climate policy so far, but none so stringent as Quebec. If one examines Quebec's policy, however, it reveals some striking inconsistencies.

*Quebec's economy has extremely low GHG emissions intensity compared to other jurisdictions internationally. Yet, the province has embraced the most stringent approach to further emissions reduction of any Canadian province.*

*Quebecers and their provincial governments have demonstrated considerable hostility towards fossil fuels. Yet, the province remains heavily dependent on oil and natural gas for key economic activities.*

*As Quebec's GHG emissions are so low, it has fewer options available to achieve further emissions reductions. Yet, the sectors where emissions cuts must be made are those where reductions will be the most difficult and costly.*

*Quebec chose emissions trading (i.e. "cap and trade") as its preferred way of implementing carbon dioxide pricing. Yet, it then blunted the potential effectiveness of this approach by exempting many of the most emissions-intensive firms.*

*Quebec chose emissions trading as a carbon dioxide pricing system in the belief that it offered a lower-cost option for its industry than the federally-applied carbon dioxide tax system. While this has been true sometimes since 2007, Quebec now faces a federal requirement that its trading system produce the same result as the carbon dioxide taxes.*

*Quebec governments like to present themselves as socially "progressive". Yet, of all the provinces, Quebec has adopted the most regressive approach to recycling of carbon dioxide pricing revenues.*

*Emissions reduction in road passenger transportation is absolutely central to attaining Quebec's emissions reduction target by 2030. Yet, the best that combined federal and Quebec measures taken to date are likely to achieve is a reduction of 5 Mt, far below the level needed to meet that target.*

*The federal government's projections of industrial GHG emissions show an increase, not a decrease, by 2030. While, within Quebec, provincial measures might produce some emission reductions through increased efficiency, these are unlikely to achieve the reductions large enough to meet Quebec's target. Higher reductions in industrial emissions would require political choices that the Quebec government so far has shown itself unwilling to make.*

*Based on present trends, it seems highly unlikely that Quebec will reduce emissions enough to meet its 2030 target. Yet it is committed to a far more difficult target for 2050.*

# THE CONTRADICTIONS IN QUEBEC CLIMATE POLICY

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Canada's provinces have taken broadly similar approaches to climate policy so far, but none so stringent as Quebec. If one examines Quebec's policy, however, it reveals some striking inconsistencies.



The spillway of the Robert-Bourassa Dam (formerly La Grande-2) By P199 - Own work, CC BY 2.5, <https://commons.wikimedia.org/w/index.php?curid=995848>

## Quebec's economy has extremely low GHG emissions intensity

*Quebec's economy has extremely low GHG emissions intensity compared to other jurisdictions internationally. Yet, the province has embraced the most stringent approach to further emissions reduction of any Canadian province.*





Source: [flickr.com/photos/87857621@N00/](https://www.flickr.com/photos/87857621@N00/)

If Quebec were a country, it would have the seventh-lowest per capita production of carbon dioxide equivalent (CO<sub>2</sub>e) emissions in the OECD. It produces 10.0 tonnes of CO<sub>2</sub>e per year, comparable to Denmark and Norway, and slightly below Ontario (12.4 tonnes of CO<sub>2</sub>e) but only half of the United States (21 tonnes CO<sub>2</sub>e). One major reason for this is that Quebec has plentiful supplies of relatively low-cost hydro-electricity, from both Quebec and Labrador sources. In 2017, it had over 45,036 MW of installed hydroelectric generating capacity, which supplied about 96% of its electricity. As a result, a disproportionate share of the province's primary energy supply is from sources that, at the production stage, emit very little or no GHG emissions.

Yet, Quebec has adopted very demanding targets for emissions reductions. Its emissions in 2017 were 78.0 megatonnes (Mt) of CO<sub>2</sub>e, according to data published by Environment and Climate Change Canada (ECCC). The province's goals are to reduce emissions by 2030 to 54 Mt and to reduce emissions in 2050 to somewhere between 4.3 Mt and 17 Mt, close to complete decarbonization.

## **Considerable hostility towards fossil fuels**

*Quebecers and their provincial governments have demonstrated considerable hostility towards fossil fuels. Yet, the province remains heavily dependent on oil and natural gas for key economic activities.*

Quebecers and their governments have stood firmly against the construction of new pipeline capacity to allow crude oil or natural gas produced in western Canada to transit Quebec and thereby attain increased access to international markets. This opposition was arguably an important factor in the decision of the Trudeau government to broaden the scope of the assessment of the former Energy East pipeline project, a decision that led TransCanada Pipelines to withdraw its application for a certificate. Quebec has virtually prohibited all oil and gas exploratory and development drilling, choosing to forego the potential economic benefits in order to align with the views propounded by radical environmental groups.



<https://leaderpost.com/opinion/columnists/quebec-deal-could-free-up-pipeline-health-care/>

Yet, Quebec is the second-largest market for refined oil products in Canada, after Ontario. Total 2017 demand for these products was 369 thousand barrels per day, or 20% of Canadian refined product demand. Motor gasoline demand accounted for 167 thousand barrels per day and diesel fuel demand for 89 thousand barrels per day. The crude oil from which these products are made comes from both western Canadian and import sources.



Valero Refinery, Montreal, Quebec <https://www.valero.com/en-us>

Also, in 2017, Quebec consumed an average of 591 million cubic feet per day (MMcf/d) of natural gas. The province's largest gas consumer was the industrial sector, which consumed 332 MMcf/d. The commercial and residential sectors consumed 197 MMcf/d and 62 MMcf/d, respectively.

In other words, without oil and natural gas, Quebec's transportation system would grind to a halt, much of its industry would close, and many Quebecers would lose their home heating.



Source: <https://business.financialpost.com/commodities/energy/valero-strikes-deal-to-ship-line-9-crude-from-montreal-to-quebec-city-by-tanker>

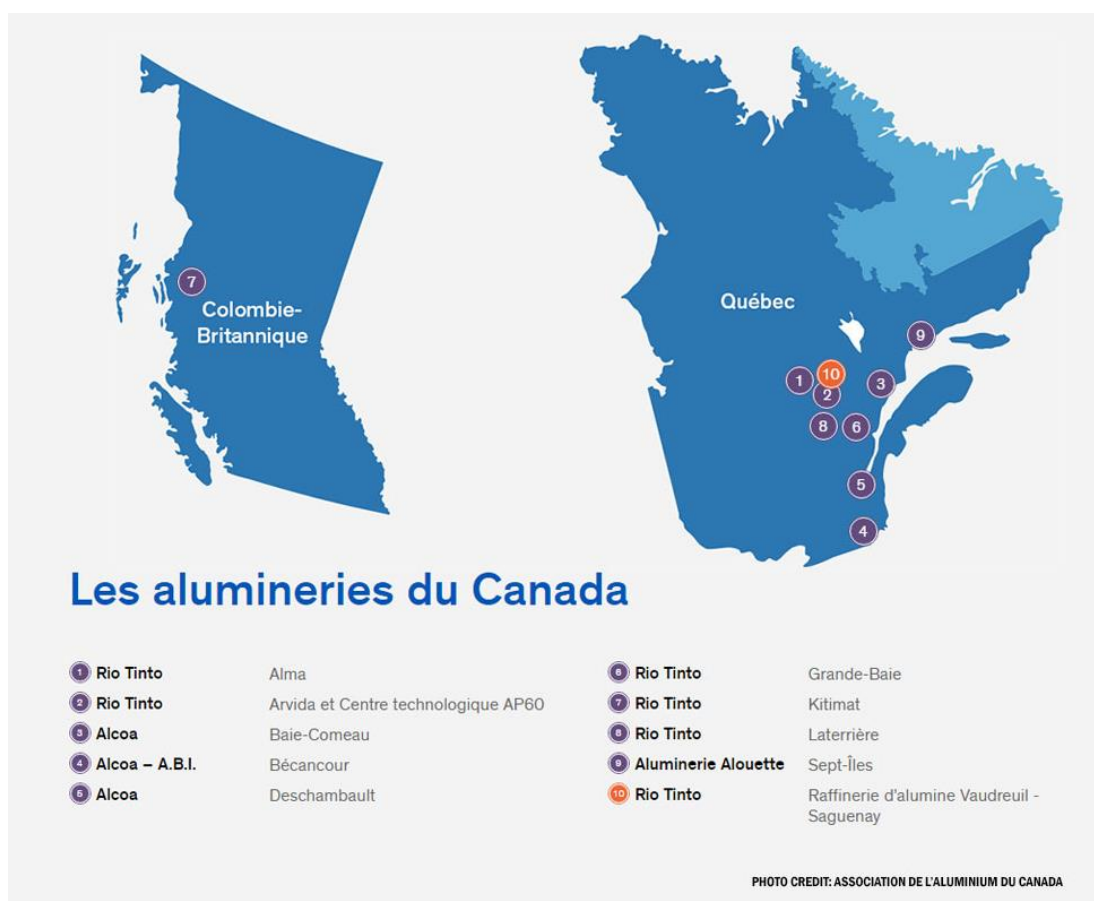
## **Fewer options to achieve further reductions.**

*As Quebec's GHG emissions are so low, it has fewer options available to achieve further emissions reductions. Yet, the sectors where emissions cuts must be made are those where reductions will be the most difficult and costly.*

In 2017, transportation and heavy industry combined accounted for 47.5 Mt of CO<sub>2</sub>e emissions in Quebec, or about 61% of the total. If emissions from oil refineries were added, the total would rise to 49.6 MT of CO<sub>2</sub>e, or 64%. Emissions from residential and commercial buildings accounted for 10.9 Mt, or 14%. The rest were divided among agriculture, waste and others.

Of the 34.1 Mt emitted by the transport sector in 2017, 17.1 Mt were from light duty road vehicles (i.e. cars, SUVs. And pickup trucks) and 9.8 Mt were from heavy duty road vehicles; so, 79% were from road vehicles. These and other transport modes depend on oil to supply 97% of their fuel requirements. Aside from some emerging technologies like hybrid and all-electric light duty vehicles, there simply are no technologically and commercially viable alternatives to oil fuels in transportation.

Of the 10.5 Mt in emissions from the Quebec industry (excluding oil refineries) in 2017, half of that was from metal production (iron and steel, aluminum, and other) a quarter from mineral products like cement and lime, and a quarter from halocarbons and other products. Many of these industries are both emissions-intensive and highly exposed to competition from plants in other countries. Raising their costs of production will expose them to the loss of sales, loss of investment and ultimately loss of viability.



The aluminum industry is an important manufacturing sector in Canada. It has ten primary aluminum plants, one in British Columbia and nine in Quebec. With nearly 6% of world production, Canada ranks fourth in the world after China, the Middle East and Russia. Source: <https://iamec.ca/en/blog/aluminum-industry-canada/>



## **“Cap and trade” or laissez faire?**

*Quebec chose emissions trading (i.e. “cap and trade”) as its preferred way of implementing carbon dioxide pricing. Yet, it then blunted the potential effectiveness of this approach by exempting many of the most emissions-intensive firms.*

In 2007, Quebec joined with California in the Western Climate Initiative (WCI), an emissions trading system. In theory, following the imposition of regulatory limits on the emissions that the “covered” firms and industries may produce in a given period, and the issuance of a certain amount of “free permits” to certain firms, the firms in the system must buy additional permits from others within the market. The idea is to establish a market for permits in which the price will gradually rise over time, creating an incentive for firms to reduce their emissions.

Under the Quebec regime, companies emitting 25,000 or more tonnes of CO<sub>2</sub>e per year are subject to the regulation. However, Quebec exempted the agricultural and waste sectors completely; these constitute about 16% of emissions. Then, it freely issued about 90% of the permits needed to certain firms that faced high competition. While the percentage of free permits is being gradually reduced over time, the aluminum, lime, cement, chemical, petrochemical, metallurgy, mining and pelletizing, pulp and paper, petroleum refining, glass containers, electrodes, gypsum products and some agri-food establishments receive largely free permits. What this does is to shift the burden of emissions reduction on to a smaller number of industries and firms, and to politicize the process of determining which firms are truly forced to adjust and which are not.

## **‘Cap ‘n trade a lower cost? Can it meet the same result as carbon taxes?**

*Quebec chose emissions trading as a carbon dioxide pricing system in the belief that it offered a lower-cost option for its industry than the federally-applied carbon dioxide tax system. While this has been true sometimes since 2007, Quebec now faces a federal requirement that its trading system produce the same result as the carbon dioxide taxes.*

An emissions trading system is not designed to control emissions levels directly. Rather, it is designed (ideally) to implement a market system that will harness the power of competitive markets to create the incentive for emissions reductions over time. The federal carbon tax system, supplemented by hundreds of “complementary” regulatory and program measures, is aimed at achieving very specific volumetric emissions target levels.

The price of permits in the WCI market has been determined largely by California because of its much larger market. The policies of the California government have also been important. The state issued plenty of free permits to reduce the initial political opposition to the regime. While Quebec firms affected by the system initially were paying permit prices that firms in other Canadian provinces did not, the situation changed when the federal government implemented minimum federal carbon dioxide taxes on January 1, 2018. Federal taxes are now \$30 per tonne of CO<sub>2</sub>e. In the most recent California-Quebec joint auction of emissions permits for February 2020, the auction settlement average price was U.S. \$17.87 per tonne (Cdn \$23.77 per tonne), well below the current Canadian carbon dioxide tax.

Other things equal, the disparity between the permit prices paid by Quebec firms and the carbon dioxide taxes paid by firms in other provinces might grow larger and larger over time. The federal government, however, has declared that all provinces must implement emissions cuts “equal to or greater than what would be achieved by a direct price”. There are various ways in which this “inconsistency” might be resolved. Quebec could adopt more aggressive emissions reduction targets than other provinces, to be pursued through the use of various “complementary measures” other than carbon dioxide pricing. If California raised its target for emissions reductions, it might cause permit prices to rise. However, as the federal minimum carbon dioxide tax rises ever higher, a continuing disparity may require Quebec to raise the minimum reserve price for permits to match the federal tax, thus effectively turning the emissions trading system into a carbon tax system. This may become a major point of contention in federal-Quebec relations. Other provinces are unlikely to accept a situation in which climate policies give Quebec firms large and growing cost advantages over those in other provinces.

## **Most regressive approach to recycling of carbon dioxide pricing revenues**

*Quebec governments like to present themselves as socially “progressive”. Yet, of all the provinces, Quebec has adopted the most regressive approach to recycling of carbon dioxide pricing revenues.*

The general practice among Canadian provinces, and especially the ones that are required by law to implement the federal government’s “backstop” regime for carbon dioxide taxation, is to return most (i.e. around 90%) of the revenues received from the taxation regime to designated members of the general public through rebates. While this approach breaks with the theoretically optimal way of reducing the adverse economic impacts of the tax (i.e. by reducing the rates of generally applied taxes), it serves a politically popular income redistribution objective.

In Quebec, however, there is no rebate system at all. The provincial government keeps the money and directs it to the Green Fund whence it is distributed to politically favoured programs and groups.

*Instead of promoting projects with strict greenhouse gas emission targets, the fund became a buffet for the pet projects of various ministers, Charette said.*

*"Unfortunately, yes," Charette said in an interview when asked whether the fund was being misused.*

*"Certain departments helped themselves to the fund, so to speak, without a guarantee of results on investments. And the previous government let this phenomenon go on like that, which made things even more deplorable."*

*Charette said despite the billions of dollars collected since 2006, the reduction in greenhouse gases "was very small across the projects that were financed."*

*Quebec collects hundreds of millions of dollars every year from a carbon credit cap-and-trade system.*

*Companies that emit high amounts of greenhouse gases are legally forced to purchase the right to release those gases into the atmosphere. Quebec sells emissions credits four times a year at auction.*

*Since its inception, almost \$5.5 billion has been poured into the fund. And from the beginning, the program has been mismanaged, according to several reports from the province's auditor general.*

*Various government departments used money in the fund to finance projects without calls for proposals or without specific criteria to evaluate greenhouse gas emissions reductions, the auditor general concluded.*

Source: <https://www.ctvnews.ca/canada/quebec-green-fund-money-used-for-pet-projects-new-minister-charges-1.4526775>

## **Road passenger transportation emissions reduction far below the level needed to meet the target**

*Emissions reduction in road passenger transportation is absolutely central to attaining Quebec's emissions reduction target by 2030. Yet, the best that combined federal and Quebec measures taken to date are likely to achieve is a reduction of 5 Mt, far below the level needed to meet that target.*



East entrance of Ville-Marie tunnel Montreal. Source: [https://tunnelsmanual.piarc.org/en/system/files/media/file/appendix\\_3.01-canadaquebec-montreal-ville-marie-viger-tunnels.pdf](https://tunnelsmanual.piarc.org/en/system/files/media/file/appendix_3.01-canadaquebec-montreal-ville-marie-viger-tunnels.pdf)

The main influence on emissions from road vehicles in Quebec will be the federal regulations governing emissions from light duty and heavy duty vehicles. In Canada's fourth Biennial report to the United Nations on emissions reductions activity, submitted in January 2020, ECCC projected that the effects of federal measures would be to reduce Canada-wide transportation emissions by 23 Mt from 2017 levels by 2030. In 2017, emissions from transport in Quebec totaled 34 Mt, 19% of the 201 Mt of emissions from transport in all of Canada. If the effect of federal transport-related measures applied proportionately in Quebec, they would reduce Quebec emissions by about 4.4 Mt.

Quebec appears to be emphasizing the emissions reduction to be achieved by motorists switching from internal combustion engines to electric vehicles (battery electric and plug-in hybrids). EV sales have increased from a very low base in 2013 to about 43,000 vehicles in 2018, following the introduction of Quebec's generous subsidy program. However, it is important to place these figures in context. In 2018, total Canadian sales of light duty vehicles totaled 1,984,000. EV sales were 2.2% of the total. Total light duty vehicles sales in Quebec in 2018 were 451,000, of which EVs constituted 2.6%.



Green passenger vehicle Quebec number plate. Green vehicle plates bear a special sticker in the lower left, their lettering is green rather than blue as seen on other Quebec plates, and they display a VEx suffix. Buses and commercial transport have similar plates but numbered differently.

By Dvermeirre - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=42603204>



In 2018, registered light duty vehicles (i.e. those weighing less than 4500 kilograms) totaled 23.1 million in Canada and 5.3 million in Quebec. The total number of EV's registered in Quebec in 2018 was about 24,000, or 0.5% of all the light duty vehicles registered in the province. For EVs to reach even 10% of total light duty vehicles in the province would require sales to increase many times over current levels. They have not yet even begun to penetrate the market for heavy duty vehicles. It is thus highly unlikely that Quebec's generous subsidy regime for electric vehicles will have much of an impact on reducing emissions to meet the 2030 target.

The prospects for reducing transportation emissions by subsidizing urban transit are not much better. The Canadian Urban Transit Association Vision 2040 sets out proposed targets for per-capita ridership growth by 2040. These targets include a 50% increase in per-capita trips in large and medium cities and 100% increase in smaller municipalities. Combined with population growth, CUTA projects this will increase trips by 86% by 2040 from those in 2007.

John Lawson, formerly Transport Canada's senior economist, assessed the implications of shifting passengers between modes, assuming that the operating conditions, including load factors, remained the same. A doubling (i.e. 100% increase) of transit ridership would transfer 16.25 billion passenger-km from light duty vehicles to transit and reduce emissions by 2.53 megatonnes (Mt) per year.

A doubling of urban transit ridership far exceeds the "stretch" goals suggested by transit agencies in the past and exceeds even the 86% goal set out in the CUTA Vision for 2040. According to Environment and Climate Change Canada, the emissions from all transportation sources in 2017 were 174 Mt, and emissions from all sources were 716 MT.<sup>1</sup> So, doubling transit ridership at great cost would reduce Canada's transportation-related emissions by 1.5% and total emissions by 0.4%. Assuming that Quebec's transportation-related emissions would be similarly affected (i.e. a reduction on 1.5%), that would mean that by reaching a "stretch" goal of doubling urban transit ridership, Quebec would reduce provincial emissions by 0.5 megatonnes.

**The combined effects of the federal vehicle regulations, Quebec's electric vehicles subsidies, and the most optimistic outcome of transit subsidies would be an emissions reduction of 4.9-5.0 Mt per year by 2030.**

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<sup>1</sup> <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/sources-sinks-executive-summary-2019.html#toc5>

## Projections of industrial GHG emissions show an increase, not a decrease, by 2030

*The federal government's projections of industrial GHG emissions show an increase, not a decrease, by 2030. While, within Quebec, provincial measures might produce some emission reductions through increased efficiency, these are unlikely to achieve the reductions large enough to meet Quebec's target. Higher reductions in industrial emissions would require political choices that the Quebec government so far has shown itself unwilling to make.*

The ECCC January 2020 report to the United Nations projected Canadian national emissions from industry in 2030 to increase, not decrease, from 2017 levels.

It is difficult to assess the extent to which the emissions-intensive and trade-exposed sectors in Quebec will be able to reduce emissions and still remain competitive. The emissions reductions that will be stimulated by the cap and trade system and other programs will depend largely on the extent to which the provincial government will sharply reduce many firms' exemptions from having to buy permits. Optimistically, energy efficiency improvements might yield emissions reductions of 25% (i.e. 3 Mt), but at what cost?

Would Quebec be prepared to force the closing of even a few of its major industrial plants, with the resulting political, revenue and employment costs, to achieve the 31 Mt target? Given the exemptions already granted to the most emissions-intensive industries for purposes of emissions trading, this seems doubtful.

### Canada's Quebec injects \$130M into Tata Steel Quebec-Labrador iron ore project

Cecilia Jamasmie | November 7, 2016 | 10:05 am [Asia](#) [Canada](#) [Europe](#) [Iron Ore](#)



The DSO project involves mining, crushing, washing, screening and drying the run-of-mine ore at a facility near Schefferville, Quebec. (Image: Construction of main facility by AECOM)

SIGN UP FOR THE IRON ORE DIGEST

Sign Up

Source: <https://www.mining.com/canadas-quebec-injects-130m-into-tata-steel-quebec-labrador-iron-ore-project/>

## Highly unlikely Quebec will reduce emissions enough to meet its 2030 target, let alone 2050

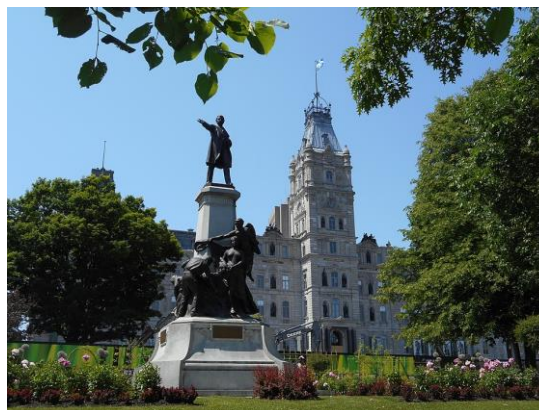
*Based on present trends, it seems highly unlikely that Quebec will reduce emissions enough to meet its 2030 target. **Yet it is committed to a far more difficult target for 2050.***

To meet its 2030 target, Quebec would have to reduce provincial emissions from 78 Mt in 2017 to 54 Mt in 2030, a total reduction of 24 Mt. If one adjusted for normal economic and population growth, emissions would probably increase by at least 10% over 13 years. Thus, an “adjusted” baseline against which to measure reductions is probably closer to 86 Mt, and the “gap” is about 32 Mt.

Assuming that the transport sector provides 5 Mt, the industrial sector 3 Mt and the buildings sector 2 Mt by 2030, that still leaves Quebec 14 Mt short of the unadjusted baseline and 22 MT short of meeting the adjusted baseline for emissions reduction. Realistically, therefore, Quebec will not meet the 2030 target unless it takes some extremely painful cuts to its economy.

Reducing emissions to somewhere between 4 and 17 Mt by 2050 (i.e. within 30 years) would be much, much more difficult. In fact, it is virtually impossible unless one assumes near miraculous technology developments, unprecedented rates of turnover in capital stock, and dramatic changes in consumer habits, probably only made possible through a political revolution granting governments control of people’s lives.

In short, sooner rather than later, Quebec will have to confront the reality that its emissions reduction goals are probably impossible as well as undesirable.





### About the Author

Contributed by Robert Lyman, former public servant of 27 years and diplomat for 10 years. His full bio can be read [here](#).

### About

Friends of Science Society is an independent group of earth, atmospheric and solar scientists, engineers, and citizens who are celebrating its 17th year of offering climate science insights. After a thorough review of a broad spectrum of literature on climate change, Friends of Science Society has concluded that the sun is the main driver of climate change, not carbon dioxide (CO<sub>2</sub>).

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