LASER Talks
Fall 2023
Booklet
About CCL and CCL Canada

Citizens’ Climate Lobby (CCL) is an international, non-partisan and grassroots organization that empowers citizens to build political will for what we see as the single most impactful solution to climate change—a national Climate Income Policy.¹

CCL has 539 active chapters in 52 countries² and over 220,000 supporters worldwide. In Canada, we cover about 120 ridings and have well over 7,000 supporters.³

We build political support for climate action with a variety of tools,⁴ which we use in keeping with our local culture and politics. By focusing on shared values rather than partisan divides, we build relationships with community leaders and with federal elected officials, always starting from a place of respect, gratitude, and appreciation.⁵

Through developing respectful relationships, cultivating and demonstrating local support, and promoting a climate solution that has appeal across the political spectrum, we build political will. That is, we move our leaders towards action that will preserve a healthy climate and a livable world.

Since September 2010, our Canadian volunteers have recorded over 1600 lobby meetings and almost 5000 letters to the editor, articles, editorials, and columns published in newspapers. We have lobbied as a collective on Parliament Hill 16 times. During the COVID pandemic we conducted five national online events, followed by lobbying. We are excited to be lobbying in October 2023 on Parliament Hill.

In October 2018, Canada achieved a world first: the passage of a national carbon pricing policy that is quite similar to Carbon Fee and Dividend. We have been told by numerous politicians we were the reason the government chose this policy.

Learn more about us at https://canada.citizensclimatelobby.org/.

¹ "LASER TALK: Carbon Fee and Dividend | Citizens’ Climate Lobby ...." https://canada.citizensclimatelobby.org/laser-talks/carbon-fee-and-dividend/
² "Chapters | Citizens' Climate Lobby." https://citizensclimatelobby.org/about-ccl/chapters/
³ "Chapters - Find Your Local CCL Chapter - Citizens’ Climate Lobby." https://citizensclimatelobby.org/about-ccl/chapters/
⁵ "Values - Citizens’ Climate Lobby." https://citizensclimatelobby.org/about-ccl/values/
How to Use this Booklet

Learn to communicate expertly on the climate crisis.

This booklet contains the basic laser talks for our lobbying efforts in October 2023 and onward.

Practice the LASER talks that interest you the most – you don’t have to learn all of them.

If you are new to Citizens’ Climate Lobby (CCL) – keep it simple. Be sure to understand the Greenhouse Gas Pollution Pricing Act. Then, focus on the Laser Talks that are in alignment with what you will be lobbying your Parliamentarians for to be found in our 2023 Fall Leave Behind.

Don’t be shy to bring a printed copy of this booklet with you when you lobby for reference. We are not experts. We are relayers of expert information. Politicians have been known to ask for copies of our booklets after watching us refer to them.

You can also use the information in this booklet to write letters to the editor or social media posts and offer this booklet to those that might value its information.

To see all of our Laser Talks go here: https://canada.citizensclimatelobby.org/laser-talks/

Suggested Fall 2023 CCL Canada Laser Talks to read to help you lobby:

We have selected which Laser Talks we think are best as background for each of our lobbying asks noting that that everyone should read the first three laser talks:

- Climate Income a.k.a Carbon Fee and Dividend
- The Greenhouse Gas Pollution Pricing Act
- Output-Based Pricing Systems (OBPS)

Follow the European Union’s lead in implementing a CBAM by 2026. To prepare for CBAM, Canada’s carbon pricing policies must be harmonized in terms of the price of carbon pollution, coverage (GHG emissions and sources of emissions) and transparency.

- Output-Based Pricing Systems (OBPS)
- Carbon Border Adjustment Mechanisms (CBAMs)

Study the appropriate rate of increasing the carbon price beyond 2030 to provide certainty so that households, business and industry can plan accordingly.

- Pembina Simulator Shows Carbon Pricing As Core Component of Any Cost-Effective Climate Plan
- EnROADS Simulator Finds Carbon Pricing Key in Emissions Reduction Worldwide
- Canada’s Climate Income Policy Cuts GHGs
Request that the Parliamentary Budget Officer in future reports on the impact of the federal carbon pricing on households take into account the social cost of carbon, and the economic benefits of carbon pricing as well as Canada’s entire suite of climate policies on households compared to doing nothing.

- Important Reports from the Parliamentary Budget Office (PBO)
- The PBO is fuelling opposition to Canada’s climate policies
- Impacts of Canada’s Climate Policies on One Saskatchewan Household
- The Social Cost of Carbon

Educate impacted Canadians about the rebates they receive under the GGPPA’s Fuel Charge in provinces where it applies. Most households that receive the rebates are unaware that they realise financial gains from carbon pricing.

- Fair Path Forward’s Rebate Calculator
- The Carbon Inequality Brontosaurus Chart
- Carbon Inequality in the G20 Nations
- Pollution pricing with equal dividends enhances equity and development
- Canada, Carbon Pricing and Agriculture
- Does Canada’s carbon tax impact the price of food?
- Carbon Pricing and the Cost of Gas

(a) Move methane-gas-powered electricity from the Output-Based Pricing System into the Fuel Charge section of the Greenhouse Gas Pollution Pricing Act (GGPPA).
(b) Enact the new Clean Electricity Regulations by December 2023 and ensure that they effectively disincentivize the construction and operation of unabated methane-fired electricity plants.

- Carbon Border Adjustment Mechanisms (CBAMs)
- Immediate Methane Cuts Can Prevent Nearly a Million Premature Deaths
- Health Impacts of Methane-Fired Electricity Plants
- Ontario Should Pause Expansion of Methane-Fired Electricity Plants
- Carbon Pricing and Methane-fired Electricity Generation
- Path to net-zero electricity can be found in recent federal budget
- Canada’s Proposed Clean Electricity Regulations
- Carbon Capture and Sequestration is Risky Business

Additionally we strongly recommend a cap on emissions. In fact, seven out ten Canadians support a cap on emissions. A cap is necessary to maintain geographical and sectoral balance in Canada’s economy as we transition to net-zero.

- Why CCL Canada is pushing for more than just carbon pricing
- Why we need a cap on GHGs in the oil and gas sector

Lastly, we are calling on our parliamentarians to explore Senator Rosa Galvez’s Bill S-243, An Act to enact the Climate-Aligned Finance Act (CAFA) and to make related amendments to other Acts. At this time we are asking our parliamentarians to review it, consider supporting it or possibly championing parts or all of it.

- Why CCL Canada is pushing for more than just carbon pricing
- Why we support aligning Canadian finances with the climate
- The UN Report: Integrity Matters
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- Carbon Pricing Around the World
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CARBON PRICING BASICS

Climate Income a.k.a Carbon Fee and Dividend

Climate Income - a.k.a. Carbon Fee and Dividend - is a carbon price that is revenue-neutral (meaning that the revenues do not go to government coffers). It functions as follows:

1. A fee is placed on carbon-based fuels at the source (well, mine, or port of entry). This fee increases steadily each year. The predictably increasing carbon price sends a clear market signal, which will unleash entrepreneurs and investors in the new clean-energy economy.

2. All the money collected is returned to Canadians on an equitable basis. Under this plan most Canadian households would break even or receive more in their dividend than they would pay for the increased direct and indirect fiscal costs of energy, thereby protecting the poor and middle class.6

3. It can be further strengthened with a border carbon adjustment mechanism to stop business relocation. Import fees on products imported from countries without a carbon fee, along with rebates to Canadian industries exporting to those countries, will discourage businesses from relocating where they can emit more CO2 and motivate other countries to adopt similar carbon pricing policies. Building upon existing tax and trade systems will avoid complex new institutional arrangements. Firms seeking to escape higher energy costs will be discouraged from relocating to non-compliant nations (“leakage”), as their products will be subject to import fees.

Austria7 and Canada’s greenhouse gas pollution policies are forms of Climate Income. The German government has proposed a Klimageld8 and is committed to returning carbon pricing revenues too.

Note Canada has an output based pricing system for heavy emitters instead of a carbon border adjustment mechanism.

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The Greenhouse Gas Pollution Pricing Act

In June 2018, the Greenhouse Gas Pollution Pricing Act achieved Royal Assent and became law of the land in Canada. The Act legislated that all provinces and territories must have a carbon pricing policy of at least $20 per tonne by January 1, 2019 which would raise by $10 per tonne each year until 2022, with the flexibility for each province to submit their own carbon pricing systems so long as they were equally as stringent as the federal Backstop Carbon Pricing system.

In 2021, the federal government updated the policy by strengthening the stringency requirements for provincial carbon pricing systems and by raising the annual carbon pricing increases to $15 per tonne with an eventual targeted price of $170 per tonne by 2030.

There are two elements of the federal carbon pricing policy:

1. **THE FUEL CHARGE**: A charge on fossil fuels that is generally payable by fuel producers or distributors with rates for fuel that are equivalent to $65 per tonne of carbon dioxide emissions (CO2e) as of April 2023, and which are rising by $15 per year to $170 per tonne CO2e in 2030.

2. **OUTPUT-BASED PRICING SYSTEM**: Businesses and industries which qualify are enrolled in an Output-Based Carbon Pricing System. They pay a carbon price based on their emissions' intensity relative to the best in the class of their industry, and surplus credits are traded. This component of the act protects emissions-intensive trade-exposed industries from trade pressures and carbon leakage. However, it does not send a strong enough signal to transform Canada's energy systems to decarbonize in alignment with the realities of the climate emergency we face. This assertion is supported by research by Clean Prosperity and the Parliamentary Budget Office. CCL recommends that the carbon price should be economy-wide and thus the Output-Based Pricing System should be temporary, and ultimately replaced with Border Carbon Adjustment Mechanisms.

Overview of the federal backstop

- Consumers do not pay the fuel charge directly to the federal government
- Fuel price paid by consumers may have costs of the fuel charge embedded
- Registered OBPS facilities would generally not pay the charge on fuels that they purchase
- Instead, would be subject to the carbon price on the portion of emissions above a facility emissions limit

Pricing from this graphic has updated to $65/t CO2e / Gasoline: 13 c/L in April 2023
The carbon fee for the federal backstop policy is revenue-neutral, meaning the revenue raised from the tax does not go into the government’s general coffers.

- Between 2019 and 2021, the revenue raised from the tax was recycled back to the citizens in their income taxes under line 449 “climate action incentive“.

- Starting in 2022, in provinces where the federal backstop Fuel Charge applied (at the time, AB, SK, MB and ON), these payments were instead made as direct deposits at the beginning of each quarter. To give the Canada Revenue Agency sufficient time to develop the new system, payments started in July 2022 with a “double-up” payment. Thereafter, payments have been quarterly.

- In July 2023, the Climate Action Incentive cheques expanded to Nova Scotia as well. This was announced in late August 2022 when Premier Houston’s climate plan (which did not meet the federal standard) was rejected. For similar reasons, the following provinces also now receive the quarterly rebates cheques as of July 2023: Prince Edward Island, Newfoundland, Labrador, and New Brunswick.

Of note, 80% of households come out ahead with the rebates, a finding confirmed by the Parliamentary Budget Office and Clean Prosperity.

Quarterly Climate Action Incentive rebate cheque from July 2023
Output-Based Pricing Systems (OBPS)

**HOW DOES OBPS WORK?**
Industries that qualify can sign-up for output-based pricing systems for their carbon emissions. Each qualifying industry has a formula for quantifying their greenhouse gas output in relation to the best in their class – resulting in high-performing industries paying less in carbon taxes. Thus, there is a price signal to encourage industries to reduce emissions.

The Government of Canada committed to returning proceeds collected from the OBPS to the jurisdictions of their origin. Provinces and territories that have voluntarily adopted the federal OBPS can opt for a direct transfer of proceeds collected. Proceeds collected in jurisdictions where the Federal Backstop OBPS is in place will be returned through the OBPS Proceeds Fund.

**WHY DIDN’T THE CANADIAN GOVERNMENT ENACT BORDER CARBON ADJUSTMENT MECHANISMS IN THE GREENHOUSE GAS POLLUTION PRICING ACT?**
Border carbon adjustments mechanisms take time to set up. As well, they are tariffs. Tariffs have negative connotations because tariffs are often seen as rallying cries for trade wars. Diplomatically speaking, our trading partners will need several years’ notice to prepare for border carbon adjustment mechanisms. Thus, while establishing a national carbon price, we have to maintain competitiveness and reduce carbon leakage without border carbon adjustment mechanisms. To do that, an Output-Based Pricing Systems (OBPS) was designed and implemented.

Encouragingly, in May 2023, Canada and the EU issued a joint declaration confirming the willingness of the EU and Canada to coordinate on respective approaches to carbon pricing and carbon border adjustments to prevent carbon leakage. Furthermore, since October 2023, the EU has enacted Border Carbon Adjustments, paving the way for other nations to follow.

**OUR RECOMMENDATION:**
Canada’s carbon pricing benchmark price must be economy-wide and must continue to rise beyond 2023 every year until a 90% reduction from 2005 levels is achieved. While the OBPS is a small step in the right direction, it will not encourage the necessary radical industrial transformation required for this goal to be reached. In order to face the real-world challenges of global warming, we must enact border carbon adjustment mechanisms instead. To this end, CCL recommends that Output-Based Pricing Systems should be temporary and ultimately replaced with carbon border adjustment mechanisms.

**REFERENCES**

For a deep dive into Output-Based Pricing Systems go here.
Carbon Border Adjustment Mechanisms (CBAMs)

CCL’s Climate Income policy has a provision built in to protect trade competitiveness: a “Carbon Border Adjustment Mechanism” (CBAM) imposed on carbon-intensive trade-exposed goods [1] that cross our border in either direction. Products imported from a country that does not bear a carbon price equivalent to ours will have to pay a surcharge to make up the difference. Conversely, a Canadian-made product exported to such a country will get a refund for the carbon fee associated with its carbon footprint.

This CBAM prevents Canadian manufacturers from being put at a competitive disadvantage in global markets because of the fee. It will also remove the incentive for them to relocate overseas to avoid the carbon fee. In addition, it will encourage foreign countries to adopt their own carbon fee, so they would get the money instead of us. Carbon Fee and Dividend’s BCAM is designed to comply with international trade law. [2,3]

Note that exported fossil fuels don’t get any special border treatment. Our proposal does not include a refund for Canadian-produced fossil fuels that are exported, and imported foreign oil has the same carbon fee placed on it as domestically produced oil. The BCAM applies only to carbon-intensive products, not fuels.

An important underlying principle as carbon pricing rolls out internationally is that CBAMs must abide by the principle of common but differentiated responsibilities as we decarbonize the global economy. Meaning we recognize the historic role that fossil fuels have played in shaping our current economies and acknowledge the hurdles developing countries may face in their decarbonizing efforts.

![Diagram showing the CBAM](image_url)

An illustration of how CCL’s border adjustment works. Boxes in blue are subject to the fee, boxes in green are subject to the border adjustment. Carbon-intensive goods produced domestically that stay in Canada are not touched; it is assumed they will bear the burden of higher fossil fuel costs because of the upstream assessment point for our fee.

**UPDATES**

On December 12, 2020, the federal government released its most ambitious climate plan ever [4]. Included in the document was a statement to: “Explore the potential of border carbon adjustments, and work with like-minded economies—including the E.U. and Canada’s North American partners.” Subsequently, there have been several federal documents signaling the government’s intentions to enact border carbon...
adjustments.[4][5][7]

On March 16, 2022, the European Council reached an agreement on the border carbon adjustment regulations, which is one of the key elements of the European Union’s Fit for 55 package [6]. Currently the following goods have been proposed to be in scope of the BCAM: iron and steel, cement, fertilisers, aluminium, electricity, and hydrogen. Further scope extensions to include additional products (such as chemicals and polymers) are to be determined by 2026, and the full inclusion of all EU ETS products is planned by 2030. [8]

On May 16, 2022, Canada and the EU issued a joint declaration [9] confirming the willingness of the EU and Canada to coordinate on respective approaches to carbon pricing and carbon border adjustments to prevent carbon leakage. They also confirmed the intention of the EU and Canada to work together to engage international partners to expand the global coverage of carbon pricing.

In June 2023, Sen. Kevin Cramer (R-N.D.), with Sen. Chris Coons (D-Del.) introduced the “Providing Reliable, Objective, Verifiable Emissions Intensity and Transparency (PROVE IT) Act.” The bill would require the Department of Energy to study and determine the emissions intensity of nearly two dozen products made in the United States and by G-7 countries, free-trade agreement partners, foreign countries of concern and “countries that hold a substantial global market share for a covered product.” The list of “covered products” would include aluminum, iron, steel, plastic, crude oil, lithium-ion batteries, solar panels and wind turbines. The Energy Department would have two years to compile a report on its findings, in consultation with EPA, the U.S. Trade Representative and the Commerce and State departments. An update of the data would have to be published every five years.

REFERENCES:
4) A Healthy Environment and Healthy Economy (12 Dec 2020)
5) Carbon Pricing For Paris: Closing the Gap with Output-Based Carbon Pricing (Oct 2020) PBO
6) Joint press release: EU-Canada Leaders’ Virtual Meeting (October 29, 2020) Office of the Prime Minister of Canada
7) EU countries support plan for world-first carbon border tariff (March 16, 2022) Reuters
8) EU Carbon Border Adjustment Mechanism (CBAM) Deloitte
9) Joint declaration following the third EU-Canada Joint Ministerial Committee meeting European Council of the European Union
NAFTA-CUSMA-WTO: Subsidies vs Climate Regulations

Canada’s number one trading partner is the United States of America. As tensions are building between the USA and China, companies that used to rely on China for manufacturing are shifting to other bases. A race is on. Trade in the Americas is worth $2.5 trillion per year, and in Asia closer to $7.5 trillion per year. Specifically, minerals for semiconductors and batteries are critical for future energy security. Thus, trade cooperation on Turtle Island is paramount. [1] Luckily we have had trade cooperation for almost 30 years.

On January 1, 1994, the North American Free Trade Agreement (NAFTA) went into effect. Under NAFTA, Canada, the USA, and Mexico have an obligation to protect the environment. The North American Agreement on Environmental Cooperation was negotiated and implemented in parallel with NAFTA. It required that each Party ensure its laws provide for high levels of environmental protection without lowering standards to attract investment. [2]

On November 30, 2018, Canada, the United States, and Mexico signed a protocol to modernize the North American Free Trade Agreement (NAFTA). The new Agreement is known in Canada as the Canada-United States-Mexico Agreement (CUSMA). In January 2019, Citizens’ Climate Lobby Canada and Citizens’ Climate Lobby Mexico sent recommendations to the CUSMA environmental assessments. CUSMA entered into force on July 1, 2020, replacing the North American Free Trade Agreement (NAFTA).

The final CUSMA outcome included a new parallel Environmental Cooperation Agreement (ECA) that ensures the retention and modernization of the Commission for Environmental Cooperation (CEC) and its Montréal-based Secretariat, unique institutions established under NAFTA in 1994. These institutions will continue to effectively monitor and address environmental impacts of trade, and promote cooperation with North American partners to achieve the goal of sustainable development in the region (2,3).

CUSMA and ECA reflect the importance that Canada places on climate change, including “guaranteeing that the parties can cooperate in the promotion of strategies and actions, such as alternative and renewable energy and low-emission technologies, that play a significant role in addressing climate change” (2). As the carbon price in Canada rises, there will be trade concerns.

Under NAFTA Article 604: Export Taxes parties are allowed to maintain duties, taxes, or another charge on the export of any energy or basic petrochemical good to the territory of another Party if the duty, tax, or other charge applies to the exports of any such good to the territory of all other Parties and any such good when destined for domestic consumption. [3] Thus, we are fairly confident that Canada’s Greenhouse Gas Pollution Pricing Act is acceptable under CUSMA rules but it remains to be tested as Canada has yet to apply “carbon border adjustment mechanisms”.

It is important to note that a considerable amount of trade between Canada and the US is conducted under the World Trade Organization (WTO) most-favoured-nation rules. In fact, approximately 40.5 percent of Canadian exports to the United States and 66.7 percent of U.S. exports to Canada enter duty-free under the WTO rules. This means that a significant portion of bilateral merchandise trade, and the related environmental impacts, are not directly attributable to CUSMA (2).

Business winners in the 21st Century will be businesses in countries that have transparent policies for managing the clean energy transition. Thus, it should be noted that after the USA invested over 400 billion tax dollars in their Inflation Reduction Act, concerns have arisen that it may be in violation of the WTO (4) because the government invested heavily in “prohibited subsidies” that are not be permitted under WTO rules. In 2013, the province of Ontario lost on a similar WTO ruling for provisions in the Green Energy Act that the USA is now facing.

1. The Americas face a historic opportunity. Will the region grasp it? March 25, 2023 The Economist
2. Final Environmental Assessment of the Canada-United States-Mexico Agreement (CUSMA) July 2020 Government of Canada
4. The Inflation Reduction Act’s Climate Provisions Face Likely Incompatibility with WTO Rules (2023)
5. WTO Appellate Body rules against Canada in renewable energy case (2013)
CUT GHGS AND REDUCE INEQUALITY

Pembina Simulator Shows Carbon Pricing As Core Component of Any Cost-Effective Climate Plan

In the spring of 2018, the Pembina Institute launched an online climate policy simulator that is freely available for all to use. The simulator allows the user to assess the effectiveness of individual policies on greenhouse gas emissions from Canada to the mid-century.

Assuming all provinces sign on to the Pan Canadian Framework on Clean Growth and Climate Change and successfully implement climate action plans aligned with the PCF, Canada is likely to meet the 2030 Paris Agreement objective of a 30 % cut in emissions by 2030. Deep decarbonization by mid-century would likely require additional policies. If you remove carbon pricing from the model, the core driver of emissions reduction is gone. The only other option is a complex series of specific policies within each economic sector, which is much more expensive for the taxpayer. In fact, other policies activated up to 100% in the simulator still do not arrive at the same result for emissions reduction as is the case with carbon pricing in effect.

The take-home message in working with the Pembina policy simulator is that, in agreement with the consensus of climate change economists, carbon pricing is an essential core component of a cost-effective climate plan.

EnROADS Simulator Finds Carbon Pricing Key in Emissions Reduction Worldwide

MIT and Climate Interactive’s En-ROADS tool is a transparent, freely-available policy simulation model that provides us with the ability to explore, for ourselves, how various climate solutions would impact outcomes such as global temperature change. (Note that this simulator is for the entire globe and not just for Canada.) The goal in making the model is to frame and support better conversations about how to address the climate crisis.

On April 30, 2020, Doug Pritchard of CCL Beaches-East York, Chemical Engineer, and En-ROADS Climate Ambassador led CCL Canada on a tour of the En-ROADS climate solutions simulator.

Clearly, nothing comes close to carbon pricing in immediate emissions reductions. If you play around some more with the policy simulator, it is evident that a robust carbon pricing is a key component of any climate plan. As well, the higher the carbon price, the stronger the impact. And, because the vast majority of carbon fees collected funds are returned to Canadians equitably we can ramp up the price without burdening the poor or middle class and thus provoking a tax revolt.

Within the simulator, it is estimated that just implementing a highly predictable carbon price would prevent 1.2 °C of global heating by 2100 compared to business as usual. Changing any other single policies
in the simulator could prevent only up to 0.5 °C of global heating by 2100.

To prevent the worst impacts of global heating, we need a whole suite of policy changes. But, admittedly carbon pricing is the single most powerful tool we have to preserve a liveable world.

**Canada’s Climate Income Policy Cuts GHGs**

In June 2018, the *Greenhouse Gas Pollution Pricing Act* (GGPPA) achieved Royal Assent and became law of the land in Canada. This policy is a form of Climate Income, and it came into force on April 1, 2019. Less than a year later, the world was in the COVID pandemic.

In April 2023, Canada released its 2023 National Inventory Report. Canada’s National Inventory Report lags two years behind the actual year, thus the report analyzes the year 2021. For the first time, we could determine the impacts of the GGPPA in the absence of the COVID lockdowns.

In 2021, Canada produced 670 million tonnes of carbon dioxide and its equivalents in methane, nitrous oxide, and synthetic gases as pandemic restrictions began to ease – 53 million tonnes less in emissions in 2021 than it did in 2019 — the year before the pandemic hit.

The government report’s conclusions are in line with a similar report from the independent Canadian Climate Institute released in February 2023. Carbon pricing is the cornerstone policy of Canada’s climate plan and in 2018 was predicted to account for more than half of the reductions of greenhouse gases (see image on left).

We know from plenty of other studies that most Canadians come out ahead after the rebates – especially the lower and middle income Canadians who are currently being challenged by the inflation crisis like many around the world. In conclusion, Canada is showing the world how a country can cut greenhouse gas emissions and protect the poor and middle class as we transition off of fossil fuels and to a fair and sustainable world for all.

**Why CCL Canada is pushing for more than just carbon pricing**

Despite promising results from the 2023 National Inventory Report, all is not rosy. Canada's GHG emissions are not falling fast enough to meet our 2030 commitments. We must keep pushing. Compared to 2005, Canada's total emissions have fallen by 62 Mt, but that national result obscures profound differences across six economic sectors.

Total emissions from electricity have fallen from 118 Mt to 52 Mt — significantly assisted by the phase-outs of coal-powered generation in Ontario and Alberta. At the other end of the spectrum, oil and gas emissions have risen from 168 Mt to 189 Mt and now represent 28 per cent of Canada’s total emissions.

Thus, CCL Canada is pushing on four fronts to get emissions down in our oil and gas industry which includes strengthening and defending the *Greenhouse Gas Pollution Pricing Act*, capping emissions, redirecting financial flows away from fossil fuels with climate risk disclosure requirements for financial institutions, and supporting the *Fossil Fuel Non-Proliferation Treaty*. Plus, some Canadians are working with our Citizens’ Climate International colleagues on reforms at the World Bank to redirect financial flows away from dangerous fossil fuels and towards renewable energy.
Fair Path Forward's Rebate Calculator

People living in the four original provinces with the federal backstop carbon pricing policy can calculate their rebate on Fair Path Forward’s Rebate Calculator. *(Note: since they have only recently come under the backstop, rebates for Nova Scotia, Prince Edward Island, Newfoundland, Labrador, and New Brunswick are not yet available in this tool)*.

For a family of three living in an urban area in Ontario, Manitoba, Saskatchewan and Alberta their total rebate from the federal government will be respectively $12,148, $15,332, $23,230, and $19,508 between 2019 - 2030. Because there is a 10% top-up for rural families, a family of three living in rural areas in Ontario, Manitoba, Saskatchewan and Alberta will receive respectively $13,363, $16,865, $25,553, and $21,459 between 2019 - 2030.

The rebates come with no restrictions. You can spend as you wish and make the low-carbon purchases you need to make which are unique to your situation, whether you live in the core of a big city, a mining town, a First Nations community, a rural farming community, a remote community, fishing town, or any place in between.

https://fairpathforward.ca/rebate-calculator/
In September 2020, the Stockholm Environment Institute released an insightful report (1). In the 25 years from 1990 to 2015, annual global carbon emissions grew by 60%, approximately doubling total global cumulative emissions.

The disproportionate impact of the world’s richest people is unmistakable, the resulting graph looks like a brontosaurus – with a tall neck and long tail.

The “tall neck” is the result of the fact that nearly half of the total growth in absolute emissions was due to the richest 10%, with the richest 5% alone contributing over a third (37%). The emissions linked to the top 1% grew more than three times as much as those linked to the bottom 50%.

The bottom 50% comprises the “long tail”. Since the bottom 50% has 50 times more people in it, the average per capita consumption emissions linked to the top 1% in 2015 were over 100 times greater than the average per capita consumption emissions of the poorest half of the world’s population.

The global carbon budget is a precious natural resource. These results suggest a need for increased attention to be paid to the ongoing impact of the small minority of the world’s richest citizens and the enormous and continuing economic development needs of the world’s poorest citizens.

Our socio-economic and climate policies most certainly can be designed to address carbon inequality. In fact, Canada’s national backstop carbon pricing policy addresses the “brontosaur in the room” (2).

Data from Canada’s Parliament Budget Office confirms this assertion (3). Canada’s carbon pricing policy is a form of carbon fee and dividend. It is also known as climate income. Canada has put a revenue-neutral price on GHG pollution at the source, and gives 90% of the money back to the people equitably, regardless of income or carbon footprint. The other 10% of carbon fees collected go to the MUSH sector: Municipalities, Universities, Schools, and Hospitals. It also reduces GHGs (4) without creating burdensome tax policies for governments to administer.

References:

(1) The Carbon Inequality Era | SEI (2020)
(4) Beyond Paris: Reducing Canada’s GHG Emissions by 2030 (2021)
Carbon Inequality in the G20 Nations

In December 2015 at the Paris Agreement, Oxfam presented their paper on Extreme Carbon Inequality. As one can see in the graph on G20 countries for which they had data, the per capita GHG emissions for the richest top 10% households in every country were well above average. Whereas on the flip side, the bottom 50% and bottom 40% of households GHG emissions were below average. This explains why in countries which have studied the carbon pricing program of carbon fee and dividend (USA, Australia, and Canada), on average ⅔ of households come out ahead.

Most countries have similar income distributions. You can use Wolfram Alpha to determine your country’s income distribution pattern and Gini Index relative to Australia, Canada, and the USA and then infer that the results would be anticipated to be similar.

Pollution pricing with equal dividends enhances equity and development

Currently, 73 policy instruments worldwide price greenhouse gas pollution. 23% of the world’s emissions were covered by carbon pricing systems in 2022. The EU’s “Social Climate Fund” returns a portion of the revenue generated from carbon pricing revenue to vulnerable households. Only two countries, Austria and Canada, price greenhouse gas pollution and return the dividends to citizens equally.

In a November 2021 peer-reviewed paper in Nature, researchers reported that a global heating can be limited to a 2C temperature* while also increasing well-being, reducing inequality, and alleviating poverty, if each country or region imposes a substantial carbon tax and refunds the revenues to its citizens on an equal per-capita basis. When revenues are not used in a progressive way, the model also verified that many of the poorest citizens are negatively impacted in the short-to-medium term.

These results indicate that it is possible for a society to implement strong climate action without compromising goals for equity and development.

*With a few more policies in play we can achieve the 1.5C goal too.

Abstract: https://www.nature.com/articles/s41558-021-01228-x
Paper: https://shs.hal.science/halshs-03462781/document (pdf)
CHALLENGES & OPPORTUNITIES

Why we need a cap on GHGs in the oil and gas sector

Canada’s updated (2021) nationally determined contribution (NDCs) is to reduce our emissions by 40-45% below 2005 levels by 2030. Despite the fact that this is a woefully inadequate target (as it does not address our differentiated responsibility globally) Canada’s current rate of emissions reductions is not on track to meet it. Addressing emissions from the oil and gas sector—the largest source of greenhouse gas (GHG) emissions in Canada—is critical to the achievement of Canada’s climate goals and international commitments.

Climate Action Network Canada’s newly released polling (May 12, 2023) shows that there’s strong public support for a limit on oil and gas emissions, and that Canadians don’t trust fossil fuel companies to cut pollution on their own. Unsurprisingly, oil and gas companies are lobbying hard to undermine and weaken the regulations, to buy themselves more years of inaction and climate harm.

According to government documents, methane regulations and carbon pricing are expected to result in significant emission reductions (38% relative to 2019 emissions) in the sector between now and 2030. This is a good start, but more policies are needed to achieve our NDCs.

In the Greenhouse Gas Pollution Pricing Act (Canada’s carbon pricing policy), GHG emissions from the oil and gas sector are regulated under the Output Based Pricing System. Because of this, they are only subject to a portion of the charge, and this portion is not stringent enough to start signaling the winding down of the industry. Consequently, GHGs are still rising in the oil and gas sector. Between 2005-2021, greenhouse gas emissions in our oil and gas emissions have risen from 168 Mt to 189 Mt and now represent 28 per cent of Canada’s total emissions.

It should also be kept in mind that the European Union’s Carbon Border Adjustment Mechanisms will not be applied to the oil and gas sector. Thus, we cannot expect international pressures on the oil and gas industry to reduce GHGs.

Consequently, both pollution pricing and a cap on emissions are necessary to meet our NDCs and Net Zero goals. These regulatory policies should be stacked atop one-another, akin to what was done for coal-powered electricity. There, both regulations towards phase-out and carbon pricing were implemented.

More reading:
Options to cap and cut oil and gas sector greenhouse gas emissions to achieve 2030 goals and net-zero by 2050 – discussion document Government of Canada
National Inventory Report Canada 1990 - 2021 (pdf) Government of Canada
Why we support aligning Canadian finances with the climate

Public money (tax dollars) cannot finance the transition to an equitable and thriving planet alone – it is an astronomical cost. The cost to attain the UN Paris Agreement Goals and the UN Sustainable Development Goals by 2030 is estimated to be at least 3 trillion dollars a year globally.

The private sector must step in. We need government policies that will redirect private sector financing away from fossil fuels, the sector for which they are currently the largest funders. Canada’s Greenhouse Gas Pollution Pricing Act is one of those policies. We need to protect and improve it while at the same time supporting other policies that will redirect financial flows toward a thriving and equitable planet. Any policy that we support has to be evidence-based, reduce a significant amount of greenhouse gas pollution, not burden the taxpayer, and have momentum.

A letter, signed by over 50 leading academics, demonstrates that financial reform is key for Canada to succeed on our climate action commitments.

In April 2021, New Zealand introduced a law that would force financial firms to assess not only their own investments but also to evaluate the companies to which they are lending money in terms of their environmental impact. It was passed into law in October 2021.

Meanwhile, the U.S. has finally joined other nations outpacing Canada in the climate finance space with the adoption of the Inflation Reduction Act and the Infrastructure Investment and Jobs Act adding pressure on Canada to match its commitments in decarbonizing the economy. Without similar commitments, Canada may lose investors and project developers to the U.S.

Citizens’ Climate Lobby stands behind the climate champions in Parliament. Thus, we are behind Senator Rosa Galvez’s Private Member’s Bill S-243 The Climate-Aligned Finance Act (CAFA). Akin to the New Zealand law, Bill S-243 would require financial institutions and Crown corporations to: develop action plans and targets; establish a duty of alignment with climate commitments for directors and officers of entities; require the appointment of a person with climate expertise to certain boards of directors; and establish a capital adequacy requirement proportionate to the climate risks generated by financial institutions.

Greenwashing has also emerged as a major risk driver, as recognized by the UN High-level Expert Group on the Net Zero Emissions Commitments of Non-State Entities. Its report underscored the need for core concepts included in CAFA, like considering all emissions facilitated by financial entities, including all emissions in the value chain of product and a specific reference to analysis based on a 1.5C target.

In May 19, 2023 a cross-party group of federal lawmakers backed a call for climate-focused rules on how Canada’s banks, insurers and pension funds invest their money. Although not explicitly referring to CAFA, the Member of Parliament for Whitby, Ryan Turnbull, held a joint news conference along with MPs from the NDP, Green and Bloc Québécois parties, to highlight a private member’s motion he made earlier this month calling for the government to use “all legislative and regulatory tools at its disposal to align Canada’s financial system with the Paris Agreement. As of August 31, 2023, 17 MPs have joint-seconded the motion. Up to 20 MPs can joint-second the motion.

In September 2023, CAFA finally went to committee. We support its ongoing journey.

Resource:
CAFA White Paper 2022
What is Canada’s Greenhouse Gas Inventory?

Every year, Canada prepares and submits a national greenhouse gas (GHG) inventory to the United Nations Framework Convention on Climate Change (UNFCCC). The report covers:

- anthropogenic (human-caused) emissions by sources and removals by sinks
- annual emissions estimates dating back to 1990

The inventory is developed, compiled, and reported annually by the Pollutant Inventories and Reporting Division of Environment Canada with input from numerous experts and scientists across Canada.

The greenhouse gases that have been estimated in the national inventory are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6), nitrogen trifluoride (NF3), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). The inventory uses an internationally agreed upon reporting format, grouping emissions and removals into the following five Sectors: Energy, Industrial Processes and Product Use, Agriculture, Land Use, Land-Use Change and Forestry and Waste.

Read more:

Tracking Canada's Climate Action (2008 - 2021)

In April 2019, Canada's Commissioner of Environment and Sustainable Development, Julie Gelfand, said, "for decades, successive federal governments have failed to reach their targets for reducing greenhouse-gas emissions, and the government is not ready to adapt to a changing climate. This must change."

2008-2012: According to Gelfand, Canada's emissions would have gone up significantly between 2008-2012 if it were not for the 2008 recession and actions of the provinces.

2011-2016: Climate Action Tracker (CAT) provides an independent scientific analysis produced by three research organizations, tracks progress towards the goals of the Paris Agreement, and ranks countries on their performance. From 2011 to 2015, CAT ranked Canada in the lowest category “Critically Insufficient” alongside the Russian Federation and Saudi Arabia. From 2015 to 2016, Canada's ranking was still very low.

2017-2021: In 2017, Canada was moved up into the next CAT category “Highly Insufficient” with our planned policies putting us to “Almost Sufficient.”
Canada’s Updated NDCs (2021) and the Provinces

In April 2021, Canada released to the United Nations our **nationally determined contributions (NDCs)** for reducing our GHGs. Canada's updated NDC is to reduce our emissions by 40-45% below 2005 levels by 2030. This is a substantial increase of ambition beyond Canada’s original NDC of 30% below 2005 levels, as previously communicated in the 2015 Paris Agreement.

Clearly, there is both good news and bad news in our NDC. Canada as a nation is more ambitious and our new plans have a pathway to get to these improved targets. But it is not enough. In pursuit of the objectives of the Paris Agreement, we are to be guided by the principle of equity and common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

Thus, more advanced countries such as Canada are expected to be at least 60 percent below our 2005 levels by 2030. For example, the United Kingdom has **enshrined in a law** a commitment to slash GHGs by 78% by 2035.

How can Canada be more ambitious? We need to enact more policies that will reduce our greenhouse gas emissions and keep improving and defending Canada’s Greenhouse Gas Pollution Pricing Act. We also need a lot more provincial action. As one can see from the 2021 data released, it is clear that elections of new governments in BC (2018), Alberta, and Ontario in 2017 all coincided with increased GHGs in those provinces (chart below). The 2021 **Supreme Court of Canada** ruling on the constitutionality of the Greenhouse Gas Pollution Pricing Act should embolden the federal government to require more climate action from the provinces.

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Notes:
- Totals may not add up due to rounding.
- NA = Not applicable
Carbon Pricing and the Cost of Gas

On April 1, 2023 the fuel charge in the Greenhouse Gas Pollution Pricing Act rose from $50 per tonne of emissions to $65. This will translate to an increase of roughly 3 cents per litre for gas, reaching a total of 14 cents per litre. The scheduled increase will apply in Ontario, Manitoba, Saskatchewan, Alberta, Yukon and Nunavut. Meanwhile, the carbon price jump will go into effect in Newfoundland and Labrador, Nova Scotia, and Prince Edward Island on July 1, 2023.

For a family driving a car with a moderate mileage of 10 L/100 km (23 mpg), the increased cost of gas from 2022 to 2023 from carbon pricing is $1.80 for a single 60 L fill up, or less than $68 per year extra in 2023 compared to 2022 assuming a typical 20,000 km (12,400 miles) of driving per year.

With incremental increases in the carbon price, fossil fuel consumption goes down. Carbon pricing is the biggest component of Canada’s climate plan and emissions are now finally dropping.

Knowledge of the carbon price also encourages people and businesses to invest in technologies, such as electric cars and solar panels, that decrease our dependence on fossil fuels. This investment in climate-friendly technologies makes them more quickly available and drives down their prices.

The price of gas is volatile. The price of gasoline is $1.57 – down from $2.10 last summer – according to the Gas Buddy website (graph below). While carbon pricing makes the cost of polluting more clear, the increased costs are low and gradual, giving us time to adapt. What’s more, 90% of the federal backstop carbon pricing revenues is returned to families to protect consumers.

![18 Month Average Retail Price Chart](graph.png)
METHANE

Immediate Methane Cuts Can Prevent Nearly a Million Premature Deaths

The energy sector accounts for around 40% of total methane emissions attributable to human activity, second only to agriculture. The International Energy Agency (IEA)’s October 2023 update of its Global Methane Tracker found that the global energy industry was responsible for 135 million tonnes of methane released into the atmosphere in 2022, only slightly below the record highs seen in 2019. Thus, humanity is not on track for achieving the cuts in methane that were committed to at COP 26 in Glasgow in 2022.

The IEA said: “Immediate reductions in methane emissions are needed to limit warming to 1.5 Celsius,” indicating that “Without targeted action on methane, even with deep reductions in fossil fuel use, the increase in the global average surface temperature will likely exceed 1.6C by 2050” and adding that “The benefits of doing so would extend beyond reigning in climate change, including preventing nearly a million premature deaths due to ozone exposure and the loss of 90 million metric tons of crops by 2050.”

Health Impacts of Methane-Fired Electricity Plants

Quick Summary: Methane-fired electricity generation is harmful to public health through its extraction impacts and its generated emissions which contribute to both planetary heating and air pollution, causing consequential adverse health impacts.

Full Text: Hydraulic fracturing — the process used to extract much of the gas Ontario uses — poses significant health implications to communities close to extraction facilities. In their Fractures in the Bridge report, the Canadian Association of Physicians for the Environment (CAPE) identified that populations living near fracturing facilities have over 30 adverse health outcomes. These include: adverse birth outcomes, birth defects, cancer, cardiovascular diseases, dermal effects, gastrointestinal symptoms, neurological effects, psychological impacts, and respiratory illnesses.

A recent study by C40 Cities modeled the air quality impacts of burning methane gas in cities. According to their modeling for Toronto in 2019, methane-fired electricity generation was responsible for 286 new childhood asthma cases, 9696 days of sick leave in workers and 215 premature deaths accounting for 3419 years of life lost.

The health implications of climate change are well established and include: heat stress and fatalities, food and housing insecurity, mental health impacts, proliferation of infectious diseases, as well as illness, injury, and death due to natural hazards. Although once considered a less carbon intensive fuel, gas contributes significantly to climate change and its associated health consequences through fugitive emissions (i.e. methane leaks). Recent studies — including one by The Atmospheric Fund focused on Ontario — indicate that these invisible methane emissions mean that using gas for electricity is nearly as carbon intensive as coal when the full life cycle is considered.

Methane-fired electricity also generates lethal air pollution. According to the Government of Canada, in 2016 air pollution was responsible for the premature death of 6600 Ontarians with a monetary impact of over $49 billion to the Province of Ontario. Air pollution causes diseases to multiple human systems including asthma and other lung diseases, heart diseases, dementia, diabetes, harms to pregnant women include premature and low birth weight babies, multiple forms of cancer, and others.
Ontario Should Pause Expansion of Methane-Fired Electricity Plants

Quick Summary: Multiple recent reports indicate that Ontario does not need new methane-fired electricity plants to handle capacity.

Full Text: A 2023 report commissioned by Ontario’s Independent Electricity System Operator (IESO) has noted, that Ontario can cost-effectively avoid the need for new methane-fired generating capacity by investing in: a) renewable energy; b) load controls that shift electricity demand from peak to off-peak periods; and c) energy storage.

Moreover, according to a new report from the Royal Bank of Canada’s Climate Action Institute, Ontario can avoid the need for new gas plants and save at least $500 million by taking action to conserve energy, and by adopting readily available technologies such as smart thermostats, electric panels, and AI-enabled HVAC systems that can substantially improve grid efficiency and sustainability. As well, Hydro Quebec has a huge surplus of hydro-electric generation capacity available for export to Ontario during the summer months. Finally, a recent report by Sustainability Solutions Group highlights the imperative to develop integrated localised energy systems planning jointly between municipalities, utilities, and the IESO.

Carbon Pricing and Methane-fired Electricity Generation

Quick Summary:

1. What some people call natural gas is a fossil fuel, and it is not clean. It is methane – a very potent GHG.
2. The current system of Output Based Carbon Pricing for methane-fired electricity is disincentivizing clean energy production.
3. The current projected building of methane-fired electricity plants is increasing our GHG output.
4. The Clean Electricity Standard Regulation process is too slow to address this grave problem.
5. There is a real risk of stranded assets and those costs being passed onto the taxpayer and ratepayer.
6. We can avoid the risks by either making methane-fired electricity generation subject to the Fuel Charge component of the federal carbon pricing system (GGPPA) instead of the OBPS (so that methane-fired generation plants pay the full carbon price on all the methane they use) or by increasing the level of carbon pricing on GHG emissions if methane-fired generation remains in the OBPS.

Full Text: The goal of Canada’s national carbon pricing system is to send a market signal that will incentivize a transition away from fossil fuels to low-carbon energy sources. Given the projected increase in methane-fired electricity generation in Canada, it would appear that the current level of carbon pricing for methane-fired generation is not high enough to achieve this goal.

Electricity generation is subject to the Output-Based Pricing System (OBPS) component of the Greenhouse Gas Pollution Pricing Act (GGPPA). Some provinces have their own emissions trading systems which apply in place of the federal backstop OBPS, and so in these provinces, it is appropriate to lobby provincial politicians on this issue as well.

Methane-fired generation of electricity in Canada is projected to increase substantially in the coming years. Approximately 8,900 MW of new methane-fired generating capacity is projected to be added by 2035 under federal, provincial, and territorial policies [1]. While coal-fired electricity in Canada is being rapidly phased out, in most cases, methane has replaced coal [2]. In Ontario, methane-fired generation is set to
account for 25% of the province’s electricity generation by the late 2040s, more than triple its current role and roughly the same portion as coal-fired generation at its peak, before its phase-out in 2013 [3].

Thus, any progress in incentivizing clean electricity production as well as reducing greenhouse gas (GHG) emissions from coal-fired electrical generation plants is largely erased by increased production from methane-fired electricity plants. [4] The resulting increase in GHG emissions from methane-fired electricity generation is clearly bad for the planet, and for Canada’s 2030 Emissions Reduction Plan [5] which aims to reduce national GHG emissions by up to 45% below 2005 levels by 2030.

The risk to Canada’s climate plans from building new methane-fired generation plants is compounded by the fact that, once that capital is locked in, the resulting emissions will be locked in as well, or the plants will become stranded assets.

Methane-fired electricity generation must be subject to increased carbon pricing that will send a sufficient market signal to incentivize the transition away from methane-fired generation to low-carbon energy sources. This can be accomplished in one of the two following manners:

- Make methane-fired electricity generation subject to the Fuel Charge component of the federal carbon pricing system (GGPPA) instead of the OBPS, so that methane-fired generation plants pay the full carbon price on all the methane they use.
- If methane-fired generation remains in the OBPS, increase the level of carbon pricing on GHG emissions.

Although the federal government is in the process of developing a Clean Electricity Standard Regulation to provide for a transition to a net-zero electricity supply by 2035, this process is too slow and may still permit unabated methane-fired electricity generation for years thereafter. Instead, the above action is needed now.

Notes
Path to net-zero electricity can be found in recent federal budget

The 2023 federal budget allocates $80 billion in support of clean electricity and green infrastructure designed to clean up Canada’s electricity grid by promoting zero and low-emissions technologies.

Federal financing for clean energy will be administered by the Canada Infrastructure Bank and the Canada Growth Fund along with investment tax credits. Canada’s current electricity system consists of a mix of public and privately held utilities operating within largely isolated grids under provincial jurisdiction.

The new federal budget will fund the construction of interprovincial east-west electricity transmission corridors along with modernizing electricity grids and the replacement of existing unabated fossil fuel power. Publicly owned utilities are eligible to apply for such projects.

Grid modernization and expansion of long-distance transmission corridors means provinces would no longer be isolated from the large-scale, low-cost hydro generated in British Columbia, Manitoba, and Quebec thereby unlocking the immense potential for renewables in new areas, especially the prairie provinces.

The time has come to end provincial-federal squabbling over carbon pricing, stranded assets, jurisdictional rights, and timing of transition.


Canada’s Proposed Clean Electricity Regulations

On August 19, 2023, the federal government published draft Clean Electricity Regulations (CER). The draft CER would establish performance standards to reduce greenhouse gas (GHG) emissions from fossil fuel generated electricity starting in 2035. We need clean electricity to support expanded electrification of transportation, buildings, and industry, helping Canada become a net-zero GHG emissions economy by 2050.

The draft CER would apply to fossil fuel electricity generating units with a capacity of 25 megawatts (MW) or greater. It would set a GHG emissions performance standard of 30 tCO2e/GWh (compared to 370 tCO2e/GWh for existing facilities in the current Output Based Performance Standard of the federal backstop carbon pricing system).

The draft CER performance standard would apply starting:

- On January 1, 2035 for units that were commissioned, or increased their generation capacity by 10%, on or after January 1, 2025,
- On January 1, 2035 or later for units converted from combustion of coal on or after January 1, 2025,
- For any other unit, the latter of January 1, 2035 or 20 years after its commissioning.

An exemption from the draft CER would allow the use of fossil fuel-fired units in emergency circumstances. The use of unabated fossil fuels (except coal), will also be allowed on a limited basis, such as for meeting additional generation requirements during periods of peak power demand.

Our concerns:
- The draft CER emission performance standard would come into effect only in 2035. This is too late. Interim targets are needed that are increasingly stringent to ensure the electricity sector does move to net-zero.

- The draft allows fossil gas plants with carbon capture to operate past 2035. There are as yet no commercial gas plants with carbon capture operating anywhere in the world. This sets us up for expensive failures.

- The application of the draft CER could be delayed for newer generating facilities commissioned before January 1, 2025. This will wrongly incentivize the construction of fossil gas generation facilities before 2025 as is happening in Ontario.

**SCIENTIFIC AND ECONOMIC ANALYSIS**

**IPCC AR6 Synthesis Report: Join Us On the Bomb Squad**

On Monday, March 20, 2023, in Interlaken, Switzerland, the IPCC released its final assessment report in its sixth cycle (AR6) – the Synthesis report. The report is a how-to guide on diffusing the climate time-bomb.

The planet will reach 1.5°C global temperature rise in the early 2030s. There is an urgent call for developed nations to reach net-zero by 2040 and developing nations by 2050. GHG needs to go down now and be cut by almost half by 2030.

The good news is, it is achievable.

The United Nations Secretary-General António Guterres announced a plan to massively fast-track climate action. He has proposed a G-20 Climate Solidarity Pact that includes an Acceleration Agenda which calls for an end to coal, net-zero electricity generation by 2035 for all developed countries and 2040 for the rest of the world, a stop to all licensing or funding of new oil and gas, and any expansion of existing oil and gas reserves.

The report finds that the economic benefits for people’s health from air quality improvements alone would be roughly the same, or possibly even larger than the costs of reducing or avoiding emissions. To be effective, these choices need to be rooted in our diverse values, worldviews, and knowledge, including scientific knowledge, Indigenous Knowledge, and local knowledge.

Increasing finance to climate investments is important to achieve global climate goals. The synthesis report is quite clear that there is sufficient global capital to rapidly reduce greenhouse gas pollution if existing barriers are reduced. Global capital is all the savings held by banks, pensions, financial institutions, governments, and individuals. Governments, through public funding and clear signals to investors, are key in reducing these barriers.
Investors, central banks, and financial regulators must also play their part. That is because much of the **trillions of dollars** of financing for fossil fuels come from the **private sector**. Thus, redirecting private sector finance away from fossil fuels is key. Policies such as an incrementally rising price on **carbon pollution pricing with equal dividends** to households, **carbon border adjustment mechanisms**, reforms at the World Bank, and climate risk disclosure rules for financial institutions would provide clear signals to redirect financial flows away from fossil fuels while not burdening the taxpayer.

One of the key conditions for enabling a liveable future is inclusive governance. We are part of a network that has been empowering volunteers to speak about climate finance issues since 2007. Join us on the bomb squad. Together we can decrease dangerous fossil fuel pollution fast and increase investments in clean energy at the speed needed and create a fair and equitable world.

**The Social Cost of Carbon**

A study presented in April 2023 found that the economic cost of greenhouse gas emissions is nearly five times higher than previously thought. The social cost of carbon estimates the financial impact that every tonne of emissions has on everything from food production and human health to disaster repair bills and even property values. The social cost of carbon analysis was done in concert with the United States Environmental Protection Agency, which published its interim values last year but is still reviewing them before releasing a final version.

The fact is that growing emissions contribute more to global warming, and every increase in global average temperatures can increase the number and severity of extreme weather events.

More than seven years ago an analysis estimated that by 2020 the cost would be about $54 a tonne. New studies have found that figure was actually closer to $247 in 2020. In 2023 it is even higher, at $261 per tonne of emissions, and by 2030 it will rise to $294.

Thus, in 2023, every tonne of carbon we reduce this year saves society as a whole $261 — and we are talking in terms of cutting megatonnes: millions of tonnes. Between 2005 — the year Canada uses as the base for its 2030 emissions targets — and 2021, Canada eliminated 62 million tonnes of greenhouse gas emissions. Using the new social cost of carbon figure, that equates to saving almost $10 billion.

However, that doesn’t include an estimate of what it cost to eliminate those 62 million tonnes. The carbon price in 2021 was $40 per tonne, and it will rise to $170 per tonne in 2030.

Last year a federal analysis of regulations to reduce emissions produced from gasoline and diesel said the cost of that policy was about $151 per tonne.

Canada's Ecofiscal Commission in 2017 pegged the cost of Quebec's electric vehicle subsidy at about **$355 per tonne**.

Canada has dozens of other policies designed to help meet that target, including phasing out coal power, expanding renewable electricity, mandating an end to the sale of gas-powered cars and capping emissions from the oil and gas industry.

By 2030, Canada wants to eliminate at least another 231 million tonnes. That could save $68 billion on the emissions side, but there are no direct comparisons to illustrate how much it will cost to do that.

Put together, the national inventory report and the social cost of carbon lay out the inescapable math of
climate change: carbon pricing at $170 tonne in 2030 vs the social cost of carbon of $294 tonne in 2030 is cost-effective.

Every single policy that Canada chooses must be priced against the metric of the social cost of carbon. CCL Canada recommends that all political parties during elections must have independent analysis of the costs of their programs to the taxpayer, how fast GHGs will go down and how fast renewable energy will be built.


Recent studies: Our greenhouse gases and the damage they cause

Calculating the amount companies owe for causing global warming
A report published in May 2023 found that it was possible to assess the amount of global warming damage caused by industry as a whole. In the report, Marco Grasso, and Richard Heede calculated that the cost would be $99 trillion for the years 2025 to 2050 of which $70 trillion is attributed to fossil fuels. Their study is quite granular and drills down into certain segments of industry and even individual companies. They surveyed hundreds of climate economists to learn more about the financial costs associated with global warming and who should be paying for disasters that have ensued as a result.

Contribution of major carbon producers to total burned forests in western US and southwestern Canadian forests
A peer-reviewed study, published in May 2023 in the journal Environmental Research Letters, found that 37 per cent of the total burned forest area in Western Canada and the United States between 1986-2021 can be traced back to 88 major fossil fuel producers and cement manufacturers.

Global 100% Switch To Renewables Pays Itself Off In Just 6 Years

The world is undergoing a transition to clean, renewable energy to reduce air pollution, global warming, and energy insecurity. In September 2022, Mark Jacobson and his team at Stanford University published a renewable energy study. They calculated the cost of making the changeover to 100% renewable energy would be a staggering $62 trillion. But, the savings from switching the world to 100% renewable energy would be $11 trillion a year. In other words, the initial investment would be paid back in just 6 years!

In the study, roadmaps were developed and grid analyses were performed for 145 countries including Canada. The study looked at transitioning entirely to a clean, renewable wind-water-solar (WWS) electricity, heat, storage, transmission, and equipment system. The assumption was that ideally 80% of the problems will be solved by 2030 and 100%, by 2035–2050.

Given the goals of addressing air pollution and energy insecurity simultaneously with global warming, the transition must also avoid emissions of air pollutants and improve energy security. Thus, they did not include carbon capture, direct air capture, bioenergy, nuclear power, or blue hydrogen (methane).

The 145-country payback time due to annual private energy cost savings between business as usual (BAU) vs with WWS is 5.5 (0.9 – 21.9) years. The payback time due to annual social energy cost savings between BAU and WWS is 0.8 (0.1–6.7) years. Thus, the capital cost of WWS pays for itself with energy, health, and
climate cost savings rapidly, and the payback is through energy sales rather than through subsidies. The speed of a transition would benefit substantially from government policies to redirect financial flows away from fossil fuels in the private and public sector.

We have the technologies that we need. We have wind, solar, geothermal, hydro, electric cars. We have batteries, heat pumps, and energy efficiency. We have 95% of the technologies right now that we need to solve the problem. The missing 5% is for long-distance aircraft and ships, he says, for which hydrogen powered fuel cells can be developed. What are we waiting for? You. Thanks for reading this.

Reference

Important Reports from the Parliamentary Budget Office (PBO)

Canada must climb out of a mountain of financial debt from the COVID pandemic during a war in Europe while addressing the climate emergency with socially just policies. Our Parliamentary Budget Office (PBO) provides independent, authoritative, and non-partisan financial and economic analysis which should help us all chart the path forward.

Estimating The Top Tail Of The Family Wealth Distribution In Canada (2020)
Take home message: income inequality exists in Canada
In June 2020, the Parliamentary Budget Office released a report on Canadian family wealth distribution. Collectively, 15,349,000 families possess $10.3 trillion. The top 1.0 % quintile of Canadian families possess more than a quarter of all wealth in Canada, whereas the bottom 40% quintile possess just 1.2% of Canadian wealth.

Take home message: the federal carbon pricing is progressive and will reduce income inequality
Canada's carbon pricing system is revenue neutral; any revenues generated under the system will be returned to the province or territory in which they are generated. Households will receive 90 per cent of the revenues raised from fuel charges. A typical household will receive higher transfers than the average amounts it pays in fuel charges. The net benefits are broadly progressive by income group. That is, lower income households will receive larger net transfers than higher income households.

Preliminary Findings on International Taxation (2019)
Take home message: there are significant sums of revenue to be found in tax havens.
The Parliamentary Budget Officer calculated that in 2018, Canadian corporations may have avoided $25 billion dollars or more in taxes through tax havens.

Revenue Estimates Of M-68: One-time Tax On Extreme Wealth (July 2021)
Take home message: Canada could look to a one-time extreme wealth tax for raising revenue.
A one-time 3% tax on Canadians with net wealth over $10 million, and a 5% tax on net wealth over $20 million could raise up to $82.5 billion over five years.

Reviewing the Fiscal and Distributional Analysis of the Federal Carbon Pricing System (2020)
Take home message: This report reaffirmed that there the federal carbon pricing is progressive and will reduce income inequality
In the PBO's baseline scenario, households receive 90 per cent of the revenues raised from carbon pricing (except those from large final emitters under OBPS). PBO's assumption is based on guidance from Finance Canada and the Government's initial estimates of total Climate Action Incentive payments for the four provinces.
Beyond Paris: Reducing Canada’s GHG Emissions by 2030 (June 2021)

**Take home messages:** Carbon pricing is going to do a lot of the heavy lifting to reduce GHG emissions by 2030, but it can’t do it alone. As well, overlapping the output-based carbon pricing (OPBS) and border carbon adjustments (BCA) systems will be complicated.

Increasing the federal fuel charge to $170 per tonne and tightening OBPS will help Canada achieve over half of the 168 Mt reduction projected in Budget 2021. Nonetheless, significant reductions from less visible non-price policies, already announced, will be needed to reach that objective. Budget 2021 also proposes BCAs to ensure that imports coming into Canada are priced for the carbon emissions that they induced in production. In principle, the BCAs and OBPS are substitutes since they both seek to level the playing field between Canada and the rest of the world. In practice, however, they are both complements and substitutes, and using both creates significant complications.

A Distributional Analysis of Federal Carbon Pricing under A Healthy Environment and A Healthy Economy (March 2022)

**Take home messages:** The study accurately showed and reaffirmed that a majority of households will be better off financially as a direct result of the carbon tax and rebate. However, we believe the analysis of the secondary economic impacts of carbon pricing will deliver a net loss to most households is incomplete.

The report built on a previous PBO report of the impact of carbon pricing and government climate action policies on GDP which did not allow for the possibility of exceptional productivity gains in moving to new technologies, and did not provide context by accounting for the impact that climate change might cause in Canada. CCL Canada asks that the Government request the Parliamentary Budget Officer to report on federal carbon pricing while taking into account the economic, health and environmental costs of climate change.

The PBO is fuelling opposition to Canada’s climate policies

In March 2023, the Parliamentary Budget Office (PBO) released its updated analysis of the distributional impacts of the Greenhouse Gas Pollution Pricing Act. For the second year in row, the PBO did not allow for the possibility of exceptional productivity gains in moving to new technologies, and did not provide context by accounting for the impact that climate change might cause in Canada. Instead, it showed the costs of carbon pricing relative to a scenario that simply does not exist: a world where Canada does nothing about climate change, and faces no consequences for doing so.

Then in May 2023, the PBO looked at the economic impact of the federal government’s clean fuel standard, which requires producers of gasoline and diesel to reduce the carbon intensity of their fuels and is part of the federal government’s approach to meeting its climate targets. According to the PBO’s analysis, it could add as much as 17 cents per litre to the price of these fuels by 2030, and cost anywhere from $231 per year for lower-income households to $1,008 for those in higher-income brackets.

Conservative politicians and pundits have weaponized the PBO’s analysis in order to attack the fuel standard calling it Trudeau’s second carbon tax.

Thus, we are lobbying our MPs to request that the Parliamentary Budget Officer - in future reports on the impact of the federal carbon pricing on households - take into account the social cost of carbon, accurately portray the economic benefits of carbon pricing and Canada’s entire suite of climate policies on households compared to doing nothing, and educate impacted Canadians about the rebates they receive under the Canada’s carbon price in provinces where it applies. Most households that receive the rebates are unaware that they realize financial gains from carbon pricing. In 2022, we also conducted a campaign targeting the PBO and our MPs that asked for better studies sending 319 letters to 132 MPs.
Impacts of Canada’s Climate Policies on One Saskatchewan Household

In November 2022, Dr. David Maenz, an expert on climate policy, presented the impact of Canadian climate policies on his household in Saskatchewan. Dr. Maenz first reminded us of the Parliamentary Budget Office (PBO)’s Mission which is to “support parliament in exercising its oversight role in the government’s stewardship of public funds by ensuring budget transparency and promoting informed public dialog with an aim to implement sound economic and fiscal policies in Canada.”

Dr. Maenz was concerned about recent PBO reports. He concluded that the reports made “an over simplistic approach (carbon pricing in isolation without considering synergistic policies and a failure to capture economic benefits of decarbonization) may have led to an exaggerated estimate of the economic impacts on households.”

Dr. Maenz did his own calculations based on these two scenarios:

1. By March 30, 2031 what is the accumulated emissions and financial cost for his household if they took no actions to cut direct household fossil fuel consumption.
2. By March 30, 2031 what is the impact on his household’s GHG emissions and what is the financial cost if his household took the following steps to cut household emissions:
   - Switches vehicle(s) to (a) zero emissions EV(s).
   - Installs a cold climate heat pump (or zero emissions equivalent) for home heating and cooling.
   - Upgrades home thermal energy efficiency (windows, door, insulation) as needed for effective and efficient heat pump operation.

By comparing these two scenarios, along with accounting for carbon pricing and all the rebates, by 2031 he found that his family would prevent approximately 120 tonnes of GHGs from being emitted and experience about $18,885 in savings if they were to follow the second scenario.

In conclusion the PBO report is not considering what someone will save compared to someone who does nothing. What is needed is a study with better questions and better assumptions.

The PBO needs to do a study that compares:

1. What is the accumulated household cost for those who do nothing?
2. What is the impact of a household that takes similar actions as Dr. Maenz?

The following assumptions must be made in that study:

1. The analysis must assume implementation and use of the complete package of federal and provincial climate action policies (carbon pricing, carbon rebates, EV rebates, Greener Home Program etc.)
2. The analysis must include all household upfront costs of upgrades and accumulated on-going costs and savings of electricity, fuel, maintenance, and taxes.
3. The analysis should be applied to an average household at each of the 5 income levels in each province with the federal carbon pricing backstop in effect.

Resource
The Very Alarming Global Climate Vital Signs

Quick Summary: The vital signs of our global climate are very alarming, but we still have time. We need to be brave and unite across the planet to unwind our global economy from fossil fuels.

Full Text: It is not your imagination – heat and climate records are being shattered.

- The World Meteorological Organisation reported that June, July, and August of 2023 were the hottest three months globally on record, with unprecedented sea surface temperatures and many instances of extreme weather worldwide.
- A July 2023 study found that the collapse of the Atlantic meridional overturning circulation, or AMOC, could happen far sooner than scientists had previously thought, possibly within a few decades, as a result of human-caused global warming.
- On September 18, 2023, Antarctic sea ice coverage was at a mind blowing record low.
- NASA-CERES data from July indicates that the North Atlantic Ocean Absorbed Solar Radiation Anomaly is off the charts (see graph below) and is evidence that Sulphur Termination Shock may also be impacting our planet.
- The North Atlantic Ocean surface temperature well above normal (and alarming) too.

This data underscore the need for rapid decarbonization of our global economic systems – in particular a managed global phaseout from fossil fuels which accounts for 85 percent of greenhouse gases in the past decade.

The findings in the sixth assessment synthesis report by the Intergovernmental Panel on Climate Change (AR6 IPCC, April 2023) were straightforward: there is enough worldwide funding available to swiftly decrease greenhouse gas (GHG) pollution, provided we address existing obstacles. It is essential for our governments to pass legislation that holds those responsible for pollution accountable and shifts financial investments away from fossil fuels.

The positive aspect is that once we achieve net-zero emissions within a decade or two, Earth’s climate systems will start to stabilize.
Interplay between Sulphur Termination Shock & Global Warming

**Takeaway:** Reducing sulphate aerosol pollution will further exacerbate global warming

Sulphate aerosols are tiny particles or droplets in the Earth’s atmosphere that contain sulphuric acid (H2SO4) or sulphate (SO4^2-) ions. Human-made sources of sulphate aerosols include the burning of fossil fuels, smelting metals, certain fertilizers, biomass burning, marine shipping and waste incineration. Sulphate aerosols are hazardous to human health and ecosystems.

In their study titled “Climate Impact of Decreasing Atmospheric Sulphate Aerosols and the Risk of a Termination Shock,” Simons, Hansen, and duFournet discuss the potential relationship between global warming and a phenomenon referred to as a “termination shock” associated with decreasing atmospheric sulphate aerosols. The research explores how reducing sulphate aerosols, which have a cooling effect on the climate by reflecting sunlight, may have implications for global warming.

The authors argue that as efforts to reduce air pollution decrease sulphate aerosols in the atmosphere, this reduction in cooling particles could lead to a rapid increase in global temperatures, a scenario they term the “termination shock.” They base this argument on the idea that the decline in sulphate aerosols could remove a masking effect on the warming caused by greenhouse gases like carbon dioxide.

Their research suggests that while decreasing sulphate aerosols may contribute to improved air quality, it poses the risk of exacerbating global warming. This is consistent with their assessment that efforts to mitigate sulphate aerosols should be carefully managed to avoid unintended consequences on our changing climate.

The references below provide further details and scientific evidence supporting this hypothesis, highlighting the importance of considering the complex interplay between aerosols, greenhouse gases, and climate change when formulating climate policies.

[Climate Impact of Decreasing Atmospheric Sulphate Aerosols and the Risk of a Termination Shock (2021)](https://example.com)
Leon Simons, James E. Hansen and Yann duFournet

[The Rate of Global Warming During Next 25 Years Could Be Double What it Was in the Previous 50, a Renowned Climate Scientist Warns](https://example.com) (2021) – Inside Climate News

Suggested Social Media Account: Leon Simons on Twitter: [https://twitter.com/LeonSimons8](https://twitter.com/LeonSimons8)
MISCELLANEOUS and IMPORTANT

Carbon Pricing Around the World

There are currently 73 global carbon pricing instruments in operation, compared with 68 when the World Bank issued its 2022 report last May 2021, covering around 23 percent of global greenhouse gas emissions. Countries raised a record US$95 billion in 2022 VS US$84-billion in 2021 by charging firms for emitting carbon dioxide, but prices are still too low to drive changes needed to meet Paris climate accord targets.

In March, two more countries are pricing pollution. Japan’s new pollution pricing scheme will be phased in from April, while Australia’s first-ever price on carbon will come into effect in July.

Around the world, carbon pricing initiatives are driving emission reductions that cause climate change. Using data from 142 countries over two decades, researchers found that the average annual growth rate of CO2 emissions from fuel combustion in countries with a carbon price to be 2 percentage points lower compared to countries without a carbon price (Carbon Pricing Efficacy: Cross-Country Evidence, 2020). Further, an additional euro per tonne of CO2 is associated with a reduction in the subsequent annual emissions growth rate of approximately 0.3 percentage points, all else equal.

More context

- In 2019, World Bank, and several country partners including Canada, launched the Partnership for Market Implementation which will assist countries in the Global South in either improving their current carbon pricing or implementing carbon pricing.
- On June 6, 2022, Canada and Chile, two countries that have implemented a carbon tax, issued an agreement to accelerate the adoption of carbon pricing around the world.
- On May 16, 2022, Canada and the EU issued a joint declaration confirming the willingness of the EU and Canada to coordinate on respective approaches to carbon pricing and carbon border adjustments to prevent carbon leakage. They also confirmed the intention of the EU and Canada to work together to engage international partners to expand the global coverage of carbon pricing.
- At the G7 in Germany the G7 Climate Club was launched which included carbon pricing in its initiatives, marking the first time “carbon pricing” was explicitly mentioned in an official G7 communique.
- Canada has a Global Pricing Carbon Challenge, the IMF has called for a floor price on carbon and African leaders in the Nairobi declaration on climate change called for a global carbon price in September 2023.
- Of note, Austria enacted a similar carbon pricing policy as Canada’s called Klimabonus earlier this year and the German government has proposed a Klimageld and is committed to returning carbon pricing revenues too.
More references
World Bank States and Trends of Carbon Pricing 2023
World Bank States and Trends on Carbon Pricing Executive_Summary 2023
World Bank’s Carbon Pricing Dashboard

IEA’s first 1.5°C-aligned scenario bolsters call for no new fossil fuel extraction

On May 18, 2021, the International Energy Agency (IEA) released a special report, “Net Zero in 2050: A roadmap for the global energy system,” that represents the agency’s first ever effort to model a comprehensive energy pathway towards limiting global warming to 1.5 °C.

What would a major global plan to quickly halt climate change look like? Nations around the world would immediately stop approving new coal-burning power plants and oil fields. They would phase out sales of new gasoline-powered cars in 15 years. And they would start building the equivalent of the world’s largest solar farm every single day for the next decade.

Those are the conclusions of the International Energy Agency (IEA). On May 18, 2021 they issued a detailed road map for how the world’s nations could slash their planet-warming greenhouse-gas emissions to net zero by midcentury — a goal that could help avert the worst effects of climate change.

This report is significant because it is not an appeal from environmentalists. The International Energy Agency is a major global organization that advises world capitals on energy policy. Their reports are widely used by companies and investors as a basis for long-term planning. And the agency is loudly warning that governments need to think much, much bigger if they want to keep climate change under control.

UPDATE: At the 2023 G7 Summit, in the final #G7 communique, the powerful bloc reiterated its commitment to expanding more renewables. However, it left the door open for more gas investments.
CCL Canada supports the Fossil Fuel Non-Proliferation Treaty

Human activity is driving global heating and destabilizing the climate system. That dangerous anthropogenic interference with the climate is disrupting other vital natural systems, putting food systems and water security at risk, and generating unmanageable threats to economies, nation states, and the biosphere.

According to the August 2021 IPCC report, coal, oil and gas are responsible for 86% of all carbon dioxide emissions in the past decade. In May 2021, the International Agency called for no new fossil fuel extraction. Phasing out fossil fuel production, and fast-tracking progress towards safer and more cost-effective alternatives, will require unprecedented international cooperation in three main areas – non-proliferation, global disarmament and a peaceful, just transition. Further expansion of fossil fuel production and consumption is an unconscionable and unaffordable, yet preventable threat.

Just as fifty years ago the world successfully negotiated a treaty to defuse the threats posed by the uncontrolled spread of nuclear weapons, the world today needs a Fossil Fuel Non-Proliferation Treaty to address the threat posed by fossil fuels. To stop accumulating future climate damage, we need the community of nations to agree to:

- Non-Proliferation – ending all new exploration and production of fossil fuels
- Global Disarmament – phasing-out existing stockpiles in line with the 1.5°C Paris goals
- A Peaceful Transition – fast-tracking a just transition for every worker, community and country

We support the call for a new Fossil Fuel Non-Proliferation Treaty, to accelerate action toward that better future alongside many others. The treaty was presented on the floor of the UN general assembly by Vanuatu in September 2022 and by Tuvalu at Cop27. The World Health Organization has endorsed it, as has the Vatican and faith leaders representing 1.5 billion people. Other supporters include the European Parliament, the State of California, 89 cities and subnational governments including Toronto, Montreal, and Vancouver, and 2250 NGOs.

https://fossilfueltreaty.org/

Fossil Fuel Industry Funded Climate Disinformation for Decades

The climate crisis is a fossil fuels crisis. The business model of fossil fuels companies is based on lies and deception and thus is dangerously flawed. Governments are now beginning to sue for the damages done.

Even to this day, there are individuals who deny or downplay the link between the burning of fossil fuels and the impacts that pollution has on our climate and health. How did this happen?

Key players in the fossil fuel industry knew decades ago that burning coal, oil, and methane gas to warm our homes, power our cars, and generate electricity was warming the planet. Instead of acting on the knowledge, they began financing a massive disinformation campaign. Now, as a consequence, youth are having to fight for their inalienable right to have a safe and liveable future.

Happily, governments are now beginning to sue Big Oil for their deceptions including Puerto Rico,
Delaware, Hoboken, New Jersey, and the fifth largest economy in the world, California. In Canada, Sue Big Oil in British Columbia is coordinating efforts to sue big oil too.

Suggested readings:

- **Climate Cover-Up** (2009) By James Hoggan and Richard Littlemore
- **Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Climate Change** (2011) by Naomi Oreskes
- **Oil’s Deep State: How the petroleum industry undermines democracy and stops action on global warming – in Alberta, and in Ottawa** (2017) Dr. Kevin Taft
- **The New Climate War: The Fight to Take Back Our Planet** (2021) By Michael E. Mann
- **The Petroleum Papers: Inside the Far-Right Conspiracy to Cover Up Climate Change** (2022) By Geoff Dembecki

**Our rights and a liveable world**

On **December 10, 2023**, the world will celebrate 75 years since the United Nations (UN) Universal Declaration of Human Rights. (General Assembly resolution 217 A). In the 21st century our rights to a liveable world are gaining traction – and none too soon.

On **July 28, 2022** the UN General Assembly declared access to a clean and healthy environment a universal human right (In favour: 161, Abstentions: 8, Against: 0).

On **March 29, 2023** the UN backed landmark Pacific-led resolution clearing the way for the International Court of Justice (ICJ) advisory opinion on climate obligations. Through the resolution, world leaders asked the ICJ to form an advisory opinion clarifying international legal consensus on climate change’s impacts on human rights and the rights of future generations. The opinion will be non-binding, and also not enforceable but experts say it could influence the outcome of climate change court cases around the world.

On **December 9, 2019** the national Commission on Human Rights of the Philippines announced the findings and recommendations from its path-breaking four-year inquiry into the human rights impacts of climate change in the Philippines and the contribution of 47 Carbon Major companies to those impacts. The Commission found that climate change constitutes an emergency situation that demands urgent action. The Commission further concluded that Carbon Major companies played a clear role in anthropogenic climate change and its attendant impacts. The Commission found that, based on the evidence, Carbon Major companies could be found legally and morally liable for human rights violations arising from climate change.

On **December 20, 2019**, the Dutch Supreme Court, the highest court in the Netherlands, upheld the previous decisions in the Urgenda Climate Case, finding that the Dutch government has obligations to urgently and significantly reduce emissions in line with its human rights obligations. A truly historic outcome!

On **November 29, 2022**, sixteen Puerto Rican Towns filed a Racketeer Influenced and Corrupt Organizations (RICO) suit against Chevron, ExxonMobil, Shell, and other fossil fuel giants for colluding on climate denial and the impacts that had during the 2017 hurricane season. **Update:** In May 2023, Hoboken, New Jersey became the first state-level lawsuit filed under RICO. **Update:** On September 16, 2023
California, the fifth-largest economy in the world, filed a sweeping climate lawsuit against ExxonMobil, Shell, BP, ConocoPhillips, and Chevron, as well as the domestic oil industry’s biggest lobby, the American Petroleum Institute for more than 50 years of deception, cover-up, and damage, climate leaders across the country have shared their support.

On March 29, 2023, thousands of elderly Swiss women joined forces in a groundbreaking case heard at the European Court of Human Rights, arguing that their government’s “woefully inadequate” efforts to fight global warming violate their human rights.

In the U.S. in April 2023 a US Supreme Court decision unleashed a wave of lawsuits against the fossil fuel industry that had been stuck in legal limbo for the last five years. Some California cities and counties are suing oil, gas, and coal companies after revelations that ExxonMobil had known since at least 1977 about the catastrophic effect of burning fossil fuels but worked to publicly cast doubt on the science. On June 1, 2023, U.S. District Court Judge Ann Aiken ruled in favor of the 21 youth plaintiffs in Juliana vs the USA granting their Motion for Leave to File a Second Amended Complaint, putting them back on the path to trial. In Montana, where the governor signed a bill banning the state from considering climate impacts when analyzing large projects such as coal mines and power plants, sixteen young people with Our Children’s Trust took the state government to court and won.

In Canada, in the country’s first climate lawsuit to have had its day in court, 7 young people made history last autumn when they challenged the Ontario government’s rollback of its 2030 greenhouse gas emissions reduction target. The case has already made history, being the first climate case in Canadian history to make it this far under the Canadian Charter of Rights and Freedoms. As well, two of the youth plaintiffs are members of CCL Canada: Sophia Mathur and Alex Neufeldt. On March 31, 2023, a Section 7 Charter lawsuit was filed by Climate Justice Saskatoon and seven residents against SaskPower, Crown Investments, and the Saskatchewan Government. Currently, the Canadian Competition Bureau is investigating the Pathways Alliance’s six members — Canadian Natural Resources, Cenovus, ConocoPhillips, ExxonMobil subsidiary Imperial, MEG Energy, and Suncor — are responsible for 95 percent of Canada’s oil sands production. A complaint filed in March by Greenpeace Canada took aim at the group’s “Let’s clear the air” marketing campaign, which presents its members as “making clear strides toward net zero” to help Canada “achieve a sustainable future.”

In Mexico, young people have led several important court cases challenging the slow pace of the country’s clean energy system. The supreme court is due to decide whether they are allowed to seek justice in at least one case.

Natural laws have always existed and there is a legal basis for living in harmony with nature. We are now retracking our steps.

Further Reading

- Global Trends in Climate Litigation 2022 Report, Grantham Research Institute, London School of Economics
- Why 2023 will be a watershed year for climate litigation The Guardian January 4, 2023
- Women, girls and the right to a clean, healthy and sustainable environment – Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment United Nations March 2023
- Columbia University Database Tracks climate case around the world
- Global Climate Litigation Report: 2023 Status Review UNEP
CCL Canada’s work on removing Fossil Fuel Subsidies

CCL Canada’s primary focus since 2010 has been to enact, then defend and improve a national carbon pricing policy that gives the money directly back to the people in the form of cheques or bank transfers.

In consultation with our volunteers, we have had additional lobbying asks on top of carbon pricing over the years. Our volunteers as a collective make these important decisions together on how to direct our precious time resources on our monthly check-in calls.

Between 2010-2019, Citizens’ Climate Lobby Canada directly lobbied for the ending of our tax dollars subsidizing fossil fuels. We were involved in many campaigns and dedicated resources to educating our volunteers about the complexities of fossil fuel subsidies. In 2017, CCL volunteers presented our own research to the Natural Resources committee on Parliament Hill. We sent hundreds of postcards to our MPs in 2018 asking for an end to fossil fuel subsidies and wrote five laser talks to educate our volunteers about them (they are that complex). Our director went to the G20 Civil Society meetings in Buenos Aires in 2018 and pushed alongside many NGOs to end subsidies. Canada thereafter doubled down that it would end fossil fuels subsidies in 2018. (Canada had previously committed to do so at the G20 in Pittsburgh in 2009).

After the federal election in 2019, and a climate-friendly government was elected, our volunteers determined that we needed to redirect our energies to enacting climate accountability laws in Canada as it was clear that the federal government was on a trajectory to end fossil fuels subsidies. In 2021 those laws were enacted. Then we had an election, we kept our ears open to what else we might need to lobby for.

In 2023, we have determined that we are also lobbying for redirecting by far the largest supplier of fossil fuels by many magnitudes higher than our government: the private sector. In addition to improving the Greenhouse Gas Pollution Pricing Act, we are now supporting climate risk disclosure rules for financial institutions (Climate Aligned Finance Act).

In May 2023, CCL Canada alongside many NGOs in Canada signed onto a letter organized by Environmental Defence to the government of Canada with regards to “The Assessment Framework for Fossil Fuel Subsidies”. It is long and complex letter because subsidies are very complex but we are calling for:

1. A robust definition of fossil fuel subsidies
2. Specific subsidies to be included in the review
3. Aligning ‘efficiency’ assessment with Canada’s climate commitments

Canada’s Inefficient-Fossil-Fuel-Subsidies Assessment Framework and Guidelines

Quick Summary: Canada is the first country within the G20 to begin phasing out inefficient fossil fuel subsidies ahead of the 2025 deadline. This legislation, called the Assessment Framework, is the first transparently published methodology worldwide for the determination of inefficient fossil fuel subsidies. It’s a good start, with the potential to effectively shut the door on the creation of new fossil fuel handouts. However, there is a potentially problematic loophole exemption for carbon capture and sequestration, as well as a glaring omission regarding public financing funded through Export Development Canada and other crown corporations.

Full text: In July 2023, Canada finally announced the Inefficient Fossil Fuel Subsidies Assessment Framework and Guidelines, which delivers on a longstanding commitment to end inefficient fossil fuel subsidies. If
applied with integrity, these new rules for government spending will effectively shut the door on the creation of new handouts of public money to the companies most responsible for the climate disasters being experienced today.

Since fossil fuels are responsible for over 85% of all greenhouse gas emissions, any spending which leads the expansion of the oil and gas sector (or locks in current levels of fossil fuel production) will make it harder to avoid catastrophic climate change. Inefficient fossil fuel subsidies also divert public spending away from investments in climate solutions.

Fortunately, with these new guidelines, to justify new fossil fuel subsidies, federal departments must prove that any new spending doesn’t hinder the transition to renewable energy and aligns with a pathway consistent with limiting global heating to 1.5°C. This would rule out any spending on new oil, gas, or coal project subsidies.

As countries around the world grapple with eliminating their own fossil fuel subsidies, Canada has set a strong global precedent by publishing the first transparent methodology for identifying inefficiencies.

The new rules, however, contain some problematic loopholes for fossil gas as well as dangerous distractions such as carbon capture and storage (CCS) which only serve to prolong our dependence on fossil fuels without delivering meaningful emissions reductions.

They also have a glaring omission: they won’t apply to public financing funded through Export Development Canada and other crown corporations. This is alarming, given that Canada is one of the largest providers of fossil fuel financing in the G20.

Missing as well were any details on how these new rules will be implemented, monitored and enforced. This must be done in a rigorous way, with full public transparency.

The Government of Canada must quickly take the final step and end all fossil fuel financing – without any loopholes for fossil gas, fossil hydrogen, or carbon capture and storage. There is no justification for continuing to transfer public money to the very companies and executives whose search for profit has fueled the climate crisis. It’s time to turn off the financial taps to Canada’s most polluting industry.
Explicit and Implicit Fossil Fuels Subsidies

Quick Summary: Fully reforming the price of fossil fuels by removing explicit fuel subsidies and imposing corrective taxes (such as a carbon tax) to price implicit fossil fuel subsidies would reduce global CO2 emissions substantially. Enough to keep global warming to well below 2°C and on its way towards 1.5°C.

Full text: There are two terms that anyone who wants to preserve a stable climate needs to know: explicit fossil fuel subsidies and implicit fossil fuel subsidies.

- Explicit fossil fuel subsidies are the grants, investments, and cash governments give to directly reduce the supply costs of fossil fuels, thus making it more attractive for investors and consumers to buy.

- Implicit fossil fuel subsidies are the unaccounted for costs which taxpayers pay due to degraded air quality and other serious climate impacts experienced because of fossil fuel pollution.

These subsidies aren't cheap. On August 24, 2023, an International Monetary Fund (IMF) report found that subsidies for oil, coal, and natural gas cost countries and taxpayers $7 trillion (or the equivalent of 7.1% of global gross domestic product) in 2022 alone. They also found that explicit subsidies had more than doubled since 2020, accounting for 18% of the total subsidy amount while nearly 82% were due to implicit subsidies.

Cheaper fuel means higher emissions, but despite the fact that total subsidies for fossil fuels increased by over a trillion between 2021 and 2022, the report is hopeful, noting that there seems to be a clear path forward to address this issue: fossil fuel pricing reform.

“Full fossil fuel price reform would reduce global carbon dioxide emissions to an estimated 43 percent below baseline levels in 2030 (in line with keeping global warming to 1.5-2C), while raising revenues worth 3.6% of global GDP and preventing 1.6 million local air pollution deaths per year.”
- IMF Subsidies Report August 2023

What this means is that removing explicit fuel subsidies entirely and imposing corrective taxes to price implicit fossil fuel subsidies puts us on the pathway towards a liveable planet. Making polluters pay (a.k.a carbon pricing) offers us the exact tool needed to ensure this happens. In fact, the IMF Managing Director Kristalina Georgieva at the Paris Summit in June said, “Our analysis shows that without a carbon price, there is no chance that we will meet the 1.5 degrees Celsius target by 2030. We will miss it.”

After a summer of record fires in Canada and elsewhere, it is obvious that the impacts of climate change are no longer just a concern for future generations, but are a very real threat at our doorstep. We must listen to the experts and cooperate to strengthen our essential climate policies, like carbon pricing, going forward.
How pollution pricing in Canada trumps subsidies

**Quick Summary:** Canada leads the world in reducing per capita subsidies, most likely because of our pollution pricing laws.

**Full text:** The *IMF Fossil Fuel Subsidies Data: 2023 Update* – has highlighted some interesting data. Remarkably, per-capita subsidies (the total amount spent on subsidies divided by a country’s total population) went down in only two countries in 2022 – Russia by 18% and Canada by 41%. China's subsidies remained steady, and Australia’s increased by 5%. All other countries increased by between 1.2% and 340%!

So why is Canada such an outlier?

What is the opposite of a government subsidy? Putting a price on the pollution.

It is very likely that Canada's carbon pollution price is a significant factor. The Pan Canadian Approach to Pricing Carbon Pollution, or Federal Backstop has now reached $65/tonne and is heading for $170/tonne by 2030.

It is a direct price on pollution, more direct than the emissions trading schemes (a.k.a. Cap and Trade). This price on pollution is the most effective way to bring down implicit subsidies as it includes the costs of environmental and health damage caused by fossil fuels. Canada's price on pollution is helping to redirect financial flows from the fossil fuel economy to the clean energy economy.

<table>
<thead>
<tr>
<th>Country</th>
<th>Explicit subsidies</th>
<th>Implicit subsidies</th>
<th>Total subsidies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>14 billion</td>
<td>36 billion</td>
<td>50 billion</td>
</tr>
<tr>
<td>Australia</td>
<td>8 billion</td>
<td>40 billion</td>
<td>47 billion</td>
</tr>
<tr>
<td>Brazil</td>
<td>2 billion</td>
<td>67 billion</td>
<td>69 billion</td>
</tr>
<tr>
<td>Canada</td>
<td>2 billion</td>
<td>36 billion</td>
<td>38 billion</td>
</tr>
<tr>
<td>China</td>
<td>270 billion</td>
<td>1,966 billion</td>
<td>2,235 billion</td>
</tr>
<tr>
<td>Germany</td>
<td>43 billion</td>
<td>86 billion</td>
<td>129 billion</td>
</tr>
<tr>
<td>France</td>
<td>18 billion</td>
<td>46 billion</td>
<td>64 billion</td>
</tr>
<tr>
<td>India</td>
<td>32 billion</td>
<td>314 billion</td>
<td>345 billion</td>
</tr>
<tr>
<td>Indonesia</td>
<td>78 billion</td>
<td>116 billion</td>
<td>194 billion</td>
</tr>
<tr>
<td>Italy</td>
<td>10 billion</td>
<td>54 billion</td>
<td>63 billion</td>
</tr>
<tr>
<td>Japan</td>
<td>34 billion</td>
<td>276 billion</td>
<td>310 billion</td>
</tr>
<tr>
<td>Mexico</td>
<td>15 billion</td>
<td>83 billion</td>
<td>98 billion</td>
</tr>
<tr>
<td>Russia</td>
<td>71 billion</td>
<td>351 billion</td>
<td>421 billion</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>129 billion</td>
<td>124 billion</td>
<td>253 billion</td>
</tr>
<tr>
<td>South Africa</td>
<td>5 billion</td>
<td>56 billion</td>
<td>61 billion</td>
</tr>
<tr>
<td>Korea</td>
<td>65 billion</td>
<td>97 billion</td>
<td>162 billion</td>
</tr>
<tr>
<td>Turkey</td>
<td>59 billion</td>
<td>93 billion</td>
<td>152 billion</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>19 billion</td>
<td>55 billion</td>
<td>74 billion</td>
</tr>
<tr>
<td>United States</td>
<td>3 billion</td>
<td>754 billion</td>
<td>757 billion</td>
</tr>
<tr>
<td>Jamaica</td>
<td>0 billion</td>
<td>1 billion</td>
<td>1 billion</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>0 billion</td>
<td>2 billion</td>
<td>2 billion</td>
</tr>
<tr>
<td>Vietnam</td>
<td>7 billion</td>
<td>50 billion</td>
<td>56 billion</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>4 billion</td>
<td>4 billion</td>
<td>8 billion</td>
</tr>
<tr>
<td>Iran</td>
<td>63 billion</td>
<td>100 billion</td>
<td>163 billion</td>
</tr>
<tr>
<td>Morocco</td>
<td>1 billion</td>
<td>13 billion</td>
<td>14 billion</td>
</tr>
</tbody>
</table>
Repurposing Government Subsidies

Quick Summary: Clean air, land, and oceans are critical for human health and nutrition and underpin much of the world’s economy. Yet they suffer from degradation, poor management, and overuse due to government subsidies. Repurposing these subsidies (while ensuring the protection of vulnerable groups) will have an enormous positive impact on ours’ and our planet’s health.

Full text: A report from the World Bank has found that explicit and implicit subsidies for fossil fuels, agriculture, and fisheries exceeds $7 trillion USD, which is around 8% of global GDP. Explicit subsidies - direct government expenditures - in these sectors totals about $1.25 trillion (around the size of a big economy such as Mexico), while implicit subsidies – a measure of these industries’ unregulated negative impacts on people and the planet - amount to over $6 trillion a year, with the burden falling mostly on the poor.

Agriculture subsidies are responsible for the loss of 2.2 million hectares of forest per year - or 14% of global deforestation. Fossil fuel usage— incentivized by subsidies—is a key driver of the 7 million premature deaths each year due to air pollution. Fisheries subsidies, which exceed $35 billion each year, play a huge role in dwindling fish stocks, oversized fishing fleets, and falling profitability.

These subsidies do not achieve their intended economic or social purposes. Indeed, they increase the incentives to exploit natural capital (our earth, air, and oceans) unsustainably, leading to a wide range of externalities with enormous costs which dwarf any short-term benefits. Annually, countries spend six times more on subsidizing fossil fuel consumption than their commitments made under the Paris Agreement to tackle climate change. Redirecting these subsidies can unlock significant funds for sustainable purposes.

At the same time, it is crucial to keep in mind the likely impacts of subsidy removal on different groups—in particular, low-income households and other disadvantaged groups. In the case of energy subsidies for example, wealthier households net a far larger benefit from them, but poorer households rely far more on their relatively low share.

To protect vulnerable groups during subsidy reforms, the World Bank report recommends compensating those who may suffer the most using measures like direct cash transfers. Examples from the Middle East and North Africa show that cash transfers and in-kind assistance were successful in mitigating the impacts on the poor during energy subsidy reforms.

In an era when public coffers are empty and debts are reaching unsustainable levels, countries must reevaluate their spending programs and repurpose subsidies that are ineffective, inefficient, or counterproductive. Citizens’ Climate Lobby Canada is calling on the government of Canada to repurpose these subsidies and direct their funds instead towards sustainability, lifting Canadians out of poverty, and paying our fair share towards improving the lives of our larger global family.
Carbon Capture and Sequestration is Risky Business

Building new fossil fuel infrastructure on the premise that Carbon Capture and Sequestration (CCS) will be able to sink emissions would be disastrous for the climate, energy costs, and our financial system.

On September 7, 2023, the International Institute for Sustainable Development (IISD) published a report titled: Why the Cost of Carbon Capture (CCS) and Storage Remains Persistently High. The authors concluded that the costs of CCS for oil and gas are high and unlikely to fall significantly. This is because the technology is too complex, it requires too much customization with each application, and it is unlikely that it will capture the benefits of mass manufacturing in the way technologies such as solar PV have. This makes CCS an inefficient and risky investment for public funds. Governments should instead be supporting the transition to affordable, accessible renewable energy.

Canada, Climate Change and the muddled “Moveable Middle”

Key take-home points from a March 2021 presentation on Canadians opinions on the climate crisis from Climate Access were:

- Most Canadians agree global warming is a crisis
- But 89% think we’re average or better than most countries
- Most Canadians can’t name a climate policy
- Sadly, less than 50% of Canadians can correctly name a GHG too
- Happily, most Canadians saw the COVID crisis as a good time to act
- Importantly, most (45%) supporters fall into a muddled “moveable middle” and we should consider them the most when communicating

Although most Canadians recognize that we are in a crisis, public support is not reliable. The moveable middle is an important target audience.

How would you reach the moveable middle to help them better understand carbon pricing? Think of somebody you know that is in this population segment. How might you talk to them to move them from concerned to alarmed and armed with realistic ideas about specifically carbon pricing?

Resource:
https://mcusercontent.com/b875f28558b977d816bd49362/files/55464a6f-ba77-4f2a-ae83-c57ecf129216/Public_Opinion_Rollup_Webinar_March_10_2021_1_.pdf
The UN Report: Integrity Matters

At COP 27 in Egypt the UN High-Level Expert Group on net-zero commitments (HLEG) launched its report Integrity matters: Net zero commitments by businesses, financial institutions, cities and regions. The goal of the group was to develop stronger and clearer standards for net-zero emissions pledges by non-State entities. The group was led by the Honourable Catherine McKenna, Canada’s former Minister for the Environment and Climate Change.

Secretary-General António Guterres said: “A growing number of governments and non-state actors are pledging to be carbon-free and obviously that’s good news. The problem is that the criteria and benchmarks for these net-zero commitments have varying levels of rigour and loopholes wide enough to drive a diesel truck through. We must have zero tolerance for net-zero greenwashing.”

The Integrity Matters resource aims to develop stronger and clearer standards for net-zero emissions pledges by non-state entities and speed up their implementation. The report provides clarity in four key areas – environmental integrity, credibility, accountability and the role of governments. The report is organized under five principles and ten recommendations.

Five principles:

1. Ambition which delivers significant near— and medium —term emissions reductions on a path to global net zero carbon dioxide emissions by 2050 and net zero greenhouse gas emissions soon after
2. Demonstrated integrity by aligning commitments with actions and investments
3. Radical transparency in sharing relevant, non-competitive, comparable data on plans and progress
4. Established credibility through plans based in science and third-party accountability
5. Demonstrable commitment to both equity and justice in all actions

Ten Recommendations:

1. Announcing a Net Zero Pledge
2. Setting Net Zero Targets
3. Using Voluntary Credits
4. Creating a Transition Plan
5. Phasing out of Fossil Fuels and Scaling Up Renewable Energy
6. Aligning Lobbying and Advocacy
7. People and Nature in the Just Transition
8. Increasing Transparency and Accountability
9. Investing in Just Transitions
10. Accelerating the Road to Regulation

IN A NUTSHELL

- Technologies must come as advertised
- There are limits on the use of carbon offsets
- No new fossil fuel infrastructure
- Plan for unwinding from fossil fuels
- No being aligned with groups that lobby for fossil fuels
- Investments must be made in a just-transition.
Canada, Carbon Pricing and Agriculture

Farmers and governments are at the beginning of a multi-decade undertaking during which pressure for ever-larger greenhouse gas emissions cuts will intensify, with each round of reductions more challenging than the one before. This feat needs to be achieved on top of a farm crisis in Canada [1]. Both the climate and the farm crises have the same causes and largely the same solutions: reduce dependence on high-emission petro-industrial farm inputs and rely more on ecological cycles, energy from the sun and the knowledge and wisdom of farm families.

The federal carbon price already features an exemption for gasoline and light fuel oil costs used in tractors and trailers. [2] As well, the federal government is spending $37.1 million on 99 grain drying projects as part of its $495.7 million Agricultural Clean Technology program. [3]

In March 2021, the Minister of Agriculture and Agri-Food, announced an investment of $185 million over the next 10 years for the new Agricultural Climate Solutions (ACS) program. [4] In August 2021, the Minister also announced the On-Farm Climate Action Fund, a new fund under Agricultural Climate Solutions. From 2021 to 2024, a $200-million Fund is providing direct support to farmers to adopt beneficial management practices that store carbon and reduce greenhouse gas (GHG) emissions in three target areas: cover cropping, nitrogen management, and rotational grazing practices. [5]

In June 2022, Canada launched a Greenhouse Gas Credit Program, which farmers can participate in [6]. As demand for clean energy rises with a price on carbon, there will be an economic opportunity for many farmers and ranchers. Farmers could lease land for wind and solar projects.[6]

It should be noted in a report by the Pacific Institute for Climate Solutions that British Columbia’s carbon tax did not appear to have had a measurable impact on international agricultural trade[7]. Currently, what is unclear to us at Citizens’ Climate Lobby Canada is how exactly carbon rebating works for farmers. It is logical to assume rebates to farmers should buffer consumers but we need the data to confirm this assumption.

We need to listen closely to farmers. They have the knowledge for building climate resilience. During COVID farmers For Climate Solutions put forth recommendations on how to help farmers during COVID with a three “E” focus of economics, equity and emissions in mind [8]. The Canadian government has created a Sustainable Agriculture Strategy [9] and farmers are part of the advisory committee [10].

[3]”Agricultural Clean Technology Program - Adoption Stream: Step 1. What this program offers”
[5] “Helping farmers to reduce GHGs and improve resiliency to climate change”
Does Canada’s carbon tax impact the price of food?

**Quick Summary:** The carbon tax has a marginal inflationary impact on the price of food, between a 0.21% and 0.15% increase a year at current estimates (An additional 21 cents - 15 cents on a $100 grocery bill). These impacts are almost universally offset by the carbon tax rebates which all families within the federal system receive.

**Full text:** With rising grocery prices, the carbon tax’s impact on food and inflation has become a contentious subject within political circles. Since late 2021, Statistics Canada has measured the yearly price increase of food on store shelves as over 10%, the fastest inflation rate since 1981. With these worrying numbers, Canadians are rightfully concerned about affordability, especially for low-income and disadvantaged groups. But is their concern being aimed in the right direction?

In September 2023, the Bank of Canada provided some clarity on the subject. Tiff Macklem (the governor of the Bank of Canada) confirmed that the direct impacts of carbon pricing (meaning the impacts on the price of natural gas, gasoline, and other fossil fuels) accounted for only 0.15% of the inflation we’ve been experiencing.

This has not fully satisfied critics who have gone on to ask about the indirect impacts of the tax; impacts such as the cost of the fossil fuels used in the production of food, the transportation of food, and the storage of food. In response, and after further analysis of numbers provided by Stats Canada, Trevor Tombe - a University of Calgary economist - has calculated that the direct and indirect impacts of the carbon tax would only affect inflating prices by 0.207%.

Trevor Tombe is quoted as saying: “It’s correct for supporters of [the carbon tax] to note that it’s not a driver of inflation.” Despite the fact that it may raise costs marginally, it is also important to note that unlike any number of other federal and provincial policies that might be said to contribute to the cost of food — from corporate taxes to food safety regulations — the federal carbon tax comes with a rebate which has been consistently found to offset all additional costs for the bottom-earning 80% of households.

If you’re interested in roughly calculating the estimated impacts of the carbon tax on the price of food yourself, feel free to use the simple formula below along with the “Emissions Across the Supply Chain” graph from Our World In Data to reveal those figures.

1. **Take the “total emission” number on the right of any one of the food product rows below.**
   This number shows the kilograms of CO₂ emissions released for each kilogram of product consumed.

2. **Take note of the carbon tax’s yearly increase rate.**
   Each year, the carbon tax rises by $15 per tonne of emissions.
   Since 1 tonne equals roughly 1000 kilograms, this means the carbon tax rises by an additional $15 per 15,240 kilograms of emissions each year.
3. **Calculate what percentage the “total emissions” of the product you’ve chosen equal to.**  
   
   \[
   \text{Percentage} = \left( \frac{\text{Product’s Total Emissions Number in kg}}{15,240 \text{ kg}} \right) \times 100\%
   \]
   
   For example, in the case of 1 kg of beef below, 60 kg’s worth of emissions equals 0.39% of the 15,240 kg figure.

4. **Using the percentage from step 3, calculate the yearly increase price for that product.**  
   
   \[
   \text{Yearly Increase Price} = (15 \text{ / } 100\%) \times (\text{Percentage of total emissions from step 3})
   \]
   
   For beef, this is an increase of an additional 5 cents per kilogram of product each year.

---

**FOOD / Greenhouse gas emissions across the supply chain**

There is a vast difference in greenhouse gases (GHG) that are produced across various food types.

- **Land Use Change**
  - Aboveground changes in biomass from deforestation, and below ground changes in soil carbon
- **Farm**
  - Methane emissions from cows, methane from rice, emissions from fertilizer, manure, and farm machinery
- **Animal Feed**
  - On farm emissions from crop production and its processing into feed for livestock
- **Processing**
  - Emissions from energy use in the process of converting raw agricultural products into food items
- **Transport**
  - Emissions from energy use in the transport of food items in-country and internationally
- **Retail**
  - Emissions from energy use in refrigeration and other retail processes
- **Packaging**
  - Emissions from the production of packaging materials, material transport and end-of-life disposal

### GHG emissions per kilogram of food product (kg CO2-equivalents per kg product)

<table>
<thead>
<tr>
<th>Food Item</th>
<th>Emissions (kg CO2-eq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef (beef herd)</td>
<td>24.0</td>
</tr>
<tr>
<td>Lamb and mutton</td>
<td>21.0</td>
</tr>
<tr>
<td>Cheese</td>
<td>19.0</td>
</tr>
<tr>
<td>Beef (dairy herd)</td>
<td>17.0</td>
</tr>
<tr>
<td>Chocolate</td>
<td>12.0</td>
</tr>
<tr>
<td>Coffee</td>
<td>8.0</td>
</tr>
<tr>
<td>Prawns (farmed)</td>
<td>6.0</td>
</tr>
<tr>
<td>Palm oil</td>
<td>5.0</td>
</tr>
<tr>
<td>Pig meat</td>
<td>4.5</td>
</tr>
<tr>
<td>Poultry meat</td>
<td>4.0</td>
</tr>
<tr>
<td>Olive oil</td>
<td>3.0</td>
</tr>
<tr>
<td>Fish (farmed)</td>
<td>3.0</td>
</tr>
<tr>
<td>Eggs</td>
<td>3.0</td>
</tr>
<tr>
<td>Fish (wild catch)</td>
<td>2.5</td>
</tr>
<tr>
<td>Milk</td>
<td>1.4</td>
</tr>
<tr>
<td>Cane sugar</td>
<td>1.4</td>
</tr>
<tr>
<td>Groundnuts</td>
<td>1.0</td>
</tr>
<tr>
<td>Wheat and rye</td>
<td>1.0</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>1.0</td>
</tr>
<tr>
<td>Maize (corn)</td>
<td>0.9</td>
</tr>
<tr>
<td>Cassava</td>
<td>0.7</td>
</tr>
<tr>
<td>Soy milk</td>
<td>0.4</td>
</tr>
<tr>
<td>Peas</td>
<td>0.4</td>
</tr>
<tr>
<td>Bananas</td>
<td>0.3</td>
</tr>
<tr>
<td>Root vegetables</td>
<td>0.3</td>
</tr>
<tr>
<td>Apples</td>
<td>0.3</td>
</tr>
<tr>
<td>Citrus fruits</td>
<td>0.3</td>
</tr>
</tbody>
</table>

**Note:** Greenhouse gas emissions are given as global average values based on data across 28,700 commercially viable farms in 193 countries.  