HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Environment and Sustainable Development

ENVI • NUMBER 140 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Wednesday, January 30, 2019

Chair

Mr. John Aldag

Standing Committee on Environment and Sustainable Development

Wednesday, January 30, 2019

● (1535)

[*English*]

The Chair (Mr. John Aldag (Cloverdale—Langley City, Lib.)): Good afternoon, everyone.

Welcome, witnesses. We're sorry that we're a couple of minutes late getting started here. We're still finding the way over from our new quarters in West Block, or more importantly how to get out of West Block to get to our committee. Thank you for bearing with us.

We're continuing the study on international leadership. It comes under the pan-Canadian framework on climate change. Today we're going to continue doing that, looking at the price on pollution, or as others sometimes refer to it, the carbon tax.

The way we tend to work the meeting is that each of the organizations will be given 10 minutes to provide opening comments. When we get to the last minute, I'll hold up the yellow card, which means there's one minute left, and then the red card means your time is up. You don't have to end mid-sentence but wind up your thoughts at that point. After we have heard opening statements from everyone, we'll go to a set of questions back and forth between the members and the witnesses. Each member will have six minutes. It's really up to the members to manage their time but I will give the one-minute warning mostly to let the members know that's where they are with their time, and then whoever is talking when the time is up, just wind up your thoughts and then we'll go to the next round of questions.

I would like to welcome you back to the table, Mr. Sopuck. It's been a while since we've seen you here.

Mr. Robert Sopuck (Dauphin—Swan River—Neepawa, CPC): It's great to be here.

The Chair: You've been a very important part of our committee over the last while, so it's good to see you again.

Mr. Robert Sopuck: You're far too kind.

The Chair: With that, perhaps we can go straight to the Canadian Fuels Association.

Mr. Boag, if you're ready, we'll turn it over to you for 10 minutes.

Mr. Peter Boag (President and Chief Executive Officer, Canadian Fuels Association): Good afternoon, Mr. Chairman, ladies and gentlemen. Thank you very much for inviting us to appear before your committee today.

My name is Peter Boag, and I am the president of the Canadian Fuels Association. With me is my colleague Carol Montreuil, who is the vice-president of our eastern Canada division and our policy leader on the carbon pricing file.

The Canadian Fuels Association represents the industry that produces, distributes and markets petroleum products in Canada. It comprises nearly 95% of the transportation fuels that keep people and goods moving in our country.

Our members also produce asphalt, heating fuels and feedstocks for manufacturing facilities. We're strongly integrated with the petrochemical industry, for example. In short, our products support every sector of our economy, and our members comprise an important component of Canada's critical energy infrastructure.

While the fuel mix is changing, independent forecasts, including those from our own National Energy Board, show that demand for our products will remain relatively constant through 2040 at least.

You've asked for our perspectives on carbon pricing. We're pleased to do that today, both from a general perspective and, more specifically, with respect to the current federal carbon pricing proposal.

We support carbon pricing policies that adhere to the following six design principles: one, clarity and predictability; two, transparency; three, challenging but feasible targets; four, equity, and from our perspective that means no one jurisdiction, sector or entity is assigned a disproportionate burden; five, cost-effective outcomes supported by sound evidence; and six, economic and environmental performance balance.

Through that lens and those principles, we offer the following perspectives on the proposed output-based performance standard component of the federal carbon pricing backstop which will require industrial facilities, with a very few exceptions, to reduce their emissions to 80% of their current sector average, or pay a carbon tax on emissions above that benchmark. That is commencing January of this year. In other words, it's an emissions cap for industrial facilities that's 20% below the current sector average.

Let's start with the principle of challenging but feasible targets. For Canada's refining sector, the 80% benchmark corresponds to an emissions performance that even the best performing refineries in the world would struggle to achieve. This is illustrated on the first chart of the handout you have that shows the emissions performance of Canada's 16 full fuel refineries.

Refineries with the best GHG emission performance, the ones with the lowest carbon emission intensity numbers, are on the left side of the green curve. The green dot is the refining sector average. The red line at the bottom is the 80% benchmark set by the federal proposal.

The chart really tells us, and very simply, that the 80% benchmark has not been achieved and is likely unachievable, at least for the foreseeable future, by even the top performing Canadian refineries. The situation would be the same for more than 90% of the 200 refineries in all of the OECD countries.

This leaves the six Canadian refineries that currently would fall under the federal backstop really with no option but to pay their way out. They really don't have emission reduction opportunities of that magnitude to achieve that level of emissions intensity performance. Perversely, setting those infeasible targets will divert investment away to pay a carbon tax, and away from process and technology improvements that would actually reduce emissions.

This brings me to our next principle, and that's equity. The following chart, on page 4, compares the compliance costs through to 2022 for an average-sized refinery operating in a backstop jurisdiction versus refineries operating in other jurisdictions with their own carbon pricing programs, such as Quebec, the EU, or California, or with no programs at all, which really is virtually every other jurisdiction in the United States.

The cumulative cost for an average refinery in a backstop jurisdiction, as seen in that chart, is about $100 million over that compliance period ending in 2022. That's more than three times the carbon cost burden in any of those other jurisdictions. For refiners operating in New Brunswick and Ontario, that will come under the backstop, their carbon costs are four times those paid by or experienced by or encumbered by Quebec refiners under Quebec's cap-and-trade program.

● (1540)

This inequitable patchwork is compounded because refineries in these jurisdictions, perhaps with the exception of California, all compete in the same market. They supply fuels and they compete against each other throughout the eastern or Atlantic basin.

These market-distorting impacts raise significant concerns for us about our final principle: the need to balance economic and environmental performance. The risk is that, by imposing inequitable carbon costs on Canadian refineries, they become uncompetitive and vulnerable to closure. On this point, a 2017 study we commissioned by independent consultants Baker and O'Brien found that up to seven Canadian refineries, mostly those in eastern Canada, are at risk of closure, with disparate carbon costs a major factor in that risk.

It's really a classic case of what we call—and I'm sure you know—carbon leakage, where carbon costs in one jurisdiction cause energy-intensive, trade-exposed businesses, like refining, to lose out to competitors in other jurisdictions where carbon costs either don't exist or are lower than in their current location. Really, the upshot of that is that closing Canadian refineries erodes the economic benefits to Canada from our refining sector and simply shifts emissions to another jurisdiction. The economic benefits leak away and the emissions leak away to somewhere else. They're still happening; it's just somewhere else.

By doing that, it also makes us more reliant on fuel imports and potentially undermines the security of our fuel supply.

Reducing economic activity and simply shifting emissions to another jurisdiction is, from our perspective, clearly not achieving balance in economic and environmental performance.

In conclusion, let me say that we're not opposed to carbon pricing as a GHG emissions reduction policy. We support any well-designed carbon pricing mechanism that embodies our six principles. On the positive side, carbon pricing offers transparency and economists are generally unanimous that well-designed carbon pricing systems drive to the most cost-effective emissions reduction opportunities. But successful carbon policies, pricing or otherwise, need to respect other principles.

From the perspective of the principles of feasible targets, equity and balanced economic and environmental performance, the federal pricing backstop proposal in its current form does not pass the test.

Mr. Chair, I'll leave my remarks at that. Thank you for your attention. We look forward to your questions.

● (1545)

The Chair: Excellent. Thank you.

We'll move next to Joanna Kyriazis from Clean Energy Canada.

You have 10 minutes.

Ms. Joanna Kyriazis (Senior Policy Advisor, Clean Energy Canada): Good afternoon, Mr. Chair, and members of the committee.

My name is Joanna Kyriazis, and I am a senior policy adviser for Clean Energy Canada, a climate and clean-energy think tank at Simon Fraser University. I am based here in Ottawa.

I'd like to spend my time with the committee today covering four points: the costs of climate inaction, carbon pricing as a key tool, the clean-energy opportunity, and why Canada needs a plan.

We spend a lot of time talking about the potential costs of carbon pricing and climate action. However, what about the cost of delay, or failing to act altogether? This is where I'd like to start today.

The fact is, climate change is already costing Canadians. Last year was another record-breaking year for damages caused by extreme weather events, at $1.9 billion in insured losses.

In July, a major heat wave swept central Canada, contributing to up to 93 deaths in Quebec. The elderly and those who had no access to air conditioning were the most vulnerable. Summer storms across the Prairies caused more than $240 million in damage. In August, heavy rains fell on downtown Toronto in a storm so strong, we are only supposed to see one like it once every 100 years. Union Station, a central transit hub, was flooded, and Bay Street business towers lost power. The event cost more than $80 million. That same month, wildfires blazed out west, causing British Columbia to declare a province-wide state of emergency for the second year in a row. Tens of thousands of people were evacuated from their homes.

Of course, each of these events has knock-on effects in other areas of the economy, whether it's damage to our tourism sector, disruption of our financial centres or increased health care costs due to more frequent visits to the hospital from smoke inhalation.

Homeowners are also getting hit. The average cost of fixing a flooded basement in Canada, for those who are unfortunate enough to be subjected to one of these events, is $43,000, and that's not to mention the missed days from work and the long-lasting psychological impacts this sort of event can cause.

Intact Financial, one of Canada's largest property insurers, is reported to have raised premiums by as much as 15% to 20% in response to increasing costs of weather-related damage. The Insurance Bureau of Canada estimates that up to 10% of Canadian properties may soon be too high risk to be insurable.

These are not costs we might incur in the future. They're not numbers being spit out by models. This is the price we are already paying, and these events are expected to increase in frequency and intensity with climate change. This is the price of inaction, and it is steep.

Luckily, we have solutions to protect Canadians and reduce costs to our economy. One of these solutions is carbon pricing. This is my second point.

As this committee has heard at length, carbon pricing works. Economists widely agree that carbon pricing is the single most effective way to cut carbon pollution. There are now 46 national jurisdictions and 24 subnational jurisdictions that either have a carbon pricing system in place or soon will.

Carbon pricing also has a proven track record internationally and at home. We need look no further than B.C. for evidence that a carbon tax works. Also, carbon pricing reduces emissions while supporting strong economic growth. The four provinces with carbon pricing systems in place last year, B.C., Alberta, Ontario and Quebec, led Canada in GDP growth in 2017.

● (1550)

Carbon pricing also drives growth in clean-tech and clean-energy sectors. It works by sending a market signal that directly impacts behaviour by rewarding those who make choices that reduce carbon pollution. What's more, it allows flexibility for businesses and consumers to choose how they'd like to reduce their emissions. They can either pay the carbon price or they can invest in clean solutions: heat pumps, energy storage, renewable natural gas or energy efficiency. By incentivizing these solutions, Canada is helping to grow its clean-tech industry, the global market for which is now estimated to be worth more than $5.8 trillion and growing. That is bigger than Japan's GDP, the third-largest economy in the world.

This brings me to my third point. The clean economy is a big opportunity for Canada, and Canadian companies are already emerging as clean-energy leaders. The global Cleantech 100 came out this week. This is a list that features the most promising clean-tech companies in the world. Guess what? Twelve of the companies on the list are Canadian.

Here are two other examples of what Canada stands to gain in the clean-energy transition. The first example is Corvus Energy. Corvus is a Canadian company that builds batteries for electric ferries. When Norway put out a call for more energy-efficient ferries, Corvus was part of the winning bid to supply batteries and charging stations for the world's first electric ferry. Norway's ferry operators have reported a cut in emissions of a whopping 95%, while operating costs also dropped by 80%. Corvus's success continues to boom, as it now provides battery power to hybrid and all-electric ferries around the world.

Another example is Canada's mining sector. Canada is home to 14 of the 19 metals and minerals needed for solar panels. We also have rich deposits of silver, nickel, copper and lithium used in wind turbines and battery technologies. Canada can claim some of the world's largest mining companies; think Barrick Gold and Teck Resources. For firms like these, growth in clean-energy technology represents a significant opportunity. Carbon pricing and other climate policies can help accelerate this transition and ensure that Canadian companies have a leg up as the world moves in this direction.

The final point I'd like to emphasize to the committee is that a do-nothing approach is not an option. Every year the World Economic Forum releases its global risks report where it ranks the world's top risks in terms of likelihood and impact. This year's report, which was just released, found that the failure to tackle climate change and extreme weather events are the most threatening global risks this year—not cybersecurity, not terrorism, not political instability, but climate change.

My question is, what are we waiting for? We need to act now. The solutions are there. It would be a shame to leave the most effective tool that we have to address this problem on the table.

Thank you for the invitation to speak today. I look forward to your questions.

The Chair: That was excellent. Thank you for those comments.

We'll now move to the National Airlines Council of Canada. We have Massimo Bergamini and Geoffrey Tauvette as our presenters.

Gentlemen, you have 10 minutes.

Mr. Massimo Bergamini (President and Chief Executive Officer, National Airlines Council of Canada): Good afternoon, Chairman and members of the committee.

[*Translation*]

My name is Massimo Bergamini and I am the President and Chief Executive Officer of the National Airlines Council of Canada. With me today are Geoffrey Tauvette, who is the Director, Fuel and Development, with Westjet, as well as the co-chair of our association's environment committee.

The National Airlines Council of Canada was established in 2008 and still represents Canada's four main airlines: Air Canada, Air Transat, Westjet and Jazz Aviation.

[*English*]

Today in Canada, commercial aviation has become the only practical way for millions to travel to be with family, for work, to access basic necessities, or simply to explore our vast country.

● (1555)

The era of elite jetsetters is long past. The 2016 Canada Transportation Act review, also known as the Emerson report, recognized this in its detailed aviation chapter.

The Emerson report also recognized how mounting fees and charges risked making our industry uncompetitive, particularly vis-à-vis U.S. carriers operating in contiguous markets.

Two years later, not only has there been no progress in bringing down government-imposed costs, but a number of recent federal initiatives will drive up the cost of domestic air travel and cause more Canadians to buy American.

This brings us to the question before us today. How do we align the fundamental role played by commercial air travel in the lives of Canadians with the global imperative to curb carbon emissions?

This debate has been framed by some as a kind of Hobson's choice between two seemingly virtuous but contradictory propositions: putting a price on pollution and stopping a job-killing carbon tax. We reject that characterization.

The National Airlines Council of Canada fully supports putting a price on carbon—or as some prefer, a price on pollution—including on carbon emissions from commercial aviation.

Mr. Geoffrey Tauvette (Director, Fuel and Environment, WestJet, Environment Committee, National Airlines Council of Canada): Our member air carriers have been leading the way in reducing carbon emissions for years. Not only is it a sustainable practice but it's also a way for us to hedge our costs going forward.

We still believe that market-based mechanisms should be the centrepiece of every carbon reduction strategy and that a carbon tax is simply the wrong policy for aviation for a number of reasons that Massimo will go into a little later.

A market-based policy should spur innovation, inform consumer choice and reduce emissions. The federal government's proposed carbon tax on aviation emissions will make air travel more expensive for Canadians and really will do nothing to help us reduce our emissions. Let's look at why.

Fuel typically represents the largest variable cost for airlines, often as much as 30% of our operating costs. I know this all too well, as I get to buy the fuel for my company. The volatility in the fuel prices and the supply challenges that we meet are great, especially in Canada where we have to import about 40% of our fuel. Our industry is also saddled with some of the highest government-imposed costs in the world. Reducing fuel consumption has become a question of survival.

Between 2008 and 2016, Canadian aviation has improved its fuel efficiency by more than 16%. Really, most of that comes from the investment in the new fleet in aircraft that we have put into operation. Alone, the four member airlines of NACC—Air Canada, WestJet, Air Transat and Jazz—will have spent $35 billion in fleet upgrades between 2012 and 2027.

There has been a massive investment that the aviation sector, including the airports and air traffic control, has made in terms of ensuring that we operate in a fuel-efficient way, such as through technologies on the aircraft, such as navigation procedures, NAV Canada having one of the best systems in the world and the airports building new infrastructure that's LEED and energy efficient. These have been measured and tracked in reports that we have worked on with Transport Canada since 2005. In fact, we have been voluntarily working with Transport Canada in terms of reducing our emissions and reporting on these on an annual basis.

We are a global business. Unfortunately, our technology is mature. For example, the latest equipment that we have introduced—the 737 MAX from Boeing and the 787s—are 15% and 20% more fuel efficient than the older aircraft that we were replacing, and these are best in class. This means that a carbon tax will simply not incentivize us to get further fuel savings and will do nothing further to help us cut and reduce our emissions.

Mr. Massimo Bergamini: We have said repeatedly that as a market-based measure, the carbon tax is not well suited to commercial aviation in general and is particularly ill-suited in the Canadian context. We believe it would exacerbate commercial and emission leakage, curb growth in the visitor economy, and as it is currently slated to be rolled out, would cause significant market distortions.

That is why we urge the government to adopt a carbon offset system for domestic air travel that would align with the international model.

For us, these are not theoretical considerations. Allow me to illustrate with one example taken from a study we released earlier today that breaks down the cost of a carbon tax on air travel for Canadian families, as well as some of its impacts on our economy.

First, with a carbon tax on air travel, a family of four travelling to visit grandparents in B.C. from Ottawa would see the cost of a non-stop flight from Ottawa to Vancouver increase by $150 in 2022, almost $300 by 2026, and almost $400 by 2030. If they were unable to fly non-stop and had to connect through Toronto Pearson, the federal carbon tax on air travel would add $200 to the cost of their flight in 2020, $350 in 2026, and almost $500 by 2030.

By way of context, under the federal plan, that Ontario family—that same family—would be entitled to a $718 carbon tax rebate in 2022, meaning that 28% of that family's annual carbon tax allowance would be spent to offset the cost of one flight to visit grandparents in British Columbia.

According to our study, by 2030, a domestic carbon tax on air travel would add over $800 million to the cost of air travel in Canada. It's easy to appreciate the dampening effect this would have on a domestic tourism sector which, according to a recent study by Destination Canada, already struggles because of the high cost of air travel.

We want to propose an alternative flight plan to achieving clean growth in air travel.

First, it involves recognizing the cumulative effect on our industry, on our economy, and on Canadian families and communities of what Transport Minister Garneau calls the panoply of taxes and fees. From our perspective, a tax is a tax is a tax. It is an economic instrument, a tool that must be used wisely and effectively. Adding the word “carbon” to the word “tax” does not transmogrify it into something different or make it somehow inherently virtuous.

A carbon pricing plan for Canadian aviation must be pragmatic and reflect the particular economic circumstances of our sector and of the role it plays in Canada today, and the role it will play in Canada tomorrow.

Second, domestic policy must be aligned with the international consensus on carbon pricing as reflected in the 2016 CORSIA agreement.

Finally, it involves recognizing the breakthrough potential of commercially available biojet in contributing to decarbonization of air travel. If we're going to have a real breakthrough, given the maturity of our sector, it will be through the introduction of commercially available alternative low-carbon fuel.

Commercialization of biojet, unfortunately, has proceeded at a pace that is at odds with its potential breakthrough impact on our sector's carbon footprint. With demand for air travel projected to double over the next 20 years and a global imperative to reduce carbon emissions from all sectors, reducing our industry's global carbon footprint will require the development of a commercially viable supply of biojet. Yet the government's current approach seems more focused on achieving paper results than on addressing the challenges and embracing the opportunities that a biojet advantage mentality could create for Canada.

Canada would have an important natural advantage if it were to embrace a leadership role in biojet and biofuel development. It has sustainable feedstock, commercially available production technology, and an engaged and committed airline industry. Unfortunately, what appears to be missing is political will at this time.

To some, the backstop carbon tax is slated to come into effect on April 1. When it comes to air travel, there is still time for Canada to choose a better way forward. There is still time for an alternative that puts a price on pollution, produces real carbon emission reductions, incentivizes commercialization of low-carbon fuels, and achieves this without putting air travel out of reach for many Canadians.

Thank you.

● (1600)

The Chair: That's perfect timing. Thank you.

Finally we'll hear from Mr. Todd Myers of the Washington Policy Center.

Mr. Todd Myers (Environmental Director, Washington Policy Center): Good afternoon, and thank you, Mr. Chair.

My name is Todd Myers. I'm the environmental director of the Washington Policy Center. For the past two decades, I've worked on environmental policy at the Washington State Department of Natural Resources, where we dealt with forestry, and then as an energy and environmental analyst at the Washington Policy Center.

Washington state's history over the last decade can be instructional regarding the politics and economics of carbon policy.

It's clear that increased levels of CO2 trap heat in the atmosphere and over time increase temperatures, even if there is debate about the level of impact. The challenge for policy-makers is how to make effective climate policy when there is scientific uncertainty while dealing with the political and economic risk of those policies. I've sat on both sides—as an analyst and in government—in trying to deal with these policies.

Bad policies can induce political backlash. Ill-considered policies waste money on efforts that are ineffective, squandering time and opportunity to address climate change.

Washington state's climate policy has faced all of these challenges, and legislators and the voters have repeatedly rejected carbon taxes, despite polling that shows people supporting reducing CO2 emissions.

In 2016, Washington state voters rejected a revenue-neutral carbon tax, initiative 732, which would have put a price on CO2 of $25 U.S. per metric ton, while reducing sales and business taxes. It failed by a wide margin of 59% to 41%.

Last year, voters rejected initiative 1631, which was a $15 per metric ton carbon tax that increased annually. The revenues would have been spent on a wide range of efforts to reduce CO2 emissions and fund social justice efforts. Despite having the support of our governor, it also failed, at 57% to 43%.

Legislators in Washington have also been reluctant to pass carbon taxes for obvious reasons. No carbon tax policy has even received a vote on the floor in Washington state's legislature in the last eight years, despite the fact that Democrats controlled the state House, or the House and Senate during that entire period of time.

Polling data and discussions with people across Washington state identify a few reasons why they have rejected the taxes, even in an environmentally conscious and wealthy state like Washington.

First, there is evidence that Dr. Roger Pielke Jr.'s “iron law” of climate change is in effect. People are willing to pay some price for the environment, but it has limits. During the campaign for last year's carbon tax, we created a simple online calculator that allowed people to estimate their first-year costs of the tax.

One call I received was emblematic of the polling results after the initiative failed. The man on the phone asked if I had created the calculator and asked me to walk him through it. When he realized the cost, he said, “Holy cow, I was going to vote for this.” He was willing to spend something, but it had its limits.

This is reflected in a recent survey by the Energy Policy Institute at the University of Chicago. Their research of 1,202 Americans last year found that many were willing to pay $1 a month more on their electricity bills to fight climate change, but when the cost went to $10 a month, support fell from 57% down to 18%.

Also, voters don't trust government to spend money wisely and they worry that promises won't be kept. I was generally supportive of the revenue-neutral carbon tax in Washington state and I voted for it, but when I spoke with others, pointing out that many of the households would see their tax bill decline under the initiative, the common answer from people was that they simply didn't believe the bargain would hold. People worried that other taxes would subsequently be increased, leaving everybody with higher taxes in the end.

Even good policy can be undermined by fears that when the other shoe drops, people will be left with a policy they oppose. After two decades in environmental policy, I have to say that I sympathize with this concern.

Finally, as has been discussed, not everyone can adjust to carbon prices. This manifests itself in two ways.

The first, as mentioned, was leakage. I won't talk more about that other than to say that we see this in the United States with the regional greenhouse gas initiative, where they have a cap-and-trade system, and whereas although United States manufacturing jobs have actually increased over the last several years, in the northeast where the cap-and-trade system exists, they have gone down. Essentially what they have done is outsourced manufacturing and then traded those products back in.

Second, it also applies to families for whom alternatives are costly or unavailable. For those who see no path to avoid the taxes, a carbon price doesn't mean helping the environment. It simply means more taxes.

These challenges, amongst others, add up to a consistent rejection of carbon taxes in Washington state and may help explain some of what occurred last year in Ontario.

Policy-makers also face the difficulty of creating policies that are economically sound and environmentally effective.

One challenge of a carbon tax is how to set the appropriate price. Yale professor Bill Nordhaus, who won the 2018 Nobel Prize for his work on climate modelling, outlined the costs and benefits of different temperature goals. He found that the optimal goal was about a 3.5°C increase by 2100. With a target of 2° by 2100, like the Paris climate accord, he found that the costs would outweigh the benefits by 4:1.

● (1605)

Now, to be clear, Dr. Nordhaus believes, and I believe, we should reduce our CO2 emissions. His modelling, however, is an important reminder of two points.

First, we need to be careful that we are not doing more harm than good. Signatories to the Paris climate accord are already facing the high costs of meeting the strict targets, and are failing to identify CO2 reductions consistent with their commitments in that agreement.

Second, to ensure that climate actions don't cost more than the benefits they provide, policy should focus on technology improvements that reduce the cost of limiting CO2. The cost-to-benefit ratios calculated by Dr. Nordhaus can be improved with technology, making energy efficiency and carbon reduction more cost-effective and bringing other temperature targets in line.

As you heard testified on Monday, regulatory approaches hide the costs of CO2 reduction, making it more likely to exceed appropriate price levels. That lack of transparency also makes it more difficult for individuals to respond effectively to avoid those costs and reduce CO2 emissions. With the many political and economic challenges facing carbon taxes, technology improvements offer the best option to reduce CO2 emissions in ways that are durable and effective.

Much of climate policy is focused on increasing prices to create a disincentive to emit CO2. A similar result, however, can be achieved by increasing the elasticity of demand of existing energy prices. Personal technology that reduces transaction costs of information increases the ability of individuals to effectively react to existing price signals without raising carbon taxes. Rather than focusing solely on the level of the carbon tax necessary to induce a desired behaviour change, we should also be considering how to help people change behaviour more easily. As noted in Monday's testimony, two-thirds of Canadian emissions come from small emitters. Lowering the cost for individuals to reduce their emissions is key to any successful CO2 reduction strategy.

These technology changes are not subject to the ebb and flow of politics. People don't give up technology that is saving them money, no matter who controls Parliament. There are several examples of this opportunity.

A mapping app called Cowlines, based in Vancouver, provides users three options to reach their destination: the fastest route; the least expensive way, including driving, transit and ride-sharing; and the most environmentally friendly way. Many users choose the environmentally friendly route, and they average about one kilogram of CO2 savings per trip.

Smart thermostats from Toronto-based ecobee and California-based Nest use information and artificial intelligence to help homeowners reduce energy costs while keeping their house comfortable. Nest works with some utilities in the United States to offer what it calls “rush hour rewards”, a voluntary system that reduces home temperature during peak electricity demand and offers monthly rebates.

This is not an endorsement of these products, but they are tangible examples of technologies that reduce CO2 emissions at existing prices. The opportunities to empower citizens with technologies are emerging rapidly, and policy options are in their early stages. The iPhone has only been around for about a decade, and yet it has massively changed our society and lifestyle. With that rapid change, it is hard to clearly identify policy options, but here are three options we should explore:

First, we should remove regulatory barriers that reduce the value of information technology. Electricity tariffs are often designed to protect consumers with the assumption that they do not have access to real-time price information and therefore can't respond. That is changing. We should, like Nest, allow consumers the opportunity to use those price signals to conserve energy and save money.

Second, federal, provincial and local government data should be transparent and available, being sure to protect individual privacy. The power of Cowlines is in the aggregation of dozens of disparate sets of data, and providing it in an understandable format for users.

Third, where there are specific challenges, government can offer prizes for technology solutions. Last year I was a mentor in the Fishackathon, organized by Toronto-based HackerNest and sponsored by the Government of Canada. Teams competed to develop smart-phone-based solutions to fisheries problems. The prizes weren't large, but the creativity of the participants was really amazing.

These are just a few approaches that can help incentivize technologies that bring down the cost of carbon reduction. Empowering people to reduce energy use is less subject to political reversals, works with citizens' interests rather than against them, and takes advantage of opportunities that are emerging every day.

● (1610)

The great inventor Buckminster Fuller once said, “You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.” That's the opportunity we have in front of us.

The Chair: Thank you to everybody for those opening comments. We have lots to think about.

With that, we'll get right into our first round of questions.

First up is Mr. Peschisolido.

Mr. Joe Peschisolido (Steveston—Richmond East, Lib.): Mr. Chair, thank you,

Thank you very much for all your presentations and wise words.

I'll begin with Peter. You talked about support for a mechanism to reduce carbon emissions. There are six principles, but you don't believe that the existing structure will work. Would there be any plan that you believe would work, that would reduce carbon and also maintain the economic effectiveness of your sector?

● (1615)

Mr. Peter Boag: Certainly in our engagement with Environment and Climate Change Canada, our main issue was around the feasibility of the target and the stringency of the reduction that would be imposed on our sector. Our view was in keeping with the principle of a challenging but feasible target, one that would be challenging for the industry but would also mitigate much of the inequity that the patchwork consists of today. This would have been achieved by using a target of 90% of the sector average. We provided a considerable amount of economic analysis around that.

You may recall that when the policy was announced, it was a blanket requirement of 70% of sector targets. This followed the initial round of analysis of phase one and phase two within the government. That was reduced to 80% across the board, with a number of sectors that were particularly energy intensive and trade exposed at 90%. Phase three analysis on many sectors did a considerable degree of work. It was certainly our perspective that we had provided a very compelling case with respect to the challenges that our sector faced, and that 90% would be more appropriate. That was not the decision. In our case, that certainly addresses the principle of challenging but feasible targets. It results in a higher degree of equity. It also resolves many of the issues around the imbalance between environmental and economic performance and the risk of carbon leakage that exists under the current system.

Mr. Joe Peschisolido: I have one more question.

Tom talked about two factors, the appropriate price, which is the level, and technological change. Are there technological changes that the existing refineries could make that would help their economic bottom line and also their ability to meet targets?

Mr. Peter Boag: Let me first say that refineries and refinery operators have not been sitting still over the last number of years in terms of the continuous improvements they've made to their operations in areas of energy intensity. This is fundamentally an energy-intensive industry, and while there are some process emissions, much of the industry's emissions issue is associated with combustion. There has been lots of incremental activity when turnarounds are done and when maintenance is done. All of these opportunities to look at reducing energy intensity from a cost perspective as well from an emissions perspective are pursued.

The industry's track record over the last 10 to 20 years has been quite positive in terms of reducing energy intensity, improving efficiency and reducing costs and emissions. However, there are physical limits.

The low-hanging fruit has been picked. There are still some opportunities. Not all refineries are the same. Some are better than others, but that's a reflection of...these refineries have been around for a long time. They have different configurations. They were made to serve different markets and to produce different product slates, so it's very difficult to treat every refinery as the same.

That's the challenge around the feasibility. Virtually no refinery in the world has achieved the current target. As of January 1 of this year, that's what Canadian refineries are expected to achieve, or they have to pay. The challenge lies in the fact that the technology costs, if they are available, are so high that paying is the answer. This really doesn't reduce emissions.

Mr. Joe Peschisolido: Peter, thank you.

Joanna, you mentioned that putting a price on carbon or on pollution works. You talked about the development of other economic activity. You also talked about a company called Corvus. Can you elaborate on that? Are there other sprouts of economic activity in Canada analogous to Corvus?

Ms. Joanna Kyriazis: Yes, absolutely. Carbon pricing does spur innovation and help to support our clean-tech sector. Another example is in Ontario. In 2017 there were 5,000 companies in Ontario's clean-tech sector, employing 130,000 people and generating about $20 billion in revenue each year. These companies were benefiting from the cap-and-trade system and the price signal that it was sending, as well as some of the ways in which the revenues were being recycled to support further emissions reductions, emerging technologies and whatnot.

A carbon price and other complementary policies are important to support these industries. In many cases, we've actually seen similar leakage issues for clean-tech companies where they're born in Canada, whether it's ecobee in Ontario or a Canadian solar company with a head office in Guelph or Corvus Energy. Many of these companies end up taking a large portion of their operations and the jobs to other markets where they can find more buyers. These are job and economic concerns that are worth considering.

● (1620)

Mr. Joe Peschisolido: Joanna, thank you.

The Chair: Thank you.

We're going to move over to Mr. Sopuck for six minutes.

Mr. Robert Sopuck: Thanks.

Mr. Boag, you're not going to have to worry about building new refineries once Bill C-69 is passed, so you can put that out of your company's business strategy.

I bristle when CO2 is termed a pollutant. We're all exhaling it right now. It's the first molecule in the photosynthetic equation and I really think it is disingenuous to call it a pollutant. The term “clean tech” implies that Canada has a dirty-tech economy, which I think is absolutely false. I have the numbers in front of me here: sulphur dioxide is down 50% in the last 15 years; lead, cadmium and mercury are down 80%. As to Canada's air quality in terms of particulate matter, all our big cities are well within World Health Organization guidelines. Nitrogen dioxide is the same, and so on. As somebody who's worked in the paper and oil and gas industries on the environmental side, I find it quite offensive to industry to imply that our industries are dirty, because they are not.

Ms. Kyriazis, Canada has 1.6% of world global emissions, right? Good.

You mentioned a number of things that are going on in Canada now that have to be dealt with. You're talking about floods, droughts, forest fires, extreme heat. I should just preface my own remarks by saying that I started a farm in 1979 and have had a bit of a track record in watching weather in prairie Canada. The 1980s were extremely dry; the 1990s were quite wet and the 2000s went back and forth between wet and dry, so you don't have to tell a prairie farmer.... I'm not being pejorative here, but those of us who live in that environment are well aware of the perturbations of weather.

You made a link between carbon pricing and ameliorating these effects. How will a carbon price in Canada ameliorate what you listed as the threats to Canada? You talked about forest fires, heat waves, and on and on. How will a carbon price in Canada—and only in Canada—deal with those issues?

Ms. Joanna Kyriazis: Carbon pricing systems have shown that they're successful in reducing emissions. Every emission or tonne of emissions reduced has a real impact, in terms of both avoided climate impacts and avoided health impacts from air pollution. The most recent Intergovernmental Panel on Climate Change report, the 1.5 report, shows us just how much of a difference 0.5°C in average warming can cause.

Mr. Robert Sopuck: Excuse me, but I don't have much time. I understand what you're saying, but what I'm asking for is an answer based on physics and atmospheric chemistry.

I want to know the molecular interactions that will happen as a result of a carbon tax in Canada—and in Canada alone, I might add—when CO2 is a global substance. What are the physical and chemical interactions in the Canadian atmosphere that a carbon tax will elicit that will deal with the problems you raised?

Ms. Joanna Kyriazis: If we reduce carbon dioxide concentrations in the air, then we will have less warming and reduce climate variation as a result of climate change.

● (1625)

Mr. Robert Sopuck: You're not dealing with my question.

I used to be an environmental director at a paper mill. We had a very bad effluent stream. The 1989 pulp and paper effluent regulations required us to put in a waste-water treatment plant. We spent $25 million. Our effluent went from being toxic to being clean. I'm looking for a very specific, scientifically based, evidence-based answer, given that Canada's 1.6% of world global emissions, that our reductions will have an effect on the environmental problems such as fires and floods and heat, which you described. I want a technical answer, not a reference to some UN thing.

That's the issue. The issue is Canadians are being asked to spend this money. What are they getting for it environmentally? I want a science-based answer, please.

Ms. Joanna Kyriazis: I'm a lawyer by background and I'm pointing to the scientific experts.

Mr. Robert Sopuck: But you're making claims. You have to back them up.

Ms. Joanna Kyriazis: I am pointing to the scientific experts who —

Mr. Robert Sopuck: Your profession is not important to me. You made a claim. Back it up.

The Chair: Mr. Sopuck, you asked a question. I think we need to hear from the witness. It's only fair that you give her the opportunity.

Mr. Robert Sopuck: Sure. Fair enough.

Ms. Joanna Kyriazis: In order to provide you with the best scientific answer that I can, I'm going to point to the authoritative scientific voice on climate change and what causes global warming, which is human-induced heightened concentrations of CO2 and other greenhouse gases in the atmosphere. Addressing that issue will help to reduce the climate impacts that Canada is experiencing.

Mr. Robert Sopuck: Yes, but you're avoiding my question. I'm asking about when our emissions in Canada are reduced, will the impacts that you talk about, fires and floods, be ameliorated by the CO2 reduction, in Canada only.

Ms. Joanna Kyriazis: Every tonne of CO2 reduction will make a difference. If we're asking whether Canada's overall emissions profile in the global context matters, we are the top emitter per capita in the G20. We are one of the world's top 10 economies. The best thing we can do, if we would like to get other nations on board with this sort of action, is to design and implement a world-leading carbon pricing system and produce the clean technologies that we need not only to reduce our own emissions and grow our economy but also to export those technologies abroad and help the rest of the world meet its emissions goals as well.

The Chair: That's great. Thank you.

[*Translation*]

Mr. Joël Godin (Portneuf—Jacques-Cartier, CPC): I would like to raise a point of order, Mr. Chair.

During the testimony just now…

[*English*]

The Chair: Sorry, we're out of time, Joël. Unless it's a point of order, we're moving—

Mr. Joël Godin: No, it's very important. It's a point of order.

The Chair: Okay.

[*Translation*]

Mr. Joël Godin: Mr. Chair, just now I saw a flash. I want to make sure that no one in this room is taking photographs. Was it a reflection of something or did someone in the audience, behind the witnesses, take a photograph? I just want you to make sure that no photographs are taken, please.

[*English*]

The Chair: Yes, for everybody in the audience, when we're in session, photos aren't allowed. I should have mentioned that at the start. At the end, after we're out of session, if anybody wants a picture, there will be an opportunity to take it then. Although we are ending at.... Anyway, we'll see how we can deal with that.

Thank you, Mr. Godin.

Now we'll move to Mr. Stetski.

Mr. Wayne Stetski (Kootenay—Columbia, NDP): Thank you.

Thank you for being with us today.

Mr. Myers, you made a statement that the cost outweighs the benefits. I live in southeastern British Columbia, in the Kootenay—Columbia riding. The last two summers, by the end of July, first week of August, you could not see the magnificent Rocky Mountains, or the Purcell Mountains, or the Selkirk Mountains in my riding. When you stated that the costs outweigh the benefits, did that include the environmental costs, the health costs, the economic costs of climate change, the impact on tourism, the trees we're losing, that can no longer go into our lumber mills? When you factor all that in, can you still legitimately say that the costs outweigh the benefits?

Mr. Todd Myers: That's a great question.

I worked at the Washington State Department of Natural Resources, where we dealt with forestry issues. Living in Washington state, we got to enjoy some of that smoke over the last two summers, so I'm very appreciative of the problem you talk about.

The modelling I talked about is from William Nordhaus. He talks about the economic costs and benefits. Any time you do modelling over 100 years, there is going to be variability; there's no question. He does not say that there are no costs; he clearly says that action needs to be taken to avoid specifically the problems you're talking about and their impacts. I don't want to leave the impression that no action is necessary, because the examples you give are legitimate.

The question is where you draw the line. How much do you do? How high is the cost? What he found in his modelling, with the requisite error margins, is that if you try to meet the 2°C target of the Paris climate accord, the economic costs outweigh the benefits.

Let me also say, having a background in forestry, that it's not just climate change, as you know, that is causing the problems with forest health. A better approach, rather than reducing CO2 emissions, may be to manage forest health. There's more than one issue. There's no question that warm summers increase the likelihood of the forest fires that you and I got to experience, but it's not the only approach we can take.

● (1630)

Mr. Wayne Stetski: I'm also curious about the way the question was asked to the public. If you ask the question, “Do you want to pay more taxes?”, the answer is always no. It depends upon how you present the issue and what the benefits of the tax might be.

I'm curious to know how the question was asked, because it seemed perhaps a little simplistic: Do you want to pay more or not?

Mr. Todd Myers: The answer isn't always no, actually. As I mentioned, in public opinion polling in both Washington state and the United States, people are willing to pay something to reduce CO2 emissions. The question is how much they're willing to pay.

We have two initiatives that I think are useful. One is a revenue-neutral carbon tax whereby sales taxes, which are the largest tax source we have in Washington state, were cut more than enough to offset the increase of the carbon tax. Even then they rejected it, because, as I said, their concern was that in the future those taxes would be raised. Even in a circumstance in which the cost is initially zero, people worry about it in the back of their mind.

I'm not arguing that carbon taxes are useless. My frustration and what I try to argue about is how, in an environment like that, to do something, which is the challenge that you face as well. That's why I offer the technology, to increase the elasticity of demand, so that the impact upon people is less and they have an opportunity to save energy, save money, and reduce carbon emissions without the carbon taxes. That's the approach I advocate.

Mr. Wayne Stetski: I'd like to turn to the National Airlines Council for a minute.

Virtually every group we've heard from over several months of testimony has said that they believe their industry could do better. I'm quite disappointed. I thought I heard you say that you're tapped out, that you're maxed out, that you can't do any better. Is that really the position of the airline industry?

Mr. Massimo Bergamini: If you examine the data with respect to emission reductions, the data concerning our fuel consumption, which is the fundamental element in our industry, shows that we're hitting diminishing returns in relation to the investments. We are different from other sectors because of the importance of fuel as a variable cost in our operations. Reducing fuel consumption is a matter of economic survival, and in Canada all the more so because we operate in an inhospitable public environment.

I'm going to ask my colleague to jump in here to illustrate the lengths to which Canadian airlines go to reduce fuel consumption, to manage every last litre of fuel in a flight. That's our reality. Adding a cost at the margin—

Mr. Wayne Stetski: I've also heard over and over from many people testifying that by putting a price on pollution you encourage innovation and encourage companies to do better. Do you not think that would be true in the airline industry?

Mr. Massimo Bergamini: There is a price on carbon. We're already dealing with a price on carbon. It's 30% of our operating costs. That's our reality. What we're saying is.... You can call a tax a carbon tax. We deal with the cost impact of the new passenger rights regulations in the same way that we will deal with another tax. Provincial aviation fuel tax, changes with respect to CATSA funding —all of these things—affect our bottom line, our ability to compete, and we have to squeeze savings where we can.

The largest single variable cost we have is fuel, and that's what people like Geoff are absolutely laser-focused on. That makes us absolutely unique.

We don't want a free ride—

● (1635)

The Chair: Thank you. There may be a chance to come back to that line of questioning.

Next we have Ms. Dzerowicz and Mr. Fisher, who are splitting their time.

I'll turn it over to you.

Ms. Julie Dzerowicz (Davenport, Lib.): Do we have six minutes?

The Chair: Yes.

Ms. Julie Dzerowicz: Thank you so much for your great presentations.

I'll continue on the line that Mr. Stetski was starting. We hear so much, so we're testing some of the things we are hearing at committee.

My first question will be for you, Mr. Boag.

We've heard very much that carbon pricing isn't the only way to reduce emissions. If you look at our pan-Canadian framework, there are a number of initiatives under there that will hopefully lead us eventually to meeting our Paris accord targets.

We've also heard quite a bit that we have to act quickly. It's very similar to what Ms. Kyriazis was mentioning: We have to act now and quickly.

I hear what you're saying in that it's very challenging for industry to meet the 80% benchmarks set by the federal legislation. I suspect all nations with refining resources are facing the same challenges.

It's not going to get less expensive as we move along. If the climate is changing, and that's accelerating, why wouldn't we want to face the challenge now and make the investment that needs to be made right now as opposed to waiting?

Mr. Peter Boag: First of all, let me just say that, in many of the countries, there are refiners we compete with in our markets in other jurisdictions—and the U.S. is the best example—who don't face those carbon costs. That is a huge competitive disadvantage for Canadian refineries, the additional costs they will pay through this carbon pricing system where they're trade exposed. They don't have the ability to pass that cost on. It's just not another cost that gets passed on to consumers, because they have competitors who don't have those costs and who are going to undercut them in price.

By moving too far too fast, we'll just close the refining sector in Canada, shift those emissions to some other jurisdiction, put ourselves at the end of long supply lines, potentially jeopardize security of supply and bring our fuels in from somewhere else.

Mr. Fisher would probably have some direct experience with that, coming from a riding where an uncompetitive refinery closed, and the province of Nova Scotia has seen some security supply issues in the last couple of years.

Ms. Julie Dzerowicz: It is my understanding that most of the U.S. is going to move towards a similar type of legislation. I think we heard about a dividend-and-fee type of legislation. While it might not be in place now, there is expectation that most of the states will have something in place. I think the world is understanding that climate change is happening and that we all have to take some fairly urgent steps.

I'm at my three minutes, so I'm going to pass the baton over to Mr. Fisher.

Mr. Darren Fisher (Dartmouth—Cole Harbour, Lib.): Thank you very much, Mr. Chair.

Thank you, Julie, for sharing your time.

Thank you, folks, for being here. It's a fascinating topic.

I want to just go to Joanna, and I only have a short period of time. I hope you're okay if I call you Joanna. I see you cringe every time someone says your surname.

Ms. Joanna Kyriazis: Yes, I'm sorry.

Mr. Darren Fisher: You mentioned the cost of inaction. Because of the cost of inaction and, perhaps, an amazing opportunity and also, perhaps, government plans, we're seeing a huge boom in Atlantic Canada for green energy and clean technology.

You talked about your list of 100 companies. If you had more time, you would probably have mentioned CarbonCure in Dartmouth-Cole Harbour and the amazing things they do trapping GHGs during the production of concrete. We're seeing that in Dartmouth-Cole Harbour. We're seeing that innovation.

In the short time we have, I'm wondering if you could connect the dots or draw a line between pricing pollution and spurring innovation. I would also be interested in your thoughts on whether innovation is coming because of this great opportunity. How much of this spurred innovation is better behaviour versus opportunity of extra profits? “Profits”, of course, is not a bad word.

Ms. Joanna Kyriazis: The private sector often goes where the potential profits are. The behaviour of consumers is also driven by price signals. As I'm listening to some of the other witnesses, perhaps we can get consumers to change their behaviour based on more education and information about what are the most environmentally friendly options. Unfortunately, that's not going to lead to a change in behaviour as effectively as the price signal.

In terms of how carbon pricing can spur innovation, carbon pricing sends a market signal and makes higher emitting materials and activities more expensive. This means that individuals and businesses are going to be looking for lower carbon options, whether it's technology or materials. This will increase the demand for these new options and technologies. The market is going to move in and try to take advantage of these opportunities, like the carbon cures that take carbon dioxide and use it to create more concrete, thereby lowering the footprint in building projects.

Another example is the ecobee smart thermostat technology. As the market demand increases and more technologies enter the market and start competing, we're going to see more options. We're also going to see these options become more accessible and less expensive.

● (1640)

The Chair: Mr. Godin.

[*Translation*]

Mr. Joël Godin: Thank you, Mr. Chair.

My thanks to the witnesses for participating in our exercise.

I believe that we have an objective, but we must be realistic. There is a change in the warming climate, and it is global. It is not Canada's responsibility. Naturally, the earth is warming up. It may be accelerating because of industrialization, but we all agree that we have to act by taking measures to protect our environment. We agree on that.

Ms. Kyriazis, in your presentation, you stated that the carbon tax is working well. That is the case in British Columbia, where results can be seen. You also talked about an emergency.

On the National Energy Board website, I see that, since 2008, greenhouse gas emissions have not decreased. How can you state that the carbon tax is the key solution in achieving our common goal, which is exactly to reduce greenhouse gas emissions?

[*English*]

Ms. Joanna Kyriazis: In the British Columbia example, there was a carbon tax in place since 2007. A 2015 study showed that emissions were reduced by 5% to 15%. It is true in the last few years that emissions have risen. However, B.C. has seen huge economic growth and population growth, so overall emissions were more. That being said, there's overwhelming evidence that having a carbon tax in place significantly bent the curve downwards and led to less emissions than would have been produced had there not been a carbon tax in place.

[*Translation*]

Mr. Joël Godin: You tell me that the carbon tax is the solution to reducing greenhouse gas emissions. You tell me that the increase of emissions in British Columbia is explained by their economic prosperity. The two are directly linked. So do we have to stop economic development? Do we simply have to reduce greenhouse gas emissions and therefore reduce the quality of life for Canadians? Is that what will happen?

The carbon tax is the means that the current government has found to reduce emissions but I am not sure that it is the best solution. Canada has a unique reality because we are the second biggest country in the world. Was that reality considered when the carbon tax was imposed? In European countries with a greater population density than Canada, the effect is different. How can you convince me that the carbon tax is the measure that will reduce emissions quickly?

You mentioned earlier that we have to act now. But the carbon tax that the government is proposing will have no immediate effect. It will be $20, $30, $40, $50. According to the experts, if you want a quick result, you would have to raise that to $300. Are we also measuring the impact of the tax on people's daily lives?

Someone mentioned earlier that two-thirds of greenhouse gas emissions can be attributed to ordinary people. We are chasing our tails, there are no immediate results. You have insisted on urgent action. A number of people in the environmental field tell me that we have to calm the situation down, because being alarmist does not benefit the environment. Yes, we have to act, but we have to take the time to find the best solutions.

You have not convinced me of the benefits of a carbon tax. Do you want to add anything?

● (1645)

[*English*]

Ms. Joanna Kyriazis: First off, evidence from not just B.C. but other jurisdictions around the world—the U.K., California, Quebec—have all shown that carbon pricing works, both in terms of reducing emissions and supporting strong economic growth. We do not need to sacrifice economic growth and quality of life.

Second, in terms of individual habits and whether a carbon price can impact those, I'll go back to the example of B.C., where a study found that B.C.'s carbon tax decreased residential natural gas consumption by 7% to 10%. It also decreased gasoline consumption. Per capita demand for gasoline would have been between 7% to 17% higher, and it increased the use of fuel efficiency. It did lead to a change in behaviour, again without sacrificing quality of life or economic growth.

[*Translation*]

Mr. Joël Godin: Excuse me, I have to stop you because, unfortunately, time flies.

You also said that we have to send a clear signal to companies and to Canadians. Do you not think that subsidies, awareness campaigns, innovation and regulation would produce results more quickly?

[*English*]

Ms. Joanna Kyriazis: Carbon pricing is not the only solution, but we hear widely from economists that it's the most cost-effective solution. It will reduce emissions at the lowest cost to our economy.

The Chair: Mr. Amos.

Mr. William Amos (Pontiac, Lib.): Thank you, Mr. Chair, and thank you to all of our witnesses. It's greatly appreciated.

My first question goes to Mr. Boag from the Canadian Fuels Association.

I understand from your presentation that the CFA's position is that the output-based pricing system does come with costs. Is that correct?

Mr. Peter Boag: Yes.

Mr. William Amos: It will impose costs and likely some form of behavioural change within the refining industry. Is that a fair assessment?

Mr. Peter Boag: Our issue is that the level it is set at in terms of the expectations will actually allow very little behavioural change. With regard to many of the Canadian refineries, because the gap will be so large, the only option they will have to comply will be to pay the tax on excess emissions.

Mr. William Amos: I understand.

Mr. Peter Boag: The degree to which behaviour will be modified or investments will be made in emission reduction technology when it reaches that level is severely constrained. The only option will be to pay the amount.

Mr. William Amos: I understand what you're saying. I do think we have to be careful with the words we use. Because this isn't a regulatory approach, I don't think "compliance" would be the appropriate term. They will certainly be above that—

Mr. Peter Boag: It is compliance. Ultimately it's a regulation under CEPA and CEPA comes with the hammer of the Criminal Code. Potentially you go to jail, so there is a real compliance issue.

Mr. William Amos: There's a performance standard. I think there's a distinction to be drawn between a performance standard and compliance.

Mr. Peter Boag: It's a requirement.

Mr. William Amos: The reason I wanted to go to this question is we've heard from the opposition benches repeatedly over the past several months that somehow this output-based pricing system is a giant giveaway to big emitters. I'm gathering from what you're saying that is entirely not the case. It is not some giveaway. In fact, it actually imposes some real costs.

● (1650)

Mr. Peter Boag: In fact, the whole concept of an output-based pricing system is something that we support. An output-based pricing system that sets a benchmark that everyone must achieve rather than an amount that everyone has to come down is, in our view, a smart policy design. The issue for us is where the benchmark is set and what the feasibility of achieving that benchmark is and what perverse outcomes it might drive with respect to what the objectives of the policy are.

Mr. William Amos: Thank you. I understand your opinion.

Ms. Kyriazis, thank you for your presentation. Could you describe Clean Energy Canada's position in relation to the Canadian Fuels Association's position that the benchmark or the output-based performance standard should be shifted from 80% to 90%, effectively reducing the percentage at which a carbon pollution price ought to be paid?

Ms. Joanna Kyriazis: Clean Energy Canada doesn't have a position as to which benchmark a particular industry should be subject to under the output-based pricing system. We believe that the output-based pricing system is a good policy mechanism to help address competitiveness issues and protect against carbon leakage where those are risks.

Mr. William Amos: Thank you for that.

I'll go back to Mr. Boag, then.

I understand that the initial phase one position of the federal government was that a 70% performance standard should be established. Your organization lobbied to secure a higher percentage.

Mr. Peter Boag: Actually, I would clarify. I think that in the government's own analysis they came to the conclusion that 80% was a more appropriate benchmark. Subsequent to that they asked us...or gave us and all the industries the opportunity to provide further analysis specific to our own sectors as to the appropriateness of the 80% new benchmark.

Mr. William Amos: I understand there's been consultation. Opinions have been expressed. Evidence has been brought forward.

Mr. Peter Boag: Yes.

Mr. William Amos: What evidence have you brought forward? If you have it, could you please provide to the committee the empirical evidence upon which a 90% standard is justified in the CFA's opinion?

Mr. Peter Boag: I don't have that here. I'll defer to Monsieur Montreuil of our staff, who has led this effort. It's an extensive deck of which we've extracted two charts here.

Mr. Carol Montreuil (Vice-President, Eastern Canada, Canadian Fuels Association): The chart you see on page 4, in terms of cost comparison between the current backstop.... You like to talk about 80%; I talk about minus 20%. You like to talk about 90%; I talk about minus 10%. The cost that this backstop would mean compared to other jurisdictions, especially versus the United States where the cost is zero, that's what's at stake. This reduction—

Mr. William Amos: Mr. Montreuil, I don't mean to interrupt, but I simply want to ask if you could send that empirical evidence to the committee. Thank you.

Mr. Carol Montreuil: Absolutely.

Mr. William Amos: I have one last question for Mr. Myers.

Mr. Myers, I wasn't familiar with the Washington Policy Center until recently. I want to get a better sense of where you're from. I'm just looking for a yes or no confirmation.

My understanding is that the WPC gets part of its financing from the Charles Koch Foundation.

Mr. Todd Myers: That is false.

Mr. William Amos: Thank you for that clarification.

The Chair: Next we have Mr. Fast.

Hon. Ed Fast (Abbotsford, CPC): Thank you very much.

I've listened very carefully to the presentations and I first of all want to address the issue of British Columbia.

Joanna, you're from B.C. Is that correct?

Ms. Joanna Kyriazis: [*Inaudible—Editor*]

Hon. Ed Fast: You're not.

Okay, I am. I have lived the B.C. carbon tax and, as you know, the tax was promised to be revenue neutral and to reduce greenhouse gas emissions. I want to read something that is less than a year old. It's from the Sierra Club:

> "B.C.'s latest emissions data mark years of failure to reduce emissions by more than a token amount"..."Ten years after the previous government legislated the target to reduce emissions by 33 per cent...we are essentially in the same place we started."
>
> British Columbia's emissions are now 10 per cent higher than 1990 levels, in contrast to the European Union, which has reduced its emissions by 23 per cent over the same period.

It goes on to talk about the fact that the carbon tax has not achieved what it was intended to achieve. I'm sure the Sierra Club would like to have had an even higher carbon tax but, as you know, the promise from the Gordon Campbell government was that the tax was going to be revenue neutral—swear to God, it was going to be revenue neutral. A new government came in and effectively did what the taxpayers, or the voters of Washington state were afraid of, and they changed the tax. It was no longer revenue neutral, because the NDP removed the revenue neutrality of it. And the emissions continue to go up.

You suggest that the fact that emissions continue to go up is because of economic activity. That may be, but would you agree with me that the emissions targets in the Paris Agreement, which Canada signed on to, are absolute targets that are not subject to adjustment for economic activity?

● (1655)

Ms. Joanna Kyriazis: Yes, the Paris targets are absolute targets and the goal is to reduce our absolute emissions. Carbon pricing is an effective solution. It's not the only solution we need, so a package of policies similar to the package that the federal government is pursuing under the pan-Canadian framework and more, are necessary to meet our Paris climate target.

Hon. Ed Fast: Thank you for saying that a package of policies is required. I totally agree with you.

Our beef, of course, with the current government is that they have said that the one policy you have to have is a carbon tax, that all the other policies are optional and every province can come up with its own policies, but they have to have a carbon tax.

When I look at the experience in British Columbia, I see it's quite contrary to what you have suggested and it is in line with the fears that Mr. Myers suggested, that is, you bring in a tax and taxpayers are worried that tax is going to be ramped up and up, and of course the rules have changed and it's no longer revenue neutral.

I have a question now for you, Mr. Bergamini and Mr. Tauvette.

You suggested that fleet upgrades have been made to improve fuel efficiency to a point where you're now at diminishing returns. What drove these upgrades? Was it a carbon tax or was it something else?

Mr. Massimo Bergamini: It's simply a question of survival.

Hon. Ed Fast: Survival.

Mr. Massimo Bergamini: I mean, it is an—

Hon. Ed Fast: You didn't need a carbon tax to incent you to get this done.

Mr. Massimo Bergamini: No.

Hon. Ed Fast: All right.

I think I heard you mention two solutions and one was a carbon offset model. Tell me what that looks like.

Mr. Massimo Bergamini: That would look like.... In fact, we proposed that our industry be allowed to opt into the output based model that has been made available to stationary emitters, or some other model that would allow us to operate in a manner that is aligned with the international model and would allow us to contribute to real carbon reductions through offsets.

We want to do our part. We believe that carbon pricing from a societal perspective and a good corporate citizenship perspective is essential today. We're ready to do our part, but we're not ready to be dragged into a process that will damage our industry, will damage competitiveness, will lead to—

Hon. Ed Fast: I understand.

Could you provide our committee with a bit of a sketch—you don't have to do that now—

Mr. Massimo Bergamini: Yes.

Hon. Ed Fast: —supplementary to your appearance here today, with an idea of what those offsets might be, at least the ones that might work for your industry? It's not only your industry. We've heard from the refining industry. We know the cement industry is in deep. They've been provided with a bit of a different treatment than you have.

Mr. Peter Boag: Ninety-five per cent.

Hon. Ed Fast: There are other industries that are looking for a way of addressing their emissions that doesn't involve a carbon pricing model that undermines their competitiveness.

The final question for you is this. You also mentioned a low-carbon fuel future which is going to require technological advancement to get to those fuels. Could you expand a bit on that?

● (1700)

Mr. Geoffrey Tauvette: We need a fuel that's a drop in fuel, so it has to look like jet fuel, but what we're targeting is a lower-carbon fuel, obviously. That's a big part after our offsets. We need biojet to help us reduce our emissions. It's three times the cost, so we need some help to get there technologically and with policy.

The Chair: Thank you.

Mr. Bossio.

Mr. Mike Bossio (Hastings—Lennox and Addington, Lib.): This is great discussion with our panellists. Thank you all so much for being here today and providing your expertise to this conversation.

I'd like to start by following up on Mr. Fast's comments just now on B.C.

You're familiar with Australia's experience with the price on pollution and pricing carbon. Australia put a price of $23 on pollution in 2012-13, $24.15 in 2013-14, and then they revoked it in 2014.

I have a graph here. I don't know if you can all see it. You'll see where this bar is here. This is when the price on pollution was actually in place. You can see, even with a relatively small price on pollution over a short period of time, the actual impact that price had on reductions of emissions in Australia. Then after revoking it, not only does it not stay on the curve that it was on prior to the price, but it actually overshoots that curve.

I point that out and, Ms. Kyriazis, you can help us here.

Is this really a good, clear indicator of what you were talking about earlier about the effectiveness of a price on pollution? It's a really great example of what can happen when you have it and what can happen and just how enormous the change can be when you revoke it.

Ms. Joanna Kyriazis: I'm familiar with that graph, and it is very effective.

To go back to the B.C. example, from 2012 to 2016 the carbon price was frozen. That also had an impact on whether emissions were rising.

A well-priced carbon price that increases predictably over time is going to be the most effective instrument in reducing emissions, as well as offering the policy and price certainty that businesses are looking for and consumers are looking for.

Mr. Mike Bossio: To follow up on that, we have tried regulatory measures. We've tried voluntary measures. We tried Kyoto. We've been talking about this for a generation now. None of those have worked, yet we show very clearly that this does work, but it's not enough in and of itself.

Would you agree that the balanced approach that we're taking of having a price and a rebate and having investments in transit, investments in innovation, investments in making our corporations and our society more productive overall, and regulations and emissions controls really provides a basket? We're taking more than 15 different measures to actually deal with climate change. That is the balanced approach to take, so that it's an evolution towards meeting our targets, not a revolution.

Ms. Joanna Kyriazis: Yes, carbon pricing is a key part of a policy package, as I've said, but some of the other policies that the federal government is pursuing: the clean fuel standard is a very important one; methane regulations that were introduced; the coal phase-out; and in addition, the large investments that are being made in grain infrastructure, transportation and clean technology.... It's important to approach this problem from multiple angles.

Mr. Mike Bossio: Also, looking at innovation, you're saying that a price on pollution can innovate.

One very interesting innovation that happened in B.C. is by a company called Carbon Engineering. They're taking carbon from the atmosphere to create fuel that can be burned in any vehicle, including aircraft, so it's a zero-carbon fuel. As far as innovation around the airline sector, would it not make sense that once again driving that innovation they could use carbon-neutral fuel?

● (1705)

Ms. Joanna Kyriazis: A carbon price, as well as the clean fuel standard, are both steps in the right direction in incentivizing lower carbon fuel alternatives, biofuels. What I'm hearing from my fellow witnesses here is that we need more solutions, more technology, more support for them in their emission reduction goals, so these policies are somewhat—

Mr. Mike Bossio: Sorry to cut you off, but finally, to deal with Mr. Sopuck's assertion that CO2 is not a pollutant, were you aware that the previous government ruled under CEPA 2012 that CO2 is a pollutant? I think if you refer to most scientists around the world, they would agree with that assertion.

Ms. Joanna Kyriazis: Yes, I was aware and I agree.

Mr. Mike Bossio: Thank you so much.

The Chair: Next is Mr. Stetski for three minutes.

Mr. Wayne Stetski: Thank you.

I also live in British Columbia. It's been fascinating to be a member of Parliament and see how many different ways statistics can be used or misused. We've heard from many people about how successful implementing a price on carbon has been in British Columbia. We heard that from economists and scientists. I'm sure that the intent of the Sierra Club was to argue that carbon pricing should have been higher rather than lower.

I have a simple question for all of you, if I might, in my very short period of time. Putting aside everything that we've talked about today, do you believe that putting a price on pollution results in any decrease in greenhouse gases?

We can start here and go down the row.

Mr. Todd Myers: Yes. If you raise a price on something, you will get less of it. The question for me is whether it is durable. The case of Australia is a good example that if you raise the price, you get a reduction. The question is, what happens then? If the price is undone, then it is not durable. You need a durable incentive, and setting the price correctly helps ensure that durability. Looking for alternative ways that don't require a big price increase I think is the most durable.

Mr. Wayne Stetski: Mr. Boag.

Mr. Peter Boag: I think carbon pricing, if properly designed, offers a policy solution that addresses a number of the principles that we see should be embedded in policy. Certainly, it provides some level of transparency. A carbon price with some predictability about how that price is going to change over time provides some clarity and predictability as well. From an economist's point of view, carbon pricing drives to the lowest cost reduction opportunity.

Mr. Carol Montreuil: I think it's around pacing. It's about how deep and how fast; that's the disagreement.

Ms. Joanna Kyriazis: Yes, I agree. Carbon pricing cost-effectively reduces greenhouse gas emissions both by disincentivizing higher emitting activities, as well as by inspiring innovation and new technologies that will help us to further reduce our emissions.

Mr. Massimo Bergamini: Yes, we support carbon pricing. It has to be the right approach.

The Australian example is instructive because under the Australian model the emissions of their aviation sector did not decrease. The same is true in the EU where they operate under an offset system. Our carriers, operating on a voluntary basis, have outperformed European carriers with respect to emission reductions.

The Chair: Sorry, at this point I'm going to have to interrupt. Look at the time. We're at 10 after, and I need 10 minutes of time at the end of the meeting to go in camera, but we have enough for one last round of rapid fire, three-minute questions like the last one we had. I'd appreciate it if everyone could keep their answers tight.

We'll jump over to Joe for three minutes.

Mr. Joe Peschisolido: Mr. Chair, thank you.

I can't remember if it was Massimo or Geoff, but one of the concepts you brought up that we haven't discussed is carbon offset as it relates to your industry. Can you elaborate a bit?

Mr. Geoffrey Tauvette: Under our international CORSIA program, airlines will be allowed to purchase offsets to help us meet our carbon-neutral growth. Those offsets and the definitions will be defined by ICAO by the end of the year. We'll know what they are in the next months.

● (1710)

Mr. Joe Peschisolido: For one last thing, maybe we'll go back to Wayne or Mike to finish up.

You talked about the examples in Washington state. There were two referendums and both failed. What were the similarities and the differences between those two models and what the Canadian government is proposing?

Mr. Todd Myers: I think the similarity is with initiative 72, which was revenue neutral. I think the effort you're making with the federal backstop is an effort to be revenue neutral for folks.

Again, that failed in Washington state for a couple of reasons: first, people didn't trust that the deal would stick; and second, the environmental community ironically opposed it, because they wanted a revenue increase.

Those were the primary concerns that are similar to what you're trying to do, in our experience.

Mr. Mike Bossio: Very quickly, to follow on that, was a rebate not offered?

Mr. Todd Myers: It was not offered. In the first one it was not; it was a reduction of sales tax, which is our primary tax.

Mr. Mike Bossio: Okay, that's good.

I want to highlight as well that I became aware that the fires in Fort Mac had an impact of seven million work hours lost by the resource sector in Alberta, that there was a 40% drop in receipts by the sector as a result of the fires, and that exports dropped by 1.2% and imports increased by 13%.

Would you agree that we see impacts of climate directly upon our natural resource sector in Alberta that can be detrimental to that sector, in and of themselves?

Mr. Peter Boag: That's a segment of the industry that I can't comment directly on—it's not the segment I represent—but certainly, weather events have impacts. Whether you can attribute any individual weather event to climate change is a different question.

Mr. Mike Bossio: I think you'll agree, though, that we see an increase in these 100-year events. In my own riding we had record floods in 2014, a record drought in 2016, and then floods again in 2017. In 2018, we had tornadoes in Ottawa and have had two years in a row of the worst forest fire seasons we've had in Canada's history in B.C. I think it's pretty evident that these 100-year events keep happening every year.

The Chair: We're out of time.

Mr. Fast, take three minutes.

Hon. Ed Fast: Okay, I'll get to it quickly.

Mr. Sopuck has asked me to ask you this, Joanna.

You noted that there were answers to his very specific questions. Could you provide this committee with the evidence that you've referenced?

Going back to Joanna, I'm going to quote you here. Your preference is for a "carbon price that increases predictably over time".

Where do you see that carbon price ending? We have a carbon price in B.C. of $35 per tonne. The federal one is starting at $20 and will go up to $50. You want to see it increasing. At what point in time do you feel that it will be effective in changing human behaviour to the point that we'll see the outcomes you're hoping for?

Ms. Joanna Kyriazis: Even a small carbon price will impact behaviour.

In terms of a final number, it all depends on the goals we're seeking to achieve, as well as what other policies we're putting in place. I therefore can't—

Hon. Ed Fast: Those goals are pretty clear. They're outlined in the Paris Agreement, and individual provinces have set those goals. You're familiar with them. What carbon price will it take achieve those?

Ms. Joanna Kyriazis: I am familiar with them; however, I haven't done the modelling to compare, with all of the policies bundled together, what carbon price is needed and by when, and so—

Hon. Ed Fast: You want to see it keep going up—

Ms. Joanna Kyriazis: —in order to reach our goals.

Hon. Ed Fast: Okay.

The last question is going back to the low-carbon fuel that you talked about, Massimo. You mentioned that there was a lack of political will to get that goal done. Can you tell me how that lack of political will has manifested itself and what we can do to address it?

Mr. Massimo Bergamini: There's a lot of work going on in Natural Resources Canada, Environment and Climate Change Canada, and Transport Canada is participating. There is a sense that there are very tight deadlines that need to be met to develop standards.

Incentivizing the commercialization of biojet is a complex...is a hard nut to crack. What we're seeing is an approach by officials, at this point, to impose performance standards upon our sector that are completely divorced from the market reality and the cost implications. That's not the way to do it. That's not the way you're going to achieve the kind of leadership potential that Canada actually has in this field. That's not the way you're going to help our industry achieve and surpass its goals with respect to carbon reduction.

● (1715)

Hon. Ed Fast: Thank you.

The Chair: That's the end of the time.

Wayne, you have three minutes.

Mr. Wayne Stetski: Thank you, Mr. Chair.

My question is for the Canadian Fuels Association.

What improvements can the Canadian Fuels Association make to decrease greenhouse gases? If you want to touch on ethanol, which we've heard testimony on previously, I would be interested in hearing about that. What improvements can you make to reduce GHGs?

Mr. Peter Boag: Certainly as we look at it in the context of the clean fuels standard in particular in terms of the work we've done with Environment and Climate Change Canada and identifying compliance pathways, continuous improvements in reducing energy consumption and improving energy efficiency in refineries will ultimately reduce the carbon intensity of the fuel we produce. Opportunities that do align with some of the limited opportunities around the output-based pricing system will, again, assist in reducing the carbon intensity of the fuel we produce. Certainly, blending biofuels, biocomponents, whether that's renewable diesel or whether it's ethanol, presents other compliance opportunities, but they come at a cost.

The challenge we have with regulatory mechanisms like the clean fuel standard or renewable fuel standards is that they are not particularly transparent with respect to the costs. We don't see how this is the price of carbon and how that translates to the price of a litre of fuel.

We've seen many studies in Canada done by independent think tanks over the last number of years that point to a very high price on cost per tonne mitigated of renewable fuel blending, in the hundreds of dollars per tonne, which aren't transparent to the average citizen, and, hence, don't influence their ability to make decisions.

Certainly, it's a compliance pathway. It's work we're doing already. The ethanol blending level in Canada today probably averages better than 7% through various renewable fuel band-aids, but it's an expensive cost per tonne of GHG mitigation measure.

Mr. Wayne Stetski: Thank you.

Just because I'm curious, does ethanol have a role in the future of jet fuel?

Mr. Geoffrey Tauvette: There is a process whereby you can convert alcohol to jet, so it's a potential pathway.

Mr. Wayne Stetski: We're not there currently?

Mr. Geoffrey Tauvette: It has been approved under our international standard or specifications board. Some technologies have just started to appear in order to be able to do it well.

Mr. Wayne Stetski: Thank you.

I'm dying to ask—

The Chair: You have 20 seconds.

Mr. Wayne Stetski: Maybe I will talk to you after. My constituents would love to know how come every gas station in Cranbrook is at the same price all the time. They all go up the same and they go down the same, but we can talk about that after.

Mr. Peter Boag: That's what's called a competitive market.

The Chair: As we wrap up this one, I would like to thank all the witnesses for coming today. I think it has been a good discussion.

With that, we're going to suspend for a few minutes. I do need to clear the room, except for the members and staff. We have 10 minutes of in camera business we need to get to.

With that, we will suspend. Thank you for joining us.

[*Proceedings continue in camera*]