HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

44th PARLIAMENT, 1st SESSION

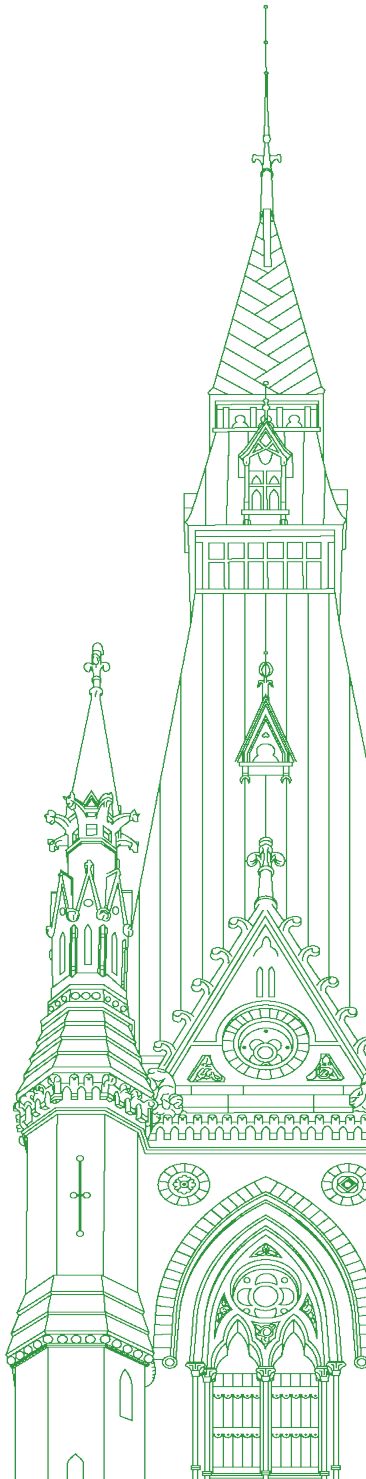
Standing Committee on Natural Resources

EVIDENCE

NUMBER 007

PUBLIC PART ONLY - PARTIE PUBLIQUE SEULEMENT

Monday, February 14, 2022



Chair: Mr. John Aldag

Standing Committee on Natural Resources

Monday, February 14, 2022

● (1535)

[*English*]

The Chair (Mr. John Aldag (Cloverdale—Langley City, Lib.)): I call this meeting to order.

Welcome to meeting number seven of the House of Commons Standing Committee on Natural Resources.

Pursuant to Standing Order 108(2), the committee is continuing its study of a greenhouse gas emissions cap for the oil and gas sector. Today is our second day of eight meetings with witnesses for this study.

Today's meeting is taking place in a hybrid format, pursuant to the House order of November 25, 2021. Members are attending in person in the room or remotely using the Zoom application. Please note that the webcast will always show the person speaking, rather than the entire committee.

I'd like to take this opportunity to remind all participants that taking screenshots or photos of your screen is not permitted now that we're in session. Today's proceedings will be televised and also made available via the House of Commons website.

We are all familiar with the health and safety information, having gone through it in six previous meetings.

I will go into some detail for our witnesses, most of whom are joining us for the first time.

To ensure an orderly meeting, I'd like to outline a few quick rules to follow.

Interpretation services are available for this meeting. You have the choice, at the bottom of your screen, of floor, English or French. Members and witnesses may speak in the official language of their choice.

We also ask our witnesses to not speak too quickly. You don't have to be really slow, but just try not to go really fast. This allows the interpreters to keep up and do their job properly. We also ask you not to speak over each other, because that also makes it impossible for the interpreters to deal with simultaneous conversations going on, so be respectful of that.

For anyone in the room, raise your hands. For anybody onscreen, use the "raise hand" function. The clerk and I will do our best to try to figure out the order we're going in.

Before speaking, please wait until I recognize you by name. If you are on Zoom, please click on the microphone to unmute yourself. For members in the room, we'll control the microphones here. When you're not speaking, your microphone should be on mute.

I remind you that all comments by members and witnesses should be addressed through the chair.

This is a study of greenhouse gas emissions for the oil and gas sector.

We have several panels with us today. Thank you for making the time to join us.

We're going to give each of you five minutes for an opening statement. I use a timing system. There will be a yellow card when you have 30 seconds left, and when the time you're given is up, I'll use a red card. This will be the case when we do the interactions, as well. Don't stop mid-sentence, but wrap up your thought, and then we can move on to the next person.

We're going to try to end the panel today by about 5:15 p.m. We have brief, in camera committee business to attend to at the end of the meeting, so—for the witnesses—we will be adjourning slightly before we scheduled you. However, I think we'll still have a very good discussion for the time we have together today.

If I get anyone's name wrong, please correct it when you introduce yourself. I apologize if I do get it wrong. We have on our panel, from the Canadian Urban Transit Research and Innovation Consortium, Josipa Petrunic, president and chief executive officer; from the Canadian Institute for Climate Choices, Dale Beugin, vice-president, research and analysis; from Clean Energy Canada, Merran Smith, executive director; from Clean Prosperity, Michael Bernstein, executive director; from Climate Emergency Unit, Seth Klein, team lead; and from the Pembina Institute, we welcome back Jan Gorski, director, oil and gas, and Chris Severson-Baker, regional director, Alberta.

For our committee members, we do try to balance off the witnesses being put forward from each of the parties. Sometimes, due to scheduling, we can't have a complete balance, but we're going through all 52 names of organizations that were put forward. We've had some additional ones come in. I'll try to do my best to have balance. It's not always possible, but we will get to everybody.

With that, Ms. Petrunic, please proceed with your opening statement.

● (1540)

Dr. Josipa Petrunic (President and Chief Executive Officer, Canadian Urban Transit Research and Innovation Consortium): Thank you very much to the committee, and thank you for the opportunity to appear before the Standing Committee on Natural Resources.

My name is Josipa Petrunic. I am the president and CEO of the Canadian Urban Transit Research and Innovation Consortium, CUTRIC.

CUTRIC is a technology innovation consortium. All we do is design, develop and launch electric bus, fuel cell bus and autonomous electrical technology projects.

This committee's focus is on energy-oriented natural resources. Those are supplies that Canada is rich in. We all know that. From our perspective at CUTRIC, Canada's natural resources include electrons produced from renewable hydro power, solar and wind and non-emitting sources such as nuclear and renewable natural gas, all of which are extremely strategically important in a globalized world.

Just as bitumen was impossible as a market fuel in the 1960s and 1970s until the federal and provincial governments invested heavily, alongside industry and technology innovation, in the development of technologies like SAGD—steam-assisted gravitational drainage—that help us today to extract thick petroleum supplies from the previously inaccessible depths of the earth, so too will renewable electricity and renewable hydrogen benefit from ongoing and upcoming public investments in innovation and technology.

In my remarks today, I'm going to make two recommendations. Both of them are based on the fundamental position that energy is energy. Whether energy is produced and carried in the form of a hydrocarbon molecule, an electron or a hydrogen atom, energy is energy. If, as Canadians, we want to stay an energy superpower of the future in the 21st century, then we do believe that the federal government has two critical roles: One is as a convenor and one is as an investor in the energy supply sector of the future.

The first recommendation I'd put forward is that Natural Resources Canada in particular should be playing a national convenor role between all provincial and territorial ministries of energy. Over the past six years at CUTRIC, we've led a national power providers working group, which brings together utilities in the nation looking to see how they can become power providers of the future.

We published a major national report last year on this very issue. We discovered a few really important things.

First off, we have some really important critical first movers: BC Hydro, Manitoba Hydro, Hydro-Québec and Nova Scotia Power. These are vertically integrated utilities that help to develop new commodity and demand pricing mechanisms for electrical energy supplies that directly address transportation pollution and greenhouse gas emissions—in particular, in the transition out of oil and gas as our prime fossil fuel transportation mode.

These energy producers in particular struggle with some of the regulatory frameworks they work within. What we've discovered is that BC Hydro is a first mover in the country. It certainly has the kinds of programs that others are going to want to copy. BC Hydro has created both an overnight and a demand charge rate, both of which are specifically designed to support the electrification of buses in Vancouver and across British Columbia.

These regulatory innovations should be shared with all 10 ministers of energy across the country and territorial energy leaders in the north, but in our current Confederation, electricity is a provincial jurisdiction. It's not the job of British Columbia to convince Saskatchewan, Ontario or Nova Scotia to follow its lead, but it is the job of Natural Resources Canada to do so in a convenor role, to helpfully convene and coordinate the sharing of these best practices, along with provincial electricity jurisdictions, in the pursuit of low-carbon fuel production.

My second recommendation to the committee today is focused on innovation investments in hydrogen. Natural Resources has expanded and can expand further a suite of innovation programs to assist in price point reduction for public fleets like transit that will use renewable hydrogen over the next five years.

We know that over the past decades we have invested heavily in innovation in the oil and gas sector; I mentioned SAGD technology as a great example. Similar kinds of investments are going to be required in ensuring that the price point for green and renewable hydrogen drops to diesel price parity over the next five to seven years. It is possible, but currently, renewable hydrogen at small volumes of under 1,000 kilograms per day, which supports about 30 fuel cell electric buses, is about four times the price of non-renewable diesel.

It's not surprising, since diesel benefits from a pre-existing massive and well-established distribution supply chain and millions of kilograms of demand per day, but if we are keen to ensure green hydrogen can compete over the long term and keen to position Canada as an energy superpower of the future, then most certainly there is a role for Natural Resources to engage in the subsidization of the price of renewable hydrogen—for public fleets specifically—in Canada over the next five years. This is going to help us overcome the gap in price between renewable hydrogen and diesel for public fleets, creating a marketplace that will naturally accommodate for-profit freight operators in the future and ensuring that diesel and renewable hydrogen price hit parity by 2030 in a liberal, globalized market economy.

In closing, Natural Resources Canada has played a pivotal role in innovating the oil and gas sector in the past and still does today. That's why we're an energy superpower, but the same kinds of investments are now needed in the energy industry of the future, in the interests of all Canadians.

Thank you for your time. I'm happy to answer any questions.

● (1545)

The Chair: Thank you for your opening comments.

We will now go to the Canadian Institute for Climate Choices, and Dale Beugin. I'd ask to keep it nice and relaxed. The interpreters kept up, but we don't want to make them work so hard in keeping up for the entire meeting. They'll go home with a big headache.

Please cover as much as you can in five minutes, and then we'll have lots of time for discussion afterward.

Thank you.

Mr. Dale Beugin (Vice-President, Research and Analysis, Canadian Institute for Climate Choices): Thanks so much for inviting me to speak today.

Should the government adopt an emissions cap for the oil and gas sector, our research suggests that a well-designed policy would be consistent with an economically prosperous pathway to net zero for Canada.

I would like to make three points today, drawing on our research.

First, a new zero pathway for the oil and gas sector is feasible. The institute's research shows that Canada can achieve net zero while maintaining economic growth. These pathways rely on two kinds of solutions.

Safe bets are already commercially available and scalable. In oil and gas, safe-bet solutions include methane capture from fugitive emissions, industrial energy efficiency, and carbon capture, utilization, and storage, CCUS, for concentrated streams of CO2. Safe bets are critical for achieving the 2030 target.

Wild cards on the other hand might be game-changers, or they might not contribute significantly. In oil and gas, wild cards include blue hydrogen, direct air capture for carbon removal, and CCUS for unconcentrated streams. Achieving net zero by 2050 becomes easier if wild cards become available. That means safe bets and wild cards are complements. Both are necessary, and both require policy.

Safe bets are driven by increasingly stringent carbon pricing and regulations, for example, methane regulations to the clean fuel standard. Wild cards are driven by expectations of future carbon prices; they require policy certainty, but also public investments in innovation demonstration projects.

A cap on emissions in the oil and gas sector should be part of a coherent strategy that includes policies to create incentives for both safe bets and wild cards.

Second, a cap should take into account international shifts. Our research finds that international action on climate change, and the market shifts that will come with it, will have bigger implications for the long-term competitiveness of oil and gas than domestic climate policy.

This shift is already under way. International investors with over 40% of global assets under management have committed to supporting net-zero goals. Countries representing more than 90% of global GDP have committed to net zero, and the costs of low-carbon technologies are dropping rapidly.

A sector cap should recognize that this international momentum could decrease demand for Canadian oil and gas over the medium to long term, creating risks of lost competitiveness and lower production. Projections from the IEA and the Network of Central Banks and Supervisors for Greening the Financial System highlight that an accelerating global low-carbon transition is a credible future with real risks and opportunities, and must be taken seriously by policy-makers.

An ambitious but practical cap on oil and gas emissions can also support long-term competitiveness in an investment environment that increasingly prioritizes transparency and disclosure around environmental performance.

Third, a cap on oil and gas emissions should be designed to cost-effectively work with other policies as a coherent package that can be adjusted and adapted over time.

A sector cap should cap emissions, not production. It should rely on a flexible, market-based policy instrument to implement a regulated cap. Existing output-based carbon pricing systems could be adapted to provide certainty with respect to emissions and emissions levels.

Incentives should be created for carbon removal. Credits for permanent carbon removal under the cap could create these incentives, but they also could create liquidity in markets for credible credits under the cap.

There should be coordination with other policies. A tax credit for carbon capture, utilization, and storage, for example, would make it easier for firms to achieve the emissions cap, but would also affect demand for tradable credits and the price of carbon in the sector.

It should be robust to uncertainty. Faster than expected declines in global demand and low oil prices could also lead to lower carbon prices under the cap. Spikes in demand could lead to high prices.

Relying on transparent and predictable governance processes is one approach to update and adjust these strategies in this coherent package of policies over time to address those challenges.

Thank you for the opportunity to speak. The institute looks forward to sharing additional research to inform this policy issue in the future.

I'm happy to take any questions.

● (1550)

The Chair: Thank you for your opening comments.

With that, we will now go to Clean Energy Canada, and Merran Smith, for five minutes.

Ms. Merran Smith (Executive Director, Clean Energy Canada): Good afternoon, Mr. Chair and members of the committee.

I'm a fellow at Simon Fraser University and the executive director at Clean Energy Canada, which is a climate and energy think tank at SFU.

Today, I want to share three recommendations for implementing this oil and gas sector cap. First, however, innovations in the oil and gas sector should be recognized, as emissions per barrel have declined over the past two decades. Unfortunately, overall emissions from the oil and gas sector have nevertheless been increasing steadily over the long term.

Canada's oil and gas sector emissions are significant, at 26% of our total emissions. For Canada to succeed in meeting our climate target, all sectors, including the oil and gas sector, will need to reduce emissions in the range of 40% to 45%. If we design this oil and gas sector emissions cap well, it will provide a predictable transition to a net-zero future for oil and gas workers, their communities and the economy, and will support Canada in meeting our climate commitments.

What must Canada do while setting this cap? I advise the government do three things. First, make the plan clear this year. Second, everyone in the sector needs to do their fair share. Third, incent the energy and industries that will be growing in 2030 and 2040.

The first recommendation is make the plan clear this year. Like any new regulation or legislation, the process for setting this cap needs to be done well. It needs to have the right consultations and be evidence based. With Canadians and people around the globe already living with climate change impacts, this cap needs to be put in place quickly. We recommend that Canada set an interim 2030 emissions cap for the sector by the end of 2022. This is to provide industry the clarity it needs to make investments now to reach that 2030 target. The interim cap must align with Canada's 40% to 45% emission reduction commitment. It should be consulted on in 2023 and finalized by the end of that same year. We also need five-year milestones that linearly and predictably drive sector emissions to zero by 2050 to align with Canada's net-zero legislation. This is to ensure that we aren't allowing industry to back-load those reductions.

Our second recommendation is that is everyone in the sector needs to do their fair share. Government should establish disincentives for operators exceeding their share of the sectoral cap, which could include things like financial penalties, removal of tax incentives or loss of trade protections under the federal output-based pricing system. Everyone needs to do their fair share.

Thirdly, we need to incent the energy and industries of the future. The cap shouldn't be used by governments or industry as a mechanism to grow Canada's oil and gas industry. The International Energy Agency is clear that under its announced pledges—this is what nations committed to prior to the Glasgow climate summit—global oil production will decline to 90 million barrels per day in the early 2030s and to 80 million barrels per day in 2050. Global gas production will plateau in just three years—by 2025—and remain flat thereafter. The evidence is clear: Canada's future economy will be less reliant on oil and gas exports and therefore, the Government of Canada should avoid investing in industries that will not be growing beyond this decade.

Fortunately, Canada is well positioned to be a leader in clean energies, from our abundance of renewables to blue hydrogen potential while transitioning to cleaner green hydrogen. We have the metals, minerals and opportunities to be a leader in batteries and other storage technologies, along with carbon capture and storage. We can use our clean energy to produce low-carbon metals, minerals, steel, cars and other manufactured products.

If Canada acts on it current climate commitments, there are projected to be 640,000 clean energy jobs, which is an increase of almost 50%, or 209,000 jobs, over this decade. These are diverse, blue-collar and white-collar jobs. They're in rural and urban communities in every province across the country.

Lastly, I would bring to the committee's attention that the carbon intensity of oil produced from Canada's oil sands remains the highest globally. That is why a cap on oil and gas emissions followed by five-year emissions reduction milestones is critical if Canada is to reach its climate targets.

Thanks for the opportunity to speak with you. I look forward to questions and discussion.

● (1555)

The Chair: Thank you for those opening comments.

Next up we have Michael Bernstein from Clean Prosperity .

Michael, we'll go over to you for five minutes.

Mr. Michael Bernstein (Executive Director, Clean Prosperity): That's great. Thank you very much, Chair, and thanks to the committee for having me here today.

I want to use my time to explain why I think leveraging the existing carbon pricing system for heavy industry is the best approach to pursuing the goals of the emissions cap.

I know a number of previous witnesses have argued for a cap-and-trade system. I agree that a cap-and-trade system is a viable option here, but I think there are some shortcomings to a cap-and-trade system that would make direct pricing a better choice. Here are the three reasons for that.

First, it's going to take time to set up a new system, and we really do not have more time. We need businesses to move forward with emissions reductions as soon as possible, because 2030 is really tomorrow when it comes to large capital projects.

Second, a new system creates more instability when what we most need, and what investors and businesses most need, is stable long-term policy.

Third—and this is a key thing—a cap-and-trade system doesn't necessarily have a true, hard cap, because they're almost always designed with price controls. If you look at the California and Quebec system, the EU system, or really any system around the globe, what you're going to see is if the price gets too high too quickly, the government will inject more credits into the market to reduce price pressure. Once they do that, a cap-and-trade system becomes functionally very similar to a direct carbon pricing system.

Those are the three reasons that I think a direct pricing system, meaning the output-based pricing system we have today as well as the provincial and territorial systems that are equivalent to that system, should really be the primary tool we use to drive emissions reductions across oil and gas and around heavy industry as a whole.

If that approach is to be followed, I would really emphasize to the committee three key recommendations for how that direct pricing system could be strengthened to achieve the objectives that would otherwise be achieved by a cap.

The first and biggest thing that should be done is to provide the private sector more confidence that the price will actually reach $170 per tonne by 2030. We have many decarbonization projects today that would be profitable at $170 per tonne, but they're not happening, and why is that? The key reason is that business doesn't have the certainty that the price will actually reach that $170 level, so I think the federal government should address this. They have a few options to do that, but one of them would be to sign so-called “contracts for difference”, under which the government would basically agree to provide financial relief to companies if the carbon price doesn't hit a specified level, such as $170 per tonne.

The second key recommendation to strengthen carbon pricing would be to increase the share of emissions that a carbon price applies to, within both the federal system and the provincial and territorial systems. Today, as many of you will know, the average oil and gas firm pays the carbon price on a pretty small share of emissions. Depending on the system and the firm, it's around 20%. The federal policy could be strengthened to require that the share of emissions grows over time to 25%, 30%, 35% and so on.

The third recommendation is that the government could, and should, reserve the right to increase the carbon price beyond the schedule if emissions reductions are not occurring quickly enough in accordance with the target or cap that might be set.

In using these three approaches, it would be a faster system. It would be functionally similar to a cap-and-trade system, and it has another really important advantage, which is that it will enable more emissions reductions at a lower cost. That's because if you strengthen the industrial carbon pricing system as a whole, it's going to apply not just to the oil and gas sector, but to all heavy emitters. Therefore, you're accelerating decarbonization and you're doing it at a lower cost by allowing trade. Of course, you'd need to do this all in a way that treats industry as a partner in decarbonization and allows them to maintain competitiveness. That's going to require policies such as an investment tax credit, such as a border carbon adjustment, but taken together, these policies can help industry do what they themselves have committed to doing.

In conclusion, I really think the government should closely consider using the existing carbon pricing system to achieve the types of reductions that are intended under a cap.

● (1600)

Even though a cap-and-trade system is viable—it can work—strengthening the carbon price can more quickly do more, and it would likely achieve those emissions at an even lower cost.

Thank you very much.

The Chair: That's wonderful; everybody's staying very close to the five-minute mark. I really appreciate it because we can get right into the questions and answers.

Next up we have Seth Klein from the Climate Emergency Unit.

Mr. Klein, we go over to you for five minutes.

Mr. Seth Klein (Team Lead, Climate Emergency Unit): Thank you, and thank you very much for this invitation.

I'm joining you from the unceded territories of the Musqueam, Squamish and Tsleil-Waututh nations and from a province where major fossil fuel pipeline projects, the Trans Mountain pipeline expansion and the Coastal GasLink pipeline, one owned by the federal government outright and one where Export Development Canada has a major stake, are being built over the objections of indigenous titleholders and in clear violation of the United Nations Declaration on the Rights of Indigenous Peoples.

Honourable members, we have a problem. Your deliberations cut to the root of how serious we are as a country when it comes to confronting the existential threat of our time. We pride ourselves on being climate leaders, yet we have been highly resistant to tackling our role as global producers of fossil fuels. Our governments have persisted in peddling a fundamental falsehood, namely, that we can significantly lower our GHG emissions while doubling down on the extraction and export of oil and gas.

As a country, for the last 20 years, despite all of our pledges and commitments, the best we have managed to do is plateau our emissions at a historic high. We have failed to bend the curve. Why is that? In fact, many sectors of the economy and most provincial jurisdictions have managed to lower their emissions, but all their good work has been undone by the expansion of production and emissions from the oil and gas sector. The combined impact is a wash.

For years, the 26% of our emissions that derive from this sector have been the elephant in the room, so it is of great significance and very welcome that the governing party has finally named this and recognized the need for a declining emissions cap on the oil and gas sector, but, in the absence of strong action from the federal government, the trends show little sign of abating. Canada is on track to produce more oil and gas this year than ever before.

Here in my province of British Columbia, plans continue to build LNG Canada, aided by a huge federal subsidy which, if completed, will become the largest point source of emissions in this province.

Off Newfoundland, the proposed Bay du Nord project would be another carbon bomb, one that the federal government will hopefully reject. Yet, according to the UN's 2021 “Production Gap” report, “Governments' planned fossil fuel production remains dangerously out of sync with Paris Agreement limits.” They place us on a path to produce more than twice the amount of fossil fuels in 2030 than is compatible with limiting global temperature rise to 1.5 degrees. Within those global production plans, Canada's expansion plans rank sixth.

We are on a collision course with what our children require for a safe future.

You have heard testimony that what Canada exports is not our concern and that our task need merely be to achieve net-zero emissions from our domestic extraction and production processes, but this view is untenable. As one Forbes columnist recently put it, “It is like Philip Morris International promising that none of its workers will smoke while manufacturing cigarettes.”

In the end, who cares? The greatest concern isn't the production emissions, it's what happens when that product successfully gets to market and is burned. Those scope 3 emissions account for 85% of the GHGs from fossil fuels. As you've also heard, the GHG emissions embedded in the fossil fuels Canada exports now exceed our domestic emissions. To ignore these scope 3 emissions is a moral abdication.

I invite you to follow this argument that our exports don't matter to its logical conclusion. Ultimately, it is a deeply cynical take. It is cynical because only two outcomes are possible. Either a market will persist for our expanding fossil fuel exports because the Paris Agreement will fail and global demand will continue to grow, consigning our children and grandchildren to a hellscape. Conversely, global demand will in fact start to collapse, as it must, consigning fossil fuel workers and their communities, many of whom you represent, to an unplanned period of profound tumult and disruption. In either case, the outcome is bleak.

Real hope rests in a thoughtful, planned wind-down of the industry, paired with an audacious, compelling, just transition plan, one that puts on the table billions of dollars for real climate action infrastructure. This needs to be understood as the essential flip side of the emissions cap. This is where significant federal support money should be going.

Am I saying that we should reopen the Constitution? No, but the federal government can and should use every tool within its authority to drive down emissions and to effectively ramp down production, and those tools are many. Exports are under federal jurisdiction, and if the federal government can ban coal exports, so, too, can it begin to limit oil and gas exports. Interprovincial transport, like the pipelines I just mentioned, is under federal jurisdiction. Offshore production comes under federal jurisdiction.

● (1605)

The federal government can implement a carbon test on new fossil fuel projects and require that they comply with the UN Declaration on the Rights of Indigenous Peoples. Of course, in the absence of federal subsidies, many fossil fuel projects simply become economic. We are now obliged to ensure that our practices align with the international commitments we've made under Paris. The Supreme Court of Canada in its decision last year has recognized the imperative of this moment and the right of Parliament to act at a national level.

The Chair: Excellent, thank you.

Now, we'll go to the final opening statement from The Pembina Institute.

You have five minutes.

Mr. Chris Severson-Baker (Regional Director, Alberta, The Pembina Institute): Thank you.

I am Chris Severson-Baker, the Alberta director of The Pembina Institute. I'm based in Calgary, on the traditional territories of the Blackfoot Confederacy in the Treaty 7 region of southern Alberta. Joining with me today is Jan Gorski, oil and gas director with the institute, who will be helping with your questions today.

As you've heard many times in the testimony over the last four sessions, the oil and gas sector is the largest emitting sector in the economy, and these emissions have risen by 20% since 2005, at a time when most other sectors have reduced emissions, with transportation being a notable exception to that. Therefore, there are significant opportunities to reduce emissions from oil and gas.

Companies have been investing in innovation, driving down the cost of abatement for some time, even though there have not been significant investments in the commercial scale application of many of these technologies. Companies have implemented cost-saving measures that have reduced emissions intensity even while absolute emissions have risen significantly, but many of the really big opportunities to reduce emissions are awaiting clearer policy and a clearer price signal.

Canada will be hard pressed to meet its target of an ambitious 40% to 45% reduction without an ambitious cap on oil and gas emissions. We therefore recommend a cap of emissions at 2019 levels for the oil and gas sector, declining by 45% from 2005 levels by 2030 with five-year milestones starting in 2025, all the way to net zero in 2050.

Reducing emissions from the sector is necessary, not only to meet our targets but also to remain competitive in a world that is placing increasing value on GHG performance. You've heard that the IEA is predicting the demand for oil will decline after 2030, and Canada's oil sands companies have recognized that the world is acting on climate change by committing to net zero.

These companies have published a vision statement that includes a 22-megatonne reduction by 2030 and a conceptual plan beyond that. That conceptual plan doesn't credibly get you to 2050, but the first chunk of emissions reductions to 2030 appears valid and is likely to require more policy stability and a higher carbon price as well. A cap on oil and gas emissions is a way to hold these companies accountable to their net-zero targets.

The oil and gas sector is well placed to make investments to reduce emissions. Peter Tertzakian, a respected voice in oil and gas, has pointed out that the sector's revenues in 2021 and 2022 are going to achieve record levels due to rising oil prices, lower costs and other factors. Companies are well placed to make investments, and there are plenty of low-cost emissions reductions available but, again—and it's been pointed out many times—they are awaiting a higher price on carbon, and stability in the carbon pricing policy in Canada.

One really significant opportunity is methane emissions. We can cut methane emissions by almost 90% for less than $25 a tonne by 2030. There are also efficiency gains and process improvements available in the oil sands and natural gas production sectors. There's a large opportunity to electrify natural gas production in B.C. with hydro power. Taken together, these emissions reduction opportunities are substantial and are based on current technology.

Finally, it is reasonable to expect that emissions reductions will also occur as a result of facilities reaching the end of their economic life between now and 2030, and then beyond of course.

Canada has the foundational policy pieces needed to achieve significant emission reductions in the oil and gas sector, and we recommend immediately strengthening Canada's industrial carbon pricing system during the review that is happening right now. This would require existing intensity benchmarks to decline by at least 4% per year so that all emissions from oil sands and other large emitters are fully priced by 2050.

At the same time, the government should develop a cap-and-trade system for the oil and gas sector, but we recognize that this takes time, and early-term reductions in emissions will only be achieved through tightening existing policy.

● (1610)

Strengthened methane regulations can also achieve significant reductions early on, well before 2030. The federal government has already committed to reducing methane emissions from oil and gas by at least 75% by 2030.

Thank you very much.

I look forward to your questions.

The Chair: Excellent.

Once again, thank you to all of you for your opening comments and for staying pretty much right on the five-minute mark.

I'm going to our first round, in which each of the MPs selected will have six minutes.

First up is Ms. Rempel Garner.

It's over to you for six minutes.

Hon. Michelle Rempel Garner (Calgary Nose Hill, CPC): Thank you, Mr. Chair.

I'm going to start my questioning with Ms. Petrunic from the Canadian Urban Transit Research and Innovation Consortium.

I do believe that we need more public transit as a substitute good, as a low-carbon alternative to vehicles. My question is this: How do we do that?

I know that your organization, Ms. Petrunic, is talking about innovations to improve and make public transit more carbon efficient. My concern is that there, perhaps, isn't enough governance research being done on how we actually build public transit writ large. For example, in my riding in Calgary, we've had a public infrastructure project, the green line—which would have seen about 50,000 cars pulled off the road—frankly held up in a bureaucratic quagmire by Calgary city council for about 10 years.

Has your organization undertaken any research to see how those types of roadblocks could be overcome in order to see these types of projects actually built in the first place?

Dr. Josipa Petrunic: As a fellow Calgarian, I can tell you that it's one of the things that I personally have been watching to try to understand why it's not moving forward.

In a rail sector, there is a different dialogue, compared to that of buses. There's a different kind of procurement at play.

In general, what I can say is the following. When it comes to zero-emissions technologies, for certain the public transit fleet, whether it's buses, coaches or trains, is a gateway to heavy-duty freights and trucks, so there's a benefit there. Even if it is bureaucratically challenging to get it out the door, it does move the industry pretty quickly.

When it comes to public transit, particularly technology-intense, complex transit projects, it is fair to say—and to be fair to our transit agencies in our cities—that they are not well equipped for this transition, to start with, which is why it becomes stuck in a bureaucratic quagmire, to some extent. I'll give you one example. Calgary Transit, Edmonton Transit, TTC, and OC Transpo are great transit agencies that do great work, but they have not, historically, had large cadres of electrical engineers, hydrogen engineers or high-power systems engineers, whose job is to innovate this stuff.

● (1615)

Hon. Michelle Rempel Garner: I'm sorry to interrupt, but I have only four minutes left.

Dr. Josipa Petrunic: Yes, sure.

Hon. Michelle Rempel Garner: Please try to keep your answers brief.

Again, we had this wonderful project teed up to come into my riding. It would have brought social inclusion and equity with respect to public transit to people in my community. There's really not a lot of public transit infrastructure for north or north-central Calgary. People want it, yet we have seen city council continue to impede the process of this. I'm wondering if you have any experience with how municipal politicians can get out of this habit of looking for ways to, perhaps, prevent public transit from being built out. How can municipal-level governments be incented by federal funding partners to actually get the projects, be they bus, BRTs, or LRTs, built out in the first place, given the climate emergency that we're facing?

Dr. Josipa Petrunic: To keep it short and simple, I would say that tying the money to a timeline is probably the quickest and most efficient way to move at the municipal level.

When it comes to zero-emissions technologies, most municipalities have passed a zero-emissions sustainability plan, so they're driven by their own timeline.

In those cases in which that plan is not rigorous, I would—

Hon. Michelle Rempel Garner: Would you, then, say that as a recommendation for this report, any federal infrastructure funding related to public transit should be tied to some sort of timeline in order to actually see emissions reductions gains that might be embedded into the funding program to begin with?

Dr. Josipa Petrunic: I would, one hundred per cent. It's a smart idea.

Hon. Michelle Rempel Garner: What do you think is the impact on climate change in Canada of municipal councils' delaying of projects like the green line?

Dr. Josipa Petrunic: That's a large question.

I think the general impression is that if you want to get cars off the road, you have to get bums in the seats of public transit systems, so the general impact is thousands of cars off the road and the greenhouse gas emissions that go with that.

I would say that whether it's the green line or any other public transit mode that's been delayed unjustifiably—because there are justifiable delays and then there are unjustifiable delays—in those cases you are talking about thousands and thousands of megatonnes of pollution that remain in the air that don't need to be there. Ultimately, delaying public transit delays our achievements.

Hon. Michelle Rempel Garner: Given that you're a Calgarian, this is a great case study. Would you say that the Calgary green line has been unjustifiably delayed?

Dr. Josipa Petrunic: That's a question I can't answer, unfortunately. That's one I think you would have to ask city council in depth about their procurement.

Hon. Michelle Rempel Garner: What are some of the metrics we would be looking at to determine that?

Dr. Josipa Petrunic: An obvious one would be cost profile versus timeline to deliver, for sure, and ridership—

Hon. Michelle Rempel Garner: Is 10 years to even start a project a justifiable delay?

Dr. Josipa Petrunic: To be frank, in the rail sector that can be reasonable, but timelines tied to deployment and ridership numbers are pretty critical metrics to use.

Hon. Michelle Rempel Garner: Okay. Given the context of addressing climate change, do you think 10 years from a funding announcement to even getting a foot of rail built on a major project like the green line is acceptable? Do you think that should be changed in light of Canada's net-zero emissions targets?

Dr. Josipa Petrunic: Yes, it should be changed. Ten years is a long period of time.

Hon. Michelle Rempel Garner: Excellent. It sure is, isn't it? It certainly is for the people in my community—

Dr. Josipa Petrunic: For any transit....

Hon. Michelle Rempel Garner: —for north central Calgary. They've been let down for a long time by both city council and this government.

Thank you, Ms. Petrunic.

Dr. Josipa Petrunic: You're welcome.

The Chair: Excellent. Thank you.

We will now go to Ms. Dabrusin, who has six minutes.

Ms. Julie Dabrusin (Toronto—Danforth, Lib.): Thank you.

What was interesting in listening to the witnesses was different ideas about the structure of what goes into an oil and gas cap.

If I could start with Clean Prosperity, there was a focus on direct pricing as opposed to cap and trade. In that conversation, though, comes up the issue about what the impact is on international trade for our products.

What's the role for border carbon adjustments as part of this, and what should we be thinking about when we're designing it, if we're focusing on direct pricing as our system?

● (1620)

Mr. Michael Bernstein: Border carbon adjustments, or some equivalent policy at our border, are absolutely critical if we're going to proceed with more ambitious climate policy. What we don't want to do is apply high charges to domestic industry in a way that just moves them overseas and does nothing for emissions. We have to have a border carbon adjustment or some equivalent.

One advantage of moving to a stricter pricing system and one that applies eventually the full carbon price to industry is that you will also be able to rebate that carbon price for exports. Our current regulatory-based system, the output-based pricing system, would not allow rebates to exporters.

I think border carbon adjustments are critical, and I think they should be done in tandem with moving to a full carbon pricing system over the course of this decade.

Ms. Julie Dabrusin: You referred to “or some equivalent”. What would be the “some equivalent” we should be thinking about if it's not a border carbon adjustment?

Mr. Michael Bernstein: There are other approaches. There's pushing for a minimum global carbon price. There are climate clubs, in which tariffs are applied more broadly to countries that are not part of the club. But the use of border carbon adjustments is certainly a leading option.

Ms. Julie Dabrusin: Thank you.

Monsieur Beugin, you also referred to the need to account for international shifts. What do you see as the role for border carbon adjustments, and what do you think of the other options that might also be out there to take into account those shifts?

Mr. Dale Beugin: Thank you for the question.

I agree with Mr. Bernstein that the issue of leakage and competitiveness is one that has to be taken seriously. You don't want to be driving emissions reductions through production shifts to other jurisdictions with your policy.

Border adjustments are one solution. The existing system, the output-based pricing system, is also designed to address this problem. It creates an incentive to reduce emissions by improving the emissions intensity of production rather than by decreasing production. Fine-tuning that system and using it as an instrument still remain an option. It can complement border carbon adjustments, but they can also trade off between the two of them. If you were to shift to border carbon adjustments, that would allow you to raise the emissions intensity benchmarks in the output-based pricing systems.

Ms. Julie Dabrusin: In your mind, border carbon adjustments would actually be an effective tool as part of the program we'd be putting in place if we were putting in a cap on the emissions from oil and gas.

Mr. Dale Beugin: They can absolutely be an effective part of the system. They are complicated administratively. It's the only downside.

Ms. Julie Dabrusin: Is there anything you would flag for me as something I should be thinking about in the complicated...?

Mr. Dale Beugin: There's good research out there that is longer than a 30-second sound bite. The issue of collaboration and coordination of other countries is really essential. Canada would want to do this with the U.S. or the EU as part of those carbon clubs that Mr. Bernstein is referring to.

Ms. Julie Dabrusin: That's great. Thank you.

While I still have you, because I believe you suggested cap and trade, Mr. Bernstein suggested that it would take too long. What's your response to that?

Mr. Dale Beugin: There's more than one way to create these incentives. It could be, as Mr. Bernstein suggests, by increasing the price of carbon over time for the average cost in those output-based pricing systems. The trade-off is certainty in price versus certainty in quantity. That trade is hard to avoid.

With a cap-and-trade system, you can't establish that certainty at the emissions level if that cap is contained to the oil and gas sector, in particular. There is more than one way to do this and they each have advantages and disadvantages.

Ms. Julie Dabrusin: When you made the evaluation, you thought the cap and trade was a better way to go.

Mr. Dale Beugin: If the government's intent is to establish certainty in emissions levels in that sector—as has been the focal point for discussion—and if that is required, a cap-and-trade system can better deliver that certainty.

Ms. Julie Dabrusin: I have very little time left, but my question is whether there is a way to establish a cap-and-trade system with the speed we would need in order to meet the standards that we need on our emissions reductions.

Mr. Dale Beugin: The output-based pricing system represents a starting point, even for a cap-and-trade system. It wouldn't be starting from scratch. There is a possibility to transition the existing system to that sector-level cap system. That would be a way to accelerate that process.

● (1625)

Ms. Julie Dabrusin: Perfect. Thank you.

I think I only have 15 seconds left, so I'm going to leave it at that.

The Chair: Perfect. Thank you.

Let's move to Monsieur Simard. You have six minutes.

[*Translation*]

Mr. Mario Simard (Jonquière, BQ): Thank you, Mr. Chair.

I have a quick question for Dr. Petrunic.

In your opening statement, you brought up the need to think about programming that bridges the price gap between renewable hydrogen and diesel.

When you refer to renewable hydrogen, do you mean green or blue hydrogen?

[*English*]

Dr. Josipa Petrunic: I'm talking about green hydrogen.

[*Translation*]

Mr. Mario Simard: All right. Thank you.

In order to reduce our carbon footprint, do you think it makes more sense to invest in a program that closes the price gap, as you recommend, rather than focusing on lowering oil sector emissions?

Would that have a bigger environmental impact?

Dr. Josipa Petrunic: Thank you for your question.

I'm going to answer in English, because it's easier for me.

[*English*]

The basic answer to the question is, should we be investing in a price point parity program to bring diesel into price point parity with green hydrogen? Yes, that's for sure. In the short term, for public sector fleets, absolutely.

Should we do it in lieu of also focusing on a greenhouse gas emissions reduction in the oil and gas sector? No. I would say that, in the interest of Canada and the globe, we have to do both. It's not a zero-sum game. I would argue both happen hand in hand for many of the reasons that many of my colleagues here on the line articulated.

Industries overlap quite substantially. The labour industry overlaps within these technology and energy sectors. Both of them are critical to greenhouse gas emission reductions.

[*Translation*]

Mr. Mario Simard: Thank you.

I ask because I'm trying to figure out what would constitute an efficient subsidy. What is the definition of an efficient subsidy? The Minister of Environment and Climate Change announced that he planned to put an end to inefficient subsidies. To my mind, an efficient subsidy is one that leads to the reduction of greenhouse gas emissions. I don't see how a subsidy can be efficient if it increases production.

Would you agree with me on that point?

I'd like to hear from Mr. Klein as well.

[*English*]

Mr. Seth Klein: I'm sorry. I need you to repeat the question.

[*Translation*]

Mr. Mario Simard: I'm curious as to the definition of an efficient subsidy. The Minister of Environment and Climate Change said that he planned to put an end to inefficient subsidies. What constitutes an efficient subsidy in the oil and gas sector?

The reason I ask is that Dr. Petrunic recommended a program aimed at closing the price gap between diesel and renewable hydrogen. Could such a program be seen as an efficient subsidy?

[*English*]

Mr. Seth Klein: Is that for me?

[*Translation*]

Mr. Mario Simard: Yes.

[*English*]

Mr. Seth Klein: Thank you, Mr. Simard.

Like you, I am quite wary when I hear those qualifiers about effective subsidies and so on.

I was attempting to say that the era of providing subsidies directly to the oil and gas sector should come to an end. Many of these projects simply become uneconomic in the absence of subsidies. Where our direct support should be going is both to those alternatives and to the workers and communities facing the need to transition. That's where public resources should actually be going.

I am wary in general that we seem stuck in an approach that is trying to incentivize our way to victory on the climate emergency. It hasn't worked. I don't think it is going to work. We encourage change. We incentivize change. We give credits. We give rebates. We send price signals. That's not an emergency.

It is helpful that we are now talking about an actual cap—

[*Translation*]

Mr. Mario Simard: Thank you, Mr. Klein.

I may come back to Dr. Petrunic later.

I'm going to be quick because I'd like to hear what Mr. Beugin has to say.

Mr. Beugin, in your opening statement, you talked about safe bets and wild cards in relation to the oil and gas sector.

Without the financial support of the government, can the industry alone leverage safe bets and wild cards to reduce its carbon footprint?

● (1630)

Mr. Dale Beugin: Thank you for your question.

[*English*]

The question of support for wild cards depends on the benefits that they can bring to society. The point isn't to provide support to an individual firm or an individual technology, but to make it easier to get to net zero. That means it's all about making those technologies cheaper and easier to deploy over time.

That matters most for the technologies that can make a big difference. Some of those do exist in the oil and gas sector, such as carbon capture, utilization and storage. The question then becomes how to target those subsidies as best as possible to get value for money while also ensuring that those investments are consistent with the long-term transition, both domestically and internationally.

[*Translation*]

Mr. Mario Simard: Thank you.

[*English*]

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

We're going to go right over to Mr. Angus, who will have his first six minutes.

Mr. Charlie Angus (Timmins—James Bay, NDP): Thank you all so much.

This is so important because we are talking about the future of the planet. When I talk with my daughter and her young friends, they don't really have much trust that there is a sustainable future. When I look at the actions of Canada and our government over the last number of years, they have good reason to be concerned.

The Prime Minister went to Paris in 2016 and said Canada was back on the international stage. People believed him, yet the environment commissioner says we've become the outlier of the G7 and we have failed on every single target.

When he went to COP26, he announced the emissions cap, but we learned the other day that the first announcement of the emissions cap to the Net-Zero Advisory committee was on the very day he was making the announcement.

Mr. Klein, I'd like to ask you this. The Prime Minister is committed to this emissions cap, yet Canada's energy regulator is boasting an increase of at least one million to 1.2 million barrels per day in the coming years while the rest of the world is supposed to flatline or decrease production. Our government agency is predicting huge increases. How do we square that?

Mr. Seth Klein: It can't be squared. I was heartened that the minister seemed to push back a little bit on that report to say that we need our own regulator to be giving us pathways that align with where the science says we actually need to go. We haven't had that yet.

Mr. Charlie Angus: We met with the Association of Petroleum Producers, which has enormous access to the environment minister and the Minister of Natural Resources. I would think they must be speaking every 15 minutes, judging by the lobbying registry. They didn't seem to be all that thrown by the talk of an emissions cap. In fact, they said their solution to the climate crisis was to increase production for offshore needs.

Is that possible to do and sustain the planet?

Mr. Seth Klein: I don't think it is. I watched that testimony, too, and heard the representative from CAPP effectively saying that he wants to see our production increase.

In many respects, I think our governments are caught in a bit of a prisoner's dilemma. Everyone purportedly wants to do the right thing, and they're afraid that if they actually start to tackle production, somebody else will consume that space. It's a legitimate concern, I guess, but real leadership in the face of that would be, on the international stage, actually pushing for treaties that tackle production.

We would follow the lead of the Province of Quebec and join the global alliance, the Beyond Oil & Gas Alliance. We would join efforts for an international fossil fuel non-proliferation treaty. That would be how we would signal that we're actually approaching both the demand and the supply sides of this emergency.

Instead, listening to your previous testimony—not today, but on other days—and sticking with this prisoner's dilemma idea, it almost feels like mob bosses cajoling their goodfellas to not co-operate. We need to be taking this in a different direction.

● (1635)

Mr. Charlie Angus: I think what concerns me is that we get presented here at natural resources with “we're all partners” and “we're all in this together”, as my Liberal friends say, and yet it seems as though we're being told here that we can drink our way to sobriety.

On the question of emissions versus production, I asked the net-zero advisory panel—and these are the people advising the minister—how is it possible that we can be talking about a one-million-barrel-a-day increase while claiming we're going to do massive reductions?

The net-zero advisory panel seems to think the question of emissions versus production is an artificial question. How can it be an artificial question when we have never ever shown any capacity to lower the emissions as we're increasing production?

Mr. Seth Klein: Yes, and those emissions have gone up, as we've said.

I also found that testimony somewhat frustrating. That's why, in my testimony earlier, I was saying that within the authority of the federal government we effectively do need to be speaking about production.

Mr. Charlie Angus: I want to get to that, because we're not talking about production to lower gas prices in Canada. We're talking about a massive increase in production to sell overseas, and that becomes much more possible through the Trans Mountain pipeline, which Canadians...I don't know, did we spend $15 billion, $18 billion...? This is public money that allows the export offshore. We've been told time and time again.... I think Professor Jaccard told us that it was not scientific to count emissions when we burn bitumen in China, that it just doesn't make sense.

The fact is that our emissions from offshore are more than all the emissions in Canada today. What role does the TMX pipeline play—which this government is committed to—in ensuring that this industry will continue to increase production because they can move it offshore and it won't be counted on the GHG emissions ledger sheet?

Mr. Seth Klein: It's a very good point.

I see that my time is limited, but the TMX pipeline is very much a federal jurisdiction, and where we are approaching the $20-billion mark, that money would be much better spent somewhere else.

Mr. Charlie Angus: Finally, then, because it is federal jurisdiction to transport through interprovincial and offshore, we can then have a say on production, correct?

Mr. Seth Klein: I mean, that seems squarely in your jurisdiction.

Mr. Charlie Angus: Thank you.

The Chair: We're going to go now to a couple of five-minute rounds, so they'll be a little faster than the opening ones.

Mr. Melillo, you're up first for five minutes.

Mr. Eric Melillo (Kenora, CPC): Thank you, Mr. Chair.

I want to thank all the witnesses for joining us today and providing great testimony so far.

I'd like to start with Mr. Klein.

I'm curious to get your thoughts on, first of all, whether you know if the government has had any consultations with indigenous communities that are involved in industry partnerships on how an emissions cap may affect their prosperity. I guess there's a second part to that: Do you believe the government has a duty to have those conversations and those consultations?

Mr. Seth Klein: Well, I don't know who've they've spoken to on that front, but as I alluded to at the top of my testimony, this government has passed a law to uphold the UN Declaration on the Rights of Indigenous Peoples. It sets a higher bar that requires not only consultation but consent.

In the case of these two pipelines I mentioned, one that is owned by the federal government and the other where the federal government has a clear stake, articles 10 and 36 of the UN declaration are clearly being violated. Article 10 says that “peoples will not be forcibly removed from their [own]...territories”.

Article 37 brings in that obligation to require consent. The titleholders of the Wet'suwet'en, with respect to the Coastal GasLink pipeline—and the Delgamuukw decision recognized that it was the hereditary chiefs who are the titleholders—have not given their consent. Here in my city, the Trans Mountain pipeline terminus is in the territories of Wet'suwet'en—

Mr. Eric Melillo: Thank you. I'm sorry, I have limited time.

In your view, given that many indigenous communities have industry partnerships, have development in their communities on their land, would it be your view that the federal government is required to have the consent of indigenous communities in order to move forward with a cap on emissions?

Mr. Seth Klein: The caps should be applied within each province and within each firm where an indigenous community is the titleholder. Yes, absolutely, their consent is required.

Just to finish that thought, in the city where I live where, the Squamish and Tseil-Waututh are at the terminus of the TMX decision, their consent has not been provided.

● (1640)

Mr. Eric Melillo: I appreciate that, thank you.

I have a little bit of time left. I think I'll go to Ms. Petrunic to pick up from where my colleague Ms. Rempel Garner left off.

I come from the riding of Kenora in northwestern Ontario with very small rural communities. Public transit is essentially non-existent, and it's likely going to stay that way, given our population. Further to that, a lot of people have big trucks and four-by-fours driving long distances in poor conditions. It doesn't seem that, at this point, alternatives are really available, or, at the very least, there isn't trust there for a number of people to look to greener alternatives.

This is a bit of a broad question, but, in your view, what does the government need to do to help support that transition so that northern and rural communities aren't left behind?

Dr. Josipa Petrunic: There are two answers to your question. One, very simply, of course, is the investment in on-demand mobility. That's for smaller communities and probably outside the jurisdiction of this particular committee. For those communities that don't have public transit, on-demand mobility with smaller vehicles is a [*Technical difficulty—Editor*]. It has not historically been recognized as transit, but [*Technical difficulty—Editor*] a 40-foot bus.

The second element is the more pained of the equation. I suppose [*Technical difficulty—Editor*] the member who said [*Technical difficulty—Editor*] The only way they're going to get people out of their cars and out of their trucks when they don't necessarily need them for all the needs that they think they do is when you price roads.

I don't know one politician in the country who is keen on road pricing, which means pricing kilometres and pricing metres when people get in their cars and drive, including in rural communities. Until we put a price point on that consumption, we don't get individuals, households and families or communities looking at alternative mobility, either shared or individual purchases, as viable options.

I know that it's a hard pill to swallow, the concept of [*Technical difficulty—Editor*] pricing and especially for Canadians. It's a hard price point to [*Technical difficulty—Editor*] but it is the pill that we have to swallow in the interests of greenhouse gas emissions reduction. That's a starting point.

Mr. Eric Melillo: Thank you.

The Chair: The five minutes go fast.

Now we have Ms. Lapointe for five minutes.

Ms. Viviane Lapointe (Sudbury, Lib.): Thank you.

My first question is to Mr. Severson-Baker.

In my other committee—I'm a member of the Standing Committee on Industry and Technology—we're currently studying critical minerals and clean energy. Both of these studies, here and at the other committee, really go hand in hand, and it's great to see the potential for Canada's future in clean energy.

Can you tell me your thoughts on the different scenarios between a cap on emissions only versus a cap on emissions and a simultaneous cap on production in the oil and gas sector? What would that look like in terms of the environmental impact coupled with the impact on jobs in the sector?

Mr. Chris Severson-Baker: We have not advocated for a cap on production; we've advocated for a cap on emissions. We think that would result in the future in a reduction in production because of changes in demand for the product globally.

I think one of the most important features of a cap-and-trade system or a carbon-pricing system that meets the level of a cap is that you have to be prepared to not protect the facilities that have a very high carbon cost, a very high cost of abatement, which is always what is done in these types of cap-and-trade type systems throughout the world. It weakens them, and it removes the effectiveness of them.

I think what we can expect to see is production not being replaced when production reaches the end of its economic life, but then, beyond 2030, the declining price of oil because the lower demand for oil would result in an actual reduction in production coming from our sector because we are very high cost, high carbon overall.

● (1645)

Ms. Viviane Lapointe: My next question is for Ms. Smith.

What type of balance is achieved when looking at mitigating technologies for greenhouse gas reductions, as well as developing new renewable and clean energy sources?

Ms. Merran Smith: Are you asking about balance in terms of where we should invest, where we should prioritize?

Ms. Viviane Lapointe: I mean where we should prioritize.

Ms. Merran Smith: I talked about the IEA future demand scenarios if countries move forward. My colleagues also mentioned the 136 countries, representing 90% of the world's GDP, that have committed to net-zero goals. Combined with the cost declines we see in renewables like solar and wind, as well as storage and hydrogen, which have been phenomenal over the past decade—80% to 90% reductions in solar, 40% in wind, and battery storage has gone down significantly, as well.... I think we could be suggesting that we're going to increase production in our oil and gas sector, but I don't think that the global demand is going to be there. That's not what the scenarios are telling us.

Because we have such great opportunities in these other energy sectors, including hydrogen, which could be used for export.... For example, the proposed LNG pipeline across British Columbia could be converted to export hydrogen. They are saying green hydrogen will be on cost parity by 2030 with other forms of hydrogen. Canada has a huge opportunity there.

You named the critical metals and minerals, which are part of the battery conversation. The battery is going to be the central part of the new energy system. Renewables have their intermittency. Batteries are now where the most money is to be made and where the most IP is. Canada is well positioned with our metals and minerals, our clean electricity, our skilled workforce and our auto sector. That should be where Canada is investing, and growing out that sector and the jobs to strengthen our economy.

Ms. Viviane Lapointe: Thank you.

I don't believe I have enough time to ask another question, so I'll wait for another round.

The Chair: That's great. Thank you.

Let's go to Monsieur Simard, who will have two minutes and 30 seconds.

[*Translation*]

Mr. Mario Simard: Thank you, Mr. Chair.

I have a quick question for Mr. Beugin.

Figures show that, during the pandemic, $30.9 billion in public funds has been directed to oil and gas in Canada. According to Oil Change International, Export Development Canada, or EDC, provides $14 billion a year solely for oil and gas. When you add up all the subsidies provided to the oil and gas sector through EDC and all other federal programming, the total for 2018 is $78 billion.

The new technologies—carbon capture and storage—are not yet widely used. Some engineers even argue that the technologies are not sufficiently developed. Massive amounts of money are needed simply to get by.

Without federal government support, how is it possible to ensure that the oil and gas sector produces less emissions? If the sector needed support before, it's going to need even more support after.

Allow me to draw an analogy. Subsidizing oil and gas to achieve environmental gains is like using a Lada to race in the Formula 1.

My question is very simple. Can a low-carbon oil and gas sector be viable?

Mr. Dale Beugin: Thank you, Mr. Simard.

[*English*]

We recently released new research and a new report exploring fossil fuel subsidies, and we found that there is a need to recalibrate the way governments—both federally and provincially—provide that support, whether through loans, spending or deferred investment. That spending needs to find a balance between investing in transition-consistent activities.

Governments need to be prudent about those market shifts—which Ms. Smith articulated are coming—and make sure that there is a return in terms of growth and economic activity, as well as emissions reductions from the public finance that governments use. There is a need to better calibrate how governments use their spending tools, absolutely. There's also a need to coordinate how they use spending tools with other policy instruments, such as carbon pricing or a cap on emissions in the sector.

● (1650)

The Chair: We're out of time on that one.

We're going to go to Mr. Angus, for two and a half minutes.

Mr. Charlie Angus: Thank you.

One of the other reasons I wanted to be on this file is because I've lived through unjust transition where we lost the silver and iron economy in my region. We didn't just lose 1,000 jobs, we lost restaurants and grocery stores, and we saw family breakups. The transition was U-Hauls leaving in the middle of the night; I've seen that in the communities.

What concerns me is that we have so much potential right now in the west for the transition. We're looking at the energy sector that has lost 17% of its jobs, and we're expecting additional losses of 10%. Yet, in the clean energy sector, we're seeing growth. We're seeing huge geothermal potential in places like Jasper, and we have so much expertise.

Ms. Smith, can we talk about the potential and the transition of actually starting to invest in clean tech? What does it mean in actual economic terms for sustainability in communities, because if we don't put in these investments now, they're going to suffer from the real effects of an unjust transition?

Ms. Merran Smith: The positive thing is that when we modelled out how many jobs there would be in the clean energy sector if we followed through on the climate commitments that we had a year ago, we found that there would be a growth of 208,000 jobs. That's a 50% growth. At the same time, there would be a loss in the fossil fuel sector of 126,000 jobs, so you can see that the additional jobs in the clean energy sector far outweigh them.

As I mentioned, these are jobs in every province. They're rural jobs, urban jobs, diverse jobs, blue-collar jobs and white-collar jobs. The potential for this to grow much higher is there, and it's with the focused, targeted, incentives, and investments by this government in things like batteries or green hydrogen.

Mr. Charlie Angus: I met with the IBEW workers at their training centre in Edmonton, and they're retooling themselves. They told me they were ready for the new clean energy economy, but where is the government? We have workers with the skill. They're ready, and they know a transition is coming. They're looking for federal leadership, but they haven't seen it.

Where do we need to put those investments now, so that we do not end up with the unjust transition?

Ms. Merran Smith: As you've said, there are many skill sets that cross over directly from the existing fossil fuel sector to the clean energy sector. We need to invest to get that clean energy sector up and going, whether its with electricity, green hydrogen or battery production.

We're seeing other countries doing this. We're actually seeing great progress in Quebec, landing those types of contracts. The Government of Canada needs to take the funds and target them quickly. We need to send a signal to the world that this is the energy economy that we want to build in Canada.

Mr. Charlie Angus: Thank you.

The Chair: We're going to go now to Mr. Maguire, for five minutes.

Mr. Larry Maguire (Brandon—Souris, CPC): Thank you, Mr. Chair. I want to thank the witnesses as well for their presentations today.

Ms. Petrunic, I would like to expand with regard to—

The Chair: We lost Ms. Petrunic. She's dropped off with technology problems.

I don't see her back yet, but we're trying to get her back on.

I've stopped the clock.

Can you direct a question to somebody else until we get her back?

Mr. Larry Maguire: Thank you, Mr. Chair.

I will go then to Mr. Beugin.

We had a previous witness, Dr. Sara Hastings-Simon, who stated:

> I think it would make sense to look at other sectors—not necessarily at the same level, though.

Do you agree with this, and if so, what do you think we could do there?

● (1655)

Mr. Dale Beugin: It's pretty clear that to get to net zero, and to achieve our 2030 and 2050 targets, we need emissions reductions from across the economy and from all sources of emissions. That's also the path to cost-effectively achieving those goals, by making sure we're driving emissions reductions in all corners of the economy.

That's why economy-wide instruments, like carbon pricing, make sense. There's a need to make sure that all emissions are facing policy incentives, and are aligned with each other as much as possible. That holistic view does make sense.

Mr. Larry Maguire: You mentioned the safe bets that are there now with things like CCUS and others, and you outlined tax credits as a means of supporting those technologies.

You also mentioned predictable decisions. What are the time frames we would need to look at to make these things effective, and can they be done sooner than 2030 or 2050?

Mr. Dale Beugin: I think we want to be creating as much certainty as possible about where policy is going. That would allow the market and investors to invest where they see fit to drive the innovations and the investments required to deliver on those emissions reductions and achieve those goals. The longer the horizon for policy certainty that governments can provide, the stronger the signals for innovation and the stronger the signals for deployment of those safe bets and the innovation of new wild card technologies.

So we want as long a horizon as is possible in terms of the certainty of future carbon prices and the stringency of future regulations.

Mr. Larry Maguire: All of this can continue while we're continuing to deal with the emissions cap as opposed to a production cap in oil and gas, as I think you mentioned. Or would you agree with that?

Mr. Dale Beugin: Yes. I think if you're going to shift to a quantity-based cap on the sector, you want to provide as much certainty as well on the direction and levels of that cap over time. It will mean that there's less certainty about the price of carbon in that sector as a result. That is the trade-off that comes with a cap versus a price.

Mr. Larry Maguire: If we want to rely on getting technology developments and companies into Canada to develop new technologies, that reliance on predictable decisions is most important. Would you agree?

Mr. Dale Beugin: I would agree.

Mr. Larry Maguire: Thank you.

Ms. Petrunic, I'm glad you're back.

Fuel consumption accounted for approximately 72% of all emissions in the gas and oil sector. Do you think there are large-scale sources of energy that could replace this energy use in Canada? You alluded to some of the transit opportunities in hydrogen.

Dr. Josipa Petrunic: The answer to that question is, yes, those supplies already exist. If we look at the capacity by BC Hydro, Hydro-Québec and the utilities in Ontario alone, they already provide and supply sufficient capacity for the electrification of our transit fleets, just as a start point, let alone coach and rail. Add in energy storage and hydrogen as not just a fuel but also an energy storage device and technology, and you do have the makings already of sufficient capacity in the country for electrification—as long as we can invest in the technology to demand-manage.

Mr. Larry Maguire: I've always believed that Canada could be a leader in technology development. I was just talking to Mr. Beugin about the security of and importance of reliable decision-making processes and consistency in policy to allow that technology to take place in our country. It is taking place in our companies, in our universities and in our colleges.

Can you expand on your thoughts with regard to what we could do there to expand that? I've always believed that we could export that technology and help Canada be a leader in the world and in saving the world in terms of greenhouse gas emissions. What can you provide us with in regard to your thoughts on technology development, beyond just hydrogen and changing and tweaking the oil and gas industry that we presently have, to be able to reduce the greenhouse gas emissions worldwide?

Dr. Josipa Petrunic: Very briefly, policy consistency is pretty critical, especially with carbon pricing for this industry as well, including for export potential.

Even more briefly, Canada is already a leader in fuel cell stack design, electrolysis design, energy storage design and battery electrification integration in heavy-duty powered trains in the automotive and heavy-duty sectors. Ironically, however, if you look at hydrogen as an example, there's not one fuel cell bus on the road in Canada.

So we have a consistent problem in domestic consumption of our own production and innovation in the technology sphere. We are ready exporters, but we certainly are not domestic consumers. That is a fundamental problem.

● (1700)

The Chair: We're out of time.

We'll now go to Mr. Chahal.

You have five minutes.

Mr. George Chahal (Calgary Skyview, Lib.): Thank you, Chair.

I'll start with Ms. Petrunic.

I disagree with some of my colleague's comments from earlier, that it was the city council delays with the green line. I think the city council has done a tremendous job in supporting BRT with the Max Orange investments and also the investments in the most recent budgets to north Calgary. The delays over the last number of years that have cost the city millions of dollars have actually been from the provincial government, the Conservative government, delaying the green line from being built. It's cost millions of dollars.

Ms. Petrunic, how do we as a convenor ensure co-operation between levels of government so that we don't have unnecessary delays in important transit projects in our cities?

Dr. Josipa Petrunic: To be frank, answering a question about municipal delays at a federal committee is always very difficult and full of potential challenges.

To clarify, I agree that Calgary Transit is one of the most innovative transit systems in the country. It's the only one to have solar energy and wind energy powering its LRT, and frankly, that's something that the rest of the country could learn from.

That said, your point is entirely apropos. Alberta is not the only place where the provincial governments have stepped aside from their duty to invest in green and advanced transit systems.

We have examples of very similar scenarios across the country, and I could fill your ear with them in a litany and a Ph.D. exegesis on that problem.

How do we overcome that? The federal government, to its credit, has already started to do that through the $2.75 billion zero emission transit fund. It is direct funding to cities.

I know there are a lot of provinces upset about that, but the reason that exists is because provinces were not moving fast enough to dole out the cash that they got over the last years to do exactly that.

It is a wise move to be able to engage directly with municipalities, because frankly, it's municipalities and their municipal transit and fleet systems that are ultimately going to address climate change the most robustly and most stringently. That said, the continuation of dealing directly with municipalities is important.

I would put forward as a final point that it is time in Canada's history that we seriously take a look at having a ministry and a ministerial portfolio for large cities. We have cities that are unto themselves economies and also GHG emitters and GHG climate action champions. Not having the ability of cities to go right to the federal government, not having a ministerial portfolio for our cities, is a problem. It is a gap. It is something we can address.

Mr. George Chahal: Thank you for that detailed answer and for noticing that Calgary is a leader in excellence in using wind and solar in our transit systems.

Ms. Smith, I'll go to you. You touched on the importance of job creation and workers. I also note that the provincial NDP brought in some output-based pricing models and has supported the TMX line provincially, and the Coastal GasLink in British Columbia.

In terms of the creation of those jobs, what other incentives are required to ensure that this job growth, the 200,000 jobs you talked about, does occur?

Ms. Merran Smith: That's a great question.

I think it's moving forward with all aspects of the different climate policies, whether it's zero-emission vehicle mandates for electric vehicles, which is going to drive people towards electric vehicles and help support electric vehicle production in Canada, or whether it's building standards and codes, which is going to drive people to retrofit their homes and create more jobs for insulators, electricians and others.

The clean electricity standard that the government is committed to is going to help build out our clean electricity system across the country and create jobs there, whether it's in solar or wind or other renewable electricity production, but also in transmission lines and other aspects of that.

Moving forward on buildings, on transportation, on electricity and energy, on every aspect is what's needed to develop those jobs. There's no one silver bullet. There's no one policy that's really going to drive this change and drive the job growth. It needs all of them.

The price on carbon has been extremely successful in sending that signal. That does help create the innovations you were talking about and the technology, which also helps create jobs.

Just so you know, Canada does punch way above its weight on technological innovations for the size of our population. British Columbia, where I live, actually punches way above its weight as a province. Often about half of the Global Cleantech awards out of San Francisco every year are from British Columbia, and it's said that's directly attributed to the carbon price here and has driven innovation.

● (1705)

The Chair: We're out of time on that round.

Just so everybody knows, including our panellists, we have one more round that I think we can easily fit in here, with the first two members going for five minutes, and then the last two for two and a half minutes. That will give us 15 minutes. That will take us to where we need to be for going in camera for some committee business.

To start us off with this round, we'll go to Ms. Rempel Garner for five minutes.

Hon. Michelle Rempel Garner: Thank you, Mr. Chair.

Perhaps I will start with Clean Prosperity, with Mr. Bernstein.

What does your organization think about a more sector-by-sector approach to reductions rather than focusing almost solely on capping the energy sector?

Is there any reason we couldn't be looking at caps on other major emitting sectors such as concrete concurrently with a cap on the energy sector?

Mr. Michael Bernstein: I think you should be thinking economy-wide and thinking about how we get the most reductions at the lowest cost. That's one of the key reasons we think the best approach to this cap is actually to think about how to strengthen the industrial pricing system as a whole, which would get you reductions in oil and gas and of course in other sectors, and would allow them to trade with each other so that costs are as low as possible.

Hon. Michelle Rempel Garner: Has your organization looked at any of the issues surrounding carbon leakage, and if so, do you think those could be overcome by looking at a more economy-wide approach as opposed to looking at simply the energy sector?

Mr. Michael Bernstein: I think carbon leakage could certainly be addressed in a significant way through a policy like border carbon adjustments. It's not going to be easy since this is a very complex task ahead of us, but we need to protect the competitiveness of our industries. It makes no sense to penalize our industries and make them uncompetitive on the global stage.

I would posit to you that we should be thinking about these things as happening concurrently. As we strengthen something like the pricing system, we have to have competitiveness protection.

Hon. Michelle Rempel Garner: Thank you.

To the Canadian Institute for Climate Choices, I read your report "Sink or Swim", and I notice that the Montreal Economic Institute had some issues with it. For example, you assert that hydrocarbon demand is collapsing when most models show that demand is not collapsing. Do you want to respond to that?

Mr. Dale Beugin: The IEA has projections out that show significant decline in demand for oil and gas. The NGFS, the group of central banks, has scenarios that show declining demand. None of these are certain, but prudent managers in either the public sector or the private sector should be taking those risks seriously and should be considering the returns and what those possibilities mean for the returns on public investment, absolutely.

Hon. Michelle Rempel Garner: That's what I thought.

As part of its clean energy platform, Europe has looked to nuclear energy as well as to natural gas. Is this something you believe Canada should be following?

Mr. Dale Beugin: We have new work coming out this spring on electricity and providing clean electricity, and we have considered some of those questions and looked at the safe bets and wild cards in the electricity sector.

Clearly, we need more, cleaner and more flexible electricity and we need lots of solutions to be on the table.

Hon. Michelle Rempel Garner: I didn't hear a "yes" or a "no". Do you think that nuclear and natural gas, which Europe is looking at, should be part of Canada's approach to decarbonization?

Mr. Dale Beugin: I would say that technology shouldn't be picking winners. It shouldn't be picking individual technologies. That's for the market to decide. Policy should be as agnostic as possible on technologies.

Hon. Michelle Rempel Garner: Okay, so there is no firm position on nuclear and natural gas from your—

Mr. Dale Beugin: If it's natural gas, it needs carbon capture and storage. If it's nuclear, it needs to be low cost.

● (1710)

Hon. Michelle Rempel Garner: Thank you.

What data did you use in your report "Sink or Swim" to assert that hydrocarbon demand is declining?

Mr. Dale Beugin: There were scenarios from the NGFS—the network of central banks—with their projections, as well as analysis from a consulting company in the U.K. called Vivid Economics, which has since been purchased by McKinsey.

Hon. Michelle Rempel Garner: Okay. That's interesting.

To Clean Energy Canada, I think it's important that we recognize the importance of clean tech and innovations in energy.

Would you say that currently the infrastructure we need to totally transition away from fossil fuels is not in place in Canada, including for substitute goods?

Ms. Merran Smith: That's correct. It's not in place.

Hon. Michelle Rempel Garner: Okay.

Given the imperative to get that done, what are two or three recommendations in terms of substitute goods that would be most impactful to both prevent economic decline and consumer price increases and to achieve meaningful carbon reductions?

Ms. Merran Smith: In electricity we probably need to roughly double the size of the grid in Canada to meet our net zero, and there is lots of opportunity for jobs and creation there.

In terms of hydrogen and the opportunities for hydrogen, in particular green hydrogen, to be an energy source, infrastructure needs to be put in place so that it can help the trucking industry, for example. If we were to be using non-electrified zero-emission buses, those would require hydrogen, so that would be another set of infrastructure that would need to be put in place.

Lastly, I would say that the government can actually do a lot around this, around incentivizing using things like buy clean for that infrastructure and setting carbon thresholds. You mentioned cement earlier. For products like cement or steel, you can put a carbon threshold on the cement and use your infrastructure dollars to purchase low-carbon steel and low-carbon cement. There are really four basic building materials used for roads, bridges, hospitals and schools. There is cement, steel, aluminum and wood. You can put a carbon threshold on those, and that market incentive can drive decarbonization in those sectors.

The Chair: Perfect.

We're out of time. We'll go over to Mr. Maloney who will have five minutes.

Hon. Michelle Rempel Garner: Thank you.

Mr. James Maloney (Etobicoke—Lakeshore, Lib.): Thank you, Mr. Chair.

Thank you to all of the witnesses. This has been a very interesting and enlightening discussion.

Since I'm following Ms. Rempel, I should probably wish her a happy birthday on behalf of all of the committee members.

And of course—

Hon. Michelle Rempel Garner: I have a point of order, Mr. Chair. It's fake news.

Mr. James Maloney: Stop the clock though, please.

I didn't put a number on it.

Hon. Michelle Rempel Garner: For the record, I'm 29, Mr. Chair.

I just look like I'm 57, so there you go.

Mr. James Maloney: And of course, Happy Valentine's Day to everybody.

We have lots to talk about.

Mr. Klein, I'm going to start with you. I think I heard you say—and you can correct me if I'm mistaken—in answer to Mr. Angus, that real leadership means getting world agreements on tackling production. Is that what you said, or something to that effect? I'm not quoting you verbatim.

Mr. Seth Klein: I did. What I was getting at is that the Paris Agreement, so far, doesn't even mention the words “fossil fuel”. It's only dealt with in a—

Mr. James Maloney: I knew what you were getting at. I just wanted to make sure I quoted you correctly.

I apologize for interrupting, but we are limited in time.

Do you think that's realistic to expect to be able to get a worldwide agreement in that respect? If so, can you explain how you'd do that?

Mr. Seth Klein: I think we would join efforts that already have that under way.

We have the Beyond Oil & Gas Alliance that the Province of Quebec has joined, and we have this international effort to create a fossil fuel non-proliferation treaty. This, in some ways, relates to the earlier discussion about border adjustments. Will we get every country initially? No.

We can treat them differently in terms of our trade policies. Those—

Mr. James Maloney: Mr. Klein, while we're recognizing that reality, which you just confirmed, don't you agree with me that we have to do something to protect our own economy here in Canada, and that to take the approach you're talking about wouldn't accomplish that?

Mr. Seth Klein: No, I don't.

I think Canada is the fourth- and sixth-largest producer of oil and gas in the world. In the context of a global emergency, that means we have to do our bit.

Mr. James Maloney: You're fully in favour of putting a cap on production. Can we just leave it at that?

Mr. Seth Klein: That's not what I said. I said you should stick with what's in your jurisdiction, and it should have the effect of ramping down production.

● (1715)

Mr. James Maloney: Okay. All right. I think we understand each other.

I think I know the answer to this, but only one or two of you actually said it clearly. None of the witnesses are opposed to a cap. Is that correct?

I'll take that as a confirmation that you're all in agreement.

Mr. Seth Klein: Yes.

Mr. James Maloney: Okay.

Ms. Petrunic, you mentioned that government should play a role as a convenor and as an investor. The investor aspect is what I want to follow up on.

Ms. Smith also talked about incentivizing actors in the economy. It sounds very much like the same thing.

I'm wondering if first, Ms. Petrunic, you can give us further examples of those types of investments. Perhaps Ms. Smith can add to that as well.

Dr. Josipa Petrunic: Yes, thank you.

I'll keep my video off just to improve the quality.

In terms of being an investor, there are two types of investment primarily. One is on the research and innovation side, and then one's on the straight-up subsidy side that nobody really likes, but at the end of the day might be necessary for a temporary period of time.

On the R and D side, a simple analogy to the oil and gas sector is AOSTRA, which, in Alberta, the government has pumped hundreds of millions of dollars into. It's academic research with industry. It develops technology. It's where SAGD came from. It allows us to pump bitumen out of the ground in ways we never knew 30 years ago.

That kind of innovation creates an industry, makes it marketable and possible.

The same thing is needed in the hydrogen battery electrification, energy storage integration. NRCan's doing a pretty good job of that already, federally. There do need to be some additional investments in green hydrogen integration with energy storage, but dotting the i's and crossing the t's, the types of projects.... The reality is, we just need to continue investing through NRCan into that sector for the research and development component.

The other side is the subsidies. I'm not a fan of subsidies. I've drunk the Kool-Aid. I drive a Tesla. I believe in electrification, but I don't believe in subsidies for individuals. I do believe in subsidies, as a technologist, for public fleets. That's because of the tax efficiency issue.

The subsidies we're talking about here are specifically to offset the differential price of green hydrogen over diesel for transit buses, where public transit is already subsidized by municipal and public users, and it's part of our social fabric. As a result of that, it's tax-efficient, in the sense that it would be a time-limited, five-year investment in a publicly subsidized, social welfare, public fleet. That is very different from general subsidies for electric car drivers or any other kind of fleet. Those subsidies would lead to the gateway opening to price parity for the private sector, freight and truckers who wouldn't need those subsidies, but would benefit from price parity in the marketplace.

Those are the two types of investments.

Mr. James Maloney: Thank you.

Perhaps Ms. Smith can take a run at that. We have a little extra time because of the birthday party we had.

Ms. Merran Smith: My colleagues said it all very well, but remember that it's not just the oil sands, but the aerospace industry and the pharmaceutical industry. These were all heavily invested in by the government and have led us to where we are today as leaders. That's what we need to do in the clean energy space.

As an example, entities like Saudi Arabia, Oman, Western Australia and the EU have invested tens of billions of dollars in hydrogen to replace natural gas by using clean hydrogen. That would be a great example.

We see the same with battery technologies, and I would agree there are investments both from ISED and NRCan that are doing well. We need to increase that if we're going to build out some of these industries.

Right now, the world's in a race. Where are we going to land some of these projects? Canada's clean electricity is our secret sauce. It's the thing that gives us an advantage. These companies want to produce things in a low-carbon way. Their brand is identified with being low carbon and Canada has a lot to offer there. We need to get out there and start doing the work, including providing some supports to bring those companies and land them here for the long term.

Mr. James Maloney: Thank you.

Thank you, Mr. Chair, for indulging me.

The Chair: Now we have Monsieur Simard, who was scheduled for two and a half minutes, but our first two went slightly over, so I'm going to give him a bit of latitude if he wants to push the clock slightly. The same applies for Mr. Angus when it's his turn.

[*Translation*]

Mr. Mario Simard: Thank you, Mr. Chair.

I have a quick question for Dr. Petrunic.

Canada has a hydrogen policy, but it does not distinguish between blue, green or grey hydrogen. Do you think it should make the distinction, precisely to ensure financial support goes to hydrogen projects with the lowest carbon footprint?

Did we lose Dr. Petrunic?

● (1720)

[*English*]

Dr. Josipa Petrunic: I am here. I believe it's the translation that leads me to lose connection.

[*Translation*]

Thank you. I heard your question.

[*English*]

I think I got the bulk, or most of it.

Quickly, on the vision between blue, green and grey, yes, there should be a division. The whole purpose is to reduce emissions over the life cycle of the vehicle system or transportation. Of course, green hydrogen with the lowest footprint should be privileged.

Having said that, in terms of reality of technology, there is no doubt that there's a place for grey and blue, even though it's not my preferred technology that I would put forward, even as a taxpayer. There is, nonetheless a place, for them in the first few years, in particular.

I will give you an example. In Mississauga, where we have the hydrogen fuel cell bus project we're working on right now, it is quick, easy and cheap to get grey or blue hydrogen right now, particularly grey hydrogen. It's cheaper than diesel. Is that the end goal? No. It has to get to green hydrogen and, ideally, right away. However, the reality is that you have to get the buses on the ground and you have to figure out how to run those things, you need new technologists, new driver training, etc.

There's a lot to do to learn how to operate the hydrogen fuel cell technology in a propulsion form, so one can imagine in the next five years that there will be space for grey and blue hydrogen while the vehicle systems get out the door, with green hydrogen ideally taking over.

Alberta is an example where there's a pilot project right now. That hydrogen is not green hydrogen, but it does teach the trucking fleet that's piloting it how to use hydrogen fuel cell trucks and all of the operational issues with it.

It's not a simple solution. There's a space temporarily for alternative hydrogen, but green hydrogen has to be the end goal and it has to be privileged.

[*Translation*]

Mr. Mario Simard: In response to an earlier question, you said that hydrogen technology should focus on public transit, not individual transportation.

Is that also true for heavy-duty transportation fleets?

[*English*]

Dr. Josipa Petrunic: Yes. With regard to transportation, I indicated that we should focus on public fleets, largely because public fleets scale faster than individual light-duty cars and they scale faster than private heavy-duty fleets.

For example, in transit, buses are not purchased one by one. They are purchased in units of 10, then 50 then 100. They're mass fleet procurements that allow for a stepwise function of growth.

In the heavy-duty sector, electrification and hydrogen electrification of transit buses are the gateway to coaches and trucks because they fuel at the same pressure levels and they use the same high-powered charging systems that are not transferable to the car light-duty sector.

There is a component here where if we want to get bang for our buck, the focus should always be on the heavy-duty fleet sector—public first, followed by the private freight sector. They get greater bang for their buck and greater greenhouse gas emissions reduction, and they buy en masse. They do not buy them one by one.

In comparison, with electric cars, which I'm a big believer in, you still have to convince households to make an individual economic choice. That is a much slower logarithmic growth compared to what you get in the stepwise function of fleet adoption on the heavy-duty side.

[*Translation*]

Mr. Mario Simard: Thank you.

[*English*]

The Chair: Mr. Angus, it's over to you. I'm going to give you three minutes and 45 seconds as the others have had.

Mr. Charlie Angus: Thank you very much, Chair.

Mr. Klein, I want to follow up on my good friend and Liberal colleague's questions to you. It's clear what the Liberals are positioning here. Their focus is on protecting the domestic economy, which is heavily focused on oil production that the regulator says is going to have massive increases.

How does this Liberal focus on protecting the domestic oil industry—

Ms. Yvonne Jones (Labrador, Lib.): I have point of order, Mr. Chair.

I can't hear Mr. Angus.

The Chair: Okay, hold on one second. I'll stop the clock.

Mr. Charlie Angus: Can I start over again because my question was interrupted?

The Chair: Do we have the audio back, Yvonne?

Mr. Angus, can you do a quick one, two, three and we'll see if that's going through?

> It was down by Christ Church where I first met my Annie,
> a sweet little lassie and not a bit shy....

Ms. Yvonne Jones: Thank you, Charlie.

I can hear, but it's very low and it's breaking up. It was fine until now.

Mr. Charlie Angus: Plug your Internet in.

● (1725)

Ms. Yvonne Jones: I have that done.

Okay, I can hear a little, so it's fine. I'll manage.

Mr. Charlie Angus: Will we restart the clock?

The Chair: Yes.

Mr. Charlie Angus: Thank you so much, Chair.

Mr. Klein, I wanted to follow up on my good friend and Liberal colleague because he's telling us that the Liberal government's focus is on protecting a domestic economy that is heavily focused on oil and gas, is planning major increases and has a major GHG emissions problem.

How does the Liberal plan to protect our domestic economy jibe with our international obligations from Paris and COP26?

Mr. Seth Klein: We do not have a convincing plan that aligns with our Paris obligations if we allow production to continue to increase.

As we have our conversations here about how we lower emissions from the existing oil and gas industry, at play are brand new projects on either coast—LNG Canada and Bay du Nord—that currently have no emissions, yet will become massive carbon bombs on each coast. These projects would only happen with federal support or federal approval.

We do very much need to align these.

Mr. Charlie Angus: That is really helpful because our Prime Minister is really great on the international stage, but then he comes back and we find we're back to defending the domestic economy at all costs.

I want to follow up on the second question my Liberal colleague asked, which was about whether there's any international possibility of having a global treaty on production. It seems me that the weakness of COP26 in the eyes of the world was that we hadn't actually clarified that.

We have the Montreal Protocol, which literally saved the planet from freon production. If the Liberals had been there and said they were going to look after domestic production, we probably all would have been fried by now.

On the importance of the freon treaty, I have to give kudos to Brian Mulroney. I've never said anything nice about a Conservative, but it was Brian Mulroney who signed this international agreement. He said we have to have an international end to destructive gas production.

Don't you think that would be a model that our Prime Minister could emulate?

Mr. Seth Klein: The Montreal Protocol is an incredible model for how we actually tackle an emergency. Your point is well taken, which is that when you confront an emergency, you have to cut using both arms of the scissors. Tackling demand is one arm and tackling production is the other.

The other key missing piece thus far in the current government's approach has to do with just transition and support for workers and communities. We've been waiting for a just transition act, but in particular, we need real money on the table for that just transition.

I understand you're going to be hearing on Wednesday from Gil McGowan from the Alberta Federation of Labour. He and I have talked about the need for a new federal transfer—a climate emergency just transition transfer. It's something audacious that would signal for all workers in the fossil fuel sector they need not fear and that they're not going to be left behind.

This task is great, the time is short and we're going to need everybody's skills and strength to meet this moment.

Mr. Charlie Angus: Thank you very much.

The Chair: Thanks to our panellists for joining us today and for the excellent testimony. You've given us lots of things to think about.

Thanks to the members for being nice and tight in the questioning.

With that, we're going to take a very brief break to get logged out and then we're going to come back in camera for very brief committee business.

[*Proceedings continue in camera*]