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Chair: Mr. John Aldag



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• (1545)

[English]

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

Welcome to meeting number 12 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 seventh of nine meetings with witnesses for this study.

Please note that today we'll be meeting in public to hear from our witnesses until 4:30 p.m. Then we will be going in camera from 4:30 to 5:30 to consider the draft report on the emissions reduction fund onshore program.

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 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 screenshots or taking photos of your screen is not permitted now that we are in session. Today's proceedings will be televised and made available via the House of Commons website.

As we get started, I'd like to welcome to the table Mr. Patzer, Mr. Kitchen, Mr. Morrice and Mr. Anandasangaree. Welcome to the committee today.

As a quick reminder on health and safety, when people are in the room, members can have their masks off at the table. If you're moving around, we ask you to put them on. Everybody else in the room, we ask you to remain masked unless you're taking a drink of water or having something to eat, and then to remask.

For our witnesses who are joining us today and members virtually, we have a few quick rules to help with the orderliness of the meeting.

Interpretation services are available for the meeting. You have the choice at the bottom of your screen of floor, English or French, with floor being real-time and then English giving you English translation or French for French translation. Members and witnesses may speak in the official language of their choice. We ask any of our witnesses who may be new to the committee, or as a refresher for those who are coming back, just to speak in a regular conversational tone. It gives the interpreters a chance to keep up. Particularly when they're working remotely, it can be very challenging.

There's no need to rush things. If you do speak too fast, we'll have to slow you down or stop you so that they can do their jobs properly.

For members in the room, just raise your hand if you want to speak. For anybody online, you'll have to raise your hand, unmute your mike and then mute your mike when you're done. I will recognize people by name. When anyone is not speaking, their microphone should be muted.

As a reminder, all comments by members and witnesses should be addressed through the chair, just to help with the orderliness.

I will also mention that we do have a fairly tight session today, so for witnesses who are joining us, when it comes time for the question-and-answer period, the members generally get to direct their own time. If you have something to say, you can raise your hand, but if they have a line of questioning they want to pursue with a certain witness, they may not get to you. As I said, it's up to the members to choose where they're taking the conversation.

We also use a quick visual card system. When I give the yellow card, it means there are 30 seconds left. When the red card is up, the allocated time for that round is up. Don't stop mid-sentence, but wind up your thoughts so we can move to the next speaker.

Today for our study of a greenhouse gas emissions cap for the oil and gas sector, we have several witnesses. We have, as an individual, Kevin Anderson, professor of energy and climate change, University of Manchester, and Tyndall Centre for Climate Change Research. From the International Renewable Energy Agency we have Francesco La Camera, director general. From the International Transport Forum we have Olaf Merk, administrator, Organisation for Economic Co-operation and Development. From the TD Bank Group we have Francis Fong, managing director.

• (1550)

With those introductions, we will jump right into it. Each witness will have five minutes for an opening statement. Again, I'll give a cue card for 30 seconds and red for when your time is up. Then we'll move to the next person.

Mr. Anderson, if you're ready, we'll turn the floor over to you for your opening statement. You have five minutes.

Mr. Kevin Anderson (Professor of Energy and Climate Change, Tyndall Centre for Climate Change Research, University of Manchester, As an Individual): Thank you very much.

My evidence here is based on a report by my colleague Dan Calverley and me, which we had published yesterday, where we investigated the phase-out pathways for fossil fuel production within Paris-compliant carbon budgets.

I want to start by outlining a few key energy emission facts about Canada, which you will know better than I do anyway, and on oil and gas production and the broader emissions.

Canada produces a little under 5.5% of global oil and gas as a GDP per capita measured in U.S. dollars and purchasing power parity of about \$51,500 per person, of which oil and gas revenue represents about 10%. So Canada's non-oil and gas GDP per capita is about \$46,000 U.S. That's the 13th highest of the 88 countries that produce oil and gas around the world.

On the consumption side, Canada is demonstrating no meaningful leadership. It has one of the highest levels of emissions per capita, at around 16 tonnes per person. That's two and a half times higher than the CO₂ per person in Sweden, where I am now and which has similarly cold winters.

Since 1990 and the first IPCC report, Canada has overseen a rise in CO₂ emissions of 27%. At the same time, Sweden's emissions have fallen by 28%.

This is captured really in the issue of vehicles. Canada's car fleet is pretty much the most polluting of all of the industrialized nations. It is an excuse to use cold and long distances for this. Canadians live in a relatively narrow strip in the south of Canada, where temperatures are very similar to those in Sweden, Finland and Norway, which have much lower emitting vehicles.

In short, Canada is financially in a very favourable position, compared with the other oil and gas producers, to shift away from oil and gas production. Canada also has a huge potential to improve its deeply inefficient and profligate use of energy.

With this in mind, I'll move to the report, which has a key focus on the oil and gas sector, a sector in which I previously worked as a design engineer, both onshore and offshore.

As our starting point, we take the Canadian government's signatory to the Paris Agreement and other climate protocols at face value and that Canada therefore has every intention of delivering on its 1.5°C to 2°C commitments, as enshrined in the Paris Agreement.

From here, we used the IPCC's latest carbon budgets. For this evidence, I'm going to focus on our most conservative reading of the Paris Agreement, the G7 communiqué and COP26, which we take

to be a 50% chance of not exceeding 1.5°C of warming. This equates to a global carbon budget for the global energy sector from 2022 of about 360 billion tonnes of CO₂.

Building on this, I want to summarize the key messages from our report and relate these to Canada. The carbon budgets associated with keeping 1.5°C alive, and indeed staying well below 2°C, imply much more urgent cuts in emissions than any government is considering and require the rapid and complete phase-out of all fossil fuel production. The maths are clear. For a fifty-fifty chance of not exceeding 1.5, the carbon budget equates the 10 years of current global emissions. That's ten years.

The UN's equity framing of common but differentiated responsibility requires wealthy nations with economies that are less dependent on oil and gas revenues, such as Canada, to lead the way with high rates of closure and early phase-out dates. Poorer nations have a little leeway with both slower rates of closure and slightly later phase-out dates.

The carbon budget, for a 50% chance of 1.5°C, places very tight constraints on the production of oil and gas. For Canada, as with other wealthy oil and gas producers, the output of oil and gas needs to be cut by about 74% by 2030, with complete phase-out by 2034. For the poorest nations, a 14% cut is required by 2030 and all of the production ended by 2050.

There is no practical emissions space within the IPCC's carbon budget for a 50% chance of 1.5°C for any nation to develop any new production facilities of any kind, whether coal mines, oil wells or gas terminals. This challenging conclusion holds across all nations, regardless of income or levels of development.

To summarize, if Canada is to not renege on its Paris commitments, it has no choice but to establish a carbon cap-based oil and production. This cap needs to see Canada cut oil and gas production by almost three-quarters by 2030 and eliminate all production by 2034.

Alternatively, we need to be honest to our children and to those already suffering from the climate impacts we have knowingly chosen to impose on them and say that we are unprepared to make the changes necessary to meet our commitments. They'd need to prepare for 3°C or 4°C of warming, with the devastating climate impacts that will entail.

• (1555)

Our choice here will say a lot about the sort of society we are and what sort of leadership we have.

Thanks for listening.

The Chair: Thank you, Mr. Anderson.

We'll now jump to Mr. La Camera for his opening five-minute statement.

Mr. Francesco La Camera (Director General, International Renewable Energy Agency): Thank you very much. Thanks for having me in this discussion.

Briefly, IRENA is an intergovernmental agency. We have 167 members and will have 168 in 15 days. We are the only intergovernmental agency that has this global membership.

I would say that the discussion we're having today is one that, at the end of the day, deals with energy transition. We see that energy transition is already in place. It's happening. It's mainly guided by the markets, because the cost of renewables went down dramatically in the last decade and now, largely, the planet is the most convenient way to produce electricity.

There is no doubt the energy system of the future is going to be defined by the significant presence of renewables, the dominant part of renewables, complemented by hydrogen, mainly green hydrogen and sustainable biomass. This is happening and, from our point of view, it is not stoppable in any way.

IRENA is working trying to understand all of the realities and how they fit in with the calls of the Paris Agreement. We are doing this exercise through our "World Energy Transitions Outlook", which designs a possible pathway to the 1.5° of the Paris Agreement. It's important to say that the outlook deals with the technologies that we need. These are the technologies that are available now, because it's just been said that the next decade, this decade, will tell us if we'll be able to stay on the pathway consistent with the Paris Agreement or not. In our next outlook, we say very clearly that we are very close to making the goal of 1.5° unrealistic if we don't introduce dramatic change.

We have the technology and then the policy part. They are very relevant. The debate today belongs to the policy part. Naturally, cap and trade is one of the policies, or instruments, that we need in order to take down CO2 emissions.

The third part is the socio-economic impact of the energy transition, as well as all policy measures, like the one you are discussing. It's clear that the direction of travel is there. The reality is that we are not on track when we consider the speed and the scale of the energy transition.

Your debate is very useful in this way, because cap and trade is one of the instruments that we have to try to lower CO2 emissions. A good example in this respect is the one coming from the European Union, with the emission trading scheme. Another is the example that you have already in Canada, especially in your scheme between Canada and Ontario. As far as I remember, they are still working with a kind of trading. It is not with a very clear cap, but the trading's already there. Cap and trade is one of the most effective

ways to harness the market and move the market in the direction that we wish to go.

I will close here, because I think I have just 50 seconds. It's also important to know how, going forward, renewables for the cleaner energy system will give anyone more independence in their own domestic energy systems. Where we have renewables and green hydrogen, we will have more actors in the markets and more sources of supply, so it will be difficult, or impossible, to capitalize on the fuels and, therefore, use the fuel in a digital politics dynamic.

The acceleration of the transition has to happen, not only for climate and economic reasons, but to give rights, independence and security around the world.

Thank you very much for your attention.

• (1600)

The Chair: That's excellent. Thank you for your opening comments.

Now we'll move to Mr. Merk for five minutes.

Go ahead, please.

Mr. Olaf Merk (Administrator, Organisation for Economic Co-operation and Development, International Transport Forum): Good afternoon, and many thanks for the invitation.

I work at the International Transport Forum at the OECD. We are an international organization based in Paris with 63 member countries, mostly developed market economies. We conduct policy relevant analysis for the governments of our member states. Part of our work is to make projections regarding transport greenhouse gas emissions and to advise on policies to decarbonize the transport sector.

I have been asked to speak to you today on the relationship between transport emissions and emissions from the oil and gas sector. I will look at this from basically two angles.

First, a considerable part of the consumption of oil and gas takes place in the transport sector. This, of course, translates into large CO2 emissions. In our transport outlook, we estimated that the total transport CO2 emissions amounted to around 6.5 gigatonnes in 2020. This is around a quarter of the total global energy-related CO2 emissions.

Under a “business as usual” scenario, we project that annual transport emissions will grow to 7.5 gigatonnes in 2030 and 8.5 gigatonnes in 2050. Therefore, more ambitious policy scenarios are needed to limit the temperature to be in line with the Paris Agreement. Transport emissions need to start declining as soon as possible and by more than half by 2050, measured against 2020 levels.

This scenario could be realized with substantial carbon pricing, distance-based road charging, rapid transition to electric vehicle penetration and vehicles powered by alternative fuels, and various other measures.

In other words, decarbonization of the transport sector can reduce the need for oil and gas production, and in this way help realize the emission reductions from the oil and gas sector, as is intended with the cap. The other way around, a cap for the oil and gas sector that is reduced over time could also stimulate the decarbonization of the transport sector.

My second angle, which is transportation, could be considered an essential part of the oil and gas supply chain, so the sector in itself. Exports of oil and gas are often transported by oil tankers and gas carriers. Almost a third of total maritime transport volumes are composed of oil, oil products and gas.

Transport of oil and gas might be included in the definition of the oil and gas sector when designing the cap on oil and gas emissions. This could be interesting, because emissions from international shipping are usually outside the scope of national government policies.

Regulation of emissions from shipping is generally undertaken at the global level via the International Maritime Organization, the IMO, and not at the national level. For example, international shipping is excluded from countries' carbon pricing schemes. However, there is also currently no global carbon pricing scheme for the shipping sector either, as various IMO member states are opposed to this. Even if there might eventually be agreement on the need to introduce such a global carbon pricing scheme for shipping, it would likely take a long time before it was introduced and effectively implemented.

For this reason, some jurisdictions have taken initiatives at the sub-global level. An example is the proposal of the European Commission to include shipping in its emissions trading scheme, the EU ETS. Under this proposal, ships would need to pay according to the amount of CO₂ they emit on their intra-EU voyages and also on part of their international voyages to and from a port in the EU. In other words, the carbon pricing applies to emissions not only within the territorial waters of EU states but also on emissions in international waters.

• (1605)

This example might be interesting in the context of your discussions because it would be somewhat similar to a situation in which the marine transport of oil and gas to and from Canadian ports would be considered part of, or auxiliary to, the oil and gas industry and be covered by a potential cap on emissions of the oil and gas sector.

I hope this is helpful to your discussions. I'd be happy to answer any questions you might have.

The Chair: Thank you so much.

We'll move to Mr. Fong.

Mr. Fong, you have five minutes for your opening statement, please.

Mr. Francis Fong (Managing Director, TD Bank Group): Thank you to the chair of the natural resources committee for the opportunity to speak with you today.

My name is Francis Fong. I'm managing director of ESG research at TD Economics. As a bit of background, TD Economics produces economic analyses, forecasts and research on a wide variety of macroeconomic issues, with my team specifically focused on environmental and social issues.

In my opening remarks, I'd like to put forward a few different perspectives that I feel will be important as the committee considers both the implementation and policy design of a hard cap on oil and gas sector emissions.

First, while it has likely already been discussed in previous meetings, I'd like to reinforce the importance of addressing the emissions intensity of fossil fuel production.

Second, I'd like to discuss the difficulty in assessing the potential economic implications of this policy by situating this discussion in the broader milieu of Canadian climate policy.

Third, I'd like to discuss how government can and should play a more active role in helping to address the sector's emissions through ancillary policies including incentivizing decarbonization and through areas like carbon border adjustments.

Let me start by saying that this is a critically important discussion to be having, particularly now with our interim emissions reduction target now set at 40% to 45% from 2000 levels by 2030. Canada, like many countries, is going to face difficulty in reaching this goal. It is, however, critical that we do so in order to remain on the pathway to keeping average temperature increases well below 2°C and in line with 1.5°C, but this, of course, raises the question of how we can do so in such a short period of time.

A natural place to look is in Canada's fossil fuel production, specifically oil and gas. The sector currently accounts for more than one-quarter of our total greenhouse gas emissions. Those emissions have risen steadily by almost 90% between 1990 and 2019 due to a combination of rising production to meet growing demand for fossil fuels and high average prices for those commodities, making Canada's relatively emissions-intensive production economical.

As such, there is an urgent need to address emissions in this sector, given the prevalent role that oil and gas production plays in Canada's aggregate emissions profile. However, I would note that focusing on oil and gas production is one side of the equation. As Professor Anderson has already succinctly put, which I'll add to, 66% of Canada's primary energy consumption is generated from fossil fuels, a share that has not shifted significantly in recent years.

While this is an obvious point, it is still worth stating that there are two ways to go about adjusting emissions in the sector: reduce our overall dependence on fossil fuels by decarbonizing end-use services, or reduce the emissions intensity of production. We likely need to pursue both pathways aggressively if we are to reach our target.

A hard cap on oil and gas sector emissions is one of many policies that ought to be considered as part of a broader package that balances aggressive emissions reductions in production with equally aggressive incentivization of decarbonization of end-use services. Such policies should also factor in other considerations, including transition policies for those who will be most impacted by climate change, both in terms of extreme weather events and the clean energy transition itself, and ensuring the reliability of our energy supply.

In considering a hard cap on emissions as part of a broader policy package, it is difficult to fully assess economic implications in isolation from others and against the broader economic backdrop that we currently find ourselves in. Certainly there would be concern that this might impact the competitiveness of oil and gas, but how this policy would interact with the Greenhouse Gas Pollution Pricing Act, including the evolution of the emissions benchmark used in the output-based pricing system, clean fuel regulations, etc., is not exactly clear.

Notionally these climate policies individually and in aggregate would act in helping to reduce emissions gradually over time, but perhaps at the expense of competitiveness relative to those countries with less stringent climate policies in a sector that still plays a very significant role in the broader economic prosperity of this country. However, this too might currently be mitigated by the current path of commodity prices. Putting aside that one of the sources of this is the horrifying events unfolding in Ukraine, it is undeniable that the outlook for the sector has been altered due to the high level of commodity prices.

It is also possible that any competitiveness impact is also muted by other policies already under consideration. Consider Canada's proposed methane regulations. Our recent commitment made in October of last year pledged to reduce methane emissions in the oil and gas sector by 75% from 2012 levels by 2030. These come mainly from venting and fugitive emissions and have been on a downward trend since the late 1990s. However, methane still represents roughly one-quarter of total emissions in this sector, and so reaching this 75% reduction target would mean a net decline in CO₂ equivalent of approximately 28 megatonnes from current levels.

Adjusting methane, which I'm given to understand is achievable using current technology, might simultaneously achieve the same goal of reducing emissions in the sector. Combine that with efforts

to decarbonize big ticket end-use services, which Mr. Merk and Professor Anderson have already alluded to, areas like the transportation sector where greenhouse gas emissions have risen steadily and consistently since 2007 even as emissions in most other sectors of the economy have either flatlined or fallen.

● (1610)

If efforts to increase the adoption of electric vehicles, for example, are successful, then again it's possible we might find that a hard cap on oil and gas sector emissions ends up being less relevant. As such, we need to be combining this policy with other policies to get at the root of emissions.

Perhaps I'll leave it there.

The Chair: Perfect. Thank you.

I should have apologized; we were a bit late starting today because of votes in the House.

The first round will give members from each of the four parties six minutes. That will take us just beyond our planned end time. I think it's important to hear from each of the witnesses who are here today, so we'll go slightly beyond the 4:30 cut-off time and then make the switch to in camera.

Mr. Melillo, you are the first on my list. You have six minutes. Given that this will be our only round, if you want to share it with anybody else, feel free to do so.

Mr. Eric Melillo (Kenora, CPC): I appreciate that.

I'll give it to Mr. Maguire, actually.

The Chair: Okay.

Mr. Larry Maguire (Brandon—Souris, CPC): Thanks, Mr. Chair, and thank you to my colleague.

Mr. Fong, I have just a few quick questions. You may agree with this anyway, but on the technology, one of the net-zero advisory board members earlier stated that using removable technologies like carbon capture should be "reserved for the most difficult-to-remove emissions". Do you agree with this, or do you think there is a use for carbon capture and sequestration other than the most extreme circumstances, especially if Canada's going to be considered as an established leader in technology development?

Mr. Francis Fong: Thank you for the question.

We actually released a report just yesterday on carbon capture, detailing its role in the clean energy transition. It's obviously a really contentious issue right now, so that's sort of difficult to answer, broadly speaking. I will say that, obviously, if we look at the net-zero scenarios produced by the IRENA, the IEA, the IPCC and what have you, carbon capture and carbon dioxide removal technologies both play a really significant role in even a net-zero world. That use is exclusively typically used for such things as direct air capture, clean fuels like biofuels with carbon capture, and so on.

However, I would consider the strong possibility that the use of carbon capture, specifically point source capture, today could have a beneficial impact on helping [*Technical difficulty—Editor*] viability of those technologies across a wide variety of applications that may or may not be used. I think there certainly is an opportunity to consider carbon capture as part of the larger tool box that we use to address emissions.

I would point to the issue that we're trying to get at and that I think a lot of the witnesses and I have talked about, namely, the difficulty of really decarbonizing end-use services. There's an immediate urgency to do that. Canada's track record has not been all that great. Certainly many other countries are in the same boat. If we're going to be in a situation where we fail, for example, to decarbonize end-use services—not that we would, but in case we do—then certainly we will need to find a better way to produce fossil fuels to account for that. Certainly, I think carbon capture—

Mr. Larry Maguire: Thanks for your answer, Mr. Fong. I'll move on just because of the time.

You co-authored the report entitled “Don't Let History Repeat: Canada's Energy Sector Transition and the Potential Impact on Workers”. In it you stated that a “technological shift” within the oil and gas industry is needed to achieve the target levels of emissions reduction.

Do you think carbon capture utilization and storage, or CCUS, is one of the ways in which the sector can lower emissions intensity? I think from your comments you'll agree with that. More importantly, how should the tax credit that's there be designed in order to attract investment capital to expand these proven greenhouse gas reduction mechanisms in the oil and gas sector?

• (1615)

Mr. Francis Fong: That's a great question. Obviously, that discussion is happening right now about how to design this policy. I don't have any specifics that I can share specifically around some kind of CCUS tax credit policy design. I would point to other countries that are looking into that—for example, in the U.S. the 45Q tax credit that's currently in play—as a source of inspiration.

To answer your question, I do believe it is possible that carbon capture will play a significant role in helping the oil and gas sector today help lower the emissions intensity of production. Yes.

Mr. Larry Maguire: Finally, do you agree with the statement by some of our University of Calgary and Simon Fraser University witnesses who agreed that we need to have a simultaneous sector-by-sector approach to these emissions? Do you agree that we need to look at reducing emissions in sectors across Canada in addition to the oil and gas area?

Mr. Francis Fong: I do believe so. Yes. Certainly. I mean, the oil and gas sector is obviously a really big hitter in terms of our emissions profile, but transportation, buildings, heavy industry and all of these areas are very fossil intensive as well. Certainly, there need to be actions to decarbonize all sectors of the economy simultaneously if we're going to reach our target.

Mr. Larry Maguire: Thank you.

Mr. Chair, in light of the fact that we didn't get a subcommittee meeting yesterday or today—I think we're meeting on Monday—I'm just going to turn the last question over to Mr. Simard. I think he has something to add.

[*Translation*]

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

I am ready to move the motion we were unfortunately unable to move on Monday. If that's okay with you, I will move the following motion:

That, pursuant to Standing Order 108(2), the Committee undertake a study of the Trans Mountain pipeline's additional expansion costs; that the Committee invite the Parliamentary Budget Officer, Minister responsible, experts and government officials to provide a follow-up on this program, and that the Committee hold two (2) meetings for that purpose; and that the Committee report its findings and recommendations to the House.

[*English*]

The Chair: The motion is received. Thank you.

That's the end of your time.

Mr. Larry Maguire: I think we should just go ahead and deal with it. It's been put on the table and we should move forward with it right now with a vote.

The Chair: We're not in committee business, so I think motions have to—

Mr. Larry Maguire: He can bring forward whatever motion he wants in his time.

Mr. Charlie Angus (Timmins—James Bay, NDP): I have a point of order.

The Chair: Yes, Mr. Angus.

Mr. Charlie Angus: I just think this is so staggeringly rude. Obviously, my colleagues don't want to hear testimony that is vital to our committee, so they're trying to interrupt.

We have international witnesses here. Our colleagues are turning this into some kind of circus. I think they should show basic respect for the committee, for their colleagues and for the fact that people from the international community have taken time to come to our committee to speak about the most urgent issue facing our country.

If the Bloc and the Conservatives want to turn this into a circus, I think this is appalling behaviour.

The Chair: Mr. Maloney.

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

I fear Mr. Angus's desired outcome. I don't feel the same way about it as the way he expressed it.

In light of what he did say, I will move to adjourn debate, so that we can finish with these witnesses, Mr. Chair.

The Chair: We'll move to Monsieur Simard.

Mr. Larry Maguire: Mr. Chair.

The Chair: I have a speaking order, so I need to go to Monsieur Simard, Mr. Anandasangaree and then back to you, Mr. Maguire.

Mr. James Maloney: It's a dilatory motion. It's not debatable, Mr. Chair. We have to put my motion to adjourn debate to a vote right now.

The Chair: Yes, I'm sorry. I missed it. I was getting some direction on something else.

Yes, you're right. It's a dilatory motion.

All in favour of adjourning debate on this?

(Motion agreed to)

The Chair: We can get back to our witnesses.

• (1620)

Mr. Larry Maguire: Mr. Chair, there were no hands up on the screen from members, were there? Four of us here in the chamber voted for the motion to adjourn and five voted against.

The Chair: I saw Mr. Chahal and Ms. Jones with their hands up as far as adjourning debate.

Do we need to take another—

Mr. Charlie Angus: He'd have to challenge the chair. The vote was taken. We don't do the vote twice.

Mr. Larry Maguire: That's fine. Go ahead.

The Chair: With that, we will move then to the next person.

Mr. Maloney, you have six minutes.

Mr. James Maloney: Thank you, Chair.

I just want to say thank you to our witnesses.

We're a very friendly, agreeable bunch here, notwithstanding what you just witnessed. I appreciate all of you taking the time to be here.

Mr. Anderson, I'm going to start with you.

I must say that I was not feeling inspired by the time you finished your opening remarks. I think your suggestion that Canada has shown "no meaningful leadership", if I'm quoting you correctly, is a little harsh, to say the least. You attributed this to our car fleet and a number of other factors.

Are you saying there is no chance that Canada can meet these targets that have been set, like the 1.5°C, for example, or, are you saying that there is no chance these targets can be met unless we cap and stop all production by 2034, which is what I think I heard you say?

Mr. Kevin Anderson: I simply take here what the physics tells us. We have a carbon budget that comes out of the IPCC. It's not just for Canada, of course. This is the same for all of the wealthy, high-emitting nations, which represent around about 60-odd per cent of all emissions. They have broadly got to stop production by 2034, but they also need the pathway that goes to about a 75% reduction by 2030, or we exceed the 1.5°C budget.

There's not really a personal judgment in that. It's really just simple maths and science. That's where we are. Fortunately the first IPCC we brought was in 1990. We have done nothing on climate change but watch emissions rise for 30 years, not just Canada, but let's be clear. Canada's emissions are 27% higher than they were in 1990. We have had—

Mr. James Maloney: To answer my question, then, are you suggesting that no further projects should be approved and all should be shut down by 2034? Is that what you're recommending?

Mr. Kevin Anderson: If Canada is to commit and succeed in delivering on its commitments in the G7 and Paris for 1.5°C, we have to close all oil and gas production in the wealthy parts by 2034, and we have to open no new projects. That's true not just for Canada. The no new projects is true at a global level for oil, coal and gas—

Mr. James Maloney: I won't ask you to comment on what you think that might do to our economy, because it's sort of a rhetorical question, frankly.

Mr. Kevin Anderson: Well—

Mr. James Maloney: Sorry. I'm limited in time. I don't mean to be rude.

I'm going to move to the other witnesses.

Do you share Mr. Anderson's fatal view, or do you believe that Canada has a realistic chance of meeting these targets through either mechanisms that are currently in place or others that you might suggest?

Mr. Fong, why don't I start with you. You seemed the most optimistic of the bunch.

Mr. Francis Fong: Personally, I do feel that it's possible, but given that other witnesses have taken great pains to join us internationally, I'd like to yield my time to hear from them as well.

Mr. James Maloney: Okay. I respect that.

Mr. Merk, what about you? Particularly in light of what Mr. Anderson said with respect to transport, and that is your area of focus, do you share his view that the targets cannot be met?

Mr. Olaf Merk: On the transport sector, what we have done in our work is look at what measures would be necessary to be able to achieve that. Then you come up with a very ambitious set of policies that would need to be introduced. I mentioned some of the elements that are necessary to achieve that.

That includes a very substantial carbon price, for example, but it's not impossible.

• (1625)

Mr. James Maloney: Thank you.

You said one-third of maritime traffic is oil and gas. That's worldwide, I'm assuming. You said that would be included.

When you said it should be included in the carbon pricing mechanism, I'm assuming you're talking about worldwide. Canada couldn't go it alone on that.

Mr. Olaf Merk: The one-third was, indeed, a global figure. What I suggested could be looked at is the traffic related to oil and gas transported to and from Canadian ports. This could be considered in the cap you are considering. My reasoning was that a global carbon pricing scheme for shipping is going to be very difficult to realize in the short term.

Mr. James Maloney: Thank you.

Am I fair in saying to you, then, Mr. Merk, that you don't believe a production cap is appropriate, but that an emissions cap is what we should work towards?

Mr. Olaf Merk: I don't think I have enough expertise on the oil and gas sector to have an opinion on the desirability of a production or an emission cap for that sector. I was simply speaking on the transport sector.

Mr. James Maloney: Okay.

I only have seconds left, so I'm going to go to Mr. La Camera to see if he has any comments on my question.

Do you think the target is achievable in Canada based on the current trajectory or an approach that could be taken short of what Mr. Anderson has suggested?

Mr. Francesco La Camera: Naturally, I am not doing politics. I think that we have to make clear two things.

One is that being in line with the Paris Agreement requires immediate action and immediately changing the trends that we have in front of us, because, as we are going to say in the global outlook report that we will launch in two weeks, we are at risk if we continue as we are doing. Globally speaking, we have no option to stay at the 1.5°C. The 1.5°C objective is vanishing. This is happening globally.

Concerning Canada, if I may, I think that Canada is not in a position to reach their target and be coherent with the 1.5°C. This will really be a disaster. I think that Canada is one of the countries that really may lead the path to the 1.5°C. Today, with Canada, we are working on green innovation and trying to mix that with people exchanging ideas. No one today has spoken about green hydrogen. I think this is one of the themes that should be on the table. It's not just a question of one measure to be there to be pursued. I think that green hydrogen could be the best way for Canada for dealing with the electrification of the end-use system.

I wish to comment briefly on the CCS—

The Chair: If I can interrupt, please, we're out of time here. We need to move to the next speakers, but yes, very briefly, wrap up your thoughts, please.

Mr. Francesco La Camera: [*Inaudible—Editor*] there is no future.

For CCS, there is a possibility, but trying to be coherent with the fact that we have to get results before 2030 and to put in place CCS will take some years, and it is not always working well. But we say, and my thought on this is, that in particular circumstances, where an economy is going green and depends largely on fossil fuels, CCS could be a transitional instrument to put hydrogen in the market.

Mr. James Maloney: Thank you very much.

The Chair: Thank you.

Now we're going to move to Monsieur Simard for six minutes.

[*Translation*]

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

I would just like to repeat to the witnesses that I have the utmost respect for them, contrary to what someone was saying earlier, and that my initiative was not intended to waste their time, far from it. Everyone was informed of this motion. But let's move on to something else.

I would like to put a brief question to Mr. Anderson.

Bruno Detuncq came to talk to us about carbon capture and sequestration strategies. He told us not only that it was difficult to do technically, but also that environmental hazards were involved. He also said that the positive literature on the capture, utilization and storage of CO₂, or CCUS, mainly came from people close to the oil and gas sector.

So I would like to know what Mr. Anderson thinks about those technologies, based on progress in his research and his reflections.

• (1630)

[*English*]

Mr. Kevin Anderson: I think carbon capture and storage has a role to play in removing process emissions, particularly from cement. For the fossil fuel sector, it has been used for 20 to 30 years to delay action on fossil fuels. Today the carbon capture and storage around the globe is about seven million tonnes of carbon dioxide equivalent, according to the Global CCS Institute. That's 0.02% of the global CO₂ emissions that we emit. It has done almost nothing so far, and even by 2030, following the pathway of the Global CCS Institute, it would still capture and store only about 0.1% of current global CO₂ emissions.

If we are serious about the carbon budgets and what the physics tell us for the 1.5°C or even the 2°C rate, we do not have the time frame to get this technology up and running. In addition, I think it's probably not so much that it's dangerous, but it has very significant life-cycle emissions. It is not zero emissions. It has very high life-cycle emissions, so I think it is too—

[Translation]

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

I don't have much time, so I would like to put a very quick question to you.

Some people have come here to present the idea that emissions, rather than production, should be capped. Yet we have heard witnesses say that it was a myth to think we could get results by putting a cap on emissions only, and not on production.

Can you tell us in clear terms whether it is necessary, in your opinion, to cap production?

[English]

Mr. Kevin Anderson: I think it is necessary to cap production and to have emissions controls on the use of fossil fuels as well.

[Translation]

Mr. Mario Simard: Thank you very much for your clear and precise answer.

I would now like to put a question to Mr. La Camera.

You talked about sustainable biomass and green hydrogen, and you said we need drastic change.

I want to point out that Canadian hydrogen policy does not say that one type of hydrogen should be promoted over another type. I feel that the Canadian government will try to emphasize blue hydrogen through a carbon capture strategy, which, as we know, may not be entirely appropriate.

Could you talk to us about green hydrogen?

Do you think the government should promote a type of hydrogen in the financial support it will provide to this industry?

[English]

Mr. Francesco La Camera: I cannot respond directly as to what Canada should do, but our position is that in countries where the economy is very dependent on fossil fuels, CCS could be an instrument in the transition phase to deal with lowering emissions for the fossil fuel sector. In the medium to long term, there is no doubt that the best option is to go for green hydrogen. This applies not only to Canada but to every place in the world. Also, producing hydrogen through renewables will give more independence to the countries that are already dependent on oil and gas for their energy systems.

In the short term in particular circumstances, I think CCS could be used, but in the medium to long term, there is no way other than green hydrogen, in our opinion. But I'm talking in general terms, not for Canada.

[Translation]

Mr. Mario Simard: You are saying that green hydrogen should be promoted. What is the best way to do that? What measures can the government implement in that direction?

You talked about sustainable biomass, but you have not elaborated on it. I would like to hear your thoughts on that.

[English]

Mr. Francesco La Camera: Sustainable biomass could be relevant, because this is one of the areas in which, by applying the use of biomass with carbon capture and storage, we can have negative emissions. It could be one way to reduce more dramatically the emissions themselves. There are areas in the world where biomass could be used in a sustainable way and might make a strong contribution to reducing CO2 emissions.

• (1635)

[Translation]

Mr. Mario Simard: Do you think biomass can be used in hydrogen production?

[English]

Mr. Francesco La Camera: I do not, really. I'm talking about hydrogen being produced by renewables. This would mean solar, wind and water. This is our opinion.

The Chair: Thank you. We're out of time.

We're going to Mr. Angus for his six minutes.

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

Thank you so much to our witnesses.

Professor Anderson, your report is pretty shocking. It was sent to me by three young people, who said, "Have you seen this? Have you looked at this?" I see a sense of urgency in your report, a sense of urgency I see in the IPCC's latest report, a sense of urgency that obviously you might feel is a little lacking here. I want to invite you to the parliamentary version of the Netflix show *Don't Look Up*, with Canadian accents, except that we've been watching this comet coming for 20 years and telling ourselves we can punt it down the road.

You say that even with the urgency, even if we take all these actions, we have only a fifty-fifty chance of making it to 1.5°C. What happens if we don't meet that target?

Mr. Kevin Anderson: Every fraction of a degree matters. If we don't hit 1.5°C, then we get additional sets of impacts. Let's be clear: 1.5°C is not a safe threshold. It is an incredibly dangerous threshold to many people around the world, particularly in some of the poorer, more vulnerable parts of the world. We are already seeing the impacts of 1°C even in some parts of Canada and other parts of the global north. If we fail at 1.5, we might get 1.6 or 1.7. Every part of a degree will increase the impacts and increase the risk that we will get these other feedbacks, which some people call tipping points. We should make every effort we can to hold towards 1.5°C.

Unfortunately, thus far, for almost a third of a century now, we have done virtually nothing but watch emissions rise. We are on the path to a much higher temperature.

Mr. Charlie Angus: Thank you.

I live in northern Canada where -45° is a norm in the winter, but in the summer we're looking at devastating fires, fires of intensity that are very frightening. People are concerned about the weather.

I just want to say, my Liberal colleague thought you were being a little mean by saying that Canada hadn't shown any leadership, but our own environment commissioner just released a report where he called us an international outlier for our failure to act on emissions.

The Canada Energy Regulator is predicting a one million barrel per day increase in the coming years with only a slight decrease by 2050, but we're being told that as long as it's all exported overseas, none of that will be counted as part of our carbon budget.

Can we do a one million barrel per day increase towards 2050 and give our children a livable future?

Mr. Kevin Anderson: Not if you think physics has any validity.

Mr. Charlie Angus: Certainly, we get a lot of lobbyists who I believe think the opposite. We asked the Canadian Association of Petroleum Producers how they were going to meet our climate goals. They said their solution was to vastly increase production for the global south.

The reason we're here is that our Prime Minister went to COP26 and made a big announcement about an emissions cap, so we're looking at this emissions cap. We now learn that the Minister of Environment has punted this off for at least another year.

Given the rising emissions, given the plans that we see for increased production, given that some of my colleagues in the other parties think the war in Ukraine will give us a great opportunity to vastly increase production, and given the urgency of what's in your report, does it make sense to put that emissions cap off for any length of time?

Mr. Kevin Anderson: I would say the situation now, as a consequence of Ukraine and the impact on oil prices and so forth, demonstrates that we should have put that emissions cap in a long time ago. If we had actually moved to renewables, we wouldn't be seeing the volatility in the prices we are seeing today. The idea that we're going to lock ourselves into yet more fossil fuels seems to completely misunderstand the situation we're in.

At this very moment, we need immediate demand management amongst those of us who use the lion's share of our energy, and we

need to rapidly roll out renewables. It's a combination of demand management and renewables, not turning back to the last century and saying let's dig out some more oil and gas.

We have to take some notice of the science and the physics because, in the end, the climate doesn't care about our short-term politics, our Machiavellian policies and our accountancy scams. It only cares about CO2 molecules, and that's the science.

● (1640)

Mr. Charlie Angus: I want to bring in the international situation, because you're on the other side of the pond and a little closer to Russia, and more dependent on Russian oil and gas, which I think we all would like to turn off so that we can turn off Putin's war machine.

Yaroslav Demchenkov, the deputy minister of energy of Ukraine, has just sent out an international appeal saying not to give up on decarbonization goals. He's begging the international community not to get sucked into this oil race but to turn off Putin's machine by moving forward with the decarbonization goals. That's coming from the Ukrainian government.

How possible is it in a European context to make a dramatic shift so that we can deal with cutting off Putin's war machine but also meet our decarbonization objectives?

Mr. Kevin Anderson: In my view, if we are serious about this, we would be looking at demand management. This is a rationing issue. However we play it, a carbon budget is, by definition, a rationing issue, but what we have not done is to cut back on people driving their very large cars or flying first class or business class. We have had no rationing in this at all.

In the U.K., we have people now who have the choice between eating or heating their homes, because the people who use the lion's share of the emissions—the 10%, 20% or 30% of the population in the wealthy parts of the world—are carrying on business as usual.

If we are serious about trying to constrain Russian imports, we need to be looking at demand management immediately. That's much quicker than looking for renewables or looking for more oil. Then we also need to be putting in renewables as well.

A combination of those two is a policy framework that has some intellectual backing to it, rather than just locking ourselves into yet more fossil fuels.

The Chair: With that, we're out of time, with apologies.

I would like to thank each of our witnesses. Many of you today are joining us with a challenging time zone difference, so we appreciate the efforts you have made to join us. Thank you so much.

I would also like to invite you, if you do have any additional thoughts, insights or information you would like to send to us, to submit a written brief of up to 10 additional pages. That can be sent to the clerk, whom I believe each of you were dealing with to get

set up for today. Any further thoughts from today's conversation you would like to put forward would be more than welcome by our committee.

With that, we're going to sign out of the public session, take moment to clear the room and get people back into the closed session where we will be looking at the draft report that we have done previously.

Thank you so much.

[Proceedings continue in camera]

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