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• (1100)

[English]

The Chair (Mr. Francis Scarpaleggia (Lac-Saint-Louis, Lib.)): I call this meeting to order.

[Translation]

Good morning, everyone.

I would like to welcome Mr. Maloney, who is with us this morning and who is also a member of the Standing Committee on Natural Resources. There's obviously a connection between the mandates of the two committees. We are very pleased to have you here this morning.

[English]

Today we're on our third meeting of the fossil fuel subsidies study.

We know the protocols. Essentially, if you're staff, you need to keep your masks on at all times. Those around the table can take their masks off. When you circulate, put your masks back on. For those who are joining us online, mute your mike when not speaking in order to avoid the problem of ambient noise. I think that takes care of the rules of procedure, more or less.

I need the committee to adopt one small routine motion related to the witness testimony of Grand Chief Phillip. He was supposed to appear at the last meeting but, at the last minute, couldn't. We would like to include his opening remarks, his testimony, as material for the study report. I don't imagine there's any objection to that. I see everyone is in agreement.

Some hon. members: Agreed.

[See appendix—Remarks by Grand Chief Phillip]

The Chair: We have our first panel of witnesses. From Climate Action Network Canada, we have Mr. Eddy Pérez. We welcome Mr. DeMarco, our commissioner of the environment and sustainable development; Ms. Miller, assistant auditor general; and Ms. Marchand, director. We also have, from the Trottier energy institute, Simon Langlois-Bertrand, research associate.

Thank you very much. Each witness has three minutes, I believe.

We'll start with Mr. Pérez, for three minutes.

[Translation]

Mr. Eddy Pérez (International Climate Diplomacy Manager, Climate Action Network Canada): Thank you very much.

It's a real pleasure for me to be with you today. I am speaking to you from Tiohtá:ke on the unceded territory of the Kanien'kehá:ka.

[English]

I am the international climate diplomacy manager with the Climate Action Network.

Yesterday the intergovernmental panel released a groundbreaking report, the third out of three major reports. This one specifically focused on the mitigation of climate change.

The report says that, without a doubt, we have what's necessary to cut emissions by half everywhere. It also says that things have radically changed in the past eight years. We know climate impacts are more expensive and are hitting us harder. Governments and decision-makers globally face a historic test. Scientists agree on the following: Either we use all of the resources we have to finance and resource this transition, or we can decide to burn our hope for a climate-safe future.

[Translation]

The most recent report of the Intergovernmental Panel on Climate Change, the IPCC, contains the most comprehensive list of solutions ever prepared. We can cut greenhouse gas emissions, or GHGs, by half, which is consistent with a future in which we limit temperature rise to 1.5 degrees Celsius. To achieve that goal, we must eliminate fossil energy subsidies because that can help us reduce global GHG emissions by as much as 10% by 2030.

[English]

So far in this committee, we have had a discussion about regulatory reform, looking at the types of supports that in previous years the Government of Canada has provided to the oil and gas sector through direct and public finance support through Export Development Canada.

I want to propose a new kind of discussion, one that looks at the transformational potential of the decisions around shifting Canada's financial flows. We have been talking a lot about fossil fuel subsidies from a policy reform perspective, but this IPCC report actually talks about radically changing the conversation on subsidies. It's not just about reforming regulatory policy. Phasing out subsidies represents one of the most important ways to finance our way out of this climate mess. Phasing out subsidies means giving ourselves the power to imagine what we can do with these funds if they can help us build a pathway of economic, climate and energy security.

The IMF has previously estimated fossil fuel subsidies totalling \$5.2 trillion U.S. or 6.5% of global GDP in 2017, compared with the \$2.4 trillion U.S. annually used for energy investments over the next decade to limit global warming to 1.5°C. Canada is a major fossil fuel subsidies contributor. It's part of those top five G20 countries that have given up to \$63 billion per year in international public finance for oil, gas and coal projects.

We know, based on this IPCC report, that climate finance flows need to increase by a factor of four to eight in developing countries and two to five in developed countries. Now, this environment committee—

• (1105)

The Chair: Unfortunately, we're past the three-minute mark, Mr. Pérez, but I'm sure you will have the opportunity to add your insights in response to questions.

We will go now to Commissioner DeMarco for three minutes, please.

Mr. Jerry V. DeMarco (Commissioner of the Environment and Sustainable Development, Office of the Auditor General): Thank you, Mr. Chair. We're happy to appear before your committee today to contribute to your study on fossil fuel subsidies.

I'd like to acknowledge that this hearing is taking place on the traditional unceded territory of the Algonquin Anishinabe people.

Joining me today are Heather Miller and Sylvie Marchand, who are responsible for a number of reports on this subject.

In 2017 and 2019 we examined whether Finance Canada and Environment and Climate Change Canada supported decision-making in order to meet Canada's commitment to phase out inefficient fossil fuel subsidies by 2025.

In these audits, we asked the departments to explain how they defined inefficient fossil fuel subsidies, and whether they had identified inefficient tax and non-tax subsidies. Without a clear definition, the departments could not identify which fossil fuel subsidies were inefficient and should be phased out.

In 2017, we found that Finance Canada had not defined what an inefficient fossil fuel tax subsidy was; nor could the department tell us how many there were.

In 2019, we found that Finance Canada still did not have a clear and meaningful definition of inefficient. It focused on fiscal and economic considerations, but did not consider economic, social and environmental factors, which are components of sustainable devel-

opment in decision-making on fossil fuel subsidies over the short, medium and long term.

[*Translation*]

In 2017 Environment and Climate Change Canada did not know the extent of federal non-tax measures that could be inefficient fossil fuel subsidies. In 2019, the department's work to identify inefficient non-tax subsidies for fossil fuels was still incomplete and not rigorous.

As you are aware, in November 2021, we presented an audit report on Natural Resources Canada's Emissions Reduction Fund for the oil and gas sector. The program's interest-free and non-repayable loans for oil and gas companies are examples of subsidies. We found that the program was poorly designed because it did not link funding to net emission reductions from oil and gas operations.

Canada needs to assess all of its supports for the fossil fuel industry against how they will foster or hinder Canada's transition to net-zero emissions.

Despite repeated government commitments and plans to decrease greenhouse gas emissions, they increased by more than 20% from 1990 to 2019. Urgent actions are needed to reverse this trend.

Mr. Chair, this concludes my opening remarks. We would be pleased to answer any questions the committee may have.

The Chair: Thank you, commissioner.

We now go to Mr. Langlois-Bertrand from the Trottier Energy Institute.

Mr. Langlois-Bertrand, the floor is yours.

Dr. Simon Langlois-Bertrand (Research Associate, Trottier Energy Institute): Thank you very much for your invitation. It's a pleasure to be here.

Although I'll be making my remarks in English, I will have no problem answering questions in the language in which they are asked.

[*English*]

I'm a public policy lecturer, and I work as a research associate at the Trottier energy institute. We do work such as the "Canadian Energy Outlook", which provides a very deep level of evaluation for various technological and economic possibilities to reach net zero. It enables, among other things, a comparative assessment of costs for various options across the energy sector.

I use the current federal greenhouse gas emission reduction targets here as a starting point: net zero by 2050, and minus 40% in a couple of years.

The question is this: What are the principles that can be applied to the review of subsidies and that can ensure that the review leads to government support for industries that is conducive to achieving the decarbonization targets at the same time? This is, to be sure, a very tall task.

Given this frame of discussion, it appears to me that at least two principles stand out that can guide the review. One is that government subsidies of all kinds must facilitate the transition toward low-carbon activities and energies, and certainly must not act as any sort of hindrance to this transition. For instance, any research or support subsidy that favours the production or use of fossil fuels has to be eliminated to encourage low-carbon solutions instead. In the context of consumption in different sectors, for instance, any subsidy that supports the purchase of equipment for transportation, for heating or for manufacturing, for example, has to favour a transition to technological subsidies compatible with carbon neutrality.

That brings me to the second principle that should guide the review: The subsidies must not contribute to maintaining or increasing greenhouse gas emissions across the economy. Instead, they must be compatible with the objective of carbon neutrality. This last point is crucial. The subsidies cannot contribute to renewal or expansion of infrastructures that favour the maintenance or increase of greenhouse gas emissions. That includes the natural gas network; that includes heating infrastructures based on fossil fuels; that includes vehicles using fossil fuels, and so on.

In conclusion, the subsidies are supposed to be there to accomplish social and economic objectives. A review like this of fossil fuel subsidies should carefully reassess which such objective it is aimed at, and what's the best way to achieve it—through government action, funds, regulation or whatever actions—while facilitating decarbonization at the same time. For instance, if the objective is linked to a given sector's activity—agriculture, manufacturing, mines and so on—then the subsidy should be made as visible as possible and not be hidden within the price of fuel, for instance. It should be accompanied with transitional subsidies facilitating the transfer to low-carbon technologies.

The transition to a carbon-neutral society can be successful only if there is a country-wide effort to review and reassess all measures and their impact on the use of hydrocarbons, and if it leads to changes accordingly, when necessary, to ensure continued support for given industries and populations in this transition.

Thank you.

• (1110)

The Chair: Thank you very much, Mr. Langlois-Bertrand.

We'll start with Mr. Seeback for six minutes.

Mr. Kyle Seeback (Dufferin—Caledon, CPC): Thank you very much, Mr. Chair.

I wanted to start with questions for the Office of the Auditor General.

In your introductory statement, you talked about two studies. One is with the Department of Finance Canada. The other one is with Environment and Climate Change Canada. Some of the summaries are as follows:

[The audit] found that the Department of Finance Canada's assessments to identify inefficient tax subsidies for fossil fuels were incomplete, and that advice it provided to the Minister was not based on all relevant and reliable information.

The Department of Finance Canada did not clearly define how a tax subsidy...would be inefficient.

With respect to the second audit, the audit concluded that ECC's "work to identify inefficient non-tax subsidies for fossil fuels was incomplete and not rigorous", in part because ECC "used unclear definitions." The audit also found that ECC "did not consider the economic, social, and environmental sustainability of subsidizing the fossil fuel sector" in its assessments.

Have any of these deficiencies, to the best of your knowledge, been remedied by either of these departments in the last three years?

Mr. Jerry V. DeMarco: To clarify, the record of reports that our office has produced on this does include one study from 2012, which I didn't mention in the opening statement. It looks at supports for the fossil fuel industry, and not just subsidies. I'd like to call your attention to that 2012 study. Then, we have the 2017 audit, and then the two audits from 2019 on fossil fuel subsidies. There's quite a lot of material from our office available to the committee on this issue.

With respect to the question of what's changed since 2019, aside from the responses that the departments gave, we have not done a follow-up to the 2019 audit at this stage. We will consider doing one if we determine that there is a risk of inaction on these. What I can say is that one of the key components of the departments' responses to our audits was that they were going to undertake a peer review with Argentina. That was announced in 2018. We're expecting that an update from the departments will be forthcoming regarding that peer review. None has come to date. We're still waiting for that information from the departments, despite the announcement in 2018 that it was undertaken.

• (1115)

Mr. Kyle Seeback: With all the audits you've done—the ones I was specifically mentioning in my questions—would it be fair to say that if these departments don't do the hard work to clarify these issues, or if they haven't clearly defined these things, that will make it much more difficult for the government to "end fossil fuel subsidies"?

Mr. Jerry V. DeMarco: Absolutely. That's one of the key themes from the range of reports we put out on this. Without a clear definition of what it is they've committed to phasing out, it's hard to phase that out, isn't it?

We were told they had a range of factors that they considered, and there's an exhibit in one of our reports that lists all of the factors they considered, but it's far from a definition. It's more of a laundry list of factors. No one could read that and figure out if it is in or out in terms of a fossil fuel subsidy.

It's unfortunate that it's sort devolved into a bit of a word game about these terms. If you go back to our 2012 study and perhaps consider any supports for fossil fuels, whether a department admits they constitute a subsidy or not, you may be able to get more to the root of the problem than continuing with interpretations of the term "inefficient fossil fuel subsidy".

We've been mired in that for quite some time now. It would be good if we just got to the point of it, which is whether these supports, whatever you're calling them, are helping to achieve our journey towards net zero or hindering it. That's really the key question to ask.

Mr. Kyle Seeback: From anything you've looked at, has the government made it clear that investments in carbon capture, utilization and storage would fall under an inefficient subsidy or, just in general, a subsidy that should be eliminated?

Mr. Jerry V. DeMarco: That's a topical issue. I expect there will be a new announcement in the budget this week about incentives for CCUS.

If the incentives are financial in nature and they favour one sector over another, then they constitute a subsidy. Whether the government would consider them inefficient or not, I do not know. Presumably they would not consider an instrument they're just about to roll out as an inefficient fossil fuel subsidy. Otherwise, they wouldn't be doing it, in light of their commitment to phase out inefficient fossil fuel subsidies.

Mr. Kyle Seeback: They wouldn't, unless they haven't properly defined what "inefficient" is, which is where we are right now.

Mr. Jerry V. DeMarco: Yes. That's why I would say that this committee and others, and the debate generally, should rise above the word game and the wordsmithing issue. We should go to what the nature of the measure is and whether it will help or hinder achieving the objectives of the climate plan and the journey to net zero, and not get too worried about terminology.

I know it's important because of the Pittsburgh 2009 commitment to eliminate inefficient fossil fuel subsidies with the G20, but we're past that now. We have to look at all of the measures, whether they're subsidies or not, to see whether they're helping or hindering.

The Chair: Thank you. We'll go to Mr. Longfield now.

Mr. Lloyd Longfield (Guelph, Lib.): Thank you, Mr. Chair.

I'd like to continue with Mr. DeMarco on the discussion we're having on subsidies in this study and the nature of the definition being important globally.

If we remove a subsidy here that is inefficient in Canada and it's not removed in another country, then capital will flow to that country. We could choke off our own oil and gas industry by not making a coordinated effort with other countries that could have substitutes for the products we're producing in Canada. I think that's the nature of the peer review that's going on with Argentina.

When you're doing your audit work, are you looking at the externalities? Do you work with auditors general in other countries, who are maybe also auditing similar topics to what we're working on in Canada around fossil fuel subsidies and their definition?

• (1120)

Mr. Jerry V. DeMarco: At the Office of the Auditor General, including in my role as commissioner, we work closely with our counterparts around the world through the international network known as INTOSAI, and in particular the Working Group on Environmental Auditing.

You've hit on an important point there, which is the potential for an uneven playing field. If one jurisdiction sticks its neck out and does something and the others don't follow, it could be put at a competitive disadvantage and so on.

It's a difficult issue with climate change, because you're never going to get a 100% consensus among nearly 200 countries on every measure and every definition and so on. There's always going to be some unevenness. There are going to be all sorts of externalities and market failures, as is the case right now.

To the best extent, if we can at least collaborate with our G7 and G20 colleagues in looking at this in a coordinated way, which, as you mentioned, includes peer reviews with other nations, then we'll have a better chance of having the entire herd go in the same direction, rather than just one of us going ahead of the pack or behind the pack.

Mr. Lloyd Longfield: Thank you.

In terms of working with other countries through their auditors general, is that an opportunity we can include in our report?

Mr. Jerry V. DeMarco: Certainly.

We can't control what the other offices choose or what audits they select to do, but if the committee has recommendations for us on what issues they would like us to look into and whether we can seek partnerships or collaborative initiatives with our counterparts around the world, we're certainly open to that sort of recommendation.

Mr. Lloyd Longfield: Before I move to the next witness, the Trottier energy institute, I'd like to ask you a final follow-up question.

We need to be working with the oil and gas industry, because clearly they're creating emissions and they're trying to get to net zero themselves. If we're not investing in that industry, if we're not helping them get to net zero, then we're losing the biggest opportunity we have for reducing emissions.

We need to be working together to reduce emissions in a key emissions sector. You're not suggesting that we work apart from the fossil fuel sector but in conjunction with them. Is that what I'm hearing?

Mr. Jerry V. DeMarco: I don't think I addressed that point, but I can give you my thoughts on it now.

One of the lessons learned in our November report deals with the fact that Canada's oil and gas emissions constitute a large portion of emissions. Historically, usually between 20% and 30% of annual emissions are from that sector. Transportation is also a very important sector, as are others.

Canada will need to work with the oil and gas sector, but it shouldn't be afraid to regulate as well. It's not an entirely voluntary relationship between government and industry. They work together, but it's up to Canada, which made the commitment to net zero, to meet it, and that will require a range of measures, from carbon pricing to regulation to working with industry on voluntary measures—the whole gamut.

Mr. Lloyd Longfield: Clearly. Thank you.

Regulations include provinces and territories as well, so it's not an easy job, but it's one that we are committed to.

To the Trottier energy institute, I looked at the “Horizon 2060” report that your organization published. It concluded that carbon capture and sequestration are critical to achieving carbon neutrality.

Do you agree that it's necessary for the government to support these technologies that lead to reducing the concentration of CO₂ in the atmosphere if we're able to achieve our climate targets of net zero by 2050 or earlier?

Dr. Simon Langlois-Bertrand: I don't, actually. Our results are nuanced in a very important way with regard to carbon capture.

On the one hand, it seems to be—and there seems to be consensus more and more on this across net-zero reports around the world—that CCS will be necessary to reach carbon neutrality in the longer term. However, it needs to be kept for applications where it's absolutely essential, so where it's impossible to avoid the emissions, for example, in the production of cement, steel and such.

If we use CCS, it has to be as a last-resort solution for any sector, after all possibilities for reducing greenhouse gas emissions through other means have been—

• (1125)

Mr. Lloyd Longfield: It has to be part of the tool box.

Dr. Simon Langlois-Bertrand: It has to be part of the tool box for sectors in which it's impossible to do otherwise, but that doesn't include oil and gas.

The Chair: Thank you.

Madame Pausé.

[*Translation*]

Ms. Monique Pausé (Repentigny, BQ): Thank you, Mr. Chair.

Once again, I join with my colleagues in thanking all the witnesses for being here today.

My questions are for Mr. Langlois-Bertrand, and they're similar to those of Mr. Longfield.

We've talked about your report entitled, *On the way to net-zero: The 2030 milestone*, which was submitted to the federal government for its consideration of your findings.

You say that, if the government were to adopt all your recommendations, it could hope at best for GHG emission reductions of only 25% to 35% by 2030. Those figures show that the targets advanced by the government can't be met. The minister released his program last week, and he claims he could meet them through his reduction plan.

Do you think he could do it by implementing what's proposed in the emissions reduction plan?

Dr. Simon Langlois-Bertrand: It's definitely possible to make significant progress toward those targets, but we very much doubt it based on the results we've achieved so far.

You have to understand that the deadline is slightly more than seven years away. Many sectors can begin a transition, which will be necessary to achieve net-zero emissions by 2050, but it will be extremely difficult to meet the 2030 targets.

We've proposed several ways in which we can try to make as much progress as possible. We're also realistic about the deadline for implementing those measures. We have doubts about that. It isn't necessarily enough to say the government's plan doesn't include a wide range of good ideas; they have to be clarified and implemented.

We can't see how all that can be done simultaneously by 2030. That's why we're pessimistic about that target in particular.

Ms. Monique Pausé: Following on from that, you say in your report that you're pessimistic. You also say that urgent, major measures will be necessary to reverse the trend, beyond what's been announced publicly and what's been put in place. You say those measures must be introduced now and be coordinated among the various orders of government.

We know the provinces currently generate a lot of electricity, part of which comes from fossil fuels. They don't seem to be developing any plans that will head us in the direction you wish. Yesterday, however, the Intergovernmental Panel on Climate Change stated in its report that we have 3 years to cap our emissions and until 2030 to reduce them by 48%. It emphasizes solutions that are generated by cities.

My question concerns this kind of coordination, which seems absent from the new federal emissions reduction plan. Do you think there's a plan to grant efficient subsidies to the other orders of government to encourage them to act? I'm obviously referring to grants to low carbon-emitting sectors.

Dr. Simon Langlois-Bertrand: Electricity is a good example given the provinces' jurisdiction over the sector.

One of the issues the federal government is forced to consider in the plan is the realistic role it can play in getting things moving in the right direction. We can really see in the plan released last week that it's aware of that fact. It proposes pathways, but the provinces will definitely have to be included very soon.

Based on our analysis of the provincial planning of public power utilities, which we conducted before the federal government released its plan, there's absolutely no evidence for the moment that networks will get to the decarbonization stage it claims they have to reach by 2030.

Some provinces have detailed plans, but few of them are planning beyond the next few years, except for the very sharp increase in the demand for electricity that will accompany decarbonization in the longer term. Without this infrastructure, however, that will obviously be impossible.

Ms. Monique Pauzé: At the same time, isn't it surprising that the 2030 Emissions Reduction Plan makes no mention of the Canadian Council of Ministers of the Environment? Couldn't it be the place where that coordination is done?

Dr. Simon Langlois-Bertrand: Unless I'm mistaken about the name, the plan raises the idea of creating a national council for electricity measures and thus helping to accelerate decarbonization.

Would it be better to rely on existing councils for that? Perhaps it's hard to answer that off the cuff. We already have cooperation mechanisms, but that doesn't mean the actors in the organizations in question have the same motivations. I think that that's where the difficulty lies and that we definitely need a leader to herd everyone in the same direction if we want significant results.

• (1130)

Ms. Monique Pauzé: I'm going to echo the question of my colleague Mr. Longfield and talk about carbon capture and storage. It appears a tax credit will be announced in Thursday's budget. Do you think a tax credit is a fossil energy subsidy?

The Chair: Please be brief, Mr. Langlois-Bertrand.

Dr. Simon Langlois-Bertrand: I know the debate on that definition is a complex one, as Mr. DeMarco said earlier. Whether you call it a direct or indirect support provided by the government through whatever incentive it might be, I consider it a support. Now, will we call it a subsidy in the context of international negotiations? That may be a pointed question. Ultimately, however, the result is the same or the debate should be similar.

Ms. Monique Pauzé: Thank you.

[*English*]

The Chair: Go ahead, Madam Collins.

Ms. Laurel Collins (Victoria, NDP): Thank you, Mr. Chair. My first question is for Eddy Pérez.

Canada gives out more public financing to big oil and gas than any other G20 country. At COP26, Canada adopted the Glasgow Climate Pact to accelerate efforts to phase out fossil fuel finance.

Where do you see Canada in relation to our international peers on this commitment, and what opportunities do you see leading up to COP27?

Mr. Eddy Pérez: The first thing we need to note is that we are currently giving about 14.5 times more support for fossil fuels compared with other countries. Just as a comparison, G20 countries provide about 2.5 times more support for fossil fuels than renewables. This kind of gives you an idea of the work we have to do to close that gap. At the same time, within the G7, we have changed the date of the phase-out of inefficient fossil fuel subsidies to 2023. We have a challenge to reduce the gap and then to meet that commitment by 2023.

At COP27, there are going to be discussions about enhancing Canada's NDCs. Canada committed to enhancing its NDC by the Egyptian COP. Within Canada's previous nationally determined contribution, Canada did not include fossil fuel subsidies reform like other countries have done in the past. This could be a major opportunity for Canada to use to present an enhanced nationally determined contribution in Egypt.

Additionally, we look at discussions related to reforms of the international financial architecture that are happening both at the International Monetary Fund and at the G7 summits. These are opportunities that Canada can use to really enhance its commitments. The world is looking at Canada because we changed the date to 2023, and it is something that other countries are looking at.

Ms. Laurel Collins: Can you describe the benefits of Canada's establishing a definition of fossil fuel subsidy that's aligned with leading international standards? In your opinion, is there such thing as an efficient fossil fuel subsidy?

Mr. Eddy Pérez: There is no such thing as an efficient fossil fuel subsidy. Fossil fuel subsidies could be seen as providing small benefits, but overall, in the context of the climate crisis, there's no such thing as an efficient fossil fuel subsidy.

The importance of a definition is a matter of transparency. As the commissioner said earlier, we need to know specifically what we're trying to take away from this in the context of subsidies. It's critically important that we look at what the debate on the definition is going to lead us to. We have a major investment gap here in Canada. In yesterday's report, the IPCC said we need to increase investments, only in North America, by a factor of three to increase the capacity of renewables and make sure we pay for the infrastructure that is going to lead us towards meeting our goals for 2030.

I see the definition debate as an opportunity to increase the ambition on transparency, but also to look at opportunities regarding the kinds of subsidies we actually need to unlock the renewable energy potential here in Canada.

• (1135)

Ms. Laurel Collins: The IPCC report showed clearly that at current levels of production there's no credible way to get to our goal of staying below 1.5°C. The government's emissions reduction plan actually shows an increase in production over the next eight years and relies heavily on unproven technologies like carbon capture and storage.

Do you consider this a winning climate strategy? Do you consider the CCUS tax credit a subsidy?

Mr. Eddy Pérez: No, and you're right: The emissions reduction plan is presenting a huge weakness, which is that it's trying to meet targets while at the same time increasing production of fossil fuels. That is inconsistent with the latest report from the IPCC.

Actually, the IPCC report yesterday called for the decommissioning and early retirement of fossil fuel, coal and gas infrastructure. It's warning governments that there is a huge risk of stranded assets. There's also a huge risk of increasing vulnerability in economics in Canada, but also in other petrostates. If Canada really wishes to move forward with a climate plan that is ambitious globally, it will need to look for ways to include the stopping of production of oil and gas in its climate plan. This could also be part of Canada's enhanced NDC in Egypt.

Additionally, I would say on the CCUS piece that it is one of the most expensive technologies presented in the IPCC report. The IPCC said yesterday that half of the solutions cost \$20 or less per tonne of emissions, so we should also look at the list of solutions the IPCC presented yesterday.

Ms. Laurel Collins: Thank you.

The Chair: Thank you.

We have Mr. Carrie for five minutes, please.

Mr. Colin Carrie (Oshawa, CPC): Thank you very much, Mr. Chair.

My question is for Mr. DeMarco. Canada has certain natural advantages, and the energy sector is certainly important for our economy. Our economy really depends on the energy sector to fund a lot of our social programs.

It was a little disturbing, when I read your opening remarks, that we still haven't come up with good definitions. I want to continue on with what Mr. Longfield was talking about, because governments tend to have this idea of "ready, shoot, aim". In other words, they make big announcements to meet targets, but with no pathway forward. Like Mr. Longfield said, industry needs to be a partner. It's not the enemy, but we have to give it some certainty for investments because it's looking decades out. My understanding is that there's going to be an increased desire for greater energy over the next several decades, and we have to figure out ways of getting there.

My question to you is about trading competitiveness, because we compete. South of us is the United States, which is a very big pro-

ducer of fossil fuels. Do we have any idea of regulatory harmonization within North America?

I'm asking you this question not only internationally, but also interprovincially. Are we starting to get some consensus on what a fossil fuel subsidy is? If we don't get that right, Mr. DeMarco.... As my friend Lloyd was saying, we can't phase out subsidies if we don't have the definition, and there are global implications. We could end up having an uneven playing field, and we could end up killing all of these jobs in Canada that our country and individual Canadians rely on.

Would you please comment on the regulatory harmonization piece, not only here in North America, but interprovincially?

Mr. Jerry V. DeMarco: There's a lot there, so I'll try to touch on the key points.

The notion of waiting until there's complete unanimity or whether the definition is ready.... The planet is heating up as we speak, so we can't always wait. It was in 2009 that Canada committed to phasing out inefficient fossil fuel subsidies. We're now in 2022 and we are still talking about the definition, so there's something wrong with that picture in terms of the pace of action.

Regarding Canada's being blessed with energy resources, it's blessed with a wide array of energy resources, not just fossil fuels. If we're going to move toward net zero, the answer isn't only going to be from the oil and gas industry to working on further oil and gas; it's also going to be in diversifying our energy base. This will also have the co-benefit of increasing energy security. That is something that countries around the world are looking at because of the crisis in Ukraine and the need to have more dispersed energy production, rather than relying on imports and so on.

It's important to work together on all of this, but we can't forget that there is only so much greenhouse gas budget that we have in the world. If we keep producing oil and gas with emissions here from production and emissions when they're combusted for the exports overseas, we will break that budget. We have to come to that realization at some point, before it's too late. That's what the IPCC is trying to tell us with its report yesterday. To meet 1.5°, we have to make some of these hard decisions sooner rather than later.

• (1140)

Mr. Colin Carrie: I appreciate that.

I'm going to press you a little harder, Mr. DeMarco. I was at an event in Oshawa yesterday, where General Motors is making an investment. They made that because the Government of Ontario and the Government of Canada made what's called an investment. In order for them to be competitive, there seems to be a need for, let's say, government "interest" in their industry.

Those are good-quality jobs. One assembly job is seven jobs outside of that. In the energy sector, I believe that for one job in the energy sector, there are five spin-off jobs.

Again, in Canada, has the government done the work to get consensus—even if it's not consensus—or some type of idea among the provinces of what these definitions are? These definitions seem to be the sticking point.

If we're competing against the United States, which is directly underneath us, I'm concerned about the implications of Canada's moving ahead. We could shut down our whole economy—congratulations to us—but we're still going to need some energy into the future.

Could you comment a bit further on that?

The Chair: Thank you. Maybe you'll receive an answer to another question.

We'll now go to Ms. Taylor Roy.

Ms. Leah Taylor Roy (Aurora—Oak Ridges—Richmond Hill, Lib.): Thank you very much to our witnesses.

It's clear to everyone that we're all concerned about our economy and about jobs for Canadians. I am wondering whether each of the witnesses could comment on, rather than the definition of inefficient subsidies, what they think are the most efficient ways that we can help the oil and gas and fossil fuels industry to transition. What kinds of programs can we put in place that will help us get to our goals more quickly?

I think that's what we all want. We want to reach our environmental goals, but we also want to support the industry and make sure the jobs are there. How can we, in your opinions—you're all experts—move in that direction?

Mr. Jerry V. DeMarco: I can start with an answer to that question, and I'll leave it to other witnesses to pick up on that.

You mentioned the key word, which is transition. A just transition is really key. That is another topic we are auditing right now, and we will have a report for this committee later this year. You can't expect regions of the country to suffer disproportionate effects simply because of historical realities relating to their resource base and their economies. We have to have a just transition, so there isn't just the negative side of the ledger that people are worried about; they're also seeing the positive side.

The negative side would be job loss, or loss of investment, and so on. If you compare that against nothing, it looks terrible. If you compare that to a circular economy, a low-carbon economy that has other jobs that are equally attractive and that still support those communities and so on, then it doesn't look so bad.

That's why a just transition is key. We don't want to have a Darwinian approach to this, where some regions will benefit at the expense of others, who will suffer.

Mr. Eddy Pérez: I'm certainly happy to continue on that front. I agree with Mr. DeMarco that the solution ahead of us is not necessarily one where we're seeking to demonize one industry over the other. It's actually about putting people and communities first.

The climate crisis is all about security. It is about health. It is about reassurance, but it's also a frank discussion that we need to have. We have a delay. It has been eight years, but at the same time, Canada remains one of the wealthiest countries in the world. When we look at all the analyses, when it comes to our capacity to tackle this climate crisis and unlock these just transitions and the way in which we respond to the needs of workers and communities, we have much more money than any of the other petrostates in the world. We also need to have a discussion in the context of this element on subsidies about the kinds of resources we need in Canada to help people and communities have these transitions.

To give you just a couple of facts on the issue, we have an investment gap. We have been adding less solar and wind generation in the last five years compared to other G20 countries, except Indonesia, Russia and Saudi Arabia. On average, we are providing much less money to transition plans, even when compared to the United States—

• (1145)

Ms. Leah Taylor Roy: Mr. Pérez, I'm sorry; I appreciate that, but what I'm really trying to focus on are solutions and ideas from the three of you as witnesses.

What is it that we should be focusing on, then? We've discussed the inefficient.... Having this conversation, I agree that we don't have the time to have the conversation about what's inefficient and what's not. We have to focus on what we can do to help people and communities make the transition quickly and to support them.

If you're looking at all the things you see, and saying, "This is what Canada should be doing. This is what we should be putting money into to help this transition," what would you say is the top thing?

Mr. Eddy Pérez: Are you asking me, or are you asking Dr. Langlois-Bertrand?

Ms. Leah Taylor Roy: I'm asking all of you, really.

The Chair: All of you have about 40 seconds.

Mr. Eddy Pérez: Dr. Langlois-Bertrand hasn't answered, so I'm going to give him the 40 seconds.

Dr. Simon Langlois-Bertrand: Yes, I can pick up.

Maybe this is an oversimplification, but at some point, we just need to go back to the original question, which is, why is there support for this particular industry? I alluded to the answer in my opening remarks. Is it for job creation? Is it to support communities? Is it to reduce inequalities?

All of this now needs to be reassessed in the context of also achieving decarbonization. How do you create jobs? How do you reduce inequalities? How do you support communities to transition in a way that means you can now provide supports, but that is also compatible with decarbonization targets?

That includes retraining in some communities, for sure, and some jobs recreated elsewhere or transferred. It also includes doing something with the existing installations whenever possible, perhaps as part of this production, or transforming the sector in a way that's compatible.

The Chair: Thank you very much.

Madame Pauzé.

[*Translation*]

Ms. Monique Pauzé: My first question is for Mr. Pérez, and I'll ask it quickly because I only have two and a half minutes.

Do you share the view of the Canadian Association of Petroleum Producers that a tax measure granted to their sector, the oil and gas sector, doesn't constitute a subsidy?

Mr. Eddy Pérez: No. In our opinion, any support that's granted to that industry is a fossil energy subsidy.

Ms. Monique Pauzé: So, regardless of the type of support, it's a subsidy. All right.

I'd like to ask Mr. DeMarco a question that comes somewhat in the wake of his opening remarks and Mr. Seebach's question. I want to go back to the 2019 audits, when a lot of things were requested, but there was little transparency or rigour.

Mr. DeMarco, do you have any ideas about how to avoid the obstacles your predecessor encountered regarding the quality, relevance and reliability of the information you will access for work purposes?

Mr. Jerry V. DeMarco: Since I wasn't commissioner in 2019, I'll ask Sylvie Marchand to answer that question. She was there when the report was prepared.

Ms. Sylvie Marchand (Director, Office of the Auditor General): Would you clarify your question, please?

Ms. Monique Pauzé: I'll repeat my question, but I don't have a lot of time.

In the 2019 audit, the departments, which had refused to provide information, raised a lot of obstacles and lacked transparency.

Do you have any ideas about how to avoid the obstacles raised with regard to the quality, relevance and reliability of the information you will access in order to continue your work?

Ms. Sylvie Marchand: I don't think I can really answer that question. We have tools at the office, of course. Ultimately, there's the Auditor General Act, but we can also secure better cooperation with the departments before we invoke it. Let's say it's an ongoing effort in that respect. Generally speaking, our environmental audits have always been sensitive affairs and obtaining information, even...

• (1150)

Ms. Monique Pauzé: All right. I'll stop you there because I'd like to use my remaining time to ask a final question.

Mr. DeMarco, do you think the government will be able to achieve its goal of eliminating fossil fuel subsidies by 2023?

The Chair: Please answer briefly.

Mr. Jerry V. DeMarco: Are you asking me if I anticipate that it will do so?

Ms. Monique Pauzé: I'm asking you to look into your crystal ball.

Will the government be able to achieve its objective?

Mr. Jerry V. DeMarco: I'm a commissioner, not a prognosticator, but it can do so if it wants.

The Chair: That's perfect. Thank you.

Go ahead, Ms. Collins.

[*English*]

Ms. Laurel Collins: Thank you, Mr. Chair.

Mr. DeMarco, many of the questions I had for you have already been asked, but is a review of the government's progress on its 2023 commitment to eliminate fossil fuel subsidies something you'd consider adding to your agenda?

Mr. Jerry V. DeMarco: Possibly. I was hoping we wouldn't need to. I was hoping that this file would be closed and that there wouldn't be much residual risk left of non-compliance with the commitment from Pittsburgh in 2009 by this late stage, but it is possible we may have to look at it.

If we do look at it, we may look at it more broadly, as we did, for example, in 2012, when we looked at all supports in a study on fossil fuel supports as opposed to getting mired in this word game about the definition.

Ms. Laurel Collins: Thank you so much.

Mr. Langlois-Bertrand, yesterday's IPCC report made it very clear that we have the tools to transition to ensure that we are reducing emissions. You mentioned in one of your answers that CCUS subsidies shouldn't be given to the fossil fuel industry. Could you elaborate?

Dr. Simon Langlois-Bertrand: Sure. We're going to have to do a lot of carbon capture and storage in order to reach carbon neutrality, or at least that's what all the modelling seems to suggest at this point. That means we need to be careful about where we use it, especially in the short term. It's still an expensive technology. There's still a lot of uncertainty with regard to storage itself and the performance of the technology to capture emissions.

We know that theoretically we can get to 90-something per cent of capture, but so far, we're very far from that. We need to think about whether or not it's a good idea to do this in a sector where there are other options to reduce the carbon footprint, while other sectors may be left wanting. I mentioned earlier that in the production of cement and steel, for instance, it is much more difficult to consider alternatives for reducing emissions, apart from drastic cuts in production.

Ms. Laurel Collins: Thank you so much. I'll go back to Mr. DeMarco.

Given that we're hearing that the government is planning on giving the fossil fuel industry and others a \$50-billion tax credit subsidy, do you see a policy disconnect between continuing to subsidize the production of fossil fuels when we have solutions available to transition to renewable energy that are not adequately funded currently?

The Chair: That's kind of a yes or no question, I guess, because we're running out of time.

Mr. Jerry V. DeMarco: There's a potential for policy incoherence, as we've talked about in our "Lessons Learned" report.

The Chair: Thank you.

Go ahead, Mr. Mazier.

Mr. Dan Mazier (Dauphin—Swan River—Neepawa, CPC): Thank you, Chair.

Mr. Pérez, we heard from the Indian Resource Council last week, who stated the following:

Many of the things that have been described as fossil fuel subsidies are actual programs and funds that directly support our first nations communities and our involvement in the sector. These go to rectifying some of the economic wrongs that have been done to first nations in the past.

However, you and your organization are calling on the elimination of the so-called fossil fuel subsidies. Do you see a concern with the economic impact that this would have on first nations?

Mr. Eddy Pérez: I see a concern with the impact on fiscal policy and the help that indigenous communities need in the context of transitioning and making sure they have the services they need to thrive, but I don't think we can limit the debate on fossil fuel subsidies to that specific case. We need to look at, as we've said before, which subsidies need to be phased out immediately and which are those that are helping to meet specific needs, in particular when it comes to indigenous communities.

The fact of the matter is that when you look at the whole spectrum, Canada continues to subsidize the industry domestically and internationally, and it is not even related to indigenous communities. Our view is that we need to differentiate, of course, between those subsidies that need to be immediately phased out from those that have a particular impact on indigenous communities.

• (1155)

Mr. Dan Mazier: I have another question for you, Mr. Pérez.

In the IISD report, "Federal Fossil Fuel Subsidies in Canada", one of the non-tax subsidies listed was \$2.37 million to fund a diesel generating station in a northern Ontario first nation. Seeing that this is considered a fossil fuel subsidy, do you believe that this investment should have been made?

Mr. Eddy Pérez: I think that Canada, in the context of reconciliation, should consider investing in what it should to repair the harm done to indigenous communities.

As I said earlier, in our view, there is a distinction that needs to be made between the subsidies that government is giving to industry and the money that is being used to make sure that indigenous people have access to the services they need in the north, where the government has also underinvested, to ensure that they also have the ability to participate—

Mr. Dan Mazier: Should that investment have been made? Yes or no.

Mr. Eddy Pérez: From a personal experience, I think it should, but we also need to think that those—

Mr. Dan Mazier: Thank you, yes.

You wrote an article in December on COP26, and you stated in regard to the Glasgow Climate Pact, "The final text didn't go far enough and avoided mentioning the need to phase out gas or oil."

Do you still believe that Canada should phase out oil and gas at a time when the world wants to cut ties with Russian energy?

Mr. Eddy Pérez: I do. I do, and this war has exposed the need for us to transition away from oil and gas. Around the world, the European Union and members of the European Union are looking for ways to transition away from fossil fuels and gas. There is, of course, this energy crunch discussion that is happening right now, but that can't be a replacement for the fact that we can't expand production and increase infrastructure for fossil fuels. Certainly this war has made a case that we need to transition away from fossil fuels.

Mr. Dan Mazier: What do you tell the people who have no energy right now, today? Germany's basically firing up its old coal plants because it has been cut off from Russia.

What do you tell people who are sitting cold there today?

Mr. Eddy Pérez: The energy experts around the world, in particular those from the International Energy Agency, have said clearly that this represents a moment of wake up in the context of energy security. It will come first, of course, with relying on some fossil fuels, but this is also a way in which we can get ourselves out of the dependence on fossil fuel energy.

They have said it; it's not me. There's a 10-point plan that looks at all the solutions at our disposal to put behind us the legacy of fossil fuel dependence.

The Chair: Thank you.

Mr. Duguid.

Mr. Terry Duguid (Winnipeg South, Lib.): Thank you, Mr. Chair, and thank you to our witnesses.

I have a quick question, and hope I can get a quick response from our commissioner.

The government has committed to phasing out fossil fuel subsidies two years in advance of its previous commitment.

I'm wondering what you need in terms of transparency, data and a framework to assess whether that commitment has been fulfilled. I'm wondering also whether you have had the opportunity to provide some input into the definition of subsidy. As you said, we've been hung up on that to some extent, and that's been evident in some of the discussion today. Have you provided the government with guidance, beyond the simple fact of whether it helps or it hurts?

Mr. Jerry V. DeMarco: There's nothing recent. Because this is the topic that the committee chose to study, we don't have a recent report on it. I don't have any new data to share with you, because it's not an open file. I did respond to Ms. Collins and said it is something that we'll consider looking at again in the future.

We don't have any late breaking news or anything in terms of our relationship with the departments on this particular issue. We've come here today only because it's a topic that was chosen by the committee as opposed to a topic from a recent report that we've tabled.

Having said that, with the 2018 peer review, which Argentina started, and then a 2019 consultation with Canadians on definitional issues and so on, I was expecting to find more in the file in terms of recent communications from the department to Canadians at large regarding this issue. There isn't that sort of reporting, and I do not know the answer to that.

• (1200)

Mr. Terry Duguid: Okay. This next question is for Mr. Langlois-Bertrand.

I enjoyed your testimony. The CCUS discussion has been very interesting. You have folks on one side of the equation who think it's salvation, and folks on the other side who think it's a subsidy for the oil and gas sector. The government has invested heavily in the net-zero accelerator in a hydrogen strategy, particularly as it relates to blue hydrogen, which, from my reading of the literature, has a tremendous potential in the heavy transportation sector. Once you get that hydrogen into a truck battery, it's non-emitting, as you know.

Can CCUS be viewed as a technology development initiative, as we have done for so many other sectors? We're doing it in the battery sector right now. We've done it in various technology sectors. Does the price on pollution, as it gets to \$170 a tonne, make it much more economical? Isn't that why we should be developing the technology now? My understanding is that it's competitive at about \$110 a tonne, and before you know it, we will be at that level.

Dr. Simon Langlois-Bertrand: There are a few things I want to say here.

You're right to point out carbon pricing. At the same time, if carbon pricing becomes sufficient for it to be economical, then I don't think we should be talking about support. If it's not necessary and it will happen, the industry can make that decision for itself, just like any other industry.

With regard to the CCUS necessity, or use and so on, I think we need to be very careful about the "U" part. The "U" part, so far, is more than three-quarters of carbon capture around the world, including in Canada. The "U" part serves to extract more oil from

deep underground wells when it would not otherwise be taken out of the ground. If that's what we want to support, then I would have some concerns about the—

Mr. Terry Duguid: Okay. Just so you know, the Liberal platform commitment is not for more production or oil extraction.

Also, if you don't start the technology development now, you won't have it available in the late twenties and early thirties, which is when we will need it, not only for oil and gas, but also for cement and some of those other industries that you mentioned.

Dr. Simon Langlois-Bertrand: Yes. To be prudent about this approach of supporting CCS, versus CCUS in some cases, I think it needs to be done outside of the oil and gas industry, and especially outside of sectors where it seems to be a silver bullet, when it's not. Don't get us into building a lot of infrastructure that we may have some concerns about just a few years down the road.

The Chair: Thanks very much.

This has been a very interesting discussion and an excellent contribution to the record of testimony for our study. I want to thank all the witnesses for making time to be with us today to share their knowledge and insights.

We'll take a short break to connect the second panel witnesses, and we'll continue with our second hour.

Thanks again to the witnesses.

[*Translation*]

Many thanks for being with us this morning.

• (1200)

(Pause)

• (1205)

[*English*]

The Chair: On our second panel, we have three witnesses with us today.

We have Dr. Christina Hoicka, Canada research chair in urban planning for climate change, and associate professor in geography and civil engineering at the University of Victoria.

We have Professor Éric Pineault, president of the scientific committee in the institute of environmental sciences at the Université du Québec à Montréal.

Then we have the Honourable Dan McTeague, president of Canadians for Affordable Energy. Welcome back to the Hill, virtually, Mr. McTeague.

We'll start with Dr. Hoicka for three minutes, please.

Dr. Christina Hoicka (Canada Research Chair in Urban Planning for Climate Change, Associate Professor in Geography and Civil Engineering, University of Victoria, As an Individual): Thank you.

My tri-council funded research focuses on the deployment of clusters of renewable energy innovations in communities in Canada and on nearly every continent.

I think that Canada can reach its 2030 targets, which are only eight years away, to uphold its pledge made to the UNFCCC if we follow the evidence on our fastest, cheapest options, which also improve social and economic benefits.

Critical and technologically viable opportunities for decarbonization include electrification of transportation; deep energy retrofits to buildings, which can reduce energy use by 50% to 80%, including heat pumps; and the rapid scale-up of waste heat capture for heating and cooling processes in cities and industrial districts.

To dramatically scale up heat pumps and electric transportation, we need to quickly scale up renewable electricity generation and new distribution and transmission technology to get this renewable electricity to where it's needed.

Peer-reviewed research shows that over the course of at least 50 years, public and private sector funding for research, development and deployment of nuclear and fossil fuels has been in orders of magnitude more than funding for renewable energy in Canada. Current reporting tells us that the fossil fuel sector is receiving \$14 billion per year from governments, while renewable energy is receiving less than \$1 billion in funding over four years. If we spent on renewables the way we spend on fossil fuels, we could direct financial regulatory knowledge and administrative resources towards our best possible pathway for meeting both our 2030 and our 2050 targets.

A dramatic increase in renewable energy is possible, as there have been tremendous technological advances. For example, renewable energy has become the cheapest option on the market, including compared to coal. Combining renewables and adding flexibility like load balancing and demand response can reduce the cost of storage.

According to the Organization of Economic Co-operation and Development and the International Energy Agency's "Clean Energy Technology Guide", there are at least 38 technologies, including a range of renewable energy technologies, that are market ready and could be scaled immediately with the right supports.

According to my own research and analysis, Canada is not supporting these proven technologies to the extent needed to meet our climate goals. It will be an achievement to provide transmission to cities for electrification of vehicles and growth of population, buildings and industry. However, with the right mix of policy instruments that are regulatory, economic and knowledge-based, as well as administrative support for programs and support for communities to participate meaningfully, we can rapidly diffuse renewable electricity and empower communities, whether urban, rural or indigenous. This can be done in a socially and economically just manner.

• (1210)

The Chair: Thank you very much.

[Translation]

Professor Pinot, you have the floor.

Mr. Éric Pineault (Professor, President of the Scientific Committee, Institute of Environmental Sciences, Université du Québec à Montréal, As an Individual): Good afternoon.

My comments will be about two specific instances of grants to fossil energy projects. I'll begin by talking about the tax credit for carbon capture, utilization and storage, CCUS. I will then say a few words about the Trans Mountain oil pipeline, which I believe also represents a grant to industry.

After seven years of falling prices, there has been a rebound in the price of hydrocarbons since 2021, in the aftermath of the post-COVID recovery, caused by underinvestment in extraction capacity during the downturn. In Canada, our hydrocarbon extraction companies have potfuls of money, but rather than investing it, companies decided to transfer most of the benefits from these rising prices to their shareholders in the dual form of dividends and share buybacks. It's important to have this information in mind for what follows.

I will now address the question of what the subsidy that the tax credit for CCUS projects would amount to, by asking myself what the possible economic impacts of this subsidy might be.

My model will be the tax credit formula set out in the federal government's emissions reduction plan, the ERP. The use of CO₂ for the extraction of hydrocarbons is therefore excluded from my evaluation.

The initial economic impact expected is as follows: in view of high current prices, the low cost of a ton of CO₂ and the absence of any major investment programs in the sector, the amount of money saved by the industry as a result of the tax credit will enable it to invest everything while maintaining high transfers to its shareholders.

Let's look now at the second expected economic impact. The statement in the ERP says that the objective of the CCUS technologies for the oil sector is to maintain its competitiveness in the medium term, during which global demand will rise. The industry's CCUS projects aim at reduced GHG emissions per barrel, and not full decarbonization. At best, the credit will get an oil sands barrel into the world average for GHG emissions. I believe that it's a commercial policy and not a policy of transitioning towards carbon neutrality.

In terms of the opportunity cost to reduce emissions, it's a weak measure compared to policies on renewable energy and electrification investment, as our colleague just mentioned.

Geological sequestration is a necessity, but the CCUS projects currently being promoted by the industry are not, according to the most recent IPCC report, the best options. There are other sequestration options that would be more efficient.

In the tax credit under discussion, there is no link between the assistance provided in the form of a subsidy and the effective performance of decarbonizing the projects. Generally speaking, these projects have not thus far been achieving the stated objectives. They are underperforming.

Given that the technology is relatively new, and given the need for long-term development and lengthy amortization periods for all projects that are implemented, and the fact that projects are often tied to hydrocarbon extraction in the oil and gas sector, the tax credit might well behave more like a sturdy bolt than a lever.

The subsidy in question is therefore effective for protecting the industry against the risk of climate policies, but not very effective at achieving our GHG emissions reduction targets.

The Chair: Thank you, Professor Pineault.

Mr. McTeague now has the floor.

Go ahead, Mr. McTeague.

Hon. Dan McTeague (President, Canadians for Affordable Energy): Thank you for the warm welcome, Mr. Chair, even though it's only virtual.

[*English*]

Chair, it's a pleasure and an honour to be here, and I thank you for the invitation.

I'm going to keep my comments very brief. The issue of fossil fuels is indeed vast, as is the issue of climate change. Selecting one area in terms of subsidies brings about some interesting points and commentary, which I'm pleased to answer on as well as I can.

However, to my way of thinking—and we've heard this from previous witnesses—deferred taxes are not in fact a subsidy. In fact, if you look at the actual amount of subsidy, it may very well be negligible. Certainly, in the case of energy subsidies, which I think the committee's now realizing are extraordinarily difficult to define and to measure, it actually has little to do with costs directly from government.

Much is made of subsidies to oil and gas, and while there are some, no industry invests, in my view, more of its own dollars in innovation in Canada than the oil and gas sector does. The value it delivers is profound across society, across the country and, principally, in driving energy prices lower for consumers. It is the single biggest benefit for society's well-being. Without affordable energy our society will be plunged into profound difficulties. Those are the kinds of difficulties that have been expressed by previous witnesses here, which we're seeing every day now in the United Kingdom, Germany and the entire European Union.

A government that's committed to net zero and a just transition is a government determined to undermine affordability, a government determined to subsidize more, not less, at huge costs to society. Net-zero policies are destroying the U.K.'s economy. A just transi-

tion is about more government intervention, not less, and with it more economic dislocation for all.

• (1215)

[*Translation*]

Thank you for having heard me out and I'm now ready to answer your questions.

The Chair: Thank you, Mr. McTeague.

Mr. Dreeshen now has the floor for six minutes.

[*English*]

Mr. Earl Dreeshen (Red Deer—Mountain View, CPC): Thank you very much, Mr. Chair.

To all of the witnesses, welcome.

Mr. McTeague, it's been a while, but I remember serving with you. Of course, when you talk about the deferred taxes not being a subsidy, I think someone who spent as much time on the industry committee as you did certainly understands that which makes this country roll.

Our oil and gas has been scrutinized, from the digging up of the very first molecule to the end of its life cycle, where we end up consuming it, yet we don't look at other energy sources through the same lens. For example, there seems to be a forgotten component when the government talks about electric vehicles leading the way to net zero. I know you've discussed the concept of the battery development that's needed to create the vehicles, and the 500:1 ratio as far as mining to the final product is concerned.

We talk about electric vehicles, but of course they are highly subsidized as well. The environmental and financial impact it has for Canadians is important.

As you mentioned, the oil and gas industry is innovative and engaged when it comes to reaching net zero. However, unlike hydro, solar, wind and other energy sources deemed green by this government, it's being demonized by existing and proposed environmental policies.

It seems as though no one who is leading the charge of EV acknowledges the strip mining and the violation of human rights in making batteries. No one seems to mention the cost of these vehicles, which puts them out of reach for most Canadians. It seems as if government is subsidizing industry, catering to the elite at the cost of jobs.

When I had a chance to speak to some people involved with hydrocarbons, of course they were talking about windmills. It takes 17 tonnes of material for a windmill, and seven tonnes of that is plastic. These things come from hydrocarbons. As we demonize one, we end up with problems in the other areas.

I'm just wondering if you could talk to us about the longer-term impact of this government's pushing EVs, and the negative effects it will have on taxpayers, who will be forced to subsidize the cleanup of these projects once investors have walked away with their millions.

Hon. Dan McTeague: I'm sorry, Chair. Who is that for?

Mr. Earl Dreeshen: That's for you, Mr. McTeague.

Hon. Dan McTeague: I'm sorry. I think we drifted a little.

I am agnostic on EVs. I think they're a wonderful drive. It's an interesting form of technology, but perhaps my bias is in having worked, Mr. Dreeshen, for Toyota Canada and Lexus prior to being a member of Parliament.

There's a company that's saying EVs are not the way they're going to go. Yes, they're going to qualify and they're going to put out certain models, but they're going to hydrogen. They see the future. They're not prepared to invest it in something as unreliable as an EV, which of course cannot exist without hydrocarbons. Neither the polymers, the resins, the asphalt nor the tires can be built.

Of course, we have to look at the amount of environmental damage that is caused. Five hundred thousand pounds of earth has to be removed in order to make your 1,000-pound battery. We know, of course, that there have been attempts to try to do this, but those batteries, at the end of cycle, cannot be replaced.

Rather than making it an ICE versus EV comparison, I think the idea behind all of this is no matter how we look at it, the idea of oil and gas simply disappearing because we wish it or because we set arbitrary dates for net zero won't make it any different. The reality... I'm not sure when the committee decided to embark on this one specific aspect of the oil and gas sector, but I suspect it may have predated the war in eastern Europe. I think it's brought to light not so much the idea that we can double down on green renewables as a means of getting to where we want to be, but rather to recognize that oil and gas is a bit like Rodney Dangerfield's "I don't get no respect".

The reality for most is that this is starting to become a growing concern globally, as countries—whether it's the United States, Europe or Asia—recognize that we have to look at the potential for greater growth in fossil fuels. For how we manage them and the best practices, I would stack up Canada's environmental record on its oil and gas sector against any other country in the world.

By the way, you mentioned my days as an industry critic, sitting on the industry committee itself. Your chair, Mr. Scarpaleggia, knows my work on the energy industry. There were very few members of Parliament who took on the oil and gas sector like I did. I can tell you, they don't like the fact that I predict gas prices a few days before. It robs them of tens of millions of dollars a year, which I help consumers with.

Having said that, on the issue of EVs, how much are we paying in subsidies? If we really want to look at major subsidies, I think we ought to look at what we're giving to the major auto manufacturers, which might be in and of itself a long-term goal. When we start going down that hole of subsidies, let's not only make sure we have a proper definition, but also say where our priorities lie.

Those subsidies would not be possible without the \$20 billion to \$30 billion you receive every year from the oil and gas sector.

• (1220)

Mr. Earl Dreeshen: I think that's important because, of course, if you're going to build these vehicles and maybe you want to put in

a battery or maybe you want to try some other way of electrifying it, you still need to have the oil and gas in order to make this happen.

In the short time I've got, I just want to go back to other things we have, like windmills and solar. Each of those has an environmental impact. Nobody seems to want to talk about that. They all just want to say, we'll get this new electrification. Everything's going to be fine.

Can you give us, in the 30 seconds that we have, some comments on that?

Hon. Dan McTeague: Look, I'm from Ontario. I know what the relative cost of oil and gas is before government intervention. It's a relatively cheap, affordable means of getting to where we need to be. I also know the cost of renewables, and the extravagant cost we're paying thanks to green energy and global adjustments.

My province has to incur \$6.5 billion a year to subsidize the hydro rates that consumers are having to pay every year to shield them from what is essentially the full effect of the unbridled effects of green energy.

The Chair: Thanks very much.

Mr. Weiler for six minutes, please.

Mr. Patrick Weiler (West Vancouver—Sunshine Coast—Sea to Sky Country, Lib.): Thank you, Mr. Chair. First, I'd like to thank the witnesses for joining today.

My first question is for Dr. Hoicka.

You mentioned in your opening testimony some of the opportunities that are available in renewable energy in Canada. Canada's grid at this point is, of course, already about 82%-83% non-emitting. The delivery of electricity is generally a provincial responsibility, so I was wondering if you could explain to this committee what role you see for the federal government to support the rollout of more renewable energy.

Dr. Christina Hoicka: I think the federal government can play a strong role and provide quite a bit of leadership in this area.

The first issue is that I agree that the electricity system is heavily decarbonized. However, as I wrote in my briefing note, if we really want to tackle transportation, electrification is a really big piece of that. I agree with the Honourable Dan McTeague that we need to consider affordability. That's why we need to consider things like public transportation that's electrified and electric bicycles, which I like to ride, as options, and make those affordable and available to everybody, but also safe and convenient. In order to electrify all of these things, we really need to expand the electricity system.

I'll give an example. The average car at peak load is about four times the average household peak load in Toronto. If you have the adoption of electric vehicles in cities, all of a sudden you have a lot of peak load on the system that you need to manage temporally, but also you're going to need more transmission. Broadly speaking, we need to expand the electricity system. There is modelling that was done several years ago, and there has been major technological development since then, that shows that, based on the technology then, it was entirely possible to have a 100% renewable energy system in Canada.

What role can the federal government play?

There are a few things. One is that the federal government can provide economic supports. There is a range of different types of economic instruments that can be provided. When those dovetail into each other, as we saw in Vietnam, there is basically exponential growth of renewables. The federal government can provide that.

The federal government can also work with provinces on provincial interties, because some provinces will have access to more renewable resources than others. The federal government also, if it's setting up a carbon pricing system, can bring some funds towards that.

The other thing is that, yes, electricity and energy are provincial matters. However, there's no reason the federal government can't provide carrots by removing some of the sticks that are in the regulatory system, which are limiting our ability to have a resilient electricity system in different places. By resilient, I mean ready to deal with the impacts of climate change. We're already seeing the impacts of storms. We're already seeing the impacts of massive heat waves, and all of these are affecting the reliability of electricity around the country.

The federal government is already working directly with remote communities, which is really important, but they can also be a really important area for deployment and innovation, and for technological testing to see how communities work.

Finally, the federal government can provide a lot of knowledge, training and skills, which is a really big piece of what we need in order to make this transition happen. By that I mean re-skilling. Also, the energy sector is the least diverse sector globally and in Canada. We need to have training of diverse communities and diverse groups in order to have new jobs in this area.

Additionally, the federal government can provide administrative supports. Those are really critical to the rollout of any of these things. For example, I read recently that the energy retrofit program, which is rightly focusing on deep energy retrofits, is far behind administratively in terms of the number of audits that are going through. There have been studies on the better buildings program that was done in the U.S. several years ago. Administrative supports in terms of tracking, in terms of workforce and in terms of rollout are also really critical. There are quite a few areas where the federal government can support this.

One more part is that the federal government can also support research and innovation in terms of the types of technologies that we'd like to be developing, particularly in cities.

• (1225)

Mr. Patrick Weiler: Thank you.

Following up on that, you mentioned a number of the programs that are already in place through the emissions reduction plan, through "A Healthy Environment and a Healthy Economy" and the pan-Canadian framework, as well as through some of the programs we have that are being run by the Canada Infrastructure Bank. There are supports there for interprovincial transmission and smart grids. Otherwise, there's the SDTC and the strategic innovation fund.

With those programs, where do you see the gaps in supporting the transition to a more renewable energy future?

The Chair: Unfortunately, we're out of time, but there may be other opportunities to provide answers to that question.

Madame Pausé.

[*Translation*]

Ms. Monique Pausé: I'd like to thank the witnesses for being here today.

Mr. Pineault, I'm very happy to see that you could come today, in spite of the problems we had last week. In your opening address, you gave a good explanation of the diverting issue by talking about carbon capture, utilization and storage, or CCUS, the effect of which would have been to slow down the transition and inflate costs.

If the government provides funding that is supposed to be combatting climate change, but instead supports the technologies that are harmful to this effort, can we conclude that what we have are in fact camouflaged subsidies to fossil fuels?

Mr. Éric Pineault: If we're talking about what is being planned as a tax credit to the CCUS, then it's a direct subsidy to industry. This industry considers that the carbon emissions of what it sells on international markets are too high. It needs to find a way to reduce the carbon footprint of Canada's output in order to be competitive in a market where, at the moment, people are starting to look at the carbon emissions of everything being sold. That's why there's going to be a shift towards these technologies, particularly in the oil sector.

It's a subsidy designed to stimulate innovation and investment. But I would argue that in the oil sector in particular, and the gas sector to some degree, the decarbonization is partial. It's not a tool that will lead to good outcomes. That's the argument I'm putting forward. It's a commercial subsidy. It's a commercial policy and not an environmental policy. It's a way of intervening in the production conditions for a product we produce and sell on international markets. It is definitely not a way of moving towards carbon neutrality.

• (1230)

Ms. Monique Pauzé: In your presentation, you clearly illustrated the decision made by big oil, whose profits are not reinvested at all and go instead to shareholders, who are already rich. By putting a ceiling on production now, the existing jobs will remain. There could instead be options to help the development of renewable energy sources. It seems to me that there is a lot of talk about workers to justify the fact that public funds are going to the oil and gas sector, which is already extremely prosperous.

I'm looking at the issue of transition from a rather complicated standpoint, but broadly speaking, what's happening is that workers are being used to say that nothing should change.

Do you have any comments on that?

Mr. Éric Pineault: We need to discuss the cycle we are in. The industry cycle since 2014 is one of consolidation and restructuring. It's not a cycle of development, innovation and extending production capacity, except in the gas sector, where there are specific dynamics in British Columbia's Montney formation. Elsewhere, there is industry consolidation.

If we look at the number of direct and indirect jobs per barrel of oil in Canada since 2014, it has been declining from year to year. Since 2014, the industry has consolidated and reduced its production costs, basically by reducing the number of workers it needs. It's wrong to think that it's an expanding sector. It's a sector that's consolidating. That's what the six largest oil extraction companies in Canada are doing. Not only that, but yesterday, Suncor announced that it would be withdrawing completely from the renewable energy sector to concentrate exclusively on CCUS, hydrogen and its oil sands assets. What we have is an industry that is restructuring.

So when people use the jobs argument, you have to be careful.

Ms. Monique Pauzé: Thank you.

In your presentation, you said that you were going to address the Trans Mountain question, but I don't think you've really had time to do that. I would therefore like to ask you to comment.

Mr. Éric Pineault: Okay.

I too consider the Trans Mountain project as an industry subsidy, insofar as the construction costs are at least four times as high as they ought to have been at the outset. The government paid an initial instalment of \$10 billion. It was then announced that the private sector would be raising another \$10 billion, but with a loan guarantee, to give protection to creditors. It's therefore a subsidy in the form of protection against the credit risk. That's a policy decision about an economic intervention the government can make, but it's important to acknowledge that it's a subsidy.

The fees that oil extraction companies pay to deliver their products also needs to be examined. Subcontracts have been arranged for \$4 billion to \$6 billion projects, not for \$20 billion projects. The government is therefore going to have to pay the difference. If the oil pipeline is ever completed, the oil flowing through it will have to be subsidized because the price being paid by the oil extraction companies will not reflect the actual cost of building the infrastructure. That makes it a direct export subsidy.

Here again, it's a decision that a government can make, but it needs to admit to having made it.

Ms. Monique Pauzé: Precisely.

I have another brief question, because we don't have much time left.

Mr. Éric Pineault: Yes.

Ms. Monique Pauzé: Could you summarize for us what happens economically when a technological innovation reduces the carbon emissions of a good or service?

Can we expect this to lower global emissions?

Mr. Éric Pineault: It depends.

For petroleum products, reduced carbon emissions can lead to increased use of the resource, which in the end will increase our emissions. It really depends on what is done.

What's clear is that electrification eliminates carbon emissions, unlike every other form of innovation in the fossil energy sector. The latter will be necessary, of course, and I agree on that with the other witnesses. We will still need oil and natural gas but only up to the 22nd century.

The Chair: Thank you.

Mr. Éric Pineault: The determining factors will be the extent to which we need fossil fuels, and what we do with them.

The Chair: The time has come to give the floor to Ms. Collins.

[English]

Ms. Laurel Collins: Thank you so much, Mr. Chair.

My first question is for Dr. Hoicka.

In your opening statement, you talked a little about the imbalance in supports to the fossil fuel industry in comparison to renewable energy: \$14 billion per year from governments for the fossil fuel industry, whereas renewable energy has been receiving less than \$1 billion in funding over the past four years.

You also mentioned that Canada is not supporting these proven technologies to the extent that's needed to meet our climate goals.

Do you think that fossil fuel subsidies are diverting funds away from market-ready and scalable renewable solutions?

• (1235)

Dr. Christina Hoicka: Yes. I think a lot of attention is being paid to fossil fuels and to technologies that are not necessarily market-ready, and I find that concerning. I have actually reviewed the new climate change plan that came out after I submitted my briefing, and the spending is up by about \$850 million, so maybe \$1.7 billion or \$1.8 billion is what the spending is over several years.

Some of the spending on fossil fuels has been estimated at \$8 billion a year to \$14 billion a year, and there's \$50 billion a year for the tax credit for carbon capture, utilization and storage. They aren't particularly similar in terms of level of support, but the other types of supports that are also really important are regulatory supports and knowledge and training supports.

Patrick Weiler asked me about whether the government is doing all of these things. They are doing some of the things. I've reviewed the clean electricity standard and I've reviewed the climate change emissions report. What I'm finding is that there is not enough spending on renewables. There could be a lot more, particularly in comparison to fossil fuels.

I also put into my briefing note that over the course of about 50 years, spending on nuclear and fossil fuels from both the public and private sectors outpaced by orders of magnitude the spending that's been given to renewables and energy efficiency. For example, I think it's wonderful that the energy efficiency program is targeting deep energy reductions, but it's targeting only 700,000 homes, and it hasn't gotten terribly far in terms of the number of homes that have been addressed in Canada. I think that with more administrative support, it could roll out a whole lot faster.

Ms. Laurel Collins: Dr. Hoicka, can you talk a bit about how much the cost of renewables has decreased over the last decade? Wouldn't it be a more effective use of scarce financial resources to be investing in this clean energy transition?

Dr. Christina Hoicka: Absolutely. The cost of fossil fuel alternatives has decreased extremely rapidly in the past few years. For example, the cost of solar power has decreased by something like 80% and wind energy by 26%, year on year. If you look at the International Energy Agency's tech readiness scale, we're also finding they are quite high on the tech readiness scale, with 11 being top marks: they're in the nines and 10s for that.

They are technologically ready. The cost has come down. A paper came out recently in *Nature*, which is the world's top journal, with the finding that renewable energy is actually more cost-effective and cheaper than coal.

One of the ways to bring down the costs and increase reliability is by combining clusters of innovations, and this is what's happening in the newest legislation in Europe, under the renewable energy communities and energy communities legislation, where they're combining a range of innovations that would support more reliability. Also, when you cluster renewables, you can bring down the costs of things like storage, which I can explain in more detail to anybody who wants to have a meeting with me about that.

Yes, technology is moving really rapidly, but so is regulation in places like Europe, and that regulation is ready to be adapted to

Canada. I think this is the area where we should really be focusing our efforts, our attention and our spending.

Ms. Laurel Collins: Could you talk a little about the opportunities you see for rural, remote and indigenous communities when it comes to investing in renewable energy?

Dr. Christina Hoicka: I think there's a huge opportunity for all of these communities.

The thing about a renewable energy transition or any kind of energy transition is that it's a really large landscape change and it's a geographic change. For example, if we were to set up partnerships with indigenous communities to develop renewable energy on traditional lands and provide equity ownership in those, it's been shown that these could provide really large financial benefits to indigenous communities.

I'm also working on research right now about how renewables can become an effective source of benefits and local economic development for rural communities. If we roll it out well, if we work with communities and if we have legislation that focuses on communities being involved and having financial benefits and looking at particular areas of labour force transition within something that I call renewable energy clusters, then I think that will get us a lot closer to a just transition.

• (1240)

The Chair: That's perfect. Thank you.

We'll go to Mr. Mazier now for five minutes.

Mr. Dan Mazier: Thank you, Chair, and thank you to the witnesses for coming out this afternoon.

Mr. McTeague, we heard from a witness during this study, who stated, "Limiting access to capital or increasing taxes will only have negative effects on Canada's economy, energy affordability, emissions reduction progress and global energy security."

Earlier we heard from another witness, who cautioned us, this committee, with respect to how we define fossil fuel subsidies, because of the impacts that elimination could have on low-income Canadians.

Mr. McTeague, energy affordability is a top concern for many Canadians, especially in rural Canada. If the government were to eliminate all the so-called fossil fuel subsidies, how would this impact energy affordability for Canadians?

Hon. Dan McTeague: It's a very good question, Mr. Mazier. Thank you very much for posing it.

I spent a career as a member of Parliament on finding ways to help Canadians in difficult times, such as through two energy rebates with my Liberal colleagues, back in 2000 and 2002, designed to offset the cost and the impact on consumers. Ultimately, at the end of the day, we can have all these rarefied discussions about what's right, what's wrong and what kind of energy we use. The reality is that as Canadians, in a cold climate, in a country that has to attract capital but has not been doing a very good job at it, save and except for residential housing, we cannot look a gift horse in the mouth.

The oil and gas sector, like it or not—and I have fought them—is 10% of our GDP. It represents \$20 billion to \$30 billion in revenues to pay my pension, and to pay your fees and your costs as a member of Parliament, as well as to support social programs from coast to coast. Most countries at this time would give their right arm to have what Canada has and its ability to send energy to the rest of the world.

We can have a debate about the long-term implications, but I think in the short term, for the sake of consumers and our economic viability, it's important to have a strong and viable oil and gas sector, yes, to pay for the subsidies that are going to go to renewables to make sure they become, at some point down the road, more viable. As it stands, they are not. Countries like Germany have spent 30 years ahead of us on all these renewables, and they're back to, as you mentioned earlier, burning coal. The reality is that we need to look at a mixture.

The diversity of our energy mix in this country is truly enviable. My former riding, Pickering, saw the first commercial nuclear reactors in North America. We've developed hydroelectric. We've developed natural gas. Guess what? The European Union agrees. It's time to refocus our efforts, not so much on whether we can get access to oil and gas but to actually reinforce the need to look at nuclear and natural gas as transitions.

When Canadians are not part of this discussion, Mr. Mazier, when they're left out and frozen out, as I think the debate is currently poised, is it any wonder that you're seeing a significant disconnection between Canadians who are frustrated and the people who represent them?

Mr. Dan Mazier: That's excellent. Thank you for that.

This is for you again, Mr. McTeague. Do you believe tax deductions are subsidies?

Hon. Dan McTeague: Well, no, and with respect to the tax deductions in my limited years as a member of Parliament—17 or 18—if you're going to choose one sector over another, I think you have to be fair. There's something called equity as a principle in terms of taxation in this country. I'll leave it to, maybe, the finance committee to look at that.

If you're looking at an incentive, a carrot, if you will, to achieve a certain outcome, then I think it's in everyone's interest, whether that be a transition to hydrogen, a transition to natural gas, to provide the best practices, or better yet, to lead the world as Canada does, like it or not, on ESG. For those who are watching, who are looking, rather than sitting back and saying, "Canada is terrible," which is the rhetoric we've heard, certainly from outside influences,

maybe it's time for Canadians to begin to celebrate something that not only protects them but also.... The Minister of Finance will release the budget in the next 24 to 48 hours, and without a viable and strong oil and gas sector, you wouldn't be able to provide some of the programs and announcements that are about to be made. I think it's no secret that it will be a spending budget. Within that, it has to be funded, and it's funded by the oil and gas sector, to a large extent.

• (1245)

Mr. Dan Mazier: Okay. I have another question for you. You wrote in a 2020 article, "Climate change needs to be addressed responsibly, but not presented as some monumental crisis justifying the abandonment of the economic order."

Can you expand on what you meant by this? Do you believe that the current government has abandoned the economic order with its climate change policies?

The Chair: I have no doubt that Mr. McTeague can expand, but we are out of time.

Mr. Dan Mazier: That was only three minutes.

The Chair: No. It was a five-minute round.

Mr. Longfield, you have five minutes.

Mr. Lloyd Longfield: Thank you, Mr. Chair.

We're always fighting the clock. Mr. McTeague will know that well from his years of service, which I thank him for.

For my first question, I want to build on a theme that Mr. Carrie was working on in the last panel, which was around best practices.

Dr. Hoicka, in a paper you wrote back in November, you said that you "have yet to come across any jurisdictions in developed economies that have implemented policies that support the diffusion of complementary renewable energy sources".

Reading that report, I was thinking of Energiewende in Germany, the 10-year program around transition. I was fortunate to visit Botrop in Germany, and I saw their district energy system. It used to be a coal mining centre. The transition in Germany has really relied on government subsidies of different types.

Could you comment on Energiewende and how that might relate to Canada and the study that we're doing around subsidies? Have you come across that in your work? I'm going to assume you've looked at that.

Dr. Christina Hoicka: I have not come across that in my work.

Mr. Lloyd Longfield: Oh.

Dr. Christina Hoicka: I can speak to the new European Union legislation, though, and I can speak to what's happening with the European Commission.

Mr. Lloyd Longfield: Okay. I guess now isn't the time to develop ideas too much further, because of time constraints, but Germany has done a lot of work on biomass on the farms. They have over 6,000 installations of biomass on farms. It was because of the installation in municipalities of district energy that I was there on behalf of Guelph before politics. I was looking at how we could get district energy implemented in Guelph to reduce our carbon footprint. It still relies on natural gas in terms of heat source, but it's something that Germany has done. You can see that Germany, as Mr. McTeague said, is still using some fossil fuels. They haven't made the full transition, and probably won't because of the mix that's needed in the market.

What stops countries from getting to full renewables?

Dr. Christina Hoicka: As I mentioned in my writing, for one thing, we just haven't gone far enough yet. Just like transitions with other things, it requires time. One thing to note, though, about what you're bringing up is that every country and geography is different and will have different types of resources available to it.

For example, you mentioned that district energy is reliant on natural gas. Well, actually, one of the things I teach my students, and that I put into my briefing note, is that two-thirds of the energy across any country, across all sectors of the economy, is typically lost as waste heat. A lot of that waste heat is actually lost in cities.

For example, we don't need natural gas to have district energy. We can basically map out waste heat centres and implement waste heat capture, which could be used for both heating and cooling. That would dramatically reduce the amount of fuel we need for heating and cooling—for example, taking waste heat from industrial processes and using that for district energy.

Mr. Lloyd Longfield: Perhaps I can interrupt, just because of the time.

Guelph looked at that. We have waste heat at the hospital. We have waste heat at the rink downtown. We didn't have enough waste heat source to make it viable, so the federal government likely would have to get involved. The economics just weren't there for the municipalities.

Dr. Christina Hoicka: It's happening in the city of Toronto right now.

Mr. Lloyd Longfield: It is in some cities. Edmonton has found some opportunities. But to get real change in our energy consumption on buildings, we need projects of scale. I'm not putting that as an either-or.

• (1250)

Dr. Christina Hoicka: I agree with you on that, but Guelph is quite a bit smaller than the city of Toronto. Very large cities can definitely find those. As prices change, we can also find better economic supports if we have more regulatory supports, but effectively, Toronto is already implementing it right now.

Mr. Lloyd Longfield: My point, though, is that governments need to bridge the gap in many cases in order for that to happen, and that subsidies are the way we bridge that gap.

Dr. Christina Hoicka: I think there's a range of different types of instruments that can be used to bridge those gaps. For example,

in the case of electrification, there are regulations against sharing electricity on a microgrid that would improve resilience.

The Chair: Thanks very much. That's a good note to end on.

We'll go Madam Pauzé for two and a half minutes.

[*Translation*]

Ms. Monique Pauzé: Thank you, Mr. Chair.

Mr. Pineault, I have two and a half minutes to ask you two questions.

Yesterday, the IPCC was emphatic about how quickly governments had to act to reverse the current trend.

At one point, we debated the efficacy of subsidies and inefficient subsidies. Do you feel that a definition is really needed at this point?

Mr. Éric Pineault: I believe that at this point, if we want to speed up our transition to carbon neutrality, as required by the IPCC, we need to take a highly global view of the oil and gas sector. We need to ask ourselves what to do in this sector, how to intervene, how to reduce its scale, and how to redeploy resources. We also need to ask ourselves how to help the three provinces that depend heavily on it and for whom there would be consequences. That's the conversation we need to have. Unfortunately, it's not the one we are having because we're talking about extending the momentum of a sector that, in practice, needs to be curbed.

Ms. Monique Pauzé: I expect that you are aware of Senator Rosa Galvez's Bill S-243, the preamble of which states:

... climate-related financial risks cannot be treated as conventional financial risks because they are characterized by radical uncertainty and irreversible catastrophic consequences and therefore require a distinct approach to urgently align financial flows with climate commitments;

Do you agree that it's essential to "urgently align financial flows with climate commitments"?

Mr. Éric Pineault: I do. I would say that most major investors are agreed on that.

The petroleum sector has a great deal of trouble in obtaining capital from major institutional investors because most of them have adopted policies that require them to withdraw from this sector, or at least no longer invest in it. The discussion is not yet over with respect to the gas sector, and the reaction to it is different.

Clearly, the risk of stranded assets is an extremely important consideration.

The Chair: Thank you.

Ms. Collins, you have the floor.

[English]

Ms. Laurel Collins: Thank you, Mr. Chair. My first question is for Mr. Pineault.

In under a minute, Canada's biggest emitters in the oil and gas sector are paying the lowest carbon tax rate, contributing only one-fourteenth of the full carbon price. Shouldn't these companies be paying for their own pollution? Would you categorize these carbon tax loopholes as a fossil fuel subsidy?

Mr. Éric Pineault: I would characterize them as a subsidy to the sector, and they're not going to go away. They're not going to go and extract elsewhere, because of the resources here, so the idea that we should protect ourselves from them fleeing is not a good motif.

They're not losing money. They're making tons of money right now, and especially in the past three years. They're not investing as they were. Investment is down 43% from what it was in 2015. This sector is very particular and it's being overly protected by the government.

Ms. Laurel Collins: When it comes to the carbon capture, utilization and storage tax credit, can you talk a bit about how this could lead to carbon lock-in and prolonged fossil fuel dependence?

Mr. Éric Pineault: It depends on what we attach the CCUS to. If we attach the CCUS to extraction and refining, and if it's the type of investment that needs at least 20 to 30 years to pay itself back, that lock-in effect will be tied to the volume of what you're extracting and what you're refining.

If you start to extract less and refine less, you're going to lose money on your investment. There's a built-in incentive to keep production up, or even to expand production, because of the investment that you're making. You're not decarbonizing the whole life cycle of the barrel; you're decarbonizing only the extraction and refining of the barrel.

• (1255)

Ms. Laurel Collins: Thanks so much.

To Dr. Hoicka, on CCUS, can you talk a bit about this idea of carbon lock-in and fossil fuel dependence?

The Chair: Do it in 30 seconds, please.

Dr. Christina Hoicka: Basically, as Dr. Pineault said, if we are using carbon capture, utilization and storage in order to support increased production of fossil fuels, then this basically promotes fossil fuel lock-in, not only of our own economy, but also of other economies.

Ms. Laurel Collins: Please give a quick yes or no. Would you support a simple definition of subsidy encompassing any public financing to oil and gas?

Dr. Christina Hoicka: Yes.

The Chair: Thank you for the brief answer and respecting the time limit.

Mr. Seeback.

Mr. Kyle Seeback: How much time do I have?

The Chair: You have five minutes, but if you can do better than five, I'd be very grateful.

Mr. Kyle Seeback: I don't know; it's too exciting to have five.

Mr. McTeague, in your opening statement you talked about something I found really interesting. We're talking about subsidies at committee, but you talked about the \$6.5 billion a year to subsidize electricity rates in Ontario right now, which, among other things, is probably a product of the disastrous fee and tariff program that was brought in in Ontario. When we talk about this transition, this is what we're talking about, an actual energy transition from hydrocarbons, and in many cases we're talking about electricity. There's an RBC report that talks about the cost to build zero-emission vehicle infrastructure across Canada. The report says it would be \$25 billion a year if we're going to meet these zero-emission vehicle targets of 100% by 2035.

Can you speculate on what that would do to the cost of electricity in Ontario? Would that \$6.5 billion increase dramatically as a result of the much larger draws on the electric grid across Ontario?

Hon. Dan McTeague: I'm not an electricity expert. My family is from Whitby, Ontario, and I know just enough to be dangerous, but if you're going to dig up every line in this country, in this city, in this province, and replace it with the green transformer boxes to accommodate the much larger number of EVs on the road, you're going to have to change transmission lines and perhaps build another five or six nuclear reactors, another three or four Site C dams and another two or three Muskrat Falls dams. You get the idea that, while we have this concept that we can make that transition, that we can do it within an eight-year, 10-year or 20-year period, there comes a question of who is going to pay for this and how it is going to be paid for.

For RBC to be making this point, I think it's interesting, because the first question they and bondholders—Moody's, Fitch, Standard & Poor's—will be asking is how the credit rating of your country is going. Notwithstanding all of the ESG and disinvestment moves by woke capitalists, the reality is that it will come down to consumers and to the Canadian public having to pay for this.

I don't disagree that we should go in that direction, but I think we have to do so methodically, as the science and technology permits. Trying to get trendy and virtue signal and involve yourself in political demagoguery doesn't achieve anything more than to frustrate the very people you want to have on board.

My guess is that we're going to be with oil and gas for a very long time. Whether Canada produces it or not is a question for you as politicians. Would you prefer that Venezuela, Russia, Iran or Saudi Arabia produce it, or can the Canadian government be involved as a partner with continuing down this road of demonstrating that it's getting its act together with respect to substantial decreases in emissions of all types, not just carbon. Let's talk about other emissions as well. New technologies, DEF and other things.... We have to be responsible, not just to ourselves and to our consumers, but also to the rest of the world, which wants a whole lot more Canadian oil and gas, like it or not, despite the narrative.

Mr. Kyle Seeback: Thanks.

Dr. Hoicka, you talk a lot about electricity and how these are some of the answers. Again, we're talking about transitions. Vaclav Smil writes about energy transitions. He says if you're going to transition, for example, from a natural gas electric generating station, for example, to solar or wind, it would often take up a hundred or even a thousand times more land mass to match that production. When you talk about these transitions to electrification, do you look at those as part of your equations?

• (1300)

Dr. Christina Hoicka: Yes. That's what my Canada research chair, which was approved by external reviewers, is based on.

Mr. Kyle Seeback: Where is the land mass going to come from? Do you look at the effects on agriculture? Will that displace agricultural land? I'm sure we're not going to take down 10 square blocks in the city of Ottawa in order to do this. We would probably be looking at these things generating somewhere close by, because you don't want the transmission lines to be too long.

Dr. Christina Hoicka: Not necessarily. My research is looking at.... I just published a paper in which we analyzed 47 of the most ambitious city renewable energy plans. We found that in a lot of places there is a reliance on rural areas. There's a lot of regional partnership between large municipalities and smaller municipalities. This is creating new forms of local economic development, where the regional communities around cities are offered the opportunity to have local economic development from renewable energy.

It really depends on how it's done. For example, if you offer it—

The Chair: Thank you.

We'll go now, finally, last but not least, to Ms. Taylor Roy for five minutes.

That's what I have on the list, unless there's somebody else.

Ms. Leah Taylor Roy: It's nice that it came back around to me.

Ms. Hoicka, I'd like to start with you. You were talking about clustering or putting renewables together in areas in clusters. Why is that so important? Is that currently being done anywhere?

Dr. Christina Hoicka: It is being done. I've published research papers on it. In our dataset, which was quite small, we found projects that were doing that.

I have a grant from the Social Sciences and Humanities Research Council to study the emergence of these clusters globally. It was given to me by peer reviewers because it's such an important topic and emerging area.

Ms. Leah Taylor Roy: If this is a critical thing for reliability in this renewable sector, how can the government help support this initiative?

Dr. Christina Hoicka: A really big starting point would be to look at the various ways in which they're emerging, and to look at our policy instrument mixes.

The methodology right now is to look at the range of policy instruments that are supporting different technologies, and how they're emerging. Part of this is to look at the relative policy instruments for these different technologies that are emerging. It's an established methodology. I'm writing several papers on that right now. That would be one way.

Another way is to study the emergence of these clusters to see how they're being governed and how they're happening. Again, in the European Union, Horizon 2020 is funding a range of projects that are helping the set-up and start-up of these types of clusters and studying the ones that already exist.

These clusters are everywhere. They're in South America, India and all over the world. They're emerging, and this is the way we will transition to a renewable energy future.

Ms. Leah Taylor Roy: Thank you. That's very encouraging.

I'll go back to my earlier line of questioning, which was about how we can transition and deploy the resources, the skilled people and the jobs that we currently have in the oil and gas sector into renewables or other kinds of energy.

What do you see as the most promising new energy or technology, infrastructure and companies we could use to make that transition?

Dr. Christina Hoicka: For one thing, we know that this is not going to be an easy transition. It requires re-skilling and upskilling for different things. For example, my understanding is that an organization of oil and gas workers called Iron and Earth is requesting support to transition to renewable energy skills and jobs. My understanding is that, for example, oil and gas workers can already immediately move to geothermal.

There's also another range of jobs. In my Ph.D., I interviewed home energy advisers. A lot of home energy advisers actually transition out of oil and gas into home energy advising.

Understanding the energy sector means you can apply a lot of the same principles in different ways with new skills training. I think we need to have a very carefully thought-out plan in terms of how to transition some of these regions. Again, a lot of this work has been done in different parts of the world. There's a just transition for coal communities plan that Canada put out in 2018.

• (1305)

Ms. Leah Taylor Roy: Thank you very much.

I want to share my time and give my last question to Mr. Maloney.

The Chair: Mr. Maloney, you have a minute.

Mr. James Maloney (Etobicoke—Lakeshore, Lib.): Thanks, Chair, and thanks, Ms. Taylor Roy.

Very quickly, my question is for Mr. McTeague.

Sir, thank you for being here today. I watch you avidly on CP24.

I was interested to hear what you had to say today. One could easily interpret it, though, as sounding like you don't think the government should be doing anything in taking steps to move forward with advancing clean technology. I'm not sure you're saying that, so I just want to make sure I didn't misunderstand you.

The Chair: You have 30 seconds, Mr. McTeague, to clear it up.

Hon. Dan McTeague: I think clean energy is definitely important and it is being undertaken. As I mentioned earlier, my riding developed something like that over 50 years ago. We've had the Adam Beck down the road, from which a lot of your constituents receive hydroelectricity.

I think we're going to get there, but I think we also have to be mindful of the steps that are going to be required. Whether we accept it or not—and it seems that many of us don't, and we are in denial of it—carbon, natural gas and oil are going to be around for a very long time—dare I say, well after you and I are having this discussion.

The Chair: Thank you very much.

Mr. James Maloney: There's no doubt about that. I just wanted to prevent the opposition from using your name in question period today.

Thank you.

Hon. Dan McTeague: Let them do it. I think you know my record.

The Chair: Well, thank you, and we'll see what question period brings today.

Thank you to the witnesses for a very stimulating discussion. I'm already looking forward to the committee report.

Colleagues, we won't be having a full meeting on Thursday; we'll be having a steering committee meeting instead, in this time slot. I'll see some of you at 11 a.m. on Thursday.

Thank you again to the witnesses and to the members for their questions, and we'll see each other soon.

This meeting is adjourned.

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