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• (1105)

[English]

The Chair (Mrs. Sherry Romanado (Longueuil—Charles-LeMoyne, Lib.)): I call this meeting to order.

Welcome to meeting 41 of the House of Commons Standing Committee on Industry, Science and Technology. Today's meeting is taking place in a hybrid format pursuant to the House order of January 25. The proceedings will be made available via the House of Commons website. Just so that you are aware, the webcast will always show the person speaking rather than the entire committee.

To ensure an orderly meeting, I'd like to outline a few rules. Members and witnesses may speak in the official language of their choice. Interpretation services are available for this meeting. You have the choice, at the bottom of your screen of either the floor, English or French. Please make your selection now.

I remind you that all comments by members and witnesses should be addressed through the chair. Before speaking, please wait until I recognize you by name. When you are not speaking, please make sure your microphone is on mute. For the sake of the interpreters, please do not speak over each other.

As is my normal practice, I will hold up a yellow card when you have 30 seconds remaining in your intervention. I will hold up a red card when your time for questions has expired. Please keep your screen in gallery view so that you can see the cards when I hold them up.

Pursuant to Standing Order 108(2) and the motion adopted by the committee on November 5, 2020, the House of Commons Standing Committee on Industry, Science and Technology is meeting today to conclude its study on the green economic recovery from COVID-19.

I would like now to welcome our witnesses.

[Translation]

Today, we are hearing from Dany Bonapace, as well as François Giroux, consultant in the development of innovative transport solutions.

[English]

From Brookfield Asset Management, we have Mr. Mark Carney, vice-chair; from the Canadian Electricity Association, Mr. Francis Bradley, president and CEO; from GHGSat Inc., Mr. Eric Choi, director, business development; from Mitrex: Integrated Solar Tech-

nology, we have Mr. Danial Hadizadeh, president and CEO, and Mr. Hesam Shahrivar, head of planning and development.

Each witness will present for up to five minutes, followed by rounds of questions.

With that, we will start with Mr. Bonapace.

[Translation]

Go ahead for five minutes.

[English]

Mr. Dany Bonapace (As an Individual): Good morning.

I will be speaking French since it's my first language, but I do understand well if you have questions in English.

[Translation]

Good morning, my name is Dany Bonapace. I am a real estate developer who has had a good deal of success in his career, both here, in Canada, and internationally. I am worried about our children's future, given the major challenges caused by climate change and the fact that time is not on our side. In my case, it has become increasingly difficult to rationalize the situation and to continue to prosper in my industry knowing that so many sustainability issues exist. My reasoning was quite simple: we are few who must act for many, for all the people around the world who cannot act because they are fighting for their survival every day, as well as for those who do not want to act.

As a developer who has acquired money and experience over his 30-year career, I told myself that the most logical thing to do was work on large-scope business projects. That led me to carry out a first artificial intelligence project in building energy efficiency, a high-priority niche, considering the inefficiency of the global housing stock in that area.

I am not not talking about technology as much as the fact that it took me, in my opinion, a long time [*technical difficulties*] to create artificial intelligence. I feel that I won't be the only entrepreneur in Canada or on the planet who will tell themselves that we must participate in the war effort against climate change and who will have the means and the experience to do so. However, if we let all entrepreneurs work in isolation and take as much time as me to successfully carry out an initial project, we will never manage to accomplish what we need to do within the required time frames.

That is what has led me to recommend to the government strategies to foster the integration of those new players, who will go from their industry to energy [*technical difficulties*]. Those are things that can be quite simple for the government. For example, it is just a matter of explaining, as the orchestra conductor, the global decarbonization roadmap, the priorities and places where those entrepreneurs can invest their time and their money more quickly. A real estate developer should [*technical difficulties*] renewable. That is easier for them than to carry out an artificial intelligence project, as the same business structures are used and the same steps go into carrying out a renewable energy project.

Therefore, at the outset, accelerating the entrepreneur's involvement has an important impact. It is also a matter of promoting networking. I was not a multinational or Ontario Hydro. It took me forever to find an energy efficiency consultant who would accept me and would understand [*technical difficulties*], while it should take a day. The same goes for networking. Networks can be created among developers to integrate the market that is already taken up by large players. Large players need small players to achieve their goals, just as mining companies need beginners to build their company.

I will give you one last high-priority example. It is important for governments to close the gap between capital markets and developers. There is still a gap that is slowing down entrepreneurs' and developers' involvement in this industry. These are things that are both complex and simple, but capital must be made more accessible and less expensive for promoters. Perhaps it would be enough to guarantee [*technical difficulties*] the perception of credit and risk creates a problem.

In closing, we all have a role to play—individuals and entrepreneurs, governments and financial institutions. What I think is certain is that governments are the link that will help us all accelerate our transition and achieve our objectives. That would also give entrepreneurs an opportunity to sell their products and their services internationally to make our nation prosper.

• (1110)

Thank you.

The Chair: Thank you, Mr. Bonapace.

I'm going to ask the technicians to check your connection because it cut in and out a few times. Someone should be contacting you.

Mr. Giroux, it is now your turn. You have five minutes. Please go ahead.

Mr. François Giroux (Consultant, Development of Innovative Transport Solutions, As an Individual): Thank you, Madam Chair.

Good morning.

French is my mother tongue, so even though I can get by in English, I will be making my presentation in French.

I would like to thank Mr. Lemire, the member who represents the riding of Abitibi—Témiscamingue. It is thanks to him that I am appearing before the committee today.

Hydrogen is a vital ingredient in the electrification of transportation. I want to emphasize the electrification of transportation. Canada is already a leader in the heavy-duty vehicle and bus sector. Lion Electric was proud to announce recent investments in the area.

I am here today to talk about the role hydrogen can play in transportation.

Currently, the transportation sector relies on fossil fuels and diesel combustion engines, making it responsible for a large share of the world's greenhouse gas emissions. The contribution of Canada's transportation sector is much too big, and may be due to the vast distances being travelled and Canada's specific climate.

It's fair to say that the electrification of transportation overall will always be limited by the amount of energy in the vehicle's accumulator, the so-called battery. Despite advancements and the incredible work of Canadian researchers, the battery's weight and size limit the vehicle's carrying capacity, especially when it comes to trucks and passenger transportation vehicles, buses. The distances are always limited and not quite up to the industry's expectations.

For example, the amount of stored energy in the battery of a truck travelling from Abitibi to Montreal would be so great that the load capacity would be reduced. It would create a financial disadvantage for the operator. An unbelievable number of batteries would be required and the charging time would be an operational constraint for the company.

Battery technology is changing rapidly. Soon, we will see super-batteries with supercapacitors, which will help heavy-duty vehicle transportation and commercial transportation. Nevertheless, the hydrogen battery remains one of the best solutions. Allow me to explain what a hydrogen battery is.

It is simply a generator of electric energy, but without the combustion engine found in generators or systems that produce energy derived from fuel. Hydrogen batteries are manufactured in Canada, in the Burnaby area, by two leading companies, Ballard Power Systems and a joint venture between two big commercial vehicle manufacturers, Volvo and Mercedes-Benz. The two companies are already developing this new battery technology in Canada and Europe, which they announced with great fanfare.

Here's the best way to describe a hydrogen battery in a nutshell. It is a bit like the battery used to power the DeLorean in *Back to the Future*, which was fuelled by a can of beer and a banana peel. Instead, a fuel tank is installed and electricity is created. In an electric vehicle, such a battery would make it possible to transport very heavy loads and provide enough power to electrify the transportation sector.

• (1115)

The technology exists, so what are we waiting for?

The bus sector in Quebec and the transportation industry have been waiting for this. I would really like to see Canada work towards incorporating the technology into its heavy-duty vehicle industry.

The Chair: Thank you, Mr. Giroux.

[English]

We'll now turn to Mr. Carney.

You have the floor for five minutes.

Mr. Mark Carney (Vice-Chair, Brookfield Asset Management Inc.): Thank you very much, Madam Chair.

Thanks to the members for the invitation and for your service.

[Translation]

I have just five minutes, so I will focus on five points.

First, fiscal sustainability is a necessary condition for Canadian prosperity. Parliament has provided extraordinary support to Canadians and Canadian businesses during the pandemic, but as the crisis recedes, Parliament must avoid structural deficits driven by spending today that does not grow the economy tomorrow. This discipline is particularly important given the looming pressures on health spending as the system recovers from the pandemic.

[English]

In the medium term, any fiscal deficit should reflect investments in human, digital, sustainable and natural capital that boost the long-term productive capacity of the economy. To help ensure that the government directs federal spending to the highest returns, capital investments should be subject to independent assessments of their long-term payback by the parliamentary budget office.

Second, Canada should make maximum use of non-fiscal policy levers including effective regulation, active competition policy, measures to promote a sustainable financial system and trade policy that benefit our small and medium-sized businesses and services sector. As U.S. Treasury Secretary Janet Yellen and I have outlined, credible and predictable regulatory policies that frame the future direction of the economy—such as explicit timetables to phase out internal combustion engines and mandates for increasing hydrogen usage—will pull forward and amplify private investment.

In this regard, policy frameworks with clear objectives and measurable outcomes are essential. Many of the building blocks for the net-zero transition are coming into place. The 2050 objective is being enshrined in law. The new 40% to 45% reduction target by 2030 provides a medium-term anchor. A legislated carbon price will help smooth adjustment. To provide greater clarity for the additional policy measures required, the new net-zero advisory body that's proposed should publish annual objective assessments of the adequacy of policies and policy options to close any gaps.

Third, it's time for a Canadian digital strategy that defines the foundations, capabilities and priorities of a digital economy in which all Canadians can thrive. The necessary initiatives are legion and merit separate study by this committee, but I'd stress the importance of Canadian-led low-earth orbit satellite systems that leapfrog existing high-speed technologies and bring enormous potential to create high-quality job opportunities across Canada.

More broadly, global connectivity can drive an explosion in opportunities for all Canadians in all regions in new platforms of global commerce. With an integrated trade, digital and financial strategies, Canadians in all regions can benefit from freer trade in services and for SMEs.

Fourth, we need clear pathways for a just and prosperous energy transition. In particular, eliminating three quarters of our greenhouse gas emissions from the final demand for energy requires a clean electricity grid by 2035 and at least a doubling of clean electricity generation as the energy source for transportation, residential and commercial property, technology, and industry. To these ends, the federal government should work with the provinces on complementary initiatives, including federal support for new grid interties for domestic resilience and international exports.

More broadly, the scale of the energy transition and the imperatives of regional solidarity support the reinvestment of proceeds from the energies of today into the energies of the future, including blue hydrogen, green hydrogen and small nuclear reactors, as well as essential supporting technologies such as CCUS, DACCS, and battery storage. The development of both the Canadian energy industry and the jobs of the future can be accelerated by refundable investment tax credits for a wide range of emerging low-emission technologies—including but not limited to CCUS and green hydrogen—and contracts for differences that promote demand for hydrogen, as well as targeted regulatory mandates, including for zero-emission vehicles and fuels.

Fifth, it's imperative to build a new financial system to enable the transition to net zero and ensure greater inclusion, better service and wider opportunities for Canadians. The objective of the COP26 private finance strategy is to put in place the information, tools and markets so that every financial decision takes climate change into account. The essential building blocks include mandatory risk disclosure based on the TCFD, net-zero plans of our major financial institutions consistent with GFANZ, methodologies to align financing portfolios with the net-zero transition, and major new markets for blended finance and carbon offsets. Particular markets for nature-based solutions can complement absolute emissions reductions while providing major opportunities for indigenous Canadians.

• (1120)

I'll refer you to the supporting documents. Thank you for this opportunity.

The Chair: Thank you very much, Mr. Carney.

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

[Translation]

Mr. Francis Bradley (President and Chief Executive Officer, Canadian Electricity Association): Thank you, Madam Chair.

The Canadian Electricity Association, or CEA, is the national voice of the electricity sector. Our members operate in every province and territory in Canada, and include generation, transmission and distribution companies, as well as technology and service providers.

Electricity is at the heart of Canada's transition to a low-carbon economy. Over 80% of Canada's electricity generation is already non-emitting, making it one of the cleanest grids in the world. In fact, the Canadian electricity sector has already reduced GHG emissions by nearly 50% since 2005. Clean, reliable power will play an essential role as Canada begins to decarbonize through electrification.

Our sector is uniquely positioned to help advance Canada's clean energy future and meet climate commitments in 2030, 2050 and beyond. In fact, CEA released a list of actions for achieving net-zero carbon emissions; we have provided it to the clerk for your reference.

[English]

The focus of the study before you is how the Government of Canada can support industries in the transition to greener and more sustainable practices. Electricity is best positioned to enable this transition. The Canadian Institute for Climate Choices analyzed 60 pathways that it said could achieve net-zero greenhouse gas emissions by 2050. All of them involved electricity, so we're going to need more electricity.

By 2050, Canada will need to produce two to three times as much clean power as it does right now. Facilitating this increase in clean power generation and ensuring that our sector can adopt innovative technologies is where government can provide support.

First, we should emphasize electrification. Grid investments should be program-focused and should improve the affordability and reliability of the system while reflecting Canada's diverse electricity markets. To do so, the federal government, in collaboration with stakeholders, industry and other levels of government, should develop and implement an electrification strategy to support decarbonization. This would guide Canada's approach to reducing GHG emissions in other sectors and to improving the economy.

Government should also work to enable electricity investments. As the economy restarts, it will be important for projects that are planned or under way to move forward. The Conference Board of Canada has estimated that there will be a need for \$1.7 trillion in investments in the sector by 2050 to meet our climate goals. Deferrals and delays hinder stimulus efforts and our climate ambitions.

Regulatory modernization can also be done to enable investments more broadly. We were pleased to see the 2021 federal budget include funds for Measurement Canada to update rules for, among other things, zero-emission vehicles and charging infrastructure. Ultimately, as I told your colleagues at the environment committee last year, we need to update legislation.

We also need to think about how utilities are regulated economically. Electricity markets and rates are regulated by provincial regulatory commissions. As these bodies look to balance costs, innovative new projects that advance reliability and clean energy goals can face barriers before they get approved. There's a role for the federal government to play in working with the provinces to modernize this process.

● (1125)

[Translation]

Finally, help to scale up nascent technology is also needed. The electricity sector needs policy support and clear regulatory pathways for innovative technologies such as small modular reactors, hydrogen, energy storage, and carbon capture, utilization and storage. These could develop new export markets for Canada, beyond solving problems at home.

Each year, we look at the state of the Canadian electricity sector. This year's theme is renewal.

[English]

Canada's electricity grid is growing, driven by consumer demand and evolving technology. For Canada to reach net zero, our country will need to develop policies that encourage the grid to grow even further.

[Translation]

Thank you.

[English]

The Chair: Thank you very much, Mr. Bradley.

We will now turn to Mr. Choi.

You have the floor for five minutes.

Mr. Eric Choi (Director, Business Development, GHGSat Inc.): Thank you very much, Madam Chair, and members of the committee for the opportunity to appear this morning.

Let me start by saying a little bit about GHGSat. We're a small SME that was established in 2011 as a private sector solution to climate change. We are headquartered in Montreal, with offices in Ottawa and Calgary, and we now have international offices in Houston and London, England.

Our vision of GHGSat is to use satellites to become the global reference for the remote sensing of greenhouse gas emissions from any source in the world, thereby enabling stakeholders in the energy, resource, power generation, agricultural, waste management and sustainability sectors to make informed environmental decisions.

While there are obviously other satellites up there in space that also measure greenhouse gases, satellites from NASA and from the European Space Agency, for example, it's kind of a neat and remarkable fact that GHGSat, a Canadian SME, is currently the only private sector or government entity in the world that has satellites capable of high-resolution greenhouse gas measurement down to a resolution of only 25 metres. Our satellites—these Canadian satellites—are the only ones that can measure greenhouse gas emissions from sources as small as individual gas wells. This is a critical capability for attribution.

Space technology is going to play an increasingly important role in Canada's transition to greener and more sustainable practices and to building back better. Out of the 50 essential climate variables identified by the World Meteorological Organization as needed to monitor climate change, 26 of these variables can only be effectively observed from space. Environmental satellites are therefore directly aligned with the goals of Canada's 2030 agenda for sustainable development, specifically for taking urgent action to combat climate change and its impacts—which is goal number 13—and promoting inclusive and sustainable industrialization and fostering innovation, per goal 9.

When we talk about fields of technology, be it space technology or green technology, there are two ways in which the Government of Canada can play a role in nurturing innovation and expanding sustainable trade opportunities. The first is by investing in early-stage research and development. The second is by being an early adopter of new innovations, thereby lowering the risk and allowing the private sector to bring their new products and services to the international market.

Canada is a world leader in supporting early-stage R and D in both industry and academia. As an example of that, the innovative technology behind our methane monitoring satellites was developed with the support of Sustainable Development Technology Canada, the Canadian Space Agency and the industrial research assistance program of the National Research Council.

To ensure that Canada builds back better during the post-COVID economic recovery, an area of improvement for the Government of Canada would be to support industry beyond the initial R and D phase. One of the most effective measures that could be undertaken in this regard is to be an early adopter of new innovations and, furthermore, to be an ongoing anchor customer for green and sustainable technologies. This would strengthen Canadian competitiveness and expand trade opportunities, because one of the first things that a prospective customer asks internationally is whether a new product or service has been adopted by the domestic market.

There are examples of anchor tendency in the field of environmental satellites that we are familiar with, such as the NASA commercial small satellite data acquisition program in the U.S. or the third party missions programme of the European Space Agency.

This is going to be a pivotal year for Canada as we look forward to COP26 in November. One of the high-profile projects expected to come out of this UN climate conference is the International Methane Emissions Observatory—or IMEO—which is the project of the UN Environment Programme that is seeking contributions

precisely of satellite data to identify methane super-emitters and thereby provide actionable data for diplomatic follow-up.

In recent months, we at GHGSat have been engaged with the relevant Government of Canada departments to discuss the potential of providing Canadian satellite methane data to the IMEO as a very highly visible demonstration of our country's commitment to fighting climate change.

To conclude, and to reiterate what some of the earlier speakers have said, the success of our post-pandemic recovery and the industrial transition to greener and more sustainable practices go hand in hand with both the government and the private sector as partners in this endeavour to build back better.

This concludes my prepared remarks, and I look forward to taking your questions.

• (1130)

The Chair: Thank you very much, Mr. Choi.

We will now go to Mitrex. You have the floor for five minutes.

Mr. Danial Hadizadeh (President and Chief Executive Officer, Mitrex: Integrated Solar Technology): Good morning, everyone.

Thank you, Madam Chair and the committee for inviting our company, Mitrex: Integrated Solar Technology, to appear as a witness.

Increases in urbanization, higher energy demands and non-renewable energy sources have created an environmental disaster in the form of climate change. Although the Canadian government has pledged to achieve net-zero carbon emissions by the year 2050, this is a huge goal, requiring everyone involved to achieve it in terms of commercial and economical options.

The COVID-19 pandemic showed us how vulnerable our society and economy are to external environmental factors. We as a nation may either continue to invest in the traditional carbon-emitting industries, or we may choose a different path for the recovery, the path that is greener and built back better than what we had.

Canada's construction industry directly employs 1.4 million Canadians. From an environmental perspective, the buildings we construct are responsible for 17% of greenhouse gas emissions, which is an astonishing number if you're looking at the buildings that are being constructed today, and 75% of these inefficient buildings will still be standing in 2030 and beyond. Unless we build more sustainable buildings and existing buildings are retrofitted, I highly doubt that we can achieve our 2050 goals. This will be a key industry to rebuilding our economy while encouraging sustainable growth.

As a Canadian and as a human, you can always turn problems into solutions. This is one of those areas where we can turn it around, and develop a solution to create an opportunity out of the problem.

As cities grow, and as the high-rises are rising, we have this option. Our cities are growing vertically in the form of high-rises. This creates that specific opportunity. At Mitrex, we are creating the solution through BIPVs, building-integrated photovoltaics systems. These are building materials that are built with solar, and the solar is built within them. These are not added on top. These are not layers on top of layers. These are different groups of building materials that are built with solar.

The BIPV solves all of the problems that are mentioned regarding global warming and all of the issues we're having. BIPV is one of the solutions that can help us build more buildings, build better buildings, and help us achieve our goals by 2050.

Due to the significant R and D that we have done at Mitrex, the BIPV materials that we have created eliminate the trade-off between aesthetics and sustainability, and create positive financial impacts. We have solved the equation. We have created a product that is embedded into the materials. We can actually build our buildings using solar panels for the first time on the commercial stage.

This will create Canadian jobs in STEM fields and in skilled trades. As our country's portfolio of green buildings expands, so will Canada's trade agenda, pursuing new agreements and opportunities that create jobs and economic benefits.

Greener buildings and sustainable construction will reduce energy demands and greenhouse gas emissions, helping us meet our 2050 net-zero goals and securing our environment's future.

Thank you for your time and attention. We look forward to answering your questions.

• (1135)

The Chair: Thank you very much.

We will now start our first six-minute round of questions.

Mr. Poilievre, you have the floor.

Hon. Pierre Poilievre (Carleton, CPC): Thank you, Madam Chair.

Mr. Carney, thank you for appearing.

Instead of increasing affordable emissions free of hydroelectricity, the former Ontario Liberal government decided to lock in 20-year price subsidies for multinational power companies for less reliable wind and solar power.

Ontario's financial accountability officer said last week that the prices paid to electricity generators under the green energy contracts are significantly higher than the average price of electricity in Ontario. These high contracted prices are one of the factors that contributed to the price of electricity in Ontario doubling between 2009 and 19.

Is your company, or are any of its subsidiaries, receiving payment under any of these contracts?

Mr. Mark Carney: First off, thank you for the question, Mr. Poilievre. I do not have knowledge of that. I can write back to the committee on it, but honestly, I don't know the answer.

Hon. Pierre Poilievre: All right. You are the vice-president responsible for environmental, social and governance, and this is supposedly—

Mr. Mark Carney: To be specific, Monsieur Poilievre, my responsibilities are for developing an impact strategy, which is a new strategy at Brookfield. I'm not responsible for previous activities, although Brookfield has much to recommend it as a great Canadian company that has built a renewable—

Hon. Pierre Poilievre: Great. Thank you for that.

The Financial Post says that Brookfield Renewable Partners, Enbridge and TransAlta alone account for 38% of the subsidies. These subsidies are massive. They amount to a 150% subsidy for wind and 750% for solar. That drives up the cost of energy for everyday people. According to the Ontario Association of Food Banks in a report on the subject, it has created something called "energy poverty". One victim of this social injustice was Sherry-Selena Hucul, a disabled single mother from Perth who's suffering with depression, anxiety, PTSD, type 2 diabetes and chronic pain from a car accident. Her bill rose to \$309 a month despite conserving electricity.

I want to quote her:

My house is heated by wood and propane. My son requires a BiPAP machine for his severe obstructive sleep apnea syndrome.

Mr. Carney, she was terrified that the Liberal government was going to disconnect her power because she couldn't pay the bills, which rose to subsidize the profits of multinational corporations like yours.

I guess the question is very simple. Because you are in charge of impact investing, would you commit on behalf of Brookfield that your company will no longer accept these unjust subsidies, which are driving people in Ontario into poverty and desperation?

Mr. Mark Carney: Well, the first thing, Mr. Poilievre, is that the energy policy of Ontario is the responsibility of the Government of Ontario. It has been put in place. Part of that energy policy, as you know, has been to diversify energy sources. I'd associate myself with the comments by Mr. Bradley moments ago about the important roles that electricity and the broad range of electricity sources are going to play in Ontario's and Canada's transition to a more sustainable and inclusive economy.

Hon. Pierre Poilievre: My question was, "Would you commit today to reject those subsidies?" You can do so. Your company can reject the subsidies and offer to charge the market rate, which is six cents, instead of the subsidized rate, which is about 15 cents per kilowatt hour. You could do that if you were not just interested in profits for your shareholders but in solidarity with people like Ms. Hucul.

Yes or no, would you commit today to doing that?

• (1140)

Mr. Mark Carney: Mr. Poilievre, the power supply in Ontario is subject to rules that are set. One of the most important things—and I'll go back to my earlier comments to the committee—is that to build a competitive, inclusive and sustainable economy on a foundation of sustainable power, it is critical that we have certainty and predictability. Part of what happens with the evolution—

Hon. Pierre Poilievre: You're not answering my question. My question is whether you would put aside the interests of your profits and your shareholders for poor people who are going to the food bank because they can't pay their power bills. They're using that money to subsidize your company. If you really believe in solidarity and not just in profiting your shareholders, you could voluntarily reduce what you're charging the government and the people of Ontario. You could save people from having to go to the food bank to keep the lights on.

Yes or no, will you do that?

Mr. Mark Carney: Mr. Poilievre, before you stopped my answer.... you're giving one characterization of the power policy of the Government of Ontario, and there is a new Government of Ontario, I would add, that also has the ability to change a broad range of policies—

Hon. Pierre Poilievre: They can't. It's a locked-in contract for 20 years.

Mr. Mark Carney: It is a locked-in contract—

Hon. Pierre Poilievre: Yes, there you go. You knew that much.

Mr. Mark Carney: —and a relevant point. No, I'm just waiting for you to acknowledge it. I appreciate your acknowledging it, but what's also relevant and exceptionally important for Ms. Hucul and people in her situation.... One of the tragedies we have in Ontario and in Canada is people living in poverty—

Hon. Pierre Poilievre: You're contributing to it.

Mr. Mark Carney: Now the instrument of solidarity to address poverty, broader poverty, is not targeted energy policy but a broader range of support policies—

Hon. Pierre Poilievre: The solution is for you to stop breaking the law by overcharging them for electricity.

The Chair: Mr. Poilievre, that is your time.

May I gently remind you not to talk over each other so that the interpreters can do their work. Thank you.

We will now go to the next MP. It is MP Jowhari, for six minutes.

Mr. Majid Jowhari (Richmond Hill, Lib.): Thank you, Madam Chair. Let me start by welcoming all of our witnesses. Your testimony was quite informative on many fronts, so thank you very much and welcome to our committee.

I'm going to start with Mitrex and Mr. Hadizadeh. You talked about BIPV and about a new city that's going to be built that will be full of high-rise buildings. With the almost \$2.24 billion that the federal government just announced for extending the subway to Richmond Hill north of Highway 427, the area along the southern part of Highway 427 is going to be full of developments, full of high-rise buildings. To a large extent, I understand, the technology

that you're doing research and development for, BIPV, will help those. However, you also mentioned that about 75% of the buildings are old. In my riding of Richmond Hill, I have many old buildings that date back to 1970 and 1980.

How does your solution support those types of buildings? Do they have to be forgotten? How would your solution work with those types of buildings?

Mr. Danial Hadizadeh: Thank you, Mr. Jowhari.

Our solution basically applies to both retrofits and new construction. As we build more and more high-rises and more buildings, we are using concrete as architectural surfaces. That's one of the highest carbon-embodied materials you can use, as compared with the technology in solar, which has among the lowest carbon-embodied profiles.

At the same time, our point of view and our glasses to this world is that we integrate more solar into the materials that are in touch with the sun. Our building walls, our building windows or the roof are all in the line of solutions that we have created, and they're all applicable to the retrofitting of buildings that you mentioned from the 1970s and 1980s as well as to new construction.

One issue that we're going to face in the coming years is that all of those people who are living in older buildings won't have access to the EV markets, because these buildings are not designed to have more electricity, and it is the solution that we have. This is the key point, integrating more solar into the building materials and using it in retrofit and new construction, and we keep it in mind. We know the cost and we know the aesthetics and we know the installations. Those are all barriers to entry that we have had in the past many decades. It's why these products haven't been developed.

This is part of our solution—the retrofit and the EV market that's going to be connecting all of these buildings and charging all of those cars in the coming decades.

• (1145)

Mr. Majid Jowhari: Thank you very much.

You have talked about the EV market. This is where I want to go. With the interest and growing support of Canadians and investment that the Government of Canada is making in electrical vehicles, naturally these buildings that are much older need...and they park underground. Some of the underground parking lots are multi-level.

How would your solution be able to support that type of retrofit, so that as Canadians embrace electrical vehicles, they can park their cars on level 5 of a 20-year-old building and still be able to get benefit from the EV and from having a charging station?

How does that work? Can you demystify it for us?

Mr. Danial Hadizadeh: With our solution, every building will turn into a power plant. They become micro-power plants that are generating their own electricity. This is on top of the existing power that they have, which they can utilize in their charging stations or in their common elements or the units in whatever way they want. There is a micro-plant being built within the building that is producing green renewable energy for the decades to come. That's how we transform these buildings.

Mr. Majid Jowhari: Would your solution integrate into the older building as well, so that the electricity can get many floors down? What kind of investment do developers need or those existing buildings need to consider to be able to benefit from this solution?

Mr. Danial Hadizadeh: That's a very good question.

We have managed to keep the costs in line with those of traditional materials while implementing these new technologies. That's our edge; that's our difference from many other companies on a global scale. We have an integrated factory to fully automate and integrate—a factory that we have in Etobicoke. We produce everything locally here.

The way we have managed to create a business model is with the power purchase agreement as well as the direct purchase agreement. The builders or the building owners are basically not spending a dollar more, but are receiving renewable energy. That's part of our business model, to transform the old building as well as the new buildings that are being built in Canada.

Mr. Majid Jowhari: I only have about another 30 seconds.

How do you work with the existing regulations in the provinces, as they are in charge of setting the rates? How would your model work?

Mr. Danial Hadizadeh: Right now we are just working within the existing rates in Ontario. Most of our projects and supplies are in Ontario, but there are a lot of limiting regulations that prevent us. Even though governments are saying they are with green energy companies, once you start deploying, there are a lot of limitations they have put in place that prevent us, which are usually coming from Toronto Hydro or other energy providers.

The Chair: Thank you very much.

[*Translation*]

We now go to Mr. Lemire.

You have six minutes.

Mr. Sébastien Lemire (Abitibi—Témiscamingue, BQ): Thank you, Madam Chair.

First, I want to say what an informative and well put together panel this is. We heard about solutions for the transportation sector as well as energy efficiency in the building sector. The solutions are especially innovative, and both sectors provide opportunities to reduce Canada's carbon footprint.

Thank you, Mr. Bonapace, for being here today. My first question is for you.

In practical terms, what can we do to speed up the transition and help businesses?

Mr. Dany Bonapace: Basically, the answer to your question is to create the conditions conducive to an energy-to-performance ratio of 20:80.

My understanding and my experience [*Technical difficulty—Editor*] Canada's housing stock. That stock is pretty inefficient. The stock's energy efficiency, production and storage need improving. I quite agree with what the Mitrex representatives said.

The only problem is the slow pace of the transformation across the housing stock. It's a people-dominated sector, and people have a hard time changing their habits. If all we do is keep focusing on subsidies as an incentive to change, we will not reach our targets anytime soon. In short, a combination of penalties and subsidies is needed to speed up the transformation.

People take the path of least resistance. The first option is digital technologies that promote energy efficiency. They do not require a big investment in equipment. People don't have to make a slew of changes to increase their energy efficiency. Many of the artificial intelligence devices already on the market are interconnectable and have the ability to monitor all of the electromechanical systems on the premises. People can achieve at least 20% in energy savings without investing in any equipment. Those efficiency gains are significant when you consider the entire housing stock.

The best thing to do is not to produce more energy, but to save energy. That eliminates the burden of having to produce more.

• (1150)

Mr. Sébastien Lemire: Indeed.

I'm going to ask you the question again. What practical measures can we take to speed up the transition and help businesses?

Mr. Dany Bonapace: Sticking to the building sector, I would say it's necessary not only to produce more, but also to provide support. When electricity prices are down, solutions like the ones offered by Mitrex are harder to justify. Something else to consider is the use of artificial intelligence technology in buildings because the gains can be significant. By making very few changes, the industry can implement these technologies. Similarly, process industries could use the technology to achieve considerable savings.

As a guy who is very down to earth, I think your question is a really good one. In response, I would point to renewable energy production as well. My philosophy is simple: demand is way up and alternative energies are urgently needed to replace fossil fuels, so more players have to be allowed on the field and more projects have to be realized. I won't mince words; companies are permitted to engage in mining, oil drilling and logging on all Crown lands, but similar legislation still does not exist for renewable energy initiatives.

Consider this. I live along the Ontario border, and the clear-cutting under way is unbelievable. It's a vast space that could be covered in solar panels. It's a minute away from the border with Ontario, the second-largest GHG emitter. I realize political and jurisdictional issues come into play; Mr. Carney talked about the need to address them, given that climate change has no borders. It is imperative to find strategies, such as standards for renewable energy portfolios along with incentives.

That said, it is possible to designate more spaces to support more projects. I'll draw an analogy with the mining industry and junior mining companies. In mining, companies may be able to provide energy [*Technical difficulty—Editor*], which is about equivalent to flow-through shares. They were meant to support exploration by junior mining companies, which were able to propose a number of sites to major stakeholders in order to carry out more projects. A copy-and-paste approach could be applied, with a greater focus on solicitation.

I realize only Alberta is deregulated. Here's an interesting fact: seven people solicit for Alberta's big mining companies, but they are the only seven people in Canada who do so. That is far from enough. Tax breaks need to be leveraged to support exploration and find new sites in order to produce renewable energy.

Mr. Sébastien Lemire: I have to ask the question a third time. What practical measures can the government take to support the transition and help businesses?

Mr. Dany Bonapace: I'll give you a quick answer, in 30 seconds. Take someone like me, for example, who sets up investment funds and has investors. If they have access to tax breaks, I have more latitude to help a developer, to manage more of the risk associated with getting a renewable energy project off the ground and seeing it through.

Mr. Sébastien Lemire: Thank you, Mr. Bonapace.

Mr. Dany Bonapace: My pleasure.

The Chair: Thank you.

[*English*]

We'll now go to MP Masse.

You have the floor for six minutes.

Mr. Brian Masse (Windsor West, NDP): Thank you, Madam Chair, and thank you to our witnesses for being here today.

Mr. Carney, my first question is with regard to Brookfield Asset Management Inc. The claim was made that it was carbon neutral. It appears that's been walked back a little bit. That was a few months ago.

Perhaps you can provide us with what the differential was then and what has happened in that portfolio in the company you represent, over the last number of months, to correct that—or is it not going to be corrected? What's the current status of that?

• (1155)

Mr. Mark Carney: Thank you, Mr. Masse.

Let me use the terms very precisely. You asked the question about carbon neutral. I'm going to distinguish between carbon neutral and net zero. Carbon neutral relates to emissions reductions and

avoidance. Net zero, of course, is reductions versus emissions themselves.

Brookfield Asset Management as a whole is carbon neutral. In other words, the scale of avoided emissions more than compensates for the emissions of other companies—other assets—that it owns or controls. It is not net zero. In other words, there are considerable avoided emissions. Let me explain that—

Mr. Brian Masse: Well, I don't have that much time. I'm just wondering, as there was a gap between what was said by you and what was expressed. I'm just looking at what the company had done since that time. I'm not really.... I'm just trying to look for what happened over the last several months.

Mr. Mark Carney: Well, these definitions are important—

Mr. Brian Masse: Well, it's my question time and I don't need definitions. I just want to know. There was a discrepancy. It was very public. It was in Reuters. There were a series of different news articles, and I'm just asking what has been done to narrow that gap. Perhaps there was nothing. I don't know. I'm just....

Mr. Mark Carney: Mr. Masse, since you don't want a definition.... You asked about carbon neutrality. Brookfield Asset Management is carbon neutral because the scale of the emissions reduced are more than twice the emissions of, for example, Toronto. There are 20,000 megawatts of renewable power. It's one of the largest private renewable—

Mr. Brian Masse: I was asking about what was done between the discrepancy that took place.... That's fine. I don't....

Mr. Mark Carney: Well, I'm sorry, Mr. Masse, but you are asking about different things, and this is important.

So, again, from a Canadian perspective, neutrality or avoided emissions would include—this is not an issue for Brookfield, but for Canada as a whole—the preservation of nature-based solutions, very large potential benefits for indigenous populations and regional populations across Canada. That is an important distinction. I was responding to your specific question, which was about carbon neutrality.

Mr. Brian Masse: All I was asking was what took place.... I didn't ask for definitions. I was asking what was done at your company between the discrepancy between your remarks and the interpretation that was in the media reports later. I don't know what has happened over the last three or four months. That was the opportunity I was offering you, to actually explain what you had physically got done to address the gap between the two. That was an opportunity I was trying to afford you.

I'm going to go to Mr. Bonapace. With regard to the practical applications of building projects, what are the specific things that can be done to enhance, I guess, getting off the grid for builds? If you had three things to talk about with regard to making easier access for the development, what would those things be? We have federal incentives that have come and gone over the years. What would those things be? In the past they have been windows and doors. In fact, some governments have actually allowed incentives for decks and fencing. More specifically, other things have been targeted—lower emissions. What would be the things that you would suggest?

Mr. Dany Bonapace: I'm sorry, Mr. Masse. Could you just define the question a little more precisely so I can understand?

Mr. Brian Masse: Yes, sorry. What would be the incentives or the parameters for allowing the development to take place to help people remove themselves from energy dependency. In the past we've had programs that have had incentives to do anything, from building decks to fences, but other ones have been geared to windows, doors and lower emissions. Are there three things that you would suggest, where, if there were incentives, those should be targeted to?

Mr. Dany Bonapace: Well, essentially, I think that everybody should be an energy producer in Canada. I don't think it should specifically be for the big players. A lot of wealth is associated to energy, and I think it's something that should be shared among us all.

Specifically, I would target everything, all the incentives that can be used to produce energy. You understand that this is as much in the building industry as in the renewables industry. I think that everything that can be done to help newcomers in the industry is essential, because people like me who have changed the industry and want to make a difference understand that we have to produce and save. In producing, we need to build business models to access this. In helping to either finance these renewable energy products or finance the retrofits of our buildings and putting in the Mitrex products are all essentially good, because we're generating electricity. If we're producing more than we need, we can just send some to other markets that need to have—

• (1200)

Mr. Brian Masse: I'm running out of time. But, as an example, really quickly, the support, say, for having cars that provide energy for homes in downtimes and selling that back to the grid is probably a positive thing. That's what Calibre is doing.

Mr. Dany Bonapace: Oh, absolutely.

The Chair: Thank you very much.

My apologies, Mr. Masse.

Mr. Brian Masse: Thank you.

Sorry, Madam Chair.

The Chair: Okay. You usually give up a little time every meeting, so I gave you a little extra there.

We'll now start our second round of questions.

Our first five-minute round goes to MP Poilievre.

Hon. Pierre Poilievre: Your company and your company alone, Mr. Carney, has the legal authority to reject the subsidies that have doubled power bills for poor and working-class Ontarians.

I have a simple yes-or-no question. Will you turn down those subsidies to give Ontario's poor a break? Just answer with a yes or no.

Mr. Mark Carney: Mr. Poilievre, as you said moments ago, there are contracts put in place between the Ontario government and players in the Ontario power market that are providing electricity for Ontarians—

Hon. Pierre Poilievre: Overcharging. Yes or no?

Mr. Mark Carney: —so both sides of those contracts are honoured.

Hon. Pierre Poilievre: Yes or no?

The Chair: Mr. Poilievre, may I ask you to not speak over the witness? I can't hear the answer and, therefore, the interpreters can't.

Hon. Pierre Poilievre: I have a point of order, Madam Chair.

The Chair: What is the point of order?

Hon. Pierre Poilievre: The point of order is that the rule is that the answer mustn't exceed the length of the question. Mr. Carney has had that length. He hasn't answered the question.

Can we move on?

The Chair: That is not actually the rule, but I will let you answer your question.

Thank you.

Hon. Pierre Poilievre: Thank you.

I guess we're not going to get an answer. It looks like you and your company will continue to profit off the backs of poor and working-class Ontarians by taking these massive government subsidies that you wrote into a contract under your previous Liberal government.

I'll move to the first point of your presentation: fiscal sustainability.

Do you support Mr. Trudeau's structural deficits?

Mr. Mark Carney: As I said in my presentation, we should avoid structural deficits. Therefore, I make a distinction, as I believe you do, between the support that is provided during the COVID emergency and, once we emerge from this situation, avoiding having deficits being driven by current spending, which as I said in my presentation, do not grow the economy in the future.

Hon. Pierre Poilievre: Is the current government on a sustainable fiscal path?

Mr. Mark Carney: In my judgment, it is on a sustainable fiscal path because the deficit by the end of year five is largely driven.... In fact, from what I can tell, it is driven by those growth-promoting measures, yes.

Hon. Pierre Poilievre: So, you do support it.

Do you think there's any chance that on this path we could have a debt crisis?

Mr. Mark Carney: For Canada, no.

Canada's situation is very strong. We must use, though, if I may add, our fiscal resources very wisely and—particularly with respect to the point of this committee's inquiry—to affect the type of proposals that have been discussed by my colleagues.

Hon. Pierre Poilievre: Thank you.

Have you advised any ministers in the government, their staff or deputy ministers since September?

Mr. Mark Carney: Advised?

I have been asked questions from time to time by ministers and deputies, yes.

Hon. Pierre Poilievre: What about climate finance? Have you talked to them about that?

Mr. Mark Carney: I have talked to some ministers about climate finance.

I would remind—

Hon. Pierre Poilievre: Since September?

Mr. Mark Carney: If I could, may I...?

Hon. Pierre Poilievre: Since September?

Mr. Mark Carney: Well, I am the UN special envoy on climate action and finance. I have spoken to ministers, deputy ministers and leaders.

Hon. Pierre Poilievre: Since September?

Mr. Mark Carney: I would add, if I may—

Hon. Pierre Poilievre: I'm sorry. You seem to be dodging the question. I don't know what you're hiding there.

Since September?

Mr. Mark Carney: Mr. Poilievre, I began with “yes”. That is not a dodge.

Hon. Pierre Poilievre: Okay, good. Then you've answered the question.

Have you contacted the lobbying commissioner to find out if this is in contravention of the rules, given that you do stand to profit from the policy decisions in this area? You are part of a company that could potentially make financial gains from the massive subsidies and other government policies that you profited from at the provincial level. Have you checked with the lobbying commissioner as to whether you should be registered?

• (1205)

Mr. Ali Ehsassi (Willowdale, Lib.): Madam Chair, I have a point of order.

As the member is fully aware, there has to be some relevance in his questions to what we're discussing here today. I certainly don't see the relevance.

The Chair: Mr. Poilievre, I remind you that we are doing the study on the economic recovery. This is not a study of Mr. Carney's

business profile, so can I ask that you please continue to focus your questions on the study?

Thank you.

Mrs. Shannon Stubbs (Lakeland, CPC): I have a point of order, Madam Chair.

It's just on the point of relevance. The member's questions, absolutely, are relevant. When you, for example, go to website of Brookfield Asset Management, the second and fifth headlines are “Getting to Net Zero: A Global Opportunity” and “Driving tomorrow's economy with renewable power”, so it absolutely seems to me to be relevant within the scope of this particular study for the member to be pursuing questions with the witness about topics he himself presented on in his opening comments as relevant to the subject of the study.

The Chair: I'm ruling that I'd like Mr. Poilievre to continue his questions but to make sure that they stay in line with the study. I'm giving him back his time if he would like to continue.

Hon. Pierre Poilievre: Yes.

Mr. Carney, you stand to profit from these policies, and yet you are regularly intervening and influencing the decisions of ministers and deputy ministers. You've done so since you became an executive at Brookfield.

Did you register, yes or no, your interactions with the lobbying commissioner?

Mr. Mark Carney: I'm sorry, I'm not going to have the premises of that question stand. I do not intervene. I do not influence.

I would remind the members of this committee—

Hon. Pierre Poilievre: Did you register with the lobby—

Mr. Mark Carney: I would remind your that I am an envoy of the United Nations, an adviser to the U.K. Prime Minister—

Hon. Pierre Poilievre: Right, another conflict of interest.

Mr. Mark Carney: —with respect to COP26, and that the United Nations and the U.K. government have determined—

Hon. Pierre Poilievre: Did you register to lobby, Mr. Carney, yes or no?

Mr. Mark Carney: If I may, I have testified about a hundred times to Parliament over my career.

Hon. Pierre Poilievre: Did you register to lobby?

Mr. Mark Carney: I am normally allowed to answer the question.

Hon. Pierre Poilievre: Did you register to lobby?

Mr. Ali Ehsassi: Madam Chair, I have a point of order.

The Chair: Mr. Poilievre, may I ask that you allow the witness to answer before you talk over him, because we can't hear the answer. Thank you.

Hon. Pierre Poilievre: Did you register to lobby?

Mr. Mark Carney: I represent the United Nations. I represent the U.K. government.

Hon. Pierre Poilievre: Did you register to lobby, yes or no?

Mr. Mark Carney: We have a public strategy.

I would like to answer the question.

Mrs. Shannon Stubbs: On a point of order, Madam Chair, that's a great idea. I think the witness probably should answer the MP's question, since that's what we're supposed to do at committee.

The Chair: Madam Stubbs, what is your point of order?

Mrs. Shannon Stubbs: My point of order is to ask the witness to answer the yes-or-no question in the same time that it took the member to ask him the question. That's the practice of committee, and that's what witnesses are here at committee to do: just answer the question by members of Parliament.

Thanks, Chair.

The Chair: Madam Stubbs, this committee gives the six minutes or the round to the MP, and they can use that round as they see fit. The committee does not have the same practice as the House.

I will let Mr. Poilievre continue. He has about 20 seconds remaining in his round. If he'd like to ask the witness a question, we will wait for the answer. Thank you.

Hon. Pierre Poilievre: Your company says that it seeks to make profit off of the so-called green investments, which usually mean government subsidies.

You have financial interest in these policies, sir. Your bonus is probably tied to them.

Did you register to lobby the many ministers, deputy ministers and staff that you've contacted since you took this job, yes or no?

Mr. Mark Carney: I don't lobby, period.

The Chair: Unfortunately, that's your round of questions, MP Poilievre.

We will now go to MP Lambropoulos for five minutes.

Ms. Emmanuella Lambropoulos (Saint-Laurent, Lib.): Thank you, Madam Chair.

I'd like to thank all of our witnesses for being with us to answer our questions today.

Mr. Carney, my questions will mainly be going to you.

As you know, it's still quite expensive for companies, especially smaller businesses, to transition to greener practices at this point in time.

I'm asking, from an investor's perspective, if you can give some advice to smaller and medium-sized businesses in order to help them successfully transition to net zero. Also, what can the government do to help them get to that point?

Mr. Mark Carney: Well, one of the ways to help small and medium-sized businesses is to ensure that our larger businesses are transitioning to net zero and are doing so in a transparent and comprehensive fashion.

Let me explain what I mean by that. The extent to which the larger companies include not just their own emissions from their activities but also the power scope 2 emissions, as you're familiar with, but also scope 3 emissions, very importantly—in other words, the emissions of their major suppliers and downstream customers—

that creates an alignment of incentives between the various companies that can promote the reduction of those emissions.

With regard to elements that are associated with the disclosure of those emissions, I referenced in my opening comments the TCFD disclosure requirements. I also referenced net-zero transition plans, and the comprehensive plans that companies have that increasingly Canadians are putting in place. I referenced consistent requirements for the financial sector, including, very importantly, banks, which are, of course, the biggest source of finance for small and medium-sized enterprises. That could create an alignment and provide capital for exactly the type of emissions reductions....

If I may, as a final point, this is the heart of the publicly disclosed, publicly available, universally applied COP26 private finance strategy, for which I serve the UN.

● (1210)

Ms. Emmanuella Lambropoulos: Thank you very much.

You also mentioned earlier that every decision by government should take climate into account. I agree. If we aim for net-zero emissions by 2050, then obviously we need to start taking steps right now.

I'm wondering if you can comment on whether or not budget 2021 is a good start and is going to help us get to at least 40% to 45% reduction by 2030, and eventually net zero by 2050.

Mr. Mark Carney: First, I think the ethos that you just referenced is, in my reading of the budget, at the heart of the budget. There are consistent and comprehensive assessments of the impact of all policies on climate change, including on ensuring a just transition, and of the ramifications of some of these adjustments for Canadians and Canadian regions so that appropriate support is provided.

Second, I think an important innovation, which formally you're more familiar with than I am, is from outside of the budget per se, in a separate bill. I think it's Bill C-12, by my memory. It puts in place a net-zero advisory body that provides, as I recommended in my opening remarks, a framework so that we don't just know where we're going, but where we stand today. In other words, it looks at the adequacy of policies that have been put in place, both actual and prospective, identifying any gaps between those policies and the targets. As you well know, and members will be familiar with, the 40% to 45% target is new, so in my judgment additional policies will be required, which underscores how important this committee's work on these issues is.

Ms. Emmanuella Lambropoulos: I'm wondering if you can comment a little more on taking climate into account in every decision. We have a gender-based analysis, which is technically supposed to look at every policy and program through a gender-based lens.

Can you explain explicitly, so that we can use this in our recommendations, what this would look like from a climate perspective?

Mr. Mark Carney: Let me take one step back. I'll be quick. First, the core of the work on the financial side is ensuring that there is the information and markets to take climate change into account, whether you're a bank, pension fund or life insurance company.

Second, the gender-based approach.... I was an official in the Department of Finance when the first version of that came about. That sort of comprehensive item-by-item assessment of the impact ultimately on GHG emissions is entirely appropriate.

As a last point, it's not just mitigation; it's adaptation and resilience. Those aspects of climate change are essential.

Ms. Emmanuella Lambropoulos: Thank you so much.

[*Translation*]

The Chair: Mr. Lemire, we now go to you for two and a half minutes.

Mr. Sébastien Lemire: Thank you, Madam Chair.

My question is for Mr. Giroux. First, thank you for being here.

I'd like to hear more about your vision for hydrogen growth in an ideal world.

How can hydrogen be incorporated into the transportation sector? Can hydrogen be helpful?

Focus, if you would, on battery charging.

• (1215)

Mr. François Giroux: Thank you for your question.

The most important step in hydrogen development is building a distribution system. Hydrogen is often stored as a gas and can even be stored as a liquid, in pressurized tanks, a bit like propane. Hydrogen is similar but requires containers more suitable to its physical properties.

The first thing I would recommend is establishing incentives to support the implementation of the distribution system along highways, for transportation, car travel and so forth. The fuel would then be available to the industry, from production to distribution. That's the first thing that has to happen.

According to an interactive map of European countries, in the next two years, Spain and France alone will have 60 to 80 hydrogen refuelling stations along highways. In 2030, those two countries are expected to have 300 refuelling stations. The maps are available. Hydrogen development is well under way.

Distribution and accessibility are the key to success, in order to avoid the failures of natural gas and propane, which could have helped reduce greenhouse gas emissions at the time. Let's not make the same mistake.

Mr. Sébastien Lemire: I gather, then, that we are a few years late.

I want to talk alternative fuels, because hydrogen is not all green.

Can hydrogen be an effective alternative fuel for Quebec and Canada?

If so, what would that look like?

Mr. François Giroux: In response to your first question, the answer is, yes, hydrogen is effective. Quebec, for instance, can produce clean hydrogen thanks to its hydroelectric capacity. The gas can be produced via electrolysis. Two days ago, Spain announced that it will be producing hydrogen using solar panels. Quebec is ready and the time has come, Mr. Lemire.

Mr. Sébastien Lemire: Thank you, Mr. Giroux.

The Chair: Thank you.

[*English*]

Our next round of questions goes to MP Masse.

You have the floor for two and a half minutes.

Mr. Brian Masse: Thank you, Madam Chair.

Mr. Carney, I'll turn the floor over to you to answer this and I won't interrupt. I'm not trying to pick on anything and I didn't want to get into definitions, so I'm going to turn my time over to this.

I just want to get an idea of where this is at now. You have said before, "To be clear, more expensive liquidity is a price well worth paying for making the core of the system more robust. Removing public subsidies is absolutely necessary for real markets to exist."

That's what you said. That was five years ago, so to be fair I think a lot of things have changed. Is that the same kind of philosophy you stand by for affordable housing or government investments and so forth and how much we pay for those?

I'll turn the rest of my time over to you. There won't be any back and forth.

Mr. Mark Carney: That's much appreciated. Thank you.

Five years ago.... I believe that refers to providing liquidity to financial institutions—to large banks—and liquidity insurance being provided by central banks. One of the things we've tried to do, Mr. Masse, including in Canada, but internationally as well, has been to treat banks more like everybody else in the market. Whether you own a small shop, a small farm or large farm, a small business or large business, if you make mistakes, you fail and you bear the consequences.

The reality in the financial crisis was that banks didn't bear the consequences. They were supported with extraordinary liquidity and other mechanisms. We looked to change that so-called "too big to fail" approach. The consequence of that is adjusting the liquidity. Liquidity is provided into financial institutions, including banks, so that they themselves self-insure more. In other words, they keep more liquidity—more buffers for a rainy day—as all of us try to do as individuals on our own basis or as businesses.

The cost of that applies for the financial system. Over time, that means a lower cost to the financial system and very much to Canadian taxpayers because it means that the state doesn't have to come in and bail out the institution because it hasn't put aside funds for a rainy day.

That is a financial issue. I wouldn't take that from the financial sector and port it over to the other parts of the economy.

• (1220)

Mr. Brian Masse: Thank you.

I think that's my time, Madam Chair.

The Chair: Thank you, MP Masse.

We'll now go to MP Poilievre.

You have the floor for five minutes.

Hon. Pierre Poilievre: Thank you very much.

Mr. Carney, can you tell me the countries from which your company sources the polysilicon that goes into its solar panels?

Mr. Mark Carney: Off the top of my head, I can't.

I can tell you that a number of the solar arrays, or the main components of solar arrays, would come from China, which is the largest producer in the world of solar arrays.

Hon. Pierre Poilievre: Yes, that is true. In fact, half of the polysilicon, which is the main raw material used to make solar wafers, is produced in highly secretive coal-powered factories in the Xinjiang region. It's the same place the communist regime is carrying out a genocide against the Muslim minority.

I'm going to quote Reuters here:

Some U.S. lawmakers have voiced growing [sic] concern that the industry is dependent upon products, specifically the raw material polysilicon, linked to work camps in China's Xinjiang region. The U.S. State Department has made a determination that Chinese officials are perpetrating genocide there, and imports of cotton and tomato products from the region were banned this year.

Will you make the commitment on behalf of Brookfield that you will not source any materials from the Xinjiang region?

Mr. Mark Carney: I'll make the commitment that we will not source materials that have the supply chain that you described.

Hon. Pierre Poilievre: Does that mean you will not source any materials for your solar panels from the Xinjiang region?

Mr. Mark Carney: Well, I think one has to look at the.... I don't have with me today the exact source, the exact companies and the specifics, so, if I may, I'm not going to take the reference from a media report and apply it as fact.

However, certainly ethical sourcing are important to us at Brookfield.

Hon. Pierre Poilievre: That's a nice talking point, but you would think you would know one way or the other, off the the top of your head, whether your materials, given that you are responsible for environment, social and governance for this massive half-trillion dollar enterprise, were coming from a place known for slavery, genocide and coal-fired electricity.

Mr. Mark Carney: What I'm saying, Mr. Poilievre, is that I do not believe that that is the case.

Hon. Pierre Poilievre: But you haven't verified it.

Mr. Mark Carney: You've asked me the question. I have no reason to believe that is the case, no.

Hon. Pierre Poilievre: Okay, but you don't know. It just seems astonishing to me that someone who's responsible for environment, social and governance would not want to guarantee that raw materials for your products are not coming from that kind of a region, and you just said that the provenance is China. The region in China where this material is produced is the Xinjiang region. I'm just shocked that you haven't looked into this. It seems like you're concerned more with shareholder profits than you are with human rights and social justice.

I'm going to ask a question now. Your CEO says that a third of Brookfield's business will be in China within 25 years. China's the biggest emitter of greenhouse gases in the world. Why are you moving your resources and your capital to a country that has such intense emissions of greenhouse gases when that's the opposite of what you state is your purpose?

Mr. Mark Carney: To be clear on the specifics, my role at Brookfield is to develop a strategy, which we are developing, to invest in companies to remove and eliminate greenhouse gases. That's the impact. That's the transition approach.

What one does in that situation, if you follow, is you go to where the emissions are and you convert dirty activities to green activities, and in fact, when I accepted the invitation from this committee, I believed the focus of the committee would be on how we could do it for Canada. Brookfield is working, and what I'm doing, representing—

Hon. Pierre Poilievre: Anyway, I don't think I'm getting an answer here—

Mr. Mark Carney: If I may, if I may—

Hon. Pierre Poilievre: You've had plenty of time, sir. May I please go on to my next question?

• (1225)

Mr. Mark Carney: Actually, I wouldn't mind, rather than having your characterization of what I do, being allowed to give the facts of what I do and what my responsibilities are. My responsibilities at Brookfield are to develop a transition fund that we think will be world-leading, which is to help companies around the world—

Hon. Pierre Poilievre: And I'm commenting on the impact that that has on human rights around the world, sir. That's the point, and so I'll conclude—

Mr. Mark Carney: —reduce their greenhouse gas emissions and do so in an—

Hon. Pierre Poilievre: In an ethical way, thank you.

I have a final question.

Do you believe that the Chinese government is perpetrating a genocide on the Uighur people?

Put shareholder profits aside and just focus on humanity here for a moment.

Mr. Mark Carney: I focus on humanity, I spend lots of time—

Hon. Pierre Poilievre: So yes or no. Yes or no.

Mr. Mark Carney: —focused on humanity with [*Inaudible—Editor*]. I'm deeply concerned by the situation in—

The Chair: Thank you very much, Mr. Poilievre. Unfortunately, you're a little over time.

Hon. Pierre Poilievre: It's shareholders first, protecting the profits over the people.

The Chair: Thank you very much, Mr. Poilievre.

Our next round of questioning goes to MP Ehsassi.

Mr. Ali Ehsassi: Thank you, Madam Chair, and to all of the witnesses. I have to share with you that I've never seen such unbridled enthusiasm amongst my colleagues. Thank you for appearing here today and for your testimony.

Now I have questions for Mr. Choi as well as Mr. Carney. Perhaps I should start with Mr. Choi.

Mr. Choi, it is incredible what you are doing at GHGSat. This is really cutting-edge work that you've undertaken, and in your testimony you refer to “actionable data”. Who is that actionable data for?

Mr. Eric Choi: Mr. Ehsassi, thank you so much for this question and for the opportunity to be here and address the committee today.

When we talk about actionable data, we talk about having timely, objective and transparent measures of greenhouse gas emissions for various stakeholders, who at this point are primarily in the commercial sector. We provide our data to the oil and gas sector. We provide our data to the resource sector, to the waste management sector, to the energy sector, and also in general to the sustainability sector. In the future we feel that this objective data on greenhouse gas emissions would also be of tremendous value as the financial world pivots towards ESG metrics, and certainly there would be a lot of value in that regard as well.

The other area for providing information, as I hinted at in my prepared remarks, is governments and government regulations, and supporting government regulations as we look towards things like Canada's obligations under the Paris Agreement and the Canadian Net-Zero Emissions Accountability Act. We're already engaged with a number of provincial authorities, for example, the Alberta Energy Regulator and similar authorities in B.C. and in other provinces, and we very much look forward to an opportunity to bring our capabilities to bear to serve the needs of the Government of Canada as a whole.

Thank you very much for your question.

Mr. Ali Ehsassi: Thank you, Mr. Choi.

Now, if I could go to Mr. Carney, you have been on the record on numerous occasions suggesting that climate change is a great concern. However, you also talk about both the challenges and the oppor-

tunities for Canadian companies. You have said those that invest in achieving net zero will be rewarded and those that remain part of the problem will be punished.

Can you talk about both sides of the ledger and unpack it for us?

Mr. Mark Carney: Thank you for the question.

I think the first step is to recognize that the scale of the risk involved with climate change is real. It needs to be addressed, and I commend the government for recognizing both aspects of that.

Second, it is being clear how it is going to be addressed and the speed with which it will be addressed—and not just net zero by 2050, which is the minimum required to stabilize the climate. Very importantly, it has interim targets and those interim targets are backed up by real policies, such as a price on carbon, and the measures implemented in the budget and many others.

The point is that what's begun to happen and is happening is that companies, entrepreneurs and individuals are responding. Some of them are represented here today. Think of the innovation that Mr. Choi just spoke of, with his company coming up with solutions that address the problem. Those solutions have value. Those solutions are valuable. They are helping us, in Mr. Choi's case for example, to have real-time monitoring of emissions, such as methane, across the world. This means investments can be made, verified and tracked over time so that we get these types of emissions reductions.

There are a number of other examples. Mr. Bonapace has spoken about the building industry and the opportunities in artificial intelligence and machine learning. There are many Canadian companies, many of which are centred in Quebec, in fact, in the artificial intelligence cluster there, that had that HVAC optimization expertise. That's another example.

I'll finish with this, Madam Chair. As we move forward into a hydrogen economy, we think about very crucial technologies—and it's surprising we haven't really addressed them today—around carbon capture, storage and direct air capture. These are essential technologies for Canadian energy and for Canadian jobs. We absolutely need these technologies to work in order to have the transition that Canadians deserve.

• (1230)

Mr. Ali Ehsassi: Thank you.

The Chair: Thank you very much.

We will now go into our third round. Our first five-minute round goes to MP Poilievre.

Hon. Pierre Poilievre: I just want to make sure that we're not dealing with more hypocritical window dressing here.

Mr. Carney, it wouldn't cost your shareholders for you to recognize the Chinese genocide of the Uighur people, because you're planning to move a third of your company's half-trillion-dollar portfolio to that country, but it would be the right thing to do and it would be a courageous thing to do.

Mr. Mark Carney: [*Inaudible—Editor*]

Hon. Pierre Poilievre: So, yes or no—don't interrupt my question. I haven't asked it yet.

Will you recognize, on behalf of your company, the genocide perpetrated by China against the Uighur people? Yes or no?

Mr. Ali Ehsassi: Madam Chair, I have a point of order.

The Chair: One moment, I'll stop the clock.

Yes, Mr. Ehsassi. What is your point of order?

Mr. Ali Ehsassi: Madam Chair, as the member is fully aware, questions have to be not be repetitive, first of all. Second, they have to be relevant to the study before this committee.

Hon. Pierre Poilievre: Is genocide not relevant? First lobbying rules were not relevant; now it's genocide that's not relevant.

The Chair: Mr. Poilievre, I am trying to hear the point of order. Can you please hold on one moment?

Mr. Ehsassi, you have the floor.

Mr. Ali Ehsassi: All of the members are fully aware that the topic of the study before us today is economic recovery, yet the member continues to ask repetitive questions that have nothing to do with the economic recovery that Canadians are looking forward to. I would please ask the member to refrain from continuing to ask questions that really do not fall within the ambit of today's study.

Mrs. Shannon Stubbs: I have a point of order, Madam Chair.

The Chair: Yes, Madam Stubbs? I'm about to rule on this point of order.

Mrs. Shannon Stubbs: Great.

The Chair: Is it with relation to this point of order?

Mrs. Shannon Stubbs: It is.

The Chair: Go ahead.

Mrs. Shannon Stubbs: The name of the motion for the study says “supporting industries in their transition to greener and more sustainable practices,” and it talks about innovation initiatives. That's exactly the kind of thing that Brookfield Assets is invested in. It's exactly the reason Mr. Carney is here to address the committee.

MP Poilievre is clearly asking questions related to Brookfield Asset Management, which has investments in this exact area and which is the topic of this study. Where Brookfield Asset Management is invested is quite clearly relevant. In addition, it seems to me that an accepted practice in committee is that witnesses don't necessarily determine the topic or the question they want to answer. Since you have said yourself that the time belongs to the member of Parliament, I think the member of Parliament should be allowed to use his time accordingly and the witness should be compelled to answer his questions.

Thanks, Chair.

The Chair: Thank you very much for your point.

I see MP Masse. Is it on the same point of order?

Go ahead.

Mr. Brian Masse: Yes. I'll be very quick, Madam Chair.

Our most recent trade agreement with the United States, which has been upheld by the Deputy Prime Minister as being a template for future agreements, includes labour and environmental provisions. That's with the United States.

As awkward as they are, I think some of these questions are relevant. It would be nice to give the witnesses a little bit of extra space to be able to answer, but it's my opinion that these questions are relevant. The parliamentary secretary's objections to these are neither warranted nor fair, because as has been upheld by his own Deputy Prime Minister, labour and environmental rights are important parts of trade agreements— unless they don't believe that.

That's the reality of what we actually passed and what is in front of us.

The Chair: Thank you very much.

I think we have Mr. Erskine-Smith on the same point of order.

• (1235)

Mr. Nathaniel Erskine-Smith (Beaches—East York, Lib.): I'll be brief, Madam Chair.

My recollection is that the witness did acknowledge human rights concerns and violations. He recognized that they did not want to see supply chains that were affected by those human rights concerns.

The specific question in relation to whether this meets the international definition of genocide.... We have weighed in by way of debate in our own House of Commons. I don't see how that particular question is relevant for this witness in the course of this hearing. If he chooses to answer, it so be it. If he has a view of it, so be it.

We all, as members of Parliament and having recently debated it, have a view of it. I don't entirely see the relevance for the purpose of this hearing.

The Chair: Thank you very much.

I would like to be able to rule on this.

MP Ehsassi.

Mr. Ali Ehsassi: I think if anyone does look at the record, Madam Chair, first of all, the questions that the member has asked are repetitive.

Secondly, to echo the sentiments by Mr. Erskine-Smith, if we're getting into questions of the Ethics Commissioner and human rights, surely we can all agree that this is not relevant to the issue that is before this committee.

The Chair: Hold on for one moment, please.

I would like to rule on the point of order because we also have other witnesses here. We still have time to ask questions. I want to make sure that all the members have their chance to ask questions.

With respect to the specific question that was posed by MP Poilievre, I believe the witness has already answered it, as indicated by Mr. Erskine-Smith. I will ask that we remain on topic. You still have a few minutes left in your intervention.

The question on whether the situation is genocide is not relevant to the study at hand. However, I will ask MP Poilievre to continue—

Hon. Pierre Poilievre: I have a point of order.

The Chair: Yes, Mr. Poilievre.

Hon. Pierre Poilievre: It is relevant because the investments that Mr. Carney is bragging about in China do support the regime that is carrying out the genocide.

If we're going to have a just recovery and build back better and create solidarity, which Mr. Carney has spoken about today, then we have to know what his position is on this subject.

It is relevant and running from it is not—

The Chair: Mr. Poilievre, I have ruled. We are not studying whether this is genocide or not. We are study economic recovery.

I'm going to ask you, for the sake of the other MPs here on committee who want to have their time as well, to continue with your questions of the witness and please make sure they are relevant to the study.

Thank you.

Hon. Pierre Poilievre: Thank you very much.

They can bubble-wrap the witness all they want, but these are serious questions to which Canadians deserve answers.

I'll move on to another one because Mr. Carney refused to answer the last one.

Do you support the Prime Minister's decision to veto the northern gateway pipeline, Mr. Carney?

Mr. Mark Carney: I understand the veto of the northern gateway pipeline—

Hon. Pierre Poilievre: Do you support it?

Mr. Mark Carney: —given both environmental and commercial reasons.

Hon. Pierre Poilievre: Do you support it?

Mr. Mark Carney: I think it's sensible.

I wasn't involved in the decision, but I think it's the right decision.

Hon. Pierre Poilievre: Yet, your company has invested billions of dollars in oil companies in both Brazil and the UAE to buy pipelines. You bought billions of dollars of pipelines as a company in the last five years.

Do you support those investments?

Mr. Mark Carney: Mr. Poilievre, there is a global energy system, and one of the issues.... I'm trying to explain a bit how the economy works.

Hon. Pierre Poilievre: Thank you so much.

Mr. Mark Carney: Well, it may help.

One of the issues for this committee in thinking about a sustainable transition is—

Hon. Pierre Poilievre: Do you support it?

Mr. Mark Carney: —where Canada's role is in those as energy transitions from fossil fuels to renewables.

Different jurisdictions and different geography matter. This is a fundamental point.

Hon. Pierre Poilievre: I'm sorry, but you've exceeded the time.

Mr. Mark Carney: You're finally getting to a point that is relevant to this committee's inquiry, which is what is the transition—

Hon. Pierre Poilievre: What you're saying is that you oppose pipelines in Canada but you support them in the UAE and in Brazil. That's what you've actually said.

Mr. Mark Carney: There are specific pipelines—

Hon. Pierre Poilievre: That's your double standard.

Mr. Mark Carney: It is not a double standard.

Hon. Pierre Poilievre: It is a double standard.

Mr. Mark Carney: No, it's not.

Hon. Pierre Poilievre: You make billions of dollars off foreign pipelines and you shut them down here at home, putting our people out of work.

Mr. Mark Carney: Mr. Poilievre, I would remind you that you are a representative of the Canadian people. One of your responsibilities, including at this committee—

• (1240)

Hon. Pierre Poilievre: One of them is to fight for Canadian jobs, not foreign jobs, like you are.

Mr. Mark Carney: Exactly. It's to fight for Canadian jobs, and the types of Canadian jobs that are durable and are going to move forward.

Hon. Pierre Poilievre: Right.

Mr. Mark Carney: I grew up in Alberta. I know the innovative nature of that energy industry.

Hon. Pierre Poilievre: Well, go try to give that answer back in Alberta. I grew up there, too.

Mr. Mark Carney: I have—

Hon. Pierre Poilievre: I can tell you that the people of Alberta would be ashamed with the answer you just gave.

Mr. Mark Carney: That's not—

Hon. Pierre Poilievre: You would give billions of dollars to foreign pipelines—

The Chair: Mr. Poilievre.

Hon. Pierre Poilievre: —while not allowing Canadians to build pipelines here at home.

Mr. Mark Carney: There are pipelines—

Hon. Pierre Poilievre: That is the kind of elite hypocrisy—

[Translation]

Mr. Sébastien Lemire: I have a point of order, Madam Chair.

[English]

Mr. Mark Carney: Could I please—

Mr. Ali Ehsassi: Madam Chair, it is really unbecoming of a member to badger any witness. This is really, truly unacceptable.

The Chair: We have a point of order from Monsieur Lemire.

[*Translation*]

Go ahead, Mr. Lemire.

Mr. Sébastien Lemire: I just want to flag that the interpreters are having a very tough time. I really feel for them. We are all familiar with the already difficult remote working conditions they have to deal with.

We need to behave professionally for their sake.

The Chair: Thank you, Mr. Lemire.

I have been trying to point that out since the meeting began. We can't have two people speaking over one another, or else the interpreters cannot do their job.

[*English*]

Please, I'm asking the members.... I want you to be able to ask your question, and I want the witness to be able to answer, but please don't talk over each other, so that we can have the translation.

That being said, continue, Mr. Poilievre.

Hon. Pierre Poilievre: Thank you.

Mr. Carney, you've just said that you support your leader's decision to kill a western Canadian pipeline that ships the most ethical product in the world, yet you also support your company's decision to invest billions of dollars in foreign pipelines in Brazil and in the UAE. It's clear that this is not about the environment. If it were, you'd be consistent, and you would oppose fossil fuels everywhere, but you're happy to profit off foreign fossil fuel companies while killing jobs among our own people.

How do you address that flagrant hypocrisy? It smacks of the Davos elite at its worst.

Mr. Mark Carney: First, I support Canadian jobs. I support Canadian jobs today and tomorrow. In order to have those jobs tomorrow, what we need and what this committee can contribute is an energy transition.

Canadian fossil fuels and Canadian companies will play an essential role. Brookfield itself is heavily invested in Canada, including in energy infrastructure for fossil fuels. We collectively, as Canadians—and we look to our Parliament to support this—need to be putting in place the energies and industries of the future. That means carbon capture and storage, and that means blue hydrogen, both of which are absolutely essential for Canadian jobs and jobs in my home province of Alberta. That's where the future lies.

We need to have the overall picture, which is why—and I'll finish with this, Madam Chair—I emphasize the clear pathway, walking back from that, not jumping on specifics and not seeing the bigger picture, nor providing the support that Canadians deserve.

The Chair: Thank you very much.

Our next round goes to MP Erskine-Smith.

You have the floor for five minutes.

Mr. Nathaniel Erskine-Smith: Thanks very much, Madam Chair.

Mr. Carney, I want to start with you.

We have come a long way on climate action since 2015, including with the rising price on pollution, phasing out coal-fired electricity, methane rules, and the recent December updated climate plan. Also, in the recent budget, we see a collective \$8-billion clean-tech innovation fund, a home retrofit program and more. You've also advocated for quite a while now for greater climate disclosure, and that has a significant place in the budget.

When we look at the scale of investment required.... We've heard from Oxford's economic recovery project. They have said that Canada isn't in the top tier of countries investing in the green recovery. We're investing a lot, obviously, by way of the recent budget, but we are not in the top tier of countries around the world. You've said, I think, that you don't do it through one budget.

When we look at the scale of investment, how much more does Canada need to bring to bear towards a green transition?

Mr. Mark Carney: Thank you, Mr. Erskine-Smith.

Let me start with something Mr. Bradley said in his opening remarks, which gave a sense of the scale of what we've required in the electricity sector.

Forgive me, Mr. Bradley, but I agree on the order of magnitude of, I believe, \$1.3 trillion of investment over time. These are enormous sums. They are also consistent with taking what is a remarkable system at present, with almost 85% zero emissions across Canada and bringing it to 100% zero emissions. Then, really, it's of the order of magnitude of doubling and, by some estimates, potentially tripling that capacity over the next few decades, with electricity at the heart. It's not just energy, but home heating, transportation, many industrial processes and so on. There is a scale.

That gives one sense of the orders of magnitude of investment. For that \$1.3 trillion, what is not being asked is that the federal government is of course supplying that, nor necessarily provincial governments. There are roles to play. There are key things that both levels of government can do. We can help with inerties. We can provide incentives to accelerate, particularly on the demand side, key emerging technologies that are not just for generation but also for storage, such as hydrogen.

Mr. Bradley, rightly in my judgment, referenced small modular reactors as another opportunity. A lot of the capital, a lot of the investment, will come from the companies themselves. Some of them are publicly owned firms, but effectively, it's private sector capital that will be reinvested.

• (1245)

Mr. Nathaniel Erskine-Smith: On the \$8 billion net-zero accelerator, would you support hiving off some percentage of that for a breakthrough fund?

Mr. Mark Carney: In terms of breakthrough technologies—

Mr. Nathaniel Erskine-Smith: High risk, high reward—

Mr. Mark Carney: Yes. I know what you mean, and I would agree with it. In the interest of time, I will say yes.

Mr. Nathaniel Erskine-Smith: You've written, "Financial markets increasingly recognise that sustainable investment is the new horizon that can bring enormous opportunities ranging from transforming energy to reinventing protein."

As it relates to high risk, high reward, do you think we also need to look at alternative proteins as well?

Mr. Mark Carney: It's an enormous opportunity. Pea protein, for example, is a big and growing business opportunity for our Canadian farmers, yes.

Mr. Nathaniel Erskine-Smith: When we look at financing the additional investment we're going to need and look back at the scale of spending that we've seen even during the COVID crisis, and the disproportionate impacts of the COVID crisis on different parts of our society... You've previously written that high income inequalities are dwarfed by staggering growth inequalities. You've written recently about how the market price has increasingly become divorced from human value.

Mariana Mazzucato has written about this as well. Both of you, to my knowledge, have said that we need to move beyond GDP. She has embraced wealth taxation, though.

Would you support a move towards a greater conversation about fair taxation in this country as we—in that language—"build back better"? Would you support a greater conversation around wealth taxation?

Mr. Mark Carney: If I may, I think the first thing is to mention what we need to do. Your first line of questioning is on the orders of magnitude of the investment we need for sustainable growth and inclusive growth. Bring that in the context of our existing budgetary envelope—in other words, our existing revenue envelope—and think about how we can optimize within that, and only then, move to these broader issues.

I'm a strong believer that the best way to reduce inequalities is to grow opportunity for a broader range of Canadians. I understand why we haven't discussed it, Chair, but I'll just refer to my supporting documents around a digital strategy because I think that could play a huge role in reducing inequality.

Thank you.

The Chair: Thank you very much.

[Translation]

Go ahead, Mr. Lemire. You have two and a half minutes.

Mr. Sébastien Lemire: Thank you, Madam Chair.

My question is for Mr. Bonapace.

How can we produce more renewable energy?

We also have a representative of the Canadian Electricity Association with us, by the way.

Are artificial intelligence technologies and energy flow solutions good ways to help us achieve our goal?

Mr. Dany Bonapace: I'll keep it brief since we don't have a whole lot of time.

Despite the success I've had and the experience I've gained, developers like me who want to build renewable energy infrastructure still need support. It's a major area that is accessible to anyone with the resources to build the infrastructure.

I mentioned capital markets earlier. Anyone who is not Berkshire Hathaway is not looked upon favourably in terms of their debt repayment ability. If your power purchase agreement isn't with Amazon, it's a problem, but that rules out malls, [Technical difficulty—Editor] and other greenhouse gas producers.

We need to find ways to support developers, mechanisms like a transition bank that would obtain capital from existing banks and make it more accessible. I again want to stress the importance of a beneficial tax environment. Someone like me relies on project financing, which is basically a capital outlay by investment fund investors, and bank leveraging. Giving tax breaks to the investors, on one hand, helps developers like me, on the other.

• (1250)

Mr. Sébastien Lemire: Thank you, Mr. Bonapace.

Mr. Carney, in a former life, I was a community engagement officer, so I would talk to young people about politics. Today's example might not be the best one to use, but I would ask them this question: If you were prime minister, what would you do differently to support the green economic recovery? What would you do that the current government is not doing?

Mr. Sébastien Lemire: Thank you to the witnesses.

[English]

The Chair: Thank you very much.

Our next round goes to MP Masse for two and a half minutes.

Mr. Brian Masse: Thank you, Madam Chair.

Mr. Carney, I've had a digital bill of rights in the House of Commons for five years.

Do you support a digital bill of rights so that it's enshrined in legislation?

Mr. Mark Carney: I do, Mr. Masse.

Mr. Brian Masse: Okay, thanks. I won't get into the specifics.

I am curious about following up with regard to expenditures, and revenue coming in, but there's also debt and interest incurred on Canadians.

I would ask, from your previous roles, do you believe that rising bank charges and fees are appropriate right now, or do you believe that government needs to step in to regulate? What's your position on that? I think these are important costs to Canadians right now. Fees are going up, and also credit card rates and so forth.

Can I get your opinion on those two things, whether you think they're fair for consumers right now and whether or not there needs to be government regulation on banking fees and credit card rates?

Mr. Mark Carney: I'll make two points.

The first is that I think it is important that that be included in the responsibilities of the FCAC, the Financial Consumer Agency of Canada, in terms of financial institution conduct and fairness.

Secondly, I'd underscore the opportunity, building from your digital bill of rights and my submission to this committee, the very large opportunity from competition in financial services for Canadians. What I mean is digital competition in financial services, where we have an opportunity to build—appropriately protected by a digital bill of rights, which is why you rightly started there—or use the data that exists in our economy, to use a new central bank digital currency and the opportunities that come from that, to significantly improve competition.

That will have a direct impact, in my judgment, on those credit card fees and banking fees, all the while providing better service fees—

Mr. Brian Masse: I only have 30 seconds. I appreciate that as an ideology, but when that doesn't take place.... A good example is that in my riding I have banks that are closing their branches and so forth, and I have loan companies with high rates popping up, because nobody can cash even my government cheques.

Do you believe that there's a responsibility...and what is the breaking point for the government to intercept and to act on that? If there is not that point, I'd just appreciate knowing where that element is.

Mr. Mark Carney: I wholeheartedly disagree with your point that this is an ideology.

This is a major opportunity for Canadians. It's why I raised it in my opening remarks. I recommend that this committee, the government and Parliament take this seriously and seize this opportunity for Canadians, because this is how we'll have inclusive finance, better—

• (1255)

Mr. Brian Masse: I tried to ask a sincere question about a position on this, and I don't want to be belligerent—

The Chair: MP Massey, my apologies. You're really over time.

Mr. Brian Masse: Thank you, Madam Chair.

The Chair: Thank you.

We only have two more groups of questions left. I know we're getting tight on time, so I'll ask everyone to please respect the clock.

MP Poilievre, you have the floor for five minutes.

Hon. Pierre Poilievre: Is there anything that you can point to that you think the current federal government is doing wrong, as an example?

Mr. Mark Carney: I think in my opening comments.... I would say that I would reinforce the measures that were proposed in Bill C-12. In the interest of your time, I won't go into further detail on that, but it is one example that's directly relevant to this.

Secondly—

Hon. Pierre Poilievre: You can't think of anything that they've done wrong? It's just a very short question.

Mr. Mark Carney: I'm giving an answer, if I may.

The second thing I would recommend for the government and Parliament to do, for the investment tax credits, which rightly, in my understanding of the budget, address carbon capture and storage and green hydrogen, is expand the application of them to at least all technologies under section 43.1 of the tax code. I would review that basket and expand it.

It thus depends on your definition of “wrong”. I think more can be done.

Hon. Pierre Poilievre: May I ask you a question about your windmills? You boasted a lot about the windmills that Brookfield has. How many birds have those windmills killed?

Mr. Mark Carney: I have no idea.

Hon. Pierre Poilievre: Conservation groups in the United States estimate that by 2030 windmills will be killing more than 1.4 million birds and that in 2012 they killed over half a million birds.

Does that bother you at all, or do you think this is just the price of doing business and turning over a profit to your shareholders?

Mr. Mark Carney: One thing, Mr. Poilievre, is that, perhaps unlike you, I accept that climate change is real, and I'm aware that over the course of my lifetime and your lifetime, 70% of the mammal species on earth have been reduced. We're talking about the sixth mass extinction, and the issue to address it requires renewable energy.

Hon. Pierre Poilievre: We're investing more in foreign oil, as you're doing, and profiting from the biggest-emitting country in the world, in China. Thank you for your lecture on all of that, but it's been pretty clear through your testimony today, if I may say so, that whether it's in your refusal to commit to turning down these massive and unjustifiable subsidies in Ontario that have driven people into poverty and people to the food bank; whether it's in your refusal to recognize the genocide in China against the Uighurs for fear that you would lose out on business in that country; whether it's in your false statement that your company is net zero when it's not net zero; or whether it is in your decision to continue profiting from foreign petroleum investments in the Middle East and Latin America while opposing our energy workers here at home, your talk is really more hypocritical window-dressing than it is actually environmental, social, and governance-based.

When we see people who come here with their big salaries and lecture working class people about why they should pay more for energy and have fewer jobs in the resource sector, while you are protected and your company makes a fortune from it, can you understand why people are just a little bit suspicious of the motives?

Mr. Mark Carney: Mr. Poilievre, I have limited time to correct all of the falsehoods in the premise of that statement, but let me go through some. First, I was clear about the contribution of Brookfield, which is absolutely enormous, to renewable energy, including in this country.

Hon. Pierre Poilievre: Is it net zero?

Mr. Mark Carney: As I said, it is the only major asset managed in the past at net zero.

Hon. Pierre Poilievre: Is it net zero now, as you said?

Mr. Mark Carney: If I may continue, since you had a long—

Hon. Pierre Poilievre: You claimed it was net zero.

The Chair: Mr. Poilievre, will you please let...?

Thank you.

Mr. Mark Carney: The commitment to ethically sourcing and vendor management... I am absolutely committed to first recognizing that there's an energy transition; second, recognizing that by doing so we can create huge job opportunities across the energy sector; third, that it isn't just going to happen. If we bicker and fight and debate but don't move to actual policies and actual measures, we are not going to get Canadians the jobs and the futures they deserve, we are not going to preserve our natural heritage, we are not going to address climate change, we are not going to have a stronger and more inclusive economy.

I came here with a series of proposals. You have asked nothing about any of those proposals. You've betrayed no interest in any of the issues that will actually create a more sustainable future for other Canadians. You've betrayed no interest in any of the comments of the experts and the entrepreneurs who came to this committee. We need more focus on solutions, Mr. Poilievre.

• (1300)

The Chair: Thank you very much.

Unfortunately, that's the end of MP Poilievre's time.

We now go to MP Jaczek for the last round.

You have five minutes.

Ms. Helena Jaczek (Markham—Stouffville, Lib.): Thank you very much, Madam Chair.

I do want to thank all of the witnesses for your very interesting testimony. I wish we had more time to get into some of your suggestions.

Our committee is charged with making concrete recommendations for the economic recovery post-COVID-19. We've been focusing very much on the green economy.

Turning first to Mr. Carney, in terms of your international experience, as UN special envoy and so on, are there any areas, other than perhaps the financial investment that both you and Mr. Bradley

have referenced is needed, that you think Canada is missing in terms of initiatives and that we haven't addressed here today, perhaps?

Could you give us some opinion based on your international experience and knowledge.

Mr. Mark Carney: I recognize that time is short, so thank you for the question.

Apart from the financial initiatives, in other words, the ones for the financial sector, which I'll take as read, I would emphasize the advantages of the following. We have not talked about building codes; they are not directly in your responsibility, but it is advantageous to be working with others for building codes. Here I'll refer to Mr. Bonapace's comments at the outset and the importance of pulling those through and pulling demand through on that. I'll emphasize as well the possibility of contractor differences within the hydrogen sector and the importance of developing those technologies as well.

I'll also refer quickly to my comments moments ago about investment tax credits, expanding the universe for that and actually having a dynamic contribution, let's call it, to section 43.1, which I think you know what I mean. The one thing we know is that people, such as those represented here—not myself but the entrepreneurs here—will come up with new ideas and new technologies and so we need a dynamic way to provide a level playing field for support for those technologies.

My last point is that I recognize that electricity is a provincial responsibility, but I do underscore, as Mr. Bradley said at the outset, just how central it is to our transition. We need to recognize that; we need to do everything we can to support what's required.

Ms. Helena Jaczek: Do you have any suggestions as to what we should avoid doing in the recovery, again based perhaps on other countries' experiences?

Mr. Mark Carney: I think the biggest thing to avoid is any stop-start policies. It is incredibly valuable to build a track record, to make it clear which technology paths, which energy paths, and which policy paths are going to be used. I will be very clear that I think the move that has been made on the carbon price and providing the prospect of having it legislated to 2030 is one of the most powerful incentives globally to provide support for investment and to encourage investment. Its power will grow with time. In addition, of course, the social aspect is being addressed through the rebates to Canadians.

Ms. Helena Jaczek: You've referenced, as an example, carbon capture, but we didn't talk much about that. I'd like to give you an opportunity, perhaps, to elaborate on your thoughts there.

Mr. Mark Carney: I would just underscore that carbon capture is important for several reasons. First, we've talked a bit about, if I can call it, "conventional" energy, oil and gas, in Canada. We will maximize the lifespan of that energy with carbon capture and storage. That's the first point.

Second, if we create the opportunity for a blue hydrogen industry, which can use our fossil fuel resources, natural gas and much of our existing energy infrastructure, pipelines and others, we need carbon capture and storage for that.

Third, we need it for many of our industrial processes.

Fourth, we have much of the expertise. We have the geology that can support it and we also have entrepreneurial companies in direct air capture. I think there are measures that are being taken in that regard. We need to make sure they're adequate. There are good, I understand, test examples out there, real projects that are out there. There's a new project that's being proposed by ATCO and Suncor on the hydrogen side, and I think that will show whether we have the adequate support in place to help build this industry, which will be essential.

• (1305)

Ms. Helena Jaczek: Finally....

Oh dear. If I could quickly ask, Madam Chair...?

The Chair: Be very quick—10 seconds.

Ms. Helena Jaczek: For small and medium-sized enterprises, would credit incentives be probably the most important to get them on board?

Mr. Mark Carney: That's provided they're refundable, yes.

Ms. Helena Jaczek: Thank you.

The Chair: Thank you very much.

That finishes our last round. I want to thank everyone for their time today and for going over a little bit on the time.

[*Translation*]

Thank you to the witnesses for their input, which will play a very important role in our study.

[*English*]

Your testimony will help us in drafting our report on the economic recovery from COVID-19. I want to thank you again for being with us today.

I'd like to thank the interpreters.

[*Translation*]

I know today's discussion was heated at times, so thank you for your hard work.

[*English*]

Thank you again, everyone, for being here.

With that, I call the meeting adjourned.

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