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## Chair

**Mr. James Bezan**

# Standing Committee on Environment and Sustainable Development

**Thursday, November 26, 2009**

● (1110)

[*English*]

**The Chair (Mr. James Bezan (Selkirk—Interlake, CPC)):** I'll call this meeting to order.

We'll continue with our study of Bill C-311. This is meeting 40.

Joining us today is Dr. Yazid Dissou, who is an associate professor in department of economics here at the University of Ottawa. Coming all the way from the University of Alberta is André Plourde, who is a professor in the department of economics.

I welcome both of you gentlemen.

A point of order.

**Mr. Nathan Cullen (Skeena—Bulkley Valley, NDP):** I'm wondering if the clerk can report back to committee on a motion that was passed by the committee inviting the minister to come before it. I'm not sure if we received an official response. Maybe the Parliamentary Secretary knows.

**The Chair:** I don't believe we have an official response yet.

Go ahead, Mr. Warawa.

**Mr. Mark Warawa (Langley, CPC):** Thank you for that.

I passed on the request from committee. The minister is looking at his schedule. He is quite busy, but he's looking to see if there's any opportunity to move things around so he can come.

**The Chair:** An official request from committee was sent to the minister earlier this week.

With that, we'll go to our opening comments.

Dr. Dissou, you have the floor.

**Prof. Yazid Dissou (Associate Professor, Department of Economics, University of Ottawa, As an Individual):** *Bonjour.* Thank you for inviting me before the committee.

I will make my presentation in French, and I can take questions in both official languages.

[*Translation*]

First let me introduce myself quickly.

I am currently a professor in the Department of Economics at the University of Ottawa. I've been interested in the potential economic impact of greenhouse gas reduction policies in Canada for the past ten years or so.

My work in this area consists primarily of building numerical models to stimulate the impact of various greenhouse gas reduction strategies. My work has been published in learned economic journals. It is probably because of my involvement in this line of research that I have been asked to speak to you today. I will therefore do my best to answer your questions about the economic impact of greenhouse gas reduction policies.

Climate change is real, and its effects will be felt more and more each day. No one can credibly deny its existence. Many scientific studies are now focused on proving that this change is anthropogenic, that is, that climate change is to some extent caused by our production methods and consumer habits. These same scientific studies note the need to take adequate measures to reduce the accumulation of these gases in the atmosphere.

While there is agreement on the need to reduce these gases, there is disagreement on what should be done and how fast it should be done. However, most studies seem to agree on the need to take appropriate measures to safeguard the future while protecting the present. Reducing greenhouse gases should take present generations into consideration as much as possible.

In this context, disagreement likely lies over striking a balance between the sacrifices required today and the long-term benefits of change. It must be made clear that the fight against climate change cannot be waged without sacrifices in the short term. This fight will involve tough choices, albeit in the short term. A solid understanding of the repercussions by all actors can only strengthen everyone's determination to stay the course.

Indeed, it is to minimize the cost impact of these choices that economists are involved. It is difficult to say what the economic cost of reducing greenhouse gases in Canada will be. It depends on many factors. Beyond the difficulty in accurately predicting human behaviour, the economic impacts of greenhouse gas sequestration policies depend not only on the amount to be reduced but also on the policy instruments employed and the measures taken by other countries with which we have economic ties.

For now, I don't have any formal results from an analysis of the various policies suggested in the current bill that I can share with you. However, I can briefly go over some of the major findings in the literature on the potential economic impacts of greenhouse gas reduction policies.

The use of market instruments, such as the carbon tax and tradable permits, can allow us to achieve our goal at the lowest cost. Unlike "command and control" policy instruments such as technical requirements, market-based instruments aim to reduce greenhouse gases through market signals, placing tariffs on emissions. This ensures that reductions in greenhouse gases are accomplished by those who realize them at the lowest cost.

The possibility of trading permits among various jurisdictions ensures that reductions in greenhouse gases will be done at the lowest possible cost. While the findings of many studies suggest that the total economic cost reductions in greenhouse gases is relatively low—impact on the GDP, for example—many studies also point to the significant heterogeneity of costs across sectors and regions. Energy intensive industries will likely be most affected by greenhouse gas reduction policies. It follows that regions with a high concentration of these industries will be affected the most. However, some studies show that in a permit-trading system an appropriate allocation of emission permits can weaken the heterogeneity seen in terms of sectoral impact.

● (1115)

Of course, these studies also point to the increase in the economic cost tied to implementing these mitigation measures. Economic literature also suggests that greenhouse gas reduction policies can affect the external competitiveness of energy intensive industries. The size of the negative impact depends on whether similar measures were introduced by foreign economic partners. Again, many research findings suggest that the negative impact of competitiveness can be mitigated through equality, that is, a fair allocation of tradable permits.

Finally, I must point out that in the long term the ultimate solution to climate change lies in technological progress. Fortunately, the use of market-based instruments will send the necessary signals to economic actors to develop the appropriate new technologies. However, the inability of the market to reward businesses for their research and development efforts may require, if only in the short term, the use of subsidies to encourage innovation.

Thank you for your attention.

[*English*]

**The Chair:** Thank you, Professor.

Dr. Plourde, please.

**Prof. André Plourde (Professor, Department of Economics, University of Alberta, As an Individual):** Thank you.

There is a typo in my presentation, so in true form, I'll have to point it out.

[*Translation*]

Thank you, Mr. Chairman and honourable members of the committee. I want to thank you for this invitation which will allow me to speak to you today. If I may, I will continue my presentation in English. However, I will be happy to answer your questions in the official language of your choice.

[*English*]

The experience of the last dozen years or so should make it abundantly clear that the policy challenges posed by climate change are complex and have no quick and easy solution. With this in mind, I would argue that this bill represents an important step in articulating how Canada intends to approach these challenges in the post-Kyoto period.

I would like to draw your attention to four aspects of the proposed legislation that I see as particularly interesting. First, by specifying explicit emissions reductions commitments for 2020 and 2050, and by setting up a process to devise and update a series of five-year targets, the proposed legislation would reduce uncertainty about future policy directions. This in turn would lead to a more certain investment climate, thus allowing emitters better to plan both the turnover of the existing stock of physical capital and its expansion. There are clear benefits to such an approach, especially since much of this physical capital stock is long-lived.

Issues that arise in this context, however, are whether the emissions reductions identified are credible, in the sense of likely to be achieved, and whether Canada is indeed prepared to act sufficiently boldly and, as this proposed legislation would indicate, to do so irrespective of whether other major emitting countries also act. I will return to these issues later.

A second interesting aspect concerns the fact that Canada's commitments are now identified in terms of greenhouse gas emissions levels, a departure from the discourse on intensity targets of the last few years. This makes our commitments much more transparent and thus easier for Canadians to understand and assess. It also means that Canada's own objectives are now presented in a manner that is readily consistent with the way in which our obligations have been characterized in the Kyoto Protocol and seem likely to continue to be defined in the successor agreement.

Third, the explicit mention of market-based mechanisms in the list of measures that could be used to ensure that Canada meets its commitments and targets is an implicit recognition of the desirability of flexibility in response and of the associated cost implications. Indeed, one of the key benefits associated with the use of market-based mechanisms is that these leave much scope for choice by those best qualified to make that choice, the emitters themselves, as to whether or how to reduce their emissions. Overall, this flexibility will contribute to lowering costs of reducing greenhouse gas emissions by any given amount.

Although I will return to this later, allow me to mention now that it would have been useful if the proposed legislation had made explicit not only the need to track emissions reductions associated with specific measures, but also to consider the cost-effectiveness of these measures. Think of this as dollars spent per tonnes of emissions reduced.

Finally, roles and responsibilities assigned to a number of different parties mean that Canadians would have access to assessments and perspectives on policy direction and effectiveness from different sources. The minister, the National Round Table on the Environment and the Economy, and the Commissioner of the Environment and Sustainable Development have clearly identified roles with specific products that each is required to produce and to deliver within specified timeframes.

The proposed legislation also provides for these products to be public documents, and thus available for all Canadians to see and assess. However, this enhanced policy accountability framework would be meaningful only to the extent that the National Round Table and the commissioner have access to the resources, financial and other, necessary to fulfill the roles assigned to them. I also hope that the information generated by the National Round Table and the commissioner over time will influence both the determination of the revised five-year targets identified in subclause 6(2) and the choice of policy measures made by the government.

The reading of the bill also raised a number of questions in my mind. First, do Canadians appreciate the magnitude of the task underlying the emissions reduction commitments made in clause 5? For the sake of brevity, allow me to focus on the medium-term target of reducing annual emissions to a level 25% below that realized in 1990, and to achieve this by 2020. How does this compare to what Canada committed to do under the Kyoto Protocol?

● (1120)

As we all know, in 1997 Canada undertook to reduce annual emissions to 6% below 1990 levels, to be achieved, on average, between 2008 and 2012. This meant a cut of about 36 megatonnes in greenhouse gas emissions over a period of about 11 years. As we now know, we won't get there.

By 2007, Canada's emissions had risen by about 155 megatonnes and thus stood at about 125% of 1990 levels. The proposed legislation would thus require a cut of about 40% of 2007 emission levels by 2020. That's what's needed to reach the medium-term target identified in paragraph 5(b).

To simplify, let's say that emissions in 2009 are equal to those in 2007. The proposed legislation would again require a 40% reduction in annual emissions to be attained over a period of about 11 years. In other words, in every year between 2010 and 2020, Canada would need, on average, to reduce emissions by 75% of the total amount of reductions that we had agreed to deliver under the Kyoto Protocol, reductions that we will fail to deliver by a wide margin.

So the question arises, are the commitments identified in clause 5 credible, in the sense, again, of being likely to be achieved? Will it prove possible to build a consensus among Canadians from coast to coast to coast to deliver the level of effort necessary to honour these commitments?

As noted earlier, there are in the proposed legislation few, if any, references to the issue of cost, either in terms of the cost of meeting emissions reduction targets, or the role of costs in determining these targets, or to the costs of different policy measures aimed at reducing emissions.

From an economics perspective, it can be argued that whatever targets are identified, the policy measures chosen should allow these targets to be met at the lowest possible cost. As noted earlier, the explicit mention of market-based mechanisms in subclause 10(1) gives reason to hope that cost concerns are implicit in the proposed legislation.

To the extent, however, that the application of such measures gives rise to side effects that are deemed undesirable, such as the imposition of unacceptably large burdens on low-income households, for example, then different policy measures should be directed at addressing these effects. In other words, design the market-based mechanisms to address the issue of emissions reductions and then, if necessary, direct other policy measures at any resulting undesirable effects.

One of the factors that arguably made it difficult to move forward with Canada's commitments under the Kyoto Protocol was a concern about potential competitiveness effects. In terms of climate policy, it was argued, Canada could not get too far ahead of its main trading partners for fear of the negative international competitiveness effects that a more aggressive Canadian approach could have on domestic producers of goods and services.

Whatever one might think of the merits of this type of argument, it is unlikely to disappear as we move forward. This highlights the importance, from a domestic policy perspective, of the need for successful international negotiations on a successor to the Kyoto Protocol, the provisions of which would have to be broadly consistent with the Canadian commitments identified in the proposed legislation.

Given the discussions and debates of the last dozen years, it should also be clear that Canadian climate policy should be closely aligned with that adopted by the United States, by far and away our largest trading partner. The desirability, from Canada's perspective, of a coordinated, if not integrated North American approach to climate policy, is not explicitly recognized in the proposed legislation. I do recognize, however, that it has been a thrust of the overall Government of Canada policy discourse in this area.

As noted earlier, policy clarity and credibility are necessary to reduce investment uncertainty. The proposed legislation identified explicit commitments in terms of Canadian emissions reductions and does so without reference to actions undertaken by other countries, including our main trading partners.

● (1125)

To avoid some of the problems that have characterized the period since the Kyoto Protocol was signed, let us hope that the ongoing international negotiations are successful, that their outcome is consistent with the commitments incorporated in the proposed legislation, and that the provisions of the latter prove closely aligned with the policy approach eventually adopted by the United States.

One could interpret the reference to a "just transition fund for industry" in subparagraph 10(1)(a)(iii) as expressing a willingness to address, among others, potential negative competitiveness effects that would be associated with measures implemented under this legislation. But I'm clearly reading between the lines here since the proposed legislation contains no description of this fund, nor does it identify its objectives, governance structure, or anything else for that matter.

Paragraph 7(1)(b) identifies a possible approach for allocating emissions reductions among provinces, which uses the Canada-wide commitments in clause 5 as the basis for provincial allocations. It's not clear to me what implications the statement in paragraph 7(1)(b) can have, since some of the provinces—Alberta, for example—have already acted on the basis that the regulation of greenhouse gas emissions within the boundaries of individual provinces is a matter of provincial jurisdiction. Within this context, it is difficult to see how the federal government could enforce the proposed approach to the allocation of emissions reductions across provinces. In the end, I suspect that even if this proposed legislation were to be adopted, the provincial allocation of Canada's emissions reductions and more generally the issue of compatibility between federal and provincial climate policy will remain issues of active concern in federal, provincial, and territorial relations.

As one final comment, paragraph 10(1)(b) and subparagraph 13(1)(b)(i) both mention the need to identify the emissions reductions that are expected to result from each of the measures adopted. It should be clear that this is not a simple accounting procedure since the effects of individual measures are not easily separable. Take the hypothetical case of the joint implementation of tradeable permits and mandated technology standards. It is quite possible that the reaction of some emitters to the introduction of tradeable permits would include adopting a technology consistent with the mandated standard. Full credit for the reductions cannot be assigned to both measures. Rather, the joint effects in terms of emissions reductions must be determined and then, if necessary, allocated across the two measures. More generally, interactions among measures aimed at emissions reductions will guarantee that the whole is less than the sum of its separately considered parts. Interactions of this kind must be taken into consideration when making projections of the potential effects of individual policy measures and assessments of their actual effectiveness.

Thank you very much for your attention, and again, apologies for the typo. I will be happy to answer your questions in the official language of your choice.

● (1130)

**The Chair:** Just so we have the exact typo, is it where you said 40% rather than 60%?

**Prof. André Plourde:** Yes.

**The Chair:** Very good. Thank you.

We'll go to our seven-minute round.

Mr. McGuinty, please lead us off.

**Mr. David McGuinty (Ottawa South, Lib.):** Thank you very much, Mr. Chair. Thank you very much, professors, for being here today.

I'm going to ask the same question with which I begin every round of expert testimony questioning: have you in your possession, or have you seen a plan, a copy of a plan from the Government of Canada today, a domestic climate change plan? Have you seen one? If you have one, can you share it with us?

**Prof. André Plourde:** I haven't seen a detailed plan in terms of measures. Objectives have been identified, but in terms of specific measures, no.

**Prof. Yazid Dissou:** I have the same answer. I haven't seen anything. I do know that they are targeting an emission intensity objective, but I haven't seen any detailed plan about achieving a reduction in greenhouse gas emissions.

**Mr. David McGuinty:** Thank you very much.

Professor Plourde, I want to commend you on your brief. This is probably the tightest, most circumscribed, most logical brief I've seen in this committee in years. So thank you very much for your effort in reducing it in writing and for being as comprehensive as you could be in the short time you have.

I want to ask you, if I could, Professor Plourde, about your explicit mention of market-based mechanisms.

For four years now, the government has rejected the use of international credits. They conveniently seem to have forgotten that the market mechanism, called tradeable permits, was one that was developed under the U.S. Clean Air Act. It led to significant reductions in the cost of reducing smog-causing chemicals. Instead, they really backed themselves into a corner by always picking and rolling and coming back to comments like "It's about buying hot air" and "It's about transferring wealth". You know, the Prime Minister said it was a socialist plot.

The United States experts came and told us this week that the United States, and its 1,248-page bill in the Senate today, is going to be using and depending on international credits. It will be using that market mechanism to help reduce American GHGs under their targets, which will, of course, have all the concomitant benefits of their investing in emerging economies, developing countries, and so on. That was the original thinking behind the Kyoto Protocol's embracing of the market mechanism. There isn't a single Kyoto Protocol country that's achieved its targets without using international credits.

Can you help, maybe, the government understand why it's important to get out of that corner and to understand that in Copenhagen, which begins only eight or nine days from now, the Government of Canada has to be speaking about the use of international credits and not just about domestic offsets? You say in your brief that we must be linked to a certain extent with our trading partner, the United States. In simple economic terms, can you help the government and viewers who are watching understand why we need to use international credits to achieve our reductions?

● (1135)

**Prof. André Plourde:** I think there are two parts to the answer.

The first one, as Professor Dissou mentioned, is that essentially, the broader the pool of potential emissions you're considering with a measure, the lower the cost of addressing the measure. Essentially, if you think of it this way—let's not talk about distributional issues but just about the cost of action—in identifying where the cheapest emissions reductions would be, then the bigger the area you're looking over, the more you'll find cheaper emissions. Fundamentally, that's the attraction. From a Canadian perspective, province-by-province legislation or an approach that's province by province or territory by territory doesn't make a lot of sense. It's the same type of argument with respect to going over international boundaries. If there are cheaper emissions reductions somewhere that you can get credit for, or at least partial credit for, so much the better for the effort.

The difference, however, is in the transfer of wealth. As you buy a credit from somewhere else, you're essentially transferring some of your purchasing power to that other jurisdiction, if you want, or to people in that other jurisdiction. So it creates a trade-off.

**Mr. David McGuinty:** We would be receiving those investments as well.

**Prof. André Plourde:** Well, it's not clear that we'd receive the investments. We'd receive the credits.

**Mr. David McGuinty:** I mean, other actors in the world would be buying potential credits here in Canada and bringing wealth into Canada, correct?

**Prof. André Plourde:** It's not as clear. Are we a net buyer or a net seller of emissions reductions?

**Mr. David McGuinty:** Well, that depends on whether we have a plan, Professor. Right? I mean, we need a plan first.

**Prof. André Plourde:** It depends on how costly we are in reducing emissions.

**Mr. David McGuinty:** Okay.

Professor, I want to ask you another question.

We had the expert here this week, one of the top economists from the World Resources Institute, who said that this government's claim that its use of intensity targets would be connectable—or fungible, using the economic term—with the American absolute targets in a trading system would be impossible to achieve.

Can you help us understand whether we can connect an intensity-based set of targets with an absolute-based set?

**Prof. André Plourde:** You can connect an intensity approach to a level approach if you agree on end points.

**Mr. David McGuinty:** How would we design that trading system?

**Prof. André Plourde:** You back out what the levels would be. You have to have a level approach. You have to figure out what the level of emissions is going to be. But the target can be specified any way you want, as long as you agree on an end point. Then you can back out from there. The levels consistent with the intensity target would be derived from a baseline assumption and that kind of stuff.

**Mr. David McGuinty:** Professor, we talked about international credits. If we are trying to achieve even the government's targets in Canada, what would the effect be on the price of carbon? The economists speak about the carbon market being either liquid or illiquid. I'm told that if we try to achieve even the government's weak targets domestically, the price of carbon would soar because the market would be so small and so illiquid that it would have a negative effect on the competitiveness of Canadian companies that export to the U.S.

**Prof. André Plourde:** A Canadian market is probably a good first step, but we need to think of a broader market. Considered with the U.S., Canada's emissions are roughly 2% of the world's, give or take a fraction. This is a relatively small part of the action in greenhouse gas emissions reductions. To find where those cheap emissions possibilities are, you want a bigger market. That's why in other places I've advocated a North American approach, in part to deal with those issues.

● (1140)

**The Chair:** Thank you. Your time has expired.

*Monsieur Bigras, s'il vous plaît.*

[*Translation*]

**Mr. Bernard Bigras (Rosemont—La Petite-Patrie, BQ):** Thank you very much, Mr. Chairman.

I have many questions for you this morning. I will try to keep it short.

First of all, I am a bit surprised by what you said on page 2. You spoke to us about the costs associated with greenhouse gas emission reductions, but very little about the costs associated with an increase in these emissions. I would like to give you the following simple statistic as an example. In Quebec, we have seen the trade deficit increase considerably over the last few years, partly because of the energy sector. An increase in $1 in the price of a barrel of oil represents, in terms of debt, for Quebec's trade balance, $160 million per year. That means that there are costs associated with the status quo and the maintenance of our dependence on oil.

Moreover, Mr. Plourde, I was rather surprised to hear you say that a province-by-province approach should not be favoured. Yet the Europeans decided to negotiate an agreement targeting an 8% greenhouse gas reduction in 1997. In a common and differentiated way, they distributed the various targets associated with the carbon exchange among the 15 member countries of the European Union. This was based on absolute targets and not on intensity targets. They used strong market-based tools that they had at their disposal and hopefully they are on track to get closer to the Kyoto Protocol objectives. They are doing much better than Canada.

Given the fact that natural resources come under provincial jurisdiction and that the provinces' energy policies differ from Alberta's, for example Quebec would not have the same policy as Alberta, where you come from—how can we not move toward a common and differentiated approach, as well as a threefold model, such as Europe has done?

**Prof. André Plourde:** If I was not clear, I am sorry, especially since this is exactly the kind of situation I have in mind. It seems to me that based on certain established conventions, including rulings by the Supreme Court of Canada, the Canadian Parliament has the responsibility to negotiate and implement international treaties. However, when the application or the implementation of these treaties involves the provinces, the federal government cannot interfere in provincial processes, except under very specific provisions of the Canadian Constitution. Consequently, from that point of view, we need approaches or tools which have been established by the provinces.

I would like to clarify two points. First, if Canada is to respect its international commitments, all of these plans must deliver the goods. Second, regarding the benefits of the European plan which you mentioned, if we are to trade permits between countries, we will have to maintain that kind of system within the framework of Canadian policy.

If you understood that I thought we should have a national Canadian policy, I apologize. We must, however, integrate provincial and territorial policies. Further, if we choose a system of tradable permits, we cannot erect barriers which will prevent these permits from being traded between provinces.

**Mr. Bernard Bigras:** A couple of years ago, our parliamentary committee heard from Mr. Luc Bertrand, who more or less was the man behind the Montreal climate exchange. About 10 years ago, an agreement was signed to separate the two exchanges, with Montreal trading in derivative products and Toronto trading in stocks. At the time, Mr. Bertrand told us that the system put in place by the government, which was based on intensity targets, would help create a North American carbon market, but it is clear that this would make the application mechanisms much more complex.

Unless I am mistaken, the European model has about six stock platforms. In the United States, President Obama seems to be more in support of a cap-and-trade system. Would it not be in our interest to ensure that the systems are compatible, so that the future carbon market, which Canada now belongs to, works more to our advantage and is more efficient?

● (1145)

**Prof. André Plourde:** Indeed, the transaction costs would be much lower if we had compatible systems. However, because we have a system of tradable permits, we will have to decide at some point how many permits we will issue, even if we have intensity targets. One way or another, if we opt for a tradable permit market, and if the government decides to issue a limited number of permits, we will have a system which will be capped. If the cap is established based on complicated calculations involving intensity targets, this will obviously create uncertainty. If we begin to trade permits, we will have to decide how many permits will be allowed onto the market. So, even though this would be a complicated process, we would implicitly have decided on an emissions cap.

**Mr. Bernard Bigras:** This will be my final question, Mr. Chairman.

I remember that the federal government had tabled a plan which would have allowed certain provinces or certain companies to invest in a technology fund rather than reduce their greenhouse gas emissions. The approach was based on pricing a tonne of greenhouse gas emissions. I remember the testimony of representatives from the Pembina Institute, who said that this system would create loopholes for some companies, and might weaken a future carbon market because companies, instead of reducing their emissions, could spend money instead by investing in this technology fund. The money would go into an account which would be created a few years down the road.

Do you think that this kind of system would distort a future carbon market?

**Prof. André Plourde:** This contribution to a technology fund can be presented much more as a tax on carbon emissions. Depending on the structure and the way this fund is set up, it's a form of carbon emission tax. How this tax revenue will be spent has been determined from quite a broad standpoint. This isn't necessary as far as the effectiveness is concerned. However, it's a little more complicated to figure out what form or structure this type of tax should have.

**Mr. Bernard Bigras:** Thank you.

**The Chair:** Thank you very much, your time is up.

[*English*]

Mr. Cullen, you have the floor.

**Mr. Nathan Cullen:** Thank you, Chair.

Thank you, Professors. This is quite informative.

Professor Dissou, something we didn't hear as much about in either of your testimonies is the cost of delay. I'm sure you're well familiar with Mr. Stern's report of some years ago now, trying as best as he could at the time to understand what the cost to the global economy would be of inaction with respect to climate change. We've heard from the climate change modellers that while Canada might be contributing only 2% to the total global emissions, the effect might be more severe on a country like Canada.

Have you done any primary research or looked at any research as to what the cost would be to Canada of a potential two- to six-degree rise in global temperatures, which again, for northern climes would be a factor greater, from all of the modelling that we've heard so far?

**Prof. Yazid Dissou:** I will confess that in all of my studies I haven't considered the cost of not doing anything. It is important that we, to some extent, take into consideration that when we are not doing anything we are aggravating the situation. The Stern report that you are referring to did, as you said, compute the cost. The problem in computing these costs is there are uncertainties on the exact cost of not doing anything. But assuming that we do know that in the future there will be some costs, what are the costs of implementing the policies that we have today? There's a difficulty here in terms of balancing the cost of today, the cost that you're going to bear today, and the cost of not doing anything tomorrow.

We do know that the rising temperature will cause some damage, but in terms of our knowledge, we don't know exactly. And our knowledge is increasing. Things that we didn't know before, we know today. Even the scientific...the climatologists who designed some modern models to know what's going to happen are making some errors, because there are things that we don't know and we are discovering new things. So for somebody to say that this is the exact cost of not doing anything tomorrow is a little bit difficult.

● (1150)

**Mr. Nathan Cullen:** Thank you.

I have a question to Professor Plourde. I'm trying to understand in more of a business scheme, because I've sat with a number of heavy industry groups over the last number of years to try to understand what the impacts of these types of policies would be for them. Has there been any research done by you, or any literature that you've come across, that has looked at industries that have gone about a reduction in their greenhouse gas emissions? I'm thinking particularly of the smelting industries, the heavy users, some of which have gone ahead and done sometimes significant greenhouse gas reductions from 1997, when they thought the then government was going to impose something. In terms of productivity...and this is a question that economists struggle with all the time. Canada seems obsessed with it, in terms of increasing our productivity.

Am I wrong in saying there's any relationship between how productive an economy is and how much waste it produces through its industrial processes?

**Prof. André Plourde:** Of course, the less waste you produce the more productive you are, but that's true across all factors of production, not just one in particular. You could become more efficient, if you want, in using one factor, but at the cost of becoming less efficient in the mix of factors for that kind of thing just as quickly. I think one by one is not an easy case.

In terms of greenhouse gas emissions, it's clear that Natural Resources Canada's office of energy efficiency has been tracking, for example, what the industrial sector has been doing, but in terms of energy efficiency. So you could look through that for measures that have been put in place by industry over a fairly long period of time now. From there, you can have a look at what their emission profiles would be as a result of that.

**Mr. Nathan Cullen:** I guess this is my question. Whether it's the cost to consumers or the cost to industry, an increase in energy efficiency in a marketplace that I believe, as economists, you would imagine going up in terms of prices for primary energy.... I've seen few predictions from economists that say the price of a barrel of oil in 20 years will be much less than it is now, or a kilowatt of electricity, or natural gas. Would efficiency not then be a cost not incurred by industry or by individual Canadians if we became a more efficient economy, if our individual use of energy as citizens, but also our use as an economy, were less?

**Prof. André Plourde:** Sure. I think we would be spending less on energy, but that doesn't mean that overall we'd be more productive.

**Mr. Nathan Cullen:** Not necessarily. I'm just talking about cost. Cost is what we're actually trying to get at today.

**Prof. André Plourde:** Not necessarily lower cost, either, in part because to substitute for this energy you'd have to do something else. So now it becomes a case of whether this something else you're doing is actually “cheaper” than using the energy.

**Mr. Nathan Cullen:** So this comes to the question of certainty and flexibility, which I think you've both mentioned. I'm thinking of some of the large emitters, the large polluters in the country, that have for years pleaded with government to offer some certainty as to what they're expected to do. There is a cost to uncertainty, I would argue.

I want to get to this intensity question. I'm not yet satisfied with your answer with respect to the interchangeability between intensity and an absolute target. We've heard very consistently from Congress, from the European Union, that it becomes an apples and oranges case to say one country's intensity...because it's an after-the-fact measurement. Intensity means that less energy was used per unit of production, whichever one you want to say. You don't know the energy use to production until afterwards. An absolute cap is something that is measured upfront and in the present. I don't understand how on the Chicago or Montreal exchange a unit of greenhouse gas emissions' equivalent in Canada could be traded in an intensity framework with one that's happening in the U.S.

Professor Dissou, do you want to comment on that?

● (1155)

**Prof. Yazid Dissou:** From a technical point of view, they are not the same. I don't see how we can compare the price of emission intensity and the price of emissions per se.

For example, in one study I carried out in the past, when we cannot use a market-based instrument, how can the government design an emissions intensity to achieve this given level? On a theoretical basis, this is possible, but as far as asking firms to trade emissions intensity permits, from my perspective, it's impossible. It will be very difficult to assess who is doing what and what we are trading.

**The Chair:** Your time has expired.

Mr. Warawa, you have the floor.

**Mr. Mark Warawa:** Thank you, Mr. Chair.

I also want to thank both witnesses for being here today.

This has been very interesting. I appreciate the brief you provided, Professor Plourde.

Both of you have touched on a possible harmonized approach; a continental approach. There were some questions from Mr. Bigras about the European approach. We had EU and U.K. delegates here a week ago. I believe there are 27 countries within the EU, with the U. K. being one of them. Each country may have a different approach in their commitments, but the EU has a continental commitment.

Since President Obama was elected, Canada has been in negotiations with the United States and working on a clean energy dialogue. I'm sure both of you are aware of that. There has been a lot of progress. Canada has been negotiating and working with the provinces and territories for years. Yesterday the provincial and territorial ministers of environment met here, before the federal minister goes to Copenhagen, so we have one voice.

Canada has committed to an absolute reduction in greenhouse gas emissions of 20% from 2006 levels by 2020, and a 60% to 70% reduction by 2050. In the United States, President Obama has announced that he'll be going to Copenhagen with a 17% reduction from 2005 levels by 2020. We heard at our last meeting from witnesses that the United States has a lot of work to do before they actually see legislation on the books. So as the different countries go to Copenhagen, of course there are conditional commitments. They're conditional on what other countries are doing.

My question is on the importance of harmonization and security—the certainty that provides for investment. If Canada had a different target from that of the United States and there wasn't a continental approach, would that provide uncertainty or certainty? I believe it would provide uncertainty.

I would like each of you to comment on the importance of a continental approach, with Canada and the United States negotiating together and coming up a continental cap-and-trade system—a continental carbon market that could be traded internationally. But it would be a continental approach, as the EU has a continental approach.

Thank you.

**Prof. Yazid Dissou:** It is not necessary for the two countries to have exactly the same percentage level of reduction. For example, in the EU there is a common level for what it must achieve, but there are different targets for different countries depending on the structure of their economies. As long as there is a target that is known for each jurisdiction, the business sector will have certainty in terms of the investment they will have to make. So I don't necessarily think that having different objectives will affect uncertainty in investment decisions.

● (1200)

**Mr. Mark Warawa:** You're absolutely right that the economic conditions of different countries within the EU will determine what commitments they can make. Taking that into consideration, you're well aware of how interlinked the economies of the United States and Canada are. In the EU, economies that are similar will expect to have similar targets. Canada and the United States have similar economies.

**Prof. Yazid Dissou:** I agree with you. You are referring here to the competitiveness impact that will probably emerge because of the different targets we will have in Canada and in the U.S, for example. Assuming that we have a more aggressive target, it will probably be more costly to reduce emissions in Canada than in the U.S. I do agree with you on that perspective.

But if you're saying that having different targets in each country will lead to uncertainly about investment decisions we'll have to make, I don't necessarily believe that will happen.

**Mr. Mark Warawa:** I'm looking at the bigger picture and successfully achieving a target of 20%. This bill sets a target of 25% below 1990 levels. Our government's target and the U.S. government's target is 20% by 2020.

Professor Plourde, could you comment?

**Prof. André Plourde:** I agree with what Professor Dissou has said about setting this up. In a sense, you don't need exactly the same targets to reduce uncertainty. To reduce uncertainty you need to have a target that's credible—and you're going to get there. That will reduce uncertainty.

The issue after that is cost. Then there are the competitiveness effects across the county if, as you say, Canada and the U.S. have similar economic structures. As you know, we're more energy intensive than the U.S., for example, so how should that play itself out if we want to think of it in terms of costs across the countries?

But on uncertainty, the key thing is not whether we have an integrated policy with the U.S. or anything; it's whether we have a target that we know we're going to respect. Once that's in place, uncertainty kind of disappears from the picture. Somehow in this an implicit contract is being talked about. The next issue is about cost and competitiveness. That's when the integrated and harmonization issues are much more important.

**Mr. Mark Warawa:** Do you think it's important that we have a harmonized continental approach?

**Prof. André Plourde:** Yes, and I have said so before in committees—not in this chamber, but in others.

**Prof. Yazid Dissou:** As far as harmonization, it is necessary to have the two markets linked together in the possibility of trading emissions. We can have a different target in the U.S. than here, but as soon as we let permits move from one country to the other, that will equalize the payment price between the two countries.

I also agree with you that we need to make sure the target we are setting here does not penalize our industries too much compared to what the U.S. is doing, because most of our exports go to the U.S. To some extent we need to make sure we are not penalizing our industries too much.

**The Chair:** Thank you very much. Your time has expired.

I'm going to start our five-minute round with Mr. Scarpaleggia.

[*Translation*]

**Mr. Francis Scarpaleggia (Lac-Saint-Louis, Lib.):** Thank you, Mr. Chairman.

I'd like to get back to the question raised by Mr. Warawa, regarding what the impact on investment would be if Canadian and American targets were not similar.

Representatives of the Canadian Association of Petroleum Producers appeared before us a few weeks ago. They told us that if we adopted a 25% target but that the American target was much lower, Canadian companies would tend to buy more credits in the United States, which would in a way lead to an exodus of Canadian capital to the U.S. What do you think of that statement?

● (1205)

**Prof. Yazid Dissou:** From a strictly economic point of view, if we adopt different targets but allow an exchange of permits between the two countries, the price of the permit would necessarily have to be the same for both countries. As long as there is some fluidity between the two markets, the emission reduction will take place wherever it is least costly. From a theoretical and economic standpoint that's what will happen. However, if the targets are different in the two countries, the permit revenue will also be different, which will have repercussions on the way we could reduce emissions.

**Mr. Francis Scarpaleggia:** In other words, in order to meet Canadian targets, oil companies and other Canadian industries would have to spend two or three times more than American companies to buy the credits.

**Prof. Yazid Dissou:** I'm not sure of that. Let's suppose we adopt a target in Canada and we allow Canadian companies to buy permits that will cost less, for example in developing countries. In the final analysis, that would be significantly less expensive. As Professor Plourde said earlier, it would allow for fluidity between the two markets, which is important to minimize costs in this case.

**Mr. Francis Scarpaleggia:** But in your opinion, if the two targets were very different, wouldn't there be harmful effects in terms of investment in Canada?

**Prof. Yazid Dissou:** I would agree that if the markets were completely separate, the cost of doing business in the energy sector would be far higher in Canada. If we allow fluidity between the two markets, the cost of the permits would automatically balance out in the two countries. Therefore, the reduction in emissions will take place where it is least costly. For example, if an oil company needs to reduce emissions and buy permits, it can allow a company whose cost of reductions is lower in Canada to make this reduction and pay a premium to do so. From an economic standpoint, that is the principle we have.

Once again, I repeat that this would be possible only if we allow fluidity between the two markets, so that permits can be exchanged. As Professor Plourde said earlier, if the targets vary from one province to another in Canada, we will have to allow companies to exchange permits.

**Mr. Francis Scarpaleggia:** Professor Plourde, for the most part, it would be the provinces that will introduce their own measures to achieve their targets.

In your opinion, is it efficient that each province have its own greenhouse gas emission target? Do you think it would be preferable to determine sectoral targets nationwide? Of course, the provinces would apply their own measures to help their industries achieve their targets. I did not quite understand your position on this issue.

**Prof. André Plourde:** If permits are auctioned, there is no problem because everyone can buy them anywhere, but if policies target certain industries or sectors and those sectors are granted a certain proportion of the permits, we will have to determine the emissions level by industry and grant a certain number of permits. To answer your question, I would say that it depends on the structure of the policy mechanisms that we seek to implement. If they are mechanisms through which we establish targets for certain industries, they have to be applied across the country. If that kind of approach is not used, and if we choose a much more global perspective, it will not be necessary for industries or sectors to adopt individual targets because the distribution in the effort to reduce emissions will be done in accordance with the cost of reducing emissions from one sector to another.

● (1210)

**The Chair:** Your time is up.

[*English*]

Mr. Woodworth, you have the floor.

**Mr. Stephen Woodworth (Kitchener Centre, CPC):** Thank you, Mr. Chair, and my thanks to both of our witnesses for coming today. Your credentials are impressive, and what you've had to say has been helpful.

Professor Plourde, you've touched on some things that I think are particularly germane, so I'd like to go through a few of them with you. I will join Mr. McGuinty in saying that I thought your presentation was particularly exceptional and a breath of fresh air, if I might say, compared with some of the evidence I have listened to over the last several months.

I will begin with a comment you made about the Kyoto accord, which sets the stage for us. You said that the Kyoto targets would have meant a cut of about 36 megatonnes in greenhouse gas emissions over a period of 11 years. As we know, we won't get there. By 2007, Canada's emissions had risen by about 155 megatonnes and thus stood at about 125% of 1990 levels. In that statement you set up the crux of the problem.

You also said that the proposed legislation, Bill C-311, would require a 40% reduction in annual emissions to be attained over a period of about 11 years. In other words, in every single year between 2010 and 2020, Canada would need, on average, to reduce emissions by 75% of the total amount of reductions we agreed to deliver under the Kyoto Protocol. We will fail to deliver on this by a wide margin. Again, that sets out the crux of the problem. You end by asking whether the commitments identified in clause 5 are credible in the sense of being likely to be achieved.

I have received some information from Professor Chris Green at McGill University. No doubt there is a collegial atmosphere among economists across the country. He answered that very question for me. He began by pointing out that from 1990 to 2006 there was about a 1.1% per annum average rate of carbon intensity decline. Does that sound accurate to you?

**Prof. André Plourde:** That is probably about right. I won't question that.

**Mr. Stephen Woodworth:** He was working on a 38% cut from current levels rather than the 40% you referred to. He said that even if there were zero growth between now and 2020, Bill C-311 would require a 4.8% carbon intensity decline per annum. Does that figure equate with yours?

**Prof. André Plourde:** It depends on the measure of intensity and the assumptions you make about GDP growth. We're not going to get into a numbers game, but the notion that it requires a bigger effort than what has been delivered in the past is something that I am comfortable with.

**Mr. Stephen Woodworth:** Professor Green said that if there were a 2.2% per annum growth, the decarbonization rate would need to be increased to 7.7% per annum. One of his comments was that these are rates of decarbonization with no parallels, even in collapsing economies. That seemed to be a reasonable statement. I wonder if you are aware of any collapsing economies with decarbonization rates similar to what is being proposed in our economic analysis of Bill C-311.

**Prof. André Plourde:** The 2050 targets, for example, are in keeping with what a number of countries have suggested they are going to do. They are broadly consistent with what the U.S., Europe, and the U.K. have been talking about for some time. The issue is the transition to the longer term.

● (1215)

**Mr. Stephen Woodworth:** I understand that the targets are comparable. But Canada is behind the eight ball in having to achieve as much as a 40% reduction. I'm only asking you about the 2020 level. Has there been anywhere else in the world, to your knowledge, that has set out to achieve the same rate of reduction that Bill C-311 would require Canada to make by 2020?

**Prof. André Plourde:** I don't know of any, and that's part of the issue of credibility, but then it may be that I'm not exactly up to date on what all other countries are proposing to do. But I would be remiss not to say that I think we need to act on greenhouse gas emissions reductions in Canada. We are one of the world's most energy-intensive countries; we are one of the world's most emissions-intensive countries. We need to take this seriously. We are a developed economy; we are a rich economy. We should in some sense be leading the way in terms of decarbonization—or at least greenhouse gas emissions reductions. The two are not necessarily consistent, or not necessarily the same thing, as you know.

**Mr. Stephen Woodworth:** And of course our government—

**The Chair:** I'm sorry, Mr. Woodworth, your time has expired.

We will move on.

[*Translation*]

Mr. Ouellet, it is your turn.

**Mr. Christian Ouellet (Brome—Missisquoi, BQ):** Thank you, Mr. Chairman.

I would like to thank both of you for being here today. You have put a smile back on the faces of our friends opposite, especially Mr. Woodworth. I had not seen him smile for two or three weeks. Now he is smiling and he seems happy thanks to you. So I thank you for coming.

I would like to reiterate something Mr. Woodworth said. You see, he is smiling. So I will continue. What is at the heart of the problem? Why is Bill C-311 being proposed? Is it to determine targets or to reduce greenhouse gas emissions so as to not increase the earth's temperature by more than two degrees?

It seems to me that what is essential is not the question of targets or savings. Perhaps I am wrong. Perhaps it is to maintain the standard of living in Canada, as we have often heard. Perhaps it is to maintain the economy—you are an economist—in its current state as long as possible. Your extraordinary presentation seems to be made for our generation and not for future generations.

**Prof. André Plourde:** There are two aspects here. First of all, the problem of climate change that we are facing is global and worldwide. Whatever action Canada takes, regardless of what all other countries do, will have essentially no effect on the problem itself. Canada produces about 2% of greenhouse gas emissions. This is why we have to see this issue as an international relations problem. There needs to be an international approach where large emitters, like Canada, play a very special role.

I understand where your question is coming from, but I think that we need clear targets to enable Canada to be a player on the international scene. When all the players worldwide play together, we will have an impact on the problem. That is why targets are important. You have to look at the level of effort.

**Mr. Christian Ouellet:** I'll stop you right there because I have limited time. Yes, we are only responsible for 2% of emissions, but as you said earlier on, we have more emissions per capita than anywhere else. So it is important for us to do something about it.

You are an economist. Have you evaluated, given the 20% target Canada may set, what the consequences would be for agriculture, specifically in the west? This morning, I attended a conference where it was said that there is going to be a serious shortage of water everywhere. Water security in Canada will be vital in a few years' time. We are going to be losing our boreal forests. That is an issue of economics, Mr. Plourde. Have you done that assessment?

● (1220)

**Prof. André Plourde:** No, I have not. Again, it is a global problem. The entire world must act to prevent this outcome. It is not only up to Canada to act and to ensure that the problems experienced in Canadian agriculture from one province to the next because of a lack of water are avoided, and that we avoid the destruction of our boreal forests, that this possibility is eliminated. This has to be seen as a global problem and we must ensure that we are a significant player in the global effort.

**Mr. Christian Ouellet:** I agree. But the fact remains that a number of scientists say that it will have a local effect. Canada is so large that there will be an effect on local agriculture, specifically in the western provinces, in your province and in Saskatchewan.

**Prof. André Plourde:** Certainly, but it is not the emissions from Alberta, Saskatchewan or western Canada that will have a total impact on emissions. When we are emitting greenhouse gases, they are spread out throughout the atmosphere. It does not remain a concentration—

**Mr. Christian Ouellet:** Mr. Plourde, the rise in temperature will mean more water vapour, more humidity, which will have direct consequences here. It will not only happen in Africa or elsewhere. It will happen here, there will be local overheating.

**Prof. André Plourde:** Certainly. The impact will be local, but the cause of the problem is global. The problem has to be viewed in this light.

**Mr. Christian Ouellet:** Today, in the United States, there are three projects on the table. One from the Senate, one from the House of Representatives, and another one from the agency. Under these three projects, the U.S. would seek to establish carbon emissions fees. Europe is also considering a fee. You have not mentioned anything to that effect for Canada.

Do you believe Canada should establish carbon emissions fees?

**Prof. André Plourde:** Based on the conversations I have heard about the American approach, it would seem they favour the tradable permit approach. It is certainly possible to opt for a carbon tax, call it what you will. These two measures will have similar effects in some regards, but different in others. It would seem to me that the idea of removing certain tools from our toolbox without first considering them is not a good idea. We know that in general, this type of measure compared to others would lead to lower emission reduction costs. All of these options have to be considered to ensure that emissions reduction is done at a reasonable cost.

**The Chair:** Your time is up.

[*English*]

Moving right along, we'll go to Mr. Calkins.

**Mr. Blaine Calkins (Wetaskiwin, CPC):** Thank you, Mr. Chair.

I appreciate the discussion and debate going on here. I am a member of Parliament from Alberta, and I would like you, Mr. Plourde, if you could, for the record to state which province was the first in the country to have climate change legislation tabled and passed in its provincial legislature.

**Prof. André Plourde:** The province of Alberta was the first North American jurisdiction to do so.

**Mr. Blaine Calkins:** I appreciate that. That's a very good, interesting, and honest answer.

I want to get to the issue of dealing with the costs that are associated with this plan. We heard testimony from the Pembina Institute, which came with a plan that said the assumptions were that there was no capital flight leaving Canada and that if we implemented the plan with Bill C-311 in an environment in which there wasn't any capital flight leaving Canada and there wasn't any wealth transfer, the economic impact upon the province of Alberta would be about a 12% lower GDP. Were you aware of that report?

**Prof. André Plourde:** Yes.

**Mr. Blaine Calkins:** Do you think it's reasonable, given the fact that the testimony from Aldyen Donnelly, who testified before this committee, indicated that the capital flight from the European Union to Canada increased our economic output and benefits substantially? Did you have a chance to review that testimony?

**Prof. André Plourde:** There are two things that I think matter here. The first one is, do we want to act on this problem? The second thing is, what mechanisms do we want to employ to act on the problem?

**Mr. Blaine Calkins:** That's going to get to my point, Mr. Plourde, but would you agree with me that if one country takes on targets that are overly ambitious, unreasonable, and untenable, the result will be capital flight from those particular jurisdictions?

**Prof. André Plourde:** If there is an international trading of some form or another, yes, of course there will be.

**Mr. Blaine Calkins:** That's why it's absolutely important, would you not say, that Canada work in concert with its major trading partners in developing a comprehensive plan? We know that the G-8 plus 5 are responsible for about 70% of the world's greenhouse gas emissions. Therefore, it only makes sense that if we don't have an agreement that includes the G-8 plus 5 and has targets that are fair and amenable to all the G-8 plus 5, there will be costs incurred in those jurisdictions that agreed to outrageous targets compared with those countries that negotiate a better deal for themselves. This would result in economic competitive losses that would ultimately result in the offshoring of jobs from any country that signs on to ridiculous targets. Would you not agree?

● (1225)

**Prof. André Plourde:** I have said publicly, I have published, and I have testified before this committee of the House that an integrated North American approach to climate policy would be a better way to conceive of this problem.

**Mr. Blaine Calkins:** Thank you very much. That's all I have.

I share any time I have remaining with Mr. Woodworth or any of my other colleagues.

**The Chair:** Mr. Woodworth, if you want to take the rest of Mr. Calkins' time, you have about two minutes.

**Mr. Stephen Woodworth:** I'll pass. Thank you.

**The Chair:** Is there anybody else?

Mr. Warawa.

**Mr. Mark Warawa:** Both of you touched on the cost to Canadians of moving ahead on Bill C-311.

Professor Dissou, you said the choices would be painful.

Professor Plourde, you asked, are Canadians ready? Do they "appreciate the magnitude of the task underlying the emissions reductions commitments?"

Could you, starting with Professor Plourde, be a little more specific? What kinds of costs would Canada be looking at?

**Prof. André Plourde:** There have been all kinds of estimates for costs for measures of this kind. As you know, the national round table has looked at this. More recently, the Pembina Institute and the Suzuki Foundation have looked at this and come up with different types of cost estimates.

The point I'd like to make, which doesn't come out very often in this debate, is that the cost of acting depends on the measures you choose to do the action. So pick a target, any target. You can generate all kinds of cost estimates. If you do silly things to try to reduce emissions, it's going to be very costly because you're not going to be getting a lot of bang for your buck.

It seems to me we're really focused on this one-to-one relationship: here's a target, here's the cost. I would say to you there's an intermediate step. The choice of mechanisms or the policy instruments you're going to use to achieve the target are really important in determining the cost. We don't have that discussion often enough.

**Prof. Yazid Dissou:** I will argue in the same direction. As I said in my speaking points, assessing the costs of any greenhouse gas reduction policy is something that is difficult to do without knowing what exact policy instruments you have. Usually I receive the question: what is the cost of doing this, what is the cost of doing that? I can't provide any answer if I don't have some additional information about what the policy instruments are that are going to be used and the costs related to the policy instruments. Especially, how do you recycle the revenue?

In terms of the cost per se, usually when you look at it from a GDP perspective, this is something that might seem relatively low. The reason is because our GDP, for example, is more than 60% of the service sector, and the service sector is not the one that is emissions-intensive.

As I said in my speaking points, we do have heterogeneity among the sectors. There are some sectors that will be affected more than others, so we shouldn't look at the GDP aggregate impact alone, but also we should take into consideration the sector impact, which will have some implications for jobs, regions, and so forth. This is what the modelling results all tell us.

**The Chair:** Thank you very much.

Mr. Trudeau.

**Mr. Justin Trudeau (Papineau, Lib.):** Thank you very much, Chair.

One of the things that has been an underlying statement and theme running through this testimony is that without being able to quantify it, we are aware that the cost of doing nothing will be extremely high. Now, how high it will be and what it will look like, obviously, is something we need to watch unfold, but there is an awareness that if we don't do anything, the economic impacts will be huge.

This is why I take a little bit of issue with Mr. Calkins' presentation and question around the perils of capital flight versus the perils of not reducing global emissions. That's because the emissions we are going to be seeing as a cause for the melting of Arctic sea ice, the climate extremes we're going to be facing, the various consequences of a two degrees or more increase in global temperatures means that the priority needs not to be keeping business as usual for as long as we possibly can, but addressing this grand issue and this grand challenge in a way that is going to lead to maximal economic prosperity for, in our case, Canada. That's what we're talking about trying to get.

I think balance needs to be brought back in. We have to look at reducing emissions on a global level. The emissions that come from China, the emissions that come from Russia will affect us here, and therefore we have to be open to reducing the emissions in the most efficient way possible.

I like very much one of the things you've said, that targets are all well and good, but it's the intermediate steps and how we get there that we need to start talking about and looking at.

The discussion we're having around Bill C-311 is very much looking at 25% below 1990 levels. We've heard testimony that the 20% reduction from 2006 levels is in line with returning—more or less, give or take 3%—to 1990 levels.

So my question is—even given the modest targets that the Conservative government has put forward for returning to 1990 levels of $C0_2$ emissions over the past four years—have $C0_2$ emissions in Canada decreased or increased?

● (1230)

**Prof. Yazid Dissou:** From the last information from the Government of Canada website, there was a slight decrease between 2003 and 2007. But there was a peak of emissions recently. We are still waiting for the latest emissions data.

We would expect that because of this recession—the recession itself is emissions reducing—we will probably have a reduction in emissions.

**Mr. Justin Trudeau:** Thank you.

Are the measures this government has brought in, concordant to the targets they've proposed over the past four years and the measures to be brought in within the next few years, in your opinion, going to get us on a path towards decreasing successfully to 1990 levels in ten years? You were looking at the cost of decreasing below 1990 levels by 20% and 25%. Are we on track to decrease our emissions to 1990 levels, according to their projections?

Monsieur Plourde.

**Prof. André Plourde:** The work that I've seen since the Kyoto Protocol was signed suggests that none of the plans put forward by any of the governments would get us there. This is true about this plan, as it was true about previous plans. I think we're not understanding what level of effort is required to get us to emissions reductions.

If the question specifically is whether we are on track to return to 1990 emissions, given the policy instruments in place now it's hard to make a case that we are.

**Mr. Justin Trudeau:** One of the things that disturbs me a little is that we've spent an awful lot of time talking about this private member's motion that has ambitious targets that are very much in line with some of what science is telling us, but so much political capital is based on negotiating whose targets are better, more realizable, and how we're bringing it together that unfortunately we're not talking nearly enough about that intermediate step of how we're going to get things done. Is that, to your mind, a fair assessment?

**Prof. André Plourde:** I think it's a fair assessment. However, I do think that in the establishment of a target you have to know where you're going before you start putting a lot of measures in place. That's why I see this as a necessary step. Where do we want to get to and in what kind of timeframe? What's needed to get us there cheaply? I'm a cheap guy. You have to understand that as an economist, I'm trained to be cheap.

**The Chair:** Thank you. We'll continue on.

Mr. Watson, you have four minutes.

**Mr. Jeff Watson (Essex, CPC):** Thank you very much, Mr. Chair.

Thank you to our witnesses. I'm getting a little chuckle out of your last comment, Mr. Plourde.

I'll ask a consistent question with respect to the bill. What is the cost of implementing C-311? I think the answer is that it can't be costed because there hasn't been a specific policy pathway chosen. Would that be a fair assessment?

So this is a bill about a target. You have said, Mr. Plourde, that settling on the target is the proper starting point—

● (1235)

**Mr. Stephen Woodworth:** On a point of order, if I may—I apologize to Mr. Watson for interrupting—I saw the witness shaking his head yes, in answer to Mr. Watson's comments. I think it would be good to get his answer on the record.

**Mr. Jeff Watson:** To which question, Mr. Woodworth?

**Mr. Stephen Woodworth:** The question, as I understood it, Mr. Chair, was that the bill we're talking about can't be costed because it doesn't contain any pathway of domestic emission measures whatsoever. I think the witness was shaking his head yes.

**The Chair:** Mr. Watson, that's a point well taken. We'd appreciate the answer on that for the record.

**Prof. André Plourde:** As I said before, without identifying how you're going to get there, it's very hard to put a definite number on this. We could design alternative ways of getting there and cost each one of them, but you can't do this right now.

**Mr. Jeff Watson:** In other words, to the question that you can't cost C-311 because it doesn't have a specific policy pathway, the answer is yes. Is that correct?

**Prof. André Plourde:** Yes.

**Mr. Jeff Watson:** So this is a bill about a target. It's a target that I think you alluded in your testimony is not credible; it may not necessarily be achievable. It's certainly not one that's aligned with the United States.

The Government of Canada's target roughly translates to about minus 3%, 1990; and the target for Bill C-311 is minus 25%, 1990. As I understand from speaking with some people last night, the U.S.'s 17% to 20% below 2005 translates into something just less than 10%, or minus 10%, 1990.

When we're looking at alignment with the United States and a credible target, this bill doesn't put us in the realm of credibility from the starting point. Is that correct? Is there some agreement on that?

**Prof. André Plourde:** My answer to that would be that based on the level of effort that we've done over the last 12 years, this is something that requires a fundamental change in the way we think of climate policy in Canada to get there.

Is that a fair answer to your question?

**Mr. Jeff Watson:** You've established credibility both in terms of reachability, first of all, and, second, in terms of alignment with the United States. Those are some of the parameters you've laid down in your testimony today. In that respect the target we're talking about in Bill C-311 is neither credible nor aligned with the United States.

**Prof. André Plourde:** In 2020 the target in Bill C-311 is more ambitious than in the U.S., but in 2050 the differences are minor.

**Mr. Jeff Watson:** Okay.

We heard from both the Pew Centre on Climate Change and Environment Northeast yesterday. In talking about the establishment of a North American cap and trade, they talked about the necessity of having comparable rigour in the system. I did ask the question on whether targets that are not closely or reasonably comparably aligned would create a situation where we don't have the comparable rigour. They said yes, and then they went on to suggest that there would be some problems. So looking at this 2020 situation here, not aligned, we would be in a position, I think, if I understood the Pew Centre's analysis correctly, of being a net buyer of credits until such time as that would drive the price of carbon up in the United States. Would you agree with that testimony?

**Prof. Yazid Dissou:** No, I would not agree. The similarity I want to bring in the debate here is if we have different targets in the different provinces of Canada, is this something that is not good at all? So if we have different targets in the provinces of Canada, this is something that is workable and we can achieve something. Saying that having different targets between Canada and the U.S. is something that is not doable, I don't necessarily buy that argument.

**Mr. Jeff Watson:** So you're suggesting that something that's minus 9% or 10% below 1990 versus if we adopted minus 25% below 1990 by 2020 wouldn't be a problem? Is that what you're suggesting?

**Prof. Yazid Dissou:** Okay, the program—

**Mr. Jeff Watson:** You wouldn't drive different rigour within a cap and trade system. Is that—

**Prof. Yazid Dissou:** Rigour—what do you mean by “rigour” here?

**Mr. Jeff Watson:** Our system would have to be more rigorous. The price of carbon would be different. The cost of credits would be different within—

**Prof. Yazid Dissou:** Yes, definitely. The target that we will be aiming at here will be more important than the one the U.S. will have, and in that respect the relative costs that we're going to bear will probably be higher. But as I said, as long as we have two or three markets that are linked together, this is something that will tend to equalize our climate costs. At the end of the day, we might be a net buyer of credits from the U.S. because we have more stringent targets.

● (1240)

**The Chair:** Thank you.

Now to finish us off on the second round, Mr. Braid.

**Mr. Peter Braid (Kitchener—Waterloo, CPC):** Thank you very much, Mr. Chair, and thank you to both of our witnesses for being here this afternoon. It's a very helpful and insightful presentation and testimony.

Professor Plourde, if I could, I'll start with you, please, sir. You indicated that of course as a percentage of total global greenhouse gas emissions, Canada represents about 2%. As a result, we need to, if I understand this correctly, participate in a larger market or jurisdiction to have an impact in terms of reducing greenhouse gas emissions and participating in a cap-and-trade system. Am I characterizing that properly?

**Prof. André Plourde:** I think what needs to happen is...Canada cannot act on its own. Major emitters must act. Whatever mechanism you want to put in place, whatever policy instruments you want to use, bringing down emissions is a different story than the mechanisms you're going to use to do it. The key thing is a lot of countries have to act, or the big emitters anyway.

**Mr. Peter Braid:** That's understood.

Is the North American jurisdiction a large enough jurisdiction within which to operate?

**Prof. André Plourde:** In terms of having an effect on climate change or in terms of having a policy environment that kind of addresses some issues?

**Mr. Peter Braid:** Both, but primarily the latter, the policy environment.

**Prof. André Plourde:** China is now the largest emitting country in the world, so we need to think of this from the perspective of the first question.

The second question is that, again, a broader space in the North American space would seem to me to be broad enough to have all kinds of different heterogeneity across the emitting firms so that we can take advantage of low-cost opportunities, as Professor Dissou has mentioned earlier, much more than just by acting in Canada alone.

**Mr. Peter Braid:** Great, and you indicated in answer to a previous question that depending on the arrangement we have in place, the nature of a cap-and-trade system, Canada would either be a net buyer or net seller of credits.

What are the factors involved in whether we're a net buyer or a net seller, and how do we become a net seller?

**Prof. André Plourde:** It depends on who else is in the game with us, in some sense. If you think of this as a Canada-U.S. issue, whether we are net buyers of permits from the U.S. or we sell them, then it depends on the relative strength of the targets that are being met through the permits. So in some sense it depends on the number of permits that we emit relative to the number of permits the U.S. emits. The more permits we emit, the more likely it is we're going to be a net seller, depending on any given level of target. Similarly, the more permits the U.S. emits, the more likely it is that we're going to be buying from them.

As Professor Dissou has mentioned, if you have a North American trading platform, what essentially happens is you have one price of emissions through the permit mechanism. Now, it may be that we'll need additional measures to meet our targets that are emissions-specific, as opposed to just a permit system. That's a different story.

**Mr. Peter Braid:** In your presentation you certainly either clearly suggested or implied that the target in Bill C-311, which is to reduce greenhouse gas emissions by 25% over 1990 as a base year, is not credible. Our government's goal is to reduce greenhouse gas emissions by 20% by 2020, using 2006 as the base year. Is that a credible goal?

**Prof. André Plourde:** Right now, I would say that Canada does not have a credible track record with any goals. We've said three times internationally that we would reduce greenhouse gas emissions. We've missed the targets every time.

**Mr. Peter Braid:** Is our current goal a credible goal, as stated—20% by 2020, over 2006 as a base year?

**Prof. André Plourde:** I would argue that there are no policy measures that have been proposed by the Government of Canada that would clearly show a path to those reductions.

**An hon. member:** Hear, hear!

**Mr. Peter Braid:** That's coming.

**Voices:** Oh, oh!

**Mr. Peter Braid:** Professor Dissou, as I'm the member of Parliament for Kitchener—Waterloo, this is a very important area for me. You indicated that technological progress will be an important aspect of reducing greenhouse gas emissions. Can you describe that to us, paint a picture of what that looks like, and how we help foster it?

**Prof. Yazid Dissou:** When I talk about technological progress here, we need to take into consideration that if we happen to put in place a cap-and-trade system, we are going to get some revenue. The question will come to this: how do we use the revenue?

The point I'm going to make here is that taking part of the revenue that we get in order to subsidize our technological research and development—for example, to subsidize innovation—will help us, because just relying on the cap and trade, thinking this will solve the climate change problem, would be very difficult in the long run. As we keep growing and we keep the level of total emissions constant, the effort we'll have to make in terms of a reduction in GDP, for example, will increase. So in order to relax that constraint in terms of emissions, we need to find some ways in order to be less dependent on energy, for example, or to decouple energy and emissions to some extent.

That's the reason I'm talking about technological progress, and we need necessarily to fund R and D, research and development, activities in order to move forward on this particular program. That's what I mean.

● (1245)

**The Chair:** Thank you. Your time has expired, Mr. Braid.

Before we kick off the third round, I just have a quick question for Professor Plourde. In your testimony you mentioned the bill and talked about some of the problems you have with subclause 10(1) as it relates to the regulations that are to be made in clause 7.

Again, it comes down to your comment that here at least you see some targets. Whether they're credible or not is an issue that you brought up, but there isn't a clear definition of how we do the interim planning and development of those policies and the regulations. I just want to get a little more feedback from you on what you, as an economist, see in that policy framework, if there is enough here to actually develop those interim measures to develop a credible final outcome.

**Prof. André Plourde:** I think the two, in some sense, are separable. If you think of this legislation as identifying a process, then the process itself would need to identify what the measures are. There doesn't appear to be in this any indication of measures specifically. So you need the regulations under this legislation that identify what the measures are, and then you need a plan—here's how we're going to get there and here's how the provinces, the territories, the municipalities, are going to play in. In and of itself, that's lacking in here, but that's probably the function of regulations as opposed to legislation.

**The Chair:** Thank you. I just wanted to get a little more clarification.

We have roughly 12 minutes left. We'll start the third round and give three minutes to each political party.

Mr. Scarpaleggia, you can lead us off.

[*Translation*]

**Mr. Francis Scarpaleggia:** According to Ms. Peace, representing the Pew Centre at our meeting last Tuesday, the North American emissions trading system will not be established before 2013-2014, according to the most optimistic of scenarios.

If so, how could we meet a 25% target? I know that we can implement other measures, but the idea of a carbon market is one of the main ones. In this sense, it will be practically impossible to reach the 25% target. I will ask my second question, and then I will hand over the floor to my colleague.

How can we be sure, if we are subsidizing companies for them to take on more energy efficient technologies, that this change would not have taken place anyways?

**Prof. Yazid Dissou:** Apart from the current climate problems, we must consider the life span of our energy resources, which is nearing its end. Beginning today, we must take measures to find the right technologies which will help us get around that situation.

Regarding investment for the development of new technologies, the problem is that there is a market deficiency, or a market failure. Indeed, when a company develops a technology, it does not necessarily recoup its investment. This is the main reason why governments need to intervene. They must correct this market failure by granting, even if it's only on a temporary basis, subsidies to allow these companies to develop the technologies we need.

● (1250)

[*English*]

**Mr. Justin Trudeau:** Is there any time left?

**The Chair:** You have 15 seconds.

**Mr. Justin Trudeau:** Okay, quickly, the presentation we heard two days ago from the U.S. experts talked about the fact that it would be better to establish a Canadian plan independently of the American lawmakers' process and then try to merge the two. Do you think the clean energy dialogue the U.S. and Canada are engaged in is sufficient engagement to create a continental approach?

**The Chair:** A very quick response.

**Prof. André Plourde:** It's hard to see how this focus just on clean energy will get to a broader context. It may be a first step, but it's a long way away, I would argue.

I don't think we have a choice but to devise a Canadian policy; however, develop it in parallel with what the Americans are doing so it's easy to bring together down the road.

**The Chair:** Thank you very much.

[*Translation*]

Mr. Bigras, you have three minutes.

**Mr. Bernard Bigras:** Thank you, Mr. Chairman. I would like to address the issue of adjustments at the border, particularly import tariffs. I was recently reading a report of the National Round Table on the Environment and the Economy, which said that adjustments at the border would be extremely costly for the Canadian economy.

As my colleague said a little earlier, three bills are being studied, including two which would impose important tariffs. One bill would apply these tariffs beginning in 2012—I stand to be corrected, however—and the other one would begin imposing them in 2030. That's one thing. In the meantime, Europe is discussing import duties, which the European Commission seems to support. That greatly concerns me. In fact, on Monday, the Premier of Quebec talked about this. Please understand that one-third of Canadian exports to Europe come from Quebec. Discussions are fairly advanced on a free trade agreement between Canada and Europe, which would increase Canadian exports to the old continent by 20%.

Is there not a risk that Canadian companies would incur additional costs if we do not commit to serious greenhouse gas reductions? Do you believe that an import tax would be detrimental to both the Quebec and Canadian economies, which seek to significantly increase their access to the European market over the coming years? If the agreement is signed, it could boost the Canadian economy by $12 billion.

My question is for both witnesses.

**Prof. Yazid Dissou:** There are two parts to your question. If Canada imposes tariffs to counter imports from countries which have not reduce their greenhouse gas emissions—

**Mr. Bernard Bigras:** Actually, I am more worried about the opposite...

**Prof. Yazid Dissou:** I will first address that aspect. I have just completed a study in August which shows that, even if we think this kind of measure could reduce emissions in other countries, the net result would be an increase in Canada's production costs, or in any country which adopts these measures.

Let's look at the case of steel import from China. Chinese steel is used by our industries to produce goods. If we increase the tariffs on Chinese steel imports, it would simply increase our production costs and generally be bad for us. That is the first repercussion I envisage.

The second aspect concerns our industries which export toward Europe. They will basically be at the receiving end of measures taken by the Europeans. That's clear. If the Europeans apply import duties on countries which do not reduce their greenhouse gases, there is no doubt this will affect us, which is why we must also take measures similar to those of other countries.

In my opinion, applying these tariffs represents a threat for countries who have not yet taken measures to bring down their greenhouse gas emissions, it would be a means of persuading them to do so. But it's actually working. China has just announced that it will begin to take measures to reduce its greenhouse gases, if only slightly, by bringing down the intensity of its emissions. However, implementing these measures is bad for the country which does so in the first place, and it is also bad for the country which is targeted by this type of policy.

Generally speaking then, I would say that if one country imposes this type of tariffs, it would mean that everyone else will be forced to adopt a similar policy, including, of course, Canada—

● (1255)

**Mr. Bernard Bigras:** Do you think this policy will pass the WTO test?

[*English*]

**The Chair:** *Merci beaucoup*. Your time has expired.

Mr. Cullen, please.

**Mr. Nathan Cullen:** Thank you, Chair.

It's an interesting conversation with respect to the risk of tariffs. Europeans have mused about this at least for five years now in a serious way, and the Americans seem to be contemplating it in legislation as well. If this were another issue for the government, such as the imposition of a potential tariff on Canadian goods going across the border to the U.S. or across the ocean to Europe, I wonder if they would be taking it slightly more seriously.

We saw the “buy America” reaction from this government, which was a full court press trying to reverse it. It was unsuccessful in the end, but the effort was certainly there. We have some similar risk, I would suggest, on the horizon.

There was an attempt by some of my colleagues to somehow link the notion of differentiated targets between us and the U.S. to a differentiation in price, but I'm confused by that line of logic simply because an integrated cap-and-trade market achieves and establishes a price per tonne of carbon. And I'm taking the European example, for example, where countries have differentiated targets, they trade upon the same market, but the price for a German tonne of greenhouse gas is no different from a French or a Belgian tonne. Am I right?

Just for clarity for the record, the witnesses both nodded “yes”.

**Prof. André Plourde:** The only thing is that what you can't do with a single price of carbon is hit two different targets.

**Mr. Nathan Cullen:** Exactly.

**Prof. André Plourde:** For example, if Canada were to have a more ambitious target than the U.S., then other kinds of measures would need to be brought in to reduce greenhouse gas emissions. But in terms of the permits themselves, unless there was something different in the design of them, there would be a single price.

**Mr. Nathan Cullen:** Thank you.

I think that's important, because there is some allusion being made that prices will be different for an operation on the Canadian side of the border on a greenhouse gas tonne than they would be to the south of the border.

A certain clause of this bill, clause 10, talks about the minister coming forward and producing a report both to Parliament and to the Canadian people outlining the past year's effort and then going forward over the next in terms of expectations and costs per tonne. I can recall a bill in which this Parliament moved well over $1 billion for an ethanol subsidy, a biofuel subsidy that was to go in to augment the price. We asked the government to cost that initiative time and time again. This was a specific money bill. Similar to the questions we're hearing from the government today, we asked the government to cost that bill as to the cost per tonne, and they were unable to. They are still unable to say how much greenhouse gas emissions were saved as a result of the expenditure by the Canadian taxpayer. So clause 10 requires that the minister come forward and as best as possible delineate what's happened and delineate the projections forward.

If this had been in place with Canada's previous iterations of climate change plans, do you think we would be in a better situation right now if the government of the day had to report every year going forward to Canadians as to what's happened?

**Prof. André Plourde:** I think you'd have more information in terms of what's actually happening. But what you don't have in this bill either is a cost-effectiveness issue. The bill does not ask the question of how you got there and the effort needed to get there.

**The Chair:** Before I turn the final questioning over to Mr. Woodworth, I just want to follow up on one comment that Mr. Cullen made and see if you can give clarification. It's the difference in pricing of carbon between us and the United States. In the Waxman-Markey bill they are talking about carbon rising to a cost of $26 a metric tonne by 2019. You guys as economists must be familiar with the recent report that was put together by MK Jaccard, where they are stating that under the Canadian targets the carbon price will be around $100 a tonne, and if we adopt the Bill C-311 targets, carbon will have to go up to $200 a tonne by 2020.

I'm just wondering if you have comments on why there is this discrepancy if we want to have an integrated approach.

● (1300)

**Prof. André Plourde:** Depending on how you structure it, you may need additional measures other than just a tradeable permit system to reach the target. This would mean that you now need to get into a higher cost than what just getting the permits would get you. That's where you can get a differentiation on the cost of emissions reductions than basically the permit price.

**Mr. Stephen Woodworth:** Thank you very much, Mr. Chair. Thank you, again, to the witnesses.

Dr. Plourde, I have agreed with very much of what you said today, but I want to take one tiny little issue with where you ended up with Mr. Braid on the question of whether the government is on the path or has laid out a pathway.

I've been doing a little collection myself, and I'm going to refer you to a few things. For example, effective July this year we've lowered the formal emissions reporting requirement from 100 kilotonnes to 50 kilotonnes, thereby extending to about 3,000 companies the obligation to report. We've been funding Sustainable Development Technology Canada, which over its lifetime has financed 171 start-up companies in the area of climate change and clean air. We have an early offset system for greenhouse gases, which we're working on to pave the way for a carbon market. We have introduced tailpipe emissions reduction standards. We have modernized the Energy Efficiency Act. We have put $407 million into VIA Rail improvements so as to reduce emissions from their stock; $1 billion over two years for energy retrofits to social housing; $1 billion for clean energy research and development; the creation of the ecoENERGY for biofuels program; and on it goes.

We can argue, I suppose, about whether we're doing enough, and I don't know if you've heard of any of these things, but do you think you might be able to agree with me that the Government of Canada is at least setting us on a pathway?

**Prof. André Plourde:** As with previous governments, this government has been spending a lot of money on this issue. The point is, are these cost-effective investments? The answer is that so far there is not a lot of evidence that these are cost-effective investments. So in the end, I have not seen any analysis that would suggest that the sum of these measures will get us to the targets we've been talking about.

**Mr. Stephen Woodworth:** At least we're trying.

**Prof. André Plourde:** Previous governments were trying as well.

**Mr. Stephen Woodworth:** Do you think that lowering the emissions reporting threshold is a good idea, for example?

**Prof. André Plourde:** I don't know whether you have the answers here at the right level, but at some point in time, the answer to that is no. You don't lower the threshold. You're just increasing costs of doing business—

**Mr. Stephen Woodworth:** No, no.

**Prof. André Plourde:** —to deal with a very small part of emissions.

**Mr. Stephen Woodworth:** I mean the reporting threshold, so we know who is emitting.

**Prof. André Plourde:** I understand that. It's costly to report. You don't need to know who is emitting if you have a permanent system.

**The Chair:** You're out of time.

Thank you very much. I appreciate the comments and analysis and the discussion that both Professor Plourde and Professor Dissou have brought. Professor Plourde said he's cheap and he doesn't want to see a lot of increases in costs in some of these measures. I can tell you that I think all Canadians are very frugal and are concerned about those types of issues.

With that, the meeting is adjourned.

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