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Chair

Mr. Laurie Hawn

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● (1530)

[*English*]

The Chair (Mr. Laurie Hawn (Edmonton Centre, CPC)): I call the meeting to order.

Welcome to meeting 13 of the Legislative Committee on Bill C-30.

We have a big lineup this afternoon. Obviously, this is a popular committee.

The bells are going to ring for a vote at around 5:15. We won't jump up and run, but we'll have to move along fairly expeditiously.

From the Canadian Hydropower Association, we have Mr. Pierre Fortin, president; Colin Clark, chairman of the board; and Mr. Pierre Lundahl, environmental consultant. From the Canadian Nuclear Association, we have Murray Elston, president and CEO. From the Canadian Wind Energy Association, we have Robert Hornung, president. From Hydro Québec, we have Marie-Josée Nadeau, executive vice-president of corporate affairs and secretary general. From TransAlta Corporation, we have Don Wharton, director, and Dr. Robert Page.

Mr. Watson.

Mr. Jeff Watson (Essex, CPC): Mr. Chair, I have a quick point. In the interest of making sure this moves along quickly, I'll give up my last round of questioning so that we can keep things on track.

The Chair: Thank you for that. We'll see how it goes.

Welcome to all. We appreciate that you came today.

We normally give each organization about ten minutes to address the issue as you see fit. The issue today is large-industry energy generation. We'll try to keep focused on it as much as we can, knowing there will be a little wandering, and then we'll move on to questioning from members of the committee.

I've asked you to keep your presentations to ten minutes or less. If you can help us out a little, it would be much appreciated.

We'll start with the Canadian Hydropower Association. Pierre Fortin, sir, the floor is yours.

Mr. Pierre Fortin (President, Canadian Hydropower Association): Thank you, Mr. Chair.

I will introduce my colleague, Mr. Colin Clark, who is executive vice-president and chief technical officer of Brookfield Power. He's also chair of the board of directors of the Canadian Hydropower Association.

We certainly appreciate the opportunity and the invitation to be with you today.

The Canadian Hydropower Association, members of the committee, is making this submission to highlight hydro power's role in helping Canada successfully meet the combined challenge to reduce air pollution and address climate change. We will also provide comments on the proposed Clean Air Act itself, as you requested, Mr. Chair, and those will be provided by Mr. Clark.

[*Translation*]

Founded in 1998, the Canadian Hydropower Association (CHA) represents hydropower producers (over 95% of the hydropower capacity in Canada), provincial hydropower associations, as well as leading manufacturers of hydropower components, and world-renowned engineering firms. The CHA advocates the responsible use of hydropower to meet our present and future electricity needs in a sustainable manner.

The production of electricity is one of the largest sources of greenhouse gas emissions and air pollutants in Canada. If we collectively choose to develop electricity sources that are not derived from fossil fuels, then we will make a huge contribution to addressing climate change by reducing greenhouse gases, and air pollution by avoiding emissions of chemicals responsible for smog and acid rain. We can act today because Canada already has the expertise to produce clean electricity; the technology exists, it is proven and reliable.

As you probably know, hydropower is Canada's leading source of clean and renewable energy. We generate 60% of our electricity from the power of water. Furthermore, we have an abundance of resources and the know-how to significantly expand the role of hydropower.

That advantages of developing hydropower are manifold. First, there is an economic advantage. Hydropower is both affordable and efficient, and it is not subject to the price fluctuations of fossil fuel.

● (1535)

[*English*]

Second, hydro power is abundant. Contrary to the views expressed in some quarters, Canada has a very high technical potential for additional hydro power. In fact it's technically possible to develop an additional 163,000 megawatts of new hydro power, which is twice the amount currently in operation. Quebec, Manitoba, British Columbia, Newfoundland and Labrador, and Ontario hold significant resources, but there is potential available in all provinces and territories.

Third, hydro power is a clean and renewable energy source, which makes it the best energy source to address both air pollution and climate change. Hydro power produces no air pollutants that cause acid rain or smog, no polluting or toxic waste byproducts, and very few greenhouse gas emissions. Future emissions within Canada could be reduced with increased interprovincial trade in hydro power. New projects in Quebec, Manitoba, and Labrador could generate enough electricity that they would be able to export surpluses to neighbouring provinces.

The fourth advantage is that while hydro power can help Canada attain its international greenhouse gas emission reduction objectives, it can also improve air quality at a continental level because of our exports to the United States, primarily to markets that rely on coal-fired power plants. As we know, most of the electricity exported to the United States from Canada comes from renewable hydro power.

[*Translation*]

Fifth, an energy grid supported mainly by hydropower is more reliable, because hydropower plants with reservoirs are able to store electricity for meeting peak power demand and for serving as a backup in case of outages.

[*English*]

The Chair: Sorry. Hang on just for a second.

Mr. Pierre Fortin: Where did you lose me?

[*Translation*]

Finally, because hydropower is uniquely flexible—responding instantly to power demand fluctuations—it is the best source to support the development of other renewable sources of energy such as wind and solar. As the production of electricity from intermittent sources of renewable energy increases, the need for complementary energy storage systems will also increase. Hydropower is the only low emitting large-scale storage option.

[*English*]

With climate change and air pollution widely recognized as major environmental issues, producing our electricity from hydro power plants is the most advantageous solution open to us now and in the future. If we truly wish to address air pollution and climate change, hydro power must be recognized as part of the solution, and it must be an integral part of any clean air and climate change strategy and supported as such.

I will now turn this over to my colleague, Mr. Clark, to comment on Bill C-30 specifically.

Mr. Colin Clark (Chairman of the Board of Directors, Executive Vice-President and Chief Technical Officer, Brookfield Power, Canadian Hydropower Association): Merci, Pierre.

Within the context of the proposed Clean Air Act, the Canadian Hydropower Association would like to see the federal government rapidly adopt the following measures.

First, the government must send a clear signal to industry by putting in place an integrated emissions management plan, including greenhouse gas and air pollutant regulations.

Secondly, given that generation facilities have long lives, a clear and long-term view is essential for optimal investment decisions. Decisions made in the near future could entrench high emissions for the next 50 years.

Under the greenhouse gas emissions regulation, the electricity sector must be treated as a single integrated key industrial sector, or KIS, rather than be segmented into fossil fuel and other generation sub-sectors.

A domestic greenhouse gas emissions trading system, or DET, should be implemented as soon as possible. This system should allocate permits or credits to all electricity generation, including hydro power, on the basis of a single national emissions standard.

The modern combined-cycle gas turbine should serve as the baseline from which emissions are measured. New hydro power and other renewables should receive an automatic allocation of permits or credits without having to go through an offset system.

Investment in hydro power development involves long lead times. For this reason, it's necessary to have knowledge of the target caps and phase-in schedule as they become rigorous over time, to facilitate timely investment decisions to achieve the targets. An important aspect of the schedule is the transition from intensity-based greenhouse gas targets to caps. The cap targets should be put in place on a faster timeframe than that specified in the notice of intent. Once the DET has been implemented, linkages to international emissions trading systems should be pursued.

With regard to air pollutants, national standards for the electricity sector should be implemented. These should be clear, predictable, and sufficiently rigorous to lead to significant measurable improvements in air quality.

In conclusion, while there is a need to invest in new technologies, it should be noted that Canada can reduce emissions more rapidly with proven existing technology. The use of a technology investment fund as a compliance mechanism is not a cost-effective manner to obtain predictable, large-scale reductions in greenhouse gases and air emissions. Increased development of hydro power potential, wherever possible, is one of the best environmental and economic choices to meet electricity needs while addressing climate change and fighting air pollution.

However, to accomplish this, the federal government must improve the environmental assessment process of energy projects and implement, without further ado, an integrated emissions trading system with clear short- and long-term targets, thus establishing a level playing field where all new generation is held to the same standard.

Thank you for inviting us today. Merci.

● (1540)

The Chair: Thank you, gentlemen.

We'll turn to the Canadian Nuclear Association, Murray Elston, president and CEO. It's yours for ten minutes, sir.

Mr. Murray Elston (President and Chief Executive Officer, Canadian Nuclear Association): Thank you very much, Mr. Chair.

First I have an apology to the committee. We're pleased to have been invited, but the invitation comes as we're preparing for our seminar, which takes place February 28 and March 1, so we unfortunately did not have time to translate the materials I have with me. I have left copies with the clerk, and we will provide an electronic version so that they can be properly translated. I do apologize to you for that oversight.

I just wanted to let people know a little bit about the Canadian Nuclear Association. We have 22 reactors in Canada, operating in three provinces. In Canada, hydroelectricity actually produces 61.5% of the power, nuclear 15.5% of the power, coal 19.6%, gas 3.2%, and internal combustion 0.02%. Included as well is an ever-growing amount, as my friend next to me will say, of wind power, which is actually beginning to take hold. Those numbers are for 2006.

In Ontario the breakdown is 54% nuclear, 8% natural gas, 16% coal, and 22% hydro. You can see that nuclear power occupies a particularly important part in the development of electricity stocks for the country of Canada.

In fact, while we are in the electricity business, it is not only in the electricity business that we offer opportunities for the people of Canada to save against emissions. In particular, we're extremely proud of the fact that when we're operating our nuclear reactors, we are very low emitters of all kinds of materials this Clean Air Act is designed to forestall. We actually believe that an emphasis on developing more nuclear power in line with the Canadian technologies developed over the last 60 years would be an advantageous strategy for you to adopt.

We have just come by a report from the Paul Scherrer Institute in Switzerland. It is a life-cycle study of the various types of generation: coal, oil, gas, nuclear, hydro, photovoltaic, wind, and co-generation with diesel and gas opportunities. This type of study goes through the materials for cost of electricity, but then goes one step further—something I think all of you would be interested in—to deal with the so-called externality costs. In those studies, as the graph you will ultimately see will show and as my friend Monsieur Fortin will be happy to hear, the lowest of all of these is hydro, but very close behind are nuclear and wind and photovoltaic.

In terms of the costs of the externalities, the power plants for coal, for oil, and for gas have the biggest emissions of the type you are looking to check. For the rest of the items, basically it is the very small amount of emissions associated with things like mining and the transportation of products that are used in the operation of the plants and otherwise.

In any event, the Paul Scherrer material clearly demonstrates that nuclear can play a very helpful role, in an expanded sense, in helping to meet the targets for reduced emissions, helping to clean up the air, and helping to make the world a better place for all of us.

We have a second figure in these charts. It's a little bit complex to relate to you, but it goes through the breakdown of the externality costs. It underscores the fact that there are no emissions of any degree from the nuclear cycles—because this is a full life cycle—but that our biggest emission, obviously, has to do with radioactive emissions. We spend a lot of time making sure we know how to manage and control that, and it is the subject matter of a lot of the training that goes on for the personnel who work in the facilities and for the people who are outside our items.

This particular graph, while very complex to look at and even more difficult to explain without showing, goes through radioactive emissions, volatile organic compound emissions, heavy metals, particulate matter bigger than 2.5 microns, NOx, sulphur dioxide, and greenhouse gases. When you go through that, I think you will find it edifying to see the various types of opportunities that are available to avoid these types of emissions.

● (1545)

In any event, I have given your clerk a site for the executive summary of the full report. A full report is available; if you wish to get it through us, we can get it for you and provide it. With a little bit of manipulation of the website, you can actually get it on your own, but we certainly would be available to put it in front of the committee.

For us, the full story here is that nuclear is a good clean technology. We will be happy to be of assistance in making sure Canada has a very good record in avoiding the types of emissions you're interested in.

In addition to that, when we look at greenhouse gas emissions, a study by the Japanese Central Research Institute in 2002 went through the list of carbon emissions and went through the following: coal, LNG thermal, LNG combined cycle, solar photovoltaic, wind, nuclear, and hydroelectric. I've read the categories in order of descending numbers. Coal is the highest, at 975 grams per kilowatt-hour, followed by LNG thermal at 608, LNG combined cycle at 519, solar PV, wind, nuclear, and hydroelectricity 53, 29, 22, and 19 grams per kilowatt-hour respectively. All of this indicates that as you get to the bottom end of this particular table, you are going for the lower emitters in terms of greenhouse gases and helping to meet the targets that are part of your goals with the Clean Air Act.

A following graph that I have goes through and gives an indication of the relative cost of producing electricity with the various types of generation available. It includes nuclear, coal, gas, wind, and others. On the other hand, it actually goes much further. I think there are about twelve or thirteen, including marine and others.

The point of the graph that you will see is only to indicate that there are costs associated with any option no matter how you decide to go about this. Particularly important is that Canada decide, under the Clean Air Act, to develop the technologies that are going to be most favourable for the regions in which they are most easily applied.

This is a great country. It has many resources that are available in abundance in very specific areas, and we should take advantage of those resources. We should also take advantage of the technologies that Canada does a good job with. In particular, we've been leading civilian nuclear use in the world for a long time. In the person of Dr. Bert Brockhouse, we have received a Nobel Prize for work in nuclear physics, something most people don't understand.

We're more than a $5-billion business, and the technology that we can put to work for Canadians is helpful not only in generating electricity, but potentially for helping with other energy projects; helping to develop hydrogen fuels for the transition to a new fuel style; and also helping with the production of medical isotopes and cancer treatments as another benefit, as you all know.

So you should look very seriously at technology and at funding technology that is proven, but also take us to the next level so that we can do even better with the things we've been able to accomplish so far.

At the end of the day, we have generation three nuclear coming on. Canada is a signatory to the generation four project internationally, and we're looking forward to the continuing involvement of the Canadian government in keeping pace with the science that is required for the next stages of development. We're looking forward to the Clean Air Act as one of those pieces of legislation that will help to push us further on developing technologies that will make Canada a better place to live.

What I'm here to tell you today is that the Canadian Nuclear Association and its members are here to help Canada meet its goals with respect to emissions, and we're very pleased to participate in your hearing.

Thank you.

● (1550)

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

We'll turn to Robert Hornung, president of the Canadian Wind Energy Association. The floor is yours for ten minutes, sir.

Dr. Robert Hornung (President, Canadian Wind Energy Association): Thank you very much, Mr. Chairman, for the opportunity to be here today.

I'll start off just by telling you a little bit about the Canadian Wind Energy Association. We have 300 corporate members, including turbine and component manufacturers, several utilities, project owners and developers, and a range of service providers to the wind energy industry.

Interestingly, our membership is quite diverse. We have some of Canada's largest energy companies. Some of Canada's major oil and gas producers are part of our association. We have a number of electricity producers that have quite a mix of fuels from which they're producing power. We have utilities that are primarily coal-fired. We have utilities that are primarily hydroelectric. The thing that unites them all is that they're all investing in wind, and they're all looking at wind as an opportunity going forward.

Wind energy does not produce greenhouse gas emissions and it does not produce air pollution. From the perspective of the Canadian Wind Energy Association, increased deployment of wind energy must be an important component of any credible strategy to clean the air or reduce greenhouse gas emissions.

In addition to its environmental benefits, wind energy also provides a number of economic benefits, particularly in rural areas, where the best wind resources can be found. Those economic benefits include investment, job creation, improvements to the municipal tax base in rural areas, and also lease payments to land owners who provide their land for placement of turbines in order to generate electricity.

In terms of wind energy in Canada, as is the case with many types of natural resources, Canada is actually blessed with a tremendous wind resource. It's probably the best wind resource in the world, and it has to be at least in the top three. Canada's installed wind energy capacity has increased from 137 megawatts in 2000, to 1,460 megawatts at the end of 2006, a fairly significant rate of growth.

At this point in time, provincial governments have established targets for wind energy in most jurisdictions across Canada. If you add all of those together, they add up to about a minimum of 10,000 megawatts of installed wind energy capacity by 2015. Having 10,000 megawatts of installed wind energy capacity in 2015 would account for about 4% of Canada's total electricity, starting from essentially zero in 2000. Most importantly, if you look at the new electricity generation facilities expected to be built in the decade between 2005 and 2015, and at the electricity that will be produced from those facilities, we project that wind energy will produce about 20% of that electricity, which gives you a sense of how wind energy is fitting into future investment plans at this point in time.

While Canada is a leader in the exploitation of some renewable energy technologies, like hydro power, which we've discussed, we've really only scratched the surface of our wind energy potential. Today, wind energy accounts for about 0.5% of Canada's electricity demand. It accounts for about 20% of Denmark's electricity demand, 8% of Spain's, 6% of Germany's, 4% of Ireland's, and 4% of Portugal's. These are all countries that are looking to significantly expand the penetration of wind energy in their systems going forward.

Canada is in a very unique situation because of our large hydro dominance in the electricity sector. Because wind and hydro are very complementary—Pierre Fortin mentioned this in his presentation—hydro can in essence serve as a storage mechanism for wind energy. That will allow us to achieve higher levels of penetration for wind energy in Canada than we might have seen in a number of other countries around the world.

I have included a couple of graphics that I won't speak to. They're there just for information. They look at the growth of Canada's installed wind energy capacity and how that capacity is distributed across Canada at this point in time.

To increase the deployment of wind energy in Canada, we need a stable, long-term, and sustainable policy framework. We've seen some initial steps in that regard at the federal level. We've had the Wind Power Production Incentive, and now the ecoENERGY for Renewable Power program. At the provincial level, we've seen a mix of renewable portfolio standards, requests for proposals for wind renewable energy, and standard-offer contracts in some jurisdictions.

Bill C-30, Canada's Clean Air Act, can play a very important role in complementing existing government policy measures by putting in place regulatory and market mechanisms to incent and accelerate investments in wind energy going forward.

● (1555)

From our perspective, Bill C-30 should do this through regulated limits on emissions and the rapid establishment of a domestic emissions trading system that includes mechanisms to allow for participation by wind energy and other renewable energy sources.

Reflecting the environmental benefits of electricity generation in the market will further enhance wind energy's growing cost competitiveness. I can tell you that in the last 20 years, the cost of wind energy has declined about 80%, and if you talk to people like the International Energy Agency, they will tell you with a high degree of confidence that their expectations are that the cost of wind will continue to decline going forward, which is clearly not the case for a number of other technologies.

It's important to reflect these costs in the market, because putting environmental costs into the marketplace will allow players in the market and investors in the market to have better information. Better information will lead to more optimal decisions. We can really make the market system work by essentially dealing with a market failure —the fact that these costs, the externalities are not reflected in the market at this time.

From our perspective, an emissions trading system should strive to put all new investments in electricity generation on a level playing field, and it must also provide opportunities for wind and renewable energy to participate directly in the system. There are a number of ways you could do that. You could do that through the allocation of emission allowances to wind or renewable energy. You could do that by allowing wind or renewable energy to produce emission offsets that would be able to participate in the system. No matter what path is chosen, we believe it's important that these technologies be able to participate.

Several of the preceding speakers already pointed out the importance of getting the market signals right. Investments in electricity generation are for the long term. If you put in place a new generation facility, you're going to have that facility in place for the next 20 to 60 years, along with all the attributes that come with it, positive or negative. A long-term, stable policy framework is required to provide investors with a clear understanding of emission reduction requirements and targets and of how these will evolve over time.

We believe that ultimately, if Canada wants to move forward and become a leader in emerging renewable technologies—like wind, like solar—and not just in some of the existing renewable technologies that are well established, like hydro, we'll need to do what other countries have done. Ultimately, we'll need to build on existing policies, to build a domestic emissions trading system, and actually develop a comprehensive strategy to move some of these technologies forward.

Some elements of the strategy might include targets, green power procurement initiatives, the streamlining of environmental assessment and permitting processes, education and training initiatives, research and development, and public outreach.

I'll give you one example. The country of Spain, in the year 2000, had about 1,000 megawatts of installed wind energy capacity, so we're a little bit ahead of where they were at that time. In the year 2000, their government adopted the outlandish goal of having 13,000 megawatts of wind energy in place by 2011. In 2006 they abandoned that goal, and they replaced it with a new goal of 20,000 megawatts by 2010, which they are on the path to meeting.

We can move quite quickly to put in place renewable energy technologies if we have the political will and the desire to do so. Canada has a tremendous wind energy opportunity. We have an opportunity to clean the air, reduce greenhouse gas emissions, and build an industry. In 2006, globally, wind energy directly employed 163,000 people. Investments in new wind energy capacity in 2006 totalled $23 billion U.S. globally. Wind energy now provides electricity for about 22.5 million homes worldwide. Again, ten years ago, that number was almost zero.

We remain far behind the global leaders in wind energy deployment. Bill C-30can make an important contribution to closing the gap by providing clear and sustained market signals that incent and accelerate development and deployment of wind energy and other renewable technologies.

Thank you.

● (1600)

[*Translation*]

The Chair: Thank you very much.

We now have, from Hydro-Quebec, Marie-Josée Nadeau, Executive Vice-President, Corporate Affairs and Secretary General.

Ms. Nadeau, you have the floor for 10 minutes, please.

[*English*]

Mrs. Marie-Josée Nadeau (Executive Vice-President, Corporate Affairs and Secretary General, Hydro Québec): Merci. Thank you very much.

Thank you, Mr. Chairman, for inviting Hydro Québec to share with you and the members of your committee our position as well as comments on Bill C-30.

I will be speaking in French. You have been provided with my notes, and I will be commenting on each of the slides that you have before you.

Of course, when the question period comes, I'll be more than happy to take questions in French or English.

[*Translation*]

Hydro-Quebec is an electricity generation, transmission and distribution company. Its sole shareholder is the Government of Quebec.

In 2005 Hydro-Quebec did nearly 11 billion dollars' worth of business. It produces 35,315 megawatts, and 95% of the production is renewable energy. It is because of this renewable energy that Quebec has the best greenhouse gas emission record per capita in Canada.

Hydro-Quebec's net exports to neighbouring markets amounted to 6.7 TWh in 2005, for revenues of nearly $830 million. Hydro-Quebec can take advantage of 18 interconnections with markets in Ontario, New England, New Brunswick and Newfoundland and Labrador. A new interconnection with Ontario, with a capacity of 1,250 MW, is currently under construction here, just outside the National Capital.

Hydro-Quebec's exports to neighbouring markets in Canada and the United States helps reduce greenhouse gas emissions at the continental level and also helps reduce air pollution.

The energy strategy adopted by the Government of Quebec in 2006 emphasizes development of renewable energy. The strategy focuses on and gives priority to the ramping up of hydroelectric development, the development of wind energy, increased energy efficiency and more energy innovation.

As a result, Hydro-Quebec has adopted three main areas of focus.

The complementary development of hydroelectricity and wind power. Hydro-Quebec is moving ahead with a number of projects that together will account for approximately 4,000 MW of additional power. Wind energy will provide Hydro-Quebec with installed capacity of 3,500 MW following two calls for tenders involving 1,000 and 2,000 MW. The 1,000 MW call for tenders was the largest one ever issued in North America.

Energy efficiency measures have also been taken to a new level. Hydro-Quebec has adopted an Energy Efficiency Plan, which is expected to produce 4.7 TWh in annual energy savings by 2010 and 8 TWh by 2015.

We are also undertaking technological innovation to make our company even more efficient. In order to deal with the problem of climate change, it is essential to focus on land transportation. Hydro-Quebec has played an active role in this area with Cleanova II, a fully electric vehicle with an engine developed by our subsidiary TM4.

In the electricity sector, an effective federal strategy to fight greenhouse gas emissions should be based on four major principles: first, consider hydroelectric potential to be part of the solution; second, ensure fair treatment for hydroelectricity; third, apply the principle of polluter-pays, or emitter-pays, if you like, fairly; and fourth, promote—and I mean by that recognize—the contribution of all types of renewable energy projects.

Those principles will maximize the contribution of renewable energy as part of an effective policy to deal with greenhouse gas emissions and pollutants in Canada.

The environmental approval process is much shorter in Canada for coal-fired power projects than for hydroelectric projects. In fact, thermal power plants often do not even require federal authorization. A hydroelectric project takes an average of 8 to 12 years of preparation and preliminary steps before it is up and running, whereas a thermal plant of the same capacity can be operational in less than five years.

The regulatory process must be quick and effective. I would point out that the federal government has made a special effort over the past few years to speed up the project approval process. That has a direct impact on the ability of producers to respond to changing energy needs.

The recent approval of our Eastmain-I-A-Sarcelle-Rupert project at the federal level will enable us to begin providing megawatts of clean energy to Ontario as scheduled, that is, by the end of the decade. Ontario will thus be able to reduce its dependence on fossil fuels. That is an example of a concrete positive effect of developing renewable energy.

In our opinion, the main thing that Canada can do is to create an effective emissions trading market. How can we ensure that it is effective? To begin with, like my colleagues, I would say that we need to set out clear, straightforward rules—we will come back to this further on; ensure that the laws of supply and demand can operate by not having an artificial minimum or maximum; indicate clearly that emitters must assume the cost of their emissions and that non-emitters must receive clear recognition; enable companies to make good long-term investment decisions and adapt to regulatory constraints as profitably as possible.

I have just said that the rules need to be clear and straightforward. We would like to suggest a few such rules that are already being discussed in the industry and are very realistic.

All electricity projects that have become operational since 2000 should comply with a national standard based on emissions of a combined cycle gas turbine, a standard that takes into account Canada's energy budget. To go beyond that would create too heavy a burden on a number of large emitters. Under that scenario, a new plant emitting less than a combined cycle gas turbine would receive extra credits and permits up to 350 t/GWh, and would have to pay for its extra emissions, for example, by buying permits and credits on the market.

More specifically, in the context of the bill that is before you, the timetable for targets and emission caps should not create any uncertainty. As I have said, the rules regarding long-term constraints need to be specific. Maximum emissions should decline incrementally in accordance with the timetable set out in advance. The timetable might include, for example, adequate notice for companies to be able to make the necessary investments. This is particularly important in the electricity generation sector. Investment decisions are made a long way ahead and cover long, even very long, periods.

I would also like to say a word about certain ideas circulating to the effect that standards and rules might be set for various generation streams. That is not a good idea and would only result in promoting higher emissions, which goes against the objective. Comparing coal with coal, or wind with wind, would not move Canada ahead in any way.

In closing, although we recognize that there is no magic solution, Hydro-Quebec would like to emphasize once again how important the issue of climate change is. Canada must control and reduce its emissions. The clearer the rules are and the sooner they are set, the better our performance will be. All companies planning major investments are waiting. Moreover, if Canada wants to achieve the dual objective of reducing its emissions and remaining internationally competitive, it must develop its renewable energy resources.

Thank you for your attention.

● (1610)

[*English*]

The Chair: Merci.

Our last presenter will be Mr. Don Wharton, director of offsets and strategy for TransAlta Corporation. Mr. Wharton, it's ten minutes for you.

Mr. Don Wharton (Director, Offsets and Strategy, TransAlta Corporation): Thank you, Mr. Chairman.

Honourable members, I will be sharing my presentation this afternoon with Dr. Bob Page, who is a senior adviser on climate change to TransAlta and was formerly our vice-president of sustainable development.

TransAlta firmly supports the purpose and intent of Bill C-30 to address greenhouse gases and other air emissions. We commend the efforts of the committee to develop effective environmental legislation. The results will have a great importance for the future of the Canadian electricity industry.

By way of introduction, TransAlta is Canada's largest investor-owned power generation and wholesale energy marketing company, with operations in a number of Canadian provinces and in the U.S., Mexico, and Australia. Our facilities operate with a diverse mix of fuels: coal, natural gas, wind, hydro, and geothermal. In Alberta we supply approximately 60% of the province's electricity requirement.

Today we wish to discuss our company's perspective on the implications of Bill C-30 and the challenges and opportunities for managing atmospheric emissions.

Let me start by saying that TransAlta believes it is possible, with a rational regulatory framework, to make major reductions in its emissions profile in the decades to come. We are excited about this opportunity from both an environmental and a competitive perspective. If we lay the right groundwork, starting with Bill C-30, the potential is enormous.

Our industry is highly capital-intensive, with large facilities having long lifespans. We provide an essential public service. Provincial governments are the regulators of our industry and in some cases the owners, but there is a diverse array of regulated and non-regulated structures across the nation.

In every jurisdiction, the historic charge to the electricity companies has been to provide secure, reliable, and low-cost electricity to meet growing demand. Canada is fortunate to have a diverse set of electricity-generation fuels, which vary regionally. This also means that some regions are more emissions-intensive than others.

For companies with fossil-fired assets, such as TransAlta, big changes are tied to capital stock turnover. This is my first key point. Our plants have economic lives of 40 to 50 years. These plants are normally very large and specifically designed for burning one type of fuel. They are relatively efficient for their inherent design. Today these plants have limited ability to reduce their fuel use and emissions or to convert to alternate fuels. In the near term, then, emission reductions from existing plants will be finite and small. However, real opportunities come when existing plants are retired, to be replaced with new technology.

As a specific example, TransAlta closed three units of its Wabamun plant between 2003 and 2004 and effectively replaced them with generation from the state-of-the-art Genesee 3 plant, resulting in an improvement of over 25% in greenhouse gas emissions per megawatt hour and a net absolute reduction of 600,000 tonnes of greenhouse gases per year.

I'd like to turn over to my colleague Bob Page.

● (1615)

Dr. Bob Page (Senior Advisor on Climate Change, TransAlta Corporation): The second point is that big opportunities come from new technology. Many of the Canadian electricity industries have been working hard to develop clean combustion technology and have been exploring opportunities for carbon capture and storage.

Some of the hurdles are technical ones; some of them are economic. But solutions are on the horizon. Economical and reliable clean coal technology is perhaps five to eight years away. Retrofitting of existing fossil fuel plants is perhaps a decade away. The potential of carbon capture and storage varies by region, but in Alberta, where enhanced oil recovery might provide revenue, we are not far from a viable business case.

What kind of policy environment is required to allow us to achieve meaningful reduction goals? Our third point is that for the electricity sector more than any other, a focus on the long rather than the short term is crucial. In the period between 2010 and 2020, TransAlta is prepared to accept shorter-term targets as a means of getting started. But as explained earlier, there is a limited amount that we or a sector can do at this period to make sizeable changes in our mission's profile; thus the only option for achieving short-term reductions is to purchase reductions from other sectors in the form of offsets.

But capital spent there for compliance will dramatically dampen our ability to invest capital in the new technologies and accelerate capital stock replacement, which is our principal goal.

The quid pro quo is that we are prepared to adopt challenging long-term targets. How would that work? Our proposed model is that every plant reaching the end of its economic life would be required to be replaced with, or perform at the levels of, the best available economic technology of the day. Such a requirement would drive companies to find viable technology solutions or to retire the facility.

In the near term, we strongly support the concept of a technology fund as a principal compliance mechanism for the electricity sector. In our model, reasonably set near-term emission targets would create the impetus for company contributions to a technology fund.

It would be designed much like a trust fund. Companies prepared to build and implement new plants with new low-emission technologies would have access to this capital to overcome economic hurdles and gaps and to accelerate stock replacement.

We also support the need for a robust domestic offset system here in Canada and an active national emissions trading regime that also allows viable international credits to be transacted. Such a mechanism would facilitate the optimization of the company compliance position in any given year.

Don.

Mr. Don Wharton: What would be the result of such a framework? TransAlta believes it could achieve the government's proposed target of a 65% reduction in levels of greenhouse gas emissions by 2050. We believe we could achieve similar levels of sulphur dioxide and NOx emission reductions in the same timeframe. These are tremendous levels of reduction, given the growing demand for electricity in the economy.

Do we know exactly today how we can get there? The answer is no, but we trust we can find a way.

An outstanding question is, what will this cost? That will be the key issue in determining one of two outcomes: either (a) an environment in which, with punitive sanctions on emitters, yearly compliance is a struggle and minimum efforts are the norm; or (b) an environment where innovation is encouraged with accelerating reductions, and where big-step changes in emissions are possible.

Depending on the ultimate targets established, TransAlta has estimated that the cost of fossil-fired electricity generation in Canada could rise by several percent. In some jurisdictions these costs will not easily be passed to consumers, and companies could face large financial burdens. In the near term, if compliance requirements are stiff, cashflow and market valuation will become real concerns. It becomes imperative to design a system with the full understanding of its cost implications.

Compliance cost for industry will be a function of two factors: depth of target and the availability of compliance mechanisms. It is our strong advice to this committee that the setting of emissions targets attempts to mirror the fundamental realities of each industrial sector.

Electricity is different. For electricity, it would look like a slow start but big finish. That means a ramp-up, starting with modest and achievable short-term targets, and finding a way to direct capital where it will have the biggest, most sustained effect over time.

Ours is a long-term business, and we are good at finding long-term solutions. We fully understand the environmental urgency. However, we should not let short-horizon, urgent strategies undermine much more substantial longer-term approaches to make the real big gains.

What does this mean in the context of Bill C-30? We believe that the bill should establish the framework for subsequent targets and regulations that focus on measures that are measured in progressive emission reductions. Long-term, large, and sustained reductions must be the key. The challenge is to start now, start sustainably, learn by doing, and use our financial resources in the most effective manner.

In conclusion, the key issue for electricity is one of timing. Our objective is to manage through the near term in a way that allows us to finance fundamental technology change in the long haul, while staying commercial in the marketplace.

Thank you very much.

● (1620)

The Chair: Thank you very much.

I'll just remind those folks who have not sent briefs electronically to do so, and then we can handle them from there.

We'll start our questioning, and we're going to be pretty tight on the timing.

Mr. McGuinty, you have seven minutes, please.

Mr. David McGuinty (Ottawa South, Lib.): Thank you, Mr. Chair.

Thank you very much, witnesses, for coming.

I would like to pick up on a series of questions that I put to other witnesses this morning from other industrial sectors. It has to do with the comments made by our Minister of the Environment, followed by comments made yesterday by the World Bank's former chief economist at the Economic Club in Toronto, and then followed by a document that was sent to the Prime Minister and the Minister of the Environment on December 21, some two months ago. In two cases, these comments advised the government and the people of Canada that it would be a very good thing for us to take advantage of an international carbon market.

I think most of you said we should have a domestic emissions trading system that ultimately should be linked up with an international market. Could you help us understand the implications of not participating in an international carbon market, if no such market were open to your industries and your companies?

The second question is to Dr. Page and your colleague from TransAlta. Could you help us understand how your company, your chief financial officer, your board of directors, and your shareholders —particularly your institutional shareholders—are meeting their tests with respect to your three CDM projects that are now underway around the world, as I understand?

We hear constantly from the government and other sources in Canadian society that this is all about purchasing hot air. But you're in the business of doing these projects. You have a CFO, corporate standards, a board of directors, and institutional and non-institutional investors; surely you're reporting and accounting to them.

Could you please give us some indication of what you've learnt so far and the robustness of the verifiability of those offshore projects?

Mr. Don Wharton: Thank you very much. I'm happy to respond to that.

On your first question, we believe that simply access to international markets for emissions trading provides an additional supply of instruments for the compliance use of Canadian firms. So it is really a matter of increasing the supply available to Canadian companies, and hopefully keeping the costs reasonable for those who must use those instruments to comply.

All things being equal, we are stronger supporters of a viable domestic emissions trading market and would do business there if it were in existence. We intend to do that in the future. But we believe the international market, including north-south possibilities with the United States, is a worthwhile objective. It provides the right kind of marketplace for emission reduction instruments to be developed, purchased, and used, so we are supporters of that.

On your second question, TransAlta has been preparing for a carbon-constrained future for over a decade. We have a four-part strategy that we've been following to prepare ourselves for carbon constraints. One of the pillars of that strategy is the development of an emissions offset portfolio. As you correctly point out, we have been very active in the international market since 1996 in identifying viable, strong projects. My view is that the projects we invest in are definitely not labelled with the term “hot air”.

We look for viable instruments in the clean development mechanism, a mechanism from the Kyoto Protocol that has very stringent rigour associated with it. We apply additional rigour, from our company's perspective. So we feel that the investments we've made to date in international instruments are solid, verifiable, and would be received well in any country as a viable instrument for emissions reduction. We will continue to look internationally for opportunities as well as domestically, once that market is available.

● (1625)

Mr. David McGuinty: Who from the panel would like to comment on the cost of compliance without the use of an international carbon market?

In his ten-page communication to the Prime Minister and the Minister of the Environment, the president of the Toronto Stock Exchange said on December 21 that Canadian companies would be disadvantaged with the domestic market only because the cost for each tonne of greenhouse gases reduced would be excessively high, especially because of the small size of the Canadian market.

Carbon traders in the States and elsewhere have told me that a domestic market alone would be an illiquid market, a small market. The cost per tonne of reduction would be excessively high.

Can you give me some understanding of what the impacts on your businesses and bottom lines would be if we were only playing in a domestic emissions trading system in Canada?

The Chair: Who do you want to direct that to?

Mr. David McGuinty: It's for anybody who can answer it.

Mrs. Marie-Josée Nadeau: I can provide you with part of an answer.

We would be looking for a fluid market. A domestic market would be much too small to provide the investors with the necessary fluidity, so the next-best thing would be a continental market, ideally an international market. The objective is as fluid a market as possible.

Dr. Robert Hornung: It's basic economics, in the sense that increased liquidity will lead to decreased costs.

On some of the emerging technologies, we've already seen that the clean development mechanism mentioned by my colleague has led to the installation of wind energy projects in a number of countries where there had been none before. It's facilitating their introduction in a number of developing and former eastern European countries through joint implementation to bring these technologies into the marketplace there, where they wouldn't have been otherwise.

Mr. David McGuinty: Madame Nadeau, for many decades there has been discussion between Ontario and Quebec about getting some of Quebec's hydro power. Why has it taken so long? How much power is now being shipped into Ontario, and what do you contemplate for the future?

Mrs. Marie-Josée Nadeau: We needed the available resources. We have been intensifying our development in the last ten years or so. We now have power to sell. We are undergoing negotiations with Ontario for a long-term contract.

The various elements of these negotiations are still private, but as I stated earlier, we are now building an interconnection with Ontario to transmit 1,250 megawatts of power from our hydro facilities. The interconnection will be in service in 2009. From then on we will be contemplating a long-term contract for at least that capacity.

● (1630)

[*Translation*]

The Chair: Thank you very much.

Mr. Lussier, you have seven minutes.

Mr. Marcel Lussier (Brossard—La Prairie, BQ): Thank you, Mr. Chairman. Thank you to the panellists for their presentations.

My first question is for Mr. Fortin, but Ms. Nadeau can answer as well.

Bill C-30 proposes modifications to a number of acts: the Canadian Environmental Protection Act, the Energy Efficiency Act and the Motor Vehicle Fuel Consumption Standards Act.

In your two documents, Ms. Nadeau and Mr. Fortin, you mentioned that there may be two acts that are not affected by this bill. I would like to know your opinion about the Canadian Environmental Assessment Act and the Fisheries Act, which limit hydroelectric development.

Should Bill C-30 have included provisions to amend those two federal acts? Do you have any suggestions for us in that regard?

Mr. Pierre Fortin: Thank you, Mr. Lussier.

With respect to including those two acts in Bill C-30, I do not know whether the issues are the same. As Ms. Nadeau and I mentioned, the Canadian Environmental Assessment Act, which was reviewed three or four years ago and will be up for review again in another two or three years, imposes much stricter constraints on hydroelectric development. Ms. Nadeau gave an example where she compared the approval processes for thermal plants and hydroelectric projects.

However, cooperation between the federal and provincial levels has improved over the past few years. Things are not yet perfect, of course, but there have certainly been some improvements regarding processes and cooperation between the two levels of government.

As for the Fisheries Act, you are probably aware that Bill C-25 is before the House of Commons, having already passed first reading. It is a big bill. We are currently preparing a file on the bill and we hope that we will be able to have discussions with your colleagues on the fisheries and oceans committee.

I certainly agree with you that the two acts are linked and that each has an impact on the other. There have been improvements, and we hope that Bill C-45 will bring further positive changes. Nonetheless, it is clear that our sector has always been treated much more rigorously and strictly.

Mr. Marcel Lussier: You added that the current regulatory environment does not encourage wind power development. What did you mean when you said that?

Mrs. Marie-Josée Nadeau: Thank you.

I would like to thank you for your question about hydroelectric development and the approval process, because it gives me the opportunity to say clearly that Hydro-Québec does not recommend that the current act be amended.

The main problem that we have is that, owing to a Supreme Court ruling, the federal government exercises its jurisdiction in environmental areas through the Canadian Environmental Assessment Act. When it comes to assessing hydroelectric development projects, the Quebec government has longer and broader experience than the federal government, which is to be expected. I have no axe to grind here. However, we need to avoid having different timetables or duplication of two parallel systems. Each jurisdiction can carry out its responsibilities, but greater harmonization between the two levels of government regarding the timelines for the process and better knowledge of the files will certainly contribute to streamlining the process. Emphasis needs to be put on reaching the finish line.

Regarding the fisheries issue, special attention needs to be paid to the regulations. The development of wind energy is hampered by rules that change from one year to the next, whether we are talking about actual rules or tax incentives. Investors need stability and predictability. Having rules that are clear, specific, stable and predictable will definitely provide an incentive to the sector.

● (1635)

Mr. Marcel Lussier: I would like to continue, Ms. Nadeau, with the distribution of energy east-west and north-south, with the American States.

Hydro-Québec's major dams have been recognized by the State of New York as a source of renewable energy. Is Hydro-Québec certified by the State of New York as having that status?

Mrs. Marie-Josée Nadeau: That kind of certification does not really exist, but our energy is recognized as renewable energy. The problem that some people have had in interpreting the rules is that, by claiming us as a source of renewable energy, the Americans thought that we were trying to tap into their tax incentives, which was absolutely not the case. We simply wanted hydroelectricity to be considered a renewable energy.

Mr. Marcel Lussier: That is sort of where I wanted to lead you since I would like to explore the issue of the credits that the State of New York grants to its electricity distributors.

Do you intend to get involved in this credit process with the State of New York?

Mrs. Marie-Josée Nadeau: Yes, as soon as the markets are clear. That is why we are recommending that Canada set up an energy trading market. That way we can trade credits. We can have our credits recognized and accumulate them. We need to have a trading and transaction mechanism.

Mr. Marcel Lussier: Have you looked into the process of trading credits with the State of New York and found that Quebec would have its provincial credits penalized because of its exports?

The Chair: Keep your answer short, please.

Mrs. Marie-Josée Nadeau: Quebec's provincial credits will not be penalized. We sell to an energy exchange, and our energy is recognized as being clean energy. We are not worried about penalties. The challenge really involves large dams versus small dams.

[*English*]

The Chair: Merci.

Mr. Bevington, please.

Mr. Dennis Bevington (Western Arctic, NDP): Thank you, Mr. Chairman, and thanks to the panel for a wonderful presentation on renewable energy.

Certainly the concepts you have talked about, like the 40- to 50-year lifespan of the investments we have to make in the technologies for coal plants and hydro plants, are significant investments for Canada. We need to understand how these fit into a national perspective.

We haven't talked a lot about transmission here, but I've heard some things. Certainly the concept of an east-west grid linking Canadian provinces where appropriate and economically feasible would serve very well to build a conduit for renewable energy. You can't put renewable energy in a pipeline, but you can put it on transmission lines, and it is the likely means to deliver renewable energy across the country.

To TransAlta, the linkage is maybe to British Columbia, and in the past you've had opportunities to share with British Columbia. I know you've had difficulty establishing a large wind resource in Alberta because of the intermittency of the supply there. Do you think there are solutions that could come with better linkages to British Columbia and better understanding of the regulatory regimes between the two provinces, to allow you to utilize the storage capacity in British Columbia to develop your wind resource?

Mr. Don Wharton: I think the short answer to your question is yes. Any increase in transmission capacity benefits the system as a whole and benefits the companies who are prepared to use the system to lower emissions. You're quite right that today TransAlta already moves electricity into B.C. It's stored there in hydro capacity and then returned back to the system. So it's a very efficient way of maximizing the efficiency of fossil generation and using the attributes of hydro.

We would certainly say that transmission growth is an important element of any effort by the electricity sector to manage its emissions. At the same time, electricity markets in Canada are still quite regional, so it is not a small challenge to think about growing transmission capacity across the entire country. But it is a long-term opportunity that we should be studying quite carefully.

● (1640)

Mr. Dennis Bevington: Thank you.

Mr. Hornung, we have an incentive program in Canada that is about half that of the United States. Has that differential between the incentive programs been an issue in developing wind power in Canada?

Second to that, what will be the impact on your industry for the development of carbon credits? We've been hearing rates between $30 and $50 a tonne. What would that do to the industry?

Dr. Robert Hornung: In response to your first comment, yes, there is a gap between support levels for wind energy in Canada and in the United States. In Canada, support is 1¢ per kilowatt-hour production payment incentive. In the U.S. there's a 1.9¢ production tax credit. That does make the U.S. a more attractive market, I think, from an international investor perspective. I think we've seen a bit of the impact of that, for example, in terms of where some of the manufacturing investments are going in North America at this time.

There's no doubt that having a price on emissions will indeed have an impact. Obviously I can't, off the top of my head, provide you with "this much equals this". But from our perspective, if you're looking at offsetting, for example, coal-fired generation, which is close to a tonne per megawatt-hour, the economics can change fairly significantly with a form of pricing on emissions.

Mr. Dennis Bevington: Okay.

Ms. Nadeau, the investment that Hydro Québec is making in hydro power—Hydro power in Quebec is in some cases used for heating homes thermally, is that correct?

Mrs. Marie-Josée Nadeau: Yes.

Mr. Dennis Bevington: Certainly there are more efficient ways of providing heat, through geo-thermal, through air-to-air heat pumps. But at the same time, is Hydro Québec developing those programs to offset the additional use of thermal electricity?

Mrs. Marie-Josée Nadeau: Most Quebec houses are heated with a hydro-electricity source. My answer to your question is "Let the client decide". We're not pushing them in any direction, but we have fairly good rates.

Mr. Dennis Bevington: Right now, you're considering the import of liquefied natural gas to Quebec. Terminals are being considered for areas there. I don't know if Hydro Quebec supports that. But that kind of investment is going to set you in a course towards fossil fuels rather than renewable energy. What's Hydro Quebec's position on the development of liquefied natural gas in that province?

Mrs. Marie-Josée Nadeau: Hydro Quebec has been a silent observer, and I will be that silent observer today.

Mr. Dennis Bevington: Okay. Well, you know, we need brave people in this country to change the way we deal with energy.

The Chair: Thank you, Mr. Bevington. Your time is up.

Mr. Warawa, for seven minutes, please.

Mr. Mark Warawa (Langley, CPC): Thank you, Chair.

Thank you to the witnesses for being here.

This is our 13th meeting on Bill C-30. I appreciate your being here. I think all the testimony we've heard thus far has invoked a lot of good, healthy debate. We're looking forward to your recommendations. Most of you have provided verbal recommendations, so thank you for those.

I'd like to focus a bit on moving from a voluntary system to a regulatory one and the importance you see in that, which is what Bill C-30 does, along with the notice of intent to regulate. I think each of you have made comments on the importance of carbon trading.

Is the importance of having a stable, predictable structure with Bill C-30 what takes us in a direction to reduce greenhouse gas emissions? Bill C-30 also deals with reducing pollution, cleaning the air that we breathe, but today I just want to focus on the greenhouse gas emissions, which I think is relevant to your testimony.

Is it important to have a regulatory structure—as opposed to a voluntary—to have a domestic or international carbon market actually function? Right now it is voluntary. People can participate in a voluntary way within the carbon markets. But we've seen greenhouse gas emissions skyrocket under the previous government. This government wants to take seriously the reduction in greenhouse gas emissions.

So how important is it that we move from voluntary to regulatory?

● (1645)

Mr. Don Wharton: TransAlta would strongly support the establishment of a regulatory framework. We believe that it is important to make progress, that certainty is critical for our decision-making. Since it is a long-term business, we need long-term certainty, so we are strong supporters of a regulatory framework.

As it relates to emissions trading, you're quite right that it is not required to have a viable emissions trading market. However, I believe that again it would cement certainty in the marketplace, which is important, especially in the early days of any emissions trading market.

So for that reason and for the benefits to the emissions trading, we would support a regulatory approach.

Mr. Mark Warawa: How important is it, then, as a priority of this government, to provide those incentives to build technology within Canada? I think each of you represents unique and growing technologies to provide clean energy. How important is it to provide and keep those dollars here in Canada, as opposed to having them go outside the country to buy credits?

Maybe each of you could make a quick comment on how important it is to keep those dollars here.

Mrs. Marie-Josée Nadeau: I will start with a first comment. I was going to say that I agree with TransAlta, but on this specific point, the technology fund, we do not have the same perspective.

Of course a technology fund could be interesting, but let's not lose sight of what the goals are. We are looking at reducing GHG emissions. So a technology fund would maybe do some good, but not help us in attaining this goal.

Mr. Mark Warawa: Mr. Fortin.

Mr. Pierre Fortin: As I mentioned in my presentation, I don't disagree with the issue of developing new technologies, of course, and I think it's very important. But we also have to remember, as I mentioned previously, that there are already existing technologies that can be used in the other power sectors. I think Mr. Elston also made that point in his presentation.

While we are trying to develop new technologies, we should not just put aside or put away the existing technology, which has brought us to a pretty good standard of living so far.

Mr. Mark Warawa: Mr. Elston.

Mr. Murray Elston: Yes. I think it's important for us to bring back everybody's attention to the fact that we have an energy system in Canada within which a number of technologies play a very important role.

We are a very important element in the competitiveness of our economies. We are contributors in our own way to making sure the Canadian economy can continue to run very well. We shouldn't focus exclusively on a technology fund. We shouldn't focus exclusively on a trading system. We shouldn't focus solely on one technology or another. We're very complex. We have to make sure that we put a system in place that permits us to take advantage of our existing benefits.

Quebec, B.C., Manitoba, and Newfoundland and Labrador are great water resources. There is large nuclear generation in Ontario. Coal is well used in Alberta. And we cannot for a moment lose sight of the fact that all of us together make a contribution to the economy, so we have to have reasonable costs associated with all of our generation activities.

That includes, by the way, not just having a regulatory system that says you shall meet X. It will require that your regulatory system also permits us to take steps to upgrade our technologies, that it permits us to put in place wind projects. Bob spoke a little bit about some problems getting those done.

You have to do the whole piece. We in the nuclear world play a very important role in keeping down emissions because we don't emit from our reactors. We keep a very important role in the economies of several of our provinces.

So keep the eye on the whole case, not just one very small piece of it, as important as it might be, because the disruption that you could cause in one area could really be difficult for us to overcome, and we are long-term projects.

● (1650)

The Chair: Thank you very much.

We'll move to the five-minute round.

Mr. Godfrey, for five, please.

Hon. John Godfrey (Don Valley West, Lib.): I noticed in the presentation of the Canadian Hydropower Association, on page 7, there was this phrase that says:

> Investment in hydropower development involves long lead times—it is necessary to have knowledge of the target caps and the phase-in schedule of the targets as they become more rigorous over time, to facilitate timely investment decisions to achieve the targets. An important aspect of the schedule is the transition from intensity-based greenhouse gas targets to caps.

If we were ambitious, what date should we choose to make that transition from intensity targets to absolute caps?

The Chair: Mr. Lundahl, you can join us at the table if you wish.

Mr. Pierre Fortin: Ideally, we should go for a cap right at this time, but I understand there has been some commitment by the government to go through that phase-in period. I wouldn't want to say 2010 or 2011 or 2012 or whatever. I think the point that's important to appreciate is that it needs to be done in a very timely fashion and as quickly as possible.

Hon. John Godfrey: You mentioned 2010, 2011, 2012.

Mr. Pierre Fortin: I was saying that as a possible—

Hon. John Godfrey: Is that unreasonable? Are those dates that—

Mr. Pierre Fortin: Sorry to interrupt. I did say now, earlier.

Hon. John Godfrey: Now. So somewhere between now and 2012?

Madame Nadeau.

Mrs. Marie-Josée Nadeau: Moving into the intensity question is a compromise.

Let me say it in French.

[*Translation*]

The objective will not be met.

Hon. John Godfrey: Do you have a date to propose?

Mrs. Marie-Josée Nadeau: We believe that absolute targets should be set immediately rather than taking an intensity approach.

[*English*]

Hon. John Godfrey: Mr. Elston, do you have a view of this?

Mr. Murray Elston: We have a role to play in helping us get there. From our perspective, as a technology that is well used now and can be expanded in other places in this country to help reduce emissions, we can go with either. But we can tell you that you won't have emissions from using the reactors. As a result, we're quite happy to be involved to assist in reducing those emissions from other sources.

Hon. John Godfrey: I suppose it's really only fair to ask the people at the table who actually have coal-fired plants.

TransAlta, would you comment on how quickly we could move from intensity-based targets to absolute caps?

Mr. Don Wharton: I think I have two comments on that issue. The first is that I think it's important to recognize that intensity-based targets have an application for certain sectors, but we shouldn't speak generally about them. For the sectors with very strong growth in energy and emissions, intensity-based targets may be the appropriate way to start. For other sectors, that might not be the case. I think one has to be careful about making a sweeping statement that applies to everyone.

Our company could manage with a well-thought-through mechanism to work with either intensity or absolute caps. We're available to work on either one. It's the design of the details that's important.

● (1655)

Hon. John Godfrey: My last question is to Mr. Elston.

You paint, as one would expect, a fairly rosy view of the nuclear sector. But tell me, in terms of private sector investment, where in the world does one actually find private sector dollars in the nuclear business these days?

Mr. Murray Elston: In a number of places. The latest has been in Ontario, with the Bruce Power development putting in about $4.25 billion to refurbish the existing reactors there. That's private money from a partnership, which includes the Power Workers' Union and three other investors—a pension fund, Camco, and TransCanada.

In the United States, most of the units are done by private investment. A notable exception obviously is the Tennessee Valley Authority, which is a public operation. So we have examples of private money coming in.

I think you will find in the energy world, because it has become such an important one globally, there is money available for investment if there is certainty around the circumstances under which the investment is to be made and a sense of long-term prosperity in the view of the people who are making those investments. It is not necessarily the technology that precludes the investment; it's the opportunity.

The Chair: Thank you.

We'll move on to Mr. Jean for five minutes, please.

Mr. Brian Jean (Fort McMurray—Athabasca, CPC): Thank you, Mr. Chair.

I just want to make sure I have it correct. First of all, which presenters here today—and by the way, thank you for coming—would be entitled to sell any greenhouse gas credits on any type of market, either domestic or international?

Mr. Don Wharton: Who would be entitled—was that your question?

Mr. Brian Jean: Who would be entitled, with the expectation of selling them? Everybody here would be? It would depend, of course, on the benchmarks, but it's expected that most people here would be able to.

I don't find myself agreeing very often with a Liberal, but I have to say, Mr. Elston, I agree with some of your comments. I think there is no silver bullet. A mix of energy with a mix of tools is going to get Canadians the best results, with the minimum negative economic impacts, the cleanest air, and the fewest GHGs we can get.

I do want to concentrate most of my questions on TransAlta Corporation. I notice from presentations you've given in the past, as well as from your website, that you actually have quite a movement on the go. In fact, you have been one of the top 16 electrical utilities worldwide for sustainability in the past seven years. Is that correct?

Mr. Don Wharton: That's correct; it's eight years, actually.

Mr. Brian Jean: It's eight years, okay. The website is behind by a year, I guess.

And you have higher investments in renewable resources than any other company in the field does—is that correct as well—with some $69 million, for instance, in Vision Quest Windelectric?

Mr. Don Wharton: I can't speak to the comparative, but I certainly would say we are one of the largest, for example, wind energy generators in Canada.

Mr. Brian Jean: Okay.

Mr. Page, I'm glad you're here today, and I wanted you to comment on a quote you made before the Environment and Public Works Committee of the United States Senate on June 12, 2002. If I may, I'll quote:

> Since we need time and capital to develop new technologies, near-term requirements, which cap CO2 emissions at levels substantially below current emissions, are counterproductive. Our province – Alberta – currently advocates flexible approaches that the Kyoto timeframe (2008-2012) does not allow. We agree with our Provincial Government that pursuing aggressive reductions in this timeframe will punish industry economically by forcing investments in available technology which will quickly become obsolete – and result in stranded costs – when new clean coal technology is available.

You hinted at new clean coal technology's being on stream in the next seven to ten years. I think you suggested that. In essence, I'd like you to explain what you mean by "which will quickly become obsolete".

● (1700)

Dr. Bob Page: My explanation is quite a simple one, and that is that if we went to the super-critical technology at that time, which was the existing best available technology economically achievable under American definitions, then that would only have a lifetime of eight to ten years before the new clean coal technology would be available. If that then became the regulatory standard, you'd be in a situation such that instead of having a 40-year lifetime for that technology, you would have only a ten-year lifetime.

I say that in the context, especially, of which I was testifying before the U.S. Senate at that time, and of some of the regulatory aspects of certain states that were being proposed at that time.

Mr. Brian Jean: And you went on, in fact, to say that...and I'm going to continue quoting, if I may:

> The concept of an integrated multi-pollutant framework—under which targets, incentives, and emissions trading for greenhouse gases are coordinated with government policies for pollutants such as NOx and sulfur dioxide—is one we support. We have seen some piecemeal approaches in Canada which have hindered long term technology development.

I'm interested in the technology and the return on investment for shareholders, and ultimately Canadians.

Dr. Bob Page: Yes, this is a very important point, I think, for the committee, given the nature of this bill, because what we are trying to suggest with the clean coal technology is a technology that deals not only with carbon dioxide, but with sulphur dioxide, with NOx, and with mercury. We're very concerned about mercury these days as well.

When you have a technology you're bringing forward—for instance, clean coal technology—the capture of all these pollutants, and then the permanent sequestration underground of those pollutants is something we see as a solution from an air emissions point of view, as opposed to merely a sulphur dioxide scrubber, which is just an add-on and is complicating your technology and adding to your costs.

Mr. Brian Jean: So in essence, you would support the Clean Air Act and the initiatives that this government has taken on NOx and SOx and mercury and cleaning the air up, as well as the GHG emissions.

The Chair: A very short reply.

Dr. Bob Page: Yes. We haven't seen all the details of this yet, but the concept of pan-emissions legislation is very much, from our point of view, to be desired.

[*Translation*]

The Chair: Thank you very much.

Mr. Bigras, you have five minutes.

Mr. Bernard Bigras (Rosemont—La Petite-Patrie, BQ): Thank you very much, Mr. Chairman. I would like to welcome the witnesses.

I want to come back to page 8 of the Canadian Hydroelectricity Association brief and page 7 of the Hydro-Québec brief. Concerning credits, Mr. Fortin talks about previous measures to reduce greenhouse gases and Ms. Nadeau talks about early actions. You are both saying that credits need to take into account past efforts, and especially those made since 2000.

My question is as follows. What do you mean by previous measures and early actions? There may be quite a lag between when a project is announced and when it is up and running. You said yourselves that distortions can occur in the federal environmental assessment process. In your opinion, what are those early actions? Is it when the project is announced or when it is operational?

Mrs. Marie-Josée Nadeau: It is very clearly when the project is operational.

Mr. Bernard Bigras: When it is operational. Very well.

Before coming to the committee, I reread the presentation made by Mr. Caillé, the former president of Hydro-Québec, to the National Assembly Committee regarding the implementation of the Kyoto Protocol. I was struck by one of the statements he made.

The European Commission explained to us by video-conference the three-pronged model of using a sectoral approach and a territorial approach to meet the Kyoto objectives. That caught my attention.

Mr. Caillé stated:

> Regarding the implementation of the Kyoto Protocol, Hydro-Québec recommends that the Quebec government ask Canada for similar treatment to that of Sweden in Europe, that is, a target of 4% above 1990 levels rather than 6% below, on the basis of the same factors that led to the decision in Europe to apply that target to Sweden.

Claude Villeneuve, who is a climate change expert, has said that regional aspects are fundamental to the implementation of the Kyoto Protocol.

What do you think of the idea of a territorial approach to achieving the Kyoto objectives?

● (1705)

Mrs. Marie-Josée Nadeau: To come back to Mr. Caillé and that parliamentary committee, the aim was to make the government aware of the fact that imposing a target of 6% below on a non-emitter created a much greater burden than imposing the same target on an emitter. We wanted to point out that Quebec's special situation as a non-emitter needed to be taken into consideration, as it has been in Europe, where the difference between countries and their sources of clean energy are taken into account.

Mr. Bernard Bigras: In your opinion, has that been the federal government's approach since 1997, with its sectoral implementation?

The efforts made by Quebec, either through its hydroelectricity or other sectors of economic activity, should be taken into account when greenhouse gas reduction targets are set.

The government's notice of intent, as you know, sets out only one objective for the reduction of greenhouse gases, which is for 2050 and is based on 2003 as the reference year and not on 1990. In order for those past efforts to be taken into account in the Canadian plan, do you feel that it is important to use 1990 rather than 2003 as the reference year?

Mrs. Marie-Josée Nadeau: Since the time of that parliamentary committee or that appearance before the National Assembly, the debate has evolved. We are prepared to live with the recognition of early action for reductions beginning in 2000.

I'm here to stress to the members of this committee the importance of recognizing the contribution of hydroelectricity and of including this energy source in the various standards and the various regulations that will be established when credit and allowance markets are set up.

[*English*]

The Chair: Thank you, that's all the time we have for that one.

[*Translation*]

Mr. Paradis, you have five minutes.

Hon. Christian Paradis (Mégantic—L'Érable, CPC): Thank you, Mr. Chairman.

My question is a general one. We have here various stakeholders of the electricity and nuclear energy sectors, from all over. There is a lot of talk about energy production, but there is also the issue of consumption. For example, in Quebec, greenhouse gas emissions are highest in transportation.

I want your opinion. A commitment was made to ensure that 5% of fuel for cars be renewable fuels by 2010. In your opinion, is this a step in the right direction? Do you have any suggestions? What is your opinion?

Mrs. Marie-Josée Nadeau: I represent a producer of electricity. We are not active in land transportation, except through research and development and an electric motor we are trying to put on the market. What I can say in response to your question is that all sectors must participate. The Quebec government's position is that there will be no significant change or improvement if the transportation sector does not make a significant contribution.

Hon. Christian Paradis: Ms. Nadeau, you anticipated my second question, and I thank you for it.

Earlier, you talked about new technologies. I would like you to explain your position. I want to be sure that I have understood you correctly with regard to investing in new technologies.

If I understand correctly—and correct me if I'm wrong—there is no point necessarily in expanding the fields of research, rather we need to focus on existing technologies. Have I correctly understood what you're saying? I'd like to have some clarification.

Mrs. Marie-Josée Nadeau: Thank you. What I said was technology funds may be an option. We mustn't confuse the creation of a technology fund with a way to achieve our Kyoto targets. I said that it was important not to lose sight of the Kyoto targets, which is the goal of this Parliament and this committee, in other words to reduce greenhouse gas emissions produced in Canada.

Ultimately, the impact of an investment fund will not be to reduce greenhouse gases. That said, this fund can be created, but we must not confuse it with a response or a solution to the problem.

● (1710)

Hon. Christian Paradis: Ms. Nadeau, you talked earlier about targets. If I understand correctly, you are focusing more on absolute targets. That is your vision. Now, I want to ask a general question because, when we talk about targets, this means that actions are taken and that there is also an economic transformation.

How do you see this? What are you suggesting, with respect to this transition, in order that we do not adopt overly restrictive, unreachable targets that would undermine public confidence, but rather that we ensure a transformation by which these targets would be reached?

Also, Mr. Elston, you talked earlier about various types of energy. With regard to technologies and industry, there are lots of ideas on using the biomass, among others, or wood or biomass residue.

Overall, how do you see this? What direction should the government take to ensure that, in the long term, intermediate term or short term, we can best reach this target?

Mrs. Marie-Josée Nadeau: Since Hydro-Quebec is not an emitter as such, for established targets, my answer would be simple: the quicker and the sooner this happens, the happier we will be. The trap you must avoid is benefiting emitters at the expense of non-emitters, through various incentives, or failing to recognize the contribution of non-emitters because not as much money is at stake.

This is what I meant by my comment on ensuring that the various types of energy are treated equitably: recognizing all contributions—you mention the biomass; we can also mentioned wind energy, nuclear energy, thermal power plants—in an equitable process for all.

[*English*]

The Chair: Mr. Holland is next.

Mr. Mark Holland (Ajax—Pickering, Lib.): Thank you very much, Mr. Chair.

My first question is to Mr. Hornung.

The first WPPI program set a target of 4,000 megawatts. I'm wondering how effective the WPPI program was in helping you move towards increasing your target. You said right now it's roughly 1,400. A target of 4,000 had been set; it was suspended for a year, and now it's been reintroduced. How important are those programs?

You mentioned 10,000 megawatts. What is needed to get us to 10,000? How important are programs like that? How important would the former WPPI program, whatever it might now be called, be to achieving those goals?

Dr. Robert Hornung: The WPPI program and the new program, the eco-energy for renewable power program, are very important for a couple of reasons, but I should say first that the WPPI program had an initial target of securing 1,000 megawatts of installed capacity of wind in Canada by 2007. That was passed. The full program was actually fully subscribed in 2005, and 1,000 megawatts of technology were in place by 2006. In that sense, the program worked very well and achieved its objectives ahead of schedule.

These programs are important for a couple of reasons. First off, they continue to help close the gap that still exists between wind and at least some of the competing technologies in terms of new electricity generation. By doing that, they provide a very good complementary measure for provincial governments; provincial governments are interested in bringing these technologies online, but are also interested in insuring that the impact on the rate base and on consumers is as minimal as possible.

In that sense, the introduction of these programs at the federal level has encouraged the provincial governments to look more seriously at technologies like wind. It's encouraged them to set some aggressive objectives. When the first federal program was put in place and set a target of 1,000 megawatts, the provincial governments had very little on the go. Three years later, the provincial governments had targets of 4,000 or 5,000 megawatts in place. Now we have federal initiatives that are going to support somewhere in the range of 3,500 or 4,000 megawatts again going forward, and now provincial governments are looking at 10,000 megawatts.

We've seen that the federal initiatives have been very important in stimulating provincial interest and in stimulating investment in the wind energy sector, but there's no doubt that the wind energy industry and provincial governments will be looking for the federal government to continue to play a role as a partner going forward, in terms of creating the market conditions that will allow these technologies to continue to meet their potential.

● (1715)

Mr. Mark Holland: I want to ask a question about what I see as a short-term challenge and a medium-term opportunity: the fact that Canada's infrastructure for generating power is aging, and there's going to be a very great degree of turnover in the next number of years, particularly from about 2010 to 2012. It provides a short-term challenge because it's hard to drive down emissions when we still have those facilities operating, but it creates a medium-term opportunity in that if we replace those facilities with clean facilities or methods of generating power that substantially reduce emissions in that timeframe, it can have a very large impact.

How important is it for the government to establish firm emissions caps, if you will, to drive that change? What action does the government need to make sure a clear signal is sent to industry that when that turnover is taking place, the replacements will be the types of energy creation that are going to substantially reduce emissions?

It's a general question to those on the panel who would want to answer.

The Chair: Whoever answers has one minute.

Mr. Don Wharton: We see that in fact there will actually be a large capital stock turnover in the fossil-fired electricity sector in the 2015-2020 period in Canada. That's based on our internal analysis of the situation. However, we think that establishing firm targets provides the right signal for companies that do have the opportunity to make those investments then to make them in the right way. We think it's a fundamental piece of the puzzle.

The other one, of course, is advancing the technology so that when the opportunity does present itself, you can move on it and make those clean coal or clean combustion investments at the time that you have the opportunity.

The Chair: Thank you, Mr. Holland.

We'll move to Mr. Manning for five minutes, and then we'll have to run for the votes.

Mr. Fabian Manning (Avalon, CPC): Thank you, Mr. Chair.

Thank you all for your presentations here today.

My first question is for Ms. Nadeau.

In your presentation you mentioned recent new developments or ongoing developments in Quebec right now. You hope to have a long-term contract with Ontario to provide 1,250 megawatts. We all realize that hydro power is a clean renewable energy source. Any developments are certainly welcome news.

In the new developments that are happening under Hydro Québec at the present time, is there a hope to have more energy to be able to export to Ontario, or wherever the case may be, in regard to creating more clean energy around the country?

Mrs. Marie-Josée Nadeau: The answer is yes.

Mr. Fabian Manning: Can you give us any idea how many megawatts that would be in the near future?

Mrs. Marie-Josée Nadeau: We are actually considering 4,000 megawatts. We have about 3,000 that are either under construction or about to go into the evaluation or assessment process.

The question then lies ahead as to the transmission lines. If there is a market and the will for both parties to get along together, the transmission lines or the grid will be built. It's a question of markets.

● (1720)

Mr. Fabian Manning: My second question is for Mr. Wharton.

I picked up from your presentation the need for some long-term action certainly for industry as we go forward in relation to development plans to reduce our GHGs. Could you elaborate on what kinds of early actions on the part of energy we should be trying to establish incentives for in the period between now and 2015?

Mr. Don Wharton: I would say the key thing again is to focus on accelerating the development of technology that will replace emitting generation. It looks to me like investment in clean coal technology, R and D, and beyond that in terms of actually supporting projects that are prepared to take the first step to move along that path. It's clean coal technology in all its forms. It could be gasification or it could be oxygen combustion.

There's a whole range of new technologies, plus retrofit opportunities, recognizing that 90% of the emissions we'll have in ten years will come from the existing stock we have today. The ability to actually make changes to existing stock will also be important. It needs a lot of work in technology.

Mr. Fabian Manning: On reducing greenhouse gas emissions and trying to clean up our environment but at the same time trying to keep a strong economy, could you elaborate on that? Do you believe that trying to balance the goals of reducing GHGs and economic consideration at the same time is where we need to be?

Mr. Don Wharton: Absolutely. It is the definition of sustainable development to be able to maintain the economic power to make the change to preserve the environment. It underpins our view of the long-term nature of the business and the changes that need to be made.

The Chair: Ask not for whom the bell tolls, Mr. Manning, it tolls for thee, with apologies to Hemingway.

I want to thank the witnesses for appearing and providing some valuable information. Our apologies, but we do have to run, because somebody's calling us.

This meeting stands adjourned.

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