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Chair

Mr. Leon Benoit

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● (1530)

[*English*]

The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)): Good afternoon, everyone. Welcome back after the constituency work week.

Welcome to all of our witnesses who are here today. Thanks to all of you for coming.

Of course we're here today to continue our study, pursuant to Standing Order 108(2), on the contribution of integrated approaches for providing energy services in Canadian communities.

We have four groups of witnesses here today. From the Canadian GeoExchange Coalition, we have Denis Tanguay, president and chief executive officer, and Ted Kantrowitz, vice-president.

I think we'll just go through these one at a time. You can make your presentation and I'll introduce the next witnesses as we are ready for them to make their presentation. You may make your presentation for up to ten minutes.

Thank you.

[*Translation*]

Mr. Denis Tanguay (President and Chief Executive Officer, Canadian GeoExchange Coalition): Thank you very much, Mr. Chairman.

It's always a pleasure to be called before a committee of the House of Commons and to have the opportunity to present the industry's views.

I'm going to present a brief picture of the coalition, then talk about how geothermal energy contributes, or can contribute more to integrated energy systems in the communities. I'll conclude by talking about our industry organization experience.

I just remembered that, last time, I spoke far too quickly for the interpreters. I promise I'll speak more carefully today.

Essentially, the Canadian GeoExchange Coalition is an association of geothermal sector stakeholders. It is a matrix representation. We represent all stakeholders: installers, manufacturers, people from the financial sectors and so on. It's a comprehensive association.

We're talking about the integrated approach to energy services in a North American context. We think there is a real North American challenge, even though we're talking about communities. Currently, a number of issues must be resolved in the energy sector.

The first is to adapt to noticeable fluctuations in energy prices. This is an everyday reality. It is also important to continue optimizing the overall energy supply and demand chain, whether it be by securing or better managing traditional energy sources, improving energy efficiency or the efforts that must be made to integrate renewable energy in the supply and demand equation, while considering the decisive role Canada plays in energy security in North America.

We have to put the debate in this context and define the role of the communities in energy management. This requires us to rethink how our energy is moved in and around municipalities and communities, while building and upgrading infrastructure to reflect the adoption of new energy technologies, particularly renewable energy, while ensuring economic growth and sustainable development without losing a single job and, if possible, creating new jobs. We think the challenge is extremely important.

The energy forms found in isolated regions, whether it be oil, hydroelectricity or natural gas, are transported to the communities through various mechanisms. This is the traditional approach to energy supply and demand.

In reality, however, most of the energy consumed within communities is thermal energy. So this is energy that has been transformed and essentially generated by fossil fuel combustion. Another important reality for the communities is that organizations do not have a culture of energy management. The communities are used to receiving energy, not managing it.

The conclusion that must be drawn from this is that we must promote the wider use of technology that produces thermal energy more efficiently within the entire supply-demand chain and accelerate the wider and wisest of available technologies to move thermal energy within our communities. This is the central point of our position.

Obviously, the key technology for transferring this energy is geothermal heat pumps and heat pumps in general. The key tool is the integrated energy systems approach within communities.

If you turn the page of the presentation, you'll see a visual representation of what we consider an integrated approach for providing energy services. I won't review each of these points, but, essentially, in the upper left-hand corner of the slide you'll find the traditional energy sources that enter the community, whereas all the other boxes represent potential energy sources or sources of energy consumption, whether it be municipal waste management, cogeneration from industrial processes and excess heat produced by arenas and supermarkets. A large quantity of thermal energy is thus being lost.

● (1535)

I've strategically placed what I call thermal storage and heat exchangers. This is the concept of geoexchange. These devices can be installed in a municipality to absorb this energy and subsequently to redistribute it in the community.

However, the market raises many barriers to the integration of these devices. I won't review them one by one, for lack of time. Whatever the case may be, we are faced with exactly the same barriers as other forms of energy, that is to say financial issues, reluctance to move away from current practices, the renewable energy products and services supply bottleneck and regulatory and standards issues. The development of integrated energy services in the communities thus faces all these traditional barriers to energy efficiency.

For us, the integrated energy services approach requires a market transformation. It is unrealistic to think that we will expand and improve the way energy circulates in the communities if our ultimate objective isn't to transform markets, and thus to move from the current method to more futuristic methods of delivering energy. The market raises barriers, but market failures must also be resolved. When the market is unable to resolve those barriers, governments and industrial associations must address market failures. The transformation of these markets will obviously be achieved through market solutions. This also involves the promotion and revision of certain standards and practices. This won't be done by itself; we must acquire the tools to do so. Governments have an important role to play in this regard. Then applications and standards must be implemented. It isn't simply a matter of implementing standards; they must also be enforced. Otherwise there will be no market transformation.

Very briefly, I will say that our experience with geoexchange has transformed the markets in the past four years. Essentially, after years of consultation with power companies and various governments, both provincially and federally, we have developed a global quality program and a self-regulating industry-led approach that works relatively well. Ultimately, the quality equation that we have developed essentially has three parts: training for individuals, accreditation for professionals and systems certification. This equals, first of all, market discipline for the industry, among the people who work in it, but especially for consumer and stakeholder confidence in the technology. That's the fundamental point that concerns us. And you'll find that in the approach for the communities as well.

I won't dwell on the next slide, but it shows the results achieved after two years of implementing our quality program. Several hundreds of individuals have been trained and are fully qualified, and several thousands of systems have been certified by the coalition. We therefore have a great success story that can be replicated with other forms of energy.

In the current situation, we see opportunities for the industry to grow and for government to help. The government's first role is to provide assistance for infrastructure and technologies for the integrated approach. Every single form of renewable energy within the communities becomes more efficient when combined with another energy form. The combination of two technologies normally yields a better result than the sum of those two energy forms individually. Applying 10, 15 or 20 different energy forms to the community as a whole amplifies the situation. It is therefore important that infrastructure programs aim to achieve a higher degree of integration.

Another promising component would be to set performance goals. We could lay out a medium- and long-term vision in the communities. For example, we must understand that, based on the standards, a building will have to be heated with so many kilowatt-hours and Joules per square metre. We shouldn't merely insulate a wall with R-40 or R-60 products or whatever. This is much more a performance approach than a prescriptive approach.

● (1540)

In addition, the current recession might provide the right opportunities. With respect to manpower training, there is currently a need for new worker training. There's also a need for investment to replace infrastructure. It is important to replace current infrastructure based on energy systems, not on each specific component. There must also be a focus on capital stock turnover cycles. If we don't do it now, we won't be able to do it in future.

In short, the business model for an integrated approach works relatively well. We've proved that the deployment of geoexchange is realistic. As for the need to adapt existing standards, the confidence of stakeholders in the communities depends on the development and implementation of standards. We also note a serious need to better inform stakeholders. Obviously, the self-regulating model that the coalition has developed in the geoexchange sector could be adapted to other forms of energy.

Thank you very much.

The Chair: Thank you, Mr. Tanguay.

[*English*]

Now, from the Wind Energy Association, we have Sean Whittaker, vice-president, policy.

Go ahead, for up to ten minutes, please.

Mr. Sean Whittaker (Vice-President, Policy, Canadian Wind Energy Association): Thank you very much. It's a pleasure to be here.

We are a not-for-profit industry association representing pretty much everyone and anyone having to do with wind energy, large and small, in Canada. We have about 410 corporate members now, including manufacturers, developers, research institutions, service providers to the industry, etc. So it's a fairly big group.

It's a pleasure to be with you here today presenting to you some ideas we have on the contribution that small wind, in particular, can make to providing energy services in Canadian communities.

At present, as probably most of you know, the vast majority of attention within Canada in the world of wind is focused on large wind systems. These are the large, 80-metre-tall turbines that are used for utility-scale transmission-connected projects. They now provide about 1% of all Canada's electricity. Within CanWEA the majority of our activities are focused on the large wind systems, but there is a very active group within CanWEA looking at what we call small wind systems. These are the ones I'd like to talk about today.

To us, a small wind turbine is anything under about 300 kilowatts in size. If you look at the large utility-scale turbines, there is a fair degree of uniformity in them. The installations may have ten turbines or a hundred turbines, but they're largely used for the same application: to provide electricity to the grid.

When you start looking at small wind, there is quite a differentiation between the applications that exist within it. There are basically three I'd like to talk about today, because they each represent to us very different opportunities and different challenges. To act on that opportunity requires three very different strategies.

The first category is a small-sized residential system. That would be between one and ten kilowatts in size. The second category is what I'd call medium-sized commercial and farm installations. That would be between ten and 100 kilowatts in size. The third is large wind and wind diesel systems for remote communities, and that's about 50 to 300 kilowatts in size. As I say, all three of them play very different roles and they have different opportunities in being part of an integrated community energy system. In all three, there are very different strategies you have to use to promote them. I'll talk about them each individually.

The first application is what I'd call small-sized residential systems. A typical installation would be someone who in their backyard has a one-kilowatt system that costs about $6,000, and that provides 10% to 15% to 20% of their household electricity needs if they're in a good wind regime. At present there are not a lot of these systems in Canada, somewhere between 300 and 400. At CanWEA I would say about a third of all the calls we get are about these small wind systems. People love them. Their main interest is usually driven from an environmental perspective: they want to reduce their consumption. It's rare that they're interested in it from a purely economic perspective; mainly they want to reduce their dependence on the grid. So that is for the small systems.

The challenge for these systems, the one to ten kilowatts, is that presently there are no incentives from either utilities or governments to recognize the benefits these present. When you think about it, you've got someone coming out and spending $6,000 on their own system, which is effectively like spending $6,000 on energy efficiency, because you're reducing your load on the grid and there's also GHG reduction benefits that come from that. So there's an interest, but no incentive that's provided for that in the same way there are incentives provided for energy efficiency measures in homes.

The second challenge to those kinds of systems is that often the cost of connecting them can be equal to or greater than the cost of the system itself. An inspector comes and says you can connect your small wind system and it will cost you $5,000; you have already spent $5,000 on your system, so that can have quite an impact as well.

What we feel needs to happen there is provision of incentives either in the form of rebates or tax incentives that recognize the environmental and system benefits these systems bring. In the United States, the Congress just passed an investment tax credit that applies to all small wind systems and quite a large range of systems. We don't have anything like that in Canada.

● (1545)

The second type of system that we think presents a real opportunity is the mid-size farm systems, and these are between 10 kilowatts and 100 kilowatts. At a typical installation here, you're looking at a 65 kilowatt machine. It will cost you about $180,000 to $200,000. That can provide 50% or more of all the electricity requirements for a medium to large-size dairy farm. So that becomes quite an interesting proposition. Currently, there are very few of these systems in Canada. We estimate that there are between 70 and 100 of them.

There's a huge interest in these systems, and it's for a very different reason: it's mainly economics. A lot of farmers look at these things and say yes, this is a big upfront investment, but I'm basically locking in my electricity price for a period of 20 years and I'm gaining independence from the grid. We saw during the blackouts in 2007 and before that some farmers would lose $50,000 to $60,000 worth of product from a two-day blackout, and they're looking for a hedge against that.

One of the other interesting things and a little known fact about these sizes of systems is that worldwide there are about ten manufacturers of systems between 10 kilowatts and 100 kilowatts. Half of these are Canadian, and they sell almost everything they make overseas, because there's no market for it in Canada. So the challenges here are pretty significant. The initial costs are very high. Farmers are generally looking for a return on investment of 10% or greater, and they're looking for a recognition of the benefits that these systems bring in the form of an incentive.

So what we'd be looking for here with the first systems, the smaller ones, is a direct rebate or a tax incentive. On the second type of system, these mid-size ones, we're looking at more of a production incentive. So you get a payment similar to what happens now with eco-energy. It's based on per unit of electricity generated and you get a payment for it, either that or something like a feed-in tariff, which has now been introduced in Ontario under the Green Energy Act.

The second big thing that needs to happen is we need to streamline the connections process, because with these systems you can buy a $200,000 turbine and set it up and then the utility comes in and says we need to spend $50,000 to figure out what impact this is going to have on the grid. The impact it will have on the grid is less than that of a large welding machine.

The third type of system—and this is what we call small wind as well—is a large wind and wind diesel system for remote communities. These are generally between 50 kilowatts and 300 kilowatts. A typical installation.... If any of you have travelled to the island of Ramea in Newfoundland, you'll find an installation there that consists of six 65-kilowatt wind turbines connected with a bunch of diesel generators, and that provides about 80% or more of all the electricity requirements for the island of Ramea.

There are over 300 northern and remote communities in Canada. Right now they all rely on diesel generation. That diesel generation costs them anywhere from about 25¢ per kilowatt-hour up to $1.50 per kilowatt-hour, which is 15 times more than what we pay in the south. It also causes great pollution from diesel spills, from air pollution. It also brings few local benefits, because you're basically shipping in the diesel, you're burning it, and that's it.

This is another area where Canada has huge expertise. If you looked around the world and tried to find your leading experts on wind diesel, you'd find over half of them in Canada. The problem is they're applying this expertise mainly overseas. If you go to Alaska, Alaska has piles of Canadian wind turbines, Canadian technology, Canadian control systems that they're using to power many remote communities in places like Kotzebue. It's a case where we've got this expertise, we've got a niche, we've got the technology, but we don't have the domestic market to support it.

One of the challenges that you run into here, as soon as you want to install wind in a small community, is many of the utilities will say, “We already paid for our diesel generators, so all we're going to give you for this wind is what you help us reduce in terms of diesel fuel use. So if you reduce our use by 100 litres, we'll pay you the equivalent of 100 litres of diesel.” What they're not including is all of the costs of the incumbent technology that they've now paid off, so you have an unlevel playing field. What is needed here, again, is an incentive that gets them over that hump.

● (1550)

For the last two years the Canadian Wind Energy Association has been advocating for something we call the remote community wind incentive program. It's essentially an expansion of ecoENERGY for renewable power, but is designed specifically for northern and remote communities. We feel it has tremendous potential. With an investment of approximately $51 million, you'd be able to provide 10% of all the electricity in Canada's north from wind. The wind is there and the technology is there. They're Canadian turbines, so we just have to put two and two together.

In conclusion, we have a very strong demand for wind power from a range of places. Residential homeowners are interested in the small systems. Farmers are interested in the medium-sized systems. Remote communities are interested in the larger systems.

These systems provide many benefits. First, the electricity supply is close to where the demand is, so you reduce line losses and make for a more robust grid. We have an opportunity to make Canada a leader in the development of these mid-sized systems. There's a general consensus that we're going to see a lot more electrification of rural communities, not only in Canada but across the planet. If Canada is well positioned with those technologies, we can really see the benefits from that development.

The challenges are really significant. There's a need to recognize the environmental benefits that come with these systems. There's a need to help wind deal head to head with incumbent technologies like diesel generators. In all these cases we feel that government can really play a key role.

In 2001 the wind power production incentive was brought in. It was one cent per kilowatt-hour. It morphed into the ecoENERGY program. The push it gave to the large wind industry was tremendous and can't be understated. We're now sitting at 2,400 megawatts of installed capacity, largely because of the push that gave. We feel that the same push is required for the small and medium-sized systems now.

With that I'll conclude my remarks. Thank you very much for this opportunity to present.

The Chair: Thank you, Mr. Whittaker.

We'll now go to the Pembina Institute, Tim Weis, director of renewable energy and efficiency. Go ahead, please, for up to ten minutes.

Mr. Tim Weis (Director, Renewable Energy and Efficiency, Pembina Institute): Thank you.

I'd like to thank the chair and the committee for inviting the Pembina Institute to present today.

The Pembina Institute is a sustainable energy think tank. We're one of Canada's largest environmental NGOs, and we have offices in Vancouver, Calgary, Edmonton, Drayton Valley, Canmore, Toronto, Yellowknife, and across the river, in Gatineau. We're spread across the country, and we have a pretty good understanding of what's going on nationally.

I appreciate your having me here today. I know next week would have been a better opportunity to fit me in. Unfortunately, I had committed to being in Saskatchewan and Alberta next week. I've been invited by many communities in those two provinces to discuss how they can get involved in renewable energy systems. It's following up on some research we recently published called *“Greening the Grid”*, on how Alberta could implement renewable energy to reduce its carbon footprint.

Unfortunately, I didn't have time to get a formal presentation together in the few days since I was invited, and again that was because I was in Alberta last week. I was delivering the keynote address to a conference put on by Alberta Agriculture. This conference was looking at how farmers can take advantage of renewable energy systems on their own farms and behind the meter.

This event took place in Taber, in southern Alberta. It was completely sold out. They had to turn away farmers and landowners who wanted to attend, and who were all looking for ways they could be reducing their own environmental impact. The attendees at this conference saw presentations about small wind, solar, geothermal, as well as one technology that was teaching cows how to pump their own water so it wouldn't require any power. There was a whole breadth of information there. I must admit that I left that conference probably more enthused than any conference I've gone to in a long time. It was very inspiring to see the level of interest in southern Alberta.

I've been working with the Pembina Institute since 2002. My area of research is focused on renewable energy and energy efficiency systems. I've worked a lot with communities, which is the topic we're talking about today. I've worked with communities as far north and remote as the border of Manitoba and Nunavut, all the way to the city of Toronto. I've worked with Dawson Creek, British Columbia, and up to Tuktoyaktuk, Northwest Territories. I've worked with individuals, with co-ops, large oil companies, and with governments to look at ways they can be implementing renewable energy technologies and energy efficiency technologies.

If there's a common thread that runs through all this work I've done, it's that Canadians are looking for a way they can be involved in solving the climate crisis and solutions they can do in their own homes and communities. I've become more and more convinced that projects at a community level and on individual levels are essential to empowering Canadians.

I'm very happy to see this committee taking on this important topic and looking at what role the federal government can play.

I finished a master's degree in mechanical engineering, looking at wind turbines in the north specifically. I decided I wanted to continue on to PhD work, and I quickly realized that mechanical engineering wasn't the place for me. It wasn't really technology that was the problem; in most cases it was policies or lack of support, or both, that hindered the uptake of renewable energy technologies. In fact we often have policies that do the opposite, that actually prevent sustainable energy development. I find myself more and more in the policy world, because that is where the barriers are that we need to overcome if we want to implement these technologies.

I recognize that your task is a bit daunting, and the scale of issues and the complexities of Canada, both geographically and politically, can't be understated. I have learned in my travels across Canada that it's not a one-size-fits-all for every community and every city. I don't think that should come as a surprise to anyone, but I also don't think it should be used as an excuse for inaction or delay at a federal level.

In fact the federal government has led the way in pushing renewable energy development in Canada, as Sean was saying in the previous presentation. The former WPPI, or wind power production incentive, which is now the ecoENERGY for renewable power program, really kick-started wind energy development across Canada.

As a result, we saw province-by-province targets, complementing policies and goals, none of which existed until the federal government took the first step. The same can be said for their home retrofit program, where you saw provinces and territories matching grants and programs that the federal government took the lead on.

As far as the white paper that outlined a lot of the work we're talking about today, I would suggest there's very little to argue with in that paper, particularly the title, which is *A Consensus For Urgent Action*.

● (1555)

Also, within that document there is a suite of actions required—not one silver bullet—from pricing pollution to awareness and education. In fact, most of the policies and recommendations in that document are policies that most of us have probably seen before, either already in action in other leading jurisdictions or throughout policy discussions that we've had, either surrounding climate change or sustainable energy development.

What I feel we've lacked in Canada is really the right scale of investment to get us there. I've circulated a document—I'm not sure if everyone has seen it already—that we prepared that compared the recent economic stimulus packages of the United States and Canada. It's available on the Pembina Institute's web page, if you don't have a copy.

On a per-capita basis, the United States is set to outspend Canada by a factor of six to one in support of renewable energy, energy efficiency, and public transit. When I talk to renewable energy developers all across Canada, they're worried today about the growing market in the United States. They're worried that Canada could be left out of the growing green energy economy of the 21st century.

While there are many opportunities that I think we could be talking about today, I don't really have the time to go through each individual one, but I do want to highlight a handful that are important at a community level.

First of all, as Sean was highlighting, there is no support for renewable energy projects at a small scale in Canada, whether that's at a community scale, an individual scale, urban or rural, northern and remote, or even individual homes. Having support at a federal level for renewable electricity systems at a small scale is important and complementary to what we have on a large scale.

Access to capital has always been a barrier for renewable energy and energy efficiency, whether it's at a large scale or at a small scale, and that's really been accentuated in the current economic situation. Loan guarantees or issuing green bonds is an idea that potentially the federal government could take up that would free up capital without requiring a huge federal outlay of cash.

The last thing is policy stability and predictability. Renewable energy systems require capital and they require consultation, both of which take time. Policy uncertainty can be as big a barrier as having the wrong policy in place.

If there is one issue that I would like to push back on in the QUEST document, it is the need for more pilot and demonstration projects. I know that's not a focus of the paper, but it is one of the recommendations. That may be true in some cases, but I would say most of the technologies we're talking about here today are already on the ground, either in Canada or somewhere else in the world. We know how these technologies work, whether it's a high-penetration wind-diesel system in Ramea, Newfoundland, or a solar village in Okotoks, Alberta, or a biomass district heating system in Chibougamau, Quebec. We need to have the desire to get beyond pilot projects and into rapid and urgent implementation, and given the scale of investment that's about to happen and is about to be unleashed in the United States, now is the time for Canada to invest.

Thank you.

● (1600)

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

Now to Jocelyn Lessard, from the Quebec Federation of Forestry Cooperatives. Go ahead, for up to ten minutes, please.

[*Translation*]

Mr. Jocelyn Lessard (Director General, Québec Federation of Forestry Cooperatives): Thank you, Mr. Chairman. Thank you for inviting us to present our proposal to you today.

We are a network of Quebec forest worker cooperatives. The federation, which has been in existence in Quebec for 70 years, represents 38 cooperatives that provide work for 3,000 persons. We are forest development specialists. We produce and plant trees. We have planted more than a million trees since our inception. We also do a lot of harvesting, transportation and road work. We are generally the suppliers of industrial forest concerns. Some cooperatives are also active in processing.

In view of the prices that the forest sector in Quebec and across Canada has been undergoing for more than two years now, we are seeking ways to improve our industry's competitiveness. Through our work, we have discovered that forest biomass is a very promising development opportunity. We want to propose that you consider it in your current analysis of the integrated approaches for providing energy services in Canadian communities. We believe it is a particularly promising opportunity for Canadian communities because it can improve and reduce our dependence on oil. It also assists in local development and land use.

My figures apply solely to Quebec. We have no information on the rest of Canada. As Quebec forests represent only 20% of Canadian forests, we assume this potential is at least as great elsewhere in Canada.

In Quebec, the department of natural resources and wildlife estimates that the potential volume of available forest biomass is 6.5 million dry metric tonnes. Stated more simply, that is equivalent to approximately 20 million barrels of oil a year. That is very significant potential. The resource is not entirely available for energy production and should not be used completely, but it nevertheless represents a very significant volume.

Unlike other energy sources, biomass is a sector with a number of very different segments. You can heat directly with biomass, logs or wood chips, as is done in institutional boilers, and we'll be talking to you about that at greater length. This biomass can also be processed into pellets and densified logs. You can also produce electricity and heat or just electricity or ethanol. However, the niche we consider most promising for communities is the direct heating of institutional buildings.

We have determined a number of reasons why our network is targeting this niche. First of all, from an energy balance standpoint, it is the most efficient way to use energy. For a unit of oil, we'll produce 15 units of thermal energy. In the case of ethanol, the ratio is one to 4.6; for pellets, one to six. Thus, we use all or virtually all the energy available from the resource.

We also achieve very low energy costs in short supply cycles. Supply costs are slightly lower than 3¢ per kilowatt, compared to 8¢ for electricity and more than 11¢ for fuel oil. It must be said that we were particularly concerned about the situation in the winter of 2008. So this is a promising economic option.

The technology required for this processing is available. High efficiency boilers are beyond any comparison with wood heating. There is considerable popular controversy in Quebec, but at the temperature at which the heat is produced, all gases are burned and steam emissions and dust levels are very low.

As regards employment, one job is created for every 500,000 metric tonnes of biomass. That's very promising for land occupancy.

With respect to improved industry competitiveness, we use roads created and equipment already on the land. It is impossible to challenge this under the softwood lumber agreement. It is simply a process improvement. That's very important and very beneficial for us.

In addition, the optimization of economic benefits for the communities is made possible through projects carried out at the community level and capital to which the communities have access.

The carbon footprint is also very good. Four cubic metres of wood is equivalent to two dry metric tonnes, which avoids releasing 2.5 tonnes of carbon. That's a very promising aspect.

This also has the benefit of decreasing energy dependence. Oil use has declined considerably, but long-term forecasts are a major concern and the communities are somewhat held hostage by this dependence. It must be understood that the cost of fuel for a wood boiler represents less than 50%, whereas the fuel cost for oil is more than 80%. These are very conservative figures. So this is already very promising.

● (1605)

We've briefly presented our federation's development strategy in this sector. We hope to provide energy to 300 to 400 institutional buildings, which would represent the creation of nearly 1,000 jobs and would capture 15% of available biomass. I'll spare you the details, but simply to say that this is a strategy. It is something very concrete, even though it is at the preparation stage.

There's one point I want to emphasize regarding our strategy, which would cost approximately $446 million to implement. The biggest cost is the cost of the equipment that the institutions need to acquire in order to make this transfer. It is in this respect that Canada could play an important role. We are currently seeking all possible solutions to get through the crisis, to create economic activity without recurring effects over time. This investment would help create sustainable jobs, and subsequent expenses would be borne through operations.

With regard to our requests to the federal government, what we're seeing is that, since the biomass for institutional heating sector virtually does not yet exist in Canada, it has not yet been addressed. We hope, for example, that the ecoENERGY for Renewable Power program, which subsidizes at a rate of $10 per megawatt for up to 10 years of production, can apply to the production of thermal energy from biomass combustion. Ultimately, the federal government is currently subsidizing power production from biomass. This is a minor economic aberration, if you consider that this electricity will subsequently be used for heating. It's not very efficient, and it would be better to fund the boilers directly.

We're also thinking of the ecoENERGY Retrofit Incentive for Buildings, which also concerns biomass, but which is extremely limited in scope because it is based solely on energy savings. It would be better to subsidize the biomass contribution as a whole as a substitute for thermal energies, fossil fuels and even electric energy.

The last federal budget included measures for the transformation to a green energy economy. Those measures reflect Canada's commitment to reduce its greenhouse gas emissions by 20%. Those measures essentially address the development of carbon capture and storage technology. That's something that's very important to do, but we think it would be a very good idea to consider the biomass for heating sector. The $1 billion Green Infrastructure Fund could also be used to fund the transfer of institutional equipment.

Those are our recommendations. What we've come to tell you today is that, without really making a major financial effort, Canada can help improve its energy efficiency, help consolidate the communities and send a clear signal that we can develop green energy in Canada.

Thank you.

● (1610)

[*English*]

The Chair: Thank you very much, Mr. Lessard, director general of the Québec Federation of Forestry Cooperatives.

With him today is Brigitte Gagné, executive director, Conseil canadien de la coopération. Thank you for being here as well. You may answer some of the questions if they apply more to your area.

We have until 5 o'clock for questions. At that time, we have 15 minutes to deal with Madame Brunelle's motion, and then we have bells for votes at 5:15.

The committee members will direct questions to any one of you. If another one of you wants to answer, you can indicate so. Sometimes I will allow that, and sometimes not, depending on the amount of time the questioner has left, because the time allocated includes questions and answers.

There's one other thing. Mr. Weis, you mentioned you had just given the text of your presentation to the committee or sent it to the clerk of the committee. Also, Mr. Whittaker, you did the same. Both of those have been sent for translation. We have a rule at the committee that until the text of the remarks is in both official languages, we do not distribute it, just so you know.

Let's start with questions from the official opposition. Mr. Regan, you have up to seven minutes.

[*Translation*]

Hon. Geoff Regan (Halifax West, Lib.): Thank you very much, Mr. Chairman.

I'd like to thank the witnesses for coming today. It was very interesting and—I think I can speak on behalf of us all—we appreciate the fact that you are here.

I'm going to begin by asking Mr. Tanguay a question, and perhaps Mr. Lessard as well. With respect to geothermal energy, you mentioned that it was necessary to adopt or improve standards or to develop new ones. Could you clarify your thinking further and tell us what quality standards are necessary? In the case of biomass, are there already standards? Are they sufficient?

Mr. Denis Tanguay: Thank you for the question. In the case of geothermal energy, there is a standard for installation and systems design. It is known by the name of CSA-C448. That standard was developed about 15 years ago—its previous version was called C445—but it has never since been revised. We realized, in developing our quality program over the past four years, that the standard had never been applied. There is a serious need to review that standard, if only to give the people who have to regulate systems installation in their areas more confidence, particularly the municipalities that refer to the standard, which moreover is cited in the National Building Code.

However, we realize that large portions of the standard do not cover the current reality of the geothermal markets, particularly as regards geothermal heat pumps operating on natural gas. There's no standard. We've had some pilot projects in Alberta and Quebec, among others, and there's currently one underway in Saskatchewan, but there is no standard. In the absence of standards, the potential danger is that everything that's decided at the federal or provincial level in terms of renewable energy policy, a municipality has the power to destroy in five minutes during one municipal council meeting. In the absence of standards, that's what we are exposing ourselves to. So as regards renewable energies as a whole, or the way in which energy is transported in an area or community, the absence of standards jeopardizes this entire idea of integrated energy services because some elements will be subject to standards, while others will not. In my view, there is an important role for the federal government to play to support the establishment of standards for all forms of renewable energy and, in particularly, to update them.

● (1615)

L'hon. Geoff Regan: Thank you.

Mr. Jocelyn Lessard: It's somewhat the same thing for biomass emissions. There are standards that have just been renewed. I don't know how it works in the rest of Canada, but, in Quebec, they've just amended the rules for combustion, thus for particles. The act sets the standard at 600mg per megajoule of emissions. We claim that there should be even more rigorous standards for heating plants and that they should be below 200mg. That would ensure that the sector could develop without any challenge. Moreover, that's what we're seeing outside Canada. We also agree that it would be good to have standards. Even with respect to harvesting the forest, we have to make sure we do not disturb soil fertility, biodiversity. We have to take all these considerations into account. Work is underway, but formal standards have not yet been established. All we know is that we must be careful, but there should also be standards in this part of the sector.

[*English*]

Hon. Geoff Regan: Let me turn now to the question of wind for a moment. Of course the House of Commons is often accused of producing lots of geothermal energy, and also plenty of wind, but let me just talk about what you've just said.

One of the things I want to ask about are the kinds of products and services that should be produced in Canada. Mr. Weis has talked about the advantage the U.S. has in this regard at the moment, in terms of the amount being spent there on those things and the concern that they're going to be doing things we're not, as a result.

I guess I'd like to ask Mr. Whittaker, what at the moment is being produced in Canada in relation to wind energy? I know that in Europe there are various places that are building the windmills and so forth. What technology is being developed, if anything, in Canada? What has been developed? And what are the opportunities here in terms of jobs and products and services?

A voice: Good question.

Hon. Geoff Regan: I'd also like Mr. Weis to comment on that.

Mr. Sean Whittaker: Thank you very much for the question.

There are two worlds within wind: large wind and small wind.

Within large wind at this point, we do have tower manufacturers. There's one in Saskatoon and another one in Gaspé. We have blade manufacturers. We have nacelle manufacturers. Content requirements were put in place, particularly in Quebec, for example, which required that 60% of all the project expenses be incurred in Quebec.

That's generated quite a lot of the nuts and bolts of the machines, but Canada also has considerable expertise just in terms of integrating wind. In terms of providing services to the wind industry, we have some of the world's leading experts in wind resource assessment, forecasting, etc.

Canada is very well positioned. Right now, about 4,000 people work in the wind energy industry in Canada. So that's large wind. And generally, for the content that you'll find in any given Canadian project right now, about 30% to 35% of the turbines or the project cost is Canadian.

But what we've seen in the States recently is that they have an incentive that's equivalent to about three times more than what the ecoENERGY program is worth. That has driven an incredible growth. Over the last year in the United States, we saw the start-up of 51 new wind turbine manufacturing facilities. There now are about 50,000 or 60,000 people working in the wind industry, because industry responded to the long-term signal that the U.S. government gave them, and they started planting. They said, “The government's in this for the long haul and we're going to start putting in these facilities because we know that the turbines we put out are going to find a market in the United States for many years to come”.

In the world of small wind, things are quite different. As I mentioned, it's a little-known fact that half the world's manufacturers of these medium-sized wind turbines are Canadian. I think of it in the same way as how Denmark, 15 years ago, had a small niche in terms of making turbines. They really pushed on it. Fifteen years later, they are now one of the top world producers of large wind turbines.

I think we're at the same place now. We have manufacturers like Entegrity Wind in Charlottetown, AOC, Energie PGE, Wenvor, and WES Canada. We have some strong manufacturing capability. They're now exporting almost all of their turbines, because that's where the market is. If we can kick-start our domestic market, just as they did in Denmark 15 years ago, we think these manufacturers will be well positioned at a point 10 to 15 years from now, when the market booms and all of a sudden there's this incredible need to electrify remote communities for the almost half of the world's population that doesn't have electricity. There's a huge possibility there now.

● (1620)

Hon. Geoff Regan: I'm anxious to also ask you about storage, because on Sable Island—

The Chair: Excuse me, Mr. Regan. Your time is up.

Mr. Weis, would you like to give a very short answer to the question?

Mr. Tim Weis: I'll try to give a really quick answer focused on wind, because that's what the question is about.

I think Sean is right. If we do want to see manufacturing for the large-scale turbines, we need to have a long-term, stable market. These are huge machines that require huge investment. The only way we're going to convince people to set up large manufacturing is to have a long-term market.

I think one of the areas that Canada can play in, in terms of the small scale and the big scale and where these two interlink with each other, is this idea of control systems. It sort of cuts both ways. One disadvantage that we have in Canada is that we have electrical islands. Our provinces aren't very well interconnected to one another. Also, for a country this size, we have a fairly small load. If we seriously ramp up variable technologies like wind, we are going to get into control questions sooner than other jurisdictions like Europe would, because they're much better integrated.

If we decide to really ramp up renewables, that is an area where we can actually be ahead of the curve and export that know-how to the rest of the world. I think that goes for the small-scale systems and the remote-scale systems, as well as the large systems. That's maybe the Canadarm, I guess, that Canada can contribute to the worldwide global renewable energy development.

The Chair: Thank you.

Thank you, Mr. Regan.

Madame Brunelle, for up to seven minutes. Go ahead, please.

[*Translation*]

Ms. Paule Brunelle (Trois-Rivières, BQ): Good afternoon, ladies and gentlemen. Thank you for being here. It's very important for us to be able to talk about efficient and effective renewable energy policies. I think that, if you want to generate real political will, it's good to talk about this with politicians.

Mr. Lessard, I would like you to tell us a little more about the benefits of biomass heating and this type of thermal energy production. You talk about it in your brief, but you address the subject very briefly. Can you give us a few additional details?

Mr. Jocelyn Lessard: I tried to give you the broad outlines, but I'm going to simplify my summary even further.

This is a form of energy that's available locally. Communities can take charge of their own needs. An investment of approximately $1 million per site can be used to install efficient furnaces and surrounding facilities to store material. In the forest, we're talking about changes that can be made quite easily with equipment that is already available. This also makes it possible to improve the efficiency of forest operations and to create additional jobs. Using biomass rather than oil for heating purposes improves the energy balance.

For all these reasons—and we've been able to observe this to the same degree and more so in northern Europe—we think that this would be a good idea. Since the Kyoto Protocol was signed, Sweden has managed to cut its CO2 emissions by 7%, in very large part as a result of biomass use. In Quebec, biomass represents 8% of our energy balance, but it is essentially used in the forest industry in cogeneration transformation processes. So this represents very big potential for the future.

Ms. Paule Brunelle: What did people previously do with these woodcutting residues?

Mr. Jocelyn Lessard: I now hesitate to call it residue or waste because all my environmentalist colleagues don't see that way. For the moment, biomass is left in the forest. Back home, we tend to want to use only part of that biomass, whereas elsewhere, they go so far as to extract tree stumps and roots. Currently in Quebec, some woods are not used; they're forwarded to industry for processing. For the moment, this is raw material that remains in the forest.

● (1625)

Ms. Paule Brunelle: All right.

You mentioned in your brief that you submitted to the committee that the incentive program for thermal production does not apply to the use of forest biomass. If the program were opened up, and changes were made, what would that make it possible to do? Should other federal programs be opened up so that thermal biomass can be used?

Mr. Jocelyn Lessard: In fact, we feel it wouldn't take much. The program already concerns biomass, but for electricity production. It should be applicable to thermal energy production. That would be enough. Everywhere around the world, where administrations that have started to use forest biomass for energy purposes have all offered very significant incentives. In the European countries, they can amount to as much as 90%. Even in the United States, in Vermont, the schools are now heated in large part by biomass. The incentive was set at 90% so that the sector could develop.

Ms. Paule Brunelle: The financial incentives mainly apply to equipment. That means that the government can invest, but that there is a start and an end. It isn't recurring.

Mr. Jocelyn Lessard: That's correct. The idea is simply to reduce the return on investment period to seven years for equipment that in fact will be around for at least 30 years, perhaps even 40. Public funding is limited everywhere. For institutions to be able to invest, a grant has to reduce the profitability period to that time frame. That means that it will be profitable for those seven years, but that it will be very profitable in the future. We have to create the incentive now. The Canadian government could even consider heating its own institutions using biomass, since there is a short circuit, one of five kilometers, and a source of supply. That would be one way to send out a signal.

Ms. Paule Brunelle: That's very interesting.

Do I have a little time left?

[*English*]

The Chair: You have two and a half minutes.

[*Translation*]

Ms. Paule Brunelle: Mr. Whittaker, I'm very much interested in wind energy. In my riding, the Marmen company manufactures these enormous towers. In Gaspé, they're producing for these people.

From what you tell us, the demand is high, but the barriers to increasing quantities are significant. I remember that the public expressed its opposition by referring to the windmills as visual pollution. People from Gaspé have told us that the enormous towers were all well and good, but that they blocked their view of the river.

How do you respond to that?

Mr. Sean Whittaker: Thank you very much.

I'd like to cite the example of the Marmen plant, which is located in the Matane RCM. I went there a few months ago and I spoke to the mayor. She told me that, for the first time, the population had stopped declining. We see that property values have started to move back up because the Marmen plant and that of Composites VCI have set up in the region. Soon the ENERCON and REpower plants will be established there as well.

There are windmills everywhere, but if you ask people from the region if they consider them as visual pollution, they say that's not at all the case. For them, they represent job creation and hope for their region. Everywhere in public surveys, we see that the acceptance rate of wind systems is at its highest. In fact, 90% of people accept wind systems and want to have them in their area. Once they are installed, the acceptance rate even reaches 95%. My uncle worked on the roads leading to one windmill, and my brother works for the business that manufactures the rotor blades. People immediately see the economic benefits. When people see the windmills, see that they make very little noise and are not a very great esthetic nuisance, their concerns are allayed.

Ms. Paule Brunelle: What's good about forest biomass and wind energy is that they enable us to keep our regions open, to retain our populations. In Quebec, it's dramatic to see the regions being emptied of their inhabitants. We're also not using our natural resources properly.

Mr. Sean Whittaker: Absolutely.

[*English*]

The Chair: Thank you, Madame Brunelle.

We'll now go to Mr. Cullen for up to seven minutes.

● (1630)

Mr. Nathan Cullen (Skeena—Bulkley Valley, NDP): Thank you, Mr. Chair.

Thank you to the witnesses. This is an interesting topic.

Following up on Mr. Weis's comments, I'm reminded that after the Bali conference on climate change, there was a follow-up conference on the technological side of climate change, not so much by the politicians, but by engineers and such. When walking away from that, I was amazed at how hopeful the issues of climate change and renewable energy actually were. The technical questions have been answered to a large extent. There's a good future for them. But the policy front of this Bali conference, in which principally Canada and the U.S. have played this disastrous role in stalling policy initiatives, was depressing. I think it was depressing for a lot of Canadians as well. If the problem isn't technical, it's political.

One comment that Mr. Weis picked up on earlier was on the pricing of pollution. Let's take wind as an example. You talked about long-term stability and the long-range capacity of renewables. How critical is the pricing of carbon to the industry's growth?

Mr. Tim Weis: It's a difficult question to answer because Canada is very different. Obviously, the different provinces have different technologies that they're competing against. The price of carbon in Alberta would be a boon to the industry, because you have a coal-based electricity system that is incredibly dirty.

Mr. Nathan Cullen: I'm sorry. To correct my question, I'm asking about a national price for carbon. I don't imagine there'd be provincial pricing.

Mr. Tim Weis: Even if there's a national price for carbon, for example, if you install a wind turbine in Quebec, where you're competing against hydroelectricity and there's not a lot of carbon associated with that electricity, the electricity that you're offsetting has different rates of carbon associated with it. I guess it can end up favouring investment in certain areas and not other areas.

While the price of carbon is definitely important, I don't think it's necessarily the only mechanism we would need to have in place if we want to make sure that we have widespread development and development that's equal across the country. I think it's definitely key and it's definitely important to drive a lot of this development.

But at the same time, we are going to need complementary policies in jurisdictions, for example, in Quebec or British Columbia, that have large hydro bases that wouldn't necessarily be able to take advantage of a carbon price specifically for wind energy development. It's an answer that's specifically for wind energy development and not for tackling climate change as a whole.

Mr. Nathan Cullen: I have a question for Mr. Whittaker.

I did look at the Pembina document. I pulled it down from the web. You've mentioned a factor of six and a half when comparing the investment rate in the U.S.'s recent stimulus package to Canada's, but on renewable energy, the factor is almost 14. That is, for every dollar Canada is spending in this area, the Americans will spend approximately $14. That's staggering if we're talking about this as part of renewal or a new economy.

My question is related to comparisons among the alternatives the Canadian government has picked up on. In trying to understand the differences between some of the renewables spoken about today and the cost of implementing an equivalency in carbon capture or nuclear power, has any analysis been done to say that the jobs created per dollar of investment in wind looks like this as compared to other energy start-ups?

Mr. Sean Whittaker: One of the things about wind is that it's a very human-resource-intensive industry. It requires a lot of jobs to develop wind.

Comparing the technologies is difficult in a way. If you look at where we are in Ontario, we have to replace 80% of our generating capacity within 15 years. There are very few technologies that are shovel-ready, that are ready to go, to satisfy that demand on the electricity side. Wind is one. Natural gas generation is another. And energy efficiency is the third. Carbon capture sequestration, it's generally acknowledged, will be commercial by 2020, hopefully, but in the short term, we have a real energy gap we have to make up, and wind can be a very important part of that.

Within Canada, we've developed a vision of where we think wind can go. We believe that it can satisfy 20% of Canada's electricity needs by 2025. That would incur about $70 billion of investment in Canada, and it would lead to the creation of about 55,000 jobs.

Those numbers are very difficult. I can speak for wind. It's hard for me to speak for the other technologies. If you go to a place like Germany, right now 64,000 people work in the wind industry. The wind industry is the second-largest consumer of steel in Germany after the auto industry. These are staggering numbers.

● (1635)

Mr. Nathan Cullen: How many folks in Canada work in the same industry?

Mr. Sean Whittaker: Currently 4,000 people work in the wind industry.

Mr. Nathan Cullen: So there are 4,000 in Canada and 64,000 in Germany.

Mr. Sean Whittaker: Yes, and there are 120,000 in Europe.

Mr. Nathan Cullen: Another question is related to the term I've grown quite hateful of—shovel-ready—which is bandied around quite a bit, and the notion of how quickly we can get a project on some of the renewables started. I'll open this question to some of the projects you're talking about.

Maybe I'll focus on forestry for a moment. How quickly can the initiatives you've promoted, for which there isn't support right now, be brought forward?

[*Translation*]

Mr. Jocelyn Lessard: In fact, the challenge is to provide the technical expertise. In France, for example, where this sector has developed very quickly, there is an agency that advises people on the technical aspects concerning the installation and forest processes. In Quebec, the federation is doing that now, because no one else is doing it elsewhere.

If Canada wanted to set up in this business, I believe that would be the step to take. The technology has been around for a number of years now. It was developed elsewhere, unfortunately. Going to fairs elsewhere in the world, you see that the Europeans are selling their technology around the world. We're going to pay to use what they've developed.

This could be done very quickly. Within five years, we would be able to heat many of the institutions in the regions.

[*English*]

Mr. Nathan Cullen: I have one last question.

I'm trying to understand what subsidy exists right now for wind power in Canada. WPPI transferred over to the new ecoENERGY for renewable power. We're talking about stability of the market and long-term certainty. In terms of the projects being contemplated or the contracts that have been signed but not yet built, what certainty does the wind industry have right now, in terms of federal support, of augmenting the 1¢ per kilowatt-hour? Does it exist? Does it not? I can't seem to get answers out of the government.

Mr. Sean Whittaker: The ecoENERGY for renewable power incentive was brought on in 2007, and it had a target of about 4,000 megawatts. It was anticipated it would last until about 2010.

To make a long story short, it was the victim of its own success. It was oversubscribed very quickly because it was a really key driver in making these projects happen, and we think it was a real feather in the cap of the Conservative government for putting it in place. But again, it became a victim of its own success.

It is currently projected that all the funds in ecoENERGY will be allocated by the end of 2009, one year ahead of schedule. And 1¢ per kilowatt-hour, it should be mentioned, is about three times less than what is currently offered in the States. President Obama, when he came in, moved extremely quickly on wind, and very aggressively, and he said they are going to extend their incentive out to 2012, saying that by 2012 they will have a carbon price that will level the playing field, but that until then they need this incentive.

So we were of the mind that it would be desirable to extend ecoENERGY to 2012 to match the U.S. government's commitment, but not to change its level—to keep it at 1¢ per kilowatt-hour—just to provide that long-term signal.

We certainly have been making the case that the long-term signal will result in jobs and direct investment. There is going to be $1 trillion that will be invested in the wind industry between now and 2020, globally. The question is what we have to do to attract a bigger part of that investment in Canada. There is no question we're competing with the United States in this respect, so the better we can do to provide a long-term signal, the more we're going to be able to attract and be able to create jobs with it.

The Chair: Thank you, Mr. Cullen.

Now we will go to Mr. Trost, and maybe Mr. Allen, depending on whether Mr. Trost leaves you any time. You have up to seven minutes.

Mr. Bradley Trost (Saskatoon—Humboldt, CPC): Thank you, Mr. Chair.

It was interesting. Some of us were talking here while you were noting on that and we were looking at a bit of a list of wind power projects the government has developed for the P.E.I. Energy Corporation, Suncor, Kettles Hill Wind Energy Inc. It looks as if there are about half a dozen here. For just about 655 megawatts of capacity, the number I have for the ten-year allocation is just shy of $190 million for the projects I'm looking at here, which actually sort of feeds into the first question where I'm going.

A couple of you are talking sort of very specifically that the government should fund, subsidize, etc., certain sectors or certain technologies. Here is my underlying question. Assuming we do decide to pick and subsidize things, why should we, as the government, do a technology-based subsidy versus an outcome-based subsidy? Because at the end of the day, if I'm up in Paulatuk, Northwest Territories, and I have a diesel generator and I want the cost of electricity to go down, not in the winter, evidently, but maybe in the summer solar-based technology might work better than wind-based technology. So why would we even think of doing technology-specific subsidies?

● (1640)

Mr. Sean Whittaker: Again, there are the two worlds. There is small wind, which applies more in the north, and large wind in the south. In the north you don't have many technology options. You've got wind and, you're right, you've got solar. It's not really a matter of picking. It's just saying that to any eligible technology.... It's similar to the ecoENERGY for renewable power program. It's 1¢ per kilowatt-hour to a range of technologies, not specifically wind. And we're advocating the same thing up north. We're just saying, listen, you've got wind and other technologies that are competing against incumbent generators, and as I said, the utilities are willing to pay you the avoided cost of diesel and nothing more, so you have to get over that hump. So provide that price signal that acknowledges that, yes, you have to get over a hump, but over the long term the cost of these will be—

Mr. Bradley Trost: But would you be broadly supportive of a more outcome-based than a technology-based subsidy or system? And I see some other heads nodding, so if you can answer in one or two words, then we'll take turns for some of the other people here.

Mr. Sean Whittaker: One of the things it's important to note is that right now the Government of Nunavut spends about 60% of its budget on diesel subsidies. That's largely coming out of transfers, so it's a matter of avoiding that.

Mr. Bradley Trost: I saw some other heads nodding to answer the question.

Mr. Denis Tanguay: Your question is quite interesting. If I had to answer within the context of integrated community and energy systems, I would tend to agree with you: why focus on one technology versus another? The whole concept of integrated energy systems is that we should stop looking at technologies within silos and start looking at them as a means of making us more productive on the energy side.

I disagree with Pembina about the need for pilot projects. I agree that geothermal doesn't need pilot projects, and neither does wind or any single renewable energy source. The only thing they do is demonstrate that we are able to demonstrate, but that's true only from the perspective of a single energy source. The question is, how do we integrate technologies, on a large or small scale, at the community level? We get into a situation where there's solar, wind, geothermal, and other sources. It's for every community to optimize the energy that is going into their territory, and this might need to be demonstrated on a different scale.

Mr. Bradley Trost: So you'd be in favour of looking at this purely on an outcome basis—letting the best technology win or the best technologies work together.

Mr. Denis Tanguay: I would say we should favour the best technology mix within the community. It's probably the outcome we are all looking for. That's what QUEST is all about.

Mr. Tim Weis: That is the way the current incentive, ecoENERGY for renewable power, works. It's not specifically for wind; it includes other technologies. But there is sometimes an advantage in targeting certain technologies if you want to try to spread them around geographically. That's what Germany has done. They've actually given higher incentives for where you have a lower wind regime, so it helps spread out the technologies so that not all of the development happens in one part of the country.

There can be advantages to targeting certain technologies if you want to make sure they're not all going to be concentrated in one area.

Mr. Bradley Trost: Are there any smaller-scale wind projects that would be “paybackable”, without subsidies, in a reasonable time with reasonable rates of finance?

Mr. Sean Whittaker: There are three categories. The small residential systems, you can't justify on a purely economic basis.

● (1645)

Mr. Bradley Trost: So those can't ever pay for themselves? They're more or less for people who want to be true green.

Mr. Sean Whittaker: The paybacks on those are pretty long—20 years at least.

The second category, the mid-size farm systems, are different.

Mr. Bradley Trost: Those are purely economical, I gathered.

Mr. Sean Whittaker: Yes, if you wanted to make the argument purely on return on investment, there are many cases where you get paybacks of ten years or less. The big problem you run into is that the upfront payment is huge. A 65-kilowatt system is $180,000. You don't pay any fuel costs down the road, but the upfront investment presents quite a barrier.

Mr. Bradley Trost: Someone mentioned some non-financial barriers to entry. Can anyone give me a few aspects of non-financial things we could do to make it easier? Also, could someone talk more about artificial financial solutions, such as the connection? It sounds like it doesn't cost anywhere near $50,000 to do, and is sort of a made-up bill as an excuse. That was what seemed to be implied, unless I read it incorrectly.

Mr. Ted Kantrowitz (Vice-President, Canadian GeoExchange Coalition): I can talk about some of that.

I think GeoExchange is a great Canadian success story that's been undersold. It brings kudos to NRCan and some of the work of this committee, because it's been low cost.

One of the things we're facing right now is that it's very hard for us to reach municipalities. Denis was talking earlier about how it's easy for a municipality to outlaw something that's been permitted at either the federal or provincial level. So there's a lack of that type of coordination.

I think there's also a great opportunity for the federal government to work with other governments in providing a moral or financial example. Very often GeoExchange makes financial sense, and that's why our industry has been growing at over 100%. But we'd rather talk about integration with other technologies and how that makes sense for everyone on the demand side.

The Chair: Mr. Whittaker.

Mr. Sean Whittaker: It is largely a provincial jurisdiction.

Also, it's a matter of getting used to it. If you connect a 65-kilowatt machine on your wind turbine in the system, that has about the same impact on the system as connecting an elevator motor. Let's say someone comes in and says they're used to dealing with elevator motors so it's no problem, and they know it's not going to cause a problem when it's turning on and off, but as for a wind system, well, they say they haven't seen that before so it may cause a problem, when in actual fact it doesn't.

Any utility that has ever integrated these things will tell you that it doesn't cause a problem, but it's a matter of getting used to it, and largely that rests with the provincial regulator.

The Chair: Thank you, Mr. Trost.

Mr. Allen, you enjoyed your time, I'm sure.

I'll go now to the second round.

Five minutes, Mr. Tonks.

Mr. Alan Tonks (York South—Weston, Lib.): I would almost like to give Mr. Allen some of my time, but I'm sure that wouldn't placate the other side. I don't want to cause him any problems.

Thank you very much. It's all been very helpful.

In particular, I'm sure the committee has been impressed with the transformation that takes place in terms of the commercialization of research into the development of new products, and then the associated skill set. When you talk about nearly 2,000 installers, the workshops with respect to residential and commercial designers, and all of that infrastructure, that's how it seems to me. I'm sure the committee has taken the story line with respect to industrial transformation, global competitiveness, and so on.

I was going to follow up on Mr. Tanguay's point with respect to Mr. Weis saying that pilot projects weren't required, but I wonder if I could sort of characterize, from an urban perspective, what I believe is the necessity for pilot projects with respect to integrated energy systems. I'm sure there are urban examples with respect to the use of biomass in urban parts in Quebec.

I'm not focusing on any single technology, but on the opportunity in terms of brownfield redevelopment across the country with respect to contributing to transit systems in terms of their self-sufficiency in taking them off the traditional energy grid, where they are localized and somewhat self-supportive, and integrating that into community development. The only example I can think of, Mr. Chair, that we have seen with respect to that scale has been the Dockside Green approach that's been taken in Victoria.

All of these small examples are extremely important. When you talk about farm and residential adaptations and the implications, all of that is extremely important. What could we do, as a committee, to put forward a menu of support systems that would encourage the kind of integrated urban application where you would have hundred-acre sites being transformed, sites that are part of large communities within cities, for example, in Toronto?

What is it that we could do, other than pilot projects, that would inspire the application across the country from all levels of government and from the development industry in regard to the capital formulation and the kinds of programs that have been suggested? As a committee, what could we do that would start to drive that kind of agenda?

● (1650)

The Chair: Monsieur Tanguay.

Mr. Denis Tanguay: I guess it's what you as a committee can do, but as a government as well. I'll give an example. Two or three years ago in Quebec, as part of the energy strategy, the Quebec government basically told the building managers in the public sector that whenever they were going to do a retrofit or build a new building, they would have to consider geo-exchange as one technology.

What I would say is that if we are to spend billions of dollars over the next five, ten, or twenty years in rebuilding the infrastructure or redeveloping brownfield areas in large communities, and smaller ones as well, maybe we should ask about or put some rules in place that would force municipalities to consider integrating technology to optimize the use of energy on their territory. That would certainly help in building better infrastructure.

One of the impacts of that is in regard to the payback period that we were talking about in the previous question. When you look at one technology on its own that has a ten-year payback and at another technology on its own that has a ten-year payback, maybe if you were to combine them, the payback would be down to seven or eight years. Maybe with another technology, it would go down to six years. I think there is something there to think about.

We should be trying to think about energy systems when we invest in infrastructure, rather than saying that you have to redevelop this when you're going to build a gas pipeline, for example. It's really a matter of looking at making the rules stricter, I would say, particularly in large urban areas where they can absorb those things.

The Chair: Mr. Weis, for a very short answer.

Mr. Tim Weis: I just want to make one clarification, because it's been picked up on a couple of times. I didn't mean to say that pilot projects in and of themselves aren't useful, but the point I wanted to make is that pilot projects can't be the ends unto themselves. We need to be thinking beyond pilot projects and how we implement these things on a large scale. So that was the point I was trying to make, not that we don't need some pilot projects in a handful of areas, but that we need to be thinking much bigger than that and in much larger penetrations than pilot projects.

The Chair: Thank you, Mr. Tonks.

Now to Mr. Allen for up to five minutes.

Mr. Mike Allen (Tobique—Mactaquac, CPC): Thank you, Mr. Chair. I just have a few questions, and if I have any time left over I'll share it with Mr. Anderson.

The first couple of questions, Mr. Whittaker, are on wind power. Very interesting. We had a potential development in my riding in New Brunswick where we have one side of the family who wants it and one side of the family who doesn't, and it's a large wind development.

My first question is this. What changes have you seen in the EIA process with respect to these wind developments that potentially would be troublesome in terms of their future development?

The second one is on the large wind power projects, as opposed to the small ones. I've seen the wind maps of New Brunswick, for example, and there are a few locations that have good wind regimes, but a lot don't. Does it take a bigger wind regime for the small turbines? What are the maximum capacity factors that you're seeing for the small turbines as opposed to the large ones?

● (1655)

Mr. Sean Whittaker: Thank you very much for that question. It was a very good question.

With respect to environmental assessment, any wind project that goes ahead right now has to, at the very least, undergo a provincial environmental assessment. If it receives federal support or is near water, then it requires a federal environmental assessment as well. To be honest, those processes are exhaustive, they're time-consuming, they're very difficult, but they really do vet the projects well. We feel that the projects that come out of the federal and provincial EIA processes are really solid.

One of the problems that you run into is ratcheting requirements, and this is something that we've seen where you start getting overlaps of requirements. A developer in New Brunswick may have to do a provincial environmental assessment and then have to do a federal EIA that covers 90% of the same things. And then they're in a municipality, and the municipality says they have to do a survey on this type of bird species, and that might be something they've already done at the federal and provincial levels but it's not accepted.

So it's a matter of streamlining. It's not changing the rigour of it, because, to be honest with you, our interest is in having projects that are really viable and sound. It's a matter of making sure there's as little overlap as possible and as great a certainty as possible so that you have set timelines for how long it will take a project to go through the process from A to B.

With respect to your second question, it's interesting to note our wind vision: 20% of all of Canada's electricity coming from wind. If you took all those turbines and spaced them out correctly, they would occupy land about the size of Prince Edward Island; so one five-thousandths of Canada's land mass would be occupied with these turbines. So you don't need much space to provide one-fifth of all our power.

We're agnostic with respect to who develops wind, because there's a role for everybody. In New Brunswick you have TransAlta. It's an Alberta oil firm, primarily a fossil fuel firm, that's developing that project. You have Acciona, which is an international developer—

Mr. Mike Allen: If you wouldn't mind going to the point, I don't have a whole lot of time. I'd just like to know the difference in the capacity factors of the two, because I know the large turbines in P.E.I. are upwards of the high thirties, and in some cases the forties. What are you seeing with the low turbines in terms of capacity factor, because it makes quite a difference on the price and the economics of it, and secondly with respect to the utility system as well?

Mr. Sean Whittaker: The average capacity factor of all wind turbines currently supported by the ecoENERGY program is about 33%, and that's considered to be quite high. Generally, on your threshold, you have to start having a 30% capacity factor to make it viable. The North Cape wind farm in Prince Edward Island has this cranking wind and it's been sitting at about a 41% capacity factor. So it does change the economics, you're right, and it's a matter of picking the right spot. It's quite an art to finding that spot where you have a capacity factor that makes your economics work.

Mr. Mike Allen: Have you got any averages for the smaller ones?

Mr. Sean Whittaker: The smaller ones are tougher. When you're siting a large wind farm you can stick it where the best winds are and you also have to be near transmission lines. When you're dealing with small turbines you don't have that luxury, because you can't string 20 miles of line to a community since that will ruin the economics. So you're generally more constrained; you have to site them near to where the load is, and there you're looking at capacity factors that are more around 25%.

Mr. Mike Allen: Mr. Chair, do I have any time left?

The Chair: Your time is up, Mr. Allen.

Madame Bonsant, do you want to ask one short question?

[*Translation*]

Ms. France Bonsant (Compton—Stanstead, BQ): Thank you, Mr. Chairman. I would like to ask a question.

Mr. Lessard, ÉnerCam is located in my riding. I'm very familiar with its process.

Earlier you said that Sweden had achieved its Kyoto targets, particularly as a result of biomass. Do you believe that, if financial incentives had been applied by your respective niches, Canada would have achieved its Kyoto target today?

I'm speaking to Mr. Tanguay.

Mr. Denis Tanguay: Financial incentives are currently being offered in the geothermal sector. We've observed annual growth rates of 100% over the past three years. That does help improve energy performance, particularly through energy replacement and substitution.

Our technology definitely makes it possible to make a major improvement in achieving Kyoto targets.

● (1700)

Ms. France Bonsant: I know that geothermal energy is a very costly process. If there were more grants to help people, would greenhouse gas quantities have been cut a little more?

Mr. Denis Tanguay: It's hard to say what marginal impact additional grants would have had. In some provinces, they're already talking about grants of $8,000 to $10,000, which reduces the payback period to seven, eight or 10 years.

Personally, I believe that the combination of very large financial incentives provincially and federally and the entire market structure put in place by the association to support industry development has had a significant impact on the technology. These two factors combined have helped increase the impact the technology has had on markets. That's what we see for the years to come. We really have a solid industry now.

Ms. France Bonsant: All right.

The Chair: Thank you, Ms. Bonsant.

[*English*]

Thank you all very much for being here today. It was a very interesting meeting. The information you've provided will be helpful in our study.

We will suspend for about a minute and come back to deal with Madame Brunelle's motion.

● _____ (Pause) _____ ●

The Chair: Order.

As mentioned at the beginning of the meeting, we will now go to the motion that was amended at the last meeting, and then debate was adjourned on the motion.

Madame Brunelle, we will now bring back this motion to the committee. Could you please read the motion as amended? Then we will go to any debate on the motion.

Madame Brunelle.

[*Translation*]

Ms. Paule Brunelle: Here's the motion as amended:

> Pursuant to Standing Order 108(2), that the Standing Committee on Natural Resources examine the ecoEnergy programs with a view to proposing the necessary modifications to maximize their accessibility and their environmental impacts and that it be reported back to the House.

[*English*]

The Chair: Thank you very much.

Have you any opening comments to make?

● (1705)

[*Translation*]

Ms. Paule Brunelle: Yes, I can provide more of an explanation. You must bear in mind that this motion was introduced a very long time ago. That was in response to a request that had been made to us to suggest future business for the committee. I looked around a little and discovered that the government was investing a lot of money in the ecoEnergy programs; we have a lot of programs. For that reason, it would really be a good idea for this committee to determine program limits, to ensure that we can maximize their accessibility and environmental impact. We are in the middle of an economic crisis; we don't need to remind anyone of that. We should check to see whether these consumer incentives that may be characterized as environmentally friendly are really good, whether people consider them efficient, effective. It seems to me this would really be an opportunity for economists, government officials, environmentalists, citizens, private businesses from various fields and entrepreneurs to come and present their views. I believe that would be a very interesting study. We estimate that it would take between four and 12 meetings to cover this study. It must be kept in mind that the government has invested an enormous amount in the ecoEnergy programs: ecoENERGY for Technology, $31 million; Fleets, $2 million; $185 million for Biofuels, and I won't name them all, Mr. Chairman. If you look at the budget, there are a lot of them, and it seems to me it would be a good idea to determine simply whether they're efficient, so that the House can adjust matters as necessary.

[*English*]

The Chair: Merci, Madame Brunelle.

We go to Mr. Cullen now. I have Mr. Trost on the list, and no others that I recognize.

Go ahead, Mr. Cullen.

Mr. Nathan Cullen: Thanks.

Very briefly, as we can tell from the witnesses today, I think this is topical and relevant. My question goes back to my comments from last time in terms of the process of this committee coming up with its agenda.

Perhaps through you, Chair, to the clerk, I can be reminded of.... When we cast this first agenda we had installed in it a place where we could review how this study was going and begin the process of laying out our next agenda. I can't recall when that date was. I think we said at mid-term, if I'm correct, Chair. It was sometime after six weeks, I believe. We said we would take a small pause and see how we are doing with this study, what needs to be added or subtracted, and then start to set the agenda for the next.

The Chair: Yes. I think there was talk and I think there was general agreement that after the 21st, some date soon after that, we would take a look at things and discuss it again. We certainly can do that.

Mr. Cullen, in terms of your comment that it would be good for the committee to determine its future business at a time set aside to do that; I would love that, of course, as the chair. But as chair, I must recognize motions, as you know.

Mr. Nathan Cullen: Of course.

The Chair: With this motion the debate was adjourned sometime in the past. Of course the member has every right to bring it forth, and that's where we're at now. You know that.

Mr. Nathan Cullen: Yes. I appreciate that.

I suppose, then, my appeal is to Madame Brunelle. I'm supportive of the direction and the content of the motion. I think it's important. I was going to add a question about the economic impact. I see here that we have accessibility and environmental impacts of the ecoENERGY programs. I think the economic impacts would bear some understanding.

To be upfront, I'm a little uncertain, because if we proceed with this motion and say yes to this, it would behove the rest of the members to make our agenda through this type of process, which isn't necessarily the best way to make a committee's agenda. For instance, there's a topic that I want to discuss, so I bring it through in a motion and we discuss it next week, and Mr. Tonks or Mr. Anderson does the same thing. It makes a bit of a patchwork quilt of a committee's process. It might not have any intelligence to it in the end, because we would just have a stack of ten topics that we then have to run through. I'm hoping there's some way we can include this idea into that larger discussion of what the committee heads to next—unless Madame Brunelle is suggesting that we push aside some of the other meetings that we have already scheduled to have this first. Maybe I need some clarification on that.

My main point is to say that if the committee is going to start to go through different topics, we should do those as a collective conversation. That will lead us to a more intelligent and productive agenda for the committee at large.

● (1710)

The Chair: I now have Mr. Trost.

Mr. Bradley Trost: Mr. Cullen basically summed up what I was going to say, in the last portion. I'm curious as to whether this is the way we're going to start picking future committee topics.

Well said, Nathan. I basically agree with everything you said at the end.

Some hon. members: Hear, hear.

The Chair: We have to talk about the report and the writing of the report on the study we're doing now. We could set some time aside—and I would suggest next Tuesday—to do that. And could we also set some time aside next Tuesday to deal with future business of the committee?

I realize we have a motion before the committee now, so we have to deal with the motion, but let's see what happens with the motion.

Madame Brunelle, perhaps you could comment on your willingness to put this into the mix of discussion at a meeting where we also discuss, as another item on the agenda, the writing of the report—probably next Tuesday.

Mr. Tonks.

Mr. Alan Tonks: It just occurred to me, Mr. Chairman—I understand the concerns that have been raised by Mr. Cullen and Mr. Trost—that this particular motion could be made as a bridge motion with the report. Your suggestion that we discuss the motion—and I would pass this along to Madame Brunelle for her consideration—is that because we have been talking about the integrated systems, there has from time to time been discussion on the programs that support or don't support, or on what direction would be sought through our report, for an analysis of the eco-green.... We had the green municipal funds and a number of programs. What we'd like to know is how effective they are pursuant to what we've been talking about, integrated energy systems. But the discussion we have next day could be a little broader than that, and it would help our researchers in the report they are seeking to draft.

So I think your suggestion is a good one. Perhaps we could deal with the motion then, but at this point it gives some direction with respect to the discussion we might have next week.

The Chair: Thank you, Mr. Tonks.

We have a motion before the committee. Is there any further discussion before we go to the vote?

Madame Brunelle.

[*Translation*]

Ms. Paule Brunelle: Thank you, Mr. Chairman.

I've been a member since 2004. I've always been a critic on certain issues, and this is the first time I've seen an operating method like this one. In other committees, where we had a steering committee to establish the agenda, it seems to me that simplified matters. You've made the choice to do this differently, for the matter to be decided in plenary committee. Moreover, I must say that I'm not making a big deal out of this and that we must absolutely debate the issue. However, there is something I don't understand.

We are asked, in good faith, to submit suggestions for business at the outset—I believe that was done at the first or second meeting—subjects that we would like to see dealt with by this committee, which I'm doing. Colleagues from the other parties have had the opportunity to do so as well. We studied the QUEST program, and I would have to reread all the documents from the other committees, but my motion was introduced a few months ago, and it is now being shelved. Now I'm being told no, that I shouldn't come and impose future business. I never wanted to impose anything; I simply wanted to find an interesting subject for this committee, to fuel the debates. So I'm not setting a trap for the government, and I want to make that clear because it's as though people were afraid of the person I am. I've always worked with a great deal of good will. If you want to defer this and examine future business, that's not a problem for me, because it seems clear to me that I don't have the support of the other committee members regarding this study. I must tell you that I am disappointed.

[*English*]

The Chair: Actually, I think you misunderstood the discussion; that is not the way I saw it.

Mr. Anderson.

● (1715)

Mr. David Anderson (Cypress Hills—Grasslands, CPC): Speaking on behalf of the government members, we're not asking that it be postponed. If you reconsider, that's fine; we're prepared to vote. We have brought the amendment forward and are prepared to vote on it, but if you want to leave it, we are fine with that as well. We are not in any way trying to convince you to set this aside.

The Chair: Mr. Regan.

Hon. Geoff Regan: Mr. Chairman, I want you to know I support the motion. I would be happy to have this discussed as part of a discussion about the future. I'd like to go to this next, but I'd certainly be open, if we do it during a discussion Tuesday, to hear other topics, in terms of what other possible priorities might be considered.

Having said that, I'm prepared to vote for this motion.

The Chair: Okay. And the way this motion is written it doesn't preclude that.

No further comments? Let's go to the question, then, on the motion as amended.

(Motion as amended agreed to on division) [See *Minutes of Proceedings*]

The Chair: All right, and the bells are going.

There's no other business before the committee.

The meeting is adjourned.

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