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Chair

Mr. Brent St. Denis

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Standing Committee on Industry, Natural Resources, Science and Technology

Monday, January 31, 2005

• (1535)

[English]

The Chair (Mr. Brent St. Denis (Algoma—Manitoulin—Kapusksing, Lib.)): Good morning, everyone. I'd like to call to order this January 31 meeting of the Standing Committee on Industry, Natural Resources, Science and Technology.

Before we invite our witnesses to help us with our study, I just want to let members know that for these next few months, as I'm sure you've noticed, we are meeting Monday and Wednesday afternoons at 3:30 p.m. Our next meeting will be this Wednesday on Bill C-29. I haven't had any feedback that we can't proceed to clause-by-clause, but anything can happen. I'm hopeful that we can get to clause-by-clause on Bill C-29 on Wednesday.

We will have an in camera meeting near the end of that Wednesday meeting just to look at the schedule of meetings going forward, to look at Werner's proposal for revised terms of reference and the revised work plan, and to look at the witness list that's been proposed by some members.

The clerk sends documents to your offices through e-mail. It would be very helpful and it would save some paper if you tried to remember to bring those documents to the meetings if you can. If you don't, there are always some extra copies here.

Next Monday we will have Dr. Pierre Coulombe, who is the nominee for president of the National Research Council.

I think I've covered everything for now. With that, we're going to welcome our witnesses. We appreciate that you've come in to help us today, some of you from a distance.

We're just going to use the order that is on your agenda. I'll ask that each of you take five to seven minutes, if you can limit yourselves to that, for opening remarks. That will give all witnesses a chance to speak and the members lots of time to ask questions.

I'm going to invite Gerry Protti of EnCana to start us off. Thank you for being here, and happy new year to all.

Mr. Gerry Protti (Executive Vice-President, Corporate Relations, EnCana Corporation): Thank you very much, Mr. Chairman.

EnCana is very pleased to be here to talk about our strategy and how it fits with the general industrial and science and technology strategy of the country. I'm here today to talk to you about natural gas, North American natural gas, and how our strategy is one of developing unconventional supplies of natural gas and how we think

that's the key to the long-term Canadian and North American natural gas future.

Mr. Chairman, I'm going to refer to the slides in my presentation. I will try to quickly go through them and hit the key highlights in my remarks.

The first slide in your package is a map of EnCana's world activity. While it shows the number of countries internationally, EnCana is very much focused on natural gas production in North America and oil sands production. Ninety percent of our production is in fact in North America. In fact, we've been in the process of disposition of some of our supplies internationally.

The next slide shows our North American focus and our production areas. The second bullet in the notes talks about technology. There are three areas where we feel we are a leading company domestically and internationally: unconventional natural gas technology, in situ oil sands, and carbon dioxide used for enhanced oil recovery. We have a project in Weyburn, Saskatchewan, that uses carbon dioxide in an enhanced oil-recovery project, and it's the largest single user of man-made carbon dioxide for enhanced oil recovery in the world. I'm not going to talk about that technology or oil sands today, but focus on natural gas.

The next slide shows our position in the North American market. In the third quarter of last year we passed British Petroleum, BP, to become the largest supplier of North American natural gas. You can see the other companies listed there; they're all household names: ExxonMobil, Devon, ConocoPhillips, Anadarco. The next-largest Canadian company is Canadian Natural Resources.

Our production is currently about 3.2 billion cubic feet of natural gas per day. On an annual basis, that translates into about 1.1 trillion cubic feet. That supply is split about two-thirds from Canadian sources and one-third from the U.S. To give you a feeling for how much natural gas 1.1 trillion cubic feet is, if we could supply our gas to every Canadian residence for all their natural gas needs and to every commercial establishment in the country, that's how much 1.1 TCF per year is.

We've really grown our company. A significant part of it is that we've grown it with an unconventional strategy. I'd like, Mr. Chairman, to talk about what that is and distinguish it from conventional supplies.

The next slide shows a classic resource pyramid. Any resource has this type of pyramid. It basically says that at the top part of the pyramid you get the easiest supplies out first with the lowest technology. The Canadian natural gas industry is no exception. Since the Second World War conventional supplies have been well developed, and we're now in a period when conventional supplies are in steep decline, not only in Canada but in the United States as well. There are still additional supplies that can be discovered of conventional gas, but increasingly we're going to have to go to unconventional supplies or frontier areas to meet North American energy needs. That is the middle band that's entitled "Tight Gas Sands and NGC", which is natural gas from coal and gas shales.

As you move down this pyramid you need higher prices to pursue these opportunities, but you especially need newer technology. Today, 75% of our assets are in unconventional natural gas supplies, and that's roughly the amount of production we get from natural gas. So for the largest North American producer, 75% of it is unconventional.

What is unconventional gas? If you think of a traditional oil and natural gas development, you search for reservoirs or pools under the earth's surface, you find it, and you put a straw in and suck it out. That's what everyone's understanding is.

- (1540)

In unconventional, there is no reservoir or pool. The gas is distributed throughout western Canada under the earth's surface in multiple zones of coals, in shales, in sands, and in rock. The key is the technology to unlock the resource.

Mr. Chairman, I'd like to pass around two core samples to give members of the committee a sense of what this looks like. The first one I'll pass around is from a conventional reservoir where the gas is in the pores between the sands. This is sedimentary rock. This well would produce at 10 million, 20 million, 30 million cubic feet a day—it would just be a gusher—and go into steep decline.

This other rock is tight sand. You can tell by its composition, as you go around, that it's not going to have pools associated with it. The rock is still in the pores here, but you need technology to fracture the rock in a different way to get the gas to produce. This core sample is from southern Alberta, from an historical reservoir that was first discovered in the fifties, and this sample is from an area called Cutbank in northeast B.C. You'll see a slide that shows how we've been able to increase production there. This is completely new technology relative to five years ago, and very exciting in terms of the resource that's available.

I'll just pass these two around.

The next slide is simply a description of the National Energy Board's current view of the future supply in the country. You can see that the left-hand bar demonstrates that quite a bit of natural gas—over 100 trillion cubic feet—has been produced. The remaining reserve is around 50 trillion cubic feet. The discovered resources,

which are not yet put into reserve, so we think they're there, are a smaller amount—about 40 trillion cubic feet.

Then there is this big bar of undiscovered resources. This undiscovered bar includes unconventional gas, and if the National Energy Board were here today, they would also indicate that we have no idea how much of the unconventional gas from tight sands or coals we are going to be able to develop, because the technology is so new.

The next slide shows one type of unconventional natural gas—natural gas from coal—and it shows the areas within Canada and the United States that have natural gas from coal. You can see that the extent of the area in Canada is very large. We have effectively very little commercial production of natural gas from coal, but in the U.S. it's now making up about 8 trillion cubic feet per year. There is tremendous potential in this resource—again, technology development pilots, testing on the ground—to really develop that capability.

The next chart is an estimate of the resource available from natural gas from coal. It shows that the range is very large. At the high end of the range—500 to 600 trillion cubic feet—that is equivalent to what is estimated to be the resource base for the U.S. The key here is that these numbers make the conventional resources already discovered and produced and remaining pale in comparison—quite small.

The next slide—and we have just a couple left, Mr. Chairman—shows our strategy is to develop these unconventional supplies. We call them "resource plays", and they have the characteristics described in this chart. They are typically a very large resource, not found in pools or conventional reservoirs, but spread in very broad areas. Very long life cycles are required to produce it. There is very little gas per well, but there are lower decline rates and you require a manufacturing type of approach to develop it. We are not focusing our technology development on finding; we know it's there. In fact, there are large areas within the country, even in Ontario and Quebec, that we think potentially have these supplies. We know it's there; it's a question of how to unlock the resource and produce it on an economic basis.

The one example I want to show is the rock that's going around, the large heavy core from British Columbia. This chart shows British Columbia natural gas, including that produced to date, remaining reserves, and then the undiscovered sources of natural gas. The one from which we're producing right now is the far right bar, called "tight gas". We see vast quantities of that resource available to supply Canadians and North Americans, and all of it is in close proximity to the existing infrastructure, so we think we'll be able to do it on an economic basis.

•(1545)

The second-last slide shows where this particular core came from, an area called Cutbank Ridge in northeast British Columbia. We purchased the land in a land sale in 2003, and we already have our production up to 50 million cubic feet per day for that type of rock. Three years ago people would have said we couldn't produce from that. That amount of gas is enough to heat 150,000 homes, and we think the ultimate potential for this resource in that area, just on that play alone, is much more significant, in the hundreds of millions of cubic feet per day.

EnCana is very excited about this technology. For the purposes of the committee and an industrial strategy, the key is going to be to continue to promote technology development. The fiscal regime should focus on areas where, with our existing resource base, we have the potential to take our technology to the next level—this is technology the world can use at a future date—and obviously to continue with the efforts on smart regulation. We certainly support the work the government has done through the external advisory committee on smart regulation. That allows us the confidence to go forward and be efficient in our capital utilization and develop the technology.

This is a tremendous resource, it's going to provide lots of Canadian and North American supply, and we're excited about it.

Thank you, Mr. Chairman.

The Chair: Thank you, Mr. Protti.

We'll move to the Canadian Energy Pipeline Association and Dave MacInnis.

Thank you for being here.

Mr. David MacInnis (President, Canadian Energy Pipeline Association): Thank you, Mr. Chair and committee members, for allowing us the opportunity to appear here.

Your study on Canada's industrial strategy is an important one. It's something that we as an association, together with other energy associations around the country, have been spending a lot of time on. Our framework is slightly different, in the sense that when we talk about the Canadian industrial strategy, we start off with the foundation that the Canadian economy and indeed our social structure is built on, and that's the energy sector, which fuels so many of our industries and our standard of life. Whether you're talking about hydro in Quebec and Manitoba, conventional fuels in other parts of the country, or the emerging wind, solar, and other renewable sectors, it's a very important facet of the discussion.

The members of the Canadian Energy Pipeline Association transport 95% of the oil and natural gas that's produced in Canada. They operate over 100,000 kilometres of pipeline in all provinces in Canada, save for Newfoundland, and all territories, save for Nunavut. We are also running almost that many kilometres of pipeline south of the border. Over the next 20 years my members are forecast to invest approximately \$19 billion in energy infrastructure projects throughout the country.

In order to successfully deliver on Canada's energy needs, the pipeline sector must be competitive with other business sectors in Canada, but also with other sectors abroad, notably the United

States. If they're not, CEPA members will not be able to invest the amount of capital they're proposing to invest.

In this context, I would like to touch on four issues that most directly affect the competitiveness of Canada's pipeline companies. The first, as Mr. Protti has referenced, is smart regulation, or, as we term it, efficient and effective regulation. Canadians demand that their regulatory systems above all protect the health, safety, and environment of Canadians. But they also expect the regulatory system to facilitate the timely delivery of the social and economic benefits generated by the regulated industries. Canada's current regulatory system does an excellent job on the former, but not such a good job on the latter. The reason for this is the amount of duplication inherent in the system. Overlapping responsibilities between agencies and departments create lengthy project approval times, and that means Canadians have to wait for the jobs and other benefits a particular project will deliver.

Of course, this isn't true for the lawyers and engineers involved in the regulatory hearing process. They seem to always have too much work. My apologies to any lawyers and engineers in the room.

This overlap I refer to is present in all regulatory systems—federal, provincial, as well as territorial. It's even worse when your project spills over the border between two jurisdictions, which pipelines almost always do. For example, in the Northwest Territories, where the Mackenzie Valley pipeline proposal is being considered, there are about two dozen primary regulatory authorities to deal with and another two or three dozen secondary authorities.

CEPA welcomes and supports the call by the External Advisory Committee on Smart Regulation for a predictable and transparent regulatory system. Their report provides a very clear framework for achieving this objective. We recommend that implementation of the reforms be pursued immediately.

The top priorities, in our opinion, include the commitment of all federal, provincial, and territorial governments to work cooperatively and collaboratively to improve the efficiency of Canada's regulatory system. We also believe that the adoption of service standards and the regular monitoring and evaluation of regulatory processes are a must. Identifying and removing legislative barriers to the adoption of performance-based regulatory approaches will ensure that the best environmental practices and technologies are promoted. The commitment of necessary resources to increase the capacity of Canada's public policy and regulatory authorities is also important. The final item is the continuous engagement of stakeholders, including first nations, environmental NGOs, and industry, in the implementation of smart regulation.

•(1550)

In addition to these regulatory reform directions, CEPA, in partnership with the Conference Board of Canada, has identified several potential solutions that are capable of yielding significant improvement to regulatory review processes for the pipeline industry. Among these, our first and immediate objective would be the substitution of the National Energy Board Act for the Canadian Environmental Assessment Act in assessment reviews of projects. Industry and government should also work cooperatively to develop baseline indices to be used in measuring the performance of Canada's regulatory processes in comparison with those of other developed nations. We should also encourage regulators to develop new methodologies that link competitiveness with environmental sustainability in undertaking and evaluating project approvals.

The second point is taxation. With respect to maintaining a competitive fiscal climate for Canadian infrastructure investment, CEPA encourages the Government of Canada to continue to improve personal and corporate tax regimes. The depreciation rate of pipelines and related equipment is a tax issue that CEPA members pay particular attention to, and guiding our position on this issue are two principles.

The first is the need to have depreciation rates reflect the actual lifespan of the equipment, and the second is to be competitive with other jurisdictions, primarily the United States. Currently we're working with the Government of Canada in an attempt to ensure that pipelines and compression equipment are treated in accordance with these principles. As it stands now, a U.S. pipeline system is completely depreciated a full 12 years before the Canadian counterpart, and with the recent Alaska pipeline project incentive package that was approved by Congress, the differential between the two projects has grown even further.

The third item I want to touch on is the importance of access to competitively priced investment capital. Recently there has been some discussion about whether the Investment Canada Act is robust enough for the twenty-first century. My members believe that in order to effectively explore the matter, it is first necessary to agree on the goals that Canada is trying to realize.

First and foremost, we must encourage the free flow of capital. If Canada's economy is to continue to grow, it is necessary for Canadian companies, small, medium and large, to be able to fund their business plans. This means they must have access to global capital markets so they can obtain investment funds at the best possible price.

The importance of this fact is significant for Canada's oil and natural gas industry, as the growth of the country's economy is absolutely tied to its energy consumption, and Canadians are consuming more energy than ever before. As a result, oil and gas producers are drilling wells at record rates to meet that demand, and between the producer and consumer of oil and gas products are my members, who are responsible for delivering the energy to market.

The demand for new pipeline projects, such as the Mackenzie Valley, Alaska, and a project that will move product from the oil sands region of Alberta to the coast of B.C., exemplifies a growing economy and capital-intensive projects. The need to fund these new

projects, not to mention the liquefied natural gas projects in which some of our members are involved—for example, two proposals in Gros Cacouna and Rabaska—not to mention the hydro projects that are being proposed across the country and a variety of other energy projects, means that we need to emphasize the ability to attract capital.

Just in case you think I'm going to avoid the subject of human rights and its relationship to foreign investment, allow me to elaborate on our second principle. If we are to ever align the human rights records of all countries with the highest standards possible, it will only be possible through engagement, not estrangement. There is a strong correlation between the strength of a country's economy, the wealth of its citizens, and the state of that country's human rights record. As Chester Bowles, a leading U.S. economist at the turn of the century, said, there can be no real individual freedom in the presence of economic insecurity.

The final piece of the competitive matrix for us is the availability of a skilled and knowledgeable workforce. Canada's upstream oil and natural gas industry contributes more than \$65 billion to the national economy, about 6% of Canada's GDP, and to continue this contribution the industry has found it necessary to take steps to address the diminishing supply of skilled workers. I'm not going to go into any of the details—those are included in the longer submission that we made—but let me say that the solution to workforce issues such as skills shortages will only be found if governments and the private sector continue to work together to develop a qualified, motivated, and agile workforce.

Mr. Chair, committee members, thank you very much for the opportunity.

•(1555)

The Chair: Thank you, Mr. MacInnis.

We'll move to Steven Higgins, Solar Energy Society of Canada.

Mr. Steven Higgins (Member, Board of Directors, Solar Energy Society of Canada Inc.): Thank you very much.

Established in 1974, the Solar Energy Society of Canada Inc., or SESCO, is a not-for-profit organization with registered charitable status. SESCO is a national organization with seven chapters and affiliates across Canada. SESCO has a mandate to advance the awareness and understanding and use of solar energy in Canada.

First I will give you a little information about solar energy. Solar energy is broken into three main categories: solar thermal, used for space and water heating for domestic and commercial use, pool heating, and crop drying; photovoltaics, for electricity generation for off-grid applications such as water pumping by farmers, telecommunications, and oil and gas, and for on-grid applications; and third, passive solar, which is used for space heating and lighting of buildings and has more to do with building design than actual products.

If I go into the benefits of solar energy, some of the life cycle costs are lower than might be expected. Electricity generation in Ontario costs about 11¢ per kilowatt hour. Photovoltaics, although high, is at 30¢ per kilowatt hour and is dropping rapidly—and I'll give an example of how that's happening in a moment. Solar hot water costs between 5¢ and 3¢ per kilowatt hour, and solar hot air costs 3¢.

The second benefit of solar energy is that it coincides with peak loads, which is to say that when the demand for electricity is high, the supply is also high. That happens electrically due to air conditioning and organizational demand during the day in the summer; and in the winter, as we have seen recently, cold temperatures coincide with sunny days.

A third advantage is innovation itself. Innovation in this field inspires products in multiple fields; for example, carmonah, combined advances in photovoltaics and diodes to create new lighting for marine and aviation applications that are being exported globally.

A second example was announced recently. Actually, on January 9 a breakthrough was announced out of University of Toronto. Nanotechnology was used to make a plastic capable of capturing light in the infrared spectrum. These flexible roller-processed solar cells have the potential to harness up to 30% of the sun's energy compared to 6% in today's best plastic solar cells.

Further examples of benefits, of course, are greenhouse gas reduction, energy supply and availability as well as diversity, and finally, clean air and water.

I'll give you a quick overview of the solar industry in Canada. There are over 200 companies with approximately 1,000 jobs. The estimated growth over the next two years is 50%, and we have \$100 million in sales annually. Sales in Canada are growing at 15% to 25% per year versus 30% to 40% internationally, and up to 75% of Canadian manufactured products are exported. It becomes difficult for our firms to justify manufacture in Canada with such low demand here in Canada. We have one full system manufacturer, Automated Tooling Systems in Kitchener, and a large number of component manufacturers, including Xantrex, the leading maker of inverters. On the solar thermal side, we have five manufacturers of solar hot water systems and two of solar hot air systems. For example, Conserval's SolarWall—that's the name of their product—has installed about 41,000 square metres in Canada and also has significant sales overseas.

I have to say that Canada does lag behind other International Energy Association reporting countries in investing in solar. For example, Canada spends 10¢ per capita on photovoltaic initiatives, while the IEA average is 62¢ per capita. This lack of funding has

resulted in Canada lagging behind other developed countries and a few developing countries in solar installations and manufacturing.

• (1600)

There are policy recommendations put forward by groups like the Canadian Solar Industries Association. There are five of them.

The first is that the government should continue to lead by example by using solar technology on its own buildings. Wide application of low-energy heating and cooling systems in buildings will create a building stock able to adapt to sustainable energy sources when desired. The government should commit to supply 20% of government's heating needs from renewable technologies.

The second recommendation is that the government work with industry and among federal departments and provinces to remove regulatory roadblocks that are different in each jurisdiction.

Third, increase government funding and the number of programs in support of research, development, demonstration, and deployment of solar technologies, to bring Canada's spending in line with our peers.

Fourth, implement low-interest financing mechanisms to assist consumers with upfront capital costs.

Fifth and finally, change the tax structure with measures like expanding expense class 43.1 to include the other aspects of solar technology.

This concludes my presentation. Thank you very much for the opportunity.

The Chair: Thank you, Mr. Higgins.

Next up is Robert Hornung, from the Canadian Wind Energy Association.

Dr. Robert Hornung (President, Canadian Wind Energy Association): Thank you, Mr. Chair.

Good afternoon. Thank you, committee members, for the opportunity to come and speak to you today.

Canada is an energy nation, and clearly you've recognized that in identifying energy as one of the areas you want to focus on in the work in this study. We have a number of important success stories in Canada of governments working together to help facilitate the development of new energy industries in this country, whether it be in the oil sands, in offshore oil and gas, or, over a longer period of time, in the nuclear industry. There's an opportunity right now in Canada to do something similar with wind energy, and that's what I would like to speak to you about today.

I do have a presentation that's been distributed to you, and I'll let you know as I'm going through the slides.

The first thing I wanted to touch on was the size of the global wind energy industry at this time, just to put some things in perspective. There are now 46,000 megawatts of installed wind energy capacity globally; that's enough power for 17 million homes. The wind energy industry has grown globally by 30% a year since 1994. Installed capacity is expected to double from current levels by 2008—so within the next four years—and double again by 2013, in the five years following that. In 2004 alone there was \$11 billion invested in wind energy globally. It's become a major job creator in the leading countries that are working with wind energy: 35,000 indirect and direct jobs in Germany and 27,000 in Spain. In Denmark the wind energy industry now employs more people than either the agriculture sector or the fisheries sector.

If you look at how the composition of the wind energy industry has changed over time and if you look at the leading turbine manufacturers globally, the leaders, you'll see there are some people who have been in this since the beginning: Vestas, a Danish firm, and ENERCON, a German firm. But you also see new firms entering the wind energy industry: General Electric—GE Wind—and Siemens, which just bought Bonus, a Danish wind turbine manufacturer, at the end of last year. These companies are coming into the industry because they recognize the scale of the opportunity that exists at this point in time.

On the next slide I've highlighted the current state of wind energy capacity in Canada. We have 444 megawatts installed. You'll see that the bulk of that is in Alberta, with another significant contribution in Quebec, and then it's a little bit scattered in other parts of the country.

You'll see it's a small number, if you look at the next slide, but that it does nonetheless represent average annual growth over the last five years of 35% in Canada in terms of installed capacity. I can guarantee you that we will significantly break that rate of acceleration next year, with a significant speed-up going forward.

But as you'll see on the next slide, Canada is still far behind with 444 megawatts of installed capacity. How does that compare? Germany has 16,500 and Spain has 8,000. There are small countries: the Netherlands has 1,077 megawatts and Denmark over 3,000 megawatts. These are countries with a small land mass and with a wind resource that's actually significantly inferior to Canada's, because just as we're blessed to have tremendous resources in terms of hydroelectricity and in terms of petroleum reserves, we also have a tremendous wind resource. Probably the only country that might have a better wind resource than Canada has is Russia, but it hasn't been fully mapped there yet, so we don't know for sure.

Annual installed capacity. This past year was a record year in Canada; we installed 122 megawatts of wind energy. That's great, but Germany installed 36 megawatts a week this past year. Again, there's just a different sense of scale in terms of what's going on.

What does wind energy contribute to electricity in Canada? Now it's minuscule, less than 0.3%. In Denmark it's 16%. In one of the major industrial economies of the world, Germany, it's already 6%, and in Spain it's 5%. So as I say, at the moment Canada is behind.

On the next slide you'll see that this means we're missing out on some economic benefits and some economic opportunities. Every megawatt of installed wind energy capacity produces more than \$1.5

million in investment. Every megawatt of installed capacity produces two and a half direct person-years of employment and eight indirect person-years of employment.

● (1605)

Most of Canada's wind energy resource is found in rural areas. Right now the bulk of our development is in southwestern Alberta, around Pincher Creek, or in the Gaspé Peninsula in Quebec. Often these rural areas have been hard hit by declines in the traditional natural resource industries, whether it's BSE, environmental pollution, acid rain, or other things that have hurt traditional parts of the economy. Wind energy has an opportunity to be a rural economic development strategy, increasing the municipal tax base, providing lease income for landowners, and bringing jobs into these communities.

Wind energy makes sense from an electricity perspective because, as Steve mentioned, with solar, production peaks when we need energy the most. Our electricity demand in Canada is highest in the winter. Wind energy has the bulk of its production in the winter because the air is denser and contains more energy and because the wind blows more strongly in the wintertime than in the summertime on average. If you look at some of the provinces that are really starting to think seriously about wind energy now—Quebec and Manitoba, for example—these are provinces that see wind energy as an opportunity to allow them to preserve their hydro resource, to allow their reservoirs to build during the winter months so they can export hydroelectricity in the summer months, when the United States has its demand peak and when prices are highest and they can make the most money in doing that.

Wind energy can benefit the economy because it provides electricity price stability. There is no fuel cost with wind energy. You can project with a high degree of certainty what the cost is going to be 20 years from now. You can't do that with all electricity sources.

It has some benefits in terms of how it can be constructed in a modular fashion. In the past what we've tended to do with electricity development in Canada is to make projections about what the electricity demand will be in 10 years and then build big power plants to try to meet that. Unfortunately, what we've often found with those sorts of projections is that the one thing you can always say is that they're wrong, and inevitably that's led us to make some inefficient investments over time.

You can build wind facilities on a modular scale, taking projections over a shorter time period. You can put a wind farm in place in nine months. That can allow you to meet a new demand surge for electricity that you expect in the next year or two and not force you to speculate about where you might be 10 or 15 years from now.

Finally, wind energy can help to reduce price pressures on natural gas. In the United States, a number of studies have now been done, because natural gas has been the fuel of choice for the electricity sector for the last few years, and that demand for natural gas is one of the factors that have helped to drive the price of natural gas up over time. If you were using wind to offset some of that gas, that would allow you to put downward pressure on the price and also help to preserve natural gas for more efficient uses like home heating, for example, and extend the time for which Canada will have this valuable resource.

On the next slide I talk a little about the fact that right now Canada has a unique opportunity. We are way behind the rest of the world at the moment, but we do have a unique opportunity. At this time the economic benefits of wind energy in Canada are minimal. We do not have any domestic manufacturing at all of wind turbines. We have some manufacturing components, but they're very limited, and that's because our market is too small. No manufacturer is going to set up here. In Quebec some things are changing, and I can speak to that in a few moments. But we have a unique opportunity right now.

Most wind turbine manufacturers are still European. They see that the North American market is going to explode, potentially, going forward. They want to set up shop here. They want to do that because they're getting killed on exchange rates. The euro is a strong currency and it's hurting. They're getting killed on freight costs. Wind turbines are huge pieces of equipment right now. Their towers are 250 or 300 feet tall. Their blades are 100 or 150 feet long. These are big machines. Freight costs can be 5% of the cost of a wind energy project.

So manufacturers want to come to North America. You might think they'd be tempted to go to the U.S., because the U.S. has 15 times the wind energy capacity that we have right now in Canada, but they aren't and they haven't. The reason is that the policy framework for wind energy in the U.S. is, I would argue, not a very rational one. They have a large production tax credit in the United States for wind energy, and we can't complain about that from a wind energy perspective; it's between three and four times the value of the Canadian wind power production incentive. But it is problematic because, the way it's structured, it has to be continually renewed by Congress. What happens is it gets caught up in other bills, it gets added on to something else, and it goes through sessions where it just disappears.

In 2003 the wind energy industry had an almost record year in the United States. The production tax credit expired at the end of the year, it was not renewed until October this year, and therefore you have a bust year in the U.S. this year.

•(1610)

Provincial governments want to put in place right now almost 6,000 megawatts of wind energy by 2012, and they are looking for the federal government to partner with them. If you look at the next slide, you'll see that the growth is really all across the country. Provincial governments are now looking seriously at wind energy.

My last slide is on the federal wind energy strategy. It would probably have to start by taking into account that Ernst & Young, the international consulting firm, just released a renewables attractiveness index, which ranked Canada seventeenth out of 20 countries

examined in terms of its attractiveness for wind energy investment. It's because we don't have a strategy at this point.

The throne speech commitment to expand the wind power production incentive to 4,000 megawatts is a solid foundation for a strategy if implemented, but it needs to be part of a more comprehensive package that ensures that federal incentives work together; that you do move forward on "smart regulation", because it is an issue for the wind energy industry as well, not just an oil and gas or a pipeline issue; that you have better federal and federal-provincial coordination; that you do invest more in our research, development, and demonstration; that you think about skills development and training for an industry that might grow 15-fold in the next eight years—where are the workers going to come from?—and that you do more in terms of public education and outreach.

I'd be happy to answer any questions. Thank you.

•(1615)

The Chair: Thank you. Thank you all. Some very interesting points were raised.

We're going to turn to John Duncan.

Colleagues, I'm going to try to keep this to five or six minutes each. We have a lot of members and a lot of witnesses.

Thank you, John. Please proceed.

Mr. John Duncan (Vancouver Island North, CPC): Thank you very much.

It's a tall challenge to spend so little time with so many questions, but I'll start with the same batting order.

I'll ask Gerry Protti this. On page 10 of your package—I just want to make sure we focus on that bar graph appropriately—what you're really saying, I think, is that the produced-to-date should compare with all of the rest, but cumulatively. Correct?

Mr. Gerry Protti: That's correct.

Mr. John Duncan: If you were to do that, they would be way off the chart.

Mr. Gerry Protti: The red bars are the conventional resource.

Mr. John Duncan: Ours aren't in colour, by the way.

Mr. Gerry Protti: Is yours not in colour? Sorry.

The third and fourth bars are the undiscovered conventional. There's a range, because geologists are not sure how much. The four bars to the right are either frontier—for example, offshore resources—or the unconventional that we're pursuing. To get the total available resource for just one province, British Columbia, it's the cumulative sum of all of those.

Mr. John Duncan: That's pretty impressive.

The other question I want to ask you is this. You're producing, as a company, the equivalent of Canadian demand.

Mr. Gerry Protti: Canadian residential and commercial demand. Commercial is—

Mr. John Duncan: But isn't that total Canadian demand?

Mr. Gerry Protti: No, there's industrial. There's a very significant industrial demand. There are 1.1 trillion cubic feet of residential and commercial demand. Industrial demand is another 1.5 trillion cubic feet, and that includes power generation.

Mr. John Duncan: Okay. But there are still another three and a half that Canada produces.

Mr. Gerry Protti: Canada produces about six, and just over half is exported.

Mr. John Duncan: We get the petrochemical industry complaining about the fact that they can't get supply to build value-added natural gas plants in Canada because the supply is all committed. If we're exporting that much, what would it take to...? You and many other producers really have no tie to the value-added sector. Your interest is in finding a customer. You don't care.... Most customers come with long-term commitments attached.

Mr. Gerry Protti: Most of the sales occur at an AECO price—an Alberta border price—or are based on a U.S. price. They go into David's company's pipelines to go to either domestic or international markets.

It's not a question of available supply. There's plenty of gas available. It's a question of price. It's the market at work.

If you look at how the petrochemical industry evolved, it really burgeoned at a time when there was a vast excess of natural gas in western Canada for various reasons. As additional access, the grid, was established in North America, more markets were available.

If you look at new petrochemical capacity in the world, it's being built primarily in areas that have stranded natural gas assets offshore, where the only other option available is LNG-type facilities. So you're getting areas in South America, for example, that are expanding. The gas is there; the question is the market price.

Mr. John Duncan: Okay, I'll accept that answer.

I wanted to ask David MacInnis about the question of the day.

We're hearing a lot about Alaska and getting that product to market, and now we have not just the pipelines competing—I'll use the word "competing"—but we have this other proposal now to take it to Prudhoe Bay, liquefy it, and send it that way, which will obviate the need for a pipeline. This is all putting more pressure onto the Government of Canada to make a decision. Is this third proposal, the liquefaction, real? Or is that optics, is that leverage?

I could read a lot into your smile, but I'm not going to.

• (1620)

Mr. David MacInnis: Mr. Chair, the honourable member would be reading more if I got up and walked out of the room and ran from answering this question.

No, I don't think it's leverage, Mr. Chair. LNG is going to play an increasingly important role in Canada's energy supply chain. Depending on whose numbers you believe, however, approximately

12% to 15% of North America's natural gas supply will be from LNG by about 2025.

On the particular facility you talk about, is it real? It's as real as any of the other forty-some that are in consideration around North America, including half a dozen in Canada. The cost for LNG is significant, however, and I know there's a viability study under way with respect to that particular LNG project.

I would suggest that at the end of the day—and I emphasize that I'm guessing—the cost of an Alaska pipeline is going to be less than that LNG facility. Either way, quite bluntly, obviously my members benefit more if it's a pipeline project that brings Alaska or Mackenzie gas south. But at the end of the day, we need all sources of energy, so I go back to my original points. The government needs to make sure the marketplace is able to respond by improving the regulatory system, etc.; let market fundamentals work; and let what projects come forward, come forward, but under market principles.

The Chair: Anything else?

Mr. John Duncan: It's not even a question, it's just a comment on that. I've been trying to send a signal to the government that in a minority Parliament it would be appropriate for the government to involve the opposition parties in this very sticky question on the northern pipeline routings, the alternate scenarios, and the decisions that need to be made this spring. By addressing this committee in this way, it's one more way for me to send that signal, and I think you would probably endorse that it would be a useful thing to do as well.

The Chair: Point taken.

We're going to go to Serge, then Andy Savoy, and then Brian.

[*Translation*]

Mr. Serge Cardin (Sherbrooke, BQ): Thank you, Mr. Chairman.

Each one of the witnesses represents a specific sector of the energy industry, whether it be gas, solar energy or wind energy.

Mr. Protti, on page 5 of your submission, there's a diagram of a pyramid that, to all intents and purposes, represents the stage at which gas is the easiest to use. It's become increasingly difficult to extract that gas and we need to develop new technologies to that end. The process is becoming increasingly costly. Since the 1970s, government subsidies to the oil and gas sectors have totalled approximately \$70 billion, whereas only several hundreds of millions have been invested in the development of renewable energy sources. If more money were spent on developing wind and solar energy, we'd witness more advances in this field. In the past, we had oil and gas, and renewable energy was considered to be of secondary importance.

Given that your energy costs are soaring and that the cost of other energy sources will likely decline as new technologies are developed, what prospects do you foresee for the development of both conventional and renewable energy sources and what kind of balance should be struck to ensure development on both fronts?

• (1625)

[English]

Mr. Gerry Protti: You made your comment about the historical contributions that the federal government made toward investment in the industry. I think you're talking, sir, about the national energy program and the petroleum incentive payments.

Tremendous government dollars at the time went into incentives to drill in frontier areas, primarily in the Canadian north and off the east coast. Those investments did result in some discoveries of conventional resources in those areas, but at a tremendous cost. While that was going on, there were also restrictions made in terms of the pricing system and restrictions on foreign investment. If you take the whole package together, I don't think Canada benefited very much at all from the national energy program and those investments.

The technology that is being developed today in this pyramid is technology that does not have any support other than the normal provisions of the tax system. When it comes to where the government should focus, I believe it's going to require support on all technologies for all types of energy. We're going to need the complete portfolio of non-renewable and renewable energies to meet our future demands, and I think the government should definitely come forward with a series of supports for technology development, regardless of which area that development is in.

Mr. Higgins mentioned solar. We have 22,000 wells just in southern Alberta. Most of those are attached to photovoltaic systems to allow our telemetering, so that we don't have to link directly with hard wire to them. We can get all of the information off the wells and even control them remotely using, as much as possible, solar power.

We have investments, as EnCana, in renewable resources. Our focus is natural gas and oil sands development. That's where our expertise is, but we see that portfolio of all energy forms as being required for Canada's and North America's future. So a science policy focused on promoting the best in Canadian technology, whether it's in solar or wind, pipelines, or oil or natural gas development, could put Canada in a leadership position across that whole spectrum.

[Translation]

Mr. Serge Cardin: Would you care to comment on renewable energy sources?

[English]

Dr. Robert Hornung: I would just offer that it's clear that renewables will not meet all of Canada's energy needs going forward, so it's true that we do need a portfolio of energy sources. I think the attitudinal change we're starting to see is a recognition that this doesn't mean that renewable is a niche contributor, a small contributor, to Canada's energy needs, but it can indeed make a significant and substantial contribution to Canada's energy needs going forward. That recognition and the fact that renewables and wind, I would argue, are part—and a significant part—of Canada's

energy future are things that we actually see being recognized by energy companies.

Suncor Energy now operates two wind farms in collaboration with Enbridge Pipelines. TransCanada Energy is a 50% owner of a group that just won contracts to build 750 megawatts of wind energy in Quebec. Nexen, a major oil and gas company in Alberta, is starting construction of a 70-megawatt wind farm in Alberta. Talisman is building a major wind farm in the North Sea off its petroleum holdings there.

So I think there's a growing recognition within the energy industry that wind and other renewables have an important role to play going forward. I guess what's important from our perspective is to see that recognition more broadly shared within and among governments.

• (1630)

The Chair: Merci.

Andy Savoy, please.

Mr. Andy Savoy (Tobique—Mactaquac, Lib.): Thank you very much, Mr. Chair.

Mr. MacInnis, I'll just take you back to one of your first statements. As one of a handful of engineers in the House, it's not very pleasing to see lawyers and engineers used in the same sentence, but I will accept that there are problems with that.

I'll go first to EnCana and the pyramid you described. Looking at productivity within the industry, which is very successful, as we know, in terms of productivity now in relation to the U.S.—I think we lead them, in fact, in oil and gas. But looking at moving forward and moving down that pyramid, obviously when you're looking at tight gas sands and merging future resources, subvolcanic plays, new tight gas plays, and gas hydrates, we're going to require an enormous amount of innovation within the industry to do that and I guess to remain in front of the curve, if you will, internationally.

Is there any role that we can play, or what prospective roles are there for us to play? We certainly have the R and D tax credit, which I think is the best in the world, but what other roles can we play?

Similarly, I think solar has to get the cost per kilowatt hour down to be competitive, as I understand it, so it requires further innovation. Is there anything the two of you can add to the innovation or R and D agenda in terms of moving forward for both your industries? I think they'll be very critical.

I might as well get all of the questions in now.

David, in terms of capital attraction, you talked about Canadian companies needing dollars to fund business plans and access to global capital markets. Similarly, what can we do to help on that front?

In terms of wind, attracting manufacturing companies from Europe, I agree, the market doesn't exist now, but it could exist in the future. Is there a role for us to play here as well?

Thank you.

Mr. Gerry Protti: I'll respond. The R and D tax credit is an effective vehicle. It has a narrow definition and it tends to focus more on university-oriented and lab-oriented research. In our industry, when you have tight sands like this, we have to drill pilot projects that involve up to 20 wells or more per pilot project to really test our drilling and completion techniques, our infrastructure, to see whether or not we're going to be able to produce. Relatively little of that capital is actually available for scientific R and D. Your first well into a formation might be applicable.

So I think from the perspective of the resource sector, you have to look at what R and D means. It means learning by doing, and that's where we develop our expertise. So a broadening of the base of what the classification is for research and development and then looking at the various capital cost allowance categories....

There are a number of those resources in the pyramid that haven't even begun. Geologists know they're there, but really there's been very little work. If the government were to sit down with the industry and ask what is the next phase of research over the next 20 to 30 years, that could help define how to better utilize a vehicle like the R and D tax credit.

The Chair: Mr. MacInnis, would you like to comment, please?

Mr. David MacInnis: On the capital attraction piece, what's important is to emphasize the fact that, number one, Canadian companies need to be able to access capital in the global markets; and two, they need to be able to get capital at attractive prices.

Investors, be they institutional or personal, make their decisions about who they give their money to based on a variety of things. For example, especially if we look at it from an institutional investor's point of view, if they are looking at investing in a Canadian pipeline firm versus an American pipeline firm, they're going to be looking at things like depreciation rates. As I mentioned in my presentation, the depreciation rates these days favour the U.S. company significantly. They're going to be looking at environmental regulatory regimes. If a company has a project proposal—for example, one in Alaska and one in the Mackenzie—which regulatory regime is going to enable that project to get through the process quickest and therefore in the least costly manner to the company and the shareholder? Right now the American project would probably win out, although, I submit, by a hair.

I don't want to make it sound like the American environmental regulatory process is better than what we have. In fact, it has its own problems as well and ours is very strong, but both can be improved.

So there are a bunch of individual factors that are all looked at, ones governments—and I use “governments” in the plural purposely—need to take a look at.

• (1635)

The Chair: Go ahead, Mr. Higgins.

Mr. Steven Higgins: I'll address first the concern about the cost of solar energy. It's important to note the difference between the thermal technologies and the electrical technologies. Thermal technologies are currently very competitive with electricity rates, first of all. Photovoltaic, which is electricity producing, is higher but is coming down rapidly. That advancement out of U of T I had mentioned, with the plastic cells that are built with nanotechnology, will allow the use

of plastics in cells instead of silicon. There's a bidding war, I suppose, on silicon due to computer manufacturers and what not, which raises the price of photovoltaics quite high as they exist today.

The other issues that are going to drive down the costs are economies of scale, not only in the production but, very importantly in Canada, in the installation as well. Currently a lot of the installing companies are very small and can't or don't purchase the equipment that would allow them to automate properly, and they also have to travel very far. But as you improve that installation network, the costs will come down, and between that and the advancements, they will come down very significantly..

So yes, we have to continue to support the R and D, but we also have to support the actual putting in the field of these units, because without that incentive there on the other side of this research and development, there'll be a lot of neat products sitting on the shelves of the universities.

The Chair: Mr. Hornung.

Dr. Robert Hornung: On the question of manufacturing, I'd say the single biggest item is to have a market of sufficient size. A major wind turbine manufacturer today would set up a facility where it would probably want to build 150 turbines of about three megawatts in capacity a year, so that's 450 megawatts of output a year. A person wouldn't expect to sell that all in Canada, and they wouldn't expect to have all of the Canadian market. From some of the math we've done, we think the 4,000-megawatts commitment in the throne speech, for example, should provide an incremental rate of growth that's large enough to make the market attractive.

But of course, the other factor is that there has to be some sense that this market is sustainable and that it's going forward, and that requires things like policy coordination. Right now there are 14 different federal departments that are doing work related to wind energy, and I can guarantee you they do not all know what they're all doing.

It requires long-term commitments in terms of R and D, which we talked about. We have an Atlantic wind test site in Atlantic Canada, on Prince Edward Island, which has some opportunities to become a major research centre. As for skills development and training, Canada has a lot of natural advantages as an attractive place for investment in terms of educational backgrounds and skills of the workforce, but in an area like wind energy we do not have a lot of “windsmiths” per se, and we don't have the training programs in place yet to produce them.

The last thing is just to say to bring in the turbine manufacturer. The other opportunity, of course, is with respect to component manufacturing, and we see that in many ways the wind energy industry could have an important parallel with the auto industry. Canada isn't reinventing the car, but we develop some of the world's leading component manufacturers for automobiles as a result of having manufacturing facilities here. Canada has an excellent aerospace industry and excellent industries that are linked to wind technologies, but at this time we are not aware of them and we need to change that.

I'll just say, on one last note, that the committee may be interested in the fact that Industry Canada has been conducting a study looking at supply chain manufacturing opportunities for the wind energy industry in Canada. I believe that study is nearing completion, and it may be of use to you in your work here.

The Chair: Thank you, Mr. Hornung. Thank you all.

Brian.

Mr. Brian Masse (Windsor West, NDP): Thank you, Mr. Chair.

Maybe I'll ask the three questions I had all at once. The first one is for Mr. Hornung and Mr. Higgins.

What would it mean for Canadians if, for example, we were able to reach targets that are achieved by our competitors out there that are doing well in these fields, solar and wind? What would that mean in terms of Kyoto, pollution, and other reciprocal benefits? As well, I think there is actually some argument for industrial supply having greater stability; if you could, please address that.

I have two quick, small questions for Mr. Hornung. One is about convergence. You're talking about some of the oil and gas industry actually purchasing some of the wind energy production. That gives me some concern, for reasons similar to ones we've heard during discussions at this table before, namely the convergence of the industry into a couple of different sources of supply. I'm wondering about the competitiveness of that in an emerging industry, where we could see a loss of competition as a predominant factor.

I agree with your assessment of the auto industry. I look at Windsor, where we have shipping, rail, and highways accessible to the U.S. markets. How long do we have before this window to the United States closes in terms of manufacturing opportunity if we get our act together? I think, with the mould making and the heavy industrial development we have, we can really access some production values in what they might be doing.

And lastly, Mr. MacInnis, you mentioned foreign investment. I'm just curious—and I've asked this question about foreign ownership numerous times, about the big issue I have concerns about, which is non-democratic governments owning Canadian companies—whether you agree with that. For example, if North Korea or China were to purchase companies in these industries, should there be restrictions on that? I find it very difficult to deal with it when we have, say, rogue states that can purchase Canadian companies that have control over our production and supply of energy.

Thank you.

• (1640)

The Chair: Thank you, Brian.

Mr. Hornung.

Dr. Robert Hornung: I'll try to be quick.

In terms of U.S. manufacturing opportunities, right now the only wind turbine manufacturing facility in the U.S. is owned by GE, but Gamesa, which is the largest Spanish wind turbine manufacturer, just announced last fall that it is going to be setting up a shop in Pennsylvania. Vestas has not yet made a decision, so there are still some opportunities, but they do slip away over time. Just as an example, the U.S. market is expecting to have 2,500 megawatts of wind energy installed next year, which is a very attractive market for a manufacturer to move into. Even if it is only a one-year thing, there is that growth. The promise of that is tempting.

On the competitiveness side, the wind energy industry is at a very interesting time. CanWEA, my association, represents 160 companies, and we have a mix. We have all the major utilities, we have a whole bunch of major energy companies, and we have a whole bunch of start-ups that are working on dealing with wind. For example, Ontario recently held a request for proposals and awarded five projects, and that went to a mix. It went to a major utility, it went to a start-up company, and it went to an established energy company like Brascan, so there's a mix. So right now, going forward, competitiveness is not an issue.

Finally, in terms of some of the other benefits—I did choose to focus here on the economic side—obviously wind energy has a number of environmental benefits. It does not produce any air or water pollution and no solid toxic wastes of any kind. As for what it means in terms of Kyoto, clearly, relative to any fossil-fuel-generating source of electricity, it provides you with a strong net benefit.

The only other benefit I would re-emphasize is the rural development benefit possibilities associated with wind energy. It's available in every part of the country. Every province of Canada has a good wind resource in some region.

The Chair: Do you have any comment on Mr. Masse's question?

Mr. Steven Higgins: Yes. By moving toward where our peers are, we will develop a lot more of the manufacturing capacity here in Canada. To give you an example, Sharp recently opened up a plant in the United States, and a lot of the plants—and not only there—once they open up, have already sold their capacity, often as far as a year in advance. So there is a high demand for these products out there, and Canada will gain those jobs and those roles.

I'll leave it there. Thank you.

The Chair: Mr. MacInnis.

Mr. David MacInnis: Mr. Chair, I find there are a couple of principles in responding. One is to ensure that Canadian companies are not penalized and find it more difficult to access capital on open markets internationally, and the second is to ensure that the stakeholders that need to be at the table are there to discuss this very important and quite fundamental question. Don't take reactive steps.

I am no expert in this area. That hasn't stopped me from talking to issues before, and I guess I won't let it stop me this time, but instead of outright ownership, perhaps we need to look at deciding whether companies owned by foreign countries should be entering into the Canadian market on a partnership basis with established Canadian firms. There are a host of ways to address this issue without minimizing the human rights issue and without affecting the ability of Canadian firms to operate in the international marketplace and to attract the capital they need in that marketplace.

• (1645)

Mr. Brian Masse: Do you make any distinction between non-democratic and democratic?

Mr. David MacInnis: That is a debate we need to have in this country, and it is right that it's starting now. I compliment you and members from other parties who have spoken out about this. The industry minister has done an extremely good job in raising some of the issues that need to be addressed. Quite bluntly, the committee—but also Parliament itself—is the perfect place for this debate to happen.

The Chair: Thank you.

We will go to Michael Chong, then Denis, and then Paul.

Mr. Michael Chong (Wellington—Halton Hills, CPC): Thank you very much, Mr. Chair.

I have a number of specific quick questions to ask all the panellists about their specific areas. I will start with solar power.

You mentioned that to generate electricity costs about 30¢ a kilowatt hour right now, but that will drop. Do you have any idea how quickly? Are there any studies out there as to how quickly it is going to drop, and to what levels? But obviously that's not something we're holding you to.

Mr. Steven Higgins: I think it drops down to 10¢.

To give you an idea of what's happening at the moment, Automated Tooling Systems' plant in Kitchener uses a different process than most cells. Essentially they put on little spheres of... well, I won't go into the details, but it has brought down costs significantly, and it is being used to replace roofing. So when you remove a product from a building, that of course helps with your costs.

Mr. Michael Chong: What would their product produce electricity at?

Mr. Steven Higgins: I'm not certain of the exact numbers.

Mr. Michael Chong: That's fine. I just wondered if you had any specifics.

Mr. Steven Higgins: But something interesting that is happening there is that the plants are starting on a micro scale. ATS's system can be set up to run in communities across the country on a very small scale production, which would bring down costs significantly.

Mr. Michael Chong: My next question is about wind power. It has to do with how much it costs to produce, and I don't think you mentioned that.

Dr. Robert Hornung: No, I didn't, but I can.

In the recent Quebec RFP, where 990 megawatts were awarded, the average cost of that electricity was 6.5¢ per kilowatt hour. On top of that there is an additional charge of 1.9¢, which was the cost of new transmission upgrades to accept that, and also a cost that Hydro Québec is putting on in terms of balancing some of the intermittency associated with wind. In Ontario the recent RFP awarded 350 megawatts to wind energy, and the average cost there was 8.5¢.

Mr. Michael Chong: I have two other quick questions about wind power. Recently the minister of energy in Ontario announced that they were going to set down some standards and force local utilities to adopt reverse metering. Is this a policy that is uniform across the country? One of the big problems is that you invest in this wind technology and then suddenly in off-peak hours you can't put it back into the grid. So you have this huge investment, but you can really only use it during peak hours.

• (1650)

Dr. Robert Hornung: Yes, net metering is particularly important for smaller-scale wind energy projects, and at this point in time in Canada it has really been only applied on a pilot basis. Ontario has put forward legislation, which is now going through the legislative process in Ontario. Nova Scotia has done the same thing. So I expect that in 2005 we will see net metering in place in both of those provinces, and it's certainly being looked at in other parts of the country.

Mr. Michael Chong: I have a third quick question about wind. You mentioned rural development opportunities, but if you're going to do 5% of Ontario's power, which is 25,000 kilowatts or so, and let's say it is 1,500 kilowatts, you're talking about hundreds and hundreds of these huge wind turbines. I can tell you, as somebody who lives in a rural area, I certainly don't want a wind farm with 50 wind turbines on a neighbouring farm. It's just not something I would appreciate. There is some noise that comes from these things, albeit small.

Has your industry developed any guidelines or strategies, if we are going to go to that level of wind power, as to how these things are going to be appropriately situated?

Dr. Robert Hornung: As an industry association we have not yet, although we are working on that. It's clear that the issue of municipal permitting and siting is going to be incredibly important in terms of the wind energy industry going forward.

Of the issues that come up in that process, the one that is the most significant and the most substantive is the visual impact, and it's one that you can only address through site design and community engagement. Some people will look at wind turbines and will never like them, no matter what you say. Other people will look at them and say they represent the future and they want to have ten in their backyard.

What we are advocating, what we're developing, is a process to ensure that in terms of community engagement and consultation you conduct that process well to ensure that you don't actually build in communities where it's not going to fly.

Mr. Michael Chong: So you're going to be developing a set of guidelines?

Dr. Robert Hornung: Yes, we are.

Mr. Michael Chong: I have one last question and it's for Mr. MacInnis.

I believe you mentioned that in your industry the Canadian industry is put at a bit of a disadvantage because the capital cost allowance structure here is not as advantageous as it is in the U.S. I was wondering if you could tell us what specific class you're talking about and how the rates here are different from those in the U.S.

Mr. David MacInnis: Sure.

Mr. Chair, with respect to capital cost allowance, there are two issues—one with respect to the pipelines themselves, and the second with respect to compressor stations, which are in essence large jet engines that drive natural gas through natural gas pipelines.

With respect to pipelines themselves, that's where the biggest difference between Canada and the United States lies. Right now we're in class 4, but I believe we should be in class 1. In essence, what that means is that where depreciation of a pipeline is done at a 4% declining balance rate right now, we're saying it should be somewhere between the 10% and 14% mark. Currently, if you take a look at that system and compare us to the Americans, the U.S. pipeline system will be written off in 12 years. It depends on whether it's oil or natural gas, but on average the American system will be written off a full dozen years sooner. With the incentive package that came in with respect to the Alaska pipeline, whereby Congress has approved the depreciation rate for that pipeline such that it will be written off in seven years, the differential is even bigger.

With respect to natural gas compressor stations, what we're saying to Finance Canada is to leave them in the class they're currently in. The Canada Revenue Agency is looking to move them into a different class. Again, that would not only increase the disparity between Canada and the U.S., it would also not reflect the actual lifespan of the compressor station.

The Chair: Thank you, Michael.

The first minute of Larry's belongs to Denis, is that what I am to understand? Yes? Okay.

[*Translation*]

Hon. Denis Coderre (Bourassa, Lib.): Good afternoon. I hope all is well with you. I'd like to take this opportunity to thank our interpreters who are doing a fine job in both languages.

I'd like to begin by reminding you that I was once the Minister of Immigration. You alluded to the labour force and to the situation with respect to qualified workers. I must admit that I'm getting tired of hearing people say that they're having a hard time recruiting qualified workers.

In your opinion, what is the root cause of this problem? Is the Department of Human Resources not doing its job properly? Are the businesses that you represent having a hard time tapping in to the department's resources? Or is Immigration Canada the source of your problems?

During my tenure as Immigration Minister, my department concluded agreements with energy sector employees working offshore in the Atlantic and these arrangements worked very well. We also worked with the Northwest Territories. Once and for all, I'd like someone to tell me where the problem lies. If you have names,

then by all means share them with me and the committee can then get on with its job.

The situation must be rectified. You're always saying that you need qualified workers. We're prepared to help you because we're on your side. Tell us where the real problem is, if there is one, that is if this isn't merely a long-standing urban myth.

That's the question I'd like answered, Mr. Chairman. After this, I'll turn the floor over to my colleague who was gracious enough to allow me to speak. Thank you.

• (1655)

[*English*]

The Chair: We're going to invite our witnesses to comment on the skills and trades.

Mr. David MacInnis: Thank you, Mr. Chair.

It certainly is not a myth. There is a reality. In the oil and gas industry, we see it most readily in the oil sands sector. But in the pipeline sector of the oil and gas industry, we are very worried about the skill shortages that are going to come as a result of three major projects that are all looking to be built over roughly the next ten years.

First of all, Mr. Chair, I need to compliment the work the honourable member did in his former capacity. It did have a significant benefit. My friend Mr. Protti's company operates in the Atlantic, so he'll probably want to pay you more kudos than I, but the reality is...and I should say that Human Resources and Skills Development Canada is doing some very good work. They created sector councils—there were 26 of them at last count—and the petroleum industry has taken advantage of them.

The Petroleum Human Resources Council of Canada, the board of which I sit on, has done a study identifying exactly the skills we're going to be short of in the coming ten years in the upstream petroleum industry in Canada. We are looking to continue to work with all levels of government.

We believe some of these skill sets are available if, for example, we take advantage of currently underemployed or unemployed workers in this country. Certainly in western Canada especially, the aboriginal workforce, with the proper attention by both companies.... Again, Mr. Protti can wax eloquent on this issue. His company is at the leading edge of incorporating aboriginal workers into its workforce, not just at the entry level, but by ensuring that they continue to work their way up in the system. But companies have a role to play and governments have a role to play.

With respect to immigrant workers, there are surpluses in other countries. Ukraine, for example, is one country that has been identified. In these countries, if we take a look at our immigration policy and work to improve it and fast-track the skills that we need, we can ensure that some of these projects move forward in a timely manner.

The Chair: Any other comments, Mr. Protti?

Mr. Gerry Protti: Yes, thank you, Mr. Chair. I think it's a very good question. I didn't comment on the skills situation in my presentation, but I have a couple of quick comments.

On the east coast, there have been improvements. We had situations in which we'd have a seismic boat from Newfoundland coming into Nova Scotia to shoot a seismic shoot offshore, and we had to go into Halifax to drop off the Newfoundland workers and bring on the Nova Scotia workers. That was crazy. That's been fixed, and now we have a much more efficient system. In fact, that philosophy now has to be taken to the smart regulation, to the entire regulatory framework, where we still have multiple decision-makers making decisions on projects. We need to move to a regime that makes more sense.

On the broader skills question, there is a problem. It is primarily in the technical skills area for projects like oil sands projects. Part of the issue is simply the number of projects that are being scheduled over a short period of time, relative to the total workforce.

First of all, on scheduling, we've taken the strategy that we don't have big megaprojects. They're smaller-scale projects that we can actually just feather into our development plans, so we don't feel that, corporately, we're going to have a problem. But it is an industry problem.

Where are the sources? We need to support technical schools. We're doing that to a greater degree in order to encourage more young people to go into these trades, so that they'll be available to supply that workforce.

I just want to comment on aboriginals. We deal with seventy first nations. We spend a lot of time developing joint venture equity ventures that provide first nations with an opportunity to own part of a drilling rig or a service company in order to be a partner in the development. With those, we try to attach aboriginal employment with the service company. We've had mixed success with that mainly because too many of these young people are not finishing high school and can't even begin to enter the workforce. We've talked to the minister about this. That is the largest single group in the country that's underemployed. To us, it's the future of a big portion of the trades issue.

The other one I just want to comment on quickly is the university-trained technology people. We need to develop that resource base. Canadian companies are competing on a global basis for those people. Whether they come from India, U.S. schools, Canadian schools, or European ones, we feel we can compete on that basis. I don't think there's an issue there. It's a very competitive market, but we're attracting all the PhDs in reservoir engineering or whatever we need to develop that technology. It will be competitive, but I think we can compete with the rest of the world.

● (1700)

The Chair: Thank you, Mr. Protti.

I'll give you a full slot in a couple of turns, Larry.

We're going to go to Paul Crête, Brad, Larry, and then Werner, and get everybody in, unless Lynn wants to get in at the end.

[Translation]

Mr. Paul Crête (Montmagny—L'Islet—Kamouraska—Rivière-du-Loup, BQ): Thank you.

My first question pertains to pipelines. Can you give me an estimate of liquefied natural gas requirements? You mentioned LNG

stations, two of which are in the project proposal stage in Quebec. It is estimated that after 2010, domestic supplies will not meet the anticipated demand. Can you confirm that? In your opinion, is that likely to be the case?

[English]

Mr. David MacInnis: Mr. Chair, I have put a certain set of numbers on the table. I go back to my original point that whether it's natural gas, hydro, oil and gas, wind, solar, or nuclear, Canada, in order to meet its growing demand for energy, needs all sources. I believe it goes back to the work this committee is leading, and that is to encourage the environment so that the potential of all sources can be maximized.

With respect to LNG specifically, we have, as I mentioned, six projects in Canada—two in B.C., two in Quebec, one in New Brunswick, and one in Nova Scotia—that are all in the proposal stages. Again, it depends on whom you speak to. I have members involved in two of those six.

Our belief is that not all six will go forward. Probably one of the Quebec projects will go forward and one of either the Nova Scotia or New Brunswick projects will go forward, and I can say that with a fair amount of certainty. It's possible, however, that one of the Quebec and both the Nova Scotia and New Brunswick ones might go forward. And depending on how Alaska and Mackenzie affect natural gas supply in British Columbia, one or both of those could eventually go forward. But there are feasibility studies under way, and that's where those sit.

● (1705)

The Chair: Mr. Protti.

Mr. Gerry Protti: If I could make a comment on that, I think one of the factors for the liquefaction plant is that this is a relatively small portion of the total cost of the supply. The key for those projects—and I don't disagree with Mr. MacInnis that all of those could go forward—will be whether there will be a dedicated supply from foreign sources. That's where the majority of the costs associated with it are.

I think the regasification in North America is, Dave, about 10% of the total cost of a project. The supply development in a foreign location, plus the liquefaction at that location, is where the majority of the cost is. Not many of those projects will proceed, because they don't have that supply tied up. That link is going to be very important.

[Translation]

Mr. Paul Crête: Are you talking about initial supply guarantees at the source?

[English]

Mr. Gerry Protti: That's where most of the costs lie, so you need to tie up a long-term contract for the supply to ensure.... That's why the major multinational companies are looking at it. They have the stranded supplies of natural gas, and they are dedicating them to various LNG projects and liquefaction facilities in the world.

[Translation]

Mr. Paul Crête: I now have a question for you about wind energy. You stated that according to an Ernst & Young study, Canada ranked 17th among world nations in terms of its ability to attract investments. Is that study available to the public? Where can we obtain a copy of it? Why is Canada ranked 17th in this area? In your opinion, where would Canada be ranked if the appropriate measures were taken?

[English]

Dr. Robert Hornung: The first important qualification is that indeed it's not the seventh but the seventeenth out of twenty.

[Translation]

Mr. Paul Crête: Canada is 17th among 20 nations?

Dr Robert Hornung: That is correct.

[English]

The executive summary of that study is available. I'd be happy to provide that to committee members.

It's assessed largely on policy frameworks in terms of policies that would stimulate either demand or supply of the technology. It looks at both onshore and offshore wind energy. The countries that rank at the top of the list are Germany, Spain, and the United Kingdom.

[Translation]

Mr. Paul Crête: The issue here is not our ability to produce wind energy; at issue is the regulatory framework, assistance or grant programs, tax credits and so forth.

Dr Robert Hornung: That's correct.

Mr. Paul Crête: What are the two main areas on which Canada should focus its attention to improve the situation so that in two years' time, when a similar study is conducted, Canada could climb to 8th or 10th place on the list, instead of ranking 17th among 20 countries?

[English]

Dr. Robert Hornung: We have been advocating for a number of things that we think would make a difference. The first is to ensure that we have a program that helps to and continues to close the gap between the cost of wind power and alternatives for the short term until we get a market size that will bring down the cost itself. We think the wind power production incentive program is a mechanism that could allow us to do that.

The second thing is to ensure that incentives we have that could support the development of wind energy work synergistically. I will just give one example, if I may. In Canada we have the wind power production incentive. The federal government also has something called the Canadian renewable and conservation expense. It's a tax measure from Finance Canada. The wind power production incentive provides a revenue stream for a wind developer that makes it more able to compete in the marketplace. The Canadian renewable and conservation expense provides an attractive tax mechanism that makes it easier to attract outside financiers to come in and help your project.

Those are two very different purposes, and yet at this point in time, if you take one you can't get the other. And there are two or

three other examples I could cite where our policies are not working in a synergistic way.

The third thing I would just mention is coordination. At this point in time, the wind energy industry is having to deal with—and this is the joy of Canada, perhaps—the same issues in every jurisdiction over and over and over again, starting from a blank sheet of paper. The federal government is not in any position to impose or suggest a national program or anything like that, and I wouldn't suggest that, but what the federal government could do is facilitate discussions among jurisdictions that would allow different jurisdictions to start tackling an issue from the same point, the same knowledge base, to be able to go forward. They could then design their own solutions but do it in an equally informed way such that not everybody has to reinvent the wheel, which is what's happening right now.

● (1710)

The Chair: Very good. Thank you, Paul.

Brad, please.

Mr. Bradley Trost (Saskatoon—Humboldt, CPC): I listened to all your presentations here, and a couple of key themes seemed to come through. One of them Denis took care of, but I want to ask one broad question, more or less. Each of you can answer, because I think at least three or four of the presentations, if not all, touched on it.

Problems with overall regulations were presented in almost all the presentations here. For each of you, what short-term practical priority could we get accomplished here? Again, my thinking is short Parliament; we as a committee have to get a report that can get something done. The pipeline is here, and in your presentations you went through some specifics. If you want to elaborate on them, go for that.

So on regulations, what one or two priorities, in a very practical, short sense, would you have as being particular to your interests? Also, in the finance and tax structures, what would be your one or two things that we can get done as short, direct, and very helpful priorities? Honestly, we want to get things done here. We don't want to just theorize.

I don't know if we want to start at the right and work left, or start at the left and work right from there.

A voice: Try the centre.

Voices: Oh, oh!

Mr. Bradley Trost: Yes, we'll start at the centre.

Typical Liberal; I'd say start at the right—that's always the best spot—but of course Denis wants the centre.

The Chair: I see you've volunteered, Mr. MacInnis.

Mr. David MacInnis: Sure, with a very short response: take the first part of the External Advisory Committee on Smart Regulation report and implement it. It deals exclusively with getting the federal house in order. Part II of the EACSR report is federal-provincial-territorial issues, and part III is Canada-U.S.

I'm not suggesting that parts II or III are unimportant, but if you're looking at first things first, get the federal house in order. Use it to go out to the provinces and territories and say, "See? We've taken care of our part of it, and now we want to talk to you guys".

British Columbia, for example, has the....

Gerry, can you help me out here?

Mr. Gerry Protti: The oil and gas commission?

Mr. David MacInnis: Well, there's the oil and gas commission, and they have a regulatory review process that has developed a priority projects office.

I'm sorry, I'm forgetting the exact name of it, but it's a priority projects office. The British Columbia government has been through the process. Alberta recently finished what's called the Vance MacNichol report, looking at developing a single-window regulatory authority in Alberta. Again, it's an example of good work that's being done in the province.

The Chair: Thank you.

Mr. Protti.

Mr. Gerry Protti: I'll make it easy and say that I agree entirely with what David just said in terms of part I of the External Advisory Committee on Smart Regulation report. That is an excellent report, absolutely first-rate. If you can implement the recommendations, you'll go a long way to ensuring that we have a competitive regime.

We talked earlier about the east coast. We've used the example many times that to drill a well in offshore Nova Scotia, we need 22 to 25 separate approvals, including from the provincial government. In the North Sea we need one; there's a single window. Now, that one agency deals with all the other agencies that have responsibility, but from the industry's perspective, it's much more efficient and streamlined.

So it's a very good report, and it offers all the guidance that's required to make some important steps. A lot can happen very quickly, I think, if we follow those recommendations.

On the fiscal regime and the taxation issues, focus on technology development for all energy sources and broaden the base for the scientific research tax credit.

• (1715)

The Chair: Dr. Hornung, then Mr. Higgins.

Dr. Robert Hornung: I will echo what my colleagues have just said in terms of the smart regulation report. A specific example from the wind energy industry relates to environmental assessment. The industry finds that federal environmental assessment regulations are applied in an inconsistent manner to the industry in different parts of the country. Timeliness is an issue. Duplication is an issue. These are all themes that are explored in the smart regulation report. So getting the federal house in order as a first step makes a lot of sense, from our perspective.

In terms of the finance and taxation issue, probably the main one is the one I touched on in terms of the Canadian renewable and conservation expense, ensuring that this does not serve as a barrier to being able to use other federal incentives in order to move forward

and deal with different concerns and different issues facing the industry.

The Chair: Mr. Higgins.

Mr. Steven Higgins: On the regulation side, the building code has become a city-by-city issue for the solar thermal side. You have to talk each building inspector into accepting systems because of some problems there. I won't get into the exact details, though.

On the taxation side, expand the expense class 43.1 that Robert just mentioned. It doesn't include all of the solar technologies, and certain sizes are left out of there.

The Chair: Anything, Brad? You have another minute or so.

Mr. Bradley Trost: I'm okay.

The Chair: Thank you, and Werner will thank you when he has to conclude.

Larry.

Hon. Larry Bagnell (Yukon, Lib.): Thank you, and thank you all for coming. This is an area that's dear to my heart.

Mr. MacInnis, when we're looking at a strategy for Canada, we're looking for good projects, and there are only so many things we can do. Could you just outline a bit the benefits of the two pipelines? I know Alaska is probably the biggest project in North American history. Those projects provide substantial benefits to Canada, I think. Could you outline some of that, and obviously if it's good for us to try to get them into the strategy? As Mr. Duncan said, if we don't move, we're in jeopardy of losing them to LNG.

Mr. David MacInnis: The question highlights an important point with respect to these projects, and that is that they are all in the national interest. Benefits are going to accrue to all parts of the country, whether it's the issue of increased natural gas supply that is required to meet the increasing demand.... I emphasize again that it's not LNG versus the pipeline versus the unconventional gases. We believe those three sources of natural gas are all required.

For example, the Alliance pipeline is the most recently built pipeline project across the country. It has provided benefits in all the areas that it has physically gone through, whether it be shorter-term construction employment or contributions and investments by the company in the local fire department to ensure that the trucks and training of the individuals are up to snuff to handle a problem with respect to the pipeline. Companies will be investing in local secondary and post-secondary institutions to ensure that there is a source in the local community for ongoing training of people. These are all benefits.

I'll close with anecdotal evidence from the oil sands. Most people think of the oil sands as something that benefits only Alberta. The reality is, I believe, that almost 50% of the capital expenditures in the oil sands happen outside of Alberta. It's the small-town southwestern Ontario supplier of work gloves to Suncor, Syncrude, etc., that's gone from a workforce of half a dozen to running two shifts a week and doubling employment. There are stories of that nature from every province.

• (1720)

Hon. Larry Bagnell: I just have two quick short questions, so I'll ask them both now.

One is for Mr. Protti. My understanding is there's more frozen methane around than all the oil and gas put together, and I noticed that the bottom of one of your charts shows that. I wonder if you could expand a bit, because you didn't get much time to talk about that. Is the future of that in our strategy?

On wind energy, could you tell us if there's any way we can avoid clawback? I think Nova Scotia clawed back part of our subsidy in one case. Is there any way we can avoid that type of thing happening?

Mr. Gerry Protti: What you're referring to are gas hydrates, and they are at the very bottom of that pyramid. You're correct, I think the estimates are that there is more hydrocarbon, natural gas, and gas hydrates than all the other areas of the pyramid, so to speak. The technical issue is that they exist on the floors and just beneath the floors of all the oceans in the world. There are tremendous supplies apparently in the Canadian Arctic, for example, and offshore of the west and east coasts, under tremendous pressure. The way you would have them move into a gaseous state would be to reduce the pressure and increase the temperature. So far there's no technical solution to it. There is some research being done by a consortium of companies, but we're talking about something that's at the very edge of the scientific community's capability to deal with, so it's very much in the future. We wouldn't see gas hydrates being a source for probably at least 50 years out, maybe longer.

Dr. Robert Hornung: On the clawback issue, the wind power production incentive is designed to bridge that gap between the cost of wind power and the cost of alternatives. We definitely feel, as the Wind Energy Association, that incentive should go to the producer. That said, we then think it's perfectly appropriate for the producer to transfer that incentive if, in negotiations with the utility, that makes sense. In the end the net result is the same: if the producer holds on to the incentive, it's going to get paid less for the power; if it passes the incentive on, it may be paid more for the power. So the impact in terms of closing the gap is the same.

The problem that happened in the specific Nova Scotia case was that the Nova Scotia government—I think it was a procedural issue primarily—took a decision on how it would treat the wind power production incentive, without any engagement or consultation with industry, and we did have very serious concerns about that. In Quebec there were discussions prior to an RFP being released between industry and Quebec. An agreement was reached on how WPPI would be handled, if indeed someone who won a contract were to receive WPPI. That kind of process is something we feel is a good example to look to. If that is the case, then we think there isn't

really a particular issue here. We think it was just a bad process issue in Nova Scotia.

The Chair: The final word goes to you, Werner.

Mr. Werner Schmidt (Kelowna—Lake Country, CPC): Thank you very much, Mr. Chairman.

Thank you, gentlemen, for enlightening us to the degree you have. I'm very pleased that we have the four different energy components represented here.

I was particularly intrigued by the answers you gave to my colleague Brad, and I want to follow up on that. You mentioned part I of the smart regulations report. But you also indicate on page 4 of your report some specific review processes you would advocate, and I would like to look at a couple of those. Do those tie in directly with the recommendations in part I of the smart regulations report? I'd like to look at a couple of them and see just how that would work. For example, off the top we're going to substitute the National Energy Board Act for the Canadian Environmental Assessment Act. The implications of that are very far-reaching. Have you thought through all of those implications?

• (1725)

Mr. David MacInnis: Mr. Chair, I wouldn't dare suggest that we've thought through them all, but the reports we have done have thought through many of the implications. Clearly, if we were going to move down this road, this would be something that industries, environmental groups, and government would have to work together on.

But I will say that the suggestion is not ours. We introduced it when the external advisory committee was out and about doing its consultation. They've adopted it. It's in their report. It's complementary to part I.

It comes out of the point that when the National Energy Board was developed all those decades ago, it was to be a single regulatory authority. A few decades after that, Nova Scotia and Newfoundland each got offshore petroleum boards, which were going to be a single-window authority. The Canadian Environmental Assessment Act was developed to be a single-window authority. We have a plethora of single-window authorities in this country.

Mr. Werner Schmidt: That's right, there can only be one single window. I quite agree.

I'd like to go to the fifth item: "revamp criteria for intervener funding under the *CEA Act* to place a larger financial burden on large well funded interveners". Would dealing with the first one take care of the second one, the one I just mentioned?

Mr. David MacInnis: Technically speaking, yes, because the CEAA has an intervenor funding section, but the reality is that when someone appears before the National Energy Board, there are intervenor funding requirements as well. So regardless of the regulatory authority, they all have some type of intervenor funding piece. Unfortunately, it's a yes and a no. But I think it's more no, Mr. Chairman, because whether it's the NEB, the CEAA, or even provincial authorities, intervenor funding is an issue.

Mr. Werner Schmidt: We have been dealing with this series of questions with regard to smart regulations and what government can do to facilitate the coordination. Would the answers you have given us and the suggestions, while changing the names of some of the acts, apply to industries other than the energy sector?

Mr. David MacInnis: Absolutely. Mr. Hornung made a good point earlier, that it's not just the pipeline sector of the oil and gas industry, the upstream producing sector of the oil and gas industry, wind, or solar. Implementing part I of the report of the External Advisory Committee on Smart Regulation will benefit all regulated industries in this country.

Mr. Gerry Protti: If I could just add to that, I recently ended my term as chair of the Canadian Chamber of Commerce. The issue is certainly—

Mr. Werner Schmidt: It's standard right across.

Mr. Gerry Protti: Yes. The financial services area has multiple provincial and federal regulators. There are federal-provincial issues in addition to the issues in the smart regulation report, which involve primarily the duplication across several federal government departments. Then when you go down to the provincial level, there are federal and provincial issues. As a general principle, we're overregulated in this country. That doesn't mean that we want to in any way change any of the standards around environmental and social protection. We can do it more efficiently.

Mr. Werner Schmidt: Yes. They are two different issues.

I was rather intrigued by your comment, Mr. Hornung, that 14 different departments are working on a single-issue problem and they don't know what they're doing. Could you illustrate exactly what you meant?

Dr. Robert Hornung: Well, when you say it's a single-issue problem, 14 departments are now engaged with wind energy. There are obvious ones like Environment, NRCAN, Industry Canada—

• (1730)

The Chair: Among the 14, are there provincial as well or just federal?

Dr. Robert Hornung: No, just federal.

The Chair: All right.

Dr. Robert Hornung: Each regional development agency of the federal government is undertaking a project right now with respect to wind energy. Transport Canada is designing new regulations right now for the lighting of wind turbines for aviation safety purposes. Human Resources and Skills Development Canada is initiating its

process towards assessment of whether or not a sector council makes sense for the renewable energy industries in terms of skills and other issues.

I do have a list actually that I'd be happy to forward and send along, but it's quite broad.

I feel quite confident in saying that I think government would be challenged to put on a piece of paper everything it's doing with respect to wind energy at this time in the absence of some sort of coordinating body that's pulling this information all together.

Mr. Werner Schmidt: I'd like to make a comment, Mr. Chairman.

I'd like to commend you for the very specific recommendations you've made. I appreciate that.

I'd also like to ask if you could tie even tighter exactly what this committee can do to solve the problems as you see them. It came out implicitly, I suppose, that people would argue that the different sources of energies you represent—wind, solar, oil and gas, the pipelines, the transmission of these things—are in competition with each other. Suppose the regulatory framework came to the point where it became very efficient and delivered exactly what you wanted. Would you now actually create competition among yourselves, or would you create a greater coordination of the work you do?

The Chair: Thank you, Werner.

That wasn't really a short question, but it needs a short answer. Are there any takers?

Mr. David MacInnis: Yes. The regulatory efficiency within the pipeline sector...there have been some improvements over the last number of years, and deregulation in particular has seen greater competition between pipeline companies, for example.

Trust me, outside of this room, Gerry and I are not usually so cordial. There will always be competition.

Voices: Oh, oh!

Mr. Gerry Protti: I think the competition is around attracting capital—

Mr. Werner Schmidt: But competition is wonderful.

Mr. Gerry Protti: I know. It's around attracting capital. Everyone has their niche, their area, their spot, and our success is the extent to which we're going to have equity investment and attract the capital we need to develop.

Mr. Werner Schmidt: So the Canadian economy would benefit tremendously from getting this done.

The Chair: Good final words, Werner.

Thank you, everybody. Thank you very much to our witnesses.

I'm going to adjourn this meeting for today. We'll be back here Wednesday afternoon. Thank you.

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