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Chair

Mr. Lee Richardson

Standing Committee on Natural Resources

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● (1550)

[*English*]

The Chair (Mr. Lee Richardson (Calgary Centre, CPC)): Sorry, we're a little late getting started because of the vote in the House. We have some technical and logistical matters to assume as well.

Let me just first of all suggest to the committee that it now appears likely that we will not be meeting on Thursday. With the proposed adjournment of the House tomorrow afternoon, I'd like to beg the indulgence of the committee to perhaps wrap up hearings today at 5:10, and then we could take 20 minutes to talk about a draft that we have prepared. I've asked the clerk to make copies. This is a brief outline of where we might go with the committee report. I'd like to have it in your hands. I'm sorry we don't have a whole lot of time to look at it, but I really just want to have everybody take a look at it, and if you think this is the right direction, then we'll turn the clerk and our research assistant loose over the break to prepare a more detailed draft for us.

So if we're in agreement, then we'll hear the witnesses and ask questions until 5:10 and then perhaps even go in camera at 5:10 and deal with that draft.

Mr. Tonks, you have a motion as well.

Mr. Alan Tonks (York South—Weston, Lib.): Yes.

The Chair: Then I think we had better try to wrap it up by five o'clock, because we're going to have to deal with your motion on BIOCAP.

Mr. Alan Tonks: Thank you.

The Chair: *D'accord?*

Very good. Thank you.

We will now proceed with our witnesses today and our further study of our oil sands and the federal government's responsibility in that regard.

Did you like that, Mike?

Mr. Mike Allen (Tobique—Mactaquac, CPC): I did like that.

The Chair: Our witnesses today are the ICON Group. Stephen Kaufman will be speaking on behalf of ICON, and then we'll also hear from BIOCAP. I presume Dr. Layzell will speak on behalf of BIOCAP. We also have Wishart Robson here, who is going to help with responding to questions, I presume, and I thank you for that.

If you haven't a preference, I'd ask Mr. Kaufman to begin.

Mr. Stephen Kaufman (Suncor, ICON Group): Thank you very much, Mr. Chairman and honourable members, for the opportunity to speak to your committee on behalf of our ICON group.

[*Translation*]

Given that this issue is complex and that I am not bilingual, my comments and my replies to your questions will be in English.

[*English*]

I apologize for that.

The ICON group consists of twelve companies in the oil sands, electricity generation, industrial, and chemical sectors. Their logos are on the front of your package, but just as a reminder, they include Suncor Energy, TransAlta, Sherritt, Agrium, Air Products, Nexen, Shell Canada, Husky Energy, Canadian Natural Resources, ConocoPhillips, Syncrude, and Imperial Oil.

This group has a strong interest in carbon capture and storage, and we've been working toward creating a long-term, integrated carbon dioxide network that can handle large volumes of carbon dioxide. We've been working with both levels of government, provincial and federal, on this concept for about eighteen months, and we now believe we need to jointly, with governments, accelerate that effort.

It's important to understand that ICON is not a single project. It's a set of policies, regulations, and ultimately private- and public-sector investments to make large-scale carbon capture and storage a reality. CCS has tremendous opportunity for Canada, and Mr. Robson of Nexen and I are here today to highlight some of the considerations with respect to CCS as the government develops its national environmental strategy and Clean Air Act.

Before I go any further, I'll just briefly provide an overview of carbon capture and storage, or CCS, for those of you who may not be familiar with it. carbon dioxide is available at very large volumes from industrial sources—typically combustion sources or process emissions. That carbon dioxide can be captured, separated from other contaminants, purified, and compressed, and then it can be transported by high-pressure pipelines for hundreds of kilometres and ultimately be injected into rock formations that are typically two to three kilometres below the surface of the earth, well below groundwater level. In addition, that carbon dioxide can be used, if you choose, as an injection agent into oil fields to help promote oil recovery. That's a technique we call enhanced oil recovery.

There is extensive international recognition of this technology as part of the solution to climate change challenges that we're facing. The U.K., Australia, and even the U.S. are moving forward on CCS. The international panel on climate change has said that it's a safe long-term way to reduce carbon dioxide emissions.

If you look at page 2 in your package, the National Round Table on the Environment and the Economy has made some extensive comment on CCS in their most recent report. They are indicating—and we believe this—that CCS is potentially one of the most substantive and cost-effective ways for Canada to reduce its greenhouse gas emissions over the next five to ten years.

In addition, the endorsement of CCS was provided by the NRCan technology roadmap, which was prepared in the spring of this year.

On page 3, we talk about why CCS is so important to Canada. In short, it's a made in Canada solution. The investments will occur here in our country, the carbon dioxide reductions will occur here, and the technology development can occur here. Canada is in a somewhat unique position in terms of being able to embrace CCS, because it has large carbon dioxide sources that are located near suitable geologic sequestration sites where the carbon dioxide can be stored permanently underground. We also believe CCS is a technology that is to a large degree proven, but one that will advance over time. Canada could become a world leader in advancing this technology and employing it in our country.

Page 4 details some of the findings of the work we've done over the last year. We estimate that up to 20 megatons per year of carbon dioxide could be captured and stored by the year 2015. Just as a context, that would be the equivalent of removing 4 million cars off the road, or some 25% of the Canadian light vehicle fleet.

There are also real, substantial, Canada-wide benefits. We believe CCS may have application in Ontario, the Maritimes, and western Canada. Alberta is probably the location where our ICON concept could be started. The ICON that we refer to stands for “Integrated Carbon Dioxide Network”.

● (1555)

The Alberta map on page 4 gives you an indication of what a network for carbon dioxide capture would look like, collecting that carbon dioxide from the large emission sources that are in Fort McMurray, the Edmonton area, and down in the Red Deer area at the chemical facilities, and moving that product to the western side of the province for permanent storage in deep reservoirs.

The ICON Group believes that an infrastructure network like this will be key to the success of a CCS system. Such a network approach allows us to have economies of scale from a large system. It optimizes the efficiency over time, and it will minimize the environmental impact by only building the system once and to large scale.

Our study work also concluded that it's very beneficial to develop this large-scale system from the start rather than starting small and working our way up to a larger scale. In order to do that, as we describe on page 5, we really need a common vision and an approach that involves multiple industry sectors, plus coordinated input from both the federal and provincial governments involved.

We don't really believe that we need to pursue demonstrations or R and D. We want to focus our efforts on deployment of this technology now, but encouragement of carbon capture and storage has to be balanced as well with the Canadian competitiveness of our industries to ensure that investments can be ongoing. This is particularly true with respect to the oil sands upgrader activity, which needs to be competitive with U.S. refineries and other locations where this upgrading activity could take place.

Slide 6 talks about our conclusions with respect to the market influences on this type of activity. Really, we believe that if this is left to market forces, very little carbon capture and storage will proceed even if there's a tightening of carbon dioxide emission constraints. The risk profile of these investments and the economics of large-scale CCS are simply unfavourable. There is, as a result, a transitional role for governments in helping to enable large scale CCS. A true three-way public–private partnership, with two levels of government participating with industry, is essential.

Any integrated system will have to encompass three elements. It will involve the large scale capture that would be installed at multiple facilities where the emission points are, with investments in the hundreds of millions of dollars. It would involve an open access pipeline system that anyone could use to transport the carbon dioxide. And it would involve the storage infrastructure, including, in the near term, the use of enhanced oil recovery as a revenue source. EOR is quite important, in our view, to help to get the system started, and the revenues from that sale of carbon dioxide can help to offset the cost of the system. Ultimately, though, what we call direct storage or injection into underground reservoirs without a revenue source coming back to you is going to be where most of the carbon dioxide ends up.

Slide 7 shows the policy principles that we think are going to be important to help to develop carbon capture and storage. One of the first is that companies should be able to retain the option to undertake CCS, along with other compliance strategies that they might like to choose. We don't believe CCS is the only strategy that Canada needs to reduce its GHG emissions over time. As a result, for companies, it needs to be one of a portfolio of choices that they can make. We also believe that companies that choose to embrace CCS and install those facilities should have no greater compliance burden for carbon dioxide reductions than other companies who choose not to do CCS.

We also want to make the point that our companies do believe that we are going to be exposed to costs in doing this. We're not going to undertake carbon capture and storage with a view to making money from it. It's not a profitable investment, but it is something we are willing to pay a share of.

The point about how these companies will move forward on projects relates to scale to a large degree. It may be quite likely that companies that elect to use carbon capture and storage may be able to have emission reductions that are actually greater than their reasonable share of national targets. We therefore need to ensure that there's a mechanism in place so that this behaviour can be incented by funds or the sale of credits or some similar mechanism. This will lessen the burden on these companies for this environmental investment.

● (1600)

In closing, I would like to emphasize that we believe that the ICON Group, with our broad multi-industry representation, is the important group to engage with in developing the policy around a carbon capture and storage network for Canada. Our group has done a substantial amount of analysis on how such a system could function. We would be happy later on in the afternoon to answer any questions you might have about that.

We encourage the federal government to confirm that carbon capture and storage is a key part of Canada's environmental strategy, and that the ICON concept is a priority.

Developing an integrated carbon dioxide network will be a transformative environmental step, one that can be most effectively taken as a private-public partnership. Collectively we have the opportunity to begin on the largest CCS deployment in the world. We need the federal government to work with us to develop the scope, the size, and the policy options that will enable ICON. Collaboration is essential, and the ICON companies are ready to engage this government in substantive discussions.

[*Translation*]

Thank you for your attention. I look forward to your questions.

[*English*]

The Chair: Thanks very much, Mr. Kaufman. I'm sure you'll have lots of questions, but I think we'll hear from Dr. Layzell first. Then you can take joint questions.

David, please begin.

Dr. David Layzell (Chief Executive Officer and Research Director, BIOCAP Canada Foundation): Thank you very much. I appreciate the opportunity to present to this committee.

I don't think you need any introduction to the tremendous opportunity that the oil sands offers to Alberta and Canada. Nor do I think the committee needs to be told about some of the environmental challenges facing oil sands development. It's clear that innovative technologies and management strategies are needed to significantly reduce the environmental impacts of oil sands development, and they will then result in realizing the full benefits of this opportunity.

Canada has a major green advantage in addressing some of these environmental challenges, and that is the vast biological capital we have, in particular our forestry and agricultural resources. If we were to look over the next 45 to 50 years and think about shifting more of our economic system toward what we call a bio-based economy, I think we could realize some of the potential for Canada to realize environmental, economic, and social benefits. We have the potential within Canada, in the sustainable use of our biological resources, to achieve as much as 240 million tonnes of carbon dioxide emissions reductions by mid-century, or the equivalent of almost ten times the carbon dioxide emissions from current oil sands processing.

The sustainable bio-economy involves a number of things. One is sequestering atmospheric carbon into forests and agricultural soils. This is important not only in taking carbon out of the atmosphere, but it's a key stage in helping these ecosystems adapt to the changes and impacts of climate change they're already experiencing, for example, the mountain pine beetle issues in British Columbia.

Second is to reduce biologically based greenhouse gas emissions that are associated with our existing activity, whether that's agricultural greenhouse gas emissions from cropping systems, from animal manure management and animal production systems, or from landfill sites across the country.

Third is to complement our fossil energy resources with renewable biomass energy and biofuels. Certainly the movement to a sustainable bio-economy involving the things I've just talked about will be a major stimulus to the rural economy in Canada. It will help create healthier communities, improve energy security issues, and result in more productive and internationally competitive industries across the country.

In the main part of my presentation I'd like to talk in more detail about the movement toward a sustainable bio-economy, and the potential that each of these areas offers for Canada to reduce the environmental footprint, not only of the oil sands development, but overall.

First is the issue of biological offsets for greenhouse gas emissions from the oil sands and other human activities. This really comes in three types. The first two of these are biological equivalents, if you like, to the important geological sequestration we just heard about. Forest management for carbon and for addressing greenhouse gas issues is a very major opportunity, especially when taken in perspective across many decades. It's not much use when we're trying to look at the next five to ten years, because trees grow slowly and it takes time to have an impact.

In Canada we have about 400 million hectares of forest land, about 240 million hectares of which are timber productive. We harvest every year about one million hectares of forests in this country. The forest companies, through sustainable forest management, are essentially managing at the present time about 230 million tonnes of carbon dioxide emissions that they are actually stimulating the growth of through their sustainable forest management. So 230 million tonnes of carbon dioxide are going into our forests, and that represents about one-third of all the greenhouse gas emissions currently in Canada. Of course, we harvest those 230 million tonnes of carbon dioxide emissions as biomass and use it as forest products. Some of it is left on the ground as forest residue, or left in mill operations. A significant portion of it is already being converted into energy by the forestry companies.

However, if the forestry industry were to alter the way they manage a portion of our forest lands, and improve the management technologies, it is clearly possible to increase the productivity of that land base over the next 50 years by 50% to 100% or more. If that were done, for example, on 50% of the land area we harvest each year between now and 2050, forest carbon stocks in Canada could sequester anywhere from 70 million to 100 million tonnes of carbon dioxide per year by 2050. Moreover, when the trees finally mature, the biomass would be available for wood products or as a renewable energy source.

● (1605)

It's really important to recognize that we are probably going to have to do this, anyhow. With impacts such as the mountain pine beetle infestation and other climate impacts, we're going to have to change the way we manage our forest ecosystems. What this offers is a way of getting a jump on it and starting to do the management now, in recognition of the fact that we could actually get the greenhouse gas benefits out of it in addition to helping to preserve these ecosystems for the future.

The second area relates to the role of agriculture, especially agricultural soils, in holding carbon and storing carbon. Over the last 15 to 16 years, some of the top-quality science that's been done in Canada has shown that movement to low tillage agriculture has already increased carbon levels in Canada's croplands by 10 million to 20 million tonnes of carbon dioxide. However, there's potential for the soils to hold a lot more carbon while benefiting from the added fertility that this carbon provides.

A number of technologies—some of them have been around for centuries and some of them are very recent technologies—can be incorporated that will actually stimulate the amount of carbon that's stored in the 30 million hectares of agricultural cropland in Canada and in the tens of millions of hectares of pasture land across the country. The estimate here is that at least 30 million tonnes of carbon dioxide equivalents per year could be achieved by 2050. There have been some very interesting papers published recently suggesting that this may be an underestimate, depending on the technologies that are being incorporated.

Reducing agriculture and landfill emissions is a third area, and this is actually a real emission reduction rather than a sequestration. So this is a long-term—what we call grade A—emission reduction. Certainly we have significant—about 88 million tonnes, approximately—carbon dioxide equivalents being produced from agriculture, from landfill sites, from animal production systems, and from our cropping systems. Improved management practices, many of which we already know about, can significantly reduce these emissions. There are serious technologies, which, if implemented on a very wide scale with the appropriate incentives—economic incentives—for farmers, landfill operators, municipalities, and so on, should be able to reduce these emissions by half, or by 40 million tonnes per year by 2050.

Clearly, with these sorts of appropriate strategies, investment strategies, and policies, our biological resources have the potential to provide offsets for fossil fuel emissions.

There's also a very important role that biological systems can play in providing an energy resource. In recent years there has been a great deal of interest in biomass energy, especially with the recent rise in oil and gas prices. In fact, today the wellhead prices for oil and gas are two to three times the farm gate or forest road price for biomass. If oil and gas prices continue to rise, the spread between the farm gate and forest road prices for biomass will increase.

It is true, certainly, that the cost—the economic cost—of converting biomass into a form of energy that is usable to compete directly with oil and gas easily makes up for the benefit of the farm gate and forest road price. However, with new technology and infrastructure investment, there's a very significant opportunity for biomass to play a major role.

Certainly other countries around the world have recognized the potential for biomass and are using it as a key part of their strategies, be it for climate change, as in the European Union, or for energy security, as in the United States.

I just have a comment here. The U.S.A., in the last year, has established a bioenergy commitment for the next 20 years that's equivalent to more than 1.5 times—1.4 times to 1.5 times—all the energy we use in Canada from all sources. The European Union has identified a bioenergy target that is approximately equal to all the energy use of Canada.

● (1610)

If we looked specifically at the oil sands—and the opportunity is specifically for the oil sands to address there—there is a possibility of looking at biomass as a potential for an alternative energy source for natural gas. It could play a significant role in oil sands production.

If we consider a natural gas demand of 800 cubic feet per barrel of oil, producing a million barrels of oil per day with biomass would require about 15 million tonnes of dried biomass per year. This is a very large amount of biomass, a very significant biomass resource. There certainly is the capacity to sustainably produce this amount of biomass in western Canada.

In working with the British Columbia government, BIOCAP has estimated that B.C. itself has the potential to provide over 32 million tonnes of biomass per year, about 11 million tonnes of which would come over the next 20 years from mountain pine beetle wood.

Alberta and Saskatchewan also have very formidable potential for the sustainable production of biomass for energy. Indeed, we've estimated that Canada has the potential for more than 300 million tonnes per year of sustainable biomass energy production for everything from transportation fuels, heat, power production, etc. That estimate of 300 million tonnes may sound like a lot—it's about one-quarter of what we estimate the Americans have already produced from the U.S. Departments of Energy and Agriculture—but it is less than half of estimates that were done for Canada about 20 years ago, when they looked at the bioenergy potential of Canada. It is indeed a conservative estimate.

One of the biggest challenges with biomass as an energy resource is the issue of its low energy density and the fact that it's distributed. It's a transportation challenge. While we have yet to find a resolution to this challenge, there are some very exciting and interesting studies under way demonstrating the fact that technology, if brought to bear with good management strategies and planning, can help to address some of these issues.

For example, an entrepreneur we've been working with in British Columbia has developed a wood pellet technology, where the pellets do not absorb water. Essentially they can be put in water and maintain their thermal energy value, once they're taken out of the water at the end and allowed to air dry.

A university research team we've been working with is exploring the feasibility of incorporating these kinds of pellets into a water-based slurry, essentially using the coal slurry technology that is well known and well developed around the world, and allowing us to pump large amounts of biomass over a long distance through pipelines. This could allow cost-effective transport to the oil sands of excess mountain pine beetle wood or forest residues from B.C., or even biomass crops grown in the prairies.

The side benefits of this bioenergy strategy would include millions of tonnes per year of greenhouse gas emission reductions, as well as the potential delivery to the oil sands, especially if you're looking at a B.C. source, of millions of cubic metres of water per year, helping to reduce demand on local supplies.

I would certainly argue that we're not in the position now to recommend large-scale biomass use for the oil sands. The studies are in the very early stages. But this demonstrates the important role of research and development in finding biological solutions to some of the challenges we're facing in energy and the environment. In many ways, I would argue that the biomass energy field today is where the oil sand technology was 30 years ago. We need to invest now in the R and D to create a valuable resource for the future.

The transformation to this sustainable bio-economy represents a very significant opportunity for Canada. It can reduce Canada's environmental footprint, not only with oil sands development but for other energy uses. It can also provide a major stimulus to the rural economy, both in the beleaguered forest economy, in terms of the pulp and paper challenges we're having, and in the agricultural economy.

We need three things to move forward. We need arm's-length credible science that will support the policy investment decisions required for a domestic trading system, which will help support the rapid implementation of known and proven technologies.

We need to enlist the role of the research community—university and government researchers, and those in other innovative industries—to develop the skilled workforce, innovative technologies, and management strategies that will increase the environmental, economic, and social sustainability of a wide range of bio-economy solutions, from emission reductions, carbon sinks, and new energy conversion in transportation technologies.

We also need the efficient and effective transfer of the existing and new knowledge among industry, government, non-governmental organizations, and the research communities.

● (1615)

Indeed, this is what the BIOCAP Canada Foundation has been doing. We have a proven track record in this area, and we've brought together the necessary disciplines and sectors to find effective solutions. Certainly we would be very happy working with the federal government to be able to continue our work in this area.

Thank you very much.

The Chair: Thank you, Mr. Layzell.

Thank you for those presentations. I think it's fitting that presentations today seem to very much complement much of what we have been hearing for the past number of months in this study with regard to the optimum use of resources, of sustainable development, particularly reduction of greenhouse gas emissions, and use of technology innovation.

We're going to begin our questions. I'm going to ask the questioners to keep it more brief today so that we can get in as many questioners as possible. But I'm going to ask a question myself, for the first time today, because as I said, much of your presentations did seem to bring together much of what we had heard.

It seems to me, with regard to greenhouse gas emissions, particularly carbon dioxide sequestration, we've heard essentially three options bouncing around out there. We've heard that there are industry people who are going on their own, or through just good corporate citizenship or environmental concerns proceeding on their own, or with shared programs in dealing with these matters, in spite of the cost. That, of course, would be difficult if they're the only people going that route. The second was government subsidies for capture, as you suggested, or for pipelines, that we have government money involved in that. The third one seemed to be government regulations or emission controls.

Those are three somewhat different ways of dealing with this: one, companies do it on their own out of moral suasion or environmental concern; two, that the government subsidize the capture or the pipelines; and three, that we just make regulations forcing the companies to do it.

I'd like to ask both groups, just to start it off, what would your considered opinion be of the best option, if we were to proceed by that route?

● (1620)

Mr. Wishart Robson (Nexen Inc., ICON Group): I'll answer on behalf of ICON.

Most of the companies involved in the oil sands have been active in terms of emission reductions on a voluntary basis. A lot of them have signed on to the Canadian Association of Petroleum Producers' voluntary program that was run by NRCan, and have been and probably still continue to either make reductions or make plans for reductions. Some of the companies have made significant emission reductions in their operations since they started on that program in 1997.

When we talk about a project on the scale of the ICON project—a 20-megatonne carbon dioxide pipeline—we're talking about an infrastructure, a system that surpasses the ability of a single project, or perhaps even of a group of projects and companies, to bring all of that together. We are looking at appropriate ways for that risk to be shared amongst the participants, both the federal and provincial government. I would note that the creator of the wedge concept, which the national round table used in part of their analysis, was a Harvard professor named Dr. Sokolow, and he did indicate with respect to carbon capture and storage that subsidies may be applied at the early stages to get over the initial economic hurdles.

On regulations and controls, we've understood for a number of years now that regulations will be forthcoming in this area. We anticipated those when Kyoto was signed. We've been looking for the regulatory process to be refined and defined in Canada, so that the investments we make are not stranded or otherwise disadvantaged in the future. We have seen some of that in the past, for companies that have taken early action, whether it was on a voluntary basis or not, and those actions have proved that they have not given or will not give the anticipated results. We would like not to see that happen in the future.

But we believe all three of those are going to be means by which we can effect real and verifiable long-term emission reductions in our sector.

The Chair: Thank you.

David, go ahead, please.

Dr. David Layzell: As a representative of an organization that involves about ten different industry sectors, four provinces, the federal government in multiple departments, non-governmental organizations, and 35 universities across Canada, I'm not sure there's one opinion on this. Personally, I think—and many of the board members who are intimately involved would identify as well—that all three are needed. We do need some level of regulation and controls. We need to provide the right policies and instruments to do that. We do need industry engagement and perhaps voluntary initiatives, but we also need government support, especially in the early stages, to move this forward.

I think if you look at the diagram on the back, it's essentially a Canadian equivalent of a Sokolow analysis. We are going to have a very big challenge in this country for the next 45 years if we're going to meet what the government has talked about as a 45% to 65% reduction in emissions, and we're going to need all the tools we can get. It's not a matter of one or the other. It's going to be all of the above.

The Chair: We'll now go to the committee. We'll try five-minute rounds, with Roy to start it off.

Mr. Cullen.

Hon. Roy Cullen (Etobicoke North, Lib.): Thank you, Mr. Chairman.

Thank you to the presenters.

Your question, Mr. Chairman, is an interesting segue into what I wanted to ask. I'll go first to the ICON Group.

Mr. Kaufman, in your presentation you say that substantial carbon dioxide capture and sequestration won't get off the ground if left to the market alone, and that there is a transitional role for government. Then in your next slide, number seven, you say that carbon capture and sequestration should not be mandated. You touched on this briefly, but I wonder if you could expand, because the estimates I recall were that to do this carbon capture and sequestration you could be looking at upwards of $20 a barrel. I don't know if you have any costs associated with what it would take to capture and sequester the carbon, but while I can see there's a transition if you're left with that kind of a cost on a variable-cost basis—and maybe that's not a variable-cost basis—how can that gap be bridged to the market alone even with some transitional government help?

● (1625)

Mr. Stephen Kaufman: Thank you for the question.

I believe the important thing to note is that the market will not respond today, and it isn't responding. You see now there are no projects being built other than some very small-scale ones. That's because fundamentally the costs are dramatically higher than what people in industry believe they would be for their other alternatives. They would be looking at the purchase of credits or offsets, or at working on other energy conservation initiatives, all of which are laudable and appropriate, but which are only going to get at a portion of the reduction that's possible.

Our view is that if the governments participate in the early stages, there will be cost improvements in the technology over time—not necessarily over five years, but certainly over ten and twenty years. As there's a natural cycle of turnover of large facilities like power plants and oil sands upgraders, you can rebuild them with newer technology later on, which should be less expensive and may allow the industry alone to bear the costs later on in the life of a program like ICON.

Hon. Roy Cullen: I think you're right. What we've heard pretty consistently is that it's not going to happen naturally, and it won't because of the significant cost.

That $20 a barrel figure I threw out there—is that anywhere close to reality?

Mr. Stephen Kaufman: Yes, but I hesitate to provide numbers on a per-barrel basis, because it's highly dependent on how much of the carbon dioxide you choose to capture. If you choose to make a reduction of 10% in your carbon dioxide emissions, does that mean you only divide it over 10% of your barrels, or do you divide it over all of your barrels?

Also, a fair number of the companies that are involved in our initiative aren't even oil producers. They are in the chemical sector, the industrial sector, or the power generation sector, where the numbers aren't as meaningful on a per-barrel basis. Certainly there have been studies done by external consultants, which have shown a wide range of impacts on a per-barrel basis.

Hon. Roy Cullen: Whatever it is that's significant, I think you probably agree with the cost factor. Thank you.

I have one quick question for Mr. Layzell.

Mr. Layzell, I've spent a lot of time in the forest industry, and I was particularly interested in your comments about forestry biomass. For the forest industry in Canada today, one of their big issues is energy costs. They've been looking at biomass as an alternative. I got involved fairly extensively with respect to cogeneration with the hydro companies. Although they talked a good story, actually getting these sorts of projects like cogeneration into effect was a bit of a challenge.

When you talk about increasing the productivity of forest land, there's biomass at the plant level or mill level, and biomass at the harvesting level. Maybe you could expand on the wood residues. Are you better optimizing the wood residues at the mill level or at the harvesting stands? They do need a bit of that nutrient to reforest properly.

I'll leave it at that for now.

Dr. David Layzell: I think those are very good questions.

Our analysis, in terms of the inventory analysis, is based on the assumption that most of the residues at the mill are already being used, and indeed the forestry sector has had a strong incentive to use those as a source of energy because of the higher energy prices, particularly gas prices. As a result, our focus has been on two things. One is to look at some of the forest residues, taking only the larger forest residues, leaving essentially 30% of the residues behind in order to make sure they have the nutrients and the carbon stocks for the soils, for the environmental values. What we would do is take some of the remaining residues.

But the real focus in terms of the carbon sink that I talked about and also for the long-term bioenergy is to increase, through forest management practices such as replanting after sowing with species or genotypes that are better adapted, especially to future climate in those areas; using a low-level fertilizer occasionally; pre-commercial thinning—some of the more intensive forest management practices that will result in a much faster growth and a higher-value product in a shorter period of time. This also generates a bioenergy byproduct during the process, for example through the pre-commercial thinning.

Now, these are more expensive than our current forest management practices in Canada, but certainly you've talked to some of the forest companies. Many of the provinces and forest companies are interested in moving in this direction, but trying to get the economics to work has been a challenge.

The carbon benefits and the bioenergy benefits are being seen as a potential way of meeting and helping with the economics to make it happen.

● (1630)

Hon. Roy Cullen: So the focus then is more in terms of the creation of more carbon sinks.

Dr. David Layzell: Both of them have to be done. I think in the short term, it's use of the residual biomass resources, which in some jurisdictions in Canada are brought to the side of the road and burned. This happens a lot in Ontario. So in some jurisdictions there are problems with that. It's an energy resource that's even brought to the edge of the road, but it's not being utilized. Accessing that is a key part of an early-stage bioenergy opportunity in provinces and regions.

Longer term, I think it's really an issue of moving in, especially after major disturbances like the mountain pine beetle, getting in and looking at planting trees that are going perhaps to be able to last longer, that have a better chance of being around forty years from now, and also, instead of using natural regeneration, use planting after harvest and other forest management strategies that are well known to be able to increase the productivity per hectare and speed up the rate at which the trees regrow. That would be a carbon sink relative to a business-as-usual strategy.

Hon. Roy Cullen: I have one quick last question.

What do you think the potential is for biomass in the forest industry's dealing with some of their huge challenges with respect to energy costs? We've heard from the forest industry, and they're saying it's very much part of the solution that they see. We met with the electricity generators the other day, and they said it's really a marginal kind of issue, a marginal benefit that's achievable with that solution.

Dr. David Layzell: I think there are some challenges. The forest sector certainly has a challenge with the high cost of energy. They also have a challenge, I think, with their infrastructure, especially in some regions where the infrastructure is very old and it's not terribly even, so they have inefficiencies in the energy conversion efficiencies on that infrastructure. So I think using biomass as an energy source doesn't get around to some of the infrastructure problems that are inherent within some of the operations.

I think that one of the things, certainly in our discussions with some of the companies in the forest sector, is that they're very interested in seeing their plants being used as a bio-refinery, getting energy as well as the higher-value chemicals and materials out of these biomass feedstocks, and indeed, trying to have that help in the economics and in their viability to move forward.

So I think it does play a role, but I think we shouldn't be looking at only energy. We should be looking at a suite of biomass products, the foundation of which is probably energy. We need to get more value out of this resource. I think that's a key part of the strategy moving forward.

Hon. Roy Cullen: Thank you.

The Chair: Thank you, Mr. Cullen.

Madame DeBellefeuille.

[*Translation*]

Mrs. Claude DeBellefeuille (Beauharnois—Salaberry, BQ): Thank you very much for your presentation. This is a rather complex issue to which we have devoted very little time.

Let me summarize what I have understood. You mentioned that the technology is ready and that it is now mature. What is missing so that we may deploy it on a large scale is support or cooperation from both levels of government, provincial and federal, to help the companies set up a viable capture and storage network. Have I properly summed up the gist of your document?

Since you are putting forward this assumption, you must have put figures on it. When you mention cooperation and support, I assume that we are talking about money from federal and provincial governments. Have you put a figure on the federal government support you would need to set up a network capable of capturing and storing CO_2? Do you have any figures? If the government were to say yes tomorrow, what do you think would be the amount on the check?

● (1635)

[*English*]

Mr. Stephen Kaufman: Thank you for the question.

The reality is as you described it: the technology is not what I would quite call mature. There is ready technology available today that can be used and deployed in carbon capture and storage and in the pipelines, but it is not as mature or as well understood or as reliable and as inexpensive as it will be over time. The early stages of the project will use more expensive technology than the later stages probably will.

We have not put a formal ask in front of the federal government in terms of dollar amount. That's because we really believe we need to understand the policy framework that's in front of us in terms of the levels of emission reductions that are going to be put onto the various participants in the economy.

We don't have a specific ask in mind at this stage. We do know that working with the province and the federal government and industry, we can try to identify the size of reductions that we would like to achieve together through carbon capture and storage. Then we can determine what the costs of that will be, and then we can determine an appropriate sharing formula.

But it's more than just the financial aspect. It's also sharing the risk, really, in terms of the large-scale investments that would take place in what is right now an absence of a specific policy.

[*Translation*]

Mrs. Claude DeBellefeuille: You know that I represent a riding from Québec and you are going to tell me, Mr. Kaufman, what I could tell a voter from Québec. Will I tell him that the federal government will give money to oil companies to help them find a technology to emit less greenhouse gas? Will I tell him that taxpayers will give money to polluters to help them pay for their technology? What am I supposed to tell a voter from Québec? What would you tell him if you were a member of Parliament?

[*English*]

Mr. Stephen Kaufman: I think the important thing to remember is that Canada, in the current situation, is emitting 700 million tonnes of carbon dioxide per year. As indicated by Dr. Layzell, in our industry, in the upstream oil sands production industry, it's in the order of magnitude of 25 million to 30 million tonnes a year of carbon dioxide emissions. So it's about 5% of Canada's emissions.

Now, it is growing at a substantial rate. However, the vast majority of emissions are from a multitude of industries across all provinces—from the home heating sector, from vehicle use, from all kinds of energy sources. Our view is that the reduction of emissions should take place in a fair way across the entire economy. We're more than willing to make reductions in our sector under the assumption that other sectors are going to correspondingly make reductions.

It may be the case that we have an opportunity in our sector to actually make greater reductions in other areas of the economy through the use of carbon capture and storage. That's why we feel it's appropriate to consider allocation of funds into that from the government.

[*Translation*]

Mrs. Claude DeBellefeuille: Mme Claude DeBellefeuille: I have read carefully the document you submitted to us. You haven’t spoken about the supplementary information to the document or to the slides. When mentioning the new federal Clean Air Act and climatic change policy, you state in your document that CO_2 capture and storage, or CSC, requires an enabling legislation. What do you mean by that?

[*English*]

Mr. Stephen Kaufman: The comment we made regarding legislation is that the policy for carbon dioxide reductions has to be put in place with respect to the targets for emission reductions in the economy in general. Also, we need to understand how the regulation for the potential for trading of carbon dioxide credits may apply, because that may be a way to generate revenues into a system like the ICON. We need to understand what other options for carbon dioxide compliance are going to be available to companies, so they can make a fair comparison of the use of high capital investments early on in a system like this, versus ongoing mechanisms that might be available to them. It's those types of legislation we believe need to be put in place to ensure CCS can go forward.

● (1640)

The Chair: Wishart, did you have any other specific examples?

Mr. Wishart Robson: I can comment on two other areas. One is that nowhere else in the world has a carbon capture and storage project of this scale been anticipated or even conducted. The largest projects in the North Sea or at the Weyburn project in Saskatchewan are in the range of one million tonnes a year. We're applying technology at a much different scale, we're deploying technology at a much larger scale.

We also need to look at some of the other aspects of this whole network. It's not just the capture side. We have the pipeline, we have the storage, and we have issues around creating a market in the enhanced oil recovery. How do you establish a price for carbon dioxide when you're producing more than the consumer needs? Enabling legislation will help a number of things in terms of putting the whole network in place, not just the capture facilities.

[*Translation*]

Mrs. Claude DeBellefeuille: Do I have any time left? I have a brief question.

From what I gather, Mr. Kaufman, the industry is currently experiencing some uncertainty. Given that the conservative government has not yet set the targets or the rules of the game, the development and implementation of the technologies, namely for the capture and storage, among others, are somewhat hampered.

[*English*]

Mr. Stephen Kaufman: Yes, and it's not just the targets, the entire set of rules and regulations is needed, including emission reduction targets, availability of credits, availability of rules around storage, monitoring for the storage, and the transactional activity that would take place around carbon dioxide.

[*Translation*]

Mrs. Claude DeBellefeuille: Thank you.

[*English*]

The Chair: Thank you.

I understand Mr. Bevington is going to speak first on behalf of the NDP.

Mr. Dennis Bevington (Western Arctic, NDP): Thank you, Mr. Chairman.

Thank you for coming today. I certainly enjoyed both your very good presentations.

I want to speak briefly to biomass. It seems we're going to go into a period where we're going to have short-term emissions reductions from all sectors. Biomass is an excellent fuel, it can fit into many parts of society. I reference our correctional facility in the city of Yellowknife that was just converted to wood pellets by an independent operator at a price lower than the existing fuel oil price. This suggests industry is ready to move on this. In fact, the pellet industry is in short supply right now because much of the biomass that can be moved is being moved down to the United States.

We have an issue. We need to increase the supply in the biomass industry and we also have many customers who could fit in with much less technology development, much less cost up front, and we could move the biomass much more quickly into emissions reductions right across the spectrum.

I remember having a presentation from the Dutch coal companies that produce electricity. They add pellets into their stream to effect carbon dioxide reduction and produce green electricity. They don't really need any technological development. In fact, they were buying the pellets from Nova Scotia at the time.

I think you hear where I'm going. Why should we put such an effort into biomass technology for these other uses when quite obviously sectorally we're going to have use for biomass? The technology is there.

Dr. David Layzell: I certainly would agree that a lot of technology exists. The co-firing of biomass with coal is certainly a proven technology in Europe and the United States. Ontario Power Generation, one of our sponsors, has just gone through environmental hearings in Ontario for up to 480,000 tonnes a year of biomass to co-fire at Nanticoke within the next two years. They've just asked for environmental permission to move in that direction. That would be the upper limit, but it's certainly a very major.... They're talking up to 20% co-firing on three of the eight 500-megawatt power generation facilities.

So we see this happening. I'm getting calls every week or two from Europe, trying to find sources, people looking for wood pellets. They're paying $250 a tonne now, or more—$250 to $253 a tonne in Europe—for wood pellets.

The biomass market in Canada is quite profitable now. There are 500,000 tonnes of biomass pellets a year moved from Vancouver, shipped all the way to Europe for power generation. There are major movements in Ontario for large-scale biomass power.

One of our challenges as a country is this. The Europeans see Canadian biomass as a source of how they are going to deal with their environmental and greenhouse gas problems. I think the real question is whether we're going to put in the right incentives and policies to encourage the use of Canadian biomass in Canada to address the climate change issue.

● (1645)

Mr. Dennis Bevington: Now I'll go to sequestration and the importance of that. Once again, we set short-term targets and regulations in the future for the production of carbon dioxide. You've set dollar limits of $20 a barrel. We've heard $100 a tonne here in these committee hearings for the cost of sequestration. How do those compare with many of the other types of technologies that are available now?

We use 1,400 petajoules of energy heating our homes. We use a similar amount in commercial establishments. If you even look at something like solar thermal energy, where you can install at a much lower cost than $100 a displaced tonne of carbon dioxide, where does this all fit in? Why would we jump to support this particular industry, which is well financed and well developed, in its pursuit of reduction of carbon dioxide through its own large efforts rather than...? We're going to set up a whole sectoral approach where there are many opportunities for the Canadian government to invest in particular fields and particular areas to produce the results. Why would you be at the front of the queue rather than the residential, the commercial, the institutional, or the transportation industry?

Mr. Stephen Kaufman: That's a very valid question, and I appreciate it.

I think the key thing to remember is that it's a question of scale. If Canada wants to make significant reductions in its emission levels, many of those alternatives that you talk about are going to be very valid ones. The whole concept of the wedges that was put forward by the National Round Table on the Environment and the Economy was that we need to take action on all fronts. We need to be doing energy conservation. We need to be switching to lower-carbon fuels. We need to be doing renewables. Those projects have merit, and we believe should be supported.

However, we haven't done a discrete analysis to compare our costs per tonne with some of these other sources. From some of the public media we've been tracking, some of the ideas such as ethanol and wind power, for example, have very small incremental impacts on carbon dioxide emission reductions, because those projects are close to being commercial and are being done anyway, in some cases.

We think it's really important to focus on all technologies in taking an approach on all the means we have at our disposal.

Mr. Dennis Bevington: That's valid, and I think that's correct.

I want to refer back to something. The development of this technology would put all the companies involved in this at an advantage worldwide as we move towards the Kyoto era, which we are moving into. So once again, how to invest, who to invest in, and who should pay the piper for the cost of making these things happen are elements that I think have to come into this equation. It's more complex than simply saying okay, you're going to reduce by 20 megatonnes if we invest in you for these purposes.

Many of the other technologies have already had their time in investment and now are looking for a chance to recoup that investment they've made on their own. If you take the solar thermal industry in Canada, for instance, I know the comparable numbers. They're looking pretty good on their side rather than on your side.

I'll be happy to see you present these numbers, because you're in a competitive business, to stand up to the other company, the other ideas, and the other technologies in what you're proposing. That's why I guess this committee would have to look at that in that regard.

● (1650)

Mr. Wishart Robson: I will perhaps make two points. The first one is that carbon capture and storage is associated with a transformation in Canada's energy system. When you look at the energy system, you're going to look at the exploration production as being the very front end, the refining, marketing, and distribution as the middle piece, and then you're going to look at the end use.

Carbon capture and storage is the transformational piece that takes us from where we are today with our energy supply of that three-pronged fork, if you will, to some other lower carbon energy future on the supply side. Then, when we start to look at some of the other technologies you're talking about—the consumption end, the user end—we have to have technologies that work there and also in the middle portion as well. Carbon capture and storage is the single largest opportunity on the supply side to make significant long-term reductions as we move to that lower carbon future.

The Chair: Thank you, Mr. Bevington.

We're going to hear from Mr. Trost.

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

Some of this has already been covered, but this question is especially to BIOCAP.

I'm a geophysicist by training, so I like all the neat science stuff, but one of the real frustrations you get as a legislator is that whenever I see a presentation—and I get a lot of them on neat scientific stuff, new technologies, etc.—we often wonder what is reality and what is speculation. It's like watching an infomercial on inventions on TV.

I know you're going to have certain elements you want to sales pitch. I don't fault you at all for that. But give me an idea about the real technologies. We think we know roughly where carbon sequestering is. What are the real technologies that have real potential right now? Give me some real timelines. If we're talking about using technology to deal with carbon dioxide emissions, methane, etc., I'd really like some way I could honestly know what is possible and what is a smokescreen. Give me an idea about what you see realistically, when you see it coming down, and what sort of impact it will have.

I know I'm asking an impossible question.

Dr. David Layzell: There are so many different technologies we're talking about in this portfolio; it's not a single technology.

Mr. Bradley Trost: But how close are some of them to use? How many are theory?

Dr. David Layzell: A lot of them are very close.

Mr. Bradley Trost: Give me some examples.

Dr. David Layzell: For example, co-firing biomass with coal has very significant emission reductions. The technology exists. It's being used now. The reality is that it's an economic issue and a regulatory incentive issue. Coal comes in at $2 or $3 a gigajoule. Biomass costs delivered to a power plant may be $4 a gigajoule, so biomass is probably going to cost $8 a gigajoule.

Mr. Bradley Trost: Okay. Do you have any more examples? I'm going to forget those details.

Dr. David Layzell: Certainly ethanol works as a biofuel. The greenhouse gas benefits of our current ethanol technology aren't quite there. Lignin cellulosic ethanol is close, but it's not quite there on a commercial scale.

In Europe another one is converting biomass to a natural gas equivalent—synthetic natural gas—putting it into pipelines, and using it as a transportation fuel. If you want to compare it to the price of natural gas, it doesn't work. Natural gas is $7 a gigajoule; it's probably about $14 or $15 a gigajoule for synthetic biogas. In Europe that works, especially for transportation, because gasoline is $25 a gigajoule, so if you were using biogas natural gas for a transportation fuel, that would work.

If you want to talk about studies in Europe that have been done relating to how many kilometres you can get per hectare of agricultural land, if you're interested in that sort of productivity, that works. The problem is that if it's going into a pipeline it won't be competitive with natural gas, and it will increase natural gas demand considerably.

● (1655)

Mr. Bradley Trost: You've given three good examples. Are there any long-term ones that are quite a way down the pipeline that have massive potential from a scientific perspective, if not necessarily an engineering one?

Dr. David Layzell: Other countries don't have the opportunity Canada has. Compared to other nations, like the United States and Europe, we have large biomass resources. We leave a lot of biomass resources on the ground as a result of our forest and agricultural sectors. In other countries they have already been using that as biomass.

They don't have the reserves we do, so they've been focusing on biomass crops, developing new crops that are specifically grown for energy. We've never done that in Canada. In fact, it hasn't been done in agriculture. Examples are switchgrass, miscanthus, and willow. They can be produced with minimal input. They're perennial crops and can produce a large biomass. To put it in perspective, one tonne of dry biomass has the same energy content of about three barrels of oil.

There are many biomass crops in Canada in many parts of agriculture that could produce 10 tonnes of biomass per hectare, so that's 30 barrels of oil per hectare. If you start looking at that, we have 30 million hectares of agricultural land in Canada. We could switch some of that agricultural land to biomass crops and bring some pasture land into biomass crops. There are seven million hectares of agricultural land that have gone out of production in the last 30 years or so that could be brought back into biomass crop production.

One could talk about 120 million tonnes of biomass per year of sustainable production with minimal inputs. That one technology, which is going to take decades to achieve because it's transformational, would provide approximately 20% of Canada's entire energy needs. We are talking about a major opportunity here.

That is the strategy the Americans are talking about and moving very strongly toward. It's a strategy the Europeans are talking about it.

Mr. Bradley Trost: To sum everything up, what would be an effective strategy for where to put our emphasis? R and D guys have told me we're great on research in Canada; it's development that's the problem.

Dr. David Layzell: This is really what we see as a strength of what BIOCAP does and why we've been able to keep so many industry sponsors with us for seven or eight years now. We focus on working as a bridge between the upstream and more applied research and linking it to the needs of industry. That's really our focus within BIOCAP. Some of the technologies exist, and we put as much emphasis on taking existing technologies and communicating them and helping industries understand their opportunities, as we do on developing new technologies.

You ask what the mechanisms are. I think we do need an emissions trading system. That will provide an economic environment in which a lot of the technologies that are very close—for $10, $15, or $20 per tonne of carbon dioxide emission reductions—could be achieved. It could change animal production systems and renewal management and change how fertilizers are used. There are lots of different technologies. Co-firing could fit in there, for example. That doesn't necessarily need a trading system. It just needs a regulatory environment in order to make it happen.

Secondly, the sorts of incentives that have already been talked about by virtually all levels of government in terms of 5% fuel standards for biofuels makes a lot of sense. Green biofuels or biofuels that have a minimum greenhouse gas benefit would be especially very useful. There are lots of opportunities there, and they would really provide incentives. Those technologies are very close to implementation. If we want to see them implemented in a few years, we need that sort of regulatory environment.

We need to seriously look at forestry opportunities. We have significant problems in the forestry sector in terms of economics and the viability of that sector. We've been working with many in the forestry sector, and there's a lot of interest in the possibility of seeing forestry as an energy sector more than a traditional forest policy pulp-and-paper sector. It's going to require policy changes at the provincial level. It's going to require a coordination of the federal and provincial. It's going to require a recognition of the carbon benefits and the incentives that are not currently covered under Kyoto. It's going to require policy decisions that have to be integrated in a post-Kyoto world.

That last one is a longer-term one, but we need to start working on it now so that we know what to negotiate for in an international framework, if we want to take advantage of our hundreds of millions of hectares of forest land to really help us meet our environmental commitments.

● (1700)

The Chair: Are you done?

Mr. Bradley Trost: I'm finished, yes.

The Chair: We are running out of time. Some of those went a little long, but we'll have a quick round here, if we can.

I'll start the second round with Mr. St. Amand.

Mr. Lloyd St. Amand (Brant, Lib.): Thank you, Mr. Chair.

Thank you, gentlemen, for your thorough presentations. You're pretty deft at answering the various questions.

I'm looking, Mr. Kaufman, at page 11 of your deck, “Next Steps”: “Clear signal from the federal government that CCS is part of the Canadian strategy”. Fair enough.

I then go on to read “further evaluation and planning”, “collaboration”, “support in public awareness”, none of which, with respect, reflect to me a clear signal from the federal government.

You've indicated at page 7 that “CCS should not be mandated.” My question to you is, number one, why should it not be mandated so that we can terminate the cajoling and the coaxing of industry and just force them to do something? Or, in the absence of mandating carbon capture and storage, why not impose a carbon tax to accelerate the reduction of emissions of greenhouse gas?

Mr. Stephen Kaufman: Thank you for the question.

With respect to carbon capture and storage not being mandated, our view is that companies need to be allowed to choose their approach to meeting climate change reduction obligations. For some companies, carbon capture and storage may be the sensible and most cost-effective approach, but for others it may not be.

If you have a wholesale mandating of carbon dioxide capture, one of the outcomes that's unintended but anticipated to happen is a huge supply of carbon dioxide that's produced, and any potential revenues that we might have been hoping to have in the system for purchasers for enhanced oil recovery will fall to zero because just simple supply and demand economics will suggest that they shouldn't pay anything for the carbon dioxide. One of the opportunities for keeping the overall cost of the system down would be destroyed in that type of initiative.

With respect to the idea of a carbon tax, we think that's a policy consideration that really goes above and beyond the purview of what our group is involved in. Each of our companies has its own respective opinions on that mechanism as a climate change approach. However, what our subgroup of these various companies has been working on is really the implementation of and the attempts to move forward on implementation of carbon capture and storage, rather than the overall climate change policy objectives.

Mr. Lloyd St. Amand: I understand it to mean that a carbon tax would be a clear signal from the federal government that carbon capture and storage is part of the Canadian strategy. It would trigger industry to do something about carbon and leave it to industry as to how to best reduce their own greenhouse gas emissions. That's the clear signal that your group is actually looking for from the federal government. That signal hasn't yet been forthcoming, as far as I understand the new Clean Air Act.

● (1705)

Mr. Stephen Kaufman: That would be a signal, obviously, but the signalling that we're looking for is a positive step forward, suggesting that the governments are willing to collaborate and work with us to develop the right kinds of policies that will allow for carbon capture and storage to be deployed on a large scale.

Mr. Lloyd St. Amand: I have no further questions.

The Chair: Thank you.

We're going to have to wrap it up. Is that fine with you?

Thank you to our witnesses again for their appearance today, and for the questions. We just ran out of time.

We will now proceed to an in camera session with the committee. While we're packing up, I'd like to have distributed the draft outline that we had prepared for the committee.

Thank you again.

● (1706)

_____(Pause)_____

● (1708)

The Chair: I really just wanted to have the witnesses move on before we got into a discussion. Apparently there's some rigmarole required to go in camera, but I don't think we necessarily have to go in camera. We just have one motion to discuss, and then we'll talk about the business of the committee.

With that, I don't think we'll bother going in camera, so I'll turn to Mr. Tonks, who has given us notice of a motion that appeared on today's order paper.

Mr. Alan Tonks: Do you want to read the motion, Mr. Chairman? Do you feel up to it?

The Chair: I'll let you do it. It's your motion.

Mr. Alan Tonks: I'll read it, just for the public record:

> That the Committee recognize the valuable role of the BIOCAP Canada Foundation and its partners in creating innovative programs, cooperation and research networks to move Canada toward developing its bioeconomy; and that the Committee respectfully encourages the Government of Canada to provide immediate short term funding to the BIOCAP Canada Foundation in order that it be able to meet its commitments to Canadian university research and launch its 2007-08 research programs on the bioeconomy.

Mr. Chairman, I'm going to speak very.... I think the questions that were asked by Mr. Trost in fact underscore the relevance with respect to the transformation that Canadians and in fact the world have seen with respect to trying to match the technological opportunities that are created—as in our study, for example, on the oil sands—by the production of carbon dioxide.

Mr. Chairman, the presentations made today by the ICON and BIOCAP representatives in fact are giving us an illustration of how research is in fact being bridged with the development of those technologies. Without that bridge, you simply have words and no actions. I think this committee has felt the frustration. We visit the oil sands and we see the tremendous use of technology, but we don't see evidence with respect to what's happening—as Dr. Angus Bruneau pointed out—in matching the innovative capacity, through commercialization, to sequester carbon dioxide or use carbon dioxide in the process of gasification with respect to coal, or in the production of biomass energy capabilities.

These are the challenges this committee's been studying, Mr. Chairman. I have been given to understand that there is a very great frustration on the part of BIOCAP that they are not receiving the last part of their funding, which would allow them to complete the research program they are engaged in at this time.

What I'm suggesting, and I hope the committee will support this, Mr. Chairman, is that we simply ask the relevant minister—in this case I believe it's the Minister of Natural Resources, but I think we're going to have some clarification on that—to meet the $2 million that is required by BIOCAP to meet the research and development schedule they have already embarked upon. It was understood in the original proposal call—albeit it came from another government—that they would be able to complete their research schedule that is presently going on.

When I was on the environment committee we had BIOCAP, and we were impressed at that time that not only had they received federal funding, but they'd been able to enhance that with funding from the private sector. They could see that it was in their interest to have research applied such that development would occur, so they were willing to contribute to that. I think you've seen in the handout from BIOCAP that from the $10 million public investment, they were able to leverage approximately another $27 million, for a $37 million program.

Mr. Chairman, I think it's more than an act of faith; I think it's an act of wisdom for this committee to support them in their interim request. I put that as the motion to activate that request.

Thank you.

● (1710)

The Chair: We get it. Thank you, Mr. Tonks.

Monsieur Paradis, have you any comment?

[*Translation*]

Mr. Christian Paradis (Mégantic—L'Érable, CPC): Mr. Chair, I would like to suggest an amendment.

[*English*]

I'd like to raise an amendment at this time, if it's possible.

[*Translation*]

I have listened carefully to my colleague. I had already told him about my amendment before the Committee meeting. I will put it before the Committee so that it may be put on record.

The Minister of Natural Resources is mentioned with regard to BIOCAP. And yet, three ministers are involved in this issue, namely the Ministers of the Environment, Agriculture and Natural Resources. To begin with, the words “Minister of Natural Resources” should be replaced with “government of Canada.”

Secondly, I understand my colleague’s concerns. What worries him about this issue is the short-term financing designed to ensure that the commitments which were made are respected. Now the version that was submitted to us says the following, at the end:

[*English*]

“...and launch its 2007-08 research programs on the bioeconomy”.

[*Translation*]

Mr. Chair, I suggest that these words be removed because they go beyond what my colleague is suggesting. This may be done during the reflection or policy exercise, or other, but I think it is premature. If we want to respect the spirit of the motion put forward by my colleague, I recommend that you amend it as I have just suggested. By the way, I have handed out a bilingual text of the amended motion, which we will support.

● (1715)

[*English*]

The Chair: Okay.

We have an amendment on the floor, so we are obliged to speak to the amendment first, unless it is accepted as a friendly amendment by the proposer of the original motion.

I will go first to Mr. Tonks, in the interests of time, and ask if that's acceptable to you.

Mr. Alan Tonks: It's congruent with the intent that I had in the motion, Mr. Chairman, so I see nothing that conflicts with the spirit of that motion.

The Chair: Mr. Cullen, do you want to comment?

Hon. Roy Cullen: I had a question.

The motion implicitly makes the point that there is some concern about some shortfall in the short-term funding to BIOCAP. Is it fair to say that the government agrees that this is an issue? Has the program been frozen, or cut, or...?

The Chair: Yes, the previous government cut the funding, and there was a request to reinstate it. But I'm not sure that's relevant to the motion, or at least to the amendment, which is what we're discussing now.

Hon. Roy Cullen: So the government doesn't dispute that there is a shortfall in short-term funding, no matter how it was caused?

The Chair: There's nobody here to speak for the government, so....

Hon. Roy Cullen: No, I was asking Mr. Paradis, through you, Mr. Chair.

[*Translation*]

Mr. Christian Paradis: That's precisely what I said, Mr. Chair. The only thing is that the long-term financing as of 2007 was problematic. As for the short-term financing, this is no problem.

[*English*]

The Chair: *C'est tout*.

We are now speaking on the original motion, since the amendment has become the original motion because of the concurrence of the mover. So now we're talking about the BIOCAP motion, which was amended by Monsieur Paradis and agreed to by Mr. Tonks.

Madame DeBellefeuille, do you want to comment before we go to the question?

[*Translation*]

Mrs. Claude DeBellefeuille: As a matter of fact, I ask myself a question. I'm not sure if I understood Mr. Paradis' explanation in response to Mr. Cullen's question on short-term financing. Can someone enlighten me as to what the connection is with Mr. Tonks' motion? If I understand correctly, the government had made commitments, and this motion is asking the government to honour what is outstanding. Is this correct? I'm not sure I fully understand. Could Mr. Paradis explain this to me?

Mr. Christian Paradis: We are talking about the current year.

Mrs. Claude DeBellefeuille: There were commitments for the current year and they are unsure about whether they want to meet them. The aim of this motion is to ask the government to meet them for the short-term, for the current year.

A voice: This is just by way of a clarification.

Mrs. Claude DeBellefeuille: Does this mean that there have been cuts?

Mr. Christian Paradis: No, there were no cuts, but this had been decided beforehand.

Mrs. Claude DeBellefeuille: What do you mean by "beforehand?"

Mr. Christian Paradis: A year ago. It created a vacuum, and we simply want the short-term commitments, in other words for the current year, to be restored. This is why, we asked that the reference to 2007-2008 be removed because it meant new financing. It's just to fill in this vacuum.

Mrs. Claude DeBellefeuille: That's fine.

Mr. Chair, there is one thing that bothers me: I find it odd that a committee like ours is discussing subsidies or financial support to a specific foundation. This really makes me uncomfortable. Every time that a foundation...

[*English*]

The Chair: Then vote against it.

[*Translation*]

Mrs. Claude DeBellefeuille: I'm entitled to ask questions and to make comments. I think this is the right time to do so, Mr. Chair.

The Chair: As you wish.

Mrs. Claude DeBellefeuille: Thank you.

I wonder if we need to politicize everything and favour one foundation over another, and discuss whether funds have been allocated or not. I have some doubts about this. I have not yet decided if I will support the amendment or not. I will wait until I hear other comments. Maybe Mr. Tonks would like to respond to the amendment.

[*English*]

Mr. Alan Tonks: If I may, Mr. Chairman, I do appreciate Madame DeBellefeuille's problem. I can only relate that from time to time a constituent or a constituent group comes to me and says they've got a problem. I then try to take that problem to the committee, and that's what I'm doing.

The problem they have indicated is in writing. It's in the handout they gave, and I'm only going to quote from it:

> BIOCAP is...seeking a positive decision on additional interim funding ($2M) that will enable the organization to fund the remainder of its programs and maintain the momentum that it has established over the past five years. BIOCAP has numerous outstanding research funding commitments ($950K in 2006-07; and $1.5M in 2007-09) to approximately 150 university researchers.

What I am suggesting, Mr. Chairman, is that they're saying they've already given the first part, and that this is the last part of their five-year program, and they don't have the money, they don't have the cashflow to continue with that research. The researchers have gone ahead, but they don't have the final commitment on the funding to honour those commitments. I'm simply saying let's leave it to the government to decide what the amount is, but in keeping with what I am told and what is in writing that BIOCAP had been given to understand was going to be their funding envelope. That's basically what it is—no more, no less.

I don't want to give the impression that I'm favouring one foundation. We simply listen to the merits of that foundation. I thought that since they were appearing before us today, we could see the niche they occupy, and hopefully the final part of their case will be taken up by the committee. There may be others that come before us that should be considered equally by the committee, but this just happens to be the one that's before us now, which was brought to my attention.

● (1720)

The Chair: Technically, they've all been in front of us when the estimates have been in front of us. You can pick out any one you like and ask any question you like.

Mr. Tonks is just doing that outside of the estimates today. You're perfectly at liberty to raise these at any time you like, and we have lots of people who want to talk about it.

Monsieur Ouellet.

[*Translation*]

Mr. Christian Ouellet (Brome—Missisquoi, BQ): As a matter of fact, Mr. Chair, my question is related to what Mr. Tonks was saying. I would like to ask Mr. Paradis if he was aware of the fact that this subsidy was outstanding until we started discussing it here? Are there any other? As far as you know, are there other subsidies that are waiting to be renewed?

Mr. Christian Paradis: Mr. Chair, this is not question period. What I am saying is that when Mr. Tonks informed me of this, we realized that as far as the current year is concerned, there could be problems with regard to some commitments that had been made, no more no less. With the proposed amendment, the government recognizes that there could be commitments it has to honour so that the foundation is in a position to meet its own commitments. I have no intention of criticizing the Minister of Natural Resources nor of rewriting the programs. All I'm saying is that the proposed amendment is in line with Mr. Tonks' concerns.

Mr. Christian Ouellet: No one is talking about criticizing, Mr. Chair. All I am asking is for the people from the government to tell me, given that they have a better grasp of the facts than we do, whether there are any other subsidies waiting for renewal. If there is a chance that there are others, simply remove the term "BIOCAP Canada" and replace it with: "immediate short-term funding in order to be able to meet its commitments to research." It must be more general.

[*English*]

The Chair: Are you proposing an amendment, Mr. Ouellet?

The question is not relevant to the motion at hand. If you want to raise an amendment, you're at liberty to do that, but your comments are otherwise out of order.

[*Translation*]

Mr. Christian Ouellet: No, it would be too complicated. Just drop it.

[*English*]

The Chair: Mr. St. Amand, do you have something you want to add?

Mr. Lloyd St. Amand: I have just one brief question for Mr. Paradis.

Do you know whether BIOCAP has directly asked the minister for the funding, and whether the minister has made a decision yet?

[*Translation*]

Mr. Christian Paradis: No. Three departments are involved as far as BIOCAP is concerned: Environment Canada, Agriculture and Agri-Food Canada and Natural Resources Canada. This is what is going on at the moment and what is in keeping with what Mr. Tonks was saying. So, for the current year, funding should be granted so that the foundation may honour its commitments. This is where we stand with regard to this issue.

● (1725)

[*English*]

The Chair: Yes. Again, it's a request from a committee.

Hon. Roy Cullen: I have one quick question, Mr. Chairman.

My understanding is that the BIOCAP agreement, the $10 million contribution agreement, expired in March 2006. Is that not the case?

Mr. Christian Paradis: As far as I know.

Hon. Roy Cullen: Okay.

I think the motion is fair in the sense that it's silent about who did what to whom. This is in camera, this vote, but just for the record, we go through these debates that things were cut, or they weren't cut, or they weren't renewed, or they were frozen. We're here to say that BIOCAP needs some short-term funding. I take the parliamentary secretary's view on this, that we're not going to try to nickel and dime who did what to whom. I think the motion is silent on that, and I'm prepared to support it on that basis.

The Chair: Good.

If there is no further debate, then we'll just put the question.

(Motion agreed to) [See *Minutes of Proceedings*]

The Chair: Okay.

We have kind of run the clock, so I'll leave it to the committee. We have a couple of options. One is to spend a few minutes right now, or try to squeeze a meeting in tomorrow. If you'd like to discuss this before we go to the break....

Did we get an official word yet that we're not going to be here Thursday? Did anyone here?

Mr. Alan Tonks: We thought you were the official—

The Chair: When I left the House, the House leaders were just.... It looked like three out of four were wanting to adjourn on Wednesday.

Hon. Roy Cullen: Could I make a suggestion, Mr. Chair?

The Chair: Yes.

Hon. Roy Cullen: My information is that tomorrow will be the end, so that doesn't leave us any time on Thursday, as we thought we would have, to brainstorm the report.

I'm having a quick look, and I was going through and making notes. I wasn't prepared to actually deal with a table of contents. On first review, I think the researchers have done a pretty good job of summarizing. I think a lot of it depends on the impact, how it's presented, and on what we agree as a committee should be done.

I think there's a case to be made that we need to look at what the federal government authority is in this area—I noticed that's part of the outline—and whether we think there's a strong case to be made to pause and refresh before we move forward.

It seems to me that the federal government can play a leadership role in this—clearly, there's a jurisdictional issue with the Alberta government—at some kind of formal meeting with the provinces and the stakeholders to really come up with a game plan, moving forward. That's my personal preference. What we need, I think, is time to go through and check off how this outline fits in with our own sense of what the issues are. I think it's pretty good, but I'd like a little more time to digest it.

One way to do it—and you have the outline here—would be if we could maybe send our comments. The idea of having a meeting tomorrow, is that realistic?

Mr. Bradley Trost: We have caucus all morning.

The Chair: The only time would be probably 3:30 tomorrow afternoon, if we could find a room.

Hon. Roy Cullen: Maybe what we could do in the absence of that is go through it and maybe get our comments to the chair and the researcher about our views on how the report might be structured or on some of the issues that may not be covered as completely as they might be.

I'm just going through this concept of incremental impacts, and there is actually a better terminology for it. The witnesses talked about it.

The Chair: Collateral damage?

Hon. Roy Cullen: No. The incremental impacts of.... What's it called?

A voice: Cumulative impacts.

Hon. Roy Cullen: Yes, cumulative. Is that covered in here?

I would like the chance, anyway, to go through it and check it off, and maybe.... I'm sure all colleagues on the committee would like to do that.

The Chair: Okay. Let's get the views, then.

Monsieur Ouellet.

● (1730)

[*Translation*]

Mr. Christian Ouellet: Mr. Chair, I feel the same way. It seems to me that having a meeting tomorrow would not be very productive because we really need to make headway. In my opinion, it would be preferable for each party to have a clear and precise idea of what it wants through discussions within its own caucus, so that we could then manage — hopefully — to reach a consensus within the committee. I think that — and the timing is good — the holiday period will allow each one of us to make an effort within our parties.

I recommend no to have a meeting tomorrow.

[*English*]

The Chair: Mr. St. Amand.

Mr. Lloyd St. Amand: Thank you, Mr. Chair.

I'll be brief. I would propose that if any one of us, singly or as a party, had difficulties with this outline, which is all it is, that a strict timeline be imposed on us by December 19 or December 20, after which the researcher will then have five weeks to do the report.

We'll come back on January 29 with the report available to us. Otherwise, I think we're spinning our wheels and it will be submissions by January 20. So I think a tight timeline has to be imposed.

The Chair: That's pretty good. I'm getting a lot of nods of the heads for that point of view.

Mr. Bevington.

Mr. Dennis Bevington: I think some of the work could be done on the report itself rather than on the recommendations. Sometimes if we have a range of recommendations that flow out of the report, it would make it easier for the committee to actually look at what recommendations could look like, in a sense. We're moving ahead with a climate change act. We want to understand what kinds of short-term, targeted regulations may be appropriate for the oil sands industry. There's a very important piece of work that this committee is quite clearly the lead on in this Parliament, by the work we've done here over the last few months.

We know the situation. We've heard from all the witnesses. So we're in a position to provide some very valuable advice right now to a larger scenario, and I think that's important.

There are a few things within the preamble, in terms of the working knowledge being the front part of the report, that I'd say we could add into. I think if we have suggestions about what categories are missing, say the concerns about the pace of development or the export of bitumen, which I don't see here as a.... So there are a couple of things in there that should be included in this preamble.

As I say, the recommendation phase could give our staff something to bite into over the next month and a half while we're not so close to the action.

The Chair: That's our first round of questions.

I think we have a pretty good consensus. We don't have to meet here tomorrow and I think what we can do with various notions we had is maybe ask everybody two things. One, it seems to me there's a general consensus that there is this outline we're looking for, and that's really all we were looking for today, and to flesh it out. It's to give our researchers an opportunity to flesh it out and maybe include a few more ideas. So I would suggest that this is a good idea of Mr. St. Amand's to have a time limit on it, and I would think we should do that before Christmas, maybe on December 20.

We should have a week to get any further ideas, anything that's missing from this outline, anything you'd like to have included in it. Nothing in here is definitive; nothing is final. What we're really looking for is to come back to a rough draft we can all participate in developing. So I would suggest that we have a pretty good start here. I would ask you to submit within a week any additional points that you think we haven't covered well enough. In addition to that, I think it's probably a good time, for the first round, that if you have some suggested recommendations, to go to them too.

Mr. Bevington, my sense of how this report might look when it's over would be that recommendations would come after each section rather than at the end of the report. Perhaps that would be useful to you in proposing any recommendations that we would have. The recommendations would be appearing, as we've discussed a certain aspect of it, and then they would be repeated at the end of the report. It's a standard format that we've been using around here.

So if that's agreeable, I think we have a good start. I would encourage you to get in any points that we may seem to have overlooked, including anything from today. There seemed to be some pretty good consensus of what they were saying today in terms of sequestering, at least, and emission controls.

● (1735)

Hon. Roy Cullen: The goal we're working towards is that as soon as we get back to Parliament we would review a draft based on the directions.... I'm trying to think of a situation where you and the researcher might get conflicting points of view on how to proceed. It might not happen, but it could happen. I'm wondering, rather than just let everything hang in abeyance until the end of January, whether we could find a way to have a quick conference call.

I would agree, among ourselves, that I'll try to pull together our views as a caucus, if you like. But if the researchers are hearing one thing from the Conservatives and another from the NDP, maybe this is a way to break down that sort of impasse, so that when we come back we have a draft report we can look at, rather than leaving things hanging.

The Chair: Mike.

Mr. Mike Allen: One of the questions I'd like to ask, Mr. Chair, in the interests of being efficient when we get back, is whether it is possible—maybe the clerks can answer this best—that even if it were in a rough draft form, we might have something even a week ahead of our getting back.

I can see us coming in here that first Tuesday, having had the report on our desks Tuesday morning. It wouldn't be very productive that week. So even if it is a very rough or initial draft, is there something we could get a week ahead of time?

The Chair: Yes, okay.

It seems to me that we're on to something here. Perhaps we could have a designated representative of each party, and we could, as a kind of executive group, get together sometime over the break, by conference call or whatever means, to review the next draft of this—say, sometime in mid-January—and just have a notion.

If we could get that online, then people could work with it in their own context. But in terms of recommendations, probably we will get to a point where we will look at a draft the first time we get back and there won't be a whole lot of recommendations yet, or only very tentative recommendations. We'll develop the report and see what recommendations we can bring out of it. I think it's best to get a consensus on the report first and then derive the recommendations from that report, just in the interests of time.

Hon. Roy Cullen: I think the first step should focus more on the structure of the report and whether we have covered the major areas, and maybe on some indications of where the recommendations might lead you. But that's something that's going to be debated, I think, when we get back.

The Chair: There we go. Okay.

What we'll do is have a memo out to all of you tomorrow before you leave, generally expressing that we will give you a week to get any additional material in, or notions that you think should be included. That could include some tentative recommendations, if you like. But certainly let's cover any areas that are not already included in this outline.

Then we'll turn that over to the Library of Parliament to develop on our behalf, to get it to us by January 15. Then maybe a week later, we'll meet in a conference call—a representative of each party, if that works—and try to come to some consensus on a second draft, which will be available upon our return. We'll probably get that to members before the House resumes.

How is that timing?

Anyway, we'll work out the timing, between the clerk and the researcher.

Hon. Roy Cullen: I think Mike's point was that whatever we come up with as a draft that we're going to discuss and debate, all members of the committee should have it four to five days or a week before we get back, if that's possible.

The Chair: I think we're coming to a consensus.

Yes, Madame DeBellefeuille.

[*Translation*]

Mrs. Claude DeBellefeuille: Mr. Chair, before we leave, I would like to wish you a Happy Holiday Season. If I had one suggestion to make for 2007, I would appreciate it if, when the timetable is tight, you would not begin a second round of questions because you have a keen sense of justice and fairness. For example, you have interrupted my colleague, Mr. Ouellet, when it was his turn to ask questions.

So my wish is that during our meetings in 2007, if you realize that we don't have time to complete a second round, you just don't start one.

Season's greetings.

● (1740)

[*English*]

The Chair: Oh, I see. That's what you call a backhanded—

Some hon. members: Oh, oh!

Mr. Alan Tonks: You could take that into consideration.

The Chair: Thanks, I think.

Have a good break.

The meeting is adjourned.