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Chair

Mr. Pat Martin

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● (1100)

[*English*]

The Chair (Mr. Pat Martin (Winnipeg Centre, NDP)): Good morning, ladies and gentlemen.

I call the meeting to order.

Welcome to the 78th meeting of the Standing Committee on Government Operations and Estimates. After having been away for a week, we will carry on with our study on the energy efficiency of government buildings, structures, and public works.

Today we're pleased to welcome witnesses from the industry. We note, though, that the first person on our agenda, Mr. Doug Cane, from Caneta Research Inc., will be unable to be with us today. Unfortunately Mr. Cane was snowed in, in Toronto, and won't be joining us.

But we do have Mr. Dave Seymour with Ameresco Canada Inc., Mr. Thomas Mueller of the Canada Green Building Council, and Mr. Stephen Carpenter with Enermodal Engineering.

We'll leave Mr. Carpenter for the end because there have been some translation issues with his presentation. We may, in fact, be able to get his audiovisual presentation ready towards the latter part of the meeting, so we'll see how that goes.

I think we'll ask Mr. Dave Seymour, from Ameresco, to begin.

You have 5 to 10 minutes, Mr. Seymour, and then we'll open it up to questions from the members. Thank you, sir.

Mr. Dave Seymour (Vice-President, Eastern Region, Ameresco Canada Inc.): Thank you, Mr. Chair.

Good morning, committee members.

My name is Dave Seymour, from Ameresco Canada. I'm vice-president of our eastern region, based here in Ottawa.

Our company was founded in 1973 in Toronto. Our specialty at that time was energy management engineering. It was innovative at the time and our focus was on existing buildings mostly, but we were also involved in some new construction or new building innovation in those days. Along the way we've been acquired a couple of times, actually. We're now known as Ameresco Canada.

One of our main businesses is energy performance contracting, which you have been introduced to, I believe, in previous briefings. That business involves the creation of energy savings or utility savings, operating savings, which in turn fund the capital cost of the improvement measures that are installed. We'll get into that a little bit more.

I would have to say that this business is evolving over time. We're looking more at comprehensive performance improvements of existing buildings, not just energy. It's the total building performance. Again, you'll see in my comments where I'm going with that.

I will just tell you a little bit more about Ameresco Canada. We've completed approximately $1.3-billion worth of energy and facility renewal projects in Canada. If you add to that our U.S. portion of business, that number increases to about $4 billion in improvements, company-wide. We've saved our Canadian clients over $500 million in cumulative operating savings, with about 250 projects or so completed in a variety of different sectors. The first branch office of our firm in Canada outside Toronto—our head office— is here in Ottawa. I opened that 20 years ago. We've worked on approximately $150 million of projects locally in eastern Ontario and western Quebec, and we now have offices across Canada in most of the major markets.

I'm providing this information not to advertise, but just to give you an idea of the perspective, or our point of view, as a practitioner in energy and building performance.

As I continue with my remarks, I have a few slides that I will be showing you. These are case studies, if you will, of some of our projects that we've completed for federal clients over the last 15 years. These projects have been successful, they're meaningful, and I believe they are indicative of the ample opportunity that still exists for Natural Resources Canada's federal buildings initiative to flourish. And we'll come back to this towards the end of my remarks.

Ameresco is also a founding member of the Energy Services Association of Canada. Peter Love, our association president, appeared before your committee earlier this month to provide some information about energy performance contracting and the federal buildings initiative, and the benefits of those. I don't want to repeat his remarks, but I am here to support his comments and suggest that there is plenty more opportunity for these types of projects. It is a great way to make improvements to the cost-effectiveness of government operations, to reduce the impact on the environment, to create jobs now and in a green sector, as well as to fund some much needed facility renewal or infrastructure improvement within the government workspace. Much of this can be accomplished without needing new federal funds.

In previous briefings, you've heard about the significant utilities' savings potential from energy efficiency projects, the opportunity for greenhouse gas reductions, and the creation of good technical jobs. You are likely hearing more from your facility managers, as they face accumulating deferred maintenance backlogs or infrastructure backlogs. Some other terms you may have heard of are facility renewal, or capital asset renewal requirements, within their building portfolios. These accumulating costs point to a risk in their ongoing operations, and it is a concern for all property owners and managers.

● (1105)

This asset deterioration challenge is a significant one and it's a looming source of debt for all concerned. McGill University has published some information on the size of this infrastructure deficit, which has been estimated to be somewhere in the neighbourhood of $250 billion to $325 billion for the Canadian municipal, provincial, and federal infrastructure combined.

We refer to this challenge as an asset sustainability challenge, but it can also be an opportunity in terms of identifying innovative solutions and sources of funding to address at least some of the cost challenges.

Like business, governments are looking to avoid putting significant funds into their own bricks and mortar, but to invest this money in places that would best serve the citizens of the country and in programs and further development of our priorities as a society.

Of course some capital investment is required to support government operations, but there are other ways to get some of this work done that leverage existing external financial and technical resources. Energy performance contracting and the federal buildings initiative program can be put to work to be one of the solutions that would support government efforts in getting more done with less. As a taxpayer, I want the government to be considering all avenues to get the most benefit out of each and every tax dollar.

With this observation or comment on facility renewal or infrastructure renewal, I've just added one more good reason to consider utilizing the federal buildings initiative for making improvements to many facilities within the federal portfolio.

Treasury Board statistics for the federal real property portfolio as of 2011 indicate there are some 39,000 buildings, leased and owned by the government, having a floor area of 27.6 million square metres. The data also references 73 custodian organizations, so the building portfolio is huge. The portfolio is aging, and it's getting to be a larger source of debt in terms of the outstanding obligation to keep facilities operational and functional. Also, if the number of custodian organizations is correct, there is a significant logistical challenge in getting things organized, approved, and implemented. Facility and asset managers have a challenge.

There have been about 80 FBI, federal buildings initiative, projects completed over the past 20 years, with an invested amount of about $312 million, which save approximately $43 million per year. We know there are many other projects that have been completed by various custodial departments that have some form of energy efficiency improvements included in the scope, which have gone undocumented or were at least not monitored.

However, there are many more opportunities available for consideration. Most of the projects that were done 10 or more years ago are ready for a second look, as these early adopters were likely looking at their projects with a somewhat shorter term view, so there could be good savings potential available. We know that to be a fact with some of the buildings you will see on the slides in front of you.

Now, to summarize the case studies we have shown on the slides and others I will make my way through, they include a number of the projects that we've completed and that my team in Ottawa specifically has been involved in. I'm sure you will recognize many of the national capital region buildings in these pictures. I've not shown all of them, but these are the more recent ones.

These implemented projects have a total investment of about $49 million and resulted in utility savings of about $5.9 million per year. The average performance increase is about 29.9%, with 19,000 metric tonnes of CO2 equivalence of greenhouse gas emission reduction.

We know there are more potential savings to be achieved within a number of these facilities. They may be smaller projects, but they would still be viable projects.

● (1110)

The challenge is not one of applying certain new technologies and getting the energy savings that would come out of them. There's no panacea there. As with so many other challenges we face, we have a human factor challenge. The challenge we face is identifying and assigning the right people, and enabling them with a challenge and clear objectives to make things happen, using programs that already exist. The appropriate technologies will be brought along with this effort.

Thank you to the committee and for listening. I look forward to questions and comments later on.

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

Next we'll go to the Canada Green Building Council, and Mr. Thomas Mueller.

Mr. Thomas Mueller (President and Chief Executive Officer, Canada Green Building Council): Thank you very much and good morning. Thank you for inviting me to speak.

The Canada Green Building Council is a national non-profit organization of industry leaders that are committed to sustainability and to transforming the building environment along sustainability principles. We have about 1,700 member organizations across Canada. We represent a cross-section of the industry, so we don't represent one particular subsector. The reason for that is that we know that there are many professions and many different knowledge bases and skills involved to produce buildings and maintain them at a very high-performance level.

Over the last 10 years, we have educated about 30,000 professionals, including 12,000 LEED accredited professionals, an accreditation here in Canada of the building rating system called Leadership in Energy and Environmental Design.

I want to give you a bit of an update on that. I've been asked to look at where the Government of Canada is at, compared to private sector development, with regard to green buildings.

The Government of Canada adopted very early on a LEED gold policy for newly constructed office buildings. Our records show that was in 2006. I have been reviewing the policy and looking at the policies that other jurisdictions in Canada have adopted, including the provinces and major cities in Canada.

The green building policy is still consistent with what we have nationally and what we see with green buildings or policy being implemented at this time. The Government of Canada currently has 153 buildings that are registered or certified in our LEED Canada program. That represents about 4% of the total number of buildings that we have in the LEED Canada program, which is just over 4,000 now, or about 600 million square feet. These are both buildings from the real property as well as the custodial departments, and they're not just office buildings. Even though office buildings dominate, we see many other building types as well that are being registered and certified under LEED Canada.

There are 23 buildings that have been certified to various certification levels. About 56% of the federal government projects are actually achieving LEED gold or platinum certification levels, which again is consistent with the larger number of buildings that we certify in Canada. Over 54% are gold and platinum. In terms of achievement level, the federal government is well on par with the industry.

Different rating systems are being used under the LEED program. The only exception is that there are currently very few existing buildings from the federal government that are being registered and certified under our LEED for existing buildings program. We have only four LEED for existing buildings projects that are currently from the federal government that are registered with us.

With that, I want to talk a little bit about the private sector and private sector activity. The commercial real estate sector, particularly the office sector on the commercial side, has developed very rapidly over the last three years in Canada. Large new office buildings are almost exclusively now being designed and built to LEED gold or platinum levels. We have seen a tremendous growth in that area over the last three years.

That sector uses mainly LEED. They are also using the BOMA BESt rating system for existing buildings, which is also referenced in the federal sustainable development strategy, but they're not using Green Globes. That latter is not being used by the private sector because of a lack of support for the infrastructure and lack of stringency and rigour.

The reason the private sector is using LEED and looking for these higher levels of certification is mainly driven by the corporate social responsibility programs, along with a tremendous demand for green office space by large firms like banks, law firms, and so on—and government as well—and pension fund investments. There are criteria attached to pension funds that they need to be invested in green buildings, and the preferred rating system of choice is LEED, both here in Canada as well as in the United States.

Aside from CSR, the reasons for using LEED is that it results in a better performing workforce and less absenteeism, and because it also helps attract top talent from an employer perspective. As for the pension fund investments, they of course are mainly driven by return on investment, because these are teachers' pension funds and public and police pension funds that are being invested in these types of buildings.

● (1115)

This brings me to the existing building side. We know now and understand that buildings contribute about 30% to 35% of carbon emissions in Canada and in North America generally, just from the operation of buildings. If you include the materials, it goes up to about 46% to 48%, so the carbon footprint of the building line is very large. With that we also need to pay attention to the existing buildings and the large stock of existing buildings that we have. In Canada we have about 230,000 existing buildings and about 12 million homes—a significant building stock.

We have started to provide support for that existing building sector through our LEED for existing buildings program, which we introduced in 2009. We currently have almost 60 projects in Canada, all of which are very large. They're growing very fast. They represent about 17 million square metres out of the 61 million square metres of projects we have in our LEED Canada program. They are almost exclusively private sector projects. As I mentioned before, only four projects in that whole group are Government of Canada projects.

The commercial office sector started with BOMA BESt. You will find that many of these projects have some level of certification under BOMA BESt, but now they are graduating to the LEED for existing buildings program because it's more stringent and also has stronger market recognition in terms of the brand.

It's fair to say that at this point the private sector leads the industry in existing buildings for retrofit and better operations and maintenance practices. There is also an emerging trend where once you have a newly certified building, you then apply for LEED for existing buildings to better operate and maintain the building over time and then to really realize the full benefits of the investment and to maintain their asset value. Any building like that obviously represents an investment.

As for the federal sustainable development strategy, I looked at the original strategy and then at the 2012 progress report. There are currently no plans or strategies to register or certify a larger number of existing Government of Canada buildings to LEED for existing buildings. That is currently not evident. But the federal government also has a larger existing building stock. It's not just office buildings, but it's parks buildings and Department of National Defence buildings, with many different building types at different locations, large and small, and so on. These buildings also consume energy. They might not necessarily be suitable for LEED certification, but I think it might be time to consider how energy, water, and solid waste generation in those buildings could be reduced.

Again, in the federal sustainable development strategy there is a commitment in the 2012 report that 80% of existing buildings will be assessed to identify environmental opportunities. I would like to support that commitment in the strategy. I think it's a critical next step to look at how much energy, water, and waste they consume or produce and the opportunities to reduce that kind of environmental impact from small facilities.

That brings me to my final point, which is really about higher performance of buildings. Higher performance of buildings really matters. I believe the federal government needs to view this in a North American, if not global, context. If you go to the European Union, the target for new office buildings right now is 100 kilowatt hours per square metre per year. That's the target for EU countries, and there is an emerging target to actually go to 50 kilowatt hours per square metre per year.

In Canada, based on our own studies, the average for office buildings is about 320 kilowatt hours right now, depending on where you are and in which region. This is normalized for climate, so this is a real number. Some say it's 290; some say it's 350. We say it's about 320.

● (1120)

These buildings are already being built. They are already occupied, and they're operating. These are both new and existing buildings, so the opportunity exists to produce those buildings with the current technology, with the current know-how, and without a significant increase in cost. With a life cycle, there is really no question that these buildings will pay off many-fold.

I think it's really important, regardless of the rating tool—whether it's LEED, or BOMA BESt, or Green Globes—that the expectation be that buildings achieve certain levels of performance, because the tools are only as good as the results they will produce. One thought —and the industry is also moving in this direction—is that, typically, when you design a building you actually model the performance. We have computer programs to model what the building will use at the end of its day, but there's now a tendency, as we know more about the actual performance of buildings, to move towards actual numeric targets for buildings. So we say, “An office building should not be using more than that” and “A school should not be using more than that”, and so on, so we move away from a model performance to an actual performance target. This is something to keep in mind as the industry is moving forward, and we certainly see really strong support for this on the industry side.

In conclusion, I would just like to raise a few points. The Government of Canada should ensure that whatever programs it signs onto under the federal sustainable development strategy or for real property, they be stringent and rigorous to reduce the environmental impact of buildings, whether large or small.

The government should maintain its LEED gold standard policy for newly constructed buildings. I think it's been very successful. It is consistent and well in step with the industry. It could perhaps consider evaluating the opportunities to go to the next level, LEED platinum, over the next three to five years.

There should be more focus on existing buildings' performance and certification, following LEED for existing buildings for larger properties.

The government should benchmark and engage in performance management of the larger federal building portfolio. There are many thousands of buildings, and many need attention. Also, for those buildings that have been certified under any of the rating systems, they should be benchmarked and managed well on an ongoing basis, to maintain continued optimization of building performance. You want to make sure that when investment is being made in buildings, they also pay back every year for the entire life of the building. There is certainly an opportunity to improve the performance of buildings over time.

I'd also recommend and evaluate the potential of using LEED for existing buildings for larger existing projects, or to put the new projects that have already been certified under LEED or another rating system onto a program of LEED for existing buildings, with recertification every five years. We do a recertification every five years to make sure that the building maintains its level of performance over time.

With that, I'll finish. Thank you very much for your attention.

● (1125)

The Chair: That's great, Mr. Mueller. Thank you very much.

We now have the audiovisual component of Mr. Carpenter's presentation under control, I believe.

Mr. Carpenter, of Enermodal Engineering, the floor is yours.

Mr. Stephen Carpenter (President, Enermodal Engineering): Thank you very much.

I'm going to rely on David as my technical assistant here with the slides. We'll see how technically savvy he is.

Thank you for inviting me to attend. My name is Stephen Carpenter. I'm with Enermodal Engineering. I've been working in and consulting on energy-efficient buildings for over 30 years now. We're one of Canada's largest consulting engineering firms working exclusively in green and energy-efficient buildings.

Like David, we have a large portfolio of buildings, and I'm going to draw upon the experiences we've had with those. Since the time is short here, I'll run right to the conclusions or the recommendations on how I think this committee should proceed.

I'll start with a little bit of background. I apologize, I'm an engineer, so I only think in numbers. I'm glad Thomas introduced some of them.

The first slide I have up here is just to put everything in context. It shows the average building energy consumption. You will notice that it varies by building type. MURB—what we would probably call apartment buildings—is on the left, and on the far right are hospitals, being the highest energy users. Consistent with what Thomas just said, and using the same units, the average of all of those buildings is somewhere in the range of 300 to 400 kilowatt hours of energy use. That's electricity, gas, oil, whatever—all the energy combined—and then divided by the floor area of the building. You don't have to worry about the units: we'll call it 300 to 400 “apples”, if you prefer.

Looking at the big picture, that's where we are today. I should mention that this is all Natural Resources Canada data.

Next is a very interesting slide. It shows the energy performance of buildings. It shows current energy performance but also date of construction. At the far left are the early buildings, built before 1920, but their current energy use. At the far right it shows current energy use.

Probably the surprising thing for most people on this committee is that there's not a heck of a lot of improvement from 1920 to present. We see a little bit of a drop between the seventies and the eighties. The seventies were the bad guys from an energy point of view. Some of us older people remember the OPEC oil crisis and things like that. We saw some increased awareness in energy. That's when we first started seeing energy codes.

People have talked about the need to get to net zero and so on. If we continue on with the same path we're on, we've actually calculated when we're going to hit net zero: the year 3300. I won't be around for that event. I guess my point is that I think the track we're currently on isn't going to get us where we need to be when we start looking at the issues of energy use. It begs the question, how do we achieve more energy-efficient buildings if the track we're currently on is not getting us there fast enough? I'm pleased to say that I agree with my two previous colleagues that the answer is not new technologies. It's not like we're looking for a silver bullet. It's all about better policies and processes.

I'll take the rest of this presentation to talk about some of those policies and processes that I think would benefit.

First, set mandatory—and I would underline the word “mandatory”—green and energy targets. In other words, for both your new and existing buildings, we want to set targets that must be achieved. It's not an option. I think Thomas made a very nice explanation of what the private sector is doing. For them, it's mandatory. They have to do it.

I agree with Thomas' recommendation to continue to use the LEED gold for new construction, for all the new buildings. I also support Thomas in terms of using LEED EBOM, with EBOM being the existing building target. LEED gold is for existing buildings. Again, the private sector is doing it. I think the federal government would be wise to follow suit.

LEED deals with all attributes of green. I think it's also important that we mandate specific energy intensity targets. There are many aspects to green in terms of recycled materials and indoor air quality and so on, but I think it's just as important that we set specific targets for energy efficiency. Thomas alluded to those.

I've just pulled up, in a matter of a few minutes, some of our numbers and come up with some ideas. If I'm looking at existing office buildings, Thomas mentioned the average new building being about 330. We would think that any new office building should be around 250. That's about a 25% to 30% reduction or whatever the number is.

● (1130)

There is another system—I don't know if you would call it a rating system, but it's a benchmarking tool, I guess—called Energy Star. It came out of the U.S. Department of Energy. We're probably all familiar with it from our computer monitors and so on, which are Energy Star. There is an Energy Star for buildings in the U.S., and it's now being adapted to Canada and will be released shortly.

It's a scale that goes from zero to 100, so zero is the worst energy performance building in the world, or at least in Canada, and 100 would be the best performance building. Again, on the target, I had suggested that for federal government buildings, if it's an existing building you would want it to be in the top 25% to show leadership. That would imply an Energy Star of 75 or greater. I should mention that EBOM has a minimum threshold of 69, so if you want to get into the program, you're pretty much going to be there. In new offices, because you have more ability to incorporate energy efficiency features, I think you can set a more aggressive target, so I've suggested under 200 kilowatt hours or an Energy Star grade of 85.

The next slide is about the performance of LEED buildings. As I indicated in my introductory remarks, we've worked on a large number of LEED buildings, close to 200 now. The red line on the graph is what NRCan says is the average energy use of typical buildings. The green bars are the various LEED projects that we have worked on and where we have actually monitored the energy performance, so those are real energy numbers. With the exception of one or maybe two buildings, all of the LEED buildings are performing better than the average building; the green line is more or less a fit to that. We're talking about a 30% reduction just by incorporating a LEED mandate into your program.

Next—and I appreciated Thomas' earlier comments—I'm talking about how energy use should be under 200. Without pumping my chest too much here, this slide shows our head office in Kitchener, Ontario, recently completed, with a monitored energy use of 68. Again, an average building is running around 330. It's 68, and you can trust me: we're a private sector company and we have shareholders that expect us to have a return on their investment and so on, so this was all done within reasonable financial numbers.

We're an Energy Star 100, which says that we're the top building. We're also a triple LEED platinum. I've also put down there the construction costs. At $250, that's both the base building and all the tenant fit-up space. For those who are familiar with construction costs, that is by no means a scary construction cost number. I was suggesting $200 as a starting point, but I think that we as an industry can certainly do much better.

● (1135)

The Chair: Thank you very much, Mr. Carpenter. That was very interesting.

We have people waiting to question all three of you.

Mr. Stephen Carpenter: Is my time up? I just had a couple of slides.... That wasn't my great drum-roll finish.

Voices: Oh, oh!

The Chair: Take as much time as you like.

Mr. Stephen Carpenter: Okay.

The second one I wanted to bring up was commissioning. Commissioning—or for existing buildings, it's called recommissioning—means going in and making sure the building is operating properly. Just to show you that I'm showing all our shame here and not just plugging all our good stuff, on the graph that's up there, the green line was perfection for our predicted energy performance for the building, and the red line was tolerable. We expected the energy performance of our building to be somewhere between the green and red lines, and the little dots are monthly performance.

We moved in in November of 2009 and then—again the squares are our monitored energy use—you can see for the first five or six months there, we were tracking the red line. Truth be told, we were bad and we didn't get our building fully commissioned before we moved into it, but being the good energy consultants we are, we eventually got around to it, and you can see that by the summer the energy numbers were matching the green, and then further on, you can see we have been nicely matching the green for the last 10 months or so.

The next slide shows the interesting thing on this, that if you take our energy use in November 2009 and compare it to November 2011—same building, same people, nothing had changed, but we commissioned the building—there was a 25% reduction in energy use, just from making sure everything in the building was working properly. The moral here is that buildings are extremely complicated, and you have to invest the time to make sure they're working properly.

The third recommendation really follows from the previous one. You manage what you measure. It's very important to be tracking energy use and, just as I showed on the last graph, track your energy use, compare it to energy predictions that were made, and see how you're doing. If you start to see some deviation, something is probably wrong. Go in and correct it.

The fourth one is about making energy performance part of all contracts. Some of the interesting projects we're working on now are what are called P3 projects, public-private partnerships, and I know the federal government is doing some of those. Some other provinces are doing them with much greater zeal, if you like, but the interesting thing on a public-private partnership is, at least in some of the versions of them, that it goes to the private sector to design, build, and operate the building. And the argument goes, well, private sector, if you're designing, building, and operating it, shouldn't you be responsible for the energy performance of the building? And if you are, shouldn't you then guarantee it?

So there are a number of contracts now where that is in fact the case. As part of your bid to build the project, you say, “Yes, we will build and operate it, and here's our price, and by the way, we're guaranteeing the energy bill will be under this number.” If it's not, basically, the person who designed, built, and operated it has to pony up. That's the pain share.

On the other hand, if the energy use comes in under, because it was operated efficiently or whatever, that's then a gain share. I can tell you from being on the proponent side of actually doing it, it sure focuses the attention of the design, the construction, and the operation team to get a really good performing building. So I think it's a model worth looking at.

Not all firms are created equal. Some firms are very good at energy efficiency, and frankly some of them aren't, so make sure when you're hiring firms, again be it for new buildings or existing buildings, that there's a proven track record of performance. I think there's a real value here in having an independent person, someone whose sole focus is looking at the energy performance of the building. It's not an additional role; it's not like they're the architect or they're the mechanical engineer. They're looking at the energy performance, and that's their sole function. I think there's even an argument to say maybe that person is hired directly by the federal government as a peer review or watchdog—if you wanted to use that—of the work to make sure it's being done properly.

Then my last recommendation is something that has been in Europe for a number of years, which is labelled the energy performance of buildings. The graph you see, the picture, is what is being produced by ASHRAE, the heating and refrigeration engineers. This is what they are proposing. We put energy labels on just about everything else: dishwashers, cars, computers, and so on. We just happen to leave off the largest single energy-using devices that we have, which are buildings. I don't understand that. I think by putting the energy performance label on the building, having it prominently displayed as it is when you buy a new car, when tenants go to rent space in that building, they can see what the energy use is. There's nothing like a game of one-upmanship—my building is a better energy performer than yours—to get people motivated to make more energy-efficient buildings.

● (1140)

So those are my five recommendations, and I thank you for your attention.

The Chair: Thank you very much, Mr. Carpenter, and my thanks to all three of you for very interesting presentations.

I know that committee members are eager to get started with their questioning. We'll begin with the official opposition and Linda Duncan.

Ms. Linda Duncan (Edmonton—Strathcona, NDP): Thanks, Mr. Chair. I'd like to echo your thanks.

We were hoping for some recommendations from you and you've done it up front, which is absolutely fabulous for our proceedings.

You triggered my interest in a number of issues as I looked at your materials earlier. I'll throw out two questions to all three of you and let all three of you respond to them.

A number of you mentioned the value of setting targets and prescribing targets. Thank you for the information about the E.U. My understanding is that in Canada they've simply set carbon reduction targets. I haven't seen evidence of kilowatt-per-hour savings of energy. Would it provide a greater incentive or direction to those who purchase and procure federal building space if there was a directive similar to the E.U.'s? This would apply when you're procuring space for the government and signing a lease. I'm particularly looking at leaseholds, because that's most of what happens at the federal level as opposed to building LEED buildings. Do you think that is a measure we need to trigger investment? Could you elaborate a little more on what you know about the Canadian or the U.S. experience?

We had some previous witnesses who spoke about performance contracts. Some of the witnesses said that was the way to go. Wayne Rogers from Luminescence Lighting in Edmonton said that isn't always necessary and it can make it more costly. In some cases, if you are simply recommending after the audit to retrofit something, a person could just agree to do that. I'm curious about your response. The second question is, are energy performance contracts always necessary? If so, when?

Mr. Stephen Carpenter: As to carbon targets, what I'm aware of, and I could be wrong, is that the carbon target is a global or high-level target. I think you have to take a high-level target down to the individual building. Canada is supposed to reduce so many millions of metric tonnes of carbon, and to a design team that's a difficult concept. So I am supportive of setting a target.

● (1145)

Ms. Linda Duncan: Do you think the target should be on energy use as opposed to reduced carbon?

Mr. Stephen Carpenter: There's a multi-part answer to that question. First off, in the big picture, energy and carbon are very closely related. So if you do one you're going to get the other one whether you like it or not. The struggle you get into is that some electricity is produced by hydroelectric, which you could argue is close to zero carbon, and some is produced by coal, which has very high carbon. Of course, that varies from region to region. What do you do? That question has befuddled many a person who considered what was a “fair” system.

In the U.S., there is very little hydro, so they take electricity and multiply by three to account for the power-plant efficiency and say that's how they'll adjust for the whole carbon aspect. In Canada, it has been suggested that we should use the number two, which accounts for our having much more hydroelectric, which I think is probably a good Canadian compromise. Some will argue that it should have been the number one, and some will argue it should have been the number three but—

Ms. Linda Duncan: I want to intervene here because I don't want to encourage you to get into that. Most of your presentations have been about the savings from energy efficiency. My understanding is that the targets in Public Works are carbon-related, not based on cost savings from energy efficiency. Do you think there'd be value if we shifted over to a source-neutral measure like that?

Mr. Stephen Carpenter: I'm sorry if I went off on a technical tangent.

If you strictly base it as you said on our wanting a carbon reduction, and you're in a region that is all hydroelectric, there could be an argument that you're not getting carbon. By using an energy intensity number, you bypass that whole issue. That's why I would promote just using the energy number. We had suggested kilowatt hours per square metre.

Mr. Thomas Mueller: That would be consistent with what we are thinking as well. Setting energy intensity targets for buildings is very important. With the new database that NRCan is launching, or with Energy Star, we get a better understanding of what the energy use will be.

But there are also organizations such as ours, or engineering firms, that increasingly keep numbers on where buildings should actually be. There's obviously a range of performance that you will see, which we saw in our benchmarking programs. Sometimes the ratio is 1:6 for the same building type, depending on age or region or operations—there are all kinds of factors playing into it. But there's increasingly data that would allow you to do this.

What it will do for you is that it will really focus the efforts on how you can get to that target, rather than leaving it more open.

However, I think it's really important too not to let the carbon slip from view, because energy use is related to costs, and carbon is related to environmental impact. The challenge is now to reuse carbon and save money at the same time.

The Chair: Thank you.

That concludes your time, Ms. Duncan.

Next, for the Conservatives, is Bernard Trottier.

Mr. Bernard Trottier (Etobicoke—Lakeshore, CPC): Thank you, Mr. Chair.

Thank you for coming in this morning. Those were great presentations.

I want to clarify something for Mr. Seymour. You talked about the portfolio of federal government buildings. You talked about 39,000 buildings owned and leased.

One of the challenges with conversions of the existing stock is something we call an agency problem, in which, especially when it's leased.... Many of the examples you gave were of federal government-owned buildings, in which the owner of the building is also paying the operating costs and is responsible for all the tenants' energy consumption.

How can the federal government overcome the challenge when they're occupying, let's say, a certain number of floors in a privately-owned building, so that they are the tenant, and meanwhile the capital improvements would be borne by the building owner? When it comes to such things as energy performance contracting, what are the mechanisms you have to build into it to account for the agency challenge?

● (1150)

Mr. Dave Seymour: Energy performance contracting in those kinds of situations becomes more complicated—there's no way around it—because now you have yet another contract in place: the lease.

I think you've had a briefing on green leases. By adopting those, by being forthright and specific about what you will accept in a building as you negotiate the lease with the owner—such that "these are the kinds of conditions we expect to be met"—you get into energy density targets. I think it needs to be that specific, because the owner can and in a P3 situation does take ownership of the usage of that energy and of controlling the energy.

You cannot invest in the facility, because you do not own it; the owner of the building owns it. So it has to be done through a lease. It is more complicated, but it can be done.

The other thing is that we have been involved in projects in which the developer or owner of the building uses a performance contract format to make improvements to the building. As a matter of fact, in the cases I'm thinking of specifically, they're actually repositioning or re-marketing the building. There are some success stories out there in which it can and will work. There needs to be an insistence on the part of the government, whether it's Public Works negotiating the lease or whoever, to make sure that the plan goes forward.

Mr. Bernard Trottier: It sounds as though this may tie in to a different study we did on public-private partnerships, wherein a third party becomes involved and becomes the holder of that lease, if you will.

Is that the mechanism that's generally used; that there is a third party, apart from the lessor and the lessee, who manages the financial aspects?

Mr. Dave Seymour: Personally, I am not familiar with that. It's something else I could look into, but I'm not familiar with any of those examples.

Mr. Bernard Trottier: Thank you for giving some financial numbers on the upfront costs versus the annual savings, and looking at it, things are generally a five- to ten-year payback in what you've demonstrated.

Is there a sense—

Mr. Dave Seymour: I have further information, if you don't mind. Those projects, on average, were an eight-year simple payback—I had to limit what I showed on that slide. Most of those projects earned incentive monies from the utilities that were available, gas or electric. You put those into the equation. All those projects ended up with an average of eight-year simple payback as the hurdle rate.

Mr. Bernard Trottier: Were those the low-hanging fruit, though?

Mr. Dave Seymour: No.

Mr. Bernard Trottier: With the next set of projects in the portfolio, are we looking at 10- to 20-year paybacks?

Mr. Dave Seymour: That's where it needs to go, as well.

To accomplish some of that facility renewal I referred to, that infrastructure renewal, you're going to have to look at broadening the term. By using that energy savings, over a longer period of time, to pay for more capital investment to make those buildings perform better, they'll be around for a little longer.

The other thing, with some of those examples, is that I would suggest that at least four or five of them were early projects; that is, the focus was probably a little shorter term. I know one or two of those where we could go in and easily spend another $3 million or $4 million making further improvements that would fund themselves.

Mr. Bernard Trottier: Thank you.

My next question is for Mr. Mueller and Mr. Carpenter, and it is about standards. I think they're very important.

In your presentations you mentioned at least four standards: LEED, BOMA BESt, Energy Star, and building EQ. It can get somewhat confusing and somewhat time consuming to do all of this certification.

Do you have any suggestions? Do we need to rationalize some of the standards, to make it simpler, if we're going to give concrete guidance? The fifth one, I suppose, is the numerical targets you talked about.

Some of the people who support BOMA BESt say these standards are complementary. I suppose they might be, but there might also be some overlaps. Can you comment on the use of standards?

The Chair: Could you keep your comments brief, please, sir. We have very little time.

Mr. Thomas Mueller: In terms of the standards, you have to distinguish. There are rating systems, such as LEED, BOMA BESt, and Green Globes. These are considered rating systems, whereas Energy Star or the building EQ from ASHRAE are standards. LEED references Energy Star. And they reference ASHRAE's standards. So we're trying to bring harmonization to the market that way. I can really appreciate that it creates confusion.

We're supporting LEED. LEED is a rating system that's now internationally recognized. It exists in 130 countries. It had an enormous uptake not only in North American but also globally. The other rating systems just haven't seen that. They don't have the infrastructure, the support, and the know-how to continuously develop globally as LEED has.

This is a very good.... It has become, if I can say, Canada's standard bearer for green buildings in North America, and it's on track to become that globally, as well.

What the representative from BOMA was referring to was that we, in fact, let the market decide what rating system to use to ensure it meets its needs. Between the rating systems, there are significantly different levels of stringency and rigour.

When you talk about BOMA, it is a good entry-level system, as we'd call it, through which building owners would get into the game, and then once they've used it for a while, then they kind of graduate, as I said before, and go to LEED for existing buildings, which is more stringent and more demanding.

We leave it to the market, actually, to decide which one is the best one, which one to choose. But we invest in LEED and a number of other ones, tools that we have, which I don't want to mention because it becomes even more confusing. We see that it would actually unify the market in a certain way to a certain level of performance in buildings and standards.

● (1155)

The Chair: Mr. Mueller, I hate to be cutting you off all the time, sir, but we'll have to wait to get other comments on that question in future questioning.

Mr. Denis Blanchette has been waiting for his turn.

[*Translation*]

Mr. Denis Blanchette (Louis-Hébert, NDP): Thank you, Mr. Chair.

I would like to thank our guests for their presentations. This is very enlightening.

We often hear about LEED and BOMA BESt certification for new buildings. However, the federal government does not have a lot of new buildings. As a result, if we want to move forward, we will have to take care of the older buildings and even the heritage buildings.

You work in engineering and you work with standards. In your view, what quick gain could the federal government make with renovations?

Mr. Carpenter, would you like to start?

[*English*]

Mr. Stephen Carpenter: As said in my presentation, there is the LEED EBOM—that is, LEED for existing buildings—which I think covers what you're talking about. The LEED EBOM mandates that you be essentially in the top 30% of energy-performing buildings.

I think that's a very easy implementation step, mandating the LEED EBOM. Then the energy targets and numbers we are talking about are for existing buildings. I think that setting a target, mandating to the operators of those buildings that they need to make renovations to get to those numbers, would be effective.

[*Translation*]

Mr. Denis Blanchette: That means that we should continue using the LEED-EBOM standard for a certain category of buildings. What are we supposed to do for the others? How can we adapt our facilities? In practical terms, what are the technologies, the tools, the targets that we should aim for? It is good to meet standards, but there are also other tools and technologies. Do you have any suggestions?

This question is for everyone.

[*English*]

Mr. Stephen Carpenter: In terms of the technologies, first off, as I mentioned in my slides, is the recommissioning of buildings. I dare say that most buildings are not performing optimally, and recommissioning will let them do so.

I'm sure David could speak to a large number of measures that can be retrofitted to buildings to bring down their energy performance. I guess the reason for the emphasis on the energy target is that it gives you an endpoint that you want to get to.

David, maybe you would like to speak to some of the technologies.

Mr. Dave Seymour: When I was listening to your question, the first thing that came to my mind was that there are many departments that have many different buildings in their portfolio, or buildings that they occupy, whether it's a portion of a building or the entire building. The first step is to take a look at all of those buildings, bring the stats to the table in an Excel spreadsheet—it's really simple—and just look within their own portfolio at what they are paying per square foot for energy. This is a very simple analysis of what it's costing them, what energy they're using.

Out of that, you start to pick off what the big uses are, where the problems are or where the opportunities are—there are never any "problems"—and start working it from there. There is an abundance of re-commissioning exercises sometimes referred to as low cost or no cost types of measures. There is a large number of individual companies or of specialists who can be brought in to take a look and size up the opportunity. It isn't that difficult.

So even within government departments, there's an opportunity to identify, even if they don't have a benchmark, how they are doing within their own set of buildings and spaces.

● (1200)

[*Translation*]

Mr. Denis Blanchette: Thank you very much.

Mr. Mueller, you talked about what is going on in Europe right now. They have much stricter standards in terms of energy savings per square foot. How do they do that? Is it simply because they have the political will to do so? Are the technologies up to the challenge? How do private companies react to those types of standards? In other words are the market and politics in sync with each other right now in Europe?

[*English*]

Mr. Dave Seymour: As a quick comment, if we paid the same price for energy that they pay, we'd be getting there too.

Mr. Thomas Mueller: That's probably a very good lead-in, as it's driven by resource scarcity and the price for energy. How they get there is quite interesting. In Europe, they actually design the buildings, the building envelope, way better than we do in North America. They spend a lot of time, a lot of effort, to design very substantial envelopes, with triple-cased windows and.... In Canada, which is a cold-climate country, you see top-to-floor glazing in office buildings. You can only achieve so much energy efficiency with those types of buildings. They are using more punch-out windows, and the envelopes are way better.

So they invest in the envelopes; we don't invest as much in envelopes. We invest more in our technology, in heating and cooling ventilation, and in renewable energy. So there's a bit of a difference in how they design.

As to cost, I was just in Europe and I've seen buildings that are designed to what they call passive house standards—they do it for houses and for commercial and institutional buildings. I've seen buildings that use 28 kilowatt hours per square meter per year, and they're constructed at a cost of €1,000 per square meter; that's $1,300 per square meter, or $130 dollars per square foot.

So it is possible, and everybody accepts it, because there's an EU directive, and of course there are the lifecycle savings on the energy.

The Chair: Thank you, Mr. Mueller.

Thank you, Monsieur Blanchette.

Next, for the Conservatives, Kelly Block.

Mrs. Kelly Block (Saskatoon—Rosetown—Biggar, CPC): Thank you very much, Mr. Chair. I'd also like to welcome our guests here.

Just in a few short weeks we have been opened up to, I feel, a whole new world. I won't say your industry is confusing, but I am struggling to understand the relationships between the consulting firms—also those who are developing the rating tools, the benchmarking tools—and those who are developing standards.

Many of our witnesses have defined their mandate in terms of either promoting green solutions, changing industry standards, or working to advance them. I am wondering if you could describe for me how companies like yours actually influence not only governments but even the private sector as well to adopt the best practices that you've been talking about.

Mr. Stephen Carpenter: Listening to the last bit of conversation, one of the great eye-openers for me—and again I mention my handicap of having a technical background—was that I came into this thinking that we'll make buildings more energy efficient. We'll do it for essentially the financial return, and the economics will speak for themselves, and everyone will go ahead and do it.

I have found that while there will be some success there—and Ameresco has demonstrated that—to get where we need to go one must go beyond that and I've discovered it's about the marketing department. The marketing department pulls the strings in most organizations, and that has been the real success of things like LEED.

We talked about some of the large developers, Oxford Properties, Brookfield Properties, Cadillac Fairview Corporation and so on. When I started my business, I thought I would never be sitting in a boardroom with any of those people. Now those are the people who are sitting in the boardrooms all the time. That's because the marketing department has said that if they want tenants to lease their buildings, if they want to show from a corporate sustainability point of view that they are leaders, they need these rating systems. That's why I was really promoting the aspect that we need the labels on buildings. We need the rating systems like LEED. That will promote things.

● (1205)

Mr. Thomas Mueller: With regard to the rating systems, LEED in Canada has been developed and delivered by us. We're a non-profit organization. In the United States it's the U.S. Green Building Council. It was developed in the U.S. and then we adapted it in Canada to meet Canadian standards, climate, culture and so on, and we are delivering it in both official languages.

The best way to describe LEED is as a consensus standard. It's people from the industry, people like you, Stephen, other designers and engineers, and product manufacturers who come together. They are all members. They're stakeholders in the industry and every so many years LEED is updated and they contribute and say where the industry should go, where the thresholds should be, and what the targets should be.

So before a LEED rating tool comes onto the marketplace, there are sometimes years of discussion on what it should be, and it's piloted in the industry to make sure that it works. Then it is changed and piloted again, and sometimes changed again to make sure that the industry can actually use it, and that it is not so high a standard that nobody can use it, and it's not so low that it's meaningless.

It is that kind of consensus standard. LEED, in that regard, is actually unique because it has the stakeholders in the buy-in on a very large scale. That helps to continuously improve it and to make sure it still works, that it is relevant to the industry and continues to move forward.

Mr. Dave Seymour: The only thing I would add is that people generally want to know where they stand and how they are doing. So if you have a benchmarking system in place, or if you can just do it within your own portfolio to find out if they're all consistent or if you have a couple of buildings that are real problems, there is instant feedback on performance. There is a little bit of competitiveness. There is a little bit of “I can do better, I can be the best, I can improve. Look at what I'm doing”. It's a feedback source that a lot of building owners and property managers want to know about.

I agree with Stephen's comment about the marketing department. If I can use that information as a marketer of space or marketer of buildings to get a better dollar for the space, I'll do what I can, and that information is very precious.

The Chair: Kelly, you have about a minute left, if you like.

Mrs. Kelly Block: I'm just going to follow up with a little bit more of a technical question. It's for you, Mr. Seymour. It is about the energy performance contracts. You've talked about moving from perhaps a seven-year return on investment to something broader.

I'm just wondering if you could describe for me what goes into determining the payback period. You may have started to answer that in response to one of my colleagues' questions. Could you just talk about that and maybe how you're going to expand or broaden the payback period?

Mr. Dave Seymour: Sure. The essence of the performance contract is the savings, that is, what savings can be achieved? From there, it really is up to the client in terms of how long they want to have that annual savings stream focused on paying back the capital, the principal, and the interest. If their tolerance is only eight years, the project will be a certain size. But if they can broaden that out to maybe look at a 20-year term—and we are starting to see some projects of that value—they can achieve a whole lot more with that larger scope, that larger budget. They can start to look at replacing a chiller, maybe improving or replacing the entire mechanical system. That is really only enough budget money to upgrade it, not replace it.

There are some decisions there that the customer, the owner, the manager of the facility can make. It's not something we prescribe. It really is about what the customer is willing to look at, what they can entertain within their own limitations and constraints.

● (1210)

The Chair: Kelly, now you are over time. Thank you very much.

John McCallum, for the Liberals.

Hon. John McCallum (Markham—Unionville, Lib.): Thank you, Mr. Chair.

Welcome to our guests.

Mr. Mueller, when did the federal government begin the LEED projects?

Mr. Thomas Mueller: I think it was, from our records, in 2006. The federal government was actually one of the first public agencies in Canada to adopt a LEED gold policy.

Hon. John McCallum: Yes, that's what I thought.

Mr. Thomas Mueller: You were very early on, yes.

Hon. John McCallum: I think it was 2005, actually.

Voices: Oh, oh!

A voice: January 23, to be precise.

Mr. Thomas Mueller: But you were not the first ones.

Hon. John McCallum: Thank you.

I was a bit surprised. I think I heard you say that the private sector was much more efficient and effective than the public sector in terms of producing energy-efficient buildings and that they had no choice. The public sector didn't have much in the way of plans. You said that, I believe.

Mr. Thomas Mueller: Not exactly. I think what I was trying to say is that when the federal government started, the private sector was nowhere to be seen. Just like Stephen, I never thought that we would sit in the same room with them, ever. But they have come a long way very quickly recently, over the last three years. On the new building construction, I think the federal government and the private sector are actually on par, even though we see a lot more private sector projects now that are aiming for LEED platinum, because it's a market competition thing. On the existing buildings side and using LEED for existing buildings on the larger properties, right now the private sector is ahead of any level of government in Canada—ahead of the municipalities, the provinces, and the federal government as well.

Hon. John McCallum: I don't understand why, because the private sector is there to make money, not to be energy efficient for the sake of energy efficiency—unless they could also make money that way.

You're saying that the governments don't care? Why are the governments behind the private sector in terms of existing buildings?

Mr. Thomas Mueller: Well, the private sector is doing it because they make money, because the existing buildings now have to compete with the new buildings for tenants. That's the business. They're competing for tenants. They want the buildings fully occupied. The federal government doesn't have the same objective. You don't have the objective of filling your buildings with tenants. You don't have a profit margin to it. Your objectives are more driven by good policy, around maybe environmental policy, carbon reduction policy. But there are also aspects—albeit I don't know this, but am just speculating here. It might also be that you're providing a good workplace for employees so that they are healthy and productive, because you have a huge workforce. So you're driven by different things than the private sector.

Hon. John McCallum: You're saying that the main motive for the private sector is that they're driven by profit?

Mr. Thomas Mueller: It's corporate social responsibility, profit, and also tenants or tenant demand for green office space—those three things.

Hon. John McCallum: Thank you.

For Mr. Seymour, I have a question that's perhaps similar to what Kelly was talking about, namely these energy performance contracts. I think the two main costs are the performance guarantee fee and the financing charge. How are those determined? Are they determined competitively? We did a study of PPPs. Sometimes it seems like a black box; we don't know how these things are determined. How are those determined?

Mr. Dave Seymour: In the process that's used, the federal buildings initiative is a completely open-book process. So the performance fee that you're referring to and the financing are shown as separate line items. So anybody entertaining that kind of project would know to the penny what those costs would be. They're covered up front as part of the proposal effort.

Hon. John McCallum: So is there some sort of competitive process?

Mr. Dave Seymour: Well, the individual energy service companies bring the various financial institutions to the table as part of their offering. I have to tell you, there's not an overabundance of this business out there. I'm talking about the performance contracting business with the federal government. It has really tapered off in the last number of years. So there aren't a huge number of banks going after this business.

Is it competitively bid? Yes. But if you count two or three competitors as competitively bid, we could probably have a discussion.

Hon. John McCallum: Okay, thank you very much.

The Chair: Okay, that's great, John. Thank you very much.

Next then, for the Conservatives, we have Jay Aspin.

Mr. Jay Aspin (Nipissing—Timiskaming, CPC): Thank you, Chair, and welcome to our guests.

This is an important topic, a productive topic, if we're talking about efficiencies and savings these days.

Just as an overview question, I'd like you gentlemen to react to this.

Mr. Seymour, you alluded to the fact that in North America the buildings maybe aren't being built to the standards, savings-wise, as those in Europe. How closely do you work as energy scrutineers, as I would call you, as a general group? How closely is your industry working with architects? How much have architects changed their ways these days in Canada?

● (1215)

Mr. Thomas Mueller: Actually, the Canada Green Building Council was originally started by architects and we work very closely with RAIC, the Royal Architectural Institute of Canada, which is still one of our main stakeholders. It was the architects, initially, who wanted to design buildings that are better, not just in terms of energy, but also electricity, water, well-being, lighting, all kinds of things. The architects, particularly the RAIC and the OAA —all the associations—are very supportive of a sustainable design. They still make up a significant portion of our membership, but our membership is more diversified yet.

The architects have a target that is called Architecture 2030. It's again a North American target that buildings need to be carbon neutral by 2030. So the Royal Architectural Institute supports that target, and we support it, along with many other organizations. I think some engineering organizations probably do as well.

The architects play a very important role because they're typically the project proponents. But the architect by him or herself cannot produce a building that's highly efficient in many ways. They need the engineers and they need the commissioning agents and they need a good builder. It's a multi-professional task to produce a good building, and we're very much proponents of an integrated design so that all of the parties involved can produce a building. From the owner to the interior designer and the landscape architect, they talk about how they can achieve high performance in building. It's a process issue, not necessarily a target issue. But all of the processes have used what we call an integrated design approach, and these buildings are all performing extremely well.

Mr. Jay Aspin: So can I take it from your comments that architects use people like yourselves as one of the resources available to design their buildings, and that they're changing their ways as well?

Mr. Thomas Mueller: Yes, they are, and for quite some time now.

Mr. Dave Seymour: I think their discussion with the client who has retained them is becoming a lot more specific about the objectives of the design. And I wrote down the integrated designs as well; that's got to be critical. So we need to take action with the clients up front and give them that sales job—if I can use that term—that they need to be looking at a broader picture, not just our fees.

Start looking at the bigger picture in terms of sustainable design, how this building is going to work, the legacy of the building. Those are important things, and then bring in the right players, not necessarily the cheapest players, to get that design done, and done well.

Mr. Jay Aspin: Okay. That's very good.

Earlier we talked a lot about targets and measures. I've heard your views on that, Mr. Seymour and Mr. Carpenter, but I'd be interested in your particular views, Mr. Mueller.

Given the considerable portfolio of buildings the federal government occupies, how should the federal government commit to achieving targets for energy efficiency?

Mr. Thomas Mueller: In building on what Mr. Seymour said about the vast building portfolio the government owns in various departments, I think you need to start to look at and understand the energy and water use, and also toilet waste generation, of these facilities. Then you need to benchmark them on an ongoing basis to understand what's happening and then strategically target your investments where you can achieve the biggest reductions.

The evidence would suggest that operational savings of up to 20%, maybe a little more, are possible from recommissioning. These types of approaches can be readily achieved, meaning the buildings would be operational without any retrofit—it's just about operating the buildings better, maybe replacing some old technology. The precursor is really good benchmarking and understanding your building portfolio well, and then I think being more ambitious in setting targets for all the indicators of water, energy, materials for your new builds, and for your larger existing buildings as well. I think there are opportunities for improvement to achieve higher performance and move toward more of that kind of low carbon, low water use, low or zero waste generation. The terminology seems to be taking hold in the industry now.

● (1220)

The Chair: That concludes your time.

Mr. Jay Aspin: Thank you, Chair.

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

That concludes our first round of questioning. We will have time for each party to have one more round of questioning, but I'd ask you to expand on two items just before we move on.

First of all, do you know of any studies, or is there any documentation, on the secondary or beneficial byproducts of energy retrofitting in terms of better indoor ambient air quality, productivity, or fewer person days lost due to illness, etc.? Do any of you know of any evidence that might make the case for a healthy building resulting in a more productive or healthier workforce?

Secondly, I think, Mr. Mueller, you made reference to financing, and so did you, Mr. Seymour. Are some of the energy services contractors self-financing, and if they aren't, are they seeking external venture capital to get these ventures under way? Pension funds seem to me a really good source of capital as a safe investment. Can you tell me roughly the cost of borrowing for this type of venture or the rate of return expected from, for instance, the teachers' pension plan when they put forward the money to undertake this kind of thing?

Is there a brief response on either of those two things before we go to the next round of questioning?

Mr. Thomas Mueller: I'll quickly answer the first question. A number of studies have been done in schools and hospitals, at the workplace, but they're individual studies and they're not necessarily done under the green building auspices; they're just certain design elements like day lighting, natural ventilation, which is better for students or for patients, and so on.

A study by the National Research Council on evaluating the occupancy of green buildings was just released in the new year. It was a three-year, million dollar study that does point to the indoor environmental benefits of green buildings, and the reference to many LEED-certified buildings shows that they have a positive effect on the workforce.

That's available on our website, and I'll be happy to forward you a copy. It's a very important, very good study.

The Chair: That's exactly what I was looking for. I'm sure the analysts have made a note of that, and they can get it through the Library of Parliament as well.

Mr. Thomas Mueller: I don't know about the returns because I'm not involved, but I do know that large commercial landlords do use pension funds to invest in buildings and that the internal rates of returns are in excess of 10%.

The Chair: Whew, that's not a bad return.

Mr. Thomas Mueller: Doing a new, gold-certified LEED tower in Toronto in the downtown financial district costs about 2% more to build and the returns are over 10%. So the math is pretty straightforward, I think.

The Chair: That's very interesting. Okay. I won't take any more time then.

Next we have Mathieu Ravignat from the NDP.

[*Translation*]

Mr. Mathieu Ravignat (Pontiac, NDP): I will share my time with Ms. Duncan.

I have a quick question. I want to make sure that I understood correctly. Since the LEED project was adopted by the federal government in 2006—or according to my colleague Mr. McCallum, in 2005—only four buildings that have already been built were LEED certified by the government. Is that correct? Yes or no?

[*English*]

Mr. Thomas Mueller: No. No, it's not correct. I can give you the numbers. What I was trying to say is that there only four buildings out of your 150.... The Government of Canada has 150 buildings on LEED. There are only four buildings.... They're all new builds, all new construction. There are only four buildings that target existing buildings' retrofit and maintenance out of the over 150. There are only four.

[*Translation*]

Mr. Mathieu Ravignat: Why is that so?

[*English*]

Mr. Thomas Mueller: I think it's just that right now we don't see the LEED for existing buildings being adopted at other levels of government either. I think it's just an evolution of the market.

As I said before, the private sector is very strong in this area, but they have different objectives in terms of return on investment and tenant demand. They want to keep the existing buildings competitive in the marketplace. The federal government doesn't have that—

● (1225)

[*Translation*]

Mr. Mathieu Ravignat: In my view, the federal government has no other choice out of respect for taxpayers—it is their money, after all. Do you agree with me?

[*English*]

Mr. Thomas Mueller: I believe that targeting high performance in existing buildings is a good use of taxpayers' money.

[*Translation*]

Mr. Mathieu Ravignat: I think so too.

Mr. Seymour, you had to deal with the federal government in 2004 for a specific building. Did you think the communication process with the federal government was effective? Was it difficult or complicated? Would you do it again? Is there room for improvement?

[*English*]

Mr. Dave Seymour: We can all improve.

Certainly, working with the federal government has been a worthwhile exercise. As I said in my remarks, I think the projects were successful, they were meaningful, and the results are significant. I think that says a lot about the projects. It's a great opportunity. You put the right people in the right places and they're going to make things happen. But there's a lot of confusion today in government, and in industry as well, about conflicting agendas and conflicting priorities, so those confusing signals that are picked up cause problems.

I enjoy working with the federal government and I think we should be doing a lot more of it. I think there's a tremendous opportunity.

The other thing is that I think with regard to deficit reduction action plans, for example, that's a short-term focus on cost savings. Well, that's not what the projects I was talking about are focused on. They're in the longer term. It's a little longer-term savings benefit, right? And it takes a bit of hard work. So as people—

The Chair: I'm sorry to interrupt you, Mr. Seymour.

If you wanted to share any of your time, Mathieu, there's very little time left.

Mr. Mathieu Ravignat: Now's the time. I will, yes.

The Chair: Okay. I'll pass it over to Ms. Duncan.

Ms. Linda Duncan: Mr. Chair, I wish to use the remaining time to provide notice of two motions.

The first is that the Standing Committee on Government Operations and Estimates invite the Senate Ethics Officer to appear before the committee for the review of the Senate Ethics Officer's 2013-14 estimates, no later than May 28, 2013.

The second motion is that the Standing Committee on Government Operations and Estimates invite the Speaker of the Senate and the government leader of the Senate to appear before the committee for the review of the Senate 2013-14 estimates, no later than May 28, 2013.

If I have any time—

A voice: [*Inaudible—Editor*]

Ms. Linda Duncan: Is it? Okay. Thanks.

The Chair: It's not really in order to be doing that while we're questioning witnesses, and it's certainly not debatable in any sense because it's a notice of motion, so you've made your point. I thought you were going to be talking about energy retrofitting of government buildings.

There's still a bit of time left, Mathieu, if you'd like to finish your questions.

[*Translation*]

Mr. Mathieu Ravignat: Mr. Seymour, what irritated you the most when you dealt with the government?

[*English*]

Mr. Dave Seymour: I'm not sure if “irritating” is the word I'd go with.

The Chair: Why not?

Mr. Dave Seymour: There's lots to be done, a lot of opportunity. Let's get going; it should be done faster. Again, put the right people in the right place with the right objectives. Give them a clear message. Recognize them and it will happen. I think that's a great message. I think a lot of employees within the federal government would appreciate it and would love to have that kind of opportunity before them.

The projects I was referring to—and there are many others like them, by the way—are great success stories. We probably don't celebrate them enough either, by the way.

● (1230)

Mr. Mathieu Ravignat: Thank you.

The Chair: Mr. Seymour, that's a positive note to end on.

We're going to go to the Conservatives, to Mr. Dan Albas.

Mr. Dan Albas (Okanagan—Coquihalla, CPC): Thank you, Mr. Chair. I'd like to thank our witnesses here today for their expertise.

Based on what Mr. Seymour said, one of the challenges that we have to recognize is that when you have an inventory of buildings, some of them are very old. You have programs like the FBI, which has been steadily retrofitting these over a period of time. You'll start to see marginal returns, where it will be more and more difficult to be able to put the same amount of dollars to get the same amount of energy efficiencies, because you've already fixed all the low-hanging fruit. That being said, it's a program that I'm very supportive of and I hope it continues. In fact, I think taxpayers expect us to find reasonable savings where we can.

Mr. Carpenter, you mentioned a wider argument or discussion of energy efficiency. The federal government has a large number of buildings, both leased and owned, throughout this great country. In some cases, some regions rely more on carbon-based fuel or energy production, and some rely more on non-carbon-based energy production. Is that something that should be factored into it? Say you have one building on the west coast utilizing energy derived from hydroelectric generation and you have another building elsewhere in the country utilizing energy from coal-based production, if you have limited resources, is it not wise for us to consider where we can get the best bang for our buck, given limited resources? I'd like your thoughts on that.

Mr. Stephen Carpenter: It's a very good question. It's a very politically charged question because you're dealing with different regions within the country.

My view is that when we look at issues of energy use and climate change and these sorts of things, they go beyond provincial and national boundaries. If I save electricity, even in a region where that electricity is produced by hydroelectric power, that power doesn't disappear; that power is still being produced. That power can be sent to another region that is using coal fire.

I think the net effect all the way down will be that you will save fossil fuel and carbon emissions from it. I think that's why, as Thomas said, we can probably use an energy-intensity target and not get too hung up about how electricity here is produced differently from somewhere else. If we look at the whole country, there's a net benefit regardless of the region.

Mr. Dan Albas: Again, regionality should or maybe can play a role, but we should try to use broader targets for making these decisions, to keep the politics or the regionalization out of it. Is that what you're suggesting?

Mr. Stephen Carpenter: That would be a very good way of saying it, yes.

Mr. Dan Albas: Going back to your presentation, I was quite intrigued by your Enermodal head office. You mentioned that not only did it achieve the high degree of efficiency, I think it was triple LEED platinum, but also that the total construction costs were $250 per square foot. Is that correct?

Mr. Stephen Carpenter: Yes.

Mr. Dan Albas: Is that also inclusive of planning costs?

Mr. Stephen Carpenter: Yes, that's all-in—site development costs, architects' fees; everything.

Mr. Dan Albas: Bearing in mind that your corporation helps credential these kinds of things, there were obviously some cost savings to that. Would someone looking to open up an office space equivalent to what a federal government office may use find the same cost for that kind of building?

One of the reasons I'm asking is that there are certain efficiencies when you do your own work in-house; you don't need to go outside of your expertise and hire consultants such as yours.

Mr. Stephen Carpenter: Yes. Truth be told, yes, we did some of the engineering on it, but the engineering fees on the construction of a building are in the order of a few per cent.

Mr. Dan Albas: Okay, so they're not—

Mr. Stephen Carpenter: It's not significant. It's the construction that's the big cost.

Mr. Dan Albas: I'm recognizing that, but there are extra fees that would go into a build if someone else was to attempt this project, correct?

Mr. Stephen Carpenter: Yes, there would be a little bit extra.

Mr. Dan Albas: As to your comments about ongoing maintenance, I certainly agree. What gets measured gets done, and you can't manage without having some sort of measurement. In the case of a federally owned building, are you proposing that someone hired at an extra cost continue to monitor this? Or do you think this is something that can be done with the management of the building through technology?

● (1235)

Mr. Stephen Carpenter: You are already getting a lot of the data from utility bills. The gas company and the electricity company are already monitoring the building for you. We think there is value in putting additional meters in the building. When you have one electric meter on the building and then all of a sudden you see your electricity use go up, the question becomes, what changed? If you only have one meter, it's very difficult to do that. The good news is that the cost of electric meters is very low, because we produce hundreds of thousands of them. We recommend putting in additional meters. This way, you can sub-meter the chiller, the lights, and so on, so that when there is a change you can see what is happening.

Mr. Dan Albas: How would you imagine that working? Even if you have multiple sources, you may have a cell-effect, where someone who is in charge of energy management may not be getting the information out to the people using the energy. For example, in my home, my wife and I pay the bills, but my children don't always get a chance to see those bills. So when we keep clicking the lights off after them, a lot of it has to do with their not knowing about it. We may have the data, but is the data being spread amongst those who use the energy? How do we do that? Do you do it through existing spheres, or are you talking about hiring someone else to do the monitoring?

My second question is—

The Chair: Last question.

Mr. Dan Albas: —when you lease a building would that be done by the company that leases or by the government?

The Chair: Please be brief in your answer.

Mr. Stephen Carpenter: As David said earlier, I think the best thing you can do is go right across your portfolio of buildings, get the energy numbers for all of them, and compare them. The key person to share it with is the operator of the building. They are the ones who are directly involved, so it's very important that they have that information. In the lobby of our building, we display the ongoing energy performance of our buildings. That's one way you can engage the people there. You may want to consider one for your house as well, for your children.

The Chair: I'm afraid, Dan, you're way over time. Thank you very much.

Linda Duncan.

Ms. Linda Duncan: I want to thank you again for your incredible testimony. It's been fantastic.

You gave a number of responses to a number of questions about why the federal government would get into this in a bigger way, so as to reduce the energy use in the buildings they own or lease. We talked about protection of the health of workers and simply setting a good example. I'm surprised that I haven't heard one of you say that the top reason will be saving taxpayer dollars. I looked at the examples that a number of you provided us, which are phenomenal in the short-term and the long-term.

I wonder if you could tell us, over time, whether there is or is not an advantage to the federal government in making this investment sooner rather than later to reduce costs to the taxpayer.

Mr. Thomas Mueller: For the three of us, it is probably obvious that we didn't really think about it. But it's a huge opportunity to save taxpayers money over time. Don't forget, it goes over the life of the building as long as they operate, but it does require some investment. But over the life cycle of the building, the paybacks are manyfold from what you originally invested.

The National Round Table did a study with STDC, Sustainable Development Technology Canada, about two or three years ago on the commercial office sector. The commercial office sector spends $17.6 billion a year on energy. If you shave 10% to 20% off that, which is relatively easy to do, that's a huge saving that could be reinvested in something else.

Mr. Stephen Carpenter: I guess I would just add to that. Perhaps the reason we didn't focus on that side of it is, I think we all feel the economics are there; it's a slam dunk. The problem is one of motivation. Everyone is busy and there are many things to do, but somehow we have to move this energy efficiency higher up on that motivation list.

Mr. Dave Seymour: I'll add to that just the agency problem. The individual or the group that saves the operating cost is not necessarily the group spending the capital or watching the capital. They don't get together, and that's a problem. Follow the money, and the savings may not get over to pay back that capital that had to be spent to make the savings happen.

● (1240)

Mr. Thomas Mueller: Do not underestimate what I call the human element, people having to change their habits. I think that is probably one of the biggest challenges as well.

The Chair: Thank you very much.

We have time, then, for a brief round for the Conservatives. Peter Braid and Ron Cannan are sharing their time, I believe.

Mr. Peter Braid (Kitchener—Waterloo, CPC): Thank you very much, Mr. Chair.

Thank you to our representatives for being here today.

Mr. Carpenter, thank you very much for being here from the great community of Kitchener—Waterloo. I'm pleased that you made it through the weather.

I have just a couple of questions. You mentioned in your presentation that the Energy Star benchmarking tool or system is established in the States. It's in the process of being introduced here in Canada. Could you just elaborate a little bit on that in terms of time frames, what that program will look like, and what opportunities it may provide us?

Mr. Thomas Mueller: I'm a little bit familiar with the time frames. It's the Office of Energy Efficiency and Natural Resources Canada that started working on a Canadian version of the program. The program is supposed to be officially launched this June in Canada and initially they will accept, I think, K-to-12 schools and commercial buildings. You will be able to go online, enter your data, and then achieve your Energy Star score, but there is no intention, for example, to label buildings, as Mr. Carpenter has suggested. It's a pure benchmarking tool. Then, over time, other building types will be added to the database.

We work with them directly because Energy Star is also referenced in some of our standards, our lead standards, so we need to make sure that it's consistent with what the federal government is doing, and obviously we prefer to deal with a Canadian agency than with a U.S. agency where we have less access, and we also prefer having Canadian data rather than U.S. data.

Mr. Peter Braid: Thank you very much.

Back to you, Mr. Carpenter, for this one, on a slightly different angle. I'm very familiar with your headquarters, your building in Kitchener. I haven't had the opportunity to actually visit the building, but I'm curious to know about this aspect. Could you elaborate on the impact on the working environment and on employee morale with energy-efficient, leading-edge buildings like yours?

Mr. Stephen Carpenter: That's a very good question. As we indicated, we were obviously trying to make a very energy-efficient building, but it was also a green building, and green incorporates many more things. Thomas alluded to those in terms of good day lighting, good indoor air quality, and so on. Obviously, we designed those into the building, but, then, of course, the question is, how successful were we?

There's a group out of the U.S. that's called the Center for the Built Environment, part of the University of California, Berkeley, and they have developed an occupant survey. It's a set of standardized questions. They have hundreds of buildings across North America that have taken that same survey. It's an online survey. The occupants of the building take the survey, and all the results go to this group at the Center for the Built Environment. Then they analyze them. It's the usual type of question such as, “How happy are you with the lighting in your building?” The answers range from very dissatisfied all the way up to very satisfied.

We did that for our building, and then they give you, on a scale of zero to 100 percentile, where you fit relative to all the other buildings. In our case, out of, I think it was, eight different categories, we were in the 95th or higher percentile for all of those categories. In fact, the only one we were low on was acoustics, and that's a separate discussion we can have, but overall, when they took our building and compared it to all of the buildings that had gone through that survey in all of North America, our building came first in North America in terms of those occupant comfort and satisfaction issues.

The Chair: You're not leaving much time for your colleague there, Mr. Braid.

Mr. Peter Braid: Mr. Cannan, if you have a question, please go ahead.

Hon. Ron Cannan (Kelowna—Lake Country, CPC): Thank you.

I have several questions, but time is limited.

One has to do with the challenge as far as your return on investments goes. You have built in the past, and it's great to have the pro forma there and that you're going to have that projection in 8 or 10 years. You said every five years you'd come back and evaluate. Would you come back as a consulting firm and would there be another fee to re-evaluate? And if they're not meeting projections, would they have to invest more? In your experience, how accurate, as a percentage so far, have you been with those projections for return-on-investment timelines?

● (1245)

Mr. Stephen Carpenter: I'm not sure where you get the five years from. That may have been from the LEED EBOM program, under which you must recertify every year, because EBOM is about ongoing operations and maintenance.

I agree with Thomas' comments about the rigour of LEED. That's its hallmark. That's what it stands for. So we have to be careful that you don't get people who go and implement either energy-efficient measures or green measures, get the plaque, and then let those measures just disappear. That's why there's this recertification every five years, to make sure they're doing it. In terms of costs, the greatest cost is for doing it the first time. The recertification costs are much less, and frankly we don't have a lot of buildings yet that have hit that five-year milestone.

Mr. Thomas Mueller: They're coming.

Mr. Stephen Carpenter: They're coming, yes.

Hon. Ron Cannan: I have a quick question for Mr. Seymour.

On your website—and I commend you for sponsoring Kids Up Front and for your corporate social responsibility in giving back through all of your companies—you mention that you have “assisted our clients in reducing greenhouse gas emissions by approximately 4.5 million tonnes—the equivalent of taking 850,000 cars off the road and planting approximately 350 million trees”.

Do you have any idea what proportion of that was from federal projects?

Mr. Dave Seymour: No, because one of our large sectors is social housing, and another very large sector is school boards, so I would say that those two would be very large portions of our portfolio. The federal projects would probably be in the order of magnitude of 10% of our portfolio for NRC and some of the federal buildings that I showed. So it's probably in that order of magnitude—some 5% to 10% out of that.

The Chair: I'm afraid we're out of time.

Thank you, Mr. Seymour.

John, do you have a brief question you'd like to ask before...?

Hon. John McCallum: No, thanks.

The Chair: Very good.

Then we've concluded right at the appointed time.

I thank all three of you for super presentations. I think you can tell from the level of interest how much we appreciated the content you brought to us today. It's an exciting study, and we think there's a great deal of potential here for the government to save money—and to be a leader for the industry in demonstrating the savings to the private sector too. I think the government should show the way to the private sector, and not the inverse, in a case like this. But whatever it may be, we're having a good time.

Ms. Linda Duncan: And it's creating good jobs, too.

The Chair: It's creating good jobs.

Thank you to all of you.

Thank you so much to the witnesses.

We're going to suspend briefly and reconvene in camera for a brief couple of things we have to discuss.

[*Proceedings continue in camera*]