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**EVIDENCE**

**Thursday, April 18, 2013**

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**Chair**

**Mr. Pat Martin**



## Standing Committee on Government Operations and Estimates

Thursday, April 18, 2013

• (1105)

[English]

**The Chair (Mr. Pat Martin (Winnipeg Centre, NDP)):** Good morning, ladies and gentlemen. We'll come to order, please.

Welcome to the 81st meeting of the Standing Committee on Government Operations and Estimates, as we come to a conclusion of what's been a very interesting study on the energy efficiency of our government buildings and structures and public works.

We began this comprehensive study by inviting expert witnesses from the Department of Natural Resources and the Department of Public Works to set the stage for us as to the state of the nation, as it were, in this regard.

We've spoken to a lot of people from across the country and nationally and even internationally in this regard, so we thought it would be logical to invite the same witnesses back as a conclusion, a wrap-up, as it were. We may want to put questions to them based on the information we've gleaned in the course of our study.

We welcome back from the Department of Natural Resources, Mr. Geoff Munro and Carol Buckley; from the Department of Public Works, our old friend John McBain, who may be setting a record for the number of appearances before our committee; and Robert Laframboise, the director general of the Office of Greening Government Operations.

I understand you've talked about the order in which you will proceed, and we'll begin then with the opening remarks of John McBain.

**Mr. John McBain (Assistant Deputy Minister, Real Property Branch, Department of Public Works and Government Services):** Thank you very much, Mr. Chair.

Good morning, members of the committee. As the chair introduced me, I'm John McBain, assistant deputy minister for the real property branch at the Department of Public Works and Government Services. With me this morning is Robert Laframboise, the director general of PWGSC's Office of Greening Government Operations.

I am pleased to follow-up on our October 2012 appearance, in particular from my perspective on the role of PWGSC enhancing the energy efficiency of the buildings owned or operated as part of our portfolio.

In our mandate to house the office requirements of the Government of Canada, PWGSC constantly assesses its real property portfolio to meet this mandate and to maximize the use

of taxpayer resources. As we assess performance and short, medium, and long-term planning needs, we are also able to identify opportunities for energy savings and the implementation of cost-efficiency measures. PWGSC utilizes industry recognized environmental benchmarking tools to assess the performance of our portfolio.

The typical PWGSC-owned building is, on average, now 50 years old. As we add new buildings to our portfolio or undertake major retrofits, we implement sustainable building practices because we know that these bring operational and productivity dividends. As I mentioned, we are using industry recognized tools. We have set Leadership in Energy and Environmental Design—commonly known as LEED gold—accreditation as the target for all new construction built-to-lease as well as lease-to-own office building projects. We have set LEED silver or three Green Globes targets for our non-office buildings, acquisitions, and major renovations. We use the Building Owners and Managers Association's BOMA BEST operational standard for existing crown-owned buildings and new or renewed lease assessments.

I think it is clear from those points, I should note, that there is no one-size-fits-all solution to achieve increased energy efficiency in our building assets. As we look at owned versus leased delivery, and short-term versus long-term needs, tenant requirements, and our overall portfolio strategies—these involve intention or disposal as well—all of these impact our decision-making process.

Mr. Chair, you've heard previous witnesses speak to the typical energy efficiency of Canadian office buildings. We are pleased that these witnesses have provided information that indicates PWGSC is a leader in real property management. In my view, the indications are clear.

The average office building in Canada uses approximately 320 equivalent kilowatt hours per square metre, versus the PWGSC office building, which only uses 285 such hours per square metre. I would also note that 77% of the PWGSC building portfolio area is below the average of Canadian energy intensity. PWGSC's LEED gold buildings use as little as 149 equivalent kilowatt hours square metre, well below the average of other LEED-certified buildings in Canada.

PWGSC is committed to build upon this success. As you may recall, Mr. Chair, our department has set its greenhouse gas emissions reduction target to 17% below our 2005 levels to achieve that target by 2020. To achieve this objective, PWGSC is continuing to adopt new technologies, such as reforming its building management and tenant engagements.

While energy efficiency projects in the past were considered special initiatives or unique undertakings, they are now very much part of our standard operating mode, embedded with all other projects into our building management process priority ranking approach.

We have also partnered with many federal departments and agencies to share best practices and successes. We have active memoranda of understanding with other government departments, including Natural Resources Canada and the National Research Council.

We are leveraging the expertise of private sector service providers, for example, through our alternate forms of delivery service contracts and our work with the Canada Green Building Council and the Building Owners and Managers Association.

In addition to the work the department continues to pursue in our projects, repairs, and building modifications, we continue to develop our approach as part of our federal sustainability development strategy: planning a detailed approach to our reduction targets, documenting assessment tools used for both project delivery and building management, and implementing guides for staff use.

• (1110)

We recognize that as we look towards 2020 there will be further opportunities to address energy reduction and sustainability targets that are not presently available. In this regard, in the past PWGSC has been an early adopter of new approaches. I would mention our early take-up of the federal buildings initiative, LEED target-setting, adoption of BOMA BEST assessments, and federal buildings leadership—for example, our construction of the Jean Canfield Building in Charlottetown, which is the first LEED gold certified building in Atlantic Canada.

These examples highlight the strength of PWGSC's approach in real property management. By leveraging the knowledge and resources of our broad spectrum of partners and service providers, the department intends to remain at the forefront in addressing future energy challenges, and we will be in a position to provide leadership for other departments through our actions and the way we manage real estate.

Thank you very much for the opportunity to provide these remarks, Mr. Chair.

I will now pass the floor to my colleague, Robert Laframboise.

**Mr. Robert Laframboise (Director General, Office of Greening Government Operations, Department of Public Works and Government Services):** Thank you, John.

Mr. Chair and members of the committee, I'm Robert Laframboise, director general of the Office of Greening Government Operations within Public Works and Government Services Canada.

I would like to thank you for inviting us here today. I am pleased to appear before you to discuss PWGSC's role in supporting government departments to implement enhanced energy efficiency for federally owned or operated buildings.

On October 7, 2012, Ms. Caroline Weber, ADM for corporate services within PWGSC, appeared before you to discuss our role under the federal sustainable development strategy's theme four, which is greening of government operations.

As you may recall, the FSDS applies to 27 departments and agencies, 15 of which are custodial and subject to targets focusing on improving the environmental performance of their real property holdings.

Since our department's last appearance on this subject, the progress report on the first cycle of the FSDS, which is FSDS 2010, was released, in mid-February of 2013. Additionally, the graph of the second cycle of the FSDS, which is FSDS 2013—the program is on a three-year cycle—has been released for public consultation. Both of these documents are available online and will be of interest to the committee members here today.

The FSDS progress report shows that custodial departments have collectively committed to assess the environmental performance of 1,908 existing crown-owned buildings. This number covers approximately 80% of fully occupied buildings greater than 1,000 square metres.

While departments can choose any industry-recognized assessment tool, most have selected BOMA BEST, as mentioned by my colleague John.

The FSDS progress report also highlights that, based on departmental reports on plans and priorities for 2012-13, the government has committed to achieve a 12% decrease in greenhouse gas emission levels, relative to the base year 2005-06, by fiscal 2021. This projected gap of 5% relative to the 17% target highlights the need for additional efforts to be made.

However, more recent information from departments shows greater progress than expected. In the first year of implementation, energy consumption fell by 4.2% compared with the base year level of 2005-06. This resulted in a 3.9% decrease in total GHG emissions from real property holdings relative to the planned reductions of less than 3%. The draft of the FSDS 2013 has been updated to better support the implementation of additional energy efficiency measures.

Some of the proposed changes from the previous FSDS 2010 include benchmarking, use of such sustainable real property performance indicators as energy use intensity, building operator training, builder automation systems, and commissioning practices.

In conclusion, Public Works supports departments in achieving the FSDS targets, both by drawing on its real property expertise and by leveraging initiatives of partners such as Natural Resources Canada. We will continue to collaborate with our colleagues across government in the development and implementation of each successive cycle of the FSDS to reduce our environmental footprint.

Again, I thank the committee for the opportunity to attend today. I will respond to your questions; however, I will ask Geoff to take the lead.

Thank you.

• (1115)

**The Chair:** Thank you, Mr. Laframboise.

I wish you'd mentioned that Mr. Geoff Munro was with us from the Department of Nature Resources. He is the chief scientist and assistant deputy minister for the innovation and energy technology sector.

Mr. Munro, do you plan to divide your time with Ms. Buckley or will it be one presentation?

**Mr. Geoff Munro (Chief Scientist and Assistant Deputy Minister, Innovation and Energy Technology Sector, Department of Natural Resources):** We'll use the single presentation. I'll do the intro part and then Carol will take over on the retrofit piece. I understand that's of specific interest to the committee.

**The Chair:** Yes, it is. That's really the purpose of our study, so that'll be great.

**Mr. Geoff Munro:** That was part of our design in doing this.

Thank you. I appreciate being here today. As introduced, Geoff Munro is my name and Carol Buckley is my colleague. Carol is the director general of our Office of Energy Efficiency. I thought I'd start very quickly with a couple of context statements, because they certainly drive the way we work. I believe they will be of both interest and use to the committee.

From an NRCan perspective, we operate in three domains of energy efficiency. The first is our own home departmental responsibilities. We are a science-based and program-based department, so we utilize the knowledge that we gain on behalf of all Canadians in the energy efficiency agenda of our own buildings and run what we call a low-carbon program to implement that responsibility.

Second, we also work very closely with our colleagues in PWGSC. You've heard us speak when we were here together on the memorandum of understanding we have with PWGSC. We try to make our tools, knowledge, and programs available to all federal departments in carrying out their own responsibilities under the FSDS.

Finally, we also have a mandate to work in the commercial world. We try our best to make our tools and programs available to the commercial world, thereby improving energy efficiency in buildings across the country. So that's the broad context of how we work.

The International Energy Agency is a group that most modern western-style countries work with in improving energy efficiency. Half of the goal of being energy self-sufficient in North America is

driven by the potential for energy efficiency. Clearly, energy efficiency is as important as going to renewables. We try to find energy efficient and environmentally efficient ways of dealing with fossil fuels.

What has energy efficiency brought us in the last 20 years? We have avoided some \$32 billion in energy costs, which is 93 megatonnes in GHG emissions. Energy efficiency is no small item, and I certainly understand why it's of interest to the committee.

Let me try to describe NRCan's approach. We deal with things in three big categories: our own operations; the research, development, and demonstration activities we do; and the retrofit, which is mainly the federal buildings initiative. Carol will speak to this in just a moment.

A big part of our operations has to do with training. We undertake a number of training courses. We trained 430 federal employees just this year, and there's a long history of our training programs being utilized in the federal family.

We also work towards building optimization. We've developed software to monitor building performance. It is useful in analyzing proposed solutions and helps a building manager articulate where those building solutions might come from. We've had successes of anywhere from 5% to 20% of energy savings in those kinds of projects.

We have online benchmarking tools that allow comparisons with similar buildings. If you're building a lab, a hospital, or a conventional office building, not all of the parameters are going to be the same. It is important to be able to articulate how your proposed hospital or office building stacks up against the standard.

We also develop and use decision-making tools. RETScreen is probably the most well known project-analysis software we have, and it is used worldwide.

• (1120)

The second major area is our research, development, and demonstration agenda. This is probably the subject of another whole committee or committee review, so I'll just highlight it and be happy to answer any questions that you may have. But clearly, NRCan, in Canada certainly, is the largest R and D organization in terms of the whole question of building technologies from an energy efficiency perspective. You can see the list on the second major bullet: lighting; building design; heating and cooling; and various technologies and controls that are expected to decrease building energy consumption.

There are a number of innovations, for example, CO2 refrigeration systems that eliminate the need for synthetic refrigerants, and even just using the waste heat of pumps that pump the cooling material, and using that in other aspects of the same facility. You may know that CoolSolution was the technology that we used in the Vancouver Olympics on every ice sheet: curling, hockey, skating, the works. It was all based on this kind of technology, driving the energy efficiency up and the energy use down.

As to customized research agreements with federal departments, John talked about the collaboration with other departments. We too work closely with them. The two examples in front of you there are National Defence and Environment Canada.

With National Defence, our focus has been more on their mobile camp approach. This one translates right into saving soldiers' lives, because in that case we have a fairly large contingent for defending the movement of diesel fuel. If you can move less diesel fuel then you need less soldiers to protect it, and you literally save lives with an energy efficiency agenda.

With Environment Canada, we're helping them look at the retrofit of their own buildings, as they too head down the energy efficiency path under the auspices of the FSDS targets.

Let me at this point turn it over to the retrofit subject, and Carol will take over here. This is the subject of the federal buildings initiative, primarily. There are a couple of other aspects to it, but I'll turn it over to Carol at this point.

**Ms. Carol Buckley (Director General, Office of Energy Efficiency, Department of Natural Resources):** Thank you, Geoff.

We understand from the previous presentations you've had that you're interested in learning more about this program. We mentioned it in our previous appearance, but the rest of the deck focuses on this program and how it operates.

It's a federal government program aimed at federal government departments and operated out of my branch of NRCan. What we're trying to do is facilitate the use of energy performance contracting within the Government of Canada. This is a specialized type of contracting where the private sector not only designs and implements energy-saving upgrades in a building, but they also finance it. So this is important. If you're a federal government department and you have a capital budget that is totally used up in terms of the maintenance you have to do—you might have to fix roofs, or upgrade things for health and safety purposes—and you have no more capital budget left, but you would like to make an improvement in your buildings, that's where the federal buildings initiative, or the FBI, comes in.

You have heard about this from some of the practitioners, the energy service companies. It's a specialized type of private sector company that has the ability to both finance and implement energy-saving retrofits. I hope I'm not repeating what they said in terms of defining how the instrument works, but I'll just spend a minute on this slide to walk through the role of a department and the role of the program in an energy performance contract.

Our phone would ring in the program, as a department is interested in the FBI. Can it help them put in place a major building retrofit? We go over and have a look at their building stock and where they want to make their improvements and share with them our contracting tools, which I can discuss in a minute.

Not every building is a candidate for an FBI project. This makes more sense for larger buildings, say over 1,000 meters squared, which is about the size of a two-storey building on a city block, maybe a little bit smaller than that. Your skyscrapers, such as I believe we are in right now, would not be a candidate for an energy

performance contract, but if you have a good size building or a number of them, then you'd be a candidate.

The department would write a request for proposal and put it out for bids in the marketplace. They can design a contract up to \$25 million, which is our contracting ceiling established by Treasury Board. Bidders would visit the facility to assess the scope. They would go through the buildings and they would do a quick run-through in terms of an energy audit to see what kind of savings are there and then they'd prepare their bids. The bids would have a technical component in terms of what energy-saving measures they design for those buildings, what the savings would look like, and what the cost would look like. It would have a financing component, which really is how much it will cost you as a department to borrow the money from this company in order to do this work.

The department works with our program to evaluate the bids. They select a successful contractor, the retrofits are implemented, the energy savings start rolling in, and the department pays the contractor back through the energy savings. The instrument is structured so that the level of the energy savings becomes the level of repayment, so the department doesn't have to come up with additional cash to repay what is essentially a loan for the building improvements.

Moving on to the next slide, because this is a specific instrument, departments typically don't have familiarity with energy performance contracting unless they've done one before, so we created a set of model documents that are specific to this type of contract and are available for departments to use. We also do the front-end work in qualifying the companies in Canada who have the expertise, the knowledge, and the financial capacity to conduct one of these types of contracts. There are eight companies in Canada with access to \$700 million in financing for energy performance contracts.

We have four staff who can hold hands with and otherwise facilitate departments in their quest for an improved building and we can also contract with private sector contractors who can help facilitate if our staff are too busy to help everybody. We meet five or six times a year with the 19 departments that have people who are charged with managing facilities to pursue topics of interest such as how to monitor and track energy use, just to raise the awareness and the skill level in the capacity in the government departments. We have an employee awareness program if a department wants to address energy savings through their own employees. We also have training that Geoff mentioned earlier that's open to federal public servants as well as the private sector.

The next slide, slide 9, I think you saw from one of the other presenters. This is our history, the history of our results: 80 projects since the early 1990s, cumulative savings now of \$43 million a year; and we have accessed \$300 million in private sector capital.

● (1125)

You may ask why there's a bit of a downturn after the year 2000 except for a bit of a blip in the mid 2000s. There really are sort of two stages, one of very heavy activity and significant savings, and one of a lower level of activity. I would like to take just a second to explain our own analysis of what's happened.

I think there are four reasons. In the early nineties, departments really addressed FBI aggressively. PWGSC and DND together were responsible for about half of the floor space in the stock and about 70% of the energy use. They very aggressively addressed their major savings opportunities and they did deep building retrofits addressing the heating, ventilating, cooling, lighting, motors—all the major systems. You can go back to a building and address it a second time if you've already done a deep retrofit, but it's very unlikely that in the space of 20 years there will be enough advances in technology to have another 20% savings. Some departments are going back a second time. Environment Canada, for example, is going back to the same building a second time some 15 years later, but you probably won't get savings that are as deep.

The first reason is that out of the gate a lot of the really good opportunities were exhausted. The second reason is that for a period of time in the early 2000s and then again in the early part of this decade there were capital programs available to federal government departments, including one for leading-edge energy investments and one for infrastructure renewal. It takes property management people to manage the implementation of those projects, and there is a limited set of resources. So that probably reduced the person power available to implement projects.

The next reason is that some departments—Parks Canada and RCMP would be good examples—don't have a lot of very large buildings. They have a very large number of very small buildings and those are not the most amenable to an energy performance contract where in order to recoup the investment and payback the financing cost you really need a larger investment with a larger return.

If we look at buildings over about 1,000 square metres, which I mentioned earlier was about the threshold for a good energy performance contract, we've actually covered about 50% of the stock instead of one-third or 36%.

The final reason is that our slide shows only the activity in energy savings in building retrofits from energy performance contracts. There's a lot of activity out there that isn't being captured by our program, because it's not being done through our program. It's being captured in the statistics that Robert mentioned in terms of the actual energy savings.

For example, Corrections Canada is going out with a national contract to seek auditing across a large portion of their stock. I don't know if at the end of the day they'll end up doing an energy performance contract, or whether they'll choose some other means to get at those energy savings.

Slide 11. We are making efforts to increase the use of FBI. We're not going to be very complacent and say there are all those reasons, and it was very heavy in the early nineties, and it hasn't been as heavy since then. We really are trying to increase the use of the program notwithstanding those four reasons I've just provided to you.

So it helped us a lot when the Office of Greening Government Operations said that the FBI was the best practice. That kind of raised the awareness amongst the federal family of our services. We have been carrying the FBI message to places where government

executives go to hear about real property issues. We did a needs analysis with our stakeholder group to find out how we could improve the program, and we get together with key property managers to talk about best practices and energy issues to keep FBI top of mind.

Currently we're working with 11 departments on five major building retrofits that we hope will come to fruition and show up in our chart in future years, and we're working on seven other projects that are not major building retrofits but are energy-saving projects of some sort.

Slide 12 I won't deliver. It's there for you to read. It's on energy savings from some of the higher profile or more interesting of the 80 projects. Our Canadian embassy in Washington, D.C., is a very obvious one.

Thank you very much for your attention. We'd all be happy to take any of your questions.

• (1130)

**The Chair:** Thank you very much, Ms. Buckley. That was very interesting and very helpful. I know there are a lot of questions, so we'll jump right to them.

Linda Duncan with the New Democratic Party.

**Ms. Linda Duncan (Edmonton—Strathcona, NDP):** Thank you, Mr. Chair. Indeed, I have lots of questions, and I won't possibly get them all in.

Thanks for coming back. We thought it would be useful after the testimony we received, which was very helpful. I'm taking the opportunity to go back to the progress reports on the sustainable development strategy that Mr. McBain mentioned. In the report on 2010 to 2013, page 15 actually requires that the government link sustainable development planning with government's core expenditure planning. I have found it odd all along that the sustainable development strategy for Public Works is based on the reduction of carbon.

Now, we know that there is not unanimity among elected officials about the value of Canada investing in reducing its carbon. But I think you'll find unanimity—and it makes sense for the federal government—to reduce the spending of taxpayers' dollars. So I'm a little puzzled that given that the sustainable development strategy requires the departments to be basing their strategy on reducing core spending, why is it still in the direction of tying it to reduction of carbon?

I noticed, Mr. McBain, that you reported—and I haven't seen the most recent report—that in addition to reducing carbon, Public Works had reduced its energy use by 4%, whereas the last report said there was reduced carbon but higher energy use. So it looks as though there must be some good things happening. I'm wondering if you could speak to that.

I noticed in the sustainable development strategy the mandate for Public Works seems to be limited to guidance, consulting, and monitoring for other government departments. I'm wondering if in that role you have been advising government that as one of the measures to reduce spending and bring down the deficit they could be investing more in energy efficiency.

•(1135)

**Mr. John McBain:** Thank you for the question. It's a robust one, to say the least. I will turn to Robert as well in our Office of Greening Government Operations for part of the answer.

From the real property branch perspective, the targets that are set in terms of the GHG reductions are linked very strongly to energy savings. Somewhere between 80% and 90% of the reduction will be achieved through energy reductions. Having set the target for 2020, that's the target that we're working toward. I can tell you that in terms of energy savings, from 2001 to 2010 we have reduced our energy consumption by 19%. Our GHG reduction target—and there are so many of these targets that they do get confusing—runs from 2005 to 2020. So in pursuing that reduction, we're also achieving reductions in our energy consumption. It's not a stated target for reduction, but it is achieved as a product of pursuing the GHG reduction.

**Ms. Linda Duncan:** I get that, but what I've appreciated is the many witnesses who have come in who've actually been contracted by the Government of Canada to do retrofits in their buildings. Also, in the NRCan testimony, they talk a lot about the actual savings over time from having expended money, invested in energy retrofits. I'm simply raising that point, suggesting that it may be good to start talking more about the energy savings to taxpayers, instead of only focusing on the carbon reductions.

I wonder if I could go to NRCan, because my time is tight, and then I'll go back to both of you after.

I notice in your testimony that you are talking a lot about these performance contracts. We heard a lot of different testimony about that. Only on Tuesday we had two witnesses say they don't necessarily always recommend a performance contract because it can add between 20% to 40% of the cost of doing the retrofit. What some of our witnesses recommended instead was the use of in-house strategic plans using external energy efficiency experts, thereby having a long-term plan. In other words, they recommended moving away from the one-off, performance-based contracts, and instead now looking at the measures that could be done, and costing those over time.

I wonder if you could speak to that. Why does NRCan seem to be singularly focused on these expensive performance contracts?

•(1140)

**Ms. Carol Buckley:** Thank you. I'm happy to answer that question.

Natural Resources Canada promotes long-term energy management planning as the very first step, and through the federal buildings initiative we certainly share all of our tools and services that support planning. When I put up the slide that showed our tools, there was one on training, which includes training and materials and examples of long-term management plans. So we provide all of those services to departments and say, "As part of doing a good job in managing your real property, you need to be doing long-term planning, and here are some tools to help you do that". We're adding to those tools, providing them to the whole economy and making those available to government departments as well.

When a department says it's all well and good, that it should put in place a long-term energy management plan but it has no capital to

make retrofits, we say, "Well, we have a tool for that". However, I wouldn't want to leave the impression with you that it's the only thing we advocate for in energy efficiency in the federal government. We have a whole range of tools that we advocate. For the situation where a department has no capital budget, we have a tool to address that.

We promote energy savings through a wide variety of different efforts for all energy users in Canada, including our federal buildings clients.

**The Chair:** You're out of time, Linda, I'm afraid.

Next, for the Conservatives, Peter Braid.

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

Thank you to our officials for being here today and for returning.

I think it's very helpful that you have come back at this particular stage of our study, as we've digested a lot of information over the past weeks and months and are turning toward looking at a draft report and contemplating recommendations as well. So I appreciate your coming back today.

Congratulations, as well, on your success thus far in both creating more energy efficient federal government buildings and helping the federal government meet its important greenhouse gas emission targets by 2020.

I'll start with a fairly broad question, but I think it's one that will help me, and perhaps our report as well.

I want to get a sense of where PWGSC's mandate begins and ends, where NRCan's mandate begins and ends and, ultimately, what federal government departments or agencies are not covered at all and are perhaps missed by the net that each of you cast.

**Mr. John McBain:** Thank you. It's an excellent question, and 35 years later I'm still asking myself that question sometimes.

**Voices:** Oh, oh!

**Mr. Peter Braid:** Take your time.

**Mr. John McBain:** From the PWGSC perspective we are, first and foremost, a common service provider. The act mandates the minister to provide certain functions, some of which are mandatory. For example, the provision of office space is mandated to the Minister of PWGSC, so if a federal government department needs office space, they are required to come to us. We are centrally funded to provide that as a common service.

There are other things we do through the act that are optional; indeed, departments may or may not come to us. In that capacity, we drive our portfolio—which is four-square in my function—to be as efficient as possible to maximize the use of taxpayer resources and save money wherever possible. At the same time, as Robert embodies, the Office of Greening Government Operations is there in a leadership function to assist other departments in achieving targets. That function is not mandatory but it is a well-used service, because they have their own objectives and targets as well.



Before I turn to Geoff, I would say that the policy function for the federal government rests with Treasury Board, so if you want to find an overriding Treasury policy that says you shall do it this way or that way, it would reside with that authority.

**Mr. Peter Braid:** I was afraid that you were going to say that.

**Mr. Geoff Munro:** Let me try to complement what John said. From an NRCan perspective, when it comes down to the accountability associated with actual energy efficiency in buildings, we are really only accountable for our own.

We have 18 major labs across the country, a number of different ownership and occupancy arrangements, and we work within that milieu to drive the energy efficiency agenda.

We use some of our labs as living labs. We took over control of one of our laboratory facilities in Quebec, by example, and put it in the hands of the experts in energy efficiency—and I mean that in a scientific and engineering context—and drove the overall cost of energy down in excess of 45% and kept it at that lower level.

So in terms of our accountability from the energy efficiency implementation responsibility, that's where it begins and ends, as we are the occupants or owners of the buildings.

It's on the program and knowledge side where the products and services we generate are in the public domain. As I said in my introductory remarks, we function on our own for our own accountability for our own buildings. We function in collaboration with our colleagues at PWGSC in terms of making those services, knowledge tools, and programs available for federal departments who, like us, are accountable for their own. It's just that we have the expertise internally.

Then, primarily through Carol's shop, the Office of Energy Efficiency, but through other ways as well, we work with the commercial sector to enhance energy efficiency in buildings writ large.

**The Chair:** You have one minute, Peter.

**Mr. Peter Braid:** I'll come back then to the core of my question. Are there any federal government agencies or departments missing from your respective mandates that we could perhaps consider or look at?

• (1145)

**Mr. Robert Laframboise:** Under the Federal Sustainable Development Act, the departments that are bound by that act to report back under the strategy are the 27 departments under schedule 1. Those are the ones that are bound and need to report back through their departmental performance reports and provide their planning through their RPP. Those are the 27 departments, and that list is identified in the FSDS 2010. They are the same departments for the new cycle that will come in for 2013.

**Mr. Peter Braid:** I have more questions, but I'll come back afterwards.

**Ms. Carol Buckley:** May I add something?

**The Chair:** Certainly.

**Ms. Carol Buckley:** To finish that off from the Office of Energy Efficiency's perspective, we'll provide advice to anybody who has an energy bill in Canada. Under the federal buildings initiative,

obviously, we are focusing on federal government departments. For any federal government department or agency, we will provide help and support, but my broader mandate is to improve energy efficiency in every sector of Canada, and so for anyone with an energy bill, we have something to help you with.

**The Chair:** I don't think that's common knowledge. That's very useful to know.

May I ask you then, if a building owner in downtown Toronto or Montreal wanted to set up an ESCO situation, would you be able to help them in putting out an RFP?

**Ms. Carol Buckley:** We would certainly make available our documents and expertise. We have a number of other instruments to help them, a benchmarking tool, for example, so that they can track and compare their energy use. We work with the provinces on codes, so that we codify better performance year after year.

There's a whole wealth of investments that we make through the building sector.

**The Chair:** I certainly wasn't aware that there was a service you offered the general public. That's great.

Denis Blanchette.

[*Translation*]

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

I want to thank our guests for joining us today. They have given us some very detailed information this morning.

Mr. McBain, I really appreciated the figures you provided on consumption. However, we are lacking some specific information on the subject. You gave us an overall average per square metre. That's fine, but, as you know, the government not only owns, but also leases properties.

What is the proportion of leased properties compared with owned properties? Could you also tell me if consumption varies based on whether properties are leased or owned?

That information will help us understand this issue better. In addition, it will allow us to increase the scope and effectiveness of our recommendations—should we have any.

[*English*]

**Mr. John McBain:** It's an excellent question. Thank you for the opportunity to respond.

Again, I am speaking for the portfolio that is Public Works and Government Services Canada. We are responsible for approximately seven million square metres nationally; 52% of that is crown-owned by Public Works, or part of a lease purchase that will eventually become part of our property and is very much treated as crown-owned, and the other 48% is leased. So when we talk about energy consumption, we are speaking specifically about the crown-owned space, because that is within our purview and we have the ability to look at those numbers.

With regard to leased space, the cost of energy is normally included in the cost of the rent. It can be done through a triple-net or a semi-gross lease. The federal crown typically uses semi-gross, where we would establish a base and then pay an index amount each year.

So we have a base year of energy consumption from the landlord, and then we pay an index increase, not actual cost. This gives us greater predictability over the term of the lease.

[Translation]

**Mr. Denis Blanchette:** I am asking you this question because certain witnesses mentioned that leases can be long-term—for instance, spanning decades.

Here is what I would like to know. Let's talk about the properties leased by your department. Given the long-term nature of those leases, do you ask owners to improve the energy efficiency of their buildings using a method that could help you reduce your rental costs while helping them save money? Do you take advantage of those circumstances?

[English]

**Mr. John McBain:** Yes, we do, and I would say increasingly more now than in the past.

For example, our recent P3 project for the RCMP E Division in Surrey, British Columbia, includes a requirement that the proponent achieve LEED gold certification. That lease required them to achieve a certain efficiency as part of the contract.

In the semi-gross lease that I was talking about earlier, because we pay a fixed amount, if the landlord were to implement something such as the equivalent of an FBI or an ESCO deal, they could save money. There is incentive in them, because they know that my cost, that I am paying them, is fixed.

At the time of renewal, we would look at the energy efficiency of the building to incent the landlord to implement projects to save himself, or herself, and us money as well.

• (1150)

[Translation]

**Mr. Denis Blanchette:** So, if I have understood correctly, when a building is leased over 25 years, and you are in the tenth year of the lease, you do not look into what could be done for your clients in terms of energy savings in that building. Is that correct?

[English]

**Mr. John McBain:** If we're in the middle of one, they would be towards the latter part of our assessments. We would look at any new lease, and any renewal of any lease will be assessed using BOMA BEST, to ensure that it is effectively an energy audit. We would then start to look at our long-term leases to see if a negotiation with the landlord could be made. In other words, you'd have to open the existing lease contract to see if that could benefit the crown.

[Translation]

**Mr. Denis Blanchette:** You are talking about BOMA BEST, but that involves many standards. I hope that you will not get lost.

I would like to know whether you are participating in a joint project or whether you have yourselves established a method to consistently assess energy efficiency in buildings.

Are you currently working or collaborating on such an initiative, or do you constantly have to go from one standard to another to decide what you want to do and assess future results?

[English]

**Mr. John McBain:** I can start.

I know you've heard from witnesses who have spoken about Green Globes and BOMA BEST and LEED. We have looked at the various standards that are out there from our perspective, and have chosen ones that we feel best suit our portfolio.

But your question is very apt. Work has been done at the National Research Council to evaluate whether LEED projects realize the objectives they have set at the start. While in most cases they do, there are other cases where they do not.

This is still something we are working towards evaluating. We do collaborate with our colleagues at NRCan to look at what is the best tool, at what is the best way of assessing the objectives and the accomplishments of these projects.

**The Chair:** We're well over time for this segment. If there's anything to add, perhaps you could add it in a different period of questioning.

For the Conservatives, we'll hear from Jay Aspin.

**Mr. Jay Aspin (Nipissing—Timiskaming, CPC):** Thank you, Chair.

Welcome back, officials. You've certainly given us a good deal of information. Congratulations for the work that's been done over the last two decades. It's clear from this graph that much has been accomplished, but much more needs to be done. Energy costs continue to rise and they don't look like they're going down any time soon.

I'd like to focus on the certification aspect, of LEED versus BOMA BEST. We're told that LEED is the star performer and BOMA BEST is not the best. We're also told that only four federal buildings are currently registered LEED.

Mr. McBain, should the federal government have all its existing buildings under the same type of certification?

**Mr. John McBain:** Geoff, did you want to comment about the general approach on that?

I'd be happy to answer your questions specifically for us as well.

•(1155)

**Mr. Geoff Munro:** I'll point out that certainly in the way we assess energy efficiency activities, LEED tends to be more in the construction of a building. Once you're achieved that standard through all aspects of the construction process, at whatever level, that's where it begins and ends. BOMA BEST then takes over as a measuring device for ongoing building maintenance. You can take a LEED building at any level and say, "Okay, we've achieved it; there it is". But sure as anything, as time goes on, the efficiency of that building will slowly deteriorate. It's made up of a number of small activities that get adjusted or don't get adjusted. So what we've done is to put the two together.

Use LEED when you're trying to build it and get it up to standard, so you've got the infrastructure and the leading capacity in the building, and then use the BOMA BEST yardstick to measure ongoing maintenance, to do the retrofits, to do the smaller adjustments. Somewhere in our literature I'm sure you've seen the acronym DABO. That's a diagnostic agent for building operations, a piece of software that goes in and makes tiny adjustments every 10 minutes and keeps the system at the LEED level rather than allowing it to deteriorate and your having to go back with a major retrofit. They are two different standards for different purposes.

**Mr. Jay Aspin:** Would I be correct in assuming then that there are two measurements for two different phases, and not two measurements of the same thing?

**Mr. Geoff Munro:** That's the way we use it, correct.

**Mr. John McBain:** Obviously we've been following the work of the committee and the witnesses who have appeared before you. I understand that Mr. Mueller would be promoting LEED, as it's his organization involved. At the same time, Mr. Karakasis from BOMA would be speaking about BOMA BEST. Working with Geoff and his team, we've looked at the two methods of certification and it's our view that BOMA BEST works best for our existing inventory and LEED is best for new construction. That's why we have selected the two.

There's a cost and a benefit to certification. There's no question that LEED has succeeded in its branding in North America and has the brand recognition, but they are also much more stringent and more costly to obtain and maintain certification from; it's more time-consuming. So there are pros and cons for each, and that's why we've adopted the different models.

**Mr. Jay Aspin:** Mr. McBain, would I be right in assuming that the reason only four federal buildings are registered as LEED is that very fact, that it is for the new buildings? There haven't been very many new buildings constructed.

**Mr. John McBain:** From the PWGSC portfolio, we have seven buildings certified, four gold and three silver. We have nine under pending certification. It's exactly to your point. Because LEED started in California and had a very heavy southern U.S. orientation to it, we've not brought that much on line until recently. We expect to see the number of certifications increase.

**Mr. Geoff Munro:** I have one last quick point, if I may, just to wrap up this conversation. Neither LEED nor BOMA BEST deals exclusively with energy efficiency. There are broader measures that

involve a number of other aspects of both building construction and the use and maintenance of the building.

**Mr. Jay Aspin:** Thank you.

Thank you, Chair.

**The Chair:** Thank you, Mr. Aspin.

For the Liberals, we have John McCallum.

**Hon. John McCallum (Markham—Unionville, Lib.):** Thank you, Mr. Chair, and welcome to you all.

Mr. Laframboise, what year did the Office of Greening Government Operations begin?

**Mr. Robert Laframboise:** It was established in 2005.

**Hon. John McCallum:** Was it closed at one point and then reopened?

**Mr. Robert Laframboise:** Not that I'm aware of. It has moved from different parts of the organization.

•(1200)

**Hon. John McCallum:** Okay, thanks.

Ms. Buckley, I'd like to come back to the question of energy contracts that was raised earlier. If it's true that the cost of achieving efficiencies through those contracts is 20% to 40% higher than the cost if you have in-house operations, then it seems to me that it doesn't really make sense to do it that way, from the overall taxpayer's point of view.

From an individual department's point of view, if they don't have the capital, as you said, they don't really have any choice. But that's just one department. From a whole of government point of view, from the point of view of all Canadian taxpayers, would it not make sense to provide them with the capital and thereby achieve the 20% to 40% savings by doing it internally?

**Ms. Carol Buckley:** Thank you for the question. I'm not familiar with the number of 20% to 40%. It sounds a bit high, but certainly if you finance anything externally, it's going to cost more than if you finance it internally.

Our program doesn't have the authority, it doesn't have the mandate, it doesn't have access to any funds, which would be useful to lend to departments, but it's not how the program is designed, nor the authority that we have.

**Hon. John McCallum:** This committee can go beyond the status quo, so one possible recommendation would be in that direction.

**Ms. Carol Buckley:** Certainly across the economy there are examples of different kinds of funds to finance energy efficiencies. Toronto has a very interesting one called the Toronto atmospheric fund, which funds building retrofits across the city.

**Hon. John McCallum:** My next point is a more general one. At the last meeting we had four witnesses in remarkable agreement with each other that Canada was no longer a leader, that Canada had lost its ranking in terms of energy efficiency compared with other countries, notably European countries.

Perhaps this is partly because energy costs have been higher in Europe, or that people have different attitudes, but they also said that the federal government could provide more leadership to help Canada get out of its rut, as it were.

I don't necessarily agree with all these points, but they said, for example, we should measure our inventory, understand where we are, set targets that we think are appropriate, invest to hit those targets, try to get the provinces to adopt a national building code, and create a revolving fund.

My question, perhaps to Mr. McBain and Mr. Munro, is twofold. One, do you agree that Canada has deteriorated in its ranking globally in terms of achieving energy efficiencies, and two, do you agree with any of those recommendations for a leadership role by the federal government?

**Mr. John McBain:** I won't comment on our ranking nationally. I'll leave that to Geoff and Carol. I am very proud of the achievements I cited earlier, which is the 19% reduction in our energy consumption from 2001 to 2010. In setting LEED gold as a standard for all new construction, I think PWGSC is very clear about what we hope or plan to achieve in terms of reductions.

The point about measurement, I couldn't agree more with. We perform energy audits on all our buildings with space of 1,000 square metres or more, every five years. The audit involves measuring and documenting how much energy you're consuming at that point, and identifying opportunities for improvements or upgrades. These are potentially FBI projects.

We do that cyclically through our inventory. We are establishing waypoints to measure ourselves. We wholeheartedly agree with that approach because we have practised it.

**Hon. John McCallum:** But you don't agree in the sense that he's telling you to do this, whereas in fact you're saying that you're already doing it. You're measuring your inventory and you're setting targets. Is that right?

**Mr. John McBain:** Well, we've set a target in terms of an energy intensity—yes, we have, for our portfolio.

So I agree with it as an initiative. I have to, because that's what we're practising.

**Hon. John McCallum:** Okay. Thank you.

**Mr. Geoff Munro:** With regard to specific statistics in terms of where Canada ranks, Carol actually monitors that and has the specific numbers, so I'll let her speak to that first.

If you want me to respond to the other aspects of the question, I'd be happy to do that.

**Ms. Carol Buckley:** Thank you, Geoff.

The International Energy Agency does regular monitoring of the energy efficiency performance of countries in its purview, so 18 or 20 countries. The latest statistics show that Canada was the second most improved in energy efficiency over the past two decades, second only behind Germany. We were number five, out of 17 or 18 countries, in terms of implementing what the IEA considers is the gold standard of energy efficiency in a country. This is assessing Canada as a country and our energy efficiency performance, not just the federal government, just to make that clear.

My branch tracks the energy performance of the economy. Our latest statistics show us that we have improved energy efficiency in the economy by 25% over the past two decades. That was worth \$32 billion in energy costs that we didn't have to spend due to energy efficiency in 2010.

I just want to make one factual point on the recommendations that were made. We have implemented a model national energy code for buildings. It was published in 2011. It was 25% more stringent than the previous model code.

This was work that we led, with our colleagues at the National Research Council and all the provinces and territories together, over a period of about four or five years. Now every province and territory but one are implementing that. The savings associated would fire up the Tim Hortons across Canada five times over.

So there are really significant energy savings associated with that.

• (1205)

**Hon. John McCallum:** One certainly gets different information from different people.

Can I have one last question?

**The Chair:** No. You're way over, John.

**Voices:** Oh, oh!

**The Chair:** You were over a long time ago.

Let's have Bernard Trottier pick it up.

**Mr. Bernard Trottier (Etobicoke—Lakeshore, CPC):** They were energetic and forceful questions, and we appreciate them.

Thank you, Mr. Chair.

Thank you, witnesses, for coming in.

I want to talk about the departmental performance reports. They were tabled just recently.

You mentioned some success stories within DND and in Public Works itself. Are there other departments you can point to that have actually had some good success in reducing their energy footprint?

**Mr. Robert Laframboise:** Yes, there have been some good reports coming out from departments. We have some best practices that have been shared by departments. Transport Canada has some best practices out on their DPR, if you've read their DPR.

Overall we've been achieving some good progress. For instance, we were planning to achieve a 3% GHG reduction for this fiscal year, and we are currently at, I believe, 3.9%. We've surpassed what we had planned for.

So there is some good progress happening.

**Mr. Bernard Trottier:** In the DPRs, are there energy reduction targets for each of the departments?

**Mr. Robert Laframboise:** No, there aren't.

**Mr. Bernard Trottier:** To your knowledge, is that something the departments will be putting into their future departmental performance reports and, I suppose, their plans and priorities?

**Mr. Robert Laframboise:** I believe that's not the plan currently.

**Mr. Bernard Trottier:** One of the things many witnesses have talked about over the course of this study is the focus on the building envelope. That tends to be the focus when we look at buildings. It's the insulation and roof, and then also some of the big machinery, the heating and cooling systems.

Can you cite any examples of conversions to alternate sources, renewable sources, solar and wind? Have any departments done things like that for any government buildings? I suppose it would make sense in a campus kind of environment more than anything—for example, a military base or something like that.

If there are any examples, putting aside any market distortions that might be caused by feed-in tariffs, do these things make economic sense in those kinds of environments?

**Mr. John McBain:** I can speak about two from my particular experience.

When we built the Jean Canfield Building in Charlottetown, at the time it had Canada's largest photovoltaic array installed on the roof. It is also hooked up to a district energy heating system, which is part of the leadership Canada needs to pursue as a leader.

We've also installed wind turbines next to RCMP detachments in certain parts of Nova Scotia where the wind is a very green and readily available resource. That is a feed-in capacity. When the wind is generating that turbine, for a fairly small detachment—when you consider the nature of your question—we actually do diminish the metre and can actually turn it backwards, depending on the day.

Those are the kinds of examples I've seen from personal experience in terms of improving.

**Mr. Bernard Trottier:** Are there any examples of passive solar heating systems, as opposed to selling electricity to the provincial grid, which is really getting one taxpayer to pay another taxpayer? Are there some of those systems that have been put in place?

**Mr. John McBain:** I don't know if you want to take that, Geoff.

**Mr. Geoff Munro:** There's a technology that was developed a number of years ago called a solar wall. It's part of the CANMET Materials Laboratory, the new one built down in Hamilton, but we've also got a demonstration piece here in Ottawa out at the Bells Corners facility.

Basically, it is an external wall that is built and creates a gap between the building exterior wall and this passive solar collector. It's semi-permeable and it's coloured the right colour so that it attracts as much heat as possible. You can then draw that warm air into the building without having to buy additional energy. So it's a solar wall, but for heating, not in the classical case of a solar panel that turns into electricity.

• (1210)

**Ms. Carol Buckley:** In fact, across Canada there are 42 installations. About a third of them are wind, and two thirds are solar. But there's also ground storage, thermal storage, photovoltaics, and a number of things that were tested. I don't have an overall assessment of the economics.

**Mr. Bernard Trottier:** That's 42 on federally owned—

**Ms. Carol Buckley:** Federally owned installations.

**Mr. Bernard Trottier:** I have one final question. This is for Mr. Munro.

You mentioned energy procurement or energy performance contracts and that you look to issue RFPs for projects up to \$25 million. Typically, how many years are those contracts for? What's the general size for a contract?

**Mr. Geoff Munro:** I'm not sure there's a simple answer to that, largely because the contract itself is designed in a modular fashion.

As a contract, the first obligation they have.... We, the department—I don't mean Natural Resources for everyone, but the department calling the contract—would carry what I will call a contingency fund, so the ESCO, the energy service contractor, would go in and do the assessment of the building. They would build up a suite of adjustments or major retrofits they would undertake, and each one would be costed. The department then could say it was interested in some—say, three or five—of the adjustments, so the contracts may be very short. Or they may actually go for a number of years.

**Mr. Bernard Trottier:** But the total contract value is up to \$25 million dollars.

**Mr. Geoff Munro:** That's the max we have—

**Mr. Bernard Trottier:** Is there a floor, is there some contract value below which you're simply not interested?

**Ms. Carol Buckley:** It's about a million dollars.

If you look at the end result of Geoff's process, the average would be around eight years.

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

I do have a couple of questions from the analysts, who have the difficult task of summarizing what we've heard in the last six months and putting it into a report. There's still some base information they would like more detail on. If I can put it to you, and if you don't have it on hand perhaps you could get it to the committee...it's an easier source.

First of all, if you haven't told us already, what is the total number of federally owned buildings and leased buildings, respectively?

Then, what is the total floor space of federally owned buildings or leased buildings, respectively?

I believe some of that was in your opening remarks, Mr. McBain.

**Mr. John McBain:** I don't want to provide a number that isn't the most accurate. That information is held in the DFRP, the Directory of Federal Real Property, maintained by Treasury Board. I think if you look on that list you'll see 39 departments identified as custodians of real property, and they will have the list of the number of buildings that each is a custodian of.

As to leased space, I can't speak for other departments but for our own, and I can provide that specifically.

Would you like that number now, in terms of leased space? We could work with the analysts in terms of—

**The Chair:** Perhaps you could work with the analysts to get that more specific information to them. Also, I'm told that the data listed at the Treasury Board is from 2011. Might there be more up-to-date figures?

**Mr. John McBain:** There may be. It would require canvassing each department, because PWGSC does not maintain an inventory of other departments' holdings. The DFRP is what is most commonly used.

**The Chair:** We do feel that it would be useful and helpful to have that. If we're developing recommendations as to what step we think the government should take, we need to know the state of the nation as it stands.

For further detail, there's other more comprehensive information on.... For the custodian departments, can you give us a breakdown of the number of buildings and floor space managed by each of the federal building custodians, or custodian departments; and for tenant departments, a breakdown of the top ten organizations by the number of owned and/or leased buildings by occupant or tenant.

Yes, I can hardly understand this myself. Do you know what I'm talking about?

• (1215)

**Mr. John McBain:** I can tell you the top 10 in terms of the space we provide. I can tell you our top 10 tenants and whether they're in leased or crown-owned buildings.

But with Parks Canada, for example, while I accommodate them in offices in Gatineau, they also own buildings where they have offices for their staff. So it's a mix. It's not a simple answer, as Geoff said earlier in another response. It is a complicated environment.

**The Chair:** It's not an easy thing to answer, I understand. It may be the case that we have to go to Treasury Board.

**Mr. Geoff Munro:** We may be able to help, if we work together and with the analysts, because we do track office space in the various forms that John is talking to for the purposes of tracking where energy efficiency opportunities may reside.

**The Chair:** That's why the analysts thought it might be suitable to put that question to you. If you're already doing that kind of tracking, it may save us time and research.

**Mr. Geoff Munro:** Obviously, we're happy to supply what we have.

**The Chair:** That's great. Thank you very much.

Next we'll go back to our second round of questioning.

We have Linda Duncan, for the NDP.

**Ms. Linda Duncan:** Thank you.

I'd like to follow up on my initial question, and that is the role given to Public Works under the sustainable development strategy to monitor efforts by the government departments on energy efficiency. I'm wondering, if you have been monitoring, what kinds of implications there are for the various government departments and agencies because of the priority for deficit reduction. Has that had an impact on having to drag or extend out the timeline in trying to achieve reduced energy?

**Mr. Robert Laframboise:** Actually, we haven't had any impact as such. We have been receiving reports back from departments. We have their engagement; they've been present at the different committee meetings. For the most part, all of the 27 departments have been attending the ADM and DG level committees, so I have no sense of that being an impediment in reporting back.

**Ms. Linda Duncan:** I noticed in one of the reports I was reading that thus far the main ability to reduce energy is simply because of staff cuts, that you're not providing as much space to employees. I would be interested to see an analysis of that in the next report on the sustainable development strategy.

Did you want to add to that?

**Mr. John McBain:** Yes, if I could. It's an interesting situation, because under the budget announcements we will be reducing the amount of floor space that we occupy and, through the introduction of our Workplace 2.0 initiative, we will be increasing the density. So building energy consumption, as you can imagine, for cooling in the summer and the operation of elevators and escalators will actually be increasing. You may look at a building trend data over five years and ask what happened, because their energy consumption's gone up despite various initiatives, but the density of the buildings will be greatly increased. Overall our footprint will be less, so our total consumption will be less.

**Ms. Linda Duncan:** In theory. I'll be interested to see what the report says.

You spoke about new building purchases. As I understand, the government has just bought or is buying Carling campus, and Terrasses de la Chaudière, I think, is under negotiation. When the government is negotiating the purchase of new buildings, how significant a factor is the energy efficiency, and are you imposing obligations on the vendor to upgrade energy efficiency as a condition of purchase?

**Mr. John McBain:** I'll speak to those two specific examples. Les Terrasses de la Chaudière is a lease purchase contract signed in 1977 that gave the opportunity for the crown to purchase it in 2013. We exercised that right. There was no negotiation in terms of that. As you can imagine, the contract that was set in 1977 didn't include energy efficiency, so that one was exercised in option of a particular property.

The Nortel campus that we acquired was purchased on the basis of real estate opportunity and was done effectively through a multiple round of an auction process. The negotiation there was simply to pay as low as we could for taxpayer interest.

**Ms. Linda Duncan:** But my point is, it doesn't sound like energy efficiency was a big factor then. In both cases other factors prevailed. Presumably for those very dated facilities there's going to be a major cost for energy retrofiting. I'm quite familiar with Chaudière and I would think that would be a challenge.

I have one last quick question. Some years back, I think it was when Jim Prentice was the environment minister, we began a U.S.-Canada clean energy dialogue. I wonder if, as part of that clean energy dialogue, either NRCan or Public Works has been engaged with U.S. officials on exchanging information, ideas, and innovations in energy efficiency in government buildings.

● (1220)

**Mr. Geoff Munro:** The simple answer is yes. We do collaborate very closely with the DOE at the level of a program/policy comparison conversation. We also collaborate at the laboratory level with the national lab system in the States as it relates to our own efforts to improve an understanding, develop technology, etc. There is a tight collaboration through the CED.

**Ms. Linda Duncan:** Have there been specific learnings that you've been able to adopt to improve our energy efficiency in our government facilities?

**Mr. Geoff Munro:** Again the answer is yes. Whether we've learned from them or they've learned from us, or it's one plus one equals two and a half or three, I'd have to go back into the specifics to provide you an explicit example. But there's no question that we do work closely with them.

**Ms. Linda Duncan:** It's useful.

**Mr. Geoff Munro:** It is useful. It adds value, correct.

**The Vice-Chair (Mr. Peter Braid):** Those were good questions to conclude on. Thank you very much.

For our next questioner, we go to Ron Cannan.

**Hon. Ron Cannan (Kelowna—Lake Country, CPC):** Thank you, Mr. Chair. I'll split my time with the hardest working member, the one from Okanagan—Coquihalla, Mr. Albas. I'm from Kelowna—Lake Country. We're neighbours in the Okanagan Valley, where there are 2,000 hours plus of sunlight a year. So solar is a big aspect helping our alternative energy sources, and there's also geothermal and other initiatives.

One question that was brought to my attention is what our federal government has been doing to use alternative energy sources on federal properties on first nations communities. It's very expensive to heat with the costs of diesel. Are we incorporating alternative energy sources in the construction of first nation community facilities?

**Mr. John McBain:** From the PWGSC point of view, I am not aware of any of those initiatives. That would be led by Aboriginal Affairs and Northern Development Canada. That would be part of their mandate. They would turn to us as an optional service provider if they so chose. To my knowledge, we're not involved in projects of that nature.

I'm not saying it's not happening.

**Hon. Ron Cannan:** So there's no cross-pollination or sharing of best practices between Public Works and Aboriginal Affairs?

**Mr. John McBain:** To my knowledge, as I said, I'm not aware of projects in which they've involved us in those areas.

I don't know, Geoff, if NRCan has been consulted on them, but we have not been a service provider to them in that respect.

**Mr. Geoff Munro:** Our relationship with them tends to be project specific. It's not a broad spectrum operational implementation program design, but rather about recognizing that a number of reserves are off-grid, particularly in the north, and if you go up to the high Arctic even more so. The cost to maintain fly-in, diesel-generated power is probably the worst not only from a cost perspective but indeed from a GHG perspective as well.

We are working with a number of examples. We've got district heating examples and we've got hybrid systems using wind energy storage to offset a micro-grid or a diesel-generated opportunity. One specific example that we're just beginning to work on in an explicit way is the polar continental shelf facility in Resolute. It's a government-owned facility and there's been an expansion of the facility as a function of the work we do in managing the logistics of high Arctic research. DND uses it in the dead of winter as a training facility. It works with the small community of Resolute itself. We're looking at how we can enhance the energy efficiency and reduce the fly-in or sealift diesel costs.

**Hon. Ron Cannan:** It's encouraging that you're having some dialogue there. I appreciate your appearance here again. You've brought some good suggestions about what we're doing, especially within the Ottawa precinct with the federal buildings here. It's encouraging that we can share those good building practices and knowledge with other departments.

My second question—and I know that Mr. McCallum was interested in this and some of us heard about it at the last committee—is about the adoption of the 2011 building standards. I'm not sure if you're familiar with the testimony at the committee. We had witnesses on Tuesday pointing out that one of the things the federal government could do would be to adopt the 2011 building standards and have some stability across Canada. I don't know if anybody would like to comment on that.

● (1225)

**Ms. Carol Buckley:** Thank you for the question.

I believe the federal government has a higher goal for new buildings, namely LEED gold for new buildings. That's beyond the requirements of the national energy code of Canada for buildings. We have led the effort and now the adoption in all provinces and territories, except one, of that higher standard of building performance. I think it's a very successful result of federal-provincial collaboration, which is open for the federal government to adopt and adapt. But our own policy would take you to higher performance standards in terms of energy and environmental...

**The Vice-Chair (Mr. Peter Braid):** Thank you.

Mr. Albas, your friend and colleague has left you with one minute.

**Voices:** Oh, oh!

**Hon. Ron Cannan:** It's an important minute, though.

**Mr. Dan Albas (Okanagan—Coquihalla, CPC):** All right. Thank you. I appreciate the testimony today.

Through you, Mr. Chair, to the witnesses, from looking at the research that I've seen, from the FBI and the 19% reductions in energy use in the past 10 years, the updates, and the building code, I get the sense that Canada has...any maybe it's because of our geography and because we have a relatively a cooler climate in some cases.... But it seems to me that the whole idea of leadership that was brought up is more top of mind.

It seems that to me we've become quite mature in the use of this kind of technology and spreading it out, so that maybe even our own industry doesn't necessarily recognize this. Would that be something that you would agree with, or would you have other points to add?

**Mr. John McBain:** I would follow that up, certainly. Part of the comment I made in my opening remarks was that in the past energy efficiencies were unique or special projects. They were in a separate category. They are embedded in what we do now.

Energy efficient materials used to be very expensive, and very limited. You almost had to sole source, which, as you know, in the world of the government is not a good thing. Now it is part of what we do.

We aren't given a budget that says spend this on that and spend that on this. It is one budget. I don't know any real property manager in Europe, United States, or Canada who says they have enough money to do everything they need to do. So the idea is that by being more energy efficient in construction and retrofit and in refit you're going to have more money available to spend on other parts of your mandate.

**The Vice-Chair (Mr. Peter Braid):** Thank you, Mr. Albas, and thank you, Mr. McBain.

Monsieur Blanchette.

[*Translation*]

**Mr. Denis Blanchette:** Thank you, Mr. Chair.

Mr. McBain, while listening to you, I was struck by the fact that all we seem to do is react. Yet we know that buildings need to be improved, renovated, and so on. For instance, the Federal Buildings Initiative does not really seem to contain a comprehensive plan to promote renovation and improve efficiency.

Do you have an overall idea of what you could do if you had the required funds and how much money that would help you save? Money-saving opportunities are sought out, especially in times of budgetary restraint.

Is the problem due only to a lack of money, or also to a lack of political will? Why are we using a piecemeal and project-by-project approach rather than a comprehensive one?

I could be wrong, but I would like you to explain this situation.

[*English*]

**Mr. John McBain:** I'll take it from my perspective, looking at it from a large portion of the federal inventory. First of all, I think that the federal sustainable development strategy does set our overall

objective, because we do have targets that are driving us to be more efficient.

Second, we have established, since 2005, LEED gold as the target for all new construction. That is our standard. We have since then adopted LEED silver for renovation and BOMA BESt for operations. We know the parameters of what we will target and aspire to achieve. I would say that our success in achieving that is 100% at this point.

Regarding your other question about the need for a pot of funds for this, I think at my previous appearance I spoke about ministerial accountability to deliver a program. To suggest that there be one piece of funding for a specific aspect, to me, limits that accountability.

We need to understand which buildings we're going to keep and which buildings we're going to dispose of, because I don't want to spend money on just a blanket approach. I have to take into account the priorities of the program. Those are things that affect my ability to set targets in putting in place an overall plan and hanging it on the lawn and saying, "I'm going to do this building in this year when I don't know what the tenants are doing". So you start to bring in the largess of the federal government and you need to plug-in all of those factors.

• (1230)

**Mr. Geoff Munro:** As a departmentally specific response to your question, first of all we are driven by the 17% reduction in GHGs. An 85% percent reduction in GHGs translates into energy savings. By that I mean that energy efficiency is 85% of GHG reductions. That's the formula we tend to use. That's an average, of course, because individual aspects will be up and down.

You raised the spectre of a proactive versus reactive approach, which I think is a very important point. Certainly in our department, and from what we understand in the departments we work with, every building requires a building management plan. That is revisited on a regular cycle to make sure the building management agenda is set forward in an appropriate way.

If you look at the past, energy efficiency was not part of those buildings' management plans, and if you look at it now, they are. I think there is a proactive approach being taken—again, at least in our department, and in some we're talking with—to consciously go in that direction,

[*Translation*]

**Mr. Denis Blanchette:** I understand all that, but we are going through a period of budgetary restraint. As you know, in the case of renovations, investments need to be made before benefits can be reaped. The Federal Buildings Initiative is based first and foremost on loans.

One of our witnesses told us that access to funds for financing this initiative may help. I am not necessarily talking about your department in this case, since you are fairly advanced.

Be that as it may, do you think it could be useful to create a fund, which would be financially self-sustained through savings made, in order to accelerate the process?



I am convinced that, if you had five new buildings and the required funds, and I asked you tomorrow morning to find ways to save a significant amount of money, you would come up with a plan in a few seconds.

What do you think about that idea?

[English]

**The Chair:** A very short answer, please.

**Mr. John McBain:** For us, the benefit of the federal buildings initiative is that the private sector service provider is funding the initiative. To me that's the important aspect of it. The energy savings are what make the FBI so productive, from our perspective.

I'm sorry, but to me the need for a revolving fund isn't that evident when I look at the structure of how the FBI is constituted.

**Mr. Geoff Munro:** I guess I would add that the FBI was in fact designed in the Office of Energy Efficiency for the reality of the funding that was available when the program was designed—which, quite candidly, hasn't changed.

Because the departments don't have the capital, as Carol indicated, that's why it was created. Should that situation change as a function of your recommendations or some decision taken by the government in that regard, the program would obviously be adapted to respond to whatever was available.

**The Chair:** Thank you very much.

That concludes your time, Denis.

Next for the Conservatives, we have Peter Braid.

**Mr. Peter Braid:** Thank you, Mr. Chair.

I have three or four questions. I'll try to get through all of them.

I'll start with you, Mr. McBain.

Currently the standard for new building construction is LEED gold. How would react or feel about LEED platinum?

**Mr. John McBain:** I'd say that school is still out.

As I said earlier, LEED has certainly established itself as a well-known brand in North America, but it is not without cost. It has a very intensive data requirement for what you have to document, what you have to provide for certification in the evaluation process. We have four buildings that are LEED gold right now, and we have another nine, as I said earlier, that are coming online.

I would like to look at that along with work that has been done by the National Research Council to evaluate whether we get or realize the benefits that LEED gold is designed to achieve. I would like to do that.

LEED platinum would certainly bring another level in terms of investment, but whether it would return a payback to the taxpayer, in my view, is still not yet known.

Again, to be fair to LEED, it is very holistic. It's about a whole environmental approach; it's not just about energy.

• (1235)

**Mr. Peter Braid:** I appreciate the way you framed that, because what we're ultimately concerned about, and certainly as we begin to

consider recommendations, is to be certain that anything we propose will provide savings for the taxpayers in the end, through improved energy efficiency or reduced energy costs, whatever the case may be.

Mr. Munro, I have a similar question, but on a different program. A couple of weeks ago during the constituency break, I participated in an announcement in Guelph for the first Energy Star-rated new home built in Canada. This, of course, is a program administered by NRCan. Are there any opportunities for the Energy Star program, as it's more widely applied down the road to office buildings and to commercial real estate, to perhaps have this program apply to federal government buildings, for example? Do you have any thoughts there?

**Mr. Geoff Munro:** The simple thought is to pass the buck, because Carol actually runs the Energy Star program as well, within the Office of Energy Efficiency. I will ask Carol to respond.

**Mr. Peter Braid:** How convenient.

**Voices:** Oh, oh!

**Ms. Carol Buckley:** Thank you, Geoff.

Thank you for the question.

The member is referring to an announcement of a new standard for Energy Start for homes. This is a standard that Natural Resources Canada has developed in consultation with 3,000 stakeholders across Canada, in a standards-based format, to ask how, if we're building a new home, we can make it 20% more efficient than codes.

We have another brand called R-2000, which is about 50% more efficient than codes. We provide training and tools for builders so that they can build homes in these ways, market and differentiate their product in the marketplace, and meet the consumer demand for a more efficient home. It's a great program. It's a great brand. It's well known from the equipment side and from the housing side.

From the government perspective or the building perspective, we have adopted the American Energy Star portfolio manager benchmarking tool. Earlier, there was a question about whether our interactions with our counterparts in the United States are helpful and useful to us. They certainly were, because we're adopting this tool that is being used in the United States, and it also feeds back to the questions about BOMA BEST versus LEED. These are private sector labels out there to help people do a better job managing or building buildings with respect to environmental performance.

We're bringing this database to Canada. We have done a survey of the entire building stock of Canada with Statistics Canada, so we have Canada's buildings performance in a database. Federal government property managers and private sector property managers can use this database to determine how their building stacks up against 300 or 400 office buildings of that size and nature in that region of the country. They can use that as a tool to ask, "How am I doing?" If I'm doing bottom of the pack, it's a rationale to make an investment to improve. If I'm doing top of the pack, well, maybe I'll put my resources elsewhere.

This is an Energy Star tool that we are implementing for buildings, including bringing it to our federal building colleagues.

**The Chair:** I'll let the other vice-chair take over.

John McCallum, you have five minutes.

**Hon. John McCallum:** Thank you very much.

I think a number of us have been trying to ask this question: to what extent is this driven by money or a lack of money, particularly at a time of fiscal restraint?

Let's say you had an unlimited budget. How would you do things differently? Or not unlimited: let's say you had twice as much money as you have today. How would that affect your behaviour?

• (1240)

**Mr. John McBain:** I'd like to think that the processes we have in place would apply. I'd just be working with a larger amount of money and I would be able to go farther down my list of priorities.

Geoff mentioned the building management plan. As the real property branch, buildings are what we do. It's our core mandate. For a lot of other organizations, it's a means to deliver a program. When it's core to what you do, you have a very robust approach.

We do asset management plans. We do building management plans. Out of that, we set priorities of our needs. We have four main categories. The first is health and safety. That always gets funded. The next are program priorities that get into things such as timely recapitalization, where you can pay me now or you can pay me later, and it's better to do it now. We do those things as the next priority, but before we get down through all four categories, budgets expire.

To your point, I would be able to get farther down my list, I would be able to do more enhancements, and I would be able to look at various other priorities that I can't look at now. That doesn't make me unique or different from any other real property manager in North America or Europe.

**Hon. John McCallum:** At the macro level, I somehow get the sense that collectively we're being a little bit irrational, because if these things pay off in the long run, if improved energy efficiency saves money and the benefits exceed the costs over time, then why don't we just do more? It seems that it's a net benefit to the taxpayer, so put in more money today and less money into these energy contracts that cost more, and over the medium term that would save money for the taxpayers. Or is there something wrong in what I'm saying?

**Mr. John McBain:** On the simple logic, I wouldn't argue with that point. I would say, though, that from my perspective, the portfolio interventions are very important, the portfolio strategy. For example, I'm not going to put a lot of money into energy efficiency in a building when I may only have a five-year occupancy plan left for the building before I dispose of it, or before the tenants move on to a different use. It's not just the factor of energy; it's the total life-cycle cost. I get my investment, I get my return, but how long am I going to use that building?

**Hon. John McCallum:** Okay.

Ms. Buckley, I'm looking at your chart here. In the total scheme of the federal government, this is tiny, really. You have two or three projects, you have annual energy savings of \$1 million. Now, \$1 million for the federal government is nothing. I know you gave your four reasons. Even if for the next two years you'll only have three

projects and \$1 million to \$2 million a year, so there doesn't seem to be a very significant impact. Do you foresee an increase?

I'm not criticizing you. It's just a fact coming out of your chart.

**Ms. Carol Buckley:** We are providing a service to departments, so we are attempting to meet their demand for help in putting projects of an energy-saving nature in place. We have a budget and we operate in that budget, so fortunately our people are busy. When they're too busy, we have enough funds that we can contract for some more help.

Do I foresee more activity? Well, it's hard to look forward. If it looks like there are only three projects under way, we in fact have five major capital retrofits under way that we're working on with departments.

Should it be more? It could always be more. We are there to provide a service to departments and we respond to departments. We're also out marketing our services so that we can drive more demand for it. I think there's a certain amount of momentum around the sustainable development strategy, and that has certainly created an uptake in interest and demand. Nineteen departments meet with us three, four, five times a year to learn more about energy savings. We didn't have that before, so it's partly the case that sustainable development strategies are driving that interest and partly that we're trying to do a better job. We did a needs assessment with our community to say, "What can we do better?", and we're trying to respond to that.

Those are hard questions to answer. I hope I've done my best to satisfy you that we'll continue to plug away.

**The Chair:** That's it for your time as well, John.

Thank you to our witnesses for a very helpful presentation, as we wrap up and conclude our study. Today we intend to give some direction to the analysts.

One thing came up during testimony that I would like your views on. When you're looking at the triple-bottom-line—of energy efficiency, saving money, reducing greenhouse gas emissions—one thing that's often overlooked is the benefit to the indoor air quality of the building, the lighting quality. Is there any demonstrable benefit in productivity or days lost due to sick time as a result of the improved indoor air quality of these buildings being renovated? Is anyone tracking that? Can you share any of that with us?

•(1245)

**Mr. John McBain:** I can't say that we are tracking it. It is a key part of our Workplace 2.0 initiative, which is about improved quality, more productive workplaces. We're talking about greater access to natural light and improved air handling, fewer interior walls, which allows for the air to be more efficient. So that is very much a part of what we're rolling out in our Workplace 2.0 strategy that was announced in Budget 2012. Workplace 2.0 is moving to the next level.

**The Chair:** I was wondering if there were any facts and figures you could share that would help add to the argument that when you make a sick building into—

**Mr. John McBain:** —a healthy building,

**The Chair:** —it has an impact on the people who work in it.

**Mr. Geoff Munro:** There are lots of private sector studies around that. I can't give you aggregate statistics, but I made the point earlier about our using our own facilities as living laboratories.

Back to the LEED gold, LEED platinum question, we've built a laboratory in Hamilton—I referred to it earlier—targeted for LEED platinum. It is a living lab where we are monitoring things like the ambient environment and whether that increases or decreases productivity, etc. It's too early to give you an answer, but we are working on it.

The one in Quebec, where we reduced the cost by some 45% plus, is the same thing: we're monitoring what changes in temperature or adjustments in the amount of exterior light, etc., give in the way of productivity. It's too early to tell, but we are on that track.

If I may, while I have the microphone, Mr. McCallum, regarding the one observation you made about the million dollars, I would point out that those were annual savings. So those do accumulate.

**Hon. John McCallum:** It does accumulate.

**Mr. Geoff Munro:** Yes, it does accumulate.

**Ms. Carol Buckley:** All FBI projects taken to date are today saving us \$43 million a year, so the chart is just showing each new project.

**The Chair:** Forty-three million dollars a year.

**Ms. Carol Buckley:** Yes, so it's \$43 million each year, because of the projects that have been in place since the early nineties. The chart is just showing you the new projects each year that will be adding savings to that \$43 million.

**The Chair:** We are completely out of time now. I thank the witnesses.

We're going to suspend the meeting briefly while our guests leave the room, and we can reconvene in camera.

Thank you very much, everyone, for this wrap-up presentation.

*[Proceedings continue in camera]*

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