

HANSARD

NOVA SCOTIA HOUSE OF ASSEMBLY

**STANDING COMMITTEE ON
NATURAL RESOURCES AND
ECONOMIC DEVELOPMENT**

Tuesday, January 28, 2020

COMMITTEE ROOM

Efficiency Nova Scotia: Programs and Green Jobs

Printed and Published by Nova Scotia Hansard Reporting Services

**NATURAL RESOURCES AND
ECONOMIC DEVELOPMENT COMMITTEE**

Suzanne Lohnes-Croft (Chair)
Hugh MacKay (Vice-Chair)
Rafah DiCostanzo
Keith Irving
Brendan Maguire
Hon. Pat Dunn
Elizabeth Smith-McCrossin
Claudia Chender
Lisa Roberts

[Hon. Patricia Arab replaced Rafah DiCostanzo]
[Ben Jessome replaced Keith Irving]

In Attendance:

Darlene Henry
Legislative Committee Clerk

Gordon Hebb
Chief Legislative Counsel

WITNESSES

Department of Energy and Mines

Simon d'Entremont - Deputy Minister
Nancy Rondeaux - Director, Energy Efficiency and Sustainable Energy

Department of Environment

Frances Martin - Deputy Minister

Efficiency Nova Scotia

Stephen MacDonald - CEO

Town of Bridgewater

Leon de Vreede - Sustainability Planner/Smart Cities Project Lead



House of Assembly
Nova Scotia

HALIFAX, TUESDAY, JANUARY 28, 2020

**STANDING COMMITTEE ON
NATURAL RESOURCES AND ECONOMIC DEVELOPMENT**

1:00 P.M.

CHAIR
Suzanne Lohnes-Croft

VICE-CHAIR
Hugh MacKay

THE CHAIR: Order. Good afternoon, everyone. Welcome to the second televised committee of the Legislature from this room. Going forward, all committee meetings now will be televised, so if you tune into the Nova Scotia Legislature site, you can live stream it and spread the word.

I welcome you here to the Standing Committee on Natural Resources and Economic Development. My name is Suzanne Lohnes-Croft. I am the Chair of this committee and the member for Lunenburg.

The committee will be receiving presentations from various representatives: the Department of Energy and Mines, the Department of Environment, Efficiency Nova Scotia, and the Town of Bridgewater.

I ask committee members to introduce themselves and to state their name and constituency.

[The committee members introduced themselves.]

THE CHAIR: I would like to remind people to turn off their phones or put them on vibrate. There's no photography allowed in this room with the exception of the media. Should you need coffee, tea, or washrooms, you can be accommodated through the door to your left going out. Should there be an emergency, we will exit through Granville Street and meet up at the Grand Parade Square.

Members and witnesses, please wait to be recognized by me, the Chair, so that your microphone can be turned on appropriately and for recording purposes.

We welcome our witnesses today, and we ask them to introduce themselves before the presentations.

[The committee witnesses introduced themselves.]

THE CHAIR: Mr. de Vreede, I understand you have a presentation to do so we'll begin with you. I think you'll be using the screen behind me; I have a screen in front of me. Mr. de Vreede.

LEON DE VREEDE: Thank you for welcoming the Town of Bridgewater to meet with you today. We are honoured by that privilege and hope that we have something to share for the benefit of the province. As I said, my name is Leon de Vreede, and I am the project lead on the Energize Bridgewater program, which has been around 10 years in the making. You have a copy of my presentation, and you can follow along with my slides there.

Bridgewater's program has become nationally recognized. In 2019, Bridgewater was the winner of the Smart Cities Challenge in the small communities category, winning over 49 other applicants. The win has brought Nova Scotian innovation into the national and international spotlight. This graph illustrates where our community started with this work.

In 2018, Bridgewater Town Council approved a 30-year plan to fundamentally shift our community's energy infrastructure toward a clean, efficient, secure, and affordable energy system. Our town has one of the most advanced community energy transition plans in North America.

We have been working diligently to achieve this future energy economy, a goal that is widely supported by our community and regional partners, including several of the presenters who are with me here today. We have been working with their departments and staff on this initiative and without whose commitment and support, much of this progress would not have been possible.

I also want to add a dimension to this conversation that doesn't often get mentioned: the relationship between energy cost and poverty. Bridgewater has an aging housing stock that is desperately in need of renewal, as do many Nova Scotian communities. Our research has demonstrated that energy poverty has reached epidemic levels in our community. Bridgewater's program creates a unique and powerful symbiosis of reducing greenhouse gas emissions while driving down one of the leading causes of poverty in Nova Scotia: the high proportion of family income spent on keeping our homes warm and affording basic transportation needs.

Regional research from a number of sources is confirming that energy poverty is rampant throughout Atlantic Canada. This screen shot from EnergyPoverty.ca demonstrates the need for systemic interventions to address this growing problem. We are very much aware that Bridgewater's energy solutions have not just local, but also regional relevance and impact.

The colours indicate the degree to which energy poverty is experienced by residents in those jurisdictions. I believe that those are approximately by county or close to it. The darker blue the colour, the more pervasive energy poverty rates are in those communities. I think for the darkest blue, they're somewhere around 40 to 50 per cent, so very high figures. The website is extremely informative; I encourage you to have a look, if you haven't.

Bridgewater's innovations that are being recognized through the Smart Cities Challenge and other programs include creating local, affordable, deep energy improvements for homes; developing mechanisms for community-scale clean and affordable energy systems; improved transit and active transportation infrastructure; local investment platforms for energy initiatives; and coordinated access for at-risk residents to receive the services that they need.

To implement these solutions, the town is working closely with my co-presenters in the room, as well as with a wide coalition of local, provincial, and national partners. Partners from across the public, private, and non-profit sectors are heavily involved with our work.

Should we be successful, the Energize Bridgewater program intends to fully demonstrate measurable benefits to our community and region, including reduced poverty and improved well-being, better housing, increased mobility, more effective community services, increased economic access and participation, achieved climate targets, and investment in underfunded neighborhoods. Innovative use of Smart Cities technologies enables us to measure and report on progress, as well as improve our programs and services to increase our reach and our positive impact.

Now on to the topic at hand. Bridgewater's vision for environmental sustainability and poverty reduction is also founded on a sound theory of economic development, based on supporting local trades to do local work. Our research shows that this work creates high-quality local jobs, white collar as well as blue collar.

The economic impact of the work supports many dimensions of local economic development, including millions invested in clean energy products and trades work; better living conditions for residents, which results in increased economic participation; business investment in energy upgrades and technologies; direct income earned from investment in community energy projects; and growing the local knowledge economy, in particular around smart technologies and best practices.

Driving this economic growth is direct investment into energy efficiency and community-scale clean energy systems, with a measurable and predictable return on investment as calculated in the town's community energy investment plan. We are projecting as much as \$32 million in local infrastructure and energy investment by 2025 and 10 times that by 2050. Research on associated job growth points to a net growth of thousands of person years of employment in the green collar economy resulting from this work. This is just from the work that is to take place in Bridgewater.

Key to all of this is de-risking public and private investment in community-based clean energy solutions. There is an unprecedented opportunity in Nova Scotia to drive climate action, economic growth, and poverty reduction through this investment. Municipalities want to work with the province to support green sector job creation. Bridgewater is keen to work with our provincial partners to increase the flow of investment dollars into local communities through a number of de-risking activities. I won't go through them in detail for you, but I'm happy to speak to them in the interest of knowing that my time is limited.

They include enhanced funding and partnerships for the initiatives that I have described; the creation of local energy investment platforms, including the maintenance of the CEDIF equity tax credit program, which we see as a valuable solution in this mix; support for increased municipal investment directly into these energy solutions by expanding the role of municipalities in the ability to issue PACE financing and other financing solutions; and boosting trade sector capacity to take on the necessary work.

I just want to thank you for the opportunity to speak to you today, and I would be happy to answer questions on any aspect of our work.

THE CHAIR: Mr. d'Entremont, do you have opening remarks?

SIMON D'ENTREMONT: I do, thank you very much. Welcome, and thanks for inviting us here today. It's a great opportunity for us to discuss some little-known facts about the Department of Energy and Mines.

One of the main roles of the Department of Energy and Mines is to invest in energy efficiency and clean energy to reduce emissions and help create new jobs and grow Nova Scotia's green economy. This is an area where Nova Scotia is having a significant amount of success. Nova Scotia is a national leader in fighting climate change by reducing emissions.

Over the next three years, we're investing nearly \$120 million in programs that reduce emissions even further while creating jobs in the green economy. We're investing \$25 million in energy efficiency upgrades that will improve 2,400 Mi'kmaw homes and 11,500 units for public housing. Our work with low-income homeowners, sustainable transportation, and solar energy will continue into the future.

Some of our notable achievements include 16,000 low-income Nova Scotians who have had free energy efficiency upgrades since 2007. More than 120,000 homes in Nova Scotia have been installed with an energy-saving heat pump. More than 300 businesses and 1,400 people now work in the energy efficiency industry. Energy efficiency avoids more than one million tons of carbon emissions every year. We wouldn't be in this position without the hard work and dedication of the people who deliver the programs like Stephen MacDonald and the great folks at Efficiency Nova Scotia.

Stephen's organization also helps us deliver the SolarHomes program, and more than 600 families have now added solar electricity to their homes. More than 70 community organizations have been approved to add solar panels to their buildings and can sell electricity to their utility. When we started the SolarHomes program last year, there were 13 approved installers in the province; we have more than 60 today. Those are hundreds of new jobs.

No one in Atlantic Canada has installed more wind energy than Nova Scotia. Our renewable energy use has more than tripled over the last 10 years. We're also helping train workers to become certified energy managers and installers.

We have also supported municipalities to offer low-cost financing through PACE; that's Property Assessed Clean Energy financing. This allows homeowners to finance retrofits on their property tax bills. Plus, we have been able to do this while keeping electricity rates stable on to 2022.

The work that went into developing the industry over the last decade has positioned Nova Scotia very well. Other provinces and countries are looking to set up similar programs as in Nova Scotia.

Increasingly, we're seeing more and more communities coming forward with innovative ideas to join the fight against climate change and to ensure more people benefit from our transition to a cleaner energy future. Bridgewater, who is here with us today, is a fantastic example of leadership in the province.

Whether it's solar gardens, district heating, or any other emission-reducing project, my department is looking at what we can do to help. I welcome an opportunity to discuss this matter further and look forward to your questions.

THE CHAIR: We will begin our questioning. We'll start with the PC caucus. Mr. Dunn. (Interruption) Sorry, I think Mr. MacDonald had a presentation. Mr. MacDonald.

[1:15 p.m.]

STEPHEN MACDONALD: I have some opening remarks to make, and I think members of the committee may have a copy of them.

As I mentioned, my name is Stephen MacDonald. I'm the Chief Executive Officer of EfficiencyOne. EfficiencyOne is the independent administrator of Efficiency Nova Scotia. Thank you so much for the opportunity to speak to you today about our work and the growth of green jobs in the province.

At Efficiency Nova Scotia, we design, market, evaluate, and measure the impact of efficiency programs. These programs encourage the adoption of energy efficient technologies and practices by providing education and information, financial incentives, and expert advice. But the actual technology and services - building design, insulation, heating and cooling equipment - is supplied by a growing energy efficiency industry in this province.

Today, over 1,400 people are employed directly in the energy efficiency sector. More than 340 companies have joined our efficiency trade network, and that number has more than doubled since 2017. Approximately 45 per cent of these businesses are located outside of Halifax.

Efficiency Canada recently released a provincial scorecard. Nova Scotia ranked fourth overall and first in the efficiency programs category. The scorecard noted that one of the province's strengths is training and professionalization and that Nova Scotia has more energy advisers per building and certified energy managers per business than any other province.

The efficiency industry here in this province is producing results. More than \$1 billion has been saved in energy costs, over one million tons of CO₂ is being avoided annually because of energy efficiency, and there has been up to a 50 per cent reduction in heating costs for low-income homeowners.

Efficiency Canada also noted that Nova Scotia's trained workforce demonstrates the growth of the province's efficiency industry and the capability to save even more energy, and jobs grow alongside energy savings.

Dunsky Energy Consulting modelled the net economic impacts of energy efficiency measures that are contained in the Pan-Canadian Framework on Clean Growth and Climate Change. The report concluded that implementing these measures will lead to a net increase of 4,200 jobs in an average year in Nova Scotia and increase provincial GDP by nearly \$8 billion by 2030.

While most of the employment impact is in sectors associated with implementing energy efficiency programs such as construction, manufacturing, and retail/wholesale trade, as energy savings accumulate, increased demand for local goods and services increases economic output and jobs more broadly. Taking bold action on energy efficiency will create more jobs and economic opportunities for Nova Scotia. The Dunsky report estimated that every \$1 spent on efficiency programs generates \$7 in GDP.

The province has set a bold goal in the Sustainable Development Goals Act to achieve net zero by 2050. Energy efficiency must play a key role in this transition. It is generally regarded as one of the most cost-effective tools any jurisdiction can use in reducing greenhouse gas emissions, in addition to the economic and employment benefits I've just outlined. The province's continued investment, support, and commitment to energy efficiency is proof of that.

But there's another reason why energy efficiency should be at the centre of this transition. That's because Nova Scotians are embracing it and they want more of it. More than 400,000 program participants have completed energy efficiency projects. There are over 300,000 visitors to the Efficiency Nova Scotia website each year and 20,000 subscribers to regular Efficiency Nova Scotia communications.

Our research shows that a significant majority of Nova Scotians consistently assign a high level of importance to reducing their energy use, and what's more, a significant majority of Nova Scotians express a high level of agreement that adopting a more energy efficient lifestyle adds to their quality of life. We have seen growth in new programs such as SolarHomes, and programs such as the Mi'kmaw Home Energy Efficiency Project are also expected to lead to additional job creation, specifically in the 13 Mi'kmaw communities, as the program has a mandate to work with community-preferred contractors wherever possible.

In Nova Scotia, we have robust energy-efficient market knowledge, expertise, and industry capacity. We have a well-developed network of trade partners and strong public awareness of and demand for energy efficiency programs and services. The people, companies, and know-how are ready and eager to contribute to Nova Scotia's economic and environmental prosperity.

THE CHAIR: Thank you. I understand, Ms. Martin, that you have opening remarks as well, so go ahead.

FRANCES MARTIN: Thank you. I welcome the conversation and questions following but wanted to highlight a few things that are happening in my department's sphere, so thank you for that.

People certainly understand today that economic development and environmental protection go hand in hand. Internationally, Greta Thunberg is a powerful voice for that sort of change, but locally we can see that commitment from climate change protests this Fall, which helped to influence a variety of different decisions. We have, as well, local communities like Plastic Free Lunenburg and the Sobeys decision to eliminate plastic in their stores as examples of local action here.

Nova Scotians know that times have changed and the way we live, work, shop, and play has to change as well. My staff are certainly committed to helping Nova Scotia move forward in this regard.

Last October, we introduced the country's most ambitious greenhouse gas reduction target as part of the government's Sustainable Development Goals Act. This legislation committed Nova Scotia to reducing our greenhouse gas emissions by 53 per cent below the 2005 levels by 2030. Government has also committed to move to a net zero carbon footprint by 2050, the first to have put that in legislation.

It's people in communities that will get us there. Legislation created the Sustainable Communities Challenge Fund as well. This was to support innovation on community projects to help fight climate change, to create green jobs, and to grow the economy.

A new climate change strategy will be in place by the end of this year. That is aimed at reducing our greenhouse gas emissions, expanding Nova Scotia's green economy, and creating green jobs. The Act, as designed, set a bold new direction for government. Nova Scotia is very well positioned as a leader in Canada's green economy. Companies here are already leading the way in expanding to offer more energy efficient home renovations and creating new products from recycled plastics. This will set the stage for more innovation as we work to meet our ambitious targets that we have set. We hope to consult on regulations for this legislation and on the green fund later this Spring.

We also have our sights set on the coastline. Last year, Nova Scotia became the first province in Canada to pass legislation specifically aimed at helping the province address the challenges of sea level rise and coastal erosion. This, of course, is brought on by the impacts of climate change.

In addition to that, we're working with municipalities, planners, engineers, and other professionals to develop regulations that will set out exactly how that Act will work. This will give Nova Scotians the clarity on what can and can't be done near the coastline. We want to encourage smart development that takes climate change into account.

We're also working to give existing businesses an incentive to reduce their greenhouse gas emissions. Four years ago, the federal government told the provinces that they would be required to put a price on carbon. Ottawa said that if we did not voluntarily put a price on carbon that they would do it for us. Our climate change team developed a cap-and-trade system, which gives companies the innovative advantage. They can sell unused credits to other businesses in a system that also limits the cost to everyday Nova Scotians as much as possible. Last year, Ottawa accepted our plan, and as a result, Nova Scotians will be paying less out of pocket compared to residents in other provinces.

I'm also proud of some of the quieter things that we have been doing in Nova Scotia related to our green economy. Each year, the Clean Foundation offers its highly successful Clean Leadership program. Last year, 73 smart, committed interns worked on meaningful environmental projects as Clean Leadership interns. This program allowed companies to attract smart, new talent and helped students gain experience as green leaders. I'm excited to tell you that Clean has received over 30 per cent more applications from businesses this year compared to last.

It's also worth highlighting the solid waste sector. Nova Scotia sends less than half the amount of waste to landfills compared to other Canadians. Our municipalities work hard to expand their recycling programs and find markets for those products. We just also introduced an opportunity to recycle used oil as well as glycol.

Nova Scotians want us to lead in the new green economy, and they want to know that their children and grandchildren can find meaningful work that will protect rather than harm the planet. I certainly believe that this work we're doing in our department in that regard is important.

THE CHAIR: We will now open up for questions, and we'll start with the PC caucus. Mr. Dunn.

HON. PAT DUNN: A big thank you to all of you for the involvement that you're presently in and trying to meet the targets that are out there, so a big thanks for that. My first two questions are dealing with conversations I had with former Northern Pulp employees who were in my constituency office. With the closure in mind, therefore the loss of jobs, and perhaps a rise in unemployment, their question to me was whether the

government is going to become involved and how they will become involved in retraining some of these employees in the green economy. That's one of the questions that they had, and I didn't have the information with me at the time. I said, I know exactly where I can ask the question. Maybe I'll leave it there.

SIMON D'ENTREMONT: I can't speak broadly for the transition committee, but certainly we believe that the green economy, there's going to be a significant amount of activity in that region. We have been talking, independently of the transition committee, with the NSCC and looking at opportunities for training and developing new talent for the green economy. We're going to need a new host of solar installers and so on. We believe there's a great opportunity. Every time we have an opportunity to put that forward as an area for training opportunities and for career development, we do.

PAT DUNN: I think there's approximately 70 employees just from the Town of New Glasgow, which is one of the parts of my constituency, who have worked there. Another question that they had, they were talking about salaries. I would say 80 per cent of the former employees who were in my office were university trained, and they were making \$120,000 or \$130,000 annually. Their question was, if there's these types of jobs available and the retraining is there and we take the retraining, they were wanting to know the comparison. Would the jobs provide a salary somewhere close to what they had been making over the past few years?

SIMON D'ENTREMONT: I would suggest those are questions best asked of Labour and Advanced Education. I believe Kelliann Dean, who is chair of the transition committee, is coming to an upcoming meeting. I would suggest that that would be the appropriate place to get answers to those type of questions.

THE CHAIR: I would just like to remind people that the topic is programs and green jobs. I understand that two members of the transition team are here, but they're not here to speak on transition. Yours are sort of borderline, Mr. Dunn, so I'll excuse it as okay. But I would like to remind you that Ms. Dean is coming in next week to speak to this committee, so we'll keep it to programs and green jobs because that's what our guests have come here to talk about.

Going to the NDP caucus, Ms. Roberts.

[1:30 p.m.]

LISA ROBERTS: Thank you for being here, and particularly having heard about the experience in Bridgewater for years and even spoken about it in the Legislature a little bit based on what's available online, I'm excited to understand a little bit more.

Mr. De Vreede, I understand that a portion of Bridgewater's clean energy financing program operates through a PACE program. We hear that there are some challenges for other municipalities wanting to implement PACE programs. I wonder if you could speak broadly to that. What are the reasons that you identify yourself in your presentation where there's a need for additional mechanisms for financing this sort of work?

LEON DE VREEDE: If I may be permitted to move back to my slide, that has a number of points on this.

THE CHAIR: Sure.

LEON DE VREEDE: Nova Scotia really has the most advanced PACE programs in the country at this time. The ability to finance home energy upgrades through the municipality and repay them on municipal tax bills and charges is a very innovative mechanism that is being looked at. Not a month goes by that I don't receive a call from municipalities across Canada looking at how this is done in Nova Scotia and what the benefits and impacts are.

The major challenge that we have identified in Bridgewater - having run the program now for approximately four years - is the challenge of stimulating sufficient uptake in the program. We work closely with the Clean Foundation and with Efficiency Nova Scotia in the design and in the implementation of the program and ensuring that it lines up with availability incentives and so on. At the end of the day, what we have been discovering is that a stand-alone PACE program operated by a single municipality is challenged in getting the uptake from the community that might be possible under a larger kind of platform or umbrella.

Bridgewater's approach to PACE is to expand its overall energy programming on the local level and to see PACE as one of several financing opportunities that residents can take advantage of. It's not the solution for every homeowner or every property owner in the community, but it has tremendous potential because municipalities have the ability to offer financing at a fixed rate of interest for 10 or even 15 years, which they can't get from a bank, a traditional lending institution. There are other benefits as well.

Our rollout of the program is really about applying PACE on a neighbourhood scale so that we look at entire neighbourhoods in the community, we build an economy of scale in implementing upgrades, and we build a social marketing component into that as well. That is the future for PACE in Bridgewater. My colleagues and I have identified a number of specific challenges to the PACE program as well. Recommendations stemming from that are on the screen right now or in your handout.

The first is that municipalities only have the ability to borrow from the Municipal Finance Corporation, and there are actually other lenders in the marketplace that would be very willing to lend to municipalities for the purposes of PACE financing at much lower interest rates than what the Municipal Finance Corporation is able to lend at. In fact, there is a global industry seeking to achieve high-impact lending for energy transition that is really unable to find a foothold in Nova Scotia because of these types of barriers.

There are literally trillions of dollars in international investment looking for high-impact investment opportunities. We believe that municipalities are at the forefront of being able to utilize these types of investment dollars. One of the challenges is that municipalities are not able to borrow from private or non-profit sources. We believe that these opportunities exist.

The second is that municipalities' ability to borrow PACE funds is limited by the calculation of our debt service coverage ratio, DSCR, because the province looks at our financial indicators, and if we borrow to lend to homeowners on PACE, that affects our debt service coverage ratio in a negative way. We believe that PACE should actually be excluded from the calculation of the debt service coverage ratio. I think there is a very sound argument for that to take place. We've been in discussions with our provincial colleagues for a number of years on that. We're hoping for an opportunity to break through that challenge.

That would significantly expand the borrowing limit for municipalities to issue PACE financing without putting our ability to finance other infrastructure at risk, which is the major challenge that we face.

Finally, we believe that there are other very specific provincial tools that can be put in place to de-risk municipal lending through PACE. One example would be a revolving PACE loan fund whereby the dollars are, say, loaned by the province to the municipalities and then returned to the province, thereby not putting our own borrowed funds at risk. Another opportunity is to institute a loan guarantee program of some kind that would further de-risk these types of loans. We believe that they are generally very secure loans because they are tied to the property to which they are attached, so there is very little risk even of default in a well-structured PACE program.

LISA ROBERTS: Thank you for that answer. I think it gives us a sense of where we are and how we could accelerate in a way that is in line with the urgency of the actual situation. Again, I'm really excited to have you here and to have more of us and hopefully more Nova Scotians - thanks to this committee being televised - understanding some of the really great, innovative work that's happening.

We have goals for greenhouse gas reduction targets under the new Sustainable Development Goals Act. We know that aiming for net zero by 2050 is, according to scientists, too late. We have to all be so ambitious.

If the financing and any other barriers were able to be addressed so that deep energy retrofits on existing building stock could be pursued at a systemic, strategic, aggressive manner - neighbourhood by neighbourhood - what is the potential for greenhouse gas reduction achievements there?

LEON DE VREEDE: I don't have kiloton information for you. We did calculate this in our community energy investment plan, which is freely downloadable from our website at energizebridgewater.ca. What I can say is that we applied a range of measures in that plan that are all available off the shelf today. Using existing technology in building sector, energy efficiency, community-scale renewable energy technologies, energy storage, and so on - we didn't apply fusion power to this calculation.

We essentially calculated that Bridgewater as a community, minus some challenges in getting our industrial sector to be net zero, but we essentially calculated that by 2050 Bridgewater as a community, as a fairly average Atlantic Canadian town, can become essentially net zero. A complete elimination of carbon emissions from the community is technically feasible, and we believe it is economically feasible as well - not just feasible but beneficial.

THE CHAIR: We'll move on to the Liberal caucus. Mr. MacKay.

HUGH MACKAY: Thank you for being here today. Certainly in your preambles, there were some very notable figures coming out: numbers of jobs that could be created, and alarmingly the energy poverty in the province. I had no idea that it was so severe, and I'll come back to that.

Mr. MacDonald, you mentioned the Efficiency Canada provincial scoreboard. Nova Scotia seems to have placed fairly well in that. I had a short tutorial on it yesterday courtesy of some friends. One of the things that it seemed to be noting that we could do a better job at is with our buildings - with our building footprints and retrofits in particular. I was wondering, do we have any plans or a strategy that will move Nova Scotia forward in that area?

STEPHEN MACDONALD: In the Efficiency Canada scorecard rankings, the scorecard itself looks at a number of different areas - policies that are in place at a provincial level, the types of programs that are in place, the capacity of the workforce that actually do the work, financing mechanisms like PACE programs, and whatnot. Where Nova Scotia ranked at the top of the list was on programs: the breadth of programs that are available based on sector, income levels, different parts of the community, and whether you rent or are a homeowner. The province ranked very high in terms of comprehensive coverage.

Where the report said the province could go a little further is with policies around building codes, for example. I know there are some efforts under way - and my colleagues at the Department of Energy and Mines might be better placed to answer this question - around looking at a step code, modelling what's happening in B.C. to try to really push the envelope in terms of energy efficiency.

I would just comment related to this around the concept of deep retrofits. It came up in an earlier question. That's a very important concept. When we talk about deep retrofits, generally what we're speaking about are retrofits to a building that save more than 50 per cent of the energy of that building. If we're looking at moving the province to a net zero scenario by 2050, we really need to pursue deep retrofits.

Deep retrofits are enabled by having the skilled workforce - part of what we're talking about today - to do the work across the spectrum. Design is a huge part of deep retrofits, ensuring you have specially trained individuals to do the design work - whether it's contractors, insulation, HVAC contractors across the board. You also need access to financing, the money to be able to pay for the retrofits, because of course, investments in energy efficiency take place generally at one time at the beginning. You do the retrofits, and the payback comes over time.

Having a mix of incentives like what's offered through Efficiency Nova Scotia, plus financing options for a PACE-type financing or other low-interest loans - there has been some talk at the federal level about providing up to \$40,000 in interest-free loans to homeowners. That's all part of the mix that's required in order to really hit those deep, deep energy savings.

HUGH MACKAY: I mentioned the startling figures on energy poverty. Representing a rural riding, I know that there are certainly many cases of energy poverty in my riding. I'm wondering if there are any suggestions you could make as to what an MLA could do to try to help address this.

SIMON D'ENTREMONT: I can start off, and maybe some others can jump in. I don't have the numbers right at my fingertips, but it is true that, if you look at a national scale of energy poverty, unfortunately the Atlantic region is above the national average in terms of people who have a large proportion of their income dedicated to energy needs.

For that reason, we in the department are providing to Efficiency about \$12 million a year to the HomeWarming program. Stephen can provide more detail on the delivery, but basically, it's providing free assessments and implementation of energy efficiency upgrades. The average saving, I believe, is around \$950 per homeowner. This is offered to low-income Nova Scotians. Interestingly enough, with my Seniors portfolio hat, I also know that about 60 per cent to 70 per cent of this is going to seniors.

It is an opportunity that while our rates can be high, your bills can be low if you invest strategically in making the difference between what the rates are and what your actual bill is by consuming less.

[1:45 p.m.]

THE CHAIR: We'll turn it over to the PC caucus. Ms. Smith-McCrossin.

ELIZABETH SMITH-MCCROSSIN: Thank you for your presentations. Congratulations on your ranking of top in the country with your programs. It's interesting that we still rank third highest in energy poverty. I'm sure it's linked partly due to - I believe we have the second highest electricity rates in the country, so there's probably a relationship there.

I'm wondering if you could speak to what EfficiencyOne may have with respect to helping commercial enterprises and businesses either with their commercial buildings or their businesses to create energy efficiencies. Looking at energy poverty, I'm sure part of it is reflective of our economy, so if we can help our businesses to be more efficient and find savings, that may be beneficial.

Tied into that, I'm wondering - especially with respect to what has happened recently within our forestry industry - if you would consider or are looking at wood energy to be part of EfficiencyOne programs with projects such as district heating systems for either towns or large industry.

STEPHEN MACDONALD: Businesses, commercial enterprises, small businesses, institutions can really benefit from energy efficiency. Yes, we do have a number of programs that are available to businesses.

Before I get into the programs, one of the important things I want to note is the productivity and competitiveness benefit that businesses gain from becoming more energy efficient. We know that energy costs of many businesses and institutions are a significant part of their overall cost base, if you will. Whenever you become more energy efficient, of course you're getting the same or more output for less input, so it makes our businesses more productive and competitive, which I think is a very important thing.

We have programs for businesses of all types. We have programs to help small businesses receive rebates on heating and cooling equipment, refrigeration equipment, pumping, commercial equipment. We have a number of avenues for how businesses would access our programs. They can receive rebates at the point of purchase through wholesalers and distributors. We have a program - we call it our custom program. Essentially, it's for larger users of electricity, so roughly over 350,000-kilowatt hour usage per year. We provide specialized services to them, so we may find a scoping study. We may provide incentives to help them build a building or reduce energy use in the manufacturing process - really try to design that program such that it's tailored to the individual business unit.

The other part of our programs, although they may not be tailored to businesses, would be for non-profit organizations. Non-profit organizations serve an important community service in many cases. We have programs for non-profit organizations. In many cases, they're delivering a service in the community, so we have programs tailored to them.

The second part of your question around the forestry side and wood energy - on the residential side, we do have a program called Green Heat. For customers who want to adopt wood heating or wood pellets, we provide an incentive of about \$300 to \$400 per wood stove. Uptake in that is fairly modest.

We have been involved in some larger projects that involve district heating, district energy. I can't say off the top of my head whether or not those have involved any biomass or wood burning, but I can look into that and follow up with the committee.

ELIZABETH SMITH-MCCROSSIN: I'm glad to hear that you have the Green Heat program and that you'd be open to looking at larger scale projects using wood. I know in Cumberland County alone we were shipping 100,000 tons of pulp and fibre that now our foresters and harvesters are looking at not having a market for, so we're exploring all kinds of options of how we could be using that.

I know that solar is sexy, for lack of a better word, in the last year. There are all kinds of grants and funding available, but wood is a renewable resource, and we have it right here in Nova Scotia. Anything that your organization can do to develop programs so that we could use our own renewable resources in Nova Scotia, I know would be very beneficial to our local foresters. I don't know if anyone else on the panel would like to speak to that or not. I would be curious to know for Bridgewater, if that is included in your overall strategy as well.

LEON DE VREEDE: Bridgewater has modelled a district energy system for its community. The economics of district energy for a town of our size are tenuous at this point but may improve over time as base energy costs continue to rise. Potentially with the development of partnerships or programs supported by other levels of government, that may be possible.

In fact, as part of our community energy investment plan, we modelled a wood heat-based district energy system and worked with a research institute, the Mersey Tobeatic Research Institute, to see whether sustainably sourced FSC-certified forestry operations could be a source of efficient wood heat for our community that would allow those foresters to have a stable anchor tenant or buyer for their wood while maintaining the quality of the forests. The results of that study were very interesting and could be replicable in other parts of the province. I would be pleased to share the results of that study with the panel if that was of interest.

Another point that I would make is that it is also possible for municipalities to enact commercial PACE programs, so PACE lending to non-profit organizations or businesses. That has not yet been done in the province, but there's technically no reason why it couldn't. One of the problems is that it would be challenging under the current debt situation for municipalities to borrow the kind of money needed by commercial operations, so that has not been done. Bridgewater has actually undertaken some studies to see how we might expand into commercial lending as well.

THE CHAIR: Ms. Chender.

CLAUDIA CHENDER: As the Chair reminded us, we're talking about green jobs. It does seem like it's too bad that we don't have LAE here actually, because I think some of these questions - as you mentioned, Mr. d'Entremont - are best directed to them.

I do want to pick up a little from what my colleague Pat Dunn was asking. Certainly we know we have a great workforce here and those top scores in Efficiency Canada's scorecard, but I think we also know that if we want to meet the target of net zero by 2050 - which as my colleague Ms. Roberts said is arguable if that's even fast enough - we need a massive influx of workers. We need way more than we have.

I think the Clean Foundation climate leadership program was mentioned. My understanding is that that program needs to knock on the door of every department every year and ask for funding - they were funded by LAE last year, they were not funded by LAE this year, they are getting funding somewhere else. It would be nice if a program that's mentioned in these remarks that's recognized like that could have stable funding. I think that whether it's the Clean Foundation or anyone else, I'm very hopeful.

Certainly we will ask this question of the transition team, but I would ask you more broadly - and certainly with the backdrop of Northern Pulp in mind - about a mid-career transition training program into the clean economy; again, knowing the scale of the workforce that we will need.

Knowing that you may not be able to answer those workforce specifics, I think this is mostly for the deputies, but whoever would like to chime in. My first question is, what's the attack plan for government broadly on this question of green jobs? Again, just doing the basic math, if we want to get to this place, we know that these deep retrofits and other programs we're talking about are the best way to get there. What's the plan?

FRANCES MARTIN: I'll take the beginning of it, and maybe my colleague Simon will chime in.

As I mentioned in my opening comments, when the Sustainable Development Goals Act passed, we committed at that time by the end of this year to develop a plan to go with what are some very significant goals. The province has been the first to commit to those in legislation, and we'll be taking a very broad approach in that strategy - looking at a whole array of elements that are going to allow this province to move forward and meet the goals by the time they're laid out.

That will be looking at opportunities for businesses in Nova Scotia and the role they would play. We'll have a listening ear for what they would see as priorities. Certainly there has been a lot of commentary here on the homeowner side of this in terms of their energy needs and how we can improve there as well. As well as, because we're broadly looking at climate change, looking at mitigation and adaptation.

We'll be starting that consultation in the Spring and ensuring that we have a listening ear for the various facets of Nova Scotia in terms of making sure that we build their comments into the plan. From that plan, we'll certainly have the detail and the specificity in terms of how we ensure that we meet those goals.

SIMON D'ENTREMONT: I think you're correct when you say that building human resources complement to our need - some estimates say we need a tripling of the workforce in this area. Every sector is going to be a little bit different. For us in the tidal sector, we didn't go out and train tidal people; we developed the incentives to attract the companies to come who then need to make sure they attract the skills to come with it to deliver it.

On the other hand, with the solar sector, we meet with the sector associations and ask them what they need to grow their sector. It's the same thing when we're talking about the electrification of vehicles. We sit in a room where we're saying: Do we have the skill set needed for the mechanics to fix these types of vehicles? On a sector by sector basis, we are having those conversations and coming up with individual strategies based on the different sectors.

As part of the climate action plan, for example, if we decide that building human resources is a critical piece that's not going to happen organically - for the solar sector, we've developed the types of programming that make the companies come up and bring the people with them. If those types of mechanics are not working, and we need to organically tackle training of green sector employees for example, then we'll look at that and that will be one of our options and we can consider making it an important pillar of our plans.

CLAUDIA CHENDER: I guess what I heard a little bit in Mr. de Vreede's presentation, and what I hear more generally - and this is sort of antithetical to some comments I made earlier today - I think this is an area where we need real leadership. Certainly we need to listen to sectors and industry, but I think some major efforts and investments at the provincial level beyond just setting a target but funding the changes that need to happen are the only thing that will get us to where we need to be.

I think that all sounds good, Mr. d'Entremont, meeting with all those various sectors but again, we know that there are programs out there that are working because of the innovation of a single town or even a single person, or are working because of non-profit employees who are just knocking on your doors five times a year and saying please, please, please, please, please fund us. That's great, but I know we have a social deputy's table, for instance. Is there a similar effort happening around the greening of the economy? How are the folks at your level working together to ensure that we take the big moves we need to take to achieve these targets?

FRANCES MARTIN: You mentioned LAE; for example, Environment and Energy and Mines collaborate quite significantly on the development of the climate change plan. There's a table of deputies that will be there to ensure that we comprehensively cover all the bases that we will need to. Energy and Mines is there, and LAE will be there.

[2:00 p.m.]

Just in response to my earlier comments, you made a point around funding. We do have the advantage in Nova Scotia where we have a cap-and-trade system. We will be doing some trading, actively implementing that cap-and-trade system - the first trade will be in June of this year. That will provide us with a significant share of funding to invest in everything from research and development to implementation and innovation in various sectors. I feel that we're well-organized and equipped. In this case, we'll have access to funding to ensure that the plan that we develop gets us to the goals.

SIMON D'ENTREMONT: Just a quick add-on: the federal government announced \$100 million for green sector training, as we mentioned. The fortuitous alignment of that and the Climate Change Action Plan is a great time to come up with a plan before you go ask for any funding.

I just want to pass on the interesting example of when you go ask your partners questions. None of us are as smart as all of us. We approached the community college and said, we're funding some solar programs, why don't we train some people? For example, we're going to do home energy retrofits on First Nations homes. We said, why don't we train people as solar installers, and the community college wisely said, if you train a solar installer, when they show up at a home, the only thing they're going to recommend is solar. Sometimes it's not solar - it's something else. You need to train energy advisers to have the full suite of the types of tools they have. These are the types of learnings we're making

by engaging our partners, and when we come up with plans, we'll come up with better plans.

LEON DE VREEDE: There is actually already a significant amount of capital available within Nova Scotia to do the work that needs to be done. If you would permit me to move to one more slide here, around funding and partnerships, one of the initiatives that we are trying to work into the Energize Bridgewater program is the idea that existing federal and provincial funding programs may actually be able to work together using existing resources to enable deep energy retrofits. I'll just provide a very basic example.

When it comes to low-income programs in the province, there is millions and millions already being spent to provide housing, income supplements, and so on for folks who, in many cases, are living in highly energy-inefficient housing. One of the challenges that we have if we were to really focus our deep energy retrofits on low-income housing stock is to get over basically deferred capital spending on this housing stock. The housing stock is aging. It's leaky, and it often needs renovations beyond just energy retrofits. If you were to try to apply energy retrofits to these homes, they're often not possible because of the large amount of deferred maintenance in the home or the apartment building.

Our proposal is that provincial and federal departments work together to coordinate strategic spending on low-income housing stock to take care of the deferred maintenance load so that financing programs can deal with the energy load. By stacking existing resources with private capital, we can actually overcome this major, major roadblock in putting much-needed money into our most-needy housing sector.

We are very keen to work with provincial departments and department heads to figure out the mechanisms through which that could work. We would like to present Bridgewater as a pilot community where that takes place. It will require departments to think a little bit out of the box in how programs fund housing initiatives. We are very keen to make that solution work, and we think it's necessary.

SIMON D'ENTREMONT: We agree in terms of the policy situation that we have in that low-income are often our highest-emitting greenhouse gas per capita housing and have the least ability, because of energy poverty, to do anything about it. Within the last few months, we've announced \$22 million for energy refits at Housing Nova Scotia. We're going to do that over the next four years. We agree it's something that needs to get done, and we'll keep our eyes peeled for opportunities to do more.

THE CHAIR: We'll move on to the Liberal caucus. Mr. Maguire.

BRENDAN MAGUIRE: One second - I'm sending a text to Housing Nova Scotia. I'm not even joking. (Laughter) I want to get into some of the details. We talked about the importance of energy efficiency and things like that. We've heard the reasons why, whether it's the green economy or things like that. Probably the most important reason for me, aside from the environment, is I have three children, so it's time to put up or shut up.

I want to get down to some of the numbers because I hear a lot of numbers and I'm looking at Mr. MacDonald in particular because he floated a few numbers around. I just want to understand the numbers because a lot of times we hear numbers and they're just that: they're statistics, they're just numbers. Some of the stuff you said: for every \$1 spent in energy, there's \$7 in GDP, and that the green economy and the jobs coming out of the green economy are the way of the future. We hear this all the time, so I'm going to ask you to educate me right now.

I'd like to know where these numbers come from and what they really, actually mean. This is a positive problem to have, but one of the issues that we're facing right now around solar is if you go through Efficiency Nova Scotia - and I personally went through, and I have solar panels on my house now. It took a little over a year to get from the beginning to the installation. It is actually taking a lot longer now and it has nothing to do with the program; it's more the installers. I have a friend who lives down the street who has had the racks on his roof now for about 18 months, waiting for the installers to come in. Unfortunately, because of the weather and labour, they just can't do it.

I have one other question for this group, but for you, I need to understand where you come up with \$1 spent - because if I went to the oil industry, they would say, for every dollar spent you're going to get this, so everybody has numbers. I just want to know where that number comes from and what it means. The jobs that are going to be created in the green economy, are they short-term jobs? Are they long-term sustainable jobs? That way, when I go out to the public and advocate for this stuff, I'm educated on this, or as educated as you're going to give me right now.

STEPHEN MACDONALD: There are a couple of questions there, first around the numbers that I quoted in my opening remarks. Every \$1 spent in energy efficiency results in \$7 in GDP comes from a Dunsky Energy Consulting study that they did, if Canada was to implement measures under the Pan-Canadian framework. That framework included a certain level of energy efficiency. Generally, with energy efficiency, why it has such a positive impact on the economy - there are a number of reasons. One, is savings from the energy itself - so when you're not spending money on energy, you're spending it on something else. Generally, studies - some coming from Dunsky, like the one I referenced, some coming out of the U.S. - have shown that the money that's saved on energy costs is put into higher output activities.

You can think about when you pay your electric bill, regardless of what jurisdiction you're in, that money goes to the electric utility and maybe it goes in some cases to buy the fuel, the coal, the natural gas, whatever it is. That's not always produced locally in the economy. With energy efficiency, when you spend that money - and I think Leon did a good job of explaining it in his presentation - you're spending it locally. When the person is selling you that heat pump, they're doing insulation in your home, the electrician is coming to do some re-wiring at your business, or whatever - these are local people. They're across the province and so the spending happens locally - not out of province - and has a

greater impact on the economy. Those are kind of the general reasons why there's such a big impact from spending on energy efficiency.

The types of jobs, whether short term or long term, in my view they're long-term jobs. If we're going to meet some of the goals that we've set out and talked about - getting to net zero by 2050 - and are really making that aggressive change that's required to address climate change, these jobs have to be long term.

The amount of effort required and the amount of opportunity that's there through energy efficiency means that these jobs should be long term in nature. The types of jobs really run a wide spectrum. If you think about people who do design of buildings, building design is going to be incredibly important to getting towards deep energy retrofits. You think about people installing HVAC equipment in commercial enterprises, in some cases very technical equipment training. You think about electricians. You think about labourers who might be installing insulation. Think of energy advisers and energy auditors - they have to be specially trained and knowledgeable on the use of energy, building design, and those things. It's quite a wide range of jobs, and in my view, they need to be long term in nature.

I'll just add one final point, and that's on how to mobilize this workforce, if you will. One of the things that we have found is that when you're able to give the industry certainty around a particular market, that allows them to invest. Much of the funding that the province has worked with us on has been from multi-year contracts. Our work through the electricity system is a minimum of three years. That provides some certainty to the industry that they can invest in people, they can invest in equipment, they can invest in training. I think that's hugely important to mobilizing the workforce and getting companies to make investments in this sector.

BRENDAN MAGUIRE: I'm glad that you touched on buildings and large infrastructure projects, because my next question was for the deputies of Environment and Energy and Mines. A lot of huge infrastructure projects are happening around the province and will happen going forward. Whether it's twinning of highways, building hospitals or schools, and things like that, is your department working with the Department of Transportation and Infrastructure Renewal, which is usually always the lead on this, and putting an energy efficiency and environmental lens on these projects?

We're spending in some cases billions of dollars on some of this stuff and this infrastructure - I'll use a school for example. The school in my community, I know that in my lifetime I probably won't see another brand-new high school built in the community, so for me it's a once in a generation thing. We want to make sure that five or 10 years from now that we're not looking back and saying, holy hell, who built this thing? Are you working with them to put a green lens on these projects?

FRANCES MARTIN: I guess just a couple of things that I would identify as a variety of large projects that we do - not necessarily TIR projects but large projects in this province, the ones that are subject to environmental assessment. All of our environmental assessments would have a climate change lens on them, so that's where we have an opportunity to look at some of those sorts of features that you referred to.

I talked earlier quite a bit about the new climate change plan that we'll start work on this Spring and conclude by the end of the year. We do have an existing climate change plan, and under that plan, we worked with a whole variety of departments. Agriculture would be one. TIR certainly was one, as well. As a matter of the course of them doing their work, now they abide by a variety of different energy efficient standards built into the work that they do day in and day out on various projects. Certainly we'll be engaging them as we continue to do the work this Spring and for the remainder of this year, basically, on the development of a new climate action plan.

SIMON D'ENTREMONT: Under the federal infrastructure program, there is a green component, so we at the Department of Energy and Mines have access to \$171 million for infrastructure projects that will reduce the impact of the energy sector on climate change. Also, because they're of the mind of the climate change impact, the federal government has a climate change lens on the projects - even the non-green projects under our stream; the other types of projects they fund - they do have a climate change lens on it.

I don't know how it applies, but if you were asking the federal government for infrastructure funding to do something that was contributing negatively to climate change, I'm quite confident you would not be supported. The types of projects that do, through their mechanisms, advance the agenda, I'm sure are getting a higher score.

THE CHAIR: Mr. Dunn for the PC caucus.

PAT DUNN: This question may be for Mr. d'Entremont. I'm just thinking of all the buildings that the province owns across Nova Scotia. I assume that several of them might be energy inefficient. Just a few comments maybe going forward on: What exactly are we doing with the buildings that we do own? I'm not talking about new ones that are going to occur, but the ones that are already there.

[2:15 p.m.]

SIMON D'ENTREMONT: I can jump in. We are starting to do some work on understanding Nova Scotia's climate change footprint, especially as we head into working with our partners in Environment on a Climate Change Action Plan. We need to look at greening the operations of the Province of Nova Scotia. It needs to be part of that analysis. We're starting to do some analysis, for example, on our electricity costs. The federal government made a commitment to go 100 per cent non-emitting sources of electricity by 2025. They have now sped that up to 2022 - thanks very much.

Do we want to make that same type of commitment as the Province of Nova Scotia to be 100 per cent non-emitting by some future point? Do we want to look at electrification of our fleet over time? Of course, that's not something you can snap on a dime. We have trucks that go far. We have snowplows, and I'm sure an electric motor in a snowplow is going to be a challenge. We need to look at electrification of our own fleet, and we need to look at our own building footprint. We spend \$8 million on electricity every year. Can we reduce that cost by the greening of our own building stock and so on?

I think one of the key questions as we're working on the climate action plan is, what do we do? Do we use strategic procurement, of our procurement power as a province, to drive the types of investments either supporting companies or buying products that have a certain lens? These are all questions that we need to ask ourselves while heading into the Climate Change Action Plan work, to figure out what we can do looking in our own mirror.

STEPHEN MACDONALD: One of the programs that we offer that's in part funded by the Department of Energy and Mines is something called our on-site energy manager program. This is a program where we will embed a specially trained individual to help organizations with their energy efficiency projects. The Town of Bridgewater has participated in this program. Two on-site energy managers we have are embedded with the province itself, with our hospitals, and with Housing Nova Scotia. We had some talk earlier about the important need in low-income housing stock.

These are really impactful programs, having someone on site who has knowledge about all of our programs, but it's their dedicated job every day to focus on energy efficiency. We found uptake in this program to be hugely impactful. Those are just two examples of where the province has participated and, I think, made a lot of progress.

PAT DUNN: I know around my community that a lot of newly built rentals are going up. A lot of people are moving out of their homes into these rentals. The number is significant. My question is, with so many of these going up, there must be an efficiency standard for them in the building code - if someone wants to comment on that.

FRANCES MARTIN: That would be building code-driven. I know in our conversations at the Canadian Council of Ministers of the Environment, as we discuss climate change, the building code comes up in those discussions. At the national level, they have the opportunity to influence how that code is innovated to ensure the efficiency standards are progressing. Just a few comments there on the national level - Nancy may have other comments.

NANCY RONDEAUX: I can update on the federal building code changes that are being proposed right now. They're out for consultation. The proposal is that by 2030, all new homes and larger buildings will be net zero-ready by 2030. The federal government is proposing a new building code for 2020 that would be adopted by provinces and would have different phases of energy performance. Provinces would decide whether their

industry is ready and what step in the building code they would be ready to implement. That is something that our colleagues at Municipal Affairs and Housing are looking at.

THE CHAIR: We'll turn it over to the NDP caucus. Ms. Roberts.

LISA ROBERTS: I'm going to take us back to the conversation about affordable housing for a moment. I know that there is an Efficiency Nova Scotia program that ties investment in efficiency to guaranteed rental rates in order to ensure that energy savings from retrofits are passed on to tenants.

The schedule attached to this program requires, for example, that a one-bedroom apartment in HRM whose rent includes heat and electricity charges a maximum rent of \$867 for the first year of the program, but we know that right now the average one-bedroom in Halifax is at \$959 per month.

I guess my question is: How are you ensuring that this program can be deployed to many units and that rents are protected?

STEPHEN MACDONALD: In terms of deployment of the program, our view is that with the current funding available for that program, there is still sufficient need in the marketplace and opportunity to get buildings with rents in that level. In terms of how we ensure that the rents don't increase, we ask landlords/building owners to lock in the rents for up to a 12-year period. We ask them to sign an agreement with us not to do that.

We're still very much in the early days. The program has only been around for a couple of years, so obviously for a program like this to really assess its effectiveness, we have to have a few more years in the marketplace to see how landlords respond. But that's the primary way in which we encourage landlords not to increase rent.

The other part of this I would mention is that renters are, as you know, a very difficult market to get at in terms of energy efficiency. In many cases, the landlord/building owner does not pay the electricity bill - it's paid by the tenant - so in many cases, the building owner is not necessarily incented or motivated to do energy efficiency upgrades because the savings aren't being accrued by them.

What we found for this program is that it requires a higher level of incentive offering - higher than, say, a normal program, if you will - but also more marketing and encouragement to the building owners to encourage them to participate in the program.

SIMON D'ENTREMONT: This issue of helping lower income Nova Scotians achieve their own climate change ambitions is something that we're thinking about at the Department of Energy and Mines. The simplest form of arranging our programming often is to attribute it to homeownership. Through homeownership, you have more access. The programs are biased and weighted towards higher incomes because homeownership is often a rite of passage into the programming.

We're doing some thinking about this. We're trying to think up some innovative ways whereby lower income people could participate through their ambition in climate change emission. An example might be a solar garden, which you'd establish a solar farm, but then every solar panel could be owned virtually by a renter. They would virtually own one of those solar panels and get an incentive based on their home bill for their participation on one solar panel out of a solar farm.

An interesting social aspect of this is, a great place to put a solar farm is on a contaminated site where no one else wants to put anything. A contaminated site actually has a high proportion of being next door to an economically disadvantaged community through some form of economic discrimination. It would be great if we can figure out a mechanism to set up these types of things, like solar farms next door to economically disadvantaged communities, to give them a virtual mechanism of participating in the benefits of that even though they're not homeowners.

We are thinking about these types of things and trying to figure out how to establish processes and mechanisms that might help them happen in the future.

LISA ROBERTS: Thank you for those answers. The Ecology Action Centre has outlined a scenario for deep retrofits to 100 per cent of eligible social housing by 2030. Are there any plans at the department to use that recommendation?

SIMON D'ENTREMONT: Not in such a direct way, but as I mentioned, we made a commitment that we announced \$22 million over four years to Housing Nova Scotia for low-income housing. We've made a commitment in the next 10 years to retrofit every First Nations home in Nova Scotia, which also is quite high in terms of their per capita emission of carbon intensity. We're very proud of that work that we're doing, and I'm sure we'll keep our eyes open for more opportunity to do more.

THE CHAIR: We'll turn it over to the Liberal caucus. Ms. Arab.

HON. PATRICIA ARAB: I'm going to ask some questions that sort of build on what Ms. Roberts was asking, as well. I guess my first would be to Mr. MacDonald, because he briefly spoke about incentives.

Fairview-Clayton Park, the area that I represent, is one of the fastest growing. There isn't a lot of land, so most of that is growing up: it's apartments and condominiums. When I speak to developers about why they aren't doing more to have efficient buildings, they say that the cost is too high. I guess the first part of my question would be: What are the programs and what are the incentives to developers to make their buildings more efficient for their tenants?

STEPHEN MACDONALD: We have a program for construction of new multi-unit residential buildings such as apartments and condos that provide incentives to increase the efficiency of the building envelope, the heating and cooling systems they include in the buildings, and other things. Incentives will depend on how far the developer or the building owner goes in terms of their energy efficiency. Incentives can reach as much as \$500,000; that would be at the very top end of incentives. Most wouldn't be coming in around that area, so it's hard to give an exact number. You get this for this, but we do have programs to encourage building higher efficiency buildings.

PATRICIA ARAB: As a follow-up, a \$500,000 top-off doesn't really compare to what homeowners are eligible for - whoever would like to take this.

For me, when you're representing an area that has a high density, which a lot of the HRM members have, we have residents who want to take part in programs, but either it's not possible in the condo that they own or they are renters so there aren't incentives for them. What, if anything, are we looking at in terms of making that incentive for developers higher or at least more comparable to what I as a homeowner would be eligible for?

STEPHEN MACDONALD: I should start with incentives that we have available for homeowners. For the construction of new homes, incentives are available up to \$7,000, and that's building to a certain standard above code. We also have a program funded by the Department of Energy and Mines to incent the building to net zero or passive house standard, so that would increase the total incentive available to \$9,000 for a homeowner - just to give the context around the homeowner numbers.

For builders of condo units, rental units, as I said, we do have incentive programs available to encourage building of efficient buildings. We often find there is quite a marketing component in addition to just the financial incentives available, so working with developers to encourage them to make that choice. There will come a point in time, and I know there are discussions happening - Ms. Rondeaux mentioned that - around amending building codes.

Our work at Efficiency Nova Scotia is to try to encourage the market to adopt energy efficiency technologies and practices. Once the market starts to change, those get adopted into building codes. Oftentimes, the code will get updated as people start to adopt these practices. At some point in time with condo developers, the building code will need to change to keep pace. I believe that's part of discussions that are happening, as Ms. Rondeaux outlined earlier.

THE CHAIR: We have time for one more round; two quick questions or one question. Are we able to go with two quick questions? Okay. Ms. Smith-McCrossin.

ELIZABETH SMITH-MCCROSSIN: I love what Bridgewater's doing, so hats off. I think you guys are real leaders here in the province. I'd love to see more of what you're doing province-wide, because one of the things that really stood out to me at the beginning of the presentation was the fact that Nova Scotia is ranked third in the country when it comes to energy poverty. What does that statistic actually mean? It means that over 150,000 households in Nova Scotia are living in energy poverty and struggling day to day.

I'm also burdened with what's happening within our forestry sector, so my question to you is: Will the province be willing to create a provincial strategy that would dramatically reduce energy poverty in the Province of Nova Scotia and include our forestry sector in that strategy considering that forestry is a renewable energy source?

[2:30 p.m.]

FRANCES MARTIN: I had mentioned earlier that we'll be working this Spring and Summer - actually, the year of 2019 - on the development of the Climate Change Action Plan. I had mentioned that we work closely with Energy and Mines on it, Transportation and Infrastructure Renewal, and LAE on the labour side. We will also be working closely with Lands and Forestry. In fact, we're collaborating a fair amount with them now on various aspects of climate change. I would expect that we would have ongoing conversations there and more detail developing as we carry out our consultation and conclude our plan.

SIMON D'ENTREMONT: I think back to the energy poverty question. One of our main policy mechanisms to address that is what I mentioned earlier, the HomeWarming program. We spend \$12 million a year providing low-income energy efficiency activity delivered by Efficiency Nova Scotia, again, making a difference between power rates and what your actual bill is. The average impact of that is \$950 per year per home, so we're doing that. We're also looking at other policies including opportunities for small district wood heat, opportunities for public buildings and these types of things. These things have been done in places like Prince Edward Island where public buildings are heated by wood chips and so on. We're looking at all those opportunities to see how they can participate in our energy future.

ELIZABETH SMITH-MCCROSSIN: I'll just ask, with respect to your last point, you mentioned earlier that there was \$171 million through the federal government for climate change initiatives. If something like the federal prison in Springhill was willing to be part of moving to a district heating system, which we're estimating would use about 25 tons to 30 tons of our pulp a year, would that qualify for some of that federal climate change money?

SIMON D'ENTREMONT: Without knowing for sure - it's a federal asset. They would have to self-fund that, or it would be up to them to decide whether or not they want to use some of their infrastructure funding on their own assets. The types of funding that we have access to, we wouldn't fund federal infrastructure as our top - and I'm expecting

it's either not eligible or some version thereof. It would be up to the federal government to invest in their own assets.

THE CHAIR: Ms. Roberts.

LISA ROBERTS: It has been great to have so many different players here at the table, but one player that's not here is Nova Scotia Power. I am hearing and seeing frustration from various quarters at the limits placed by Nova Scotia Power on solar installations. I'll give you an example of a church in my neighbourhood that has a wonderful large south-facing roof and they looked at installing solar panels on it. They are currently on an oil-fired furnace, and basically, they don't use a lot of electricity, and therefore it just doesn't make economic sense to put in all the energy to install one or two solar panels on a roof that can maybe take 25. I'm seeing various comments on Twitter.

Maybe I'll go first to Mr. de Vreede on this question. I'm wondering, in the implementation of Bridgewater's work, has Nova Scotia Power been supportive, or have there been barriers? I think it's being perceived as protecting its business.

LEON DE VREEDE: Nova Scotia Power has certainly been a partner in the design and implementation of our plans. As the main provincial utility, obviously there are vested interests in their economic model, as well as limitations imposed on Nova Scotia Power by the URB.

Working with utilities, especially for small municipalities, is inherently kind of a complicated process. What I can speak to is that conversations are ongoing. We have been meeting with some of the senior leadership at Nova Scotia Power for the past year or more. We've also had some of the folks at this table in the room at those conversations as well where there is discussion about - the way I would frame it is, what's the next thing in community-based distributed energy resources? - community solar farms and so on. How can municipalities and the utilities work together on that?

I don't know where the road will lead, but it's certainly a very important road that has to be walked. If Nova Scotia had a strong plan for the complete decarbonization of its electricity system, then communities may not need to go to great lengths to put in place additional incentives to decarbonize their own community infrastructure. With a provincial energy system that will only decarbonize up to a certain point, at least in the planning that has been enacted and so on to date, it's really incumbent on communities to find other decarbonization solutions. Some of those involve working with utilities, and if utilities put those solutions on the table, then communities may take advantage of those. If utilities are not willing to put those on the table, then communities may be looking for other creative out-of-the-box solutions but may also be hampered by the utility space around them.

It's a complex process of trying to figure out the way forward that offers the best value for a community, the best equity for its marginalized community members, the best economic approach, and a feasible regulatory approach as well.

I'm pleased to say that many of our provincial partners are working together, and the utility with us right now, to explore what's possible for a community that really wants to push the envelope on this, but it's certainly not clear at this time yet where this is going to end up. I would say that there is absolutely room for innovation - both legislatively and from a regulatory perspective, as well as in the utility sector.

THE CHAIR: Mr. d'Entremont, do you want to quickly add?

SIMON D'ENTREMONT: Sure. As has been mentioned, if you look at greenhouse gases in Nova Scotia, 40 per cent comes from heating oil and gasoline, 40 per cent from the energy system, and 10 per cent from everyone else. If we're going to make a difference in that, obviously decarbonizing our electricity system is going to be important and electrifying things like heating oil and vehicles will clearly be another path. Both of those paths are through electrification.

That strategy to reduce greenhouse gases only works if you decarbonize and bend the curve of carbon going forward. Of course, we've been doing that. We've got a 40 per cent renewable energy standard that we're going to meet. Next year, we're going to flip the switch on the Maritime Link, and we're going to bring in 20 per cent of our energy from hydro in one flick of the switch. We're going to increase our renewables up to 60 per cent.

We've started in a hard place, and we've made the most progress from 2005 levels than any place in the country. We've made a 53 per cent reduction target, the most aggressive in the country as well, to continue to decarbonize so that electrification can be a good path to improving our impact from our energy systems on greenhouse gases because, again, electrification only works if you have decarbonization along that.

We've set some paths. We've got some policies around cap and trade, our 53 per cent goals, our renewable energy standard, and we will continue to bend that curve down to make sure that we get to where Nova Scotians' aspirations are.

LISA ROBERTS: I think I'm mostly going to take a moment to thank Bridgewater for forcing us to walk down that path, I guess. It really strikes me how incredibly valuable that is, given that there aren't multiple municipalities. I'm the Municipal Affairs and Housing Critic for the NDP, and we put so much on our municipalities. For you to do that hard work on behalf of communities across the province is incredibly valuable.

It also strikes me as deeply wrong that we're in a position with a privatized monopoly electricity provider that is not itself walking that path and leading us. I'm not privy to those conversations, but it strikes me that a year and a half of meetings with the power utility and a municipality and calling in provincial department allies, that is a lot of

human resources to tie up in trying to work with and around those vested interests. As someone who can see the pipes of Tufts Cove from my neighbourhood, we still have a ways to go. Thank you.

THE CHAIR: We'll move over for our last set of questions. Mr. Jessome.

BEN JESSOME: Madam Chair, through you to one or some of our guests here today, appreciating the variety of programs that Nova Scotians have access to, and with the understanding that uptake and successful access to these programs is a significant priority for everybody - I think that's a fair assessment here today - what is being done to ensure that the support that's out there through our departments and through our arm's-length organizations get Nova Scotians to a successful application? Have there been any changes made recently? Mr. d'Entremont alluded to a group he referred to as energy advisers. If we want people to take on these initiatives and at times perhaps government can receive a reputation for saying no too much, how do we ensure - if someone comes banging on our door wanting to do something towards this goal - that they walk away with a yes?

SIMON D'ENTREMONT: I'll take the opportunity to give a shout-out to Stephen and his organization. They have a great reputation in all the circles that I have travelled in terms of their ability to deliver good programming, to be able to pre-qualify installers and give people confidence. I have to say I'm impressed with their ability. As you mentioned, the ratings we have gotten from national organizations show that we're not playing second fiddle to anyone in terms of the great work they're doing. I have to give a shout-out to the way that they measure their work. When they come back to us and tell us what they have been up to, it's very metric. They know how many people they're seeing, how many people they're delivering, what their goals are for the quarter, and whether or not they have met them. I think through that discipline, if we start falling off and not doing a good job, we're going to know. I think that's the best way we make sure we're staying on track.

BEN JESSOME: I would just offer that the relationship my office has had with Efficiency Nova Scotia has been extremely positive. Certainly, from an information-relaying perspective, I have always had access to what is required, and I think it has been of benefit to constituents that I have engaged on the subject. Again, with that emphasis placed on successful applications and making it easy to access these programs, is there an appetite or thought towards a kind of universal intake in partnership with municipalities and the federal government?

STEPHEN MACDONALD: We're always looking for ways that we can improve ease of use and accessibility of our programs. Over the years since I've been involved with this, we've made a number of changes - whether that's online application forms, moving away from paper and other things, or pre-qualification - and there's lots more at work that can be done in that area. I'm thinking in terms of apps you can have or scanning your receipts and sending them to us - we're always looking for ways that we can improve that.

[2:45 p.m.]

I mentioned earlier in some of my remarks that the federal government has been talking about introducing some low-interest loans for energy efficiency upgrades and providing free audits. We want to make sure we create a scenario where Nova Scotians don't have to worry about who they should contact or call or how to figure out programs. I haven't spent a lot of time today talking about the unique model that's in place in Nova Scotia for energy efficiency, but it is a unique model.

To have a single administrator that's independent of the electricity utility and independent of government is pretty unique. We're the only province in Canada that has that model, and other than Vermont, the only jurisdiction in North America that I'm aware of, that has that type of model.

When the province asks us to go out and upgrade a certain number of low-income homes, provide services to renters, or help Mi'kmaw communities, or the URB asks us to focus on our electricity energy efficiency work - all that work is associated with targets. Our work revolves around achieving a certain number of energy savings targets, and we're very focused on that. I think that's hardwired into the model and one of the reasons we've been able to have the kind of success we've had. Any opportunity we have to streamline programs and make it more accessible and easier for Nova Scotians, we're always striving for that.

THE CHAIR: Do we have any closing remarks by our presenters? Mr. MacDonald.

STEPHEN MACDONALD: Thanks so much for the committee's time today. I would like to leave you with a few takeaways.

The first is what I just spoke about, and that's the model for energy efficiency here in Nova Scotia. It is independent, target based, performance based, and it does have a track record of success. It's a model that I'm very confident can be used to achieve even greater greenhouse gas emission reductions in the province. It's something the province has taken advantage of, and I think there's more of an opportunity as we look to where greenhouse gas emission reductions can come from to take advantage of this really unique model.

The second is - and we have mentioned it - energy efficiency is a fast, cost-effective way for individuals, businesses, non-profit organizations, and communities to save money by reducing their energy costs while also reducing their climate impact. It really should be the first choice for policy-makers as the most cost-effective way to achieve climate change targets.

Mr. d'Entremont mentioned a path towards electrification, particularly as the electricity system becomes one based on renewable sources. From a customer perspective, the actual people paying that electricity usage, that becomes a much easier and much more affordable transition and, in my view, a much more equitable transition if energy efficiency

comes first - reducing and becoming more efficient on the energy you use as part of that transition.

The third point I would leave the committee with is that it has been common in the past for the economy and the environment to be seen and positioned as a choice between the two; a trade-off, if you will. The robust and growing energy efficiency industry and its significant contribution to climate change is one of the best, if not the best, examples in my view, of how the economy and the environment can go hand in hand. Thank you.

THE CHAIR: Thank you. This has been a most interesting meeting. I thank each of you for coming. I see Mr. Gorman is warming up his microphone. I'm sure he'll like to capture some of you for an interview. We'll let you go, and we're just going to wrap up with our business meeting. Thank you very much.

[2:49 p.m. The committee recessed.]

[2:51 p.m. The committee reconvened.]

THE CHAIR: Okay. We'll move on to our business meeting.

Our next meeting is going to be Wednesday, February 5th at 10:00 a.m. to 12:00 noon because people have caucuses, but we've managed to squeeze this in. We tried for today, but the deputy wasn't available. Because the Legislature's going in, we wouldn't have a meeting in February, but the clerk and I worked out a date so that we could slip this in before the Legislature sat.

This is a substitute meeting that normally probably would have taken place on February 25th, so we will have Deputy Minister Dean here to talk about the forestry transition program that's going on currently. Ms. Chender.

CLAUDIA CHENDER: We are still having just an ABC meeting on the 25th?

THE CHAIR: This is Natural Resources.

CLAUDIA CHENDER: I'm sorry. I'm so confused.

THE CHAIR: I know. It has been a long day, and a lot of the same players are here.

CLAUDIA CHENDER: We're not having a meeting on the 25th at all?

THE CHAIR: You will have Human Resources, but it will just be a very short meeting for appointments.

This is for Natural Resources and Economic Development, so next Wednesday at 10:00 a.m., we will see some of you here at the table.

Thank you very much. This was a good meeting, very good questions, and it's a really timely topic for us. Thank you all.

[The committee adjourned at 2:52 p.m.]