

HANSARD

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COMMITTEE ON NATURAL RESOURCES AND ECONOMIC DEVELOPMENT

Tuesday, April 23, 2024

Red Chamber

The Status of the Atlantic Loop Projects

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**NATURAL RESOURCES AND
ECONOMIC DEVELOPMENT COMMITTEE**

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Hon. Iain Rankin
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Gary Burrill
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[Ronnie LeBlanc was replaced by Braedon Clark.]
[Lisa Lachance was replaced by Susan Leblanc.]

In Attendance:

Tamer Nusseibeh
Legislative Committee Clerk

Karen Kinley
Legislative Counsel

WITNESSES

Department of Natural Resources and Renewables

Karen Gatien, Deputy Minister
Keith Collins, Executive Director, Clean Energy
David Miller, Executive Lead, Electricity Projects

Nova Scotia Power

Peter Gregg, President and CEO



House of Assembly
Nova Scotia

HALIFAX, TUESDAY, APRIL 23, 2024

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

10:00 A.M.

CHAIR

John White

VICE CHAIR

Dave Ritcey

THE CHAIR: Order. I call this meeting to order. This is the Standing Committee on Natural Resources and Economic Development. I'm John White, MLA for Glace Bay-Dominion and the Chair of this committee.

Today we will hear from presenters on The Status of the Atlantic Loop Projects. I ask you to please turn off your phones or put them on silent. I'll now ask committee members to introduce themselves, starting to my left with MLA Ritcey.

[The committee members introduced themselves.]

THE CHAIR: I'd also like to recognize the presence of Legislative Counsel Karen Kinley on my left, and Legislative Committee Clerk Tamer Nusseibeh on my right.

I'll now ask the witnesses to introduce themselves, starting on the left with Mr. Collins. I'll just ask you to introduce yourselves, and we'll come back for opening comments.

[The witnesses introduced themselves.]

THE CHAIR: I understand, Deputy Minister Gatién and Peter Gregg, you have opening remarks. Deputy Minister Gatién wants to go first.

KAREN GATIÉN: I'm very pleased to speak with the committee today on the status of the Atlantic Loop and our department's plan to transition to clean energy by 2030. Nova Scotia has some of the most ambitious climate change goals in the country, and they're cemented in legislation. We're determined to reach each of them.

The actions to advance these goals are spelled out in government's Climate Change Plan for Clean Growth, and we drilled deeper into actions for greening the grid last Fall with the Clean Power Plan. It mainly outlines our path to 2030, and also shows some steps toward 2050. Our aim is clear: a clean, sustainable future for generations to come. We need to get there without putting unnecessary burden on Nova Scotians.

Our goal is to protect ratepayers while we keep this transition moving. Our plan gives Nova Scotia a clear and certain path to reach at least 80 per cent renewable electricity by 2030, and we'll get off coal too. Then we'll keep moving toward net zero by 2050. To get there, we are focusing primarily on made-in-Nova Scotia solutions: onshore wind, solar power, and batteries - a big part of our path to 2030.

Offshore wind, green hydrogen and other innovations for clean energy are key parts of our path to reach net zero by 2050. This approach makes the most sense for Nova Scotia, and I'm pleased that our federal partners agree. We're counting on their financial support for the transition, and we continue to have productive discussions with them about that. We made it clear last Fall that the Atlantic Loop as originally proposed is not part of our plan to reach our 2030 goals. That's not to say that we won't ever do it or something like it. We still need to reach net zero by 2050, and it just might help us get there. There are many other pieces of our plan that are essential for reaching 2030 - pieces we need to do regardless of the Loop, and we are focused on those.

The intertie with New Brunswick is one of those key pieces. We will need it to manage renewables and boost reliability, and it could eventually become part of a modified loop in the future. It could even help Nova Scotia export renewable electricity from offshore wind.

As we make this shift to clean energy, we also need to modernize our electricity system. Bill No. 404 takes a big step in that direction. With that legislation in place, we are now getting the work under way to establish the new Nova Scotia Energy Board and Independent Energy System Operator. Our transition to clean energy requires many partners. We appreciate Nova Scotia Power's support and collaboration as we make all of these changes. We are both focused on moving to a clean renewable energy future for Nova Scotia, one where we are no longer at the mercy of global fossil fuel markets and where we choose our own destiny with made-in-Nova Scotia solutions.

With that, I will end my remarks. I look forward to your questions.

THE CHAIR: Mr. Gregg.

PETER GREGG: Good morning. On behalf of Nova Scotia Power, I want to thank you for the invitation to have a conversation with all of you about Nova Scotia's renewable energy transition and the projects, initiatives, and partnerships that support our collective efforts to meet the legislated climate goals.

I'm pleased to appear alongside Deputy Minister Gatien, Mr. Miller, and Mr. Collins as well, who are key collaborators and valued partners in the clean energy transition.

We know that climate change is a real and pressing concern for all of us. Nova Scotia Power is committed to working together with government, communities, and stakeholders across the province to meet the environmental goals for a clean energy future. I look forward, as I said, to our conversation today and the opportunity for a dialogue and discussion about our role in the renewable energy transition, and progress toward meeting government's climate goals.

The Government of Nova Scotia's 2030 Clean Power Plan provides a path forward to meet its 2030 decarbonization goals, achieving 80 per cent electricity sales from renewable resources and phasing out coal-fired generation. In support of these efforts, our team at Nova Scotia Power is committed to moving off coal and reaching that 80 per cent renewable energy target by 2030.

We know it is the right thing to do. We know our customers want to do their part to fight climate change. We filed our *The Path to 2030* report last December with the Nova Scotia Utility and Review Board, detailing our plan to meet government's 2030 climate goals. This is aligned with the Province's Clean Power Plan and draws from work completed as part of our 2023 Evergreen Integrated Resource Plan. *The Path to 2030* report provides clarity on the projects and initiatives that will enable us to achieve our shared goals while maintaining safe, reliable service and managed costs for our customers.

To achieve these goals, our plan is focused on a few key areas. First, we have the integration of new variable renewable energy, like wind and solar, on to the grid. Provincial programs supporting this integration include rate-based procurement, green choices, and commercial net metering. *The Path to 2030* report anticipates that grid-scale battery storage will be added to the grid in many ways. At Nova Scotia Power, we are adding battery facilities at project sites throughout the province. The battery integration will help us phase out coal, add more renewable energy to the grid, and enable us to continue to provide reliable electricity for our customers.

Another measure to improve the reliability of the grid is the transmission reliability tie between New Brunswick and Nova Scotia. This will allow us to dispatch additional electricity as needed, providing a stable, reliable flow of energy in both directions as we add more renewables to our system. More recently we saw, as Deputy Minister Gatien mentioned, the passage of the Energy Reform Act, or Bill No. 404, to create a new Nova Scotia Independent Energy System Operator and Nova Scotia Energy Board.

As some of you may know, prior to joining the team at Nova Scotia Power, I was the president and CEO of the Independent Electricity System Operator in Ontario. I am confident that through this transition, we are aligned with and support the government's commitment to providing cost-effective and reliable electricity to our customers.

The creation of an independent system operator responsible for the long-range planning of the provincial electricity system will allow Nova Scotia Power to continue focusing on two core things: providing reliable service to our customers and delivering key projects on the path to 2030. We have worked collaboratively with the task force through this process, and will continue to work with the government on next steps to ensure that we all get this right on behalf of our customers.

Overall, we are making steady progress towards renewable energy targets and climate goals. For almost 20 years, we've been on a path to green the grid and transition away from coal. Since 2005, we reduced carbon emissions by 46 per cent, and our use of coal has gone from 55 per cent to 33 per cent over that same time period. While we recognize that coal has played an important part of our past - it did provide reliable electricity to customers for decades - we know that it cannot be part of our future. We are proud of our team's leadership and collaboration on one of the fastest transitions to renewables in Canadian history. Together, we will continue to pave the way for the transition to renewable energy.

In closing, meeting the goals of the 2030 plan is a responsibility that we share with our partners, and we appreciate the collective effort it takes to achieve these climate goals. A successful transition will take the coordination and co-operation of many groups, including the Government of Nova Scotia, the Government of Canada, independent power producers, EfficiencyOne, Mi'kmaw partners, Nova Scotia Power, and others. We are grateful for the opportunity to collaborate with so many committed partners and experts on our shared vision for our province's clean energy future.

THE CHAIR: Thank you, Mr. Gregg. At this time, I'd remind everybody to wait until I call your name and your microphone turns red so that Legislative TV can pick you up as a speaker.

The floor is open for questions now. We will finish around 20 minutes to 12:00. I have the honourable Iain Rankin up next for the first question.

THE CHAIR: MLA Rankin.

HON. IAIN RANKIN: Thank you for being here, everyone. I just want to focus a little bit on the part of the Atlantic Loop that we, I think, all agree on that needs to happen. That's the intertie we've talked about before. At one point, that estimate was about \$500 million; it's grown significantly. I wonder if there is a new, current estimate on that project for the intertie, what the ask is from the federal government, and what the breakdown is in terms of what we anticipate the cost-sharing arrangement will be with the federal government and New Brunswick, and if anything could be tabled in terms of application for funding or correspondence with the feds on that issue.

PETER GREGG: We continue to develop that project. That is a project that would parallel an existing 345 kV line that we already have to New Brunswick. It would go from Onslow to Salisbury, that segment you're referring to. It has the ability to actually move further on into New Brunswick, but right now, we're focused on that first segment. The current estimate for that project would be \$700 million. As we've refined that estimate, we continue to work with the federal government and, importantly, the Canada Infrastructure Bank on how we would structure that project. Don't have the final details of that worked out, but I would say, as I mentioned in my opening comments, it's going to take multiple parties to make this a successful and affordable journey, the transition.

Maybe I'll give you an example of what that means that I can really speak to. We recently have been in front of the NSUARB with a grid-scale battery project, which is an important part of the 2030 transition as well. That project is structured in such a way that we have all 13 Mi'kmaw communities as equity investors in that. We received \$111 million in grant funding from Natural Resources Canada for that project, and we worked with the Canada Infrastructure Bank for low-cost financing. It's taken that project from a \$360-ish million project down to about a \$250 million project with the grant, and then that low-cost financing has really enabled that to be a more affordable project. That is working its way through the regulator now.

I wouldn't say it's going to be exactly that approach for each component, but it's going to take that kind of collaboration with multiple parties around financial structuring to make this a more affordable journey for our customers.

I'm thankful for our collaborative approach with the Province, and also thankful that we've had some meaningful conversations with the federal government over the last several years that are resulting in innovative financing opportunities for these projects.

IAIN RANKIN: The word "parallel" - it's basically twinning the line. In the 2030 green plan that the Province came out with, it proposed this project for 2028-29. Why does it take another five years for a total of - we're talking about this project being in the IRP for a long time. What efforts are under way to streamline this project, especially from a

regulatory perspective? My memory says that it unlocks 400 megawatts of clean energy, and more on the battery side as well.

[10:15 a.m.]

We have three coal plants running that are overdue for closure. We have fuel costs that are escalating that are being putting onto ratepayers. What is happening in terms of getting this built, given that we are in 2024 now, and the government has been in for almost three years, and all we're seeing is some consultation. What is it that needs to be consulted on so thoroughly over a number of years that this project can't happen until a year before the targets have to be met? I've already said that if we start at \$500 million, the cost is now \$700 million, with no shovels in the ground. What's taking so long? Can anything be done to streamline this process to start the work this year?

PETER GREGG: These projects do take multiple years to develop. I understand the need for urgency, and we do have it slotted in, as you said, to achieve the 2030 goals. We are confident we can achieve the 2030 goals, is the first answer.

What we have done on that project - we received environmental assessment approval for that project late last year. We are now working with NB Power. That obviously will be on both sides of the border, so we are managing our side of the border, and NB Power is managing their side of the border. We are now into detailed engineering on that project.

There is a high demand across the world for things like transmission conductors for transformers that take some long lead time to secure the manufacturing slots for that. That does play into our planning, so we are doing all that work now. There will be continued discussions with landowners who could be impacted over the next number of years.

Again, we have a good plan for that project. It's well advanced. It's got environmental assessment approval, and we're confident we can get that delivered on time.

IAIN RANKIN: Did the passing of Bill No. 212 effectively slow down the progress on the intertie?

PETER GREGG: No, it didn't.

THE CHAIR: Before I go to MLA Palmer, I'm going to go back to MLA Leblanc for an introduction.

SUSAN LEBLANC: Good morning, everyone - Susan Leblanc, MLA for Dartmouth North.

THE CHAIR: MLA Palmer.

CHRIS PALMER: To avoid too many follow-ups, I'm going to put four questions into my one, just so you know.

Mr. Gregg, in your opening comments you mentioned battery integration. In preparing for this meeting this morning, I understood that you are going to be launching three battery projects - battery storage around the province. I think one of them will be in my constituency of Kings West, in Waterville. Could you tell us a bit more about those and what that logistically would look like?

If I could add my other few follow-up questions here now: How do they help us reach climate change goals? How do they help with reliability in our power?

PETER GREGG: It's 150 megawatts total of grid scale battery installed in the system across three different sites, so 50 megawatts each in Bridgewater, Waterville, White Rock, and Waverley. As we add more wind and solar to the grid, we need to ensure that electricity stays reliable. Having that battery storage in the system allows for taking of variable resources and smoothing that out on the system. It also helps us store more renewable energy so that when we need it, we can inject it back into the system, so it will be storing green energy and moving it back into the system.

As I said, we've been looking at the most cost-effective way of delivering that, and we've come up with what we think is an innovative approach to the financing of this. That is currently before the NSUARB and that will work through its process, but we hope to have a decision on that in the not-too-distant future.

It's a really important piece for us achieving that 2030 ambition and goal, and it's really the first piece of doing that. We plan to have the first two sites up and ready next year, and the third one in the year following. We've actually already begun site-clearing at two of those facilities, so we do want to advance that work as quickly as we can.

I think I mentioned earlier that we've got all 13 Mi'kmaw communities - I think this is the first time that we've seen that - as investors in this project. All 13 are there participating with us as investors on this project. It received federal funding, as I mentioned before, of \$111 million, which really directly reduces the burden on our ratepayers for that project.

It's part of the Clean Power Plan, and it's part of our *Path to 2030*. It's a critical project that we get advanced now. It enables the province to add much more wind and solar to the system, so it's really critical that we keep moving on our pace with that project. Hopefully I answered your questions.

THE CHAIR: MLA Burrill.

GARY BURRILL: All of this, of course, is never unrelated to the question of rates. It's very important to us, as this discussion goes ahead to us in the NDP, to think about the working initiative of the affordable energy task force.

I want to ask about where we are on this journey to get to a place of some version of a universal services program - to some version of a place where credits are being applied to lower income people on their power rates. Can you report on where we are on this path, and maybe on when we might be able to look to a conclusion and a report?

KAREN GATIEN: It is obviously of great importance to us as well to look at what we can do for affordability for Nova Scotians.

What I can say is that I don't have a date for you. I'll just manage expectations on that now. What I will say is that, as many of you would know, the task force and their Recommendation 12 recommended that we look closely at the Ontario subsidy program, which we are doing.

As well, we are looking forward to the report that the Affordable Energy Coalition is about to present and, in fact, have a meeting - I think it's next week with them - where they and the consultant that they'd hired or worked with is going to present their findings and recommendations to me. I look forward to actually learning more at that point. All of that will be considered as we look at the Ontario plan, as well, to see what we can propose to government as an appropriate next step.

GARY BURRILL: My expectations are managed, but in general, can you say something about whether we're talking about reasonably soon or far, far off?

KAREN GATIEN: I would say that what we will do is finish our work as a public service reasonably soon. As you would appreciate, the first two recommendations of that task force were the big lift - well, I would argue maybe not the biggest lift. Affordability is certainly the biggest lift, but they were a big lift that required legislation. We needed to focus on those first with the House going in.

Now we're looking at the other recommendations, and that is, of course, a key one. Then from there, we'll make our recommendations, and the timeline is kind of out of our hands at that point. We're all taking it very seriously and looking very closely at it.

THE CHAIR: Next I have MLA Young, who will be followed by MLA Rankin and MLA Leblanc for one question each.

MLA Young.

NOLAN YOUNG: I guess my question would be to the department. Now that the Energy Reform Act has passed, I'm just wondering what the next steps are for the new energy board - the Independent Energy System Operator - to get in place?

KAREN GATIEN: Maybe I'll start, and then I would ask my colleague, David Miller, just to add a little more detail if there's any.

We've already had at least one meeting with the existing NSUARB senior staff - the board chair, vice chair, and executive director - to start to talk about what the pieces are that we need to work on together. We have put together a bit of a secretariat. I use that term loosely, but it's a couple of people dedicated - David is one of them - to really focus in from a department perspective on the work. Of course, everyone will lean in as much as possible to support the work that they're doing.

In terms of the Independent Energy System Operator, government will put together a transition team - almost a task force - to oversee that work. It's a phased approach. Peter would know this far better than we do, even. We don't want to do anything that disrupts the system at the same time, so we're thinking it's likely a couple of years. Some of the planning pieces may be first, and then what makes sense in terms of a cadence of progress from there. Certainly, we're focused. At the same as that, we're also looking at those other recommendations as I'd mentioned. David, was there anything I missed?

DAVID MILLER: I won't add much. The deputy minister covered most of it. I think the key part is that we're doing a lot of planning now to ensure the transition goes in a logical manner to ensure we achieve the fastest results for the critical pieces going forward. Knowing that 2030 is fast approaching, there's some critical work around the planning and procurement that will need to take place. We also want to be cautious about overstepping or moving too quickly, where part of this team that will be transitioned is responsible for keeping the lights on every hour of every day.

We're working closely with Nova Scotia Power to ensure that we can design this process to adjust over time, and make sure that we don't have those disruptions where we don't need to have them. This is a collaborative exercise. Nova Scotia Power has been working closely, and we're still in that planning stage at this time.

THE CHAIR: Next we have MLA Rankin again.

HON. IAIN RANKIN: Given that we are going to spend at least \$700 million on the intertie - I'm going to go out on a limb and say it's going to be more expensive by the time it's built - we don't have a commitment yet from the federal government to offset that. That will go onto rates - correct me if I'm wrong. We also have what we have to deal with in terms of the fuel costs escalating year over year. We know there's an arrangement for the government to help with \$117 million of that, but as we continue to burn coal, we are going to have that issue of fuel costs to deal with, directly on rates.

[10:30 a.m.]

Can someone explain what the financial liability is - in any detail would be welcome - as we continue to burn coal, especially at the three units that were scheduled to close and are now overdue this year? Can someone explain what the cost is to ratepayers, and compare it to what the cost would be to ratepayers if we were able to close those coal plants?

I'll try to get another question in as well. What is the new schedule to close those coal plants, given that we are spending unnecessary funds on burning expensive coal when we should be transitioning to reliable, clean energy? Will that happen this calendar year? Will we start to see some of these plants close down? Maybe for Mr. Gregg: What are we spending to maintain these plants, and does that go on rates as well? The maintenance of those coal plants.

PETER GREGG: There was a lot there, so let me try to do that. You said we're delayed in closing those plants. I wouldn't say we're delayed. We need to achieve legislative requirements to be off coal by 2030, and so the investments we're making along with the Province are critical to achieving that. I mentioned the grid-scale battery projects. Getting those in place is essential. Getting the tie line in place is essential to enable us to close those coal plants, and also the Province procuring the necessary wind - 1,000 megawatts or more of wind - is essentially doing that.

We have a very detailed plan in the Clean Power Plan that shows when coal gets shut down. There are some of those plants that will be converted, when Point Tupper will be converted to natural gas. We have the ability also to burn heavy fuel oil for short periods of time, if required for reliability purposes, for a couple of those plants. Also looking at the opportunity to burn green hydrogen - should that become economically viable in the not-too-distant future - rather than natural gas, which we really prefer to do. We do have a plan on that.

To talk about the cost is difficult, but it's going to be a significant investment on behalf of Nova Scotians to achieve all of this. I think the goal really is to try to find a way, like we did with the battery projects, to defray as much of that cost as possible.

The provincial legislation was really a response to federal carbon pricing, and it was a good response to it, but the federal government has set an ambitious target to have the country off coal by 2030. Fifty-five per cent of the nation's cost of getting off coal resides in Nova Scotia, and we're 3 per cent of the population. That's been our starting point with the federal government from day one, and it's to say we need help. Our customers need help with that transition because it is going to be a costly one.

Relying on that direct grant funding where possible, working closely with the Canada Infrastructure Bank on financing solutions that make the transition more

affordable, and looking at other financial tools, such as deferrals over periods of time through a regulatory application - I think they're going to be pieces of making this a more affordable transition for our customers.

We're working really closely with our colleagues at the Department of Natural Resources and Renewables to find that path. We don't have that path fully paved yet, but we're making some very good early progress on the grid scale battery projects, as I mentioned, and with environmental approval for the timeline. We're making good progress on that as well.

The pieces are starting to fall into place. We continue to work with the federal government on finding financing solutions for this. Then each of these projects will need to go before the NSUARB, and ultimately be approved as prudent investments in the transition.

DAVID MILLER: I'll just add a few points from our perspective. As Peter mentioned, we've been working closely with Canada on a variety of pieces. I think the recent changes in legislation to enable investment tax credits for a number of these clean energy investments is critical. There's a 15 per cent tax credit that will apply to interprovincial transmission lines, which will help directly reduce the cost of the NS-NB tie line to ratepayers in Nova Scotia. There's also a 30 per cent Clean Electricity Investment Tax Credit that will apply to the wind projects that will serve Nova Scotians.

We are making use of those, in addition to working with the Canada Infrastructure Bank and with Natural Resources Canada on the various funding programs they have available, to try and maximize that investment in Nova Scotia, where we face the majority of the cost from coal closure. Also, just in general, the costs of transition here are more challenging than in many other jurisdictions that can rely on hydro electricity.

I think it's really critical that reliability is foundational for our industries, for our people. While there are certainly challenges for reliability in Nova Scotia, as we're all aware, it is important that we maintain the generation resources necessary while we build up to integrate all of this variable renewable energy.

The batteries are a critical part of that, and the tie lines are a critical part of that, but until those are in place we can't safely shut down as much coal as we might hope to. What we can continue to do is reduce the use of fuel at those facilities as much as possible, replacing it with clean, low-cost wind or imports from Muskrat Falls or other locations. This is a stepped process where we have to manage that critical reliability piece for all customers while integrating the new renewables.

IAIN RANKIN: I'm glad you mentioned carbon pricing because we're just talking now about the cost itself, with the fuel. Carbon pricing now is escalating every single year. While from a legislative perspective you have until 2030 to close all eight units, I think we

should all admit that as we continue to burn coal in those interim years, our rates are higher because of the carbon intensity of that coal, given our carbon pricing is now \$80 a tonne.

The province has passed legislation to put performance standards - OBPS - on Nova Scotia Power. What has the government analyzed in terms of the cost to rates for that program, for OBPS? Is there a comparison of how much that carbon pricing will cost with all coal plants running? What is the advantage of starting to look at closing down some of these coal - and we're not even talking about the social costs of coal today because I don't have enough questions to be able to use that time.

Certainly, it's the most expensive fuel. It's the most carbon-intensive fuel. We have carbon pricing. I believe OBPS comes in in December 2024, is what the Minister of Environment and Climate Change has said. I know we don't have representatives from the Department of Environment and Climate Change here today, but certainly someone from the government should be looking at carbon budgeting and looking at what the impact is on rates for us to continue to burn the most carbon-intensive fuel and the most expensive fuel in the province over the last three years.

KAREN GATIEN: As you mentioned, that would be a Department of Environment and Climate Change item to look at, but I'd be happy to work with my colleague in the Department of Environment and Climate Change to get you an answer. I assume the question can be forwarded to me. We are not doing it. It would be the Department of Environment and Climate Change who would be doing it.

IAIN RANKIN: But you can admit that the rates are higher because we continue to burn coal with the carbon model.

KAREN GATIEN: I would admit that there are probably a lot of negative impacts to burning coal, for sure, one of which could be rates. I think the rates are going up as well with decarbonization work that we're doing. In the long run, that will be better and save us money for sure - 100 per cent agree with that. In terms of the specifics of the rates, Peter, I don't know if you wanted to add anything?

PETER GREGG: When we do our Integrated Resource Planning - and as I mentioned in my opening comments, we do an Evergreen Resource Update every year now - we look at things like carbon pricing, so we bake that into the plan and the escalation in that cost going up year over year. What we're trying to solve for when we do that plan is the lowest cost solution incorporating all of those elements, so we need to respond to legislative requirements like being off coal by 2030. That's in the plan. We look at technologies available to us to accommodate meeting the legislative goals, and then we solve for the lowest cost option to get there. That's really the plan.

Yes, there is an escalating price on carbon. We're committed to getting off of coal by 2030, and confident that we can get there. I can assure you and our customers that the

plan seeks and achieves the lowest cost transition to get there based on technologies, timing, all of those considerations. That's how we're addressing that.

THE CHAIR: Next I have MLA Leblanc, then MLA Craig, and MLA Burrill.

MLA Leblanc.

SUSAN LEBLANC: As we're talking about rates and how we compensate for all of these changes with rates, I just want to remind everyone we should also be talking about bills. Because if we can lower the demand for power, then the Earth will be better for it and people will be paying less money for their power. So efficiency, efficiency, efficiency - but I'm going to ask this question instead of talking about efficiency.

This is to Nova Scotia Power: I understand that you've recently applied for a \$31 million electrical upgrade to the Michelin Tire Waterville plant, and that's stemming from performance standards created in regulation by the Houston government. What's the rationale for billing all ratepayers for that upgrade, which will only benefit that one industrial client?

PETER GREGG: I can address the specifics of that, but then I'll take the conversation perhaps a little broader to explain it. You're right, we're responding to performance standards that have been put in place to ensure that customers like Michelin - and the issue there is that as Michelin invests in more modernized equipment in their manufacturing process, it's more susceptible to voltage fluctuations on the system primarily caused by lightning strikes. That's been an issue they've been seeing. They've been seeing some production disruptions as a result of lightning strikes in their vicinity.

We've been working with them to find a novel solution, which is basically a voltage restorer that we're putting in there. We've been working with the Province and with Michelin on that project. We think it's important that we support large employers like Michelin in the province with the reliability they need to run their plant. Ultimately that is going to be a decision by the regulator, if that is the right thing for us to do, and that's why we've applied to the regulator.

But when you look at ratemaking for utilities, the same principle generally applies. When a customer pays their bill in Timberlea, as an example, that is going to do line upgrades in Ingonish. The context isn't that you're simply paying for that segment of line and the piece of generation that serves you as a customer. Those costs are going to support the entire system from a reliability perspective. Your bill helps pay for improvements in reliability in other parts of the province. We believe the same logic applies here, but ultimately, as I said, this is a decision for the NSUARB to decide if that is the right approach to the issue.

DAVID MILLER: I just want to add a few things. As Peter said, this is not just about an investment for Michelin. This regulation applies across the province for all transmission-connected customers. We don't have a huge number of transmission-connected customers. We wish we had more.

If we're going to continue to transition to higher and higher amounts of variable renewable energy, we need to ensure that the power quality is maintained at all of these plants and facilities. It's not just the result of adding wind on the system; it's the result of a whole variety of factors. The batteries are part of the solution. Those batteries benefit every customer. They benefit Michelin as much as they benefit folks in Timberlea, as was mentioned.

I think it's important, though, that we want to make sure that if we are trying to attract new businesses to invest in Nova Scotia and grow our manufacturing or any of our business sectors, we need to ensure that. This is a critical piece of that. This kind of voltage sag or fluctuation can be critical and damage equipment and/or prevent someone from investing here.

This is the kind of thing that Advanced Manufacturing is looking at all the time. We want to make sure that when people come here, they can point to this regulation and say: Don't worry, we're covered, we can make this investment knowing that our equipment will not be impacted by anything to do with the power system, and if it is, it will be corrected. That is not a cost that we alone will bear, but that is a cost that is shared by all customers.

SUSAN LEBLANC: To Mr. Gregg, I would say: How very socialist, the description of how that all works. It's very interesting. I would say that I love your idea that my power bills are going to pay for someone's power in Ingonish. That's fine with me, but it is a little bit different when we're talking about large industrial plants, right? That my power bill is going to subsidize the profit of Michelin at some place down the line.

Yes, also all the jobs and all of that stuff - and I take Mr. Miller's point very clearly. Yet, in a recent article, a Nova Scotia rep stated that this kind of regulation and standard is unique to Nova Scotia, and there's no equivalent in other jurisdictions. I'm wondering if either Nova Scotia Power or the department can explain: Was there a jurisdictional scan when you were looking at these things? Why is it just in Nova Scotia?

DAVID MILLER: I would say, in part, that every electricity system is unique in its features and its challenges. Nova Scotia does have a specific set of challenges associated with this, as a result of our rapid decarbonization and the removal of some of the synchronous generators on the system. The advantage to some of these spinning units in places like Point Tupper or Lingan is that they help create strength on the system that is required to maintain all of these features.

Michelin's equipment in Nova Scotia is of a variety of vintages, I think I would say. They are more prone, perhaps, to some of these challenges. Customers elsewhere - and this was identified through the collaborative work with Nova Scotia Power and Michelin - identified some circumstances in other places. I think it was Germany where these kinds of investments are being made to help industrial customers deal with these voltage sag issues, so it's very similar.

The piece of equipment, or the investments that are necessary here, are being used elsewhere to mitigate the same type of problem. It is less present in other Canadian jurisdictions in part because of the presence of things like hydroelectricity, which generates huge amounts of system strength and helps to manage that better.

Nova Scotia also doesn't have the same loops of transmission that some other places have. Part of this is that other industries don't always invest in those locations. There are parts of northern Ontario where there's not nearly as much industry, or that industry co-generates because they would otherwise have similar types of problems. If you're way out north of Timmins or you're in those kinds of locations, you could experience these, but they don't get that same kind of advanced manufacturing.

This is one of the challenges of this transition. We want the best and the newest modern equipment, and we want it to be electrically driven, which Michelin is all for as well. But in order to make those investments, they need to know that the system will be there to back them every hour that they plan to operate. For Michelin, that's a 24/7 kind of thing.

THE CHAIR: Next we have the honourable Steve Craig.

HON. STEVE CRAIG: Thank you all for being here today. I absolutely find this fascinating. I do, and one of the main reasons is because my first job as a professional was as a power engineer in 1975 for the telephone company. A lot of what you're talking about, I can relate to, whether it's inverters, converters, rectifiers, voltage regulators, whatever.

My question is not around the generation of electricity - whether it be renewable such as solar, tidal, wind, whatever that might be, or fossil fuels or nuclear. That's not where my question - when I'm looking for a response, Mr. Gregg, from you - is going. The source of electricity is nothing if you do not reach the destination, whether that be a consumer or whether it be a commercial enterprise/industrial company.

We know that over the last number of years, the network that would be from the source - whether it comes from out of the province, or in the province, or distributed sources within the province - has to get eventually to the curb of a residence, to the curb of a business. That's where I want to focus my question. What are you doing to address the resiliency of the transmission network so that, regardless of the source, if you've got it and

you can produce the electricity - again, if it does not get to somebody's house to power their devices, it's all for naught.

[10:45 a.m.]

I wonder, Mr. Gregg, if you could address what it is that Nova Scotia Power is doing to help increase the reliability - and maybe that's with redundancy, I don't know - of that network? I do want to make a point. In my view, in my experience, you currently have the monopoly over that network. That means that anybody else who produces electricity will, I presume, wholesale - you'll wholesale use of your facilities to that. It becomes even more important, when we talk about the other sources of energy production, to be able to get that to the people who will ultimately use it. That's my question. What are you doing in that particular transmission network to improve the situation's reliability?

PETER GREGG: That's a great question. You're right, we can generate that electricity, but it needs to be provided to the end-use customer. If you go back several decades, the planning system was large, centralized generation, one-way power flow to the customer. That's really changing. We're seeing distributed generation around the province. You mentioned that others are going to rely on our transmission network, such as independent power producers who are building wind and solar. They need to rely on our network to get it there.

We are investing in reliability. It is an increased challenge with the more frequent extreme weather patterns we've been seeing over recent years, including Hurricane Fiona two years ago. Really, the biggest bang for our buck from a reliability perspective is vegetation management - tree trimming. We've got a lot of trees in this province. We've essentially doubled our vegetation management budget over the last few years. This past year, it's gone up by 40 per cent to \$45 million a year. Really making sure we're staying ahead of that tree growth, making sure we don't have trees that are too close to the lines - that when the wind does blow, they don't come down on the lines.

We're also investing in heavier-gauge electricity poles, heavier-gauge conductors where necessary, heavier-gauge insulators throughout the province in key feeders that get more impacted by the weather. We're spending approximately \$230 million a year now on those reliability investments across the province. At the same time, we're seeing more frequent and sustained extreme weather events. We need to continue to invest in that, so our customers experience that reliability, but it is an ongoing challenge.

Things like battery storage on the system will also help in those weather events. We recently completed a three-year pilot called Smart Grid Nova Scotia where we were testing out batteries in the homes with the necessary control mechanisms. Have we figured out how to pay for it all yet? No, but it's an area where - certainly during Hurricane Fiona, we saw that certain customers who were on that pilot program were able to ride through that storm by relying on stored energy in the home. Looking at innovative solutions like that:

battery storage at the grid level, battery storage at the home level - I think is certainly an area that we'll continue investigating in the future.

THE CHAIR: Mr. Burrill.

GARY BURRILL: Just one other short question about the affordable energy task force. When that work is completed and we have a response on whether we're going to be able in Nova Scotia to follow in some form the Ontario model, will the department be able to make those recommendations in that report public?

KAREN GATIEN: That will be a decision of government. We regularly make recommendations, and many, if not most times, things are - if there's a consultation or anything like that, it's usually made public. I guess it depends on how the recommendations are made. It's hard for me to presuppose what that looks like at this point. I haven't seen a report. But I can certainly take that question forward.

THE CHAIR: Next we have MLA Palmer, MLA Young, and then MLA Rankin again.

MLA Palmer.

CHRIS PALMER: We've heard a little bit this morning - we touched on the legislation that the government recently passed in the Spring session regarding modernizing the electricity system. Moving to an independent energy system operator and a dedicated energy regulator - these are all parts of the legislation.

For the people of Nova Scotia who want to follow this - and it's sometimes pretty technical, some of this information that's out there. From a layman's perspective - and I'll address this to Mr. Gregg, and Deputy Minister Gatien, if you'd like to give your views on this too - in your experience, could you talk about the benefits of those changes that the government just recently made for the overall transition going forward with renewable energy, and potentially the benefits for ratepayers? That's really who we want to talk about here as well, going long term.

PETER GREGG: I think I'll start by saying that it's obvious, because of what we're discussing here, that there's a massive amount of change that is going to happen to the electricity system in the next five and a half years and beyond as we achieve 2030 legislated goals, but then broader goals to reach net zero. Having an independent authority - what that independent system operator will do is the long-range planning for the electricity system of the province. They'll look at long-range planning. They'll procure the generation resources necessary to meet future demand. Ultimately, they will be able to make dispatch decisions that really match real-time demand with the resources required to meet that demand. Those are the broad functions of the system operator.

I think having an independent body - like other jurisdictions like Ontario have done - oversee that massive amount of change to make sure it's done to the benefit of Nova Scotians is an important step. As I've said off the top, we support that objective. I think also, turning my mind to the independent energy regulator, the NSUARB - they regulate a lot of different areas. Again, I think having a dedicated regulator that looks just at the energy transition is an important step that makes sure they have the right resources to oversee and make sure that customers are benefiting from the transition as much as they can. Those are the reasons why we're supportive of these changes.

Maybe, Karen, I'll turn it to you.

KAREN GATIEN: I don't have a lot new to add. What I will say is specifically to the energy regulator, for example. The current configuration hears a lot of matters over the course of a year. This allows them to really have a focused energy regulatory board that's going to be able to just spend their time on those - as complicated as they are, and I totally agree - those matters that come before them and really build on the strong expertise they already have, in fact. We're able to modernize a bit of what they're looking at by the inclusion of things like the sustainability focus that we've asked for them to have.

Those pieces of work - these are important matters, but it takes a long time. It's difficult - to another member's point earlier - it's a very slow process, so anywhere that we can build in efficiencies, we try to do that. We do think that this will help with that as well. That also would be the same for the Independent Energy System Operator in very public procurements, in the way that we're already doing some procurements as a department through the procurement administrator. They would then take care of a lot of those pieces.

THE CHAIR: MLA Young.

NOLAN YOUNG: The Community Solar Garden Program happened in March. I'm wondering if you could tell me a bit about it - how the program works, maybe who's building it, who can subscribe to it. Is there funding to help with construction?

KAREN GATIEN: Sure, I'll start, and then if my team has anything to add I would ask them to jump in. We're really proud of that. This is one initiative that will also - it's in the name, the Community Solar Garden Program. We're really hoping it will also help individuals from lower income families, but also people who can't put solar on their roof because they don't have the right pitch or they live in apartments or low income housing and things like that. It will be through a subscription - there will be developers that will develop it. It can be an NGO even, or a community - a municipality or something that might want to develop one. Then they can kind of sell the subscription to people, and then everyone can access it to help offset the cost of their power.

The other thing is that there's about \$5.2 million in this year's budget that can help as a - I hate to call \$5.2 million seed money, but it's a bit of starting money for capital

projects. Obviously, developers will also have to pay for the cost. It's very expensive to build these types of solar farms, but farmers may want them as well in their communities. I know solar has been quite popular in the agricultural setting, so we're really looking forward to it. We are really hopeful that more people who currently can't access solar - which for a lot more affluent families with homes where the roof is built in such a way that they can benefit - this will open up the access to those kinds of sources of renewable energy. We're really excited about it.

DAVID MILLER: I won't add much to that. I'll just note that, in addition to some provincial funding that's available, we anticipate the investment tax credits may be applicable to some of these projects as well as some future federal funding programs. We're still waiting on those details. It's sometimes a slow process to get those out of the federal government, but we expect a new commitment under what we call the Electrification Pathways Program from the federal government. We're excited about how that might work in collaboration with our funding to deliver more projects in Nova Scotia.

We have seen the solar industry grow from just a few folks with maybe one truck and some scaffolding putting up solar in a few places, to hundreds of individuals installing solar panels across the province. We've seen that grow in scale through programs like Solar Electricity for Community Buildings, now Commercial Net Metering. This is the next evolution, which will get us some 5-megawatt or even up to 10-megawatt-scale projects. These will be a bit more like a dedicated solar farm, as opposed to something on a roof. We see this as helping the industry grow, and testing out their capabilities and developing new capabilities to deliver clean electricity projects in Nova Scotia.

KEITH COLLINS: Just filling in a couple particulars. If people are interested in the projects, there are three that are up now. Antigonish, Mahone Bay, and Berwick are up and pretty much built, and Nova Scotia Power built in Amherst. You can see Berwick's from the roadside, from Highway No. 101, as you go through. It's an impressive looking project. It's right-sized for the community. There are a lot of other counties, towns, communities out there in various stages of development. The Province doesn't really want to pick ones out and force-feed them, but you can see them in Kings County around Kentville, you can see them around HRM, in Pictou County. There's a whole series around the province of different partners coming together from municipalities, private sector players, not-for-profits, apartment building folks, et cetera.

Again, we've drawn on some federal money to get the first ones built, and would look to draw on some more to get those going. In those towns, depending on how they structure it, they could structure it so 100 or 200 low-income families could get very direct bill benefits, et cetera, moving forward. We're interested in seeing a mix of responses, partnerships, sizes, and technologies from these communities.

THE CHAIR: MLA Rankin.

[11:00 a.m.]

HON. IAIN RANKIN: Just getting back to the topic of the Atlantic Loop Project. The first phase - I know that it had other names way back, like Energy East and things like that - is the Maritime Link. I'm surprised that it hasn't been mentioned. That is a huge amount - I think 20 per cent. That should move us from 40 per cent to 60 per cent clean energy roughly, and allow us to start closing coal, finally.

We still haven't seen that happen. Do we anticipate in this calendar year that we'll have enough reliable energy from the Maritime Link so that we can at least close one or two coal units? If that's the case, which units will be closed?

PETER GREGG: I'll start by saying that it's going to take a portfolio of solutions to allow us to get off coal. The Maritime Link plays an important role by bringing clean electrons down from Newfoundland and Labrador over that subsea cable. Things like the battery storage, the tie line to New Brunswick, and the addition of a lot of new wind and solar is a huge piece. They all need to work together to get us off coal. You shouldn't look at it as one investment will allow us to get off coal. It needs to all work together to do that.

We have been seeing, for the last year and a half, fairly robust flows over the Maritime Link. Newfoundland and Labrador had a disruption a couple of weeks ago with an ice storm that did take it down to what they call a monopole, rather than two conductors working and one conductor working. Over the weekend they were able to make the restoration. We're now back to bipole operation. They're getting a steady flow over that line.

Having that Maritime Link available to us over the last 18 months or so has allowed us to reach approximately 42.5 per cent renewable energy on the system. We need to get to 80 by 2030, but we're at 42.5 and growing now. It is playing a really important role. Our current requirement is to be at 40 per cent, but it changes to 80 per cent in 2030. We are meeting that requirement set out in legislation.

Again, those important investments around the wind, batteries, tie line - conversions of our existing plants will allow us to shut down and remove coal from our system by 2030. All of those phased in over the next few years allows us to achieve that 2030 goal.

IAIN RANKIN: I have to say that I'm pretty disappointed that we can't see, in the near term, any of these units closing. I'm saying this calendar year. But I just keep hearing "2030," and in that interim period, our ratepayers are financing expensive coal. Carbon pricing will almost double by the time we hit 2030.

When we were in government, I saw the actual list of which units will close. I'm not just talking about the Maritime Link. Obviously, wind plays a factor, and batteries play

a factor. We could actually line up which units could close, based on how much reliable clean energy was coming in.

If we are committed to closing all coal by 2030, what supports are in place now for workers who will be displaced in the next six years? What career counselling, employment services, retraining, or bridge to retirement services do we have available that Nova Scotians can access? In Alberta, for instance, you can just go on a government website, click and access those services that you need. They had the same target of 2030, but it seems like they're going to achieve their target this year. What are we doing for workers and the communities that will be displaced, and where do they find that information?

PETER GREGG: We have set about having discussions with each individual employee who will be affected by the transition off of coal. As you would expect, there will be a range of impacts. There will be those employees who are reaching end of career who may retire by 2030, so that is their plan.

There are opportunities in the transition. It is a transition. So you shut down coal, but there is going to be a real change in our system moving away from that one-way flow of power. It's now a two-way flow of power. The need for more powerline technicians is growing to make sure that we maintain reliability. The opportunity for retraining of employees is there. We're having those discussions with each of those employees.

Some of these plants will be, as I've said - we'll have a plant converted to natural gas. We will need to keep a couple of the plants available on sort of emergency backup on a type of fuel. That will require a certain number of employees to be able to manage that.

It's a combination of all of those, that we think there will be relatively little impact from an employee perspective. Many of these employees also work with the IBEW, the union that represents them. All of the work we're doing to meet with those employees and figure out a plan is done in conjunction with the IBEW. I'm confident that each employee will have a career path, depending on their own individual desires and needs.

KEITH COLLINS: I want to back up a bit, so we get the discussion around the coal closure framed up a bit. I've been fortunate or unfortunate over the years to be part of coal closure in Ontario, then the U.K., Manitoba, and then here. Far and away, this is the hardest, just so everyone is clear on the context we're in. Closing the coal in Britain, closing coal in Ontario - coal in Ontario was only ever 20 or 25 per cent of the system, and they have massive interconnects, and they have massive hydro resources and gas pipelines right there.

Nova Scotia is hanging off the end of the continental grid and the gas grid. It's got a million people. It doesn't have a high annual income. It doesn't have its own hydro. Fix that by 2030. That's the challenge. That is genuinely a huge challenge for the Province. Now, Maritime Link is not fully under our control. Newfoundland and Labrador is having

difficulty closing their own plants because of issues further back up the line on the Labrador-Island Link. It's not the Maritime Link; it's the Labrador-Island Link. It's part of a whole system. We can't magic that. It's frustrating, and it costs us money, but you can't magic it.

The second thing is global coal prices. The global scene sets it. In 2015-16, when I got here, coal was basically dirt cheap - cheaper than dirt. It was \$50 a tonne kind of thing. It went to \$450. I ask you, genuinely: go out, buy a truck for \$50,000, come back a week later and pay \$450,000 in the most coal-dependent jurisdiction going. People elsewhere in the world have been facing rate hikes of 50, 100, 150, 200 per cent - really brutal impacts from the war in Ukraine and Russia. We are still in it. Coal is still at \$130, \$140. It's still two to three times globally what it was back in 2015, 2016, 2017.

Those are huge things that make the transition difficult to build up financial issues and make rapid coal closure genuinely a very difficult thing for Nova Scotia to achieve. We can't drop nuclear from space. We can't drop gas from space. We have a new transmission line with issues further back up. So it is difficult to close it out in an organized manner and get it done by 2030. We need to, and that's the target. I think the first thing you'll see will be clear-cut paths where plant units are being dedicated to switch over to fuel oil, and they'll go into backup mode. Always good to have backup things, because we do get big grid outages all over the continent.

That will be the first thing you'll see. The other things to look for are the new investments being made, so seeing batteries come in, seeing a line with New Brunswick come in, et cetera - seeing wind farms built. Those will be the more substantive features, and the last ones will be flicking off lights in plants, will be my guess. That's more over to Nova Scotia Power and the ministers, but I think those will be more the last things you'll see, because you'll want to keep protection and backup against things going wrong. Just some context from sitting back as staff.

THE CHAIR: MLA Leblanc.

SUSAN LEBLANC: Mr. Collins, you're very compelling when you talk, because you clearly know what you're talking about. I'm just wondering - and this is actually not my question so don't answer it, but think about it and then come back around to it. (Laughter) Mr. Gregg, you talked about this earlier: Why are the feds not helping us? If this is a national goal, and this has been put down from the people in Ottawa, then really?

If we have a much harder job of this because of where we are, who we are, and what we've been doing for the last 200 years, then we need help from Ottawa. So our government needs to get on the phone, I would say, and make sure that the feds are going to help us with this. Just a thought.

Here's my actual question. This is actually for you, Deputy Minister Gatién. This past year, \$117 million was provided to Nova Scotia Power to prevent higher rate increases being passed on to customers. Many view this as a temporary band-aid solution. Can you speak to what the department is doing on a longer term, systemic basis to minimize further Nova Scotia Power rate increases?

KAREN GATIÉN: Sure. I can't leave your other comment without answering it though, sorry. (Laughter) It was a good question. Some of you may be aware that in October, when we first came out with the Clean Power Plan, a team of us, as well as the Premier and the Premier of New Brunswick and his team, presented it to Minister Jonathan Wilkinson. Minister LeBlanc and Minister Fraser were also there. It was very well received, and we certainly have received commitment.

My sense with our colleagues, certainly from the bureaucracy side, is that they definitely understand the position we're in and the need to support us. I'll let Peter speak to his interaction with them, but I think it's been pretty positive as well. They certainly are doing everything they can - like, okay, tell us what you need, what are your programs and kind of working with us - versus send in your application and good luck with that. We still have to follow their process, but they are trying to be helpful and really working with us as partners, so it has really made a difference. That includes what we're going to do with the remaining balance of the fuel adjustment mechanism. I think it would actually be helpful, if you're not aware, if Peter explains a little bit about what the FAM comprises and how it works.

Part of the situation that we've found ourselves in with this fuel balance is that Nova Scotia Power ratepayers were paying for the Maritime Link - I'm just going to use that because it gets confusing if you start to add all kinds - since 2018, and it wasn't flowing fuel. At the same time, of course you have to purchase fuel - coal. Then coal prices went through the roof following the Ukraine war. It was like we were paying twice. We've certainly conveyed that to our federal colleagues, like: We need you to help us with this - what happened was outside of our control. They are looking at any and all possibilities from their angle.

I don't have an answer yet from them, but certainly we are actively engaged with them. They've been very responsive. The Premier and our minister have been actively engaged with their counterparts as well, and it has been mentioned at every meeting and talked about. They are looking at it very seriously, in addition to how they can help us implement these pieces of the Clean Power Plan. They've been excellent partners. I can't say enough.

DAVID MILLER: I just wanted to highlight a couple of pieces that I think are critical and maintain affordability going forward. Some of this is investments that are in process right now, such as the wind procurement that we launched a couple of years ago,

and the current wind procurement for the Green Choice Program. This will help deliver a lower-cost fuel resource for all Nova Scotians, and that's really critical.

Getting these projects moving and getting them in on time and getting them a contract is really critical. We are working as quickly as we can to get that wind on the system. This is probably one of the critical bottlenecks - the ability to integrate the wind, to make it work - because there are lots of days when it's not windy at all and lots of days when it's far too windy. If you spend any time in Cheticamp, there are a lot of days when it's a bit too windy. Managing this really great wind resource with our demand and trying to make them work, that's one of the critical pieces.

We're pushing it. The procurement in 2022 was for a terawatt-hour of energy, about 10 per cent of the system load. It will be more this time around, so it's very, very large changes to the system, as big as Maritime Link in many ways.

As you mentioned before, the efficiency investments that people make in their homes, or that we make in our public buildings, in our institutions, or commercially are all really critical. This is a unique period of time where I think the total investments over the last few years and going forward a few years exceed \$600 million in efficiency investments - whether that's provincial funding that went through to Efficiency Nova Scotia to deliver programs, or the regular funding from electricity customers through the DSM programs, and then leveraging federal programs for off oil, particularly for low and moderate income households.

This is not just a massive investment in helping people stay in their homes, be more comfortable in their homes, and have more affordable homes - particularly for low-income people - it's also creating a huge industry. Not that we need a lot of push on the construction trades right now, but this is part of what has built - our capacity to install heat pumps probably exceeds any other province per capita, and possibly any other jurisdiction in the world.

We have really great programs that deliver those benefits to people. I think that's probably a really critical investment in making sure that rates - it's not just rates, as you said. It's bills. What really matters is the overall energy bill for a household. If we can move the needle on that, not just by changing how electricity is priced, but actually by focusing on how people consume energy generally - whether that's heating oil, gasoline for their vehicles, or how they heat their homes and the water in their houses.

THE CHAIR: MLA Leblanc for a follow-up.

SUSAN LEBLANC: One of my follow-ups, in fact, was what you've already addressed, which is who's talking to Ottawa. Nova Scotia Power also was talking to Ottawa, so the update is you're waiting. Is that what you would say?

[11:15 a.m.]

I also want to address Mr. Miller's comments with my follow-up, which is: Amen, yes. Therefore - and I know it's not your department, but surely there must be interdepartmental discussion about this - why is this Province refusing to change the Building Code so that we don't have to build new buildings that are of the highest efficiency standards right now? It just seems unbelievable that we are where we are, and yet we're not going to ask people to build to the highest standard. Every home should be built with a heat pump. Every home should have the plug-ins for electrical cars, the batteries and all that stuff.

That's actually my follow-up, but if you want to address the other half of the follow-up - I asked two questions in the first place, so I get two follow-ups.

PETER GREGG: I'll address this with a federal interaction, the first part of your question. We've been engaged with the federal government for the last several years. They have been coming to the table very effectively. I spend a lot of time talking to Ottawa, and I mentioned earlier that we did secure \$111 million in direct grant funding to support the battery project. The Canada Infrastructure Bank is a really important tool that has a mandate to allow the country to decarbonize. We have been working really closely with them on the battery project and other projects. CMHC federally has stepped up to support low- to medium-income individuals in Nova Scotia to make the transition to heat pumps, which is a really important piece. The feds are playing their role.

Do we need them to do more? Yes, but the conversations are active. I'm confident they're willing to do more. We just need to move with pace, is what I keep saying when I'm talking to Ottawa, and that's where we're focused.

KAREN GATIEN: This is the Building Code part. What I will say is that we, all of the deputy ministers, meet regularly, but I also have another group of deputy ministers who are very focused on all things renewable and connected to it. The Department of Public Works does not sit on that nor the Department of Municipal Affairs and Housing at this point. The Department of Labour, Skills and Immigration is there because as we're talking about the impacts of coal plant closure and things like that, how do we help ensure that Nova Scotians get retrained for jobs? How do we get other Nova Scotians - younger Nova Scotians perhaps - understand what the sectors are going to need and retrain? The Department of Economic Development, Invest Nova Scotia - all of those pieces are there.

Having said that though, I will definitely reach out to my counterparts. I know that they're looking at it. I don't know where it's at, to be honest.

KEITH COLLINS: Colour commentary on the feds: I think we're going to get t-shirts made from Minister Wilkinson's recent comments where we have jointly signed in blood that we're going to work together to actually make this happen. Then down at the

end he says: We've said we will work with you to support the plan that you have. If we could put that in marble, we'll put it in marble, but certainly on t-shirts.

It is worth saying that over a period of years, our relationships with the federal government on a series of energy components have worked out very well. We have electric buses being tested in Halifax, and that's a big investment. Electric ferries - federal government money is in on that. The community solar projects and the project in Amherst have federal government money on that. The batteries we mentioned - we expect it's structured so that if we work together and sign an agreement with New Brunswick, that will come in as well. Cogswell District Energy System, the retrofits of First Nation homes, incentives on heat pumps - every chance we can, we are working to lever and work with various federal government departments.

It's always difficult to set up across multiple departments, multiple ministers, and so on, but it's been extremely positive in recent months. We've seen a lot of successes over the last few years, but signed in blood - Minister Wilkinson, we're counting on that one.

THE CHAIR: Next I have MLA Burrill. Then it will be MLA Palmer and MLA Craig.

MLA Burrill.

GARY BURRILL: Mr. Gregg, I want to ask you a rates question. When the new regime went in at the first of the year - the 6.5 increase - it wasn't very long after that there was a considerable number of people reporting to constituency offices, to reporters and everywhere about increases way in excess of that.

There was a petition taken up - 2,500 people signed it - saying the increase they got bears no relationship to the 6.5, and no relationship to increased consumption. There were lots of conversations with dispute resolution officers and lots of media coverage. Can you speak to what is going on here?

PETER GREGG: We understand that customers can have a challenge when bills go up. We did have an approved increase that went into effect on January 1st.

When we get those issues arising from customers, we work with those customers to make sure the meter is reading appropriately. That is a first step we take. In the vast majority of cases, it's confirmed that the meter is working appropriately. In those cases where it's not, we'll obviously make necessary adjustments to the bill to make sure it's accurate.

We work with customers to make them understand their use on their bills. It is sometimes difficult for the price increase to happen on January 1st like it does structurally here because it's the highest demand month, and therefore the most expensive month of the

year for many of our customers as they look to heat their homes. We're a Winter-peaking jurisdiction. We understand that can be a challenge as well.

We work with each customer who has a concern. If they need some assistance on helping to move that bill payment over a longer period of time, we'll work with them to do that. We're sympathetic to concerns of affordability with our customers. We'll work with each one of them to sort that out.

We have a real focus, too, on lower income customers to make sure they're getting the support they need. We've been funding the HEAT Fund for about 20 years. We also work on the HomeWarming program, which helps fund efficiency improvements in the home. There's a suite of issues and opportunities to work with customers. We do know that sometimes our customers are in difficult situations, and there's an affordability challenge there. Our commitment is to work with them to find solutions that suit their needs.

GARY BURRILL: Yet, 2,500 people is a pretty exceptional number to be in this roughly similar situation. As I followed it, they were across the income spectrum. You attribute this to a combination of Winter and rate shock. That accounts for it?

PETER GREGG: Yes. In most cases we looked at, the increase in rates and Winter usage has explained the high bill that has come up.

Since we put smart meters in, we've been able to install a tool that we rolled out to our customers called MyEnergy Insights. I'm not sure if you've heard of it, but it allows customers to get insight into the electrical components in their home and how much of that is contributing to their bill. You'll get a breakdown of how much is going to lighting, how much is going to heating, how much is going to your electrical appliances, and all of that. That really helps our customers understand the various usage patterns. Then we can work with them on: Can you invest? Can we help you out with working with our friends at EfficiencyOne to invest in efficiency products, invest in higher-efficient appliances? That kind of thing. It's another important tool for us.

THE CHAIR: MLA Palmer.

CHRIS PALMER: Before I ask my question, I would like to thank Mr. Collins for referencing the AREA group and the Town of Berwick. I'm always very happy to brag about what's going on in Berwick and how progressive they are in energy production. Anyone who would like to come down and see, I think, one of the largest solar farms - garden farms - in the Maritimes, come down to Exit 15 and see 12 acres of solar panels helping provide power to the Town of Berwick. It really is fascinating. I had the privilege of having the Premier there last year for a visit before it became operational. It's doing great things, and people are very happy about what's happening there.

We've talked a lot today. It's been a lot to take in. We've had a lot of discussion around the pros and cons of the Atlantic Loop and where we've been there. I've had people ask me, "You guys are getting out of the Atlantic Loop - what's happening?" Can you explain - I know we've touched on a lot of it - how the Atlantic Loop is just no longer the lowest cost option for renewables as we're moving forward, and why the Clean Power Plan is going to be more beneficial? Just position it for Nova Scotians to understand, please, if you don't mind.

KAREN GATIEN: Perhaps I'll start. What I will say is, as I mentioned, it's not that we don't think there is potentially merit for the Loop. It was a combination of things. First of all, the capital cost of it alone had escalated exponentially. I think the last I heard, it was between \$7 billion and \$9 billion, something like that. It wasn't going to get us off coal. There are also strong signals, if not key messages, from Quebec telling us they don't have the energy to sell us anyway at this time. That, of course, posed a significant issue. If you're going to rely on electrons to be coming to the province - particularly in our coldest month, as Peter mentioned, in January - we want to know if they're going to arrive, if you're going to close coal plants.

So the cost - there wasn't a guarantee of supply of energy. Then there were these other pieces that you'll see in the Clean Power Plan that I think we as a team have begun calling the "no regrets" pieces of work. They were the pieces that needed to happen regardless. We need to have an intertie, which I recognize was the beginning of what was previously contemplated as an Atlantic Loop. We need to have battery storage. We need more wind. We need more solar. We need the Maritime Link to flow regularly. There are a lot of things that need to happen, and those pieces had to happen regardless, and it's a lot of money.

We can get off coal, as you'll see if you've looked at the Clean Power Plan. I think we're predicting it could get us as close as 88 per cent by 2030. That gets us off coal and meets our environmental targets, and we keep working toward 2050. We're not done for sure, but then there's the opportunity of other innovations that may come forward, such as offshore wind and green hydrogen. We're also regularly looking at things like geothermal opportunities, biofuel development - all kinds of different pieces that will only add to our targets, and get us closer and closer to the 2050 goal as well.

Down the road, perhaps the opportunity of a bidirectional line of some sort, whether it's - I think Keith affectionately called it the "cousin of the Loop" at a meeting. Some version of that might be beneficial to us in terms of an opportunity for us to export electrons resulting from offshore wind. It wouldn't necessarily be the reliance on the electrons coming from Quebec, as was previously contemplated.

I don't know if anyone else wants to add anything.

THE CHAIR: Mr. Gregg.

[11:30 a.m.]

PETER GREGG: As Karen mentioned, the cost went up, but we also have to look at do-ability between now and 2030. That was a big factor for us at Nova Scotia Power. Like Karen, I think: Is there an iteration of the Loop? Maybe not the exact concept, but that concept of bidirectional flow, I think that's probably a likelihood sometime in the future. But the ability to actually build a transmission through Nova Scotia, through New Brunswick, and into Quebec over the time period allowed by 2030 became increasingly difficult. That was a big factor as well.

I should have looked - I've got a countdown clock on the wall of my office that an employee gave me as a gift to keep me focused on 2030. I think it's around 2,200 days. Thinking about what's doable - that's when we pivoted more to the Clean Power Plan and our *Path to 2030*, and that portfolio of projects that will achieve the 2030 requirement.

THE CHAIR: MLA Craig.

HON. STEVE CRAIG: It's a riveting conversation today, and the dialogue - I truly appreciate this.

I got my fuel bill, my oil-fire fuel, yesterday - \$1.46 per litre. We're currently evaluating heat pump suppliers, as well as solar. So we're looking at that. Some of you may appreciate the economic payback period, the cost of capital, all of those things that go into it: ongoing maintenance and cashflow is really what it comes down to. I'm looking at all of those things at my age - is the economic payback period going to exceed my lifespan? That's a reality for a lot of seniors.

The idea, though, that we are all in this together and we all require people working together, our experiences, where we're going, and recognizing that, indeed, we know that our climate change goals are a top priority for this government. No question about that.

Mr. Gregg, you've touched on some things during the conversation about your 2030 plan. You've got a countdown clock and that. I'd just be curious to know - and if you could help me understand - a little bit about how you value the partnerships that are required to do this, your contribution to that, and how you're working with partners.

PETER GREGG: Great question. If there's one message I can leave with you on the 2030 challenge, it's that this is not Nova Scotia Power's challenge alone. It's legislation from the Province that requires a lot of this. We're supportive of that. We have our role to play. Independent power producers who are going to build wind farms and solar arrays have a role to play.

Really importantly, Mi'kmaw communities have a really important role to play. I'm really proud of our arrangement on the battery project to bring all 13 communities in -

not just to consult, but as real, meaningful equity partners on that. Then working with communities to make sure they understand the changes that will happen in their areas; working with our customers to make sure they understand the impact of the change on them - both from rates but also for opportunities to green their usage in the future; and working with the federal government on financing opportunities. It is going to take a village, as they say, to get this done.

We've made some really good progress. It feels like maybe the last two years there's been a lot more traction on these projects, and engagement with all the parties that need to be involved in this. I think we've got really good alignment now, certainly with the Province and with the federal government. It's going to be all of us working together to make sure we can achieve those 2030 requirements.

THE CHAIR: MLA Clark.

BRAEDON CLARK: Thank you, everybody, for being here today. I apologize - I had to step to do a quick interview, but I'm back.

I just wanted to ask a question. I'm an optimistic person. I don't like to ask pessimistic questions, but I think this is one that strikes me - not being an expert, necessarily, in this area. We all want to achieve 80 per cent renewable by 2030, obviously. What happens if we don't? Is there anything in the legislation or regulation that kind of outlines what happens in that scenario - which is obviously not a good one, but I think it's an important question. What happens if we don't achieve that goal?

KAREN GATIEN: The legislation requires us to meet it. The legislation requires it. We will meet it.

KEITH COLLINS: The timing, I think, is going to surprise people. There's nothing apparent happening, nothing visible happening, and then boom, there it is. It's a bit like that. Yes, it's only six years, but you can also think of it as, if you have a significant-sized wind farm - let's say 150 megawatts - and there are a whole series of those proposed around the province in various stages of development. Every one of those that goes live is 5 per cent. Every time one of those wind farms lands, 5 per cent renewables goes into the system, and there's six years.

It's a bit of a question of how Nova Scotia spaces these out geographically, have happy communities, the transmission system able to pick them up, et cetera. For the companies, the financing coming together, a turbine supply, logistics, all of that work. But each one is 5 per cent.

Some will land, get built and turned on in 2025, 2026, 2027, 2028, 2029, but it may not be to a year precisely. All of us bureaucrats, we'd love that - in a straight line, fantastic - but it's unlikely that in real life it's going to happen that way. I would fully expect we will

have three or four turn on and then we will have a long, period of none, and then another one, et cetera. It's likely to be uneven, is what I would say. Obviously, we're all trying to avoid prison terms, et cetera, for not hitting the 80 per cent by 2030. (Laughter) It's an incentive.

BRAEDON CLARK: Mr. Collins, you touched on something that is always a difficult part of making big changes, and obviously this would be a big one - social licence. Ideas sound fantastic on paper, and then we get out there and people are opposed to them - sometimes for fully informed reasons, sometimes because they just don't know what's going on, and human nature is such that we often are opposed to change because change is different. How do you plan for, and accommodate, and get people onside?

I know just the other day, we've seen stories about wind farms and big town halls, and 200 people showing up. People who show up at town hall meetings, it's usually not because they are happy. It's because they don't like something, or they don't like the idea of something. How do you figure that into this transition? It's not as simple as just saying, hey, we're going to turn the switch and turn these on. There are people in and around these projects as well, so how does that play out?

KAREN GATIEN: That is actually an excellent question. I think we're certainly not making light of the targets that we have for 2030. We're monitoring them pretty closely. As Keith said, we think things are going to go like this, and if the social engagement is not there, that's a great way to stall things, so it's really a key priority.

We've always paid attention to it. Developers have done engagement. There's been Mi'kmaq consultation. What we've really turned our minds to, though, is that you can't obviously - not to overstate something, but you can't consult too often. What we're really looking at is: Okay, what are we going to do? How are we going to really start to help better educate Nova Scotians to understand what it is we're doing, the value of renewable energy, community by community - broader across the province, but also community by community to really get in.

Every community is a bit different. For some people it's really about the view plane: I don't want them here because I have a cottage and it'll ruin my view plane. In other areas it's: I'm concerned about the impact on wildlife, or I'm concerned about the impact on other sectors in the area. A lot of farmers - there are areas where they, for example, do blueberry farming and have Winter rides in the same area.

There are lots of opportunities there, so how do we work community by community to really engage them and help them to understand? That's something we're really going to focus on going forward. Just based on conversations I've personally had, I think there is a little bit of a belief that: Why can't you just go somewhere that wants it? I don't know where that place is, to be frank.

What we have here is wind. We have lots of wind. We have really great wind, both onshore and offshore, and that's our big hydroelectric project. We don't have those other things. What we're really focused on, and what the Clean Power Plan really helps to bring us to, is energy security. It's important. We're way too reliant on commodities changing and the price of them overseas. How do we benefit from what we really have as a strength here? It's going to take Nova Scotians to understand it, accept it and help us with that. At the same time, we are very focused on protecting Crown land as well. So I think having them understand all of those pieces that we're doing will be key. David said he had something he wanted to add.

THE CHAIR: Mr. Miller, briefly please.

DAVID MILLER: Certainly. That's a challenge. (Laughter) I think a critical part of this transition is that - and it's not just here. A lot of places we're seeing are from centralized power, so big generating stations like Niagara Falls or Lingan to power everywhere, and infrastructure everywhere. That's always challenging for people. We've seen pitfalls in other jurisdictions, whether that's Ontario or in Alberta more recently, and challenges here.

I think one of the critical parts is that we have broad social acceptance of the need for renewable energy. I think that over time Nova Scotians have gotten comfortable with wind, in part because of the Community Feed-In Tariff Program and seeing locally owned wind turbines show up in a variety of places, and take away some of that shock of change. Now, the new turbines will be bigger. There will be more of them. They will be more visible, because they're going to be just that much larger. I think people generally understand what this means, and I think understanding how this will help Nova Scotia change.

The same is true of solar. We've seen this groundswell of support continue to develop as we've launched successive programs to help people get comfortable with the technology, with what it looks like. I think we see lots of pride in places like Berwick about their solar farm. I think we're going to see more of that. People want to contribute. There's a huge demand to contribute to mitigating climate change. We see that across the board, and not just in Nova Scotia but in many places.

I think that we can help people understand how these investments are doing that work in helping Nova Scotia be a leader in de-carbonization. We're doing it in lots of other ways, whether it's heat pumps in houses - we can do it here in the electricity system. It's from one of the dirtiest to one of the cleanest in Canada in a very short period of time.

THE CHAIR: Thank you. That's all the time we have for questioning, but I'm going to come back to each of you for a closing comment, if you want to address it at that point. I would ask again that they be brief, but I'll start with Mr. Collins.

KEITH COLLINS: Just one piece I've always found interesting. I've spent a lot of time in the U.K., and obviously from the name, there's a fair amount of Scottish content. Scotland is about twice the size of Nova Scotia, let's say, geographically. They have over 10,000 megawatts of onshore wind. We have under a thousand. Scots are not known for keeping their opinions to themselves. They have loads of small towns. They've found ways to do it, and we can learn from this. Some places it works great; some places it doesn't work so well. Sometimes a lot of people are happy; sometimes not so much. I fully expect the same to happen in Nova Scotia. On some projects, the developers will not be great, or the community will not like a particular location. That is that. Life moves on, and we will find lots of other places. If the Scots can do it, so can we.

THE CHAIR: Mr. Miller, for closing remarks.

DAVID MILLER: I won't say much more - I think I've said most of it - but it is critical that there are opportunities to mitigate some of these challenges. If a particular turbine is offensive because of a view plane and the developer doesn't know, sometimes that can be moved. There's a lot more flexibility than people may fear. That first map that you see can be frightening, but take the opportunity to engage and work with the developer. People aren't shy to talk to us either. Let us know and help us understand what the challenges are. There are legitimate challenges with all of these things, but there are legitimate solutions that we can all work toward as well.

THE CHAIR: Deputy Minister Gatién.

KAREN GATIÉN: I just want to say thank you for great questions. I leave with more ideas and things to look into. It's very helpful to us as we look through this, especially where you represent communities from one end of the province to the other. Thank you very much for the thoughtful questions - appreciate it.

THE CHAIR: Mr. Gregg.

PETER GREGG: I'll be really brief. Just a big thank you for the engaging conversation. I really appreciate the opportunity to chat with all of you today. Thank you.

THE CHAIR: I get to thank you all for attending. It's been a real pleasure. Look at the interest. We didn't even know the time went by because you had our attention, for sure. You are free to leave the meeting. We will have some committee business to do. Do you want a couple minutes' break first? We'll take three minutes.

[11:44 a.m. The committee recessed.]

[11:50 a.m. The committee reconvened.]

THE CHAIR: Order. I call the committee back to order. I don't have any committee business. Are there any motions from any caucus?

The next meeting is May 28th. The topic is Safeguarding the Future of Tidal Energy in Nova Scotia. Witnesses will be the Fundy Ocean Research Centre for Energy, Marine Renewables Canada, and Sustainable Marine Energy.

The meeting is adjourned.

[The committee adjourned at 11:50 a.m.]