Standing Committee on Oversight of Government Operations and Public Accounts Review of the 2018 Report of the Auditor General of Canada to the Legislative Assembly of Nunavut – Climate Change in Nunavut Iqaluit, Nunavut May 1, 2018

Members Present:

Tony Akoak George Hickes, Chair Joelie Kaernerk Mila Kamingoak Adam Lightstone John Main, Co-Chair Simeon Mikkungwak Margaret Nakashuk Patterk Netser Emiliano Qirngnuq Allan Rumbolt Cathy Towtongie

Staff Members:

Alex Baldwin Stephen Innuksuk

Interpreters:

Andrew Dialla Gela Naqica Mary Nashook Blandina Tulugarjuk

Witnesses:

Michael Ferguson, Auditor General
James McKenzie, Principal
Liliane Cotnoir, Director
Terry Audla, President of the Nunavut
Housing Corporation
Eiryn Devereaux, Assistant Deputy Minister
of Community and Government Services
Sara Holzman, Acting Manager of Climate
Change Adaptation
Paul Mulak, Director of Capital Projects,
Community and Government Services

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Bruno Pereira, President of the Qulliq Energy Corporation Pauloosie Suvega, Deputy Minister of Environment

>>Committee commenced at 9:03

Chairman (Mr. Hickes): Good morning, everyone. I would like to call our second day of Standing Committee on the Government of Canada's report on climate change in Nunavut. We will start off with the opening prayer. Mr. Qirngnuq.

>>Prayer

Chairman (interpretation): Thank you. (interpretation ends) Yesterday we left off with paragraphs 17 through 49 and we didn't get an opportunity to finish that. The next name I had on my list was Mr. Netser, but I would like to give Mr. Audla an opportunity to address one of the responses yesterday that he didn't have the detailed information on. He has let me know that he has some further information for the Committee. Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. (interpretation ends) For the Hon. Member Netser's question on greenhouse gas emissions, yesterday I tried to do a back-of-the-envelope type of math. I'm not too good at it, but I assumed that based on the national average it would be high considering that, for example, in Edmonton it's at about 20.5 tonnes per year per household, and I assumed that Nunavut would be way up there.

When we actually got the numbers and put it all together, total household consumption of our public housing stock is at 48,845 for greenhouse gas emitted, but when you divide that number by the actual number of public housing stock per unit, it comes down to nine tonnes per year. It's actually very low. I discussed this with Bruno from the QEC and

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At the same time, to take into account that we have less consumption of electricity per unit as compared to southern Canada, in that sense, the numbers start to make a lot of sense. It's actually quite low, nine tonnes per year per unit. Thank you, Mr. Chairman.

Chairman: Interesting. Thank you for that information, Mr. Audla. We don't need air conditioning yet, but if the climate change keeps going the way it's going, we may have to get into that business as well.

I will go to, like I had mentioned, the last name I left off with yesterday. Mr. Netser, do you have further questions?

Mr. Netser (interpretation): Thank you, Mr. Chairman. (interpretation ends) Good morning. (interpretation) With climate change, it's very obvious that snow is starting to melt really fast in the communities. In Coral Harbour there was a sudden melt and two young people were lost because of that. The bridges we normally use were washed out. They were replaced last year. If I remember correctly, around 2006 in Pangnirtung, the river flooded and the bridge became too short. They had to put in a longer bridge. I know that this is very expensive. Has the Nunavut government ever received any help from the federal government for the things that need to be fixed because of sudden melts? Thank you, Mr. Chairman.

Chairman: Thank you for that question. I'll pose that to Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. Within

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Chairman: Mr. Netser.

Mr. Netser: Thank you. So then we are left at our own cost to address these pressing kinds of changes which are upon us that are caused by the rest of the world. With the limited funds we get from the federal government, I think it's fair to say that we can ask for more.

My other question too is I know that in this report there are some communities with coastal erosions. Being a proactive government, I wonder if the government is making any plans to relocate some of these houses if they believe that this trend is continuing that the seashore erosion will be upon us sometime. I wonder if the government is making plans to relocate some of these buildings to higher grounds. (interpretation) Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. In terms of housing, I'll defer to the Nunavut Housing Corporation. Right now we don't have anything in place where we're looking at relocation of existing GN-owned facilities. Thank you, Mr. Chairman.

Chairman: Mr. Audla, would you like to supplement that response?

Mr. Audla: Thank you, Mr. Chairman. As it stands right now, the Nunavut Housing Corporation has no immediate plans for

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Chairman: Mr. Netser.

Mr. Netser (interpretation): Thank you, Mr. Chairman. Spring is upon us and spring has been here a while now, but it's still frozen. I know that in some communities they have a lot of snow accumulated and once it starts to melt, it will affect the roads and water will start accumulating near the houses. Does the Nunavut Housing Corporation visit the communities to see what's happening during this time of year? It would be a great report to write to the federal government what's happening to the communities during springtime. Thank you, Mr. Chairman.

Chairman: Thank you. Are you directing that to Community and Government Services, Mr. Netser?

Mr. Netser: I think both in general. Thank you, Mr. Chairman.

Chairman: I'll start off with Mr. Devereaux and then Mr. Audla.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. Certainly our department works closely with the municipalities in terms of municipal operations around snow management throughout the winter and spring thaw. I agree with the Member that one of the concerns around snow management is just dealing with the accumulation of snow that melts and then the impacts of that water if not properly drained. Certainly our role is to work with the municipalities and support

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them to always look towards improved snow management throughout the spring thaw. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Devereaux. Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. The housing corporation has looked at Cape Dorset, Arviat, and Cambridge Bay on that matter. When there is a lot of snow accumulated, we always look at that to see how we can make improvements to get rid of some of the water during the melt. We will always work with CGS in that regard, but we're always aware of it and we're always monitoring it. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Netser.

Mr. Netser (interpretation): Thank you, Mr. Chairman. (interpretation ends) I wonder: Mr. Devereaux, could you give us a list of which hamlets you consult with in terms of the spring thaw and the drainage within these towns? (interpretation) Thank you, Mr. Chairman. (interpretation ends) That's my final question.

Chairman: Thank you. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. I think that in a broader sense we would consult with all hamlets through our role and participation in the Nunavut Association of Municipalities and certainly with any communities in any particular year that are experiencing more difficulties with spring thaw issues. Typically those hamlets would raise concerns or seek out support from CGS as those matters, but from a general sense, I think we would consult with all hamlets through the NAM forum. Thank you, Mr. Chairman.

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Chairman: Thank you, Mr. Devereaux. Mr. Main, you have some questions.

Mr. Main: Thank you, Mr. Chairman. Good morning, everyone. Welcome back.

I'll just follow up on Mr. Netser's questioning there first of all. In terms of hamlets and municipalities, when they go to CGS and look for funding to deal with drainage issues, is there a specific pot of funding that is set aside for climate change adaptation or those type of causes? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Main. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. There is no specific funding line item related to climate change in terms of the grants and contributions that we flow to municipalities. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main: Thank you, Mr. Chairman. When climate change impacts occur, I'll use the Pangnirtung bridge washout for example. Where do those funds come from in terms of...? What I'm trying to get at is: how much financial capacity does the Government of Nunavut have to implement adaptation or emergency measures in response to climate change? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Main. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. I think, as specific capital needs arise, they get brought forward in the traditional fashion in terms of our capital planning process. The

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example the Member raised obviously becomes a very high priority in terms of emergency type situations, so it would get addressed accordingly.

I don't want to say there's not specific capital funding available. We looked to the last year or two the amount of federal capital funds that were identified. A lot of them are in the area of green funding and create opportunities for us to try to address the most important current needs we have for green infrastructure. There is not necessarily a dedicated pot of money within our capital planning process, but we address the needs for municipalities in terms of the variety of factors in comparison to the other capital needs across the territory. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Devereaux. Mr. Main.

Mr. Main (interpretation): Thank you, Mr. Chairman. This is my last question (interpretation ends) on this topic anyways. (interpretation) Have the hamlets in years past ever requested funding in regard to climate change? (interpretation ends) Under the climate change heading, have there been specific applications made by hamlets for additional funding? Thank you.

Chairman: Thank you, Mr. Main. Mr. Deveraux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. I am not familiar with that specific request. I certainly don't want to say it has never happened, but I'm not aware of that. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Main, you had a follow-up.

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For the Auditor General, in paragraph 62 of your report you mentioned that CG&S did geotechnical site investigations in relation to seven infrastructure projects and nine public housing units constructed by the Nunavut Housing Corporation were also examined. In which communities were these infrastructure projects and housing units located? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Main. You're jumping ahead a little bit. We're not quite in that section yet. We're still up to paragraph 49. As the question has been posed already, I'll ask Mr. Ferguson to respond.

Mr. Ferguson: Thank you, Mr. Chairman. Actually I'll ask Ms. Cotnoir to respond. Thank you, Mr. Chairman.

Chairman: Thank you. Madam Cotnoir.

Ms. Cotnoir: For the infrastructure under the responsibility of CGS, we tried to look at different types of infrastructure. The type of infrastructure we look at is the new bulk fuel storage facilities, potable water systems at the Nunavut Arctic College residence and hamlet office, new sewage systems/lagoons and they were located in Cambridge Bay, Whale Cove, Repulse Bay, and Arviat. For the housing units that we looked at, we looked at the nine communities: Arviat, Sanikiluaq, Whale Cove, Pond Inlet, Kugaaruk, Taloyoak, Kugluktuk, Cambridge Bay, and Clyde River. Thank you, Mr. Chairman.

Chairman: Thank you very much for that response. Just a note that Repulse Bay has officially changed their name to Naujaat. Ms.

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Towtongie, you had some further questions?

Ms. Towtongie (interpretation): Thank you, Mr. Chairman. I can say that I am an accomplished seamstress. In fact most women from all across Nunavut sew. We are not just seamstresses, but we do work with the fur and skins of animals such as ringed seals, bearded seals, fish, caribou, and polar bears.

It has become noticeable that animals are also affected by climate change. As seamstresses, we see the fur of bearded seals and ringed seals are burned and sometimes become impossible to work with. It is easy to see these seals develop hides like old seals. Polar bears and caribou are similarly affected. When we prepare caribou skins during winter, we say that is whitening the skins to be made into kamiks because their hair is removed.

Reading what the Department of Environment reported about holding meetings in March 2018, I want to share this with you that seamstresses should participate in those gatherings. We have known that the clothing made by women can save the lives of men because they're not just ordinary everyday clothing. Now, it is clear to us that animals are being affected. I wanted to make that comment.

Reading the report on page 10, the department's response was that "The Department of Environment intends to work with other Government of Nunavut organizations and external bodies to identify and rank climate change risks and hazards to Nunavut." I would like to suggest to the Department of Environment that seamstresses should participate in those activities. I want to say that when we make traditional Inuit clothing, they can allow people to survive in the harsh climate. Thank

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you, Mr. Chairman. I wanted to make that comment and that's it for me.

Chairman: I'll take that as a comment, Ms. Towtongie, but Mr. Suvega, did you want to respond? Mr. Suvega.

Mr. Suvega (interpretation): Thank you, Mr. Chairman. That is understandable. We will take that into serious consideration and report back as accurately as possible to those people who need to hear that in government and partners during meetings with them. It is something we need to take action on in the future. Even if not everyone can take part in meetings, money sometimes is a barrier, but we will try to make as many people are involved and discuss these issues in every way possible. Even though the fur industry has not been involved up to now, it is clear that the industry is being affected. This will need to be considered in future planning. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Suvega. Just before we go to the next section, paragraphs 50 through 105, I would just like to follow up with a couple of questions from Ms. Towtongie that she posed to the Auditor General yesterday, but I would like to direct it to Environment.

Paragraph 28 of the AG's report indicates that his audit found the Department of Environment produced a five-year action plan concerning the climate change framework, but that this "action was never finalized." Why was this action plan not finalized, and what is the status of developing a new one? Mr. Suvega.

Mr. Suvega: Thank you, Mr. Chairman. In terms of previous work that has been completed but not finalized or formally approved, I can only really speculate as to what may have been kind of determining

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factors of why it might not have been approved.

There's a lot of competing time and attention for the resources that we do have and that's likely one of the main causes and different competing interests amongst government and trying to prioritize some of the work. Going forward, I think some of the pieces that we have tried to organize and respond to adequately using things like the OAG report and certainly the proceedings from yesterday and today, we will use that to inform some of our actions going forward.

One of the first pieces we have tried to organize interdepartmentally is to have a policy forum properly to vet a lot of these interdepartmental, interagency and partnership work. It's not to necessarily create new bodies, but to ensure that there's a forum there to have this body of work supported interdepartmentally so that we can come up with recommendations and action plans going forward that will hopefully help inform what some of our future recommendations may look like.

As for what some of those timelines may look like, only time will tell, but we have some of those pieces already started with a lot of proposed discussions now having kind of a formal policy forum to have these vetted through like the Sustainable Development Advisory Group just as one example. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Suvega. I was going to ask a follow-up on paragraph 31 of the detailed draft implementation plan for the energy strategy in 2010, but it also wasn't finalized. I'm probably going to get the same type of response.

That leads me into a comment that when the Government of Nunavut, whether it would be

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a department or agency, goes through the exercise of creating a strategy and there's no action put behind it.... There are a lot of money, time, and resources that are invested into doing a strategy such as the energy strategy that the Department of Environment did back in 2007. When there's no action brought to it, it's like those resources are wasted, and the witnesses just said how important resources are.

When we do take on a project, I think it's very important that we follow through with it. I look forward to seeing more progress on these areas, not just with an updated strategy, by taking into consideration newer technologies that are available but also an action plan and an implementation strategy to go with that. I'll just leave that as a comment.

At this time we will go ahead with the next section, Findings, Recommendations, and Responses, Taking action, paragraphs 50 through 105. I will start with Mr. Lightstone. Thank you.

Mr. Lightstone: Thank you, Mr. Chairman. I would like to follow up on Mr. Main's comment yesterday regarding the OAG's collaborative report from Auditors General and the statement that the Auditor General made stating that "Climate change has been identified as one of the defining challenges of our time." I would like to thank the Auditor General for including that statement because I completely agree.

I believe we're at a point in time where how we choose to generate electricity has become critical to the future of the planet. We know that continuing to generate electricity using fossil fuels is not sustainable and it is impacting our climate. The Arctic, including Nunavut, is on the frontline in terms of the effects of climate change and should be a

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leader in terms of building the society that we want it to live in.

Renewable energy also aligns with the values of Inuit with respect to caring for nature and leaving a positive legacy for future generations. There are major financial benefits in moving towards renewable energy in the Arctic, but once the infrastructure is built, renewable energy projects have no further consumption costs and very minimal maintenance requirements. Further, renewable energy is also extremely appropriate for small, remote communities with limited infrastructure.

With that being said, I would also like to point out the fact that compared to other locations around the world, Iqaluit has a very favourable amount of sunlight when looking at the annual amount. I know that the QEC has recently released a net metering program that will push us in the right direction and enable the public to start contributing to move towards renewable energy. I believe that we need to expedite the process through government incentive programs to assist the public in acquiring and installing these renewable energy systems.

I'm not sure which department to aim this question at, but most possibly the Department of Environment as the lead. I would like to ask what plans are in place for incorporating and implementing incentive programs for assisting in renewable energy systems. Thank you, Mr. Chairman.

Chairman: Excellent question, Mr. Lightstone. Mr. Suvega.

Mr. Suvega: Thank you, Mr. Chairman. In partnership with other departments, we are looking to develop, perhaps, new programs in the near future, but those are still under development as well. It's important to also

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Having said that, we're very much looking to other jurisdictions, especially northern jurisdictions, that may already have programs such as these in place that can serve their populations and can bring new technologies to the north that generate cost savings for future generations. Thank you, Mr. Chairman.

Chairman: Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. Thank you for that response. My next question will be for the Department of Community and Government Services.

Paragraph 57 states that "Once the thawing of permafrost begins, stopping it is usually difficult and expensive. Therefore, it is essential to help preserve permafrost both beneath and beside a building." And "...properly managing snow and drainage around buildings to avoid water from pooling" would significantly contribute to that.

The Department of Community and Government Services' response to the Auditor General's recommendation concerning these climate change projections indicates that it "will initiate measures to ensure that climate change projections are incorporated into the geotechnical site investigations where required going forward." What specific measures will be initiated? Thank you, Mr. Chairman.

Chairman: That's directed to CGS. Mr.

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Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. The last part of the question in terms of the geotechnical investigations is in reference to when we undertake a new project as part of the site analysis and site investigation. We undertake and always have geotechnical engineering investigations to understand soil conditions.

The Auditor General brought up through an audit out of seven projects that were examined, five of the seven, the geotechnical engineering firm had identified in the report that they looked at climate change projections as part of their analysis. Our response is that we would continue to ensure for all of our geotechnical investigations that those engineering firms continue to undertake climate change projections in their investigations. It's pretty much an industry standard now.

We had two projects that didn't specifically state in the geotechnical report that they had considered climate change projections. One was the Repulse Bay school, which is predominantly on all bedrock, and the other one was in Whale Cove. Upon review, it may or may not be that the geotechnical engineering firm looked at climate change projections, but it wasn't specifically stated in the report. We will ensure that all geotechnical reports do include a statement around the climate change projections as being part of that analysis.

I think the initial part of your question led to the types of measures we're looking at when it comes to snow and water. Certainly we undertake annual inspections on our portfolio of buildings that we own and maintain. As we recognize issues with extensive pooling of water and standing water, then we ርጎር በ୭2.

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recognize there are drainage issues and we want to address those. The measure we would take is just through our annual inspections after spring thaw to ascertain if there are any buildings that have excessive water pooling that are a result of poor snow management in terms of the thaw but also just in terms of fundamentally drainage issues. Thank you, Mr. Chairman.

Chairman: Thank you. I'm sure you meant the school in Naujaat. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. Now, properly managing the snow and drainage around buildings has been an issue here in Iqaluit as we pretty much annually have an issue with water drainage. I was wondering if the government will ensure proper drainage around government facilities here in Iqaluit. Thank you, Mr. Chairman.

Chairman: Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. I think our response would be it's certainly our mandate as part of our maintenance program to take steps to mitigate the issues around snow management and melting and water pooling. Certainly it is within our goals and objectives to achieve that. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. You're saying that one day all the government facilities in Iqaluit will have proper water drainage and, if so, when would that be possible? Thank you, Mr. Chairman.

Chairman: Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the follow-up

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In terms of just general drainage strategies, when we have a property that is identified to have poor drainage issues, we bring that forward as we do all of our required lifecycle on our existing buildings and prioritize that. Certainly where we have excessive issues with water pooling is the ones that we want to try to identify as the highest priority. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. Thank you for that response. My next question will be directed to the Auditor General.

Paragraphs 75 to 91 of your report address issues related to the use of renewable energy, including solar power, wind power, and hydroelectric power. Paragraph 79 of your report indicates that your office "did not audit the costs and benefits associated with the various projects discussed in this section." Why was this decision made? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Lightstone. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. I'll ask Mr. McKenzie to answer that. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. When we looked at those just in terms of Exhibit 4 in particular, which is where we

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outlined some of the projects that the energy corporation had looked at, we wanted to show that there were various options that were being considered.

However, the level of effort versus the return of us actually auditing those costs and benefits, the solar project is relatively small, the wind study is something that was high level but also used to encourage discussion and inform discussion, and the hydro discussion was discontinued by the QEC. Our assumption is that if third parties were to pursue these types of projects, they would do an in-depth assessment of what actually the costs would be to them and whether or not it would be economically feasible and relevant for them to do it.

For those reasons, we did not look at those costs and benefits in detail. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. McKenzie. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. As you point out in Exhibit 4 under solar power, you indicated that "The project was estimated to cost...\$7.5 million and to reduce fuel consumption by an estimated 196,000 litres per year and greenhouse gas emissions by an estimated 615 tonnes per year." I was wondering where this figure of \$7.5 million came from and what sort of solar power project would that entail. Thank you, Mr. Chairman.

Chairman: Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. This was a study that was undertaken by the energy corporation. They may be best positioned to provide details in terms of the amount of power, for example, that that type of energy project would generate. It was

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done, if I'm not mistaken, with a third party working with the corporation to help them better understand what the potentials were surrounding solar power, the need for some battery storage, and also some of the technical aspects that would have to be considered if the corporation were to go forward with those types of projects. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. McKenzie. Would you like to direct that question to the QEC? Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you to the Member for the question. If I understand correctly, the question was about how we achieved some of these numbers, some of the estimates. Very high level, we have fairly good numbers in terms of the solar capacity that we can use to generate electricity in Iqaluit. Doing that and then converting it into electrical output can lead directly to a reduced need for diesel.

As I said, we can go to other sources to confirm the calculations we have done so that they're not questionable. The only part of that equation that we ourselves would have to confirm would be the cost of the installation and that would cover variables such as labour, land acquisition, transportation, etcetera. Otherwise we feel fairly comfortable with what we said, and I can expand on that if required. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. I'll follow up with another question to the QEC. In 2016 the QEC installed a small demonstration project on solar energy in its Iqaluit power plant. I was wondering if the QEC would be able to provide us with an

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Chairman: Thank you. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. We would be more than happy to share that information. We have that information available. Unfortunately I don't have it in front of me, but I will collect and provide it to the Member. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. You can provide it to me and I'll distribute it through the Committee. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. I would appreciate receiving that information.

Paragraph 89 indicates that the QEC is planning to have the Act "amended so that it could purchase power from third parties. It was also developing an independent power producers policy, which would outline to third parties how the Corporation would integrate power from them." The QEC "identified the end of 2018 as a timeline for completing these actions." I'm wondering if the end of 2018 is still an accurate timeline. Thank you, Mr. Chairman.

Chairman: Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thanks to the Member for the question. This particular moving towards the IPP program involves a couple of steps. One of the steps, as was mentioned previously, was changing our Act to enable us to pursue an IPP program. Depending on how the legislative proposal is deemed, if it's minor, I think we will reach this timeline, I believe. Obviously I don't have complete control over those steps, but I believe it's reasonable.

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The second part of that are actually the details associated with the IPP program, so the commercial conditions, technical requirements, etcetera. We believe that due to all of that, we will have that completed. We're targeting having that completed by the end of fiscal 2018-19. The legislative proposal, we believe, is reasonable within this calendar year and then the entire program by 2018-19. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. Thank you for that response. My next question is regarding the net metering program. As of today, how many applications has the QEC received? Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. We have not received any formal applications, but we are talking to a number of people who are trying to get a comfort level. They have asked for some more specific information from the corporation in terms of the program and how the program works. They're doing their due diligence as potentially a lead-up to an application. We're hopeful to receive that first application in the very near future. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. My next question on net metering is: why was the net metering program not made available to business customers? Thank you, Mr. Chairman.

Chairman: Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman.

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Thank you for the Member for that question. That's one question that we have been asked a number of times and I would like to expand on it. I will start by saying that we are preparing the IPP program, which will be open to all customers.

Now, the net metering allows customers to generate power within their own residential homes or if a hamlet account wants to pursue that. We have included that within the provisions. We have limited the amount of energy originally we will procure to ensure one thing: to make sure that there are no problems with the power quality that people see on the distribution systems. What I mean by that is that we want to make sure that we don't have voltage or frequency problems which would manifest by having people issues with their electronics, etcetera, so we're deploying it slowly.

The other component is that we are looking at how to make sure that these programs don't mean that other customers end up paying more. Customers that participate in the net metering program are able to generate and we store it for them if they generate more than they need over a given month and then we give it back to them. We're looking at the impact both technically and financially for the corporation and for the customers so that we don't have to pull back on our programs at some point. We're deploying them slowly so that we can, as we learn more, increase the scope of these various programs. We think it's a cautious approach, but we think that it's appropriate so that we don't end up having to retract and pull back something that we have set on. Those are the two primary reasons.

Now, the IPP program will hold customers whole in terms of costs, so we will completely open that up to everybody. As I said earlier, we intend to have that launched by the end of 2018-19. Thank you, Mr.

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Chairman: Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. Thank you for that response. I look forward to hearing more about that in the future.

Now my next question is going to be towards the Nunavut Housing Corporation. The NHC's annual reports have shown that the utility rates for the Public Housing Program have been steadily on the rise. Now, I'm sure that there's some sort of correlation with the increase in the number of public housing units.

It has been mentioned a number of times in the House and during meetings and it's a fact that every day during the winter months and year-round, people have noticed and made mention on the fact that there are many public housing units with windows open. I'm assuming that it's probably too hot in those units and there's probably an easy fix other than leaving the window open year-round.

I was wondering if the NHC has worked with the QEC to conduct an energy consumption audit to identify those public housing units that have higher than average consumption rates. Thank you, Mr. Chairman.

Chairman: Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you for that question. We have not done any preliminary work towards specific audits to individual units as to how much actual power consumption there is based on a per-unit basis. We do have an overall number and that's something that we can definitely look at.

We have been working with the QEC on other initiatives like the tenant engagement Δ **ኮ/ペレር%**: Γ**'**C \subset Δ' \checkmark ጋ°.

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campaign on Energy Wise and how to be more responsible as a tenant with respect to reducing your power consumption. That has been going well so far. We're hoping that more campaigns like that will help the Nunavut Housing Corporation reach out to its tenants with respect to how best to utilize the unit that they're in and to ensure that there is no wastage of energy in any way. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. My next question will be for CGS. That would be: I was wondering if the department has conducted a cost-benefit analysis on installing solar panels on government buildings. Thank you, Mr. Chairman.

Chairman: Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. As part of the energy management initiative we have undertaken beginning with the pilot project in Igaluit and then the more recent Kivalliq energy project that the Members are aware of, within those investment-grade feasibility studies, we looked at a whole variety of potential energy measures or upgrades that would have a positive impact. Within the Igaluit project and the Kivallig project, we did look at any opportunities for solar and then built that into that business case for the particular project. It's our intent to do the same when we go through the same type of process for South Baffin, North Baffin, and Kitikmeot. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. I have heard of this Nunavut Energy Management Project several times and I was

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Chairman: Thank you. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. The energy management initiative is very much along the lines of what you described. We would identify a particular region that we wanted to target and we would undertake an investment-grade feasibility study, looking at all the current facilities that we own and operate, looking at their historical and current energy consumption, and then identifying any components within that building that would result in energy savings through replacement or upgrade, trying to identify through a theoretical design what those savings would be compared to the capital cost to replace them.

That's pretty much all the feasibility study is undertaking. It certainly does look at existing components within our facilities and at the same time identifying how we consume energy and if there are opportunities for upgrades, for example, with some solar that may result in a more efficient and higher performing facility.

We have done a number of smaller solar projects. The initial cost of the capital for that technology was a longer payback, but we certainly wanted to be able to demonstrate and undertake a few, so we have. We hope that we can do more of those on an individual building basis as costs come down on solar. Thank you, Mr. Chairman.

Chairman: Mr. Lightstone.

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Mr. Lightstone: Thank you, Mr. Chairman. Thank you for that response. I have a curiosity. What happens to the windows and doors that are being replaced? What happens to the old doors that you're taking out of the government facilities? Are they being reused or are they just being shipped to the dump? Thank you, Mr. Chairman.

Chairman: Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. The majority of our energy measures are around lighting upgrades, water efficiency, looking at components within our buildings, valves and motors, and how to make them more energy efficient through replacement.

In terms of envelope upgrades, the majority of energy measures we undertake in the particular projects referenced would really just be going around to the envelope and seeing where any existing penetrations need to be dealt with through re-caulking and things of that nature.

In some cases we're replacing some doors. I can't speak to where the doors go. I think that certainly if a particular product in our facility is reusable, then we would want to try to reuse it. If it was not reusable, then it would get disposed of accordingly. Thank you, Mr. Chairman.

Chairman: Thank you. Next name on my list, Ms. Towtongie.

Ms. Towtongie (interpretation): Thank you, Mr. Chairman. I would like to direct my question to the Auditor General of Canada.

Paragraph 67 indicates that "semi-annual assessments were often done annually due to a lack of resources and to weather-related problems." (interpretation ends) Did the department indicate that its budget for

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conducting assessments was inadequate or that it lacked the trained and qualified staff to conduct the assessments?

In saying that, in Rankin Inlet, when I hear the word "snow management," I get concerned because *pukajaaq* snow is different from *minguliq* snow. *Minguliq* snow can easily dissolve, but *pukajaaq* stays around; it can insulate a house. There was a house in area 6 by an elder, Monica Ugyuk. Because of *pukajaaq* snow, she actually had to use a little boat to cross her lot. We saw it every year, snow management.

My question is, the trained and qualified staff to conduct, they may be trained in southern Canada but not trained in Nunavut-specific conditions, so that might be a whole new field of assessment. Thank you, Mr. Chairman.

Chairman: Thank you, Ms. Towtongie. I'll remind Members not to personalize questions. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. As I understand it, the question was about Community and Government Services and how they're doing their assessments. Again perhaps the department can clarify, but my understanding is that it was not necessarily a dollar issue in terms of being able to conduct all of those assessments. I think it was perhaps more a staffing issue, but again I think that's something that the department could answer, Mr. Chairman. Thank you.

Chairman: Ms. Towtongie, would you like me to direct that to Community and Government Services? Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. We undertake on an annual basis with our facility management staff in our regional offices site

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investigations of our facilities. This particular measure here, I think, is referencing that. We endeavour to do that on an annual basis.

We have our maintainers in our buildings every day, but we specifically set up an annual event, which is a building condition assessment in which the regional facility managers would undertake. There have been some examples in the past due to staff shortages where we haven't hit 100 percent of those for all of our buildings. I think that's what this particular measure was getting at. We certainly endeavour to do that.

Some of the issues that could be identified just in terms of the day-to-day interaction with our community settlement maintainers in the buildings are often raised to our regional offices. In terms of this audit period, they did find in some communities that the annual building condition assessments weren't all completed due to staff shortages. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Devereaux. Ms. Towtongie.

Ms. Towtongie: Thank you, Mr. Chairman. Thank you for the reminder. I'm very practical and like to go to specifics.

However, paragraph 68 of the Auditor General's report indicates that their audit found that the Department of Community and Government Services "had completed detailed assessments for the buildings under its responsibility in 12 of Nunavut's 25 communities at the end of October...The Department planned to assess the remaining buildings by the end of 2019. As a result, buildings in selected communities will have gone up to almost seven years without a detailed assessment." My question is: what are the 12 communities in which assessments were completed? Thank you, Mr. Chairman.

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ናሪታቴሲኒ, Δ৬/ዊኦርቴ. **Chairman**: Thank you, Ms. Towtongie. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. I'll ask Ms. Cotnoir to respond to that. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Ferguson. Madam Cotnoir.

Ms. Cotnoir: Thank you for the question. According to the document that was provided by the department, the assessments were done in Arviat, Baker Lake, Chesterfield Inlet, Whale Cove, Naujaat, Coral Harbour, Cape Dorset, Kimmirut, Pangnirtung, Sanikiluaq, Hall Beach, and Igloolik. Thank you, Mr. Chairman.

Chairman: Merci. Ms. Towtongie.

Ms. Towtongie: Thank you, Mr. Chairman. (interpretation) I would like to ask a question to the Nunavut Housing Corporation (interpretation ends) President Audla.

(interpretation) Paragraph 97 of the Auditor General's report states that "The Canada Mortgage and Housing Corporation commissioned a study on HRVs in northern Canada. Released in 2017, the study identified problems with installing, operating, and maintaining HRVs. These issues, along with the lack of HRVs in some housing units, were identified as potential reasons behind the presence of mold in some of the Nunavut Housing Corporation's public housing units."

Paragraph 94 of the Auditor General of Canada's report also states that his audit found that although the Nunavut Housing Corporation had created an "Energy Initiatives Coordinator" position, the position "was not filled." What is the current status of the position? That's my last question. Thank **Δ⁶/«ÞC⁶** (ጋጎ,ትበህ⁶): ⁶dታ⁶۵, Γ¹ CÞጋ⁶°ቦ. Γ¹C *Š*し¹6.

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you, Mr. Chairman.

Chairman: Thank you, Ms. Towtongie. Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. If I understood the two questions correctly, the first one has to do with how HRVs operate and how they're maintained. That is clearly stated in the Auditor General's report. It's about what steps we at the housing corporation, along with local LHOs, can take and make progress on this issue.

We have to do training with some housing association maintenance workers. We want to ensure they are properly trained. We have started that work and the problems with mould are much bigger now than in the past. We have been inspecting units and remediating them. We have spent approximately \$9 million and we now understand how we can remove mould from units. We're trying to find ways of preventing mould infestations in the first place. You can look forward to hearing about what we have been able to do with respect to mould remediation.

As for your other question, we haven't filled the energy initatives coordinator position yet. That coordinator position was created for the Nunavut Housing Corporation. It had been funded by the CMHC from the federal government, but we haven't been able to fill it, so it remains vacant to date. We can look further into this matter, but at times it is impossible to fill these kinds of positions. We would have to look at the education and qualifications to make sure that the person hired is actually qualified for that position, which is the normal practice.

Sometimes it takes a very long time to fill a position in government operations and sthey become nearly impossible to fill. I can look

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into the issue to see if that funding will continue to be available from the federal government, but I can make this a higher priority and look further into this matter. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Rumbolt.

Mr. Rumbolt: Thank you, Mr. Chairman. My questions are for the Qulliq Energy Corporation.

Paragraph 83 of the Auditor General's report states that in his audit that although the Qulliq Energy Corporation had district heating system infrastructure located in nine communities, it was only operational in Arviat, Iqaluit, Kugluktuk, and Rankin Inlet.

Mr. Chairman, I know Sanikiluaq has one of those systems that do not work and it has not been working for many years. I have questioned this in the past, only to be told that it was too expensive to get this system back online and operational. It was good to hear yesterday that the department is now looking into revitalizing this project.

In the past only the elementary school was hooked up to this residual heat system. A new high school was built eight or nine years ago. One of the reasons this site was chosen was in hopes that one day it too would be connected to the residual heat program. Is it the QEC's intention to have both schools connected for the residual heat in this program? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Rumbolt. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. I thank the Member for the question. Yes, in this particular situation our intent is to.... Now, we still have to have discussions with

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the hamlet about the school and finalizing that part of the project, but our intent is to connect up both of the schools with the caveat, as I said, that we have to have those discussions and make sure that we reach an agreement with the school in terms of going about the work, etcetera. Thank you, Mr. Chairman.

Chairman: Mr. Rumbolt.

Mr. Rumbolt: Thank you. For the QEC but on a slightly different subject, in March of 2018 the Qulliq Energy Corporation released a report titled *QEC's Energy Framework:* The Cost of Generating Electricity in Nunavut. Page 8 of this report indicates the five Nunavut communities with the highest wind power potential are Arviat, Baker Lake, Iqaluit, Rankin Inlet, and Sanikiluaq.

The report also indicates that the total cost of installing wind turbines in all five of these communities would range from \$101 million to \$148 million. The report also indicates that the length of time that it would take to pay for renewable energy infrastructure based on the cost of diesel fuel saved would range from 8.6 years in one community to over 30 years in another community.

My first question on that is: what is the lifespan of a wind turbine? If you built a brand-new one today in a community, when will it have to be replaced? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Rumbolt. Mr. Pereira.

Mr. Pereira: Thank you very much, Mr. Chairman. In terms of the calculations that the Member had referred to, we did a simple payback calculation. If we invested, for example, in Arviat about \$2.3 million, in one scenario the payback would have been

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approximately 16 and a half years based on the avoided cost of diesel. There were no maintenance costs associated and there was no return on equity. It was strictly how much to recover the costs.

One of the things we did not look at in terms of this calculation is the actual life expectancy of the wind turbines in this environment. We've had some very positive feedback from various engineering firms about how the technologies have improved and how they're much better and more suited for our environment today, but we have yet to see an actual deployment of a turbine that has gone through its entire lifecycle. We hope that we would be able to expect 20 years or more of lifecycle from these wind turbines, but again, we haven't seen an actual installation that has gone through that cycle. Thank you, Mr. Chairman.

Chairman: Thank you, Pereira. Mr. Rumbolt.

Mr. Rumbolt: Thank you, Mr. Chairman. Again, in your report, on page 8 you talk about the payback period in the number of years. Like I stated earlier, it can take up to 30 years. It states here, like you just stated, that you don't take into consideration the ongoing maintenance costs and return on investment. Do you have any idea of how much it would cost annually on the maintenance for wind turbines? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Rumbolt. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. I thank the Member for the question. In terms of the ongoing annual maintenance costs, we don't have that figure. We would have to get that information and incorporate it into the next set of calculations. The answer is right

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now we don't have that cost. Thank you, Mr. Chairman.

Chairman: Mr. Rumbolt.

Mr. Rumbolt: Thank you, Mr. Chairman. With that being said, if you took into consideration the ongoing lifecycle maintenance for wind turbines and the replacement of wind turbines over 20 or 30 years, is it currently feasible for the QEC to move forward with wind projects in any of the communities that are identified? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Rumbolt. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thanks to the Member for that question. That is an excellent question in this context.

We did this in terms of the payback period as an example of what's based on the report's costs it would take to pay back the cost of that investment. We did that for a couple of reasons. Just to give an idea of how much time we're talking about and if we were to have somebody else come in, let's say for example, as part of the IPP, they would look to make a return on their investments. Additionally there would be the maintenance costs we just talked about, so the time periods would be even longer.

In terms of the QEC, once we are able to look at the maintenance costs and let's say that our investments produced a payback of 20 years or somewhere around that time frame, we're fine with that time period payback because we're not looking to make money on the back of our customers; we're looking to move in the right direction. That kind of time frame is fine for us as a utility. The question remains: is it fine for somebody who may be coming in looking to make an

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investment in those kinds of infrastructures in Nunavut? Within that context, it would be reasonable for the QEC. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Rumbolt.

Mr. Rumbolt: Thank you, Mr. Chairman. I thank him for that explanation. I'll have one final question and it's based on his opening comments from yesterday. On page 2 at the very top, you talked about "...exploring the feasibility of developing and implementing any energy source determined to be practical and financially viable to its customers. These solutions range from the most achievable, such as solar or residual heating, to more long-term, technically complex solutions, such as geothermal or nuclear." I wonder if you can explain to us what types of feasibility studies are being done on the use of nuclear technology in Nunavut. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Rumbolt. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thanks to the Member for the question. There are a couple of answers to that, so I'll start at the high level.

Currently the federal government has a steering committee in place that's looking at the feasibility of small modular nuclear reactors for use in various scenarios. The QEC is one of the members on that steering committee, as are some other territorial corporations and government representatives from other territories and other provinces. They have a number of working groups as part of that steering committee that's looking at everything from waste to costs to communication strategies, etcetera. That's going to be a national initiative.

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As part of that, there is actually a workshop here in Iqaluit on May 10 and 11. The federal government and a number of these groups are coming up and they're going to open it up for off-grid use. They're inviting various members of the community and organizations to attend and participate. It's a two-day workshop, as I said.

More specific to us, the QEC, we have applied for some funding in conjunction with some other parties, and I'm not going to name them right now because I'm not sure if it has been made public yet, to do a feasibility study in terms of the business case for Nunavut.

In terms of actually doing anything, we're very careful. We understand that our communities need to be consulted, that the various communities and stakeholders within Nunavut want to have their voice heard. We're looking at what the dollars mean and, if the dollars make sense, then we have the other conversation which is, "Does it make sense environmentally? Does it make sense from the community's perspective? Do we want to do something?" We're just starting on that road currently. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. Just to follow up on one of Mr. Rumbolt's questions and a couple of the responses that Mr. Pereira has given about the legislation and allusion to independent power producers, can you give us one or two examples of what type of entities you envision becoming independent power producers? Mr. Pereira.

Mr. Pereira: Thank you for the question, Mr. Chairman. The IPP really doesn't stipulate who can become an independent power producer; it puts in the framework. We're looking at the IPP in a couple of contexts. In some instances we envision that

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we will have an open call. We will say, "In this community we would like to install some solar," as an example. "Is anybody interested in providing that?" We will say we want so much energy and this is the cost structure, etcetera.

In some other situations we would envision that the community has, perhaps, partnered up with somebody else or they have some initiatives of their own. They may approach us and want to undertake some kind of a project. Now, we still have to reconcile our procurement processes, NNI, and that situation, but we envision that there will be both of those discussions. We don't see it as just one potential supplier; there may be a few different scenarios. Thank you, Mr. Chairman.

Chairman: Thank you for that response. At this time I'm going to recognize the clock and we will take a 15-minute break. Thank you.

>>Committee recessed at 10:22 and resumed at 10:40

Chairman: Welcome back, everyone. I hope everyone is a little healthier after the health break than they were before they left.

We will continue on with lines of questioning. The next name I have on my list is Mr. Mikkungwak.

Mr. Mikkungwak (interpretation): Thank you very much, Mr. Chairman. My question is directed to the Nunavut Housing Corporation.

The Nunavut Housing Corporation's response to the Auditor General's recommendation concerning the use of climate change projections indicates that it will "incorporate climate change predictions

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into future geotechnical studies, where necessary." In what specific ways has the Nunavut Housing Corporation modified housing designs or construction methods as a result of climate change projections? That's my first question. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Mikkungwak. Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. I also thank him for the question. Yes, we will be starting to implement the recommendation in the NHC's modified housing designs that are built by CGS. We're going to work with them and also look to them. We have asked for funding from the federal government to budget this. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Mikkungwak.

Mr. Mikkungwak (interpretation): Thank you very much, Mr. Chairman. I also thank him for that response. I'll ask him another question. Within Nunavut the buildings that are being constructed and their designs will be updated. How are you going to standardize the designs of the foundations and piles that are drilled into the ground within Nunavut? Thank you, Mr. Chairman.

Chairman: Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. I also thank him for the question. If I understand you correctly, we need to review the foundations of infrastructure that is usually office buildings, look at geotechnical studies to see how much snow gets piled up and where bedrock is, and look at the wind direction overall.

We will continue to work with CGS as the housing corporation, including the hamlets, to ensure that CGS has made plans properly.

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We will work with them and also look to them before we develop appropriate infrastructure designs in the best possible way. Did I answer that question correctly? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Mikkungwak.

Mr. Mikkungwak (interpretation): Thank you very much, Mr. Chairman. I'll now direct my question to the Office of the Auditor General.

Paragraph 70 of your report indicates that your audit found that fewer than half of the public housing units under the responsibility of the Nunavut Housing Corporation "underwent a condition rating assessment between October 2015 and October 2017." What reasons were you provided for why more assessments were not undertaken? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Mikkungwak. Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. In our discussions with the housing corporation, our understanding is that they had introduced a tablet-based system to help them manage their condition rating assessments. There were problems with the implementation and the use of those tablets which prevented the staff from conducting the assessments.

As noted in our report in paragraph 70 as well with respect to the corporation's response to our recommendation, they are expecting to implement a new system to help it manage its condition rating assessments. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. McKenzie. Mr. Mikkungwak.

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Paragraph 92 of the Auditor General's report states that his audit found that "Although the Corporation did not have any renewable energy projects, it had plans to install a small-scale solar panel project in Baker Lake to understand its potential energy performance and maintenance requirements." As of today, what is the status of this project and does the Nunavut Housing Corporation have plans to expand its use of solar panels? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Mikkungwak. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question on solar panels. The first initiative is to have it included on the build that is happening right now in Baker Lake for the new warehouse and office. Once we've got that up and going, we will make the determination as to future builds as to whether it is feasible and economical. We will first wait on the results of the Baker Lake initiative and see how that fares for any future considerations. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. The next name I have on my list is Mr. Qirngnuq.

Mr. Qirngnuq (interpretation): Thank you, Mr. Chairman. I'm not sure if I should start talking because the light is blinking.

I have a question under the heading (interpretation ends) "Climate Change Action" (interpretation) on page 10. It's written in English, so I'll read it in English. (interpretation ends) "Exhibit 3—Some

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governments plan to use carbon sinks to reduce greenhouse gas emissions." (interpretation) I would like to ask what "carbon sinks" mean. I'm asking the Office of the Auditor General to define that for me, please. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Qirngnuq. Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. A carbon sink, on page 6 of the report, it does provide a brief definition, "A natural or artificial reservoir that absorbs more carbon than it releases as carbon dioxide..." The report mentions forests as one example of a carbon sink, so it absorbs more carbon dioxide than it releases. It may also include wetlands as well and other natural areas that absorb more carbon dioxide than they release into the atmosphere. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. McKenzie. Mr. Qirngnuq.

Mr. Qirngnuq (interpretation): Thank you, Mr. Chairman. Now I understand that. When you're educated, I'm sure you understand that.

I'll move on to another topic. On page 11 of the report, the Auditors General stated, (interpretation ends) "Environment and Climate Change Canada worked collaboratively with provinces, territories, and other federal departments and agencies to develop a national climate change plan." (interpretation) I would like to get clarification of what is meant by (interpretation ends) "other federal departments and agencies." (interpretation) Are these within Canada or are we talking about international agencies or departments? I hope I was understandable, Mr. Chairman. Thank you.

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Chairman: Thank you. Mr. McKenzie, did you want that? Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. My understanding is the work that's referenced here is Environment and Climate Change Canada's work with provinces, territories, and other federal departments in relation to the pan-Canadian framework on climate change that was produced collaboratively amongst those various jurisdictions. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. McKenzie. Mr. Qirngnuq.

Mr. Qirngnuq (interpretation): Thank you, Mr. Chairman. Do you agree with the federal departments? What's the status of this initiative at this time? I would like to get clarification on that, which is why I'm asking the question. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. Yes, this was the Department of Environment and Climate Change Canada as the federal government's lead on this file, but they weren't the only federal organization involved, so they had to work with other federal departments and agencies, as well as the provinces and territories. Again, as Mr. McKenzie mentioned, the outcome was the pan-Canadian framework, but again, that's just a framework. There's a lot of work that has to go into actually implementing. This is just the very high-level framework overview of Canada's commitment to reduce greenhouse gas emissions.

Environment and Climate Change Canada had to make sure they collaborated and communicated with the other federal departments and agencies with the provinces and territories, the result being the pan-

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Canadian framework. There's still a lot of work that needs to be done to actually implement on the pan-Canadian framework and the *Paris Accord* commitments. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Ferguson. Mr. Qirngnuq.

Mr. Qirngnuq (interpretation): Thank you, Mr. Chairman. I also thank the Auditor General for explaining the (interpretation ends) pan-Canadian framework, (interpretation) which I will refer to in my next question. (interpretation) I would like to get clarification on (interpretation ends) "pricing carbon pollution," (interpretation) which is why I'm asking the question. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Qirngnuq. Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. My understanding is that the emissions or the carbon pollution, if you will, the levels of greenhouse gas emissions, are based on fuel consumption, so various types of fossil fuels. They will also look at other sources that could be, for example, the burning of waste, forest fires as another example of something that contributes carbon emissions, and also their use of certain products and that can also include vehicles as well. They are a source of emissions.

Environment and Climate Change Canada works on looking at the amount of fuels as an example, and then making estimates to determine the levels of emissions that are going into the atmosphere. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. McKenzie. Mr. Qirngnuq.

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Chairman: Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. Again, in terms of trying to understand Canada's contribution to greenhouse gas emissions, all of the different jurisdictions involved have to understand what the sources of their emissions are, but then also there could be some offsets to those sources of emissions like the sinks.

Something like a forest is a natural way to clean up or to reuse, essentially, greenhouse gas emissions. As Mr. McKenzie mentioned, if forests absorb more greenhouse gas emissions in their process of growth than they emit, then they could be a net negative as a carbon sink, which would then have to go in the whole calculation.

Things like forests are just a natural way of using up some of that carbon from the atmosphere and emitting less of it, a way of net reduction. Again, all of that has to be taken into account with all of the emissions, and then how the emissions are dealt with and carbon sinks may be just one way of helping to deal with those emissions. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Ferguson. Mr. Qirngnuq.

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Iglus, or snow houses, differ from each other. Some are warmer than others. For those of us who used to be full-time hunters, we know this for a fact. Some types of snow make them warmer than other types of snow. In the winter the compact snow is colder than in an iglu made of dry packed snow. Iglus can actually be almost as warm as modern houses.

What has the housing corporation considered on providing better protection against mould infestation in view of the poor ventilation which causes the incidence of mould growth? It may be that the housing corporation hasn't thought of that. What actions have you come up with to alleviate mould infestation? I would appreciate a response to these questions. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question. In a broad sense, the initiatives that we have been undertaking very recently on mould remediation, just based on the fact alone that we spent close to \$9 million in the assessments and the remediation work that has been done to date, we have become, not by our choosing, industry leaders in mould remediation. Our technical crew right now is in Yellowknife working with Polar Knowledge Canada and other jurisdictions to determine remediation as well as best examples of how we can work towards avoiding mould in the first place.

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In the Auditor General's report there is mention of properly training and servicing the HRVs within the homes. We all know that in Nunavut's extreme climate; and I get this question a lot from local housing authorities and especially from elders, "Why don't we just put a hole in the wall or in the ceiling just to create some air circulation?" My response to them typically is we do have a hole in the wall or in the ceiling, but it's attached to an HRV, which helps in the heating of the air coming from the outside going in and to circulate that.

Now the question is, based on the findings of the Auditor General, we need to do better in the sense of maintenance and training our maintenance people. That's what we're doing now with the Nunavut Housing Corporation. It's an ongoing initiative that we hope to have local housing authority maintenance people trained up so that they're comfortable in servicing the HRV units.

There are other factors as well, material type and building materials, that relate to what is being put into the roof trusses. Overcrowding is another issue. With the vapour barrier aspect from being 20 degrees Celsius in the house to minus 40 outside and when you open the door, the condensation actually builds up and the amount of usage that is involved with an overcrowded situation where you have maybe many very mobile children that want to go out and play outside, opening and closing the door, and all that. This is something that we're currently looking at to see what we can do overall to improve the mitigation of mould.

Like I said, I think, in comparison to other jurisdictions, Nunavut is trailblazing. We have become an industry leader in looking at all of the aspects. We're in the preliminary and assessment stage right now, but I'm very confident that we will have some very

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concrete actions as to how best we can mitigate mould.

That's my response to the question and I hope that fulfills the question from the Member. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Qirngnuq.

Mr. Qirngnuq (interpretation): Thank you, Mr. Chairman. I also thank the housing corporation for being able to respond appropriately. I'm also looking at ideas on how we can improve our housing stock in general and that is why I asked the question.

Moving on to another topic, our colleague from Sanikiluaq also touched up on some issues. I will direct my question to the (interpretation ends) QEC. (interpretation) He was talking about the different sources of energy. You're also thinking about using nuclear energy using uranium. I just want to get further information on whether it's safe to use nuclear energy or something involving uranium. I would like to get a better understanding of whether it's safe to use. That's my last question, Mr. Chairman. Thank you.

Chairman: Thank you, Mr. Qirngnuq. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you to the Member. I will first actually talk about timelines. In terms of what we're looking at, I had mentioned earlier that we're looking at just the business case, and then we would have that conversation with any community and we would certainly not do anything that the community was not interested in pursuing.

In terms of a possible project anywhere in Canada, it's at least seven to ten years away,

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so quite far off into the future. As I said, that's the possible business case in terms of dollars and cents, and then we would have that other discussion.

In terms of the safety of uranium, I know that there have been some bad experiences with mines and there are certainly concerns. Part of what's happening with the pan-Canadian effort on doing a pathway for the small modular units is to address the safety concerns and make sure there's strong legislation in terms of how any waste products are going to be treated. Before you even put the first shovel in the ground, there is a plan for how you're going to decommission the entire plant at the end of the lifecycle.

If managed properly, it certainly is safe. The federal government has actually declared nuclear power to be a clean energy source. I think it's in the context that it's all managed appropriately and that there's appropriate consultation and anybody who is involved is aware of what are the potential risks as well as the benefits.

Again, nothing in Nunavut certainly for 10 years. The only thing that we would be looking at is having the initial discussion and sharing of information where we can. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. Mr. Qirngnuq.

Mr. Qirngnuq (interpretation): Although that was going to be my last question, the response brings up another issue of (interpretation ends) nuclear plants. (interpretation) Are they still in operation today? That will now be my last question. Thank you, Mr. Chairman.

Chairman: Mr. Pereira.

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Mr. Pereira: Thank you, Mr. Chairman. Down in Ontario, as an example, they have a couple of nuclear plants. They're different than what we're talking about for off-grid purposes. These are large projects where they're built on site and they take 10 years to construct.

This initiative is smaller scale, something that's probably the size of a small bus, if I can use that as an example. That technology and that usage, you may have heard for example that in Russia they power some communities by bringing a ship close to land and using the nuclear power from their ships to power those communities. I'm not saying we're going to use a ship, but I'm saying it's smaller than what we see down south.

Yes, there's a version of this that's being used, but again, the federal government is looking to facilitate a new design that would be more appropriate for our communities and other off-grid communities throughout Canada. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. I'll look forward to Nunavut getting its own nuclear naval capabilities.

>>Laughter

I do have a question to follow up from Mr. Qirngnuq's line of questioning. When you're talking about nuclear power generation of the size and nature that you were just talking about, what level of training or what level of expertise would there have to be to maintain such infrastructure? We often have to fly experts up for different types of maintenance for different pieces of technological equipment, and I can imagine nuclear power being quite techy. What type of training or what type of qualifications would somebody need to maintain such infrastructure? Mr. Pereira.

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Mr. Pereira: Thank you, Mr. Chairman. In terms of nuclear installation, there are two components. There is the actual design. That has to go through a very rigorous regulatory process. Then there is the operation. That organization has to be licensed to operate the plant much like an automobile. The design has to be approved to go on the roads, and then whoever is driving that vehicle on the road has to have their own skill set and their own licence.

In terms of the operation here in Nunavut, we would need to most likely partner with a recognized operator, Ontario Power Generation as an example of a licensed operator. We would have our existing electrical generation facilities without current operators, and then you would have the building that would produce the actual heat to turn the turbines. That is the portion that we need to use an operator, as I said, such as an OPG. It would involve other components such as monitoring and response times, etcetera.

Again, it's a fascinating subject, but as I said earlier, it is still far off in the future. We haven't looked at any of those details and we are exploring the possibility as one alternative for Nunavut. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. If Mr. Kaernerk will just allow me one more question, a similar question to Mr. Audla. When he's talking about HRVs and staff are going off training, numerous conversations with different LHAs, what level of training and expertise is needed to make sure that these HRVs are maintained properly and to kind of bump the schedule up a little bit? As noted in the Auditor General's report, there has been a real lack of follow-up with the maintenance and the inspection of these units across the territory. Mr. Audla.

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Mr. Audla: Thank you, Mr. Chairman. Thank you for that question. It is being accelerated. It's an area where we feel strongly would really help with the improvement of the overall livelihood and health of the tenants.

It's not as technical as, say, an oil furnace mechanic certification requirement for that purpose, but it's still new technology that is forever needing maintenance because of the extremes in the climate between the outdoor and the indoor air and the condensation that is involved with these types of mechanisms. There is always a need to maintain them on a regular basis. It's a matter of the regular maintenance as opposed to the actual expertise.

In the training aspect of it, to try to regularize within the LHOs that this is something that you need to look at either every 6- or 12month period of time and to ensure that they are running smoothly, and on the new technology aspect of it, like any person who gets a new snowmobile, they have to look at the manual, they have to understand the moving parts, and what is required for maintenance purposes and how often you should change the oil, and so on and so forth. It is same idea with the HRV units. You need to keep up with new systems that may be introduced into that unit and to ensure that all the units are similar across the regions, between districts, and to ensure that it's the same parts and same maintenance requirements. Once we have established that, then to really regularize it among the LHOs.

On the technical aspect, it's not that technical as opposed to the example I used, but it's the regularization of the maintenance requirements. I hope that answers your question, Mr. Chairman.

Chairman: Thank you, Mr. Audla. I'll keep

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to just cleaning my filter and calling experts in to do my regular inspection, which is due very shortly. Mr. Kaernerk.

Mr. Kaernerk (interpretation): Thank you, Mr. Chairman. My question may be directed to Community and Government Services, but maybe to all three organizations.

The Auditor General's report indicates that there are three communities where the shorelines are eroding. Can you indicate how the Department of Community and Government Services has been working with hamlet councils on this issue to date? That's my first question. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. In regard to that community reference, our department is working with the local hamlet to examine the issues around erosion and we will continue to do so.

I know yesterday there was a question from the Member about boil water advisories. We followed up with that and I'll just advise that there currently are no boil water advisories in Nunavut. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Kaernerk.

Mr. Kaernerk (interpretation): Thank you, Mr. Chairman. With the communities experiencing coastal erosion, waves becoming bigger, damages to beaches, and loss of sand, what can our communities and your department do to prevent further erosion caused by climate change? Thank you, Mr. Chairman.

Chairman: Good question. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I

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thank the Member for the question. Some of the activities we're engaged with along with the hamlet are really the monitoring of those conditions. They are known to change and we see in some communities, as in the community being referenced, where the change is occurring around coastal erosion.

In some cases it's a measure of, if you have facilities that are apparently at risk to be impacted by further erosion, the owners of those facilities would probably look at mitigation steps. In some cases the mitigation might be to relocate the property or put in some form of material to help decline the erosion that's occurring.

In the particular community you are referencing, I think there are some housing units that are potentially impacted by coastal erosion. I certainly defer over to the housing corporation if they have any mitigation plans relative to those assets. Our role would be to work with the hamlet where there is deemed to be a significant risk around that for any of the hamlet-owned infrastructure. Thank you, Mr. Chairman.

Chairman: Mr. Kaernerk.

Mr. Kaernerk (interpretation): Thank you for explaining that. I'll end with that topic for now.

I would now like to direct my question to the housing corporation. You indicated earlier that Hall Beach is one of the communities that have houses at the beach that are at risk. What work have you done with the local housing association? Thank you, Mr. Chairman.

Chairman: Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. I also thank him for the question.

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Chairman: Thank you. Mr. Kaernerk.

Mr. Kaernerk (interpretation): Thank you for the response. Can you indicate to us today when you will be able to meet with the Hall Beach Housing Association? Thank you, Mr. Chairman.

Chairman: Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. Very soon. Once my officials are available to do that and once the Hall Beach Housing Association is available to do that, we can meet with them probably this summer. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Kaernerk.

Mr. Kaernerk (interpretation): Thank you for explaining that. I have another question under the housing corporation. It was mentioned earlier about mould occurring in houses and the HRVs. Can you indicate to us about houses that are rented by people and how many houses have been studied or checked for mould? Thank you, Mr. Chairman.

Chairman: Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. I also thank him for the question. With respect to the mould problem in Nunavut communities, in 2017 there were 22 communities that were inspected. Igloolik

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Looking at it overall, 271 housing units have been inspected to date. There are plans to inspect other buildings. They have been put into different categories of mould. There are houses that are severely mouldy, some of them are somewhat mouldy, and some of them are clean. We want to visit all the communities and inspect all the public housing units. We are still planning on visiting the rest of the communities.

Up to now we have spent \$9 million in mould remediation. We haven't inspected all the communities yet, but we have a much better idea of how much work needs to be done. We will want to keep hearing from the local housing associations which units they are most concerned about and we can make plans for those. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Kaernerk.

Mr. Kaernerk (interpretation): Thank you, Mr. Chairman. I also thank you for that explanation. Staying on the same topic, they needed to fix the HRV units in 15 communities. Have the local housing association maintainers been taught how to install the HRV units? That's my last question. Thank you, Mr. Chairman.

Chairman: Mr. Audla.

Mr. Audla (interpretation): Thank you, Mr. Chairman. I don't know how many housing maintainers have been trained to work on the air handling units or the HRV units. We know that all the local housing maintainers in Nunavut will be trained eventually. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Netser.

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In 2016 a study was produced for the Qulliq Energy Corporation which identified, and my colleague from Sanikiluaq alluded to it earlier.... I understand that wind turbines could displace diesel use by about 18 to 56 percent in communities. It would be a phenomenal cost now for the time that these wind turbines are used and diesel generators are not being used for that amount of time.

In the remaining time of the 18 and 56 percent, are these generators required to be running when we rely on wind turbines? That's my question. (interpretation) I hope that was clear. Thank you, Mr. Chairman.

Chairman: Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you for the question. Depending on the community and the size of the load on the community, the most probable operating mode is that the turbines would run in parallel with the diesel generation for a good portion of the time. What that would mean is that, depending on how much wind generation is being realized at that particular time, there would be a sharing of the load. Conceivably, on a good wind source day, wind electricity day, the majority of power or electricity could be provided by the wind and being supplemented by the diesel generation, whereas other times it can be the opposite where most of the power could be generated by the diesel and some by the wind.

In terms of a scenario where the entire power is being generated by the wind turbines, there are some technical issues associated with that. Again, it goes back to voltage and frequency and not damaging any equipment 2016-ปก - วป เชิง > 5 เป็น - วัง - ว

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that customers have. We do have some examples of that happening with a solar installation in the Northwest Territories. Colville Lake, I believe, is the location. We can see that happening for the smaller communities potentially. I think the larger communities would need a larger electrical system and loads. I believe there would always be some kind of diesel generation as part of the supply mix. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. Mr. Netser.

Mr. Netser: So then the usage of wind power generation doesn't stop the usage of diesel power generation now. My next question is: if we just had solar power energy, would the diesel units be running as well? That's my next question. (interpretation) Thank you.

Chairman: Mr. Pereira.

Mr. Pereira: Thank you, Mr. Speaker. Thank you for the question. Let me answer a slightly different question first and then it will feed into the question the Member has asked, Mr. Chairman.

Wind and solar are intermittent energy sources. The solar is the easiest one to explain what I mean by that. As we go farther north for our communities, there are times of the year where there is going to be no solar energy whatsoever. It means that we have to be able to produce all the power during those periods with the diesel engines. Even if they're not running, we need to have the full capacity to supply the communities.

Wind has similar issues. If there's not enough wind or if there's too much wind, what they do is they put the breaks on the wind turbines so that they're not damaged if there's too much wind. Again, in that CALAC) 666°C% LLLC YSPOSIC

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instance, because it's not always on demands, we have to have the capacity to be able to supply the entire community, even if it's not being used.

Having said that, for solar, wind, or any other intermittent, we need the full capacity of diesel there. Yes, there are possible scenarios and possible times, depending on the community, that if we had batteries for very short-term storage, and by short storage I mean hours or less than hours, to buffer to make sure the power is not dirty going to communities, it's conceivable that the diesels could be parked for short-term periods, again, depending on the size of the grids, but having capacity on standby in case we need it.

Mr. Chairman, hopefully that answers the question, but I can expand that as needed.

Chairman: It's clear as mud, Mr. Pereira. Mr. Netser.

Mr. Netser (interpretation): Thank you. It looks like the wind power infrastructure that was put up in Rankin Inlet has never been used up to now and it was very expensive to install. Why has it not been used? Thank you, Mr. Chairman.

Chairman: Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. The installation goes back quite a few years, if I recall correctly, and we did do a review of that. It wasn't used because there was a technical problem on it, so it was not generating and at the time the corporation that was the Northwest Power Corporation that had invested in that location and a second location, which escapes me right now, decided not to invest in coming back and repairing and upkeep of that particular installation.

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Again, one of the things associated with that installation was the equipment was brought in from the south and wasn't necessarily the optimal or the best equipment for northern latitudes. Technology has changed and as we move forward, we would hope that we would get better equipment going forward. Thank you, Mr. Chairman.

Chairman: Thank you. If the next name on my list, Mr. Main, doesn't mind, I would just like to jump in on following up. When you're talking about the maintenance on this piece of equipment, Mr. Pereira, windmills and solar, again, what type of training and expertise is needed to maintain that equipment? I know that in most cases windmills, as an example, require a crane just for installation, never mind getting into the expertise of the maintenance side of things. I know that these projects aren't next week, but from a staffing training standpoint, what type of capacity is needed to maintain such infrastructure? Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. I will break it down into the two parts that you actually alluded to. There's the actual construction phase. In terms of, for example, selling the solar, typically labourers are used as part of the installation under the supervision of a qualified electrician or installer. Once installed, if there's any troubleshooting, it's typically somebody who has gone through a program in a college or an apprenticeship that has experience with electrical and mechanical systems.

Certainly in the case of the windmill, they would have to be trained specifically on the generators and the mechanics of the turbines, transforming power from DC to an AC format. You either need a trade or an education component to be able to it in depth. In terms of regular maintenance, we can train people locally to do regular upkeep

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and as the requirement becomes more technical, we would bring in a specialist. We do that currently with our plants in the communities. Thank you, Mr. Chairman.

Chairman: Thank you. Just to again follow up with the way you've got alternative energy dovetailing in with the current generation practice, when I look at the net metering policy, private residents are permitted now to generate small portions of energy on their own and feed it back into the system. I have always understood energy efficiency at a plant to the generators that are in there are running at peak loads to maintain their maximum fuel efficiency and power generation.

If you're offsetting at small amounts, if you had 10 people in a community that have small, little solar panels or a small wind cell, not enough to shut a generator off, is it reasonable to think that in some cases this net metering policy may actually make some of your plants less efficient by feeding small amounts of power offsetting to take away some of the peak efficiency models, especially with newer generators? Mr. Pereira.

Mr. Pereira: Thank you very much, Mr. Chairman. That's an excellent question. In terms of the generators, when they are generating, yes, there is a range where they are the most efficient. It's much like a bus. If the bus is full and you're carrying as many people as you can, you're being very efficient in the use of that bus. If you only have one or two customers on the bus, it's not a very efficient use of that bus. Generators aren't buses obviously, but if they generate high amounts of energy relative to what they are rated at, they're being more efficient.

In terms of individual net metering

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installations, you are correct, Mr. Chairman, the impact will be minimal in terms of the efficiency of the generators. Now keep in mind also that we have different generator sizes at the communities. What we do is we try to use the right combination of generators to produce the electricity as efficiently as possible.

In a given day, as an example, the load is not constant; it changes over the course of the day. If people are home or if they're at work or if it's the weekend or if it's a workday, the loads are always changing. There is usually a pattern, but they change throughout the day. We change the generators based on the existing loads to try to optimize the efficiency. We would try to keep doing that even as net metering customers come along, assuming there was a large enough impact to look at that as an option. We don't see the net metering, in the short term anyway, having that kind of impact.

One of the things that we're looking at is we're looking at a different kind of generator as well which actually can adapt to the amount of renewable energy on the system and maintain its high efficiency. They are called "Variospeed" generators. We're looking ahead to when that may be something that we need to install in the communities. Thank you, Mr. Chairman.

Chairman: Thank you for that detailed response. I'm going to take it a step further. One of my colleagues brought up the fact that the net metering policy isn't open to commercial clients, whereas a lot of those clients are the ones that are the biggest expenders of energy, the users. In a lot of cases they're the ones that actually have the capital dollars to be able to invest in feeding back and lowering their own energy costs on a capital recovery basis. How far down the road are we looking to have commercial

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client availability to access a little bit more larger-scale offset in communities? Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. We are looking at, as a part of the IPP program, which we're looking to deploy by the end of 2018-19 fiscal year, that program will be available to commercial customers, so they will be able to participate.

Notably one of the differences between net metering and the IPP, as you suggested, is they may be larger scale. We would be looking at offering technology such as batteries to make sure that they don't impact the electrical quality or power quality in the communities. They will be able to participate as soon as the IPP comes out. We're projecting at the end of 2018-19, but there will be slightly different technical requirements as part of the IPP versus the net metering to make sure communities are not impacted. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. I'm learning some of the different technical terminology just from my own cabin running off solar and then switching over to a generator. There are different technologies that I'm learning about. Mr. Main.

Mr. Main: Thank you, Mr. Chairman. I guess I did have a line of questioning here, but maybe I'll follow up on the most recent question. How does the Iqaluit airport fit into the existing framework of power producers? It's my understanding that there's a generating unit in that airport unless I'm mistaken. Thank you, Mr. Chairman.

Chairman: Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you for the question. Customers are now able to generate the power themselves

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behind the meter, so that means they're not feeding back into our grid. What a customer does in that situation, their limitation is based on having a proper safety permit to make sure there are no issues and they can do that. We have always had those kinds of situations for emergency generation backup as an example, but the key here is that they're generating behind a meter and they're not impacting the grid. They're also not looking for us to pay for them to feed back into the system. Thank you, Mr. Chairman.

Chairman: Thank you for that response. Mr. Main.

Mr. Main (interpretation): Thank you, Mr. Chairman. I have a question for the Auditor General. In his report, they examined a number of issues dealing with the housing corporation and the Department of CGS regarding government services and other recommendations that they need to implement. Looking at government infrastructure, they said that they were not properly assessed or inspected.

In regard to the budget, has the Office of the Auditor General found whether the Government of Nunavut or the housing corporation has budgeted toward climate change? For example, we spent \$200,000. I hope I was understandable, Mr. Chairman. Thank you.

Chairman: Thank you. Mr. Ferguson.

Mr. Ferguson: I'm sorry, Mr. Chairman, I'm not sure which part of the report the question is referring to, if I could get a specific reference.

Chairman: Mr. Main.

Mr. Main: Thank you, Mr. Chairman. I'll switch to English. What I'm interested in is

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Chairman: Thank you, Mr. Main. Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. During the course of our audit, that was not something that was brought to our attention about whether or not they were tracking the impact or the cost. That does speak to, if I may, the importance of doing condition assessments because it will allow them, whether it's the housing corporation or Community and Government Services, to identify potential issues that may be arising. I'm not sure whether they would track that ultimately, but it would allow them at least to be able to address some of those issues. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. McKenzie. Mr. Main.

Mr. Main: Thank you, Mr. Chairman. In terms of other jurisdictions across Canada, to your knowledge, are there any other jurisdictions that are tracking incremental costs related to climate change in that manner? (interpretation) Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Main. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. Certainly not in a comprehensive manner. I

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mean there could be, I suppose, in some instances where different jurisdictions are looking at what would it cost to normally build something and then what it would cost to add some additional adaptations to a particular project. There wouldn't be any systematic tracking. There could be some estimates at a very high level, but nothing that would be at a detailed tracking level. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Ferguson. Mr. Main.

Mr. Main: Thank you. I guess I'll direct my next question to the Department of CGS. Does the department have a figure? We will use for example, in the last fiscal year, how much repair work was done tied to climate change. Is there a figure internally in terms of tracking that? Thank you.

Chairman: Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. We wouldn't track specifically. We certainly track all of our expenditures on lifecycle work on our existing buildings as well as both preventative and routine maintenance. We expend a significant amount of money each year on maintaining and operating our facilities. What we don't do is peel away a piece that somehow is attributable to maybe the effects of climate change. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main: Thank you, Mr. Chairman. I'll ask the same question to the housing corporation. (interpretation) Thank you, Mr. Chairman.

Chairman: Mr. Audla.

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Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question. Like CGS, we don't apply the category of expenses due to climate change to any expenditures that we have, but it is an ongoing O&M aspect of what we do with respect to our stock and the aging stock as well. Some units are affected more than others depending on the age, depending on the construct, the type of construct as well, and the overall maintenance of, say, the HRV units.

It's one thing that we haven't necessarily tracked in the sense that this is attributable to climate change, but if there's flooding, if there is a snow melt flooding damage, we would attribute that to regular O&M. We would have to fix it if it needs fixing at this point, but we don't necessarily earmark climate change as a category to identify this as such. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main (interpretation): Thank you, Mr. Chairman. (interpretation ends) For the Department of Environment then, is this a function that the Department of Environment has looked into in terms of tracking incremental costs to the government? What I'm trying to get at here is if there's an opportunity for us to recoup some of that cost, I think that would be great for the territory and for the government. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Main. Mr. Suvega.

Mr. Suvega: Thank you, Mr. Chairman. Similarly along the lines of our interdepartmental and interagency partners, we currently don't track or monitor through that specific lens, but it is something definitely to take into consideration as we try

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Chairman: Mr. Main.

Mr. Main: Thank you, Mr. Chairman. Was that a commitment to look into this idea from the Department of Environment? Thank you.

Chairman: It sounded like one to me, but I'll let Mr. Suvega go on the record with that.

Mr. Suvega: Thank you for giving us the opportunity, Mr. Chairman. In short, yes, we will definitely take a look at that not just through the Department of Environment; with our interagency and interdepartmental partners as well. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main: Thank you for the response. Ma'na. A couple of the things in this report jumped out at me as being kind of contradictory. I'll use one example. I'm going to ask a question to the housing corporation.

When it comes to skirting on houses, it says in here in terms of permafrost, one of the things is that you are supposed to keep the area underneath your house free so that it can freeze during the winter and stay cool, but I have skirting on my house. I know many people have skirting on their houses and it saves a lot of fuel oil, which reduces my carbon footprint. On one hand, to deal with climate change....

Anyways what I wanted to get at is: what is the housing corporation's position on the issue of skirting for houses? Is it recommended? Is it not recommended? Thank you.

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Chairman: Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. We don't have a specific recommendation as to whether a unit would have skirting or not. In some cases there is a security aspect to it to keep children and others from going underneath the unit to do whatever. It is usually fencing and I think the prevailing agreement is that if you don't impede the wind, then there wouldn't be any snow buildup. At the same time, if you do skirting, there is potential of heat leakage actually getting into the permafrost. As it stands, I believe that we don't do skirting, but it's based on the fact that we want to keep the wind unimpeded. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main: Thank you, Mr. Chairman. Just as an aside, if I take the skirting off my house, I think my fuel oil bill is going to double, which would make me a bad guy in terms of my carbon footprint.

I'm also interested in this issue of snow clearing. It mentions in here in terms of draining, CGS, snow clearing, and working with municipalities. I hate to keep bringing it back to money, but we could clear every little bit of snow out of every community if we had the money for it.

My question is: does CGS know if there are any funds available for additional snow clearing around GN buildings which would fit under the recommendations of this report? Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the question. In terms of snow management within the site, the lot upon which a GN-owned facility exists, we

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would be responsible through our existing O&M funding to deal with snow management there. As I mentioned earlier, strategically what we do when snow piles become a point in the springtime where they are very large, oftentimes you will see us clearing those snow piles before the spring melt.

On our existing lots upon which we have GN-owned facilities, typically when we construct through a design process with civil engineers, we try to ensure that we have suitable drainage to keep water away from pooling underneath our facilities and having a negative impact on permafrost degradation. Certainly on some older sites, some of those drainage concerns may not be as adequate or might be more troublesome than on our new builds. We also run into the situation that municipalities are responsible for roads and drainage around those roads and oftentimes individual landowners or equity leaseholders are impacted by that.

We provide funding to hamlets, as you are aware. Within that O&M funding we provide and they deliver a road maintenance program that involves snow clearing. I think some hamlets would also have similar strategies as snow piles build up throughout the winter and in preparation for spring thaw, they might move that snow around. I certainly agree that there's not enough funding to adequately address that. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main: Thank you, Mr. Chairman. At this point is just a final question for CGS. Is there a specific pot of funds that hamlets can apply for in terms of improving their drainage, with the understanding that this will help preserve our permafrost and this will help reduce our building maintenance

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costs? Is there a fund that a hamlet can go to and say, "We would like this amount of dollars for our drainage"? Thank you.

Chairman: Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank the Member for the follow-up question. The pot of capital money they would apply to would be the same pot of money that we review each year with municipalities in terms of all their municipal infrastructure requirements. If a municipality had a high-priority drainage issue in the community, they would advance that through their ICSP, similar to how they would advance a water treatment plant or a sewage lagoon.

The other avenue that I think municipalities have to look at is whenever they are developing lots and looking to recoup some of the costs on that lot development is to build in some of those types of infrastructure costs. Unfortunately on a one-off lot, there's not a lot of money there for them to recoup if, over a period of 20, 30, or 40 years, there are now significant drainage issues through that community. Obviously to rectify that, it's going to take a bigger project undertaking. I think the avenue a municipality would go would be through the ICSPs to try to prioritize that as a municipal infrastructure need. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main: Thank you, Mr. Chairman. I don't have any further questions; just a comment. One of the big things I'm concerned about is that climate change is increasing our costs to operate communities and to run a government. If we as a government don't have an opportunity to recoup those costs, then we're actually losing

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the capability to deal with other issues because climate change is compounding things. I look forward to more discussions later on, on power production, etcetera. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Main. I'll take that as a comment.

I just would like to follow up a little bit with your line of questioning. In the Auditor General's report it mentions national standards for clearing and drainage. How much training is required for people in communities to be able to meet these standards? Mr. Devereaux.

Mr. Devereaux: Thank you, Mr. Chairman. I thank you for the question. I don't have a response. I'm not sure of the level of training that would be required relative to current municipal employees that are involved with snow management. I would have to get back to the Member. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Devereaux. Before I go to the next name on my list, Mr. Akoak, we will break for lunch and returning at 1:30. Thank you.

>> Committee recessed at 11:58 and resumed at 13:35

Chairman (Mr. Main): Alright, everyone, good afternoon. I would like to call the meeting back to order.

First of all I would like to recognize that we have a new witness under the Department of CGS, if you could please introduce yourself. Thank you.

Mr. Mulak: Thank you, Mr. Chairman. I'm Paul Mulak. I'm the director of capital projects with CGS. Thank you.

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Chairman: Thank you. Welcome to this meeting and look forward to some good discussions with you this afternoon.

Just for everyone's clarification, we're on paragraphs 50 to, I believe, 104 of the report. We will continue with questioning. (interpretation) Mr. Akoak, did you have a question?

Mr. Akoak: Thank you, Mr. Chairman. Good afternoon, colleagues. I just want to revisit the issue of mould. I know it was mentioned this morning by my colleagues and I know it's a real big issue that needs to be dealt with. It seems to be growing all the time and we need to deal with it.

I think my colleague from Netsilik said that we have our own specialists made in Nunavut and they're the elders of Nunavut. They have been living up here for a long time and they know how to deal with it. The member for the Nunavut Housing said that to deal with it, they had to make either two holes in the building or up on the roof. We have elders that mention that in order to get rid of mould, they need to do that and sometimes the government never ever listens to them. I would like to say "thank you" to the Member of Netsilik. He indirectly mentioned that we have specialists of our own.

My questions are on that topic and I would like it for the Auditor General. My question is: paragraphs 97 and 98 of your report state that your audit found that "problems with installing, operating and maintaining heat recovery ventilators...along with the lack of HRVs in some housing units, were identified as potential reasons behind the presence of mold in some of the Nunavut Housing Corporation's public housing units."

Your report also states that only 18 percent

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CAL^ea NNS[®]7L7L^e2N^e Po^e6^e P^e672A^e4^e7DA^e6^eP^e6^e6 of the heat recovery ventilators in the Nunavut Housing Corporation's public housing units "received required annual inspections and servicing during the 2016-17 fiscal year" and that "In 15 communities, none of the HRVs received annual maintenance." I would like to know: what were the 15 communities in which no inspections took place? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you, Mr. Akoak. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. I'm going to ask Ms. Cotnoir to answer that question. Thank you, Mr. Chairman.

Chairman: Just hold on. Ms. Cotnoir, go ahead.

Ms. Cotnoir: Thank you. Thank you for your question. The 15 communities are Clyde River, Grise Fiord, Hall Beach, Igloolik, Kimmirut, Pangnirtung, Baker Lake, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Naujaat, Whale Cove, Gjoa Haven, Kugluktuk, and Taloyoak. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Akoak.

Mr. Akoak: Thank you for responding to that question. I would like to direct my question now to the Nunavut Housing Corporation.

Paragraphs 97 and 98 of the Auditor General's report states that "problems with installing, operating, and maintaining HRVs...along with the lack of HRVs in some housing units, were identified as potential reasons behind the presence of mold in some of the Nunavut Housing Corporation's public housing units." Earlier

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you said that you spent \$9 million in trying to fix up the problem. That's quite a bit of money.

The report also states that only 18 percent of the HRVs in the NHC's public housing units "received required annual inspections" and that "In 15 communities, none of the HRVs received annual maintenance." What specific actions is the Nunavut Housing Corporation taking to address these issues? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you, Mr. Akoak. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you for the Member for the question. We responded to the Auditor General's report in saying that the Nunavut Housing Corporation will ensure that the annual maintenance schedule is being kept to.

As pointed out, of the 5,400-some-odd units in the public housing stock, less than half have HRVs installed within those units. It's somewhat of a new technology. Of the 15 that were identified, we will be specifically going into those communities and showing them what it is that is involved with respect to inspecting and, at the same time, ensuring that there is actual maintenance on these units. We will be rolling out training as well as completing any repairs and maintenance that are needed for the 2,100-some-odd HRV units we have and to ensure that the LHOs keep to a schedule so that there is an annual inspection and maintenance of it.

Sort of related to that is the overall condition rating system that we have where outdated tablets were being used. What we want to do and what we have done to date now in the past year, which is unrelated to the auditor's report, is provide up-to-date, new tablets that are easier to use and maintain to ensure that

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all communities are sort of going through the same inspection schedule. That will help us in monitoring whether or not the LHOs are keeping to schedule the required maintenance of what needs to be maintained as well as what needs to be inspected and to ensure that the schedule is being followed. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Akoak.

Mr. Akoak: Thank you, Mr. Chairman. At the last Assembly we talked about the mould issue and that you were going to be training people to deal with the problem. When I last talked to the housing association over in Gjoa Haven, they haven't received the training as of yet. Now, will that be the same problem where you say you're going to go to the 15 other communities and still not do it? That's what I'm worried about. Would he commit to going especially to Gjoa Haven to deal with that in a few weeks? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you, Mr. Akoak. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for the question. Yes, I can commit to that. Gjoa Haven was on the list of communities where mould remediation was contracted for. As part of that contract there's the training aspect to it. If the local housing authority has mentioned that they haven't received the training, I would like to hear about it just so that we ensure that the contractors are doing their job and, at the same time, the communities are trained up. You want to keep that expertise at the local level and to ensure that any mould remediation that can be done locally is done locally and that it's done by trained maintenance people. Thank you, Mr. Chairman.

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Chairman (interpretation): Thank you. Mr. Akoak.

Mr. Akoak: Thank you, Mr. Chairman. Just one more question. There is a class of mould: 1, 2, and 3. Last I heard, you were able to train local people for level 1, but when it becomes a very bad one, you would have to fly somebody in. Would you also commit to flying somebody in when we have bad mould problems in Gjoa Haven? Thank you. That's it for me, Mr. Chairman.

Chairman (interpretation): Thank you, Mr. Akoak. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member. Yes, I can commit to that. For all Members, keep in mind that this is sort of the first year or two of mould remediation. We are going to have a multi-year approach to this. It is something that we're not going to stop until we actually address mould issues within our units and to work towards mitigating it and making sure that mould doesn't happen or it is somehow avoided.

Any information we can gather from professionals to experts, to local experts, to elders, all of that combined, this is the hope that we have to ensure that it is a holistic approach in respect of maintaining our units. We all know that it costs a lot of money to try to maintain our units and to keep them going for many years to come, and to maintain the dignity of being a tenant in these units.

I can commit to you that this is something that will be ongoing, it is a multi-year approach as well, and that we will be ensuring that mould is no longer an issue as we go further into the years. Thank you, Mr. Chairman.

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Chairman (interpretation): Thank you, Mr. Audla. (interpretation ends) Just to follow up on a question posed by Mr. Akoak, when it comes to these HRV units, how long does it take to complete an inspection? Does it take an hour or does it take a day? Thank you.

Mr. Audla: Thank you, Mr. Chairman. To be honest with you, I myself don't know the answer to that. When you consider the size of the unit and what is involved and what is required for inspection purposes, some homeowners might know the answer to that, but I'm not sure myself. I can definitely find out based on the types of units that we have, the 2,100 plus, if there is any real variance between the types, why there is a variance, and at the same time what inspection time is required for these. I can come back to the Committee with those. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Moving along, my next name here is Ms. Kamingoak.

Ms. Kamingoak: Thank you, Mr. Chairman. My question will be to the Auditor General. I would like to revisit the issues of drainage and snow clearing.

Paragraph 73 of your report states that your audit found that "the operations and maintenance procedures followed by the Department of Community and Government Services and the Nunavut Housing Corporation did not fully reflect practices recommended in Canadian standards for managing snow and water around buildings, which can help prevent permafrost degradation." Can you describe some of the specific ways in which their operations and maintenance procedures did not fully reflect the recommended standards? Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Ferguson.

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Mr. Ferguson: Thank you, Mr. Chairman. I'll just start and then I'll turn it over to Mr. McKenzie, if I may, Mr. Chairman.

Again, what we were doing here was we were looking to see whether the way they were managing these assets was in compliance with Canadian standards for how things like snow removal should be managed. We were looking at specific criteria to assess them against, but I'll ask Mr. McKenzie to provide the details. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. McKenzie, go ahead.

Mr. McKenzie: Thank you, Mr. Chairman. Just by way of context, in paragraph 57, we make reference to some of the steps that are required and they are outlined in the standard that we make reference to, which is moderating the effects of permafrost degradation on existing building foundations, which was released in 2014.

The development of that standard involved a number of different representatives, including representatives from the Government of Nunavut as well as other territorial governments. It covers essentially, if you look at it from the perspective of designing and ensuring proper drainage around a building, to periodically monitoring or assessing the building, and then also as we have discussed earlier, managing snow and water to ensure that it doesn't pool.

We looked at the various steps and procedures that the two organizations had in place. We did see reference to, for example, good building practices that talked about the importance of slope and grading around a building unit, but in the areas, for example, of the periodic monitoring and assessing of buildings, we note that in our discussion on

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building assessments that the approach taken was not consistent or standardized and it didn't always reflect the need to look at snow or drainage issues around a building.

Also, just the general snow and snow operations procedures, if you will, were not reflective of some of the aspects and the standards such as not trying to plow snow up against a building, which they talk about in the standard which can insulate the ground and cause heat from the building to affect the permafrost.

Just as a concluding note, I think, just to reflect on one of the comments that one of the other Members of the Committee mentioned this morning, this is really about being preventive and proactive and trying to prevent degradation of permafrost because the experience of and as it's stated in the standard is that once the degradation process starts, it's very difficult and/or expensive to halt that process. It's really about trying to be preventive and proactive. Thank you, Mr. Chairman.

Chairman: Thank you. Ms. Kamingoak.

Ms. Kamingoak: Thank you, Mr. Chairman. My question will be towards the Department of Community and Government Services.

The Department of Community and Government Services' response to the Auditor General's recommendation concerning the management of snow and water to prevent permafrost degradation indicates that the department will "work with...the Nunavut Association of Municipalities, to educate and support the municipalities in the development and use of best practices..." As of today, how many meetings have been held between the department, the Nunavut Housing Corporation, and the Nunavut Association of

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Municipalities to address this issue? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. I'm personally not aware of any meetings taking place yet with the association of municipalities regarding this issue, but I can find out the details of that and get back to you. Thank you, Mr. Chairman.

Chairman: Thank you. The next name on my list, Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I didn't expect my name to come up so quickly.

I'll start off with some questions regarding the Qulliq Energy Corporation, but I would like to start off asking a question to the Auditor General.

Paragraph 80 of the report states that the Qulliq Energy Corporation has "established a goal to reduce its dependence on fossil fuels by two percent" by next year, 2019. Did the audit determine if the QEC is on track to meet this goal? Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. We didn't specifically audit whether they were on track to meet it. They had established the goal. It does say, "...to reduce its dependence on fossil fuels by two percent..." To us, that's a little bit vague. Part of the question here for the corporation is to explain exactly what their goal is and then they could explain too what progress they have been making. Thank you, Mr. Chairman.

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Chairman: Thank you. Mr. Hickes.

Mr. Hickes: I think Mr. Ferguson just worded my next question to Mr. Pereira. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you to the Member for the question. First of all, what is the actual statement mean from Qulliq's perspective? This really talks about an increase in efficiency and what I mean by that is that our load is growing in the territory. It's not an absolute reduction. At the time when we set the goal, we were using just around 50 million litres of diesel per year. That means a 1 million litre reduction. When we look at this, we have to be clear about what we are saying with this target in terms of how we're getting there.

This was a target that was identified by looking at all the different work that we're doing and what that was going to do for us in terms of efficiency reductions if we completed the work. For example, replacing gen. sets in Baker Lake and Arviat, etcetera. Based on the calculations, which we have done, projecting out to 2019, we will see an efficiency increase of 2 percent, meaning that we would be using about a million litres more per year in diesel had these efficiency gains not been made.

In terms of what the gains mean, they mean a couple of things. Primarily it has to do with increased efficiency of new gen. sets that we have been installing in our various plants. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I appreciate that information. I'm going to touch on the proposed hydroelectric project

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Chairman: Thank you. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. About three or four months ago we revisited the firm that had helped us out the first time around. We asked them to update the costs. They confirmed that it's still approximately \$350 million for both sites. We think that number is still current. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I have brought this topic up in the House a few times already, in this Legislative Assembly. The mission of the new Canada Infrastructure Bank is to use "federal support to attract private sector and institutional investment to new revenue-generating infrastructure projects that are in the public interest." Is the Qulliq Energy Corporation considering approaching this institution for assistance in obtaining funding to move forward the hydroelectric development project here in Iqaluit? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you again for the question from the Member. First about the Canadian Infrastructure Bank, we are actually excited

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about the possibility because, in addition to the description that the Member read, my understanding, if I'm correct, I believe, is that it will also provide loan guarantees so that institutions that may not otherwise be able to fund projects may be able to do so.

We are actively waiting right now. We've had discussions internally about when can we talk to the federal government, perhaps through the territorial...? When can we have that discussion about what is available to Qulliq Energy? We're excited about that, especially when we look at it in the context of our debt cap and where we are currently along that path.

In terms of looking at the hydro project, what we're doing is we're looking at the hydro project, but we're not looking at it as a direct way of implementing. What we're doing is this: we're looking at how much money can we invest in various possibilities in Iqaluit and other areas, and what is the return on that money. If we spent \$350 million and we get 20 megawatts of hydro generation, and I'm just making up the second part, if we were to spend \$50 million on solar and wind and get 80 percent there, which is the better deal?

We're actually preparing a report that is in draft form to look at the various options, where we stand as a corporation, and then how we want to proceed forward. In fact we tend to have that dialogue in a public forum so people are aware of what we're trying to do and where we're going to go with our energy projects. Certainly one of the discussion pieces will be what is going to happen with the hydro project in Iqaluit, if anything. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Hickes.

Mr. Hickes: Thank you. Mr. Pereira kind of touched on how my next phase of this

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Chairman: Thank you, Mr. Hickes. I'm assuming that question has to do with the hydro topic in some way. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. By going to the "levelized" or territorial rates, and usually before I throw that number, I throw out a 20-minute speech about why that rate is and where it came from. Given where we are, the rate would be about 78 cents residential.

A "levelized" rate across all of Nunavut for residential customers would be approximately 78 cents. The business rate, I believe, is 64 cents. There are two different rates depending on which customer class you are. Thrown into that mix is the fact that there are subsidies involved. What customers ultimately pay in Iqaluit or other communities is not just dependent on our rate; it's also dependent on the subsidy rate. We have to have that discussion with the government as well. The rate we would charge on a per kilowatt basis would be 78 cents. The current rate in Iqaluit right now is 60 cents minus the fuel subsidy, so about 56 cents. That would be the difference.

I apologize if I'm throwing out those numbers. It's a huge discussion in itself, but 78 cents residential in Iqaluit at the end of the process. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. It is a

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Mr. Hickes: Thank you, Mr. Chairman. Maybe I wasn't clear in my question. I was more along the lines of: if we were to build a major solar farm or a hydroelectric project, what impact would that have on the rates here in the city with or without the territorial rate? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Hickes. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. My apologies; I gave you the long answer to a question you didn't ask.

In terms of the rates, we're comparing all of our new energy sources against the avoided cost of diesel. We buy so much diesel and there is a per kilowatt cent attached to that, so about 31 cents if we look at the past four years' average. We're targeting at replacing that diesel with something of an equivalent. If we do that, regardless of whether it's an Iqaluit rate or territorial rate, there's no change in rates.

The last projection I saw from the hydro project specifically, and again I'll have to refresh my memory, but I believe it was around 28 to 29 cents per kilowatt generated and sold to the QEC. That means that in the context of the current diesel price, there would be very little impact on rates, if any, because it would just displace the cost of diesel. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I just have one final question along this line and then I'll allow somebody else to ask some questions before I get going on another department.

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In the formal response to the Auditor General's recommendation concerning the establishment of priorities and targets for renewable energy, the QEC states that it "anticipates that the deployment of renewable energy technology will be impacted by the Corporation's small rate base, along with financial, geographical, and technical challenges."

From both a financial and technical perspective, what are the most realistic options available to the QEC in the area of renewable energy technology and in which communities can these technologies realistically be deployed in the next 5 to 20 years? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. In terms of technologies, I had mentioned earlier that the traditional technologies that we're looking at are primarily solar and wind. However, we are looking at other options as well.

For example, we are looking at deep geothermal and we actually have a report due from a consultant at the beginning of this month, beginning of May. There is follow-up there. Why preface my answer with that? Because once we get additional information on some of these new technologies, it may change where we see ourselves going over the longer term.

Currently if we're looking at what's available to us that we would feel very comfortable deploying, then we would start off with solar. We would start off with solar because there are no moving parts and the maintenance is relatively easy. Wind is a close second, but it has moving parts and so there are still questions about how it performs in some of

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Having said that, where can we deploy it? Well, there are certainly communities that have better performance than others. In terms of our report, we have highlighted the communities that have best wind performance, but we would get significant and we could also realize diesel savings if we deployed solar.

We have applied for a few communities to deploy solar projects. For example, one that we can share with you because we have already received a letter of support from the community is Kugluktuk, where we submitted an application for 500 kilowatts to install as part of the new plant that will ultimately be built there. There are a couple of other communities that we're in the process of having some discussions with, but we can share that information publicly shortly.

The simple ones are solar, but we haven't closed the door to other technologies. They're just not at a point where we're comfortable saying that we want to deploy them. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Pereira. Maybe I'll just follow up on Mr. Hickes' question there. If you will forgive the pun, energy in terms of the amount of energy that the corporation is putting in, looking at these different technologies, you mentioned nuclear this morning, are you looking at them all equally? I'm looking at solar, wind, geothermal, nuclear, and hydro. Are you putting equal energy into looking at each option or are there certain ones that you're more focused on in terms of your time? Thank you.

Mr. Pereira: Thank you, Mr. Chairman. Our draft report which I referred to is not finished

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yet, but when we publish it, we're going to list all the possible sources, everything from solar to nuclear, and we're going to state exactly what we're doing with all of them. If there is one that we are not doing anything with currently, we're not actively pursuing.

For example, hydro is a great technology potentially. Why are we not doing anything with it? Because it costs \$350 million and we don't have that capacity currently. The limitation is not always the desire or the technology; it may be the financing. Even in situations where there is a payback period, we may not be in a position to make the initial investment, as an example. We will detail that as part of our report.

What are we focusing now on deploying? Currently we're focusing on deploying solar. We're spending a lot of effort on also growing the district heating system because the district heating system actually does displace diesel much like the other sources. Those are available to us right now.

We appear to be having quite a bit of success with our federal counterparts in funding the district heating project, so we're going to pursue that. We're hoping to get some success on the solar installations as well and wind and as some of these become more viable, perhaps those as well. Thank you, Mr. Chairman.

Chairman: Thank you. Moving on, Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. My question is for the Nunavut Housing Corporation. This morning I made a comment on the need of an incentive program to encourage residents to take advantage of the QEC's net metering program to expedite the process of reducing Nunavut's reliance on fossil fuels.

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 My question to the NHC is regarding the Nunavut Home Renovation Program, which provides assistance to homeowners who wish to carry out major renovations, repairs, and additions to their home. Listed under eligible repairs are energy-efficiency improvements. My question is: would solar panels be considered as improving a home's energy efficiency? Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question. Yes.

Chairman (interpretation): Thank you. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. I'm glad to hear that response. I would just like to clarify what you're saying. Should homeowners who are making applications for the QEC's net metering program also be making applications to the Nunavut Home Renovation Program to secure additional funding to help pay for the solar panels? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for the question. Yes, I would encourage homeowners to do that. It's something that we have been in discussions with, with the QEC. As for the public housing stock, that's another discussion we need to have as well. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Moving on, Mr. Mikkungwak.

Mr. Mikkungwak: Thank you, Mr. Chairman. A question for the Qulliq Energy

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Corporation. Page 5 of the Qulliq Energy Corporation's 2016-17 annual report states that the corporation "looks forward to the new opportunities presented by the federal government's recent announcement of an Arctic Energy Fund that aims to help northern communities shift from diesel to renewable energy." The recent 2018 federal budget included \$24.0 million in funding for the Arctic Energy Fund and a separate federal program for "Reducing the reliance of rural and remote communities on diesel..." To date, how much funding has the QEC applied for under either or both of these programs and how much funding has it received? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you, Mr. Mikkungwak. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you to the Member for the question. In terms of the Arctic Energy Fund, we are waiting for the Government of Nunavut to sign a bilateral agreement with the federal government in order to finalize that funding agreement. As part of that agreement we anticipate receiving some funds. We have gone through and talked about how we would use those funds, but it hasn't been a direct project application. Our understanding is that once the agreement is signed, we will be submitting more detailed invoices for projects we're planning to do.

In terms of the Arctic Energy Fund itself, our understanding is that they will help also rebuild existing power plants with more efficient gen. sets. We are hoping that we will have sufficient funds to do a number of our remaining stations that need to be rebuilt.

In terms of what we have applied for, we have over the different programs, so that includes the low carbon economy fund that we discussed this morning, I believe, or

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 esterday. I should correct myself. The Northern REACHE program, we have applied for approximately.... I'm just eyeing it here, but somewhere around the \$30 million mark in funds. Those would be for projects in different communities primarily to do with renewable energy technologies versus rebuilding of existing power plants. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Mikkungwak.

Mr. Mikkungwak: Thank you, Mr. Chairman. I thank the official for his response. This next question here is, as I indicated, remote communities' reliance on diesel. Earlier one of my colleagues had asked about diesel consumption whereas Baker Lake and Pangnirtung with the new power plants, I can honestly say it seems to be less consumption on diesel in Baker Lake compared to the old power plant that is no longer in existence. If this were to be signed off and agreed, how many other additional remote communities would be in the true picture? Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. I believe the question was: if this was signed off in terms of the diesel power plants, how many would be impacted by this funding?

Currently we are rebuilding two power plants, Cape Dorset and Grise Fiord. After that we have 11 power plants to be rebuilt. We believe that we can do about, based on the funding that has been quoted to us, again which we haven't received yet, probably nine on a cost split basis. We would pay the minority. The federal funding would pay the majority of the capital costs. We see this as potentially being a significant injection for us. Thank you, Mr. Chairman.

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Chairman: Thank you, Mr. Pereira. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. Thanks for recognizing me again. I understand there are no more names on your list before we move to the next section of the report. Please just let me know if any other names get through my list, otherwise I'm just going to go through the questions that I have been saving.

I would like to start off with a question to both the NHC and Environment. Both witnesses have stated and indicated that they have ongoing challenges filling vacant positions. I wonder if they can provide a little bit more specific examples of what types of qualifications and skills are required to do the jobs related to the climate change energy efficient positions. Are these very technical positions, are these engineers, are these scientists, or are these positions that somebody with a reasonable education could be trained to accomplish the goals of these positions? Thank you, Mr. Chairman. Those are directed to both the NHC and Environment. Thank you.

Chairman: Thank you, Mr. Hickes. We will go first to Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for the question. We have had difficulty in the sense of filling some positions because of the nature of the position where it involves a lot of technical aspects to it.

As an example, we have four positions that were funded through the CMHC. We managed to fill three of them. We couldn't fill one for a good number of years and that was for the position of an electrical engineer. We were hoping to have an electrical engineer on staff to assist in the whole M&I

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aspect, to the modernization and trying to get energy efficiencies into play, looking at alternative energy and solar panels and what have you with respect to building in the carbon footprint minimization of our stock.

Considering when you combine both the electricity and the fuel costs for the units, it's close to 35 percent of our costs for the \$26,000 we spend per unit. We figured that getting a position like that would be a good investment and that it would be a good return on our investment for the purposes of trying to minimize those costs.

We can look at trying to create local expertise and developing the training for that purpose, but as you well know and this is something that is under our blueprint for action as well is to try to increase the technical training of Nunavut residents and to see if we can get more people trained up so that they can assist the local housing organizations and the Nunavut Housing Corporation with respect to maintaining our stock. It's always something that we will always strive for, but in the sense of some of the positions that we've had difficulty filling, they are quite highly technical in nature. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Suvega.

Mr. Suvega: Thank you, Mr. Chairman. Thank you for that question. Some of the positions can be highly technical in nature. There are also some managerial positions that can be challenging to fill as well, not just directly related to the positions themselves. Sometimes we're in competition with other government departments, new industries, and Inuit organizations to get at some of that skilled labour.

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while is also work with the Department of Finance to take a look at the vacancies to see how we can, where possible, try to adjust the job descriptions to take into consideration factors like practical relevant northern experience, educational requirements, things of that nature, and also try to reach out outside of government as well. I have done some of that already with some of our federal colleagues to see where they could also play a role.

Oftentimes I have also reached out externally, outside of the GN to partners to help fill vacancies as part of the staffing process to actually participate and sit with us on hiring panels. Those are just some examples. Some of the positions can be very technical in nature. What I would like to do is to review and assess these positions now with Finance to see where we can make some adjustments and try to attract more individuals as we rebuild this team. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I'm just going to follow up on Mr. Audla's response when he talks about how expensive it is for the O&M for public housing units. It does to speak to paragraph 93 in the Auditor General's report, stating that the data has indicated that the "per-unit costs for fuel and electricity increased between the 2011-12 and 2016-17 fiscal years." What specific factors accounted for this increase and what specific actions is the NHC taking to reduce its per-unit costs for fuel and electricity? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question.

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We have been looking at the same numbers in trying to figure out what the spiking cost could be correlated with. We're still trying to figure out the actual reasoning why the costs in the later years have actually gone up as opposed to gone down because the energyefficiency ratings of our units have gone up.

We're trying to determine whether there has been some error in the collection of the data or whether it's just a factor of the number of mechanized units like HRVs, for example, being installed into the homes. As it stands right now, I can't give you a definitive answer to that until we have gone back and actually gone through the actual data itself to give you an accurate determination. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I'm going to ask for a little bit of latitude on this one. When we're talking water and sewer expenditures, there is still the carbon footprint of delivery and the work and the machinery going on to provide that service. I know that's one of the big cost drivers at the community level for public housing units specifically.

One of the things that have always perplexed me for one, making sure that the NHC is putting in energy-efficient appliances into their units and updating where applicable, but one of the things that have always perplexed me is that these units don't come with a washer and dryer. Typically people who are in public housing don't have a lot of spare income to be purchasing appliances. Typically it's the least efficient ones and the older ones that are getting purchased by the residents to put in their units and increasing the water consumption, increasing the sewer volumes.

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As an actionable item, I think this is something that would be cost effective in the long run. Has there been any numbers examined on the applicability of putting energy-efficient washers and dryers in our public housing units to decrease our consumption rates? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question. I'll also note that the Member to your left, Hon. Lightstone, had sort of given the same idea as to whether or not consumers in Nunavut are actually buying the most energy-efficient units, but we all know that they cost more money than these older units that are still on the market and for whatever are being offered up as the only go-to washer and dryer, which have little to no efficiency with respect to water consumption and the use of electricity.

We all know, based on the new technologies out there, they have these high-efficiency and lower energy consumption type of washers and dryers, but they're a lot more expensive. In the overall grand scheme of things, when you have those installed, it will save the corporation money with respect to how it pays for its electricity and water consumption as well. It's something that we have been looking at. We continue to look at that as well.

As you mentioned in your build up to the question, we currently do not offer washers and dryers to public housing tenants, but it's something that we are considering. It's not a for sure thing. What it would cost us overall to provide a washer and dryer is something that we want to look at just to ensure that the right units are being used by the tenants.

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Again, it's going to be an added cost, but overall, is it worth the investment? I think that's a very good question, something that we have been contemplating at the Nunavut Housing Corporation, but nothing definitive right now. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I know one of your former Ministers responsible for the Nunavut Housing Corporation brought that to the attention of the board as well.

I would like to just finish off with my last question directed to the Nunavut Housing Corporation as it will segue into my questions on Community and Government Services.

In the NHC's response to the auditor's recommendation concerning building assessments, it said that they will work with LHOs to "ensure building condition ratings are completed according to schedule." And "...implement a new building-condition software system in the 2018–19 fiscal year." First, what specific actions has the corporation taken to date to accomplish these goals? The reason I'm asking that is my colleague to my right brought up mould conditions and some of the units get quite invasive mould. To me that's something that doesn't happen in one year.

One of the conditions of the NHC is to inspect their public housing units on an annual basis. We know that that isn't being done. Will this condition rating software speed up the fact and allow the NHC to be able to follow thought with its expectations of assessing these units annually? Thank you, Mr. Chairman.

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Chairman (interpretation): Thank you. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for the question. Yes, we are updating and we have supplied these new tablets to all the local housing organizations. It's now a matter of the local housing organizations doing the actual work to fill the requirements on those tablets to ensure that the inspections are being done on a regular basis. With this system, we will be able to better track at the Nunavut Housing Corporation whether or not that is being done. With the older systems, that was very difficult to track, just based on the fact that they were very unreliable tablets.

This is something that we have been discussing over the past two years now as to how do we maintain our stock that is very precious to us. In knowing the deficit situation we are in right now, we sort of have to make sure that there is good maintenance for the aging stock and to ensure that there is a good, clear picture as to what units are actually aging more than others, mould being an example. How do we get a clear picture to try to determine whether or not these units are actually being maintained as we should? The only way to do that is to actually do a physical inspection and put it down within the tablet.

An individual maintainer may not see on a house-by-house basis whether there's a trend, but if that individual maintainer was to definitely keep up the maintenance inspection schedule, it would help us at the NHC to see the larger pictures as to where the trend is going with respect to this unit or that unit.

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and find out exactly what's wrong with that vehicle, but we have these \$550,000 units where we can't even do that. It has to have physical inspections. This where I think we need to really work on trying to make it so that it's very regular and it's almost automated to a certain degree so that we do ensure that the oil furnace, the HRV, any mould remediation, or any mould buildup is actually caught early, and at the same time all the windows, doors, seals, and everything are being looked after at the same time, just as a matter of regularizing all that.

It's going to take some work with the local housing organizations to ensure that there is good collaboration with respect to the regularization and the scheduling of those. We're hoping that the new tablets will assist in that. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I would like to ask a similar question to Community and Government Services. In one of their responses, it's saying that it's going to "standardize its building assessment procedures and complete building assessments of Government of Nunavut infrastructure in the year scheduled." What specific actions has the department taken to date to accomplish these goals? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. Thank you to the Member for the question. Presently we are looking at the two different forms we have for collecting the information; the form used by our technical services group versus the forms by our regional facility management teams. We're looking into a

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way to streamline the two forms so that they are all working using the same forms and capturing the same data. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Hickes.

Mr. Hickes: I would like to ask a question to the Auditor General. Paragraph 101 of the report states that the audit found that the Nunavut Energy Management Program "set two objectives: a 20 percent reduction in energy consumption and an associated reduction in greenhouse gas emissions."

Paragraph 103 of the report states that the GN informed the Auditor General that the Iqaluit pilot project which CGS undertook as part of its Nunavut Energy Management Program cost just under \$13 million and led to just under \$2 million per year in savings in utility costs, and "reduced greenhouse gas emissions by approximately 2,090 tonnes per year."

Did Auditor General's audit examine the accuracy of the government's calculations? I have been getting differing opinions on how these calculations are done, and I'm just wondering if the Auditor General audited those calculations. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. I'll ask Mr. McKenzie to respond to that. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. McKenzie.

Mr. McKenzie: Thank you, Mr. Chairman. In response to the Member's question, we did not audit the accuracy. However, we did

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review internal performance reports that were generated by the department and they included monitoring of, if you will, the utility and energy use within the facilities that they had retrofitted. They were quite detailed, they were monthly tracking by facility, and that was the information that we used to generate the numbers that you noted. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I'll direct it to the Department of CGS. In the response to the OAG's recommendation concerning the Nunavut Energy Management Program, it indicated that it will "endeavour to ensure that information pertaining to the Nunavut Energy Management Program is up to date on the Department's website." As of today, what is the status of the website for the Nunavut Energy Management Program? Thank you, Mr. Chairman.

Chairman: Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. We have previously reported on in previous years, but we do recognize there is a need to update our actual achievements from 2016 and 2017. We are working towards achieving that and updating the website either later this summer or in the fall of this year. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Hickes.

Mr. Hickes: Thank you, Mr. Chairman. I appreciate my colleagues' patience with me; I keep going here.

My final question again is to Community and Government Services. I can't remember if the witness was in the gallery when some questions regarding disasters and climate 'PΓ'?QCP'DJ' Pσ'bC4\6'C'C'C'C'C' ΛC\ΔP', ΛC\Δ'J' Pσ'bC4\b'b'C'D Λ'6P'/2/LCP'D' QP'N'' Δ'5'σ'Γ Þ'L''6Nσ' 4D'6'C'σ\2'C'σ, P''/4D'6', Δ'2\6\7\6'CP'C'\7\6 C''PCL' D'644 NNS'CP&C-4'5''C'\7\6 C''& CΔ6'\6 Q\8\7\6 '6'\6\6\6\6 '6'\6\6\6\6 '6'\6\6\6\6 '6'\6\6\6 '6'\6\6\6 '6'\6\6\6 '6'\6\6\6 '6'\6\6\6 '6'\6\6\6 '6'\6 '6'\6\6 '6'\6 '6'\6\6 '6'\6\6 '6'\6\6 '6'\6\6 '6'\6\6 '6'\6\6 '6'\6\6 '6'\6\6 '6'\6 '6'\6 '6'\6\6 '6'\6

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change impact on some of the issues, the bridge in Pangnirtung was used as an example.

I do know that CGS administers agreements with the federal government regarding disaster relief funding. Can the witness describe to the extent of which disaster events are occurring due to climate change and have they accessed any funding under the Disaster Relief Program? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. I don't personally have any information regarding that question, but I can get the information for you. I'm certainly not aware of any disasters on the scale of the Pangnirtung bridge washout in recent years. I'm not aware of any initiatives in terms of additional disaster relief funding from the federal government, but we can look into it for you. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. (interpretation ends) Maybe I'll follow up on Mr. Hickes' question there with you. In terms of the drinking water quality across Nunavut, without getting into specific numbers, looking at the issue of boil water advisories, what is the trend in Nunavut? Is the number of boil water advisories issued each year stable, say, over the last five years or has it been increasing? Is there a noticeable trend there? Mr. Mulak. Thank you.

Mr. Mulak: Thank you, Mr. Chairman. Certainly CGS is committed to ensuring Nunavut's water supply meets the current regulations. Again I'm sorry, but I'm not aware of a trend in terms of the number of boil water advisories. It's information that

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Chairman: Thank you. I'll throw in a similar question to the Department of Environment. Has the Climate Change Secretariat had any involvement when it comes to drinking water issues across Nunavut? Thank you.

Mr. Suvega: Thank you, Mr. Chairman. To my knowledge, not at the moment. We do, however, coordinate interdepartmentally any time there are boil water advisories, especially if there is any upcoming community travel, any planned consultations or activities in communities. We do try to coordinate as best as we can interdepartmentally. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. (interpretation ends) A final question for the housing corporation. In terms of shifting permafrost and the different types of foundations that you can build houses on, space frames, cribbing, or piles, and there may be others that I don't know about, in terms of cost and in terms of how flexible or how adaptable they are to shifting permafrost, I wonder if you could compare the types of foundations. Mr. Audla. Thank you.

Mr. Audla: Thank you, Mr. Chairman. I don't have the expertise for the purposes of trying to determine which type of foundation is best for which situation.

I can say that the geotechnical assessments that we put in at the Nunavut Housing Corporation involve work that was done either with Community and Government Services or the hamlet and local knowledge with respect to the type of land development that will be made available for our construction.

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Based on that determination, we usually go with the other type of foundation where it's on screw jacks. When it comes to bedrock, we typically go and drill in with pylons. As for other types of ground, we try to build it up with gravel and use screw jacks as sort of the type of foundation we use. Again, it's just based on the type of material that's available at the building site.

The geotechnical assessment is a determination now that we have been using more and more as of late and it's based on the amount of work that either the local hamlet or CG&S have done to determine the actual geotechnical aspect of that site. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Just as a comment, there are a number of houses in my home community of Arviat where the housing association actually has to now jack them up, get them off the ground, and put more gravel underneath because it's either the pads were too low when they were built or they're actually sinking. I don't know whether that can be linked to the issue of climate change. It's just a comment. Ms. Towtongie.

Ms. Towtongie (interpretation): Thank you, Mr. Chairman. I would like to ask a question. We live in the north and we look for building foundations that are the most appropriate. I know that we have similar land to Greenland. Our permafrost is starting to melt and (interpretation ends) President Audla (interpretation) knows about the (interpretation ends) "Greenland foundations." (interpretation) They do not use gravel. Has the (interpretation ends) Climate Change Secretariat (interpretation) looked at other jurisdictions and countries to see what kind of foundation is most appropriate for buildings in the Arctic?

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(interpretation ends) The question in my mind that has been going over, including with the Auditor General of Canada, is instead of just looking at pan-Canadian technology, there is proven technology out there with Scandinavian countries in dealing with the arctic environment. In Greenland they have what are called "Greenland foundations" for houses.

Has the Department of Environment or CGS looked at the best practices for managing climate change in the Arctic for Nunavut, and also developing best practices for managing snow and water to prevent permafrost degradation for their own buildings and actually incorporate these practices from outside of Canada into their operations and maintenance? The rest of Canada does not really have permafrost. They don't have the amount of snow or ice that Nunavut has. They have forests. I'm wondering: what's the situation here? Thank you, Mr. Chairman.

Chairman: Thank you, Ms. Towtongie. I'll direct that first to Mr. Suvega.

Mr. Suvega (interpretation): Thank you, Mr. Chairman. (interpretation ends) Thank you, Mr. Chairman. Thank you for that question. I think, to first look at Canada, we have begun looking at that initially with our northern neighbours. We're certainly working in partnership with the other two territories as we try to examine best practices, current national standards, and what can be practically applied within the territories.

I think now we are just starting to look externally as well at other arctic nations and jurisdictions to see what other technologies and initiatives are being applied there that could also be applied here. It's part of a much wider discussion and one that we're really just starting to get a better Ċ⁰d
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understanding of. I don't have any specific meetings or discussions that we're taking part in right now, but I can tell you that it's a growing interest not just in Nunavut but with our pan-territorial partners as well. My colleague here from CGS may be able to expand more specifically on some of the technical aspects.

In terms of our supporting role, we do try to stay as best informed as we can, not just with our pan-territorial partners but with our national partners as well. Certainly we're looking to have future discussions with Greenland. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. I believe there was a question about looking into snow management practices in other jurisdictions outside of Canada. CGS agrees that we need to work with our stakeholders and specifically the Nunavut Association of Municipalities that I think probably have much more experience dealing with snow in the north than any jurisdiction in southern Canada.

We do intend to educate and support municipalities in the development and the use of best practices for snow and water and to prevent permafrost degradation. I do think we should also look at other international jurisdictions to see what practices they may already have developed. I'm not aware that we have taken that step yet, but I think it's something that we should certainly look at. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Ms. Towtongie.

Ms. Towtongie (interpretation): Thank you, Mr. Chairman. (interpretation ends) My next

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question, Canada and the federal government seemed to have realized with their recent announcement of the "Arctic Energy Fund that aims to help northern communities shift from diesel to renewable energy." The recognition is there by the federal government that the Arctic is a separate region by itself and they included \$24 million in funding for the Arctic Energy Fund and also a separate federal program for reducing the reliance of rural and remote communities on diesel.

My question is: has the QEC applied for either or both of these programs and, if so, how much funding has been received? Thank you, Mr. Chairman. That's my final question.

Chairman (interpretation): Thank you, Ms. Towtongie. That question was already asked earlier. If you would like to elaborate on that, Mr. Pereira, I give you the floor.

Mr. Pereira: Thank you, Mr. Chairman. Thank you to the Member. I can briefly just restate that we have applied for Northern REACHE funds and the low carbon economy funds. Those have been specifically for renewable energy or district heating projects. We are hopeful that we may be able to actually receive that funding.

In terms of the Arctic Energy Fund, which is part of the agreement between the territory and the federal government, it is being negotiated at the territorial-federal level. We anticipate that we will receive a substantial injection of cash not just this year but over a number of years to help us rebuild those nine plants I talked about earlier and increase the efficiency of those plants, thereby reducing our need for diesel to generate electricity.

In terms of receiving the funds, we're not going to be in a position to start doing that until the agreement is completed between the **Δ৽/«ኦር·**: L'a, Γ' Cኦጋ-ኄՐ. CLኄa ◁∧ሜᲫፖሊኑኦ∟ኦႪጏᲡചଏ७ Þ≪ፕፖላቴ. ÞԺቴե Ճ∟ՐՎቴե°ԺアՎፕԺアዮơ, Γ'C >ሊኦና, Ճᅳ°ၨᠣངᠲ<ና.

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territory and the federal government. At that stage we will have a mechanism for accessing those funds through CGS, who has been coordinating that on behalf of the Government of Nunavut and in this particular instance the QEC. Thank you, Mr. Chairman.

Chairman (interpretation): Thank you, Mr. Pereira. (interpretation ends) Recognizing that we have reached the end of this section of the report, we will now take a 10-minute break and we will come back and consider the final part of the report. Ten-minute break.

>>Committee recessed at 14:54 and resumed at 15:10

Chairman (Mr. Hickes): Thank you. I would like to bring the meeting back to order. We're at the tail end. I would like to go back to our conclusion, paragraphs 105 and 106. As of right now I don't have any names on my list. Mr. Netser.

Mr. Netser (interpretation): Thank you, Mr. Chairman. (interpretation ends) To the Office of the Auditor General, thank you for being here the last day and a half.

What specific follow-up audit activities do you and your provincial counterparts plan to undertake over the next five years in relation to your recently released collaborative report on climate change? (interpretation) Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. There have been no specific plans yet identified to follow up. There have been a number of discussions on the need to keep an eye on this particularly again in terms of Canada's commitment to a 2030 target. I suspect that there will be some follow-up probably in that five- to six-year time frame,

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but as of right now there has been nothing specifically agreed to. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Netser.

Mr. Netser (interpretation): Thank you, Mr. Chairman. (interpretation ends) Information that is currently on your website indicates that the 2019 report to the Legislative Assembly of Nunavut will be on the topic of employment. Can you describe the focus and scope of this audit? (interpretation) Thank you.

Chairman: Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. That audit is still in the planning and development stage. In fact both of my colleagues here with me today will be staying up through the rest of this week to talk to different stakeholders as we plan out that audit. Fundamentally it's going to be focusing on how well prepared our students in Nunavut are once they complete the K to 12 education to enter into the employment or to enter into post-secondary education.

Do they need additional upgrading in order to get into post-secondary education and, if so, is that upgrading available to them or what services are available to people who went to school and then stopped going to school and now want to go back? It's all going to be really about how well the various educational streams prepare people in Nunavut for entering into the employment world. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Ferguson. Mr. Netser.

Mr. Netser (interpretation): Thank you, Mr. Chairman. It's good to hear that because education is very important. Well, we

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consider education very important in Nunavut and perhaps the entire world. Most of the employment opportunities require a certain level of education.

I would like to say that we used to have the divisional boards of education before Nunavut was created and I used to be a chair of that institution. It was up to the regional boards to make decisions on the education system. We were responsible for the types of curricula that will be in the schools up to grade 6.

When we became Nunavut, the boards were dissolved and all the tasks, duties, and responsibilities we had were turned back to the government. That's how the system is currently set up. At this time even the students who complete grade 12 have to go back to school once again so that they can enter the higher institutions. The government made a huge mistake and the education system in Nunavut is broken right now. I have seen this personally since Nunavut was first created.

I'm from Coral Harbour, and I'm not going to say the name of our child who attends school. They were in grade 11 in Coral Harbour and would get 85 to 90 percent on their exams. When we moved to Iqaluit, their tests showed they were at the 38 percent mark. Education needs to be completely revamped because we want our children to be educated to the highest standards. At times we would have to hire a tutor in the evenings so that our child could catch up with the education system in Iqaluit.

Mr. Chairman, even when grade 12 graduates from the smaller communites go to Arctic College or higher institutions, they find that their level of education was not high enough. They completed grade 12 in a smaller community, but they find they are only at a

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grade 8 level when they get here. The education system needs to get fixed, so I'm very pleased that the Office of the Auditor General of Canada is going to focus on education in Nunavut. Thank you, Mr. Chairman.

Chairman: I'll take that as just a comment, Mr. Netser. Mr. Ferguson, did you want to respond to that? I can go on to the next question. The next name I have on list is Mr. Mikkungwak.

Mr. Mikkungwak (interpretation): Thank you very much, Mr. Chairman. Again I would like to direct my question to the Office of the Auditor General.

In recent years you have submitted a number of important audit reports to Parliament on topics of concern to Nunavut and the north, including civil aviation infrastructure in the north, the Nutrition North Canada Program, and oral health programs for Inuit and First Nations. Are you going to be doing any other audits, and to what extent do you plan to undertake follow-up work in relation to these three topics? Thank you, Mr. Chairman.

Chairman (interpretation): Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. So far, again, we don't have any specific plans yet to follow up. Particularly two of them, civil aviation infrastructure and the oral health programs, are audits that we have done recently. We always have to give departments a few years to try to make changes based on the recommendations that we have made, and those are recent audits.

The one on Nutrition North is one that we need to start looking at again to consider whether we should do a follow-up. That's one that we will start considering soon, but

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Chairman: Thank you, Mr. Ferguson. Mr. Mikkungwak.

Mr. Mikkungwak (interpretation): Thank you very much, Mr. Chairman. I also thank him for that response. My colleague touched on this issue earlier, but I would like to make a supplement. You will be doing further audits and reporting on your findings focusing on employment in Nunavut. With that, there are quite a few Nunavut communities and some of them are decentralized, some are centralized, and then we have headquarters and regional hubs for the departments. Are you also going to be focusing on that? Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Mikkungwak. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. As I said in terms of the work that we're doing on employment and preparing young people for employment, we're still in that planning phase. We're still understanding what the issues are and where the potential areas are that we should audit.

So far, I haven't heard the issue of centralization versus decentralization being a factor, but if it does start to show up as a factor that could influence in certain situations that the students are more successful in being prepared for employment, then we would pursue that further. The fact that it has been raised, I think, we will be sensitive to try to identify whether there seems to be some cause and effect between success rates and whether there are centralized or decentralized approaches. I

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Chairman: Thank you. Mr. Mikkungwak.

Mr. Mikkungwak (interpretation): Thank you very much. I would like a lot of thought to be put into that and that's why I was asking questions about it earlier, to make sure that it stays in your thoughts. The *Nunavut Land Claims Agreement* and the language protection laws touch on it. This is just a general comment, not a question, but I encourage you to heed my words. Thank you.

Chairman: Thank you, Mr. Mikkungwak. Mr. Qirngnuq.

Mr. Qirngnuq (interpretation): Thank you, Mr. Chairman. I also have a question for the Auditor General of Canada. My colleague from Aivilik mentioned this earlier and I would like to say something about education as well. I would like to say that in our community, whenever students attain grade 12, it's not at the same level as the Alberta curriculum.

Regarding this issue that faces us today as parents towards our children or grandchildren, we can sometimes stop ourselves from doing the right thing. Last year our eldest Member of the previous Assembly spoke about Inuit Qaujimajatuqangit as it pertains to the Legislative Assembly. Traditionally children weren't allowed to determine the course of action or to provide direction. Our ancestors taught us tirelessly to be innovative and independent, especially due to the way independence is viewed today. They said that they wanted their children and decendants to survive. I really want this to be considered because I believe that it can improve our

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It's just a general comment and I'll ask another question on different topic later. Thank you, Mr. Chairman.

Chairman: Thank you. I'll go to the next name on my list. Mr. Main.

Mr. Main (interpretation): Thank you, Mr. Chairman. (interpretation ends) I have a couple of questions here. It says in the conclusion to the report, paragraph 107 says "...there were a number of barriers to implementing alternatives to fossil fuels..." We all know that financing is one of the barriers, obviously, but then there is the lack of human resource capacity that we have in the territory. I would like to ask both the QEC and the Nunavut Housing Corporation, and I guess CGS in terms of what type of capacity exists currently within your organization in terms of renewable, alternative energy specifically for the three organizations. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Main. I'll start off with CGS. Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. Within CGS the Technical Services Division is our primary group that looks at any alternative energy measures and energy measures in general in all of our infrastructure projects. They're spearheading the Nunavut Energy Management Program. I think that particular group is well staffed. It has been consistently fairly well staffed over the years. I think that from that perspective, CGS is in pretty good shape. Thank you, Mr. Chairman.

Chairman: Same question, Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you for the question. Depending on

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the technology, we're better staffed or better prepared than others.

We have an engineering group, which has two main subsets, electrical and mechanical engineering expertise within that group. They're very well set to work on solar and wind as an example, but I want to qualify that. Up until now their focus has been on electrical in terms of generation and distribution. There's still a ramp-up time that's required as part of those activities. We have the core skill set, but we still need to develop the very specific expertise to a greater level to be able to say that we are experts in those areas. Further development is required. Thank you, Mr. Chairman.

Chairman: Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question. Our technical group is equipped to assist the housing corporation with respect to the climate change mitigation and technologies that we should be looking at. I'll say that I wish I had more technical people within the Nunavut Housing Corporation to try to address some of the issues that we are facing. It's something that we're constantly looking at to see what we can do to try to bring about more talent into the housing corporation and to look at how we can work in ensuring that the maintenance of our stock is being done. I'll leave it at that for now. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Mr. Main.

Mr. Main (interpretation): Thank you, Mr. Chairman. (interpretation ends) I guess a follow-up question for the housing corporation. In terms of private businesses in the territory that have expertise in renewables, I know that in some

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communities it's hard even to find a certified OBM to service your furnace, let alone install a solar panel and an inverter, etcetera, whatever is needed. What type of capacity is out there in the territory in terms of installing small-scale renewables? Thank you.

Chairman: Thank you. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. Thank you to the Member for that question. As it stands, I'm not aware of any specific standouts with respect to having that capacity or the expertise. There may be one in Iqaluit, but I'm not sure exactly of any other locations outside of Iqaluit. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main (interpretation): Thank you, Mr. Chairman. (interpretation ends) A similar question for the QEC and I realize that there may be private dealings that you can't discuss here, but in terms of the private sector in Nunavut under your independent power producer plans to roll that out, how many different organizations are out there in the territory right now aside from the QEC that are moving in the direction of generating energy? Thank you, Mr. Chairman.

Chairman: Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. Thank you for the question. If you don't mind, I'm going to break down that question into smaller segments.

In terms of the desire to install renewable energy, if you understand the overall benefits, there are really no technical skill sets required. You will get organizations and hamlets that have a desire to pursue that as an option or they want to explore that as an option. What can it do for the organization,

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the community, and the territory? Then we have the ability to actually install. I mentioned earlier the ability to actually install a solar installation, generally speaking, you can use a labourer under the guidance of somebody who has an understanding of how the pieces fit together or how you construct a solar installation and put it together. That is true with some of the other technologies as well.

In terms of the ability to do the engineering work and do the engineering analysis, typically that capability is one that we probably need to import sometimes from outside of the territory. That's really the area where we need most assistance in, in that area. You will see that a hamlet or another organization will sometimes contract an engineering analysis of the wind capacity within a particular area to some other territory.

I think you probably need to look within those smaller pockets to really see where the resources need to be deployed and what we can do locally. We can do two-thirds of that locally, the way I framed it, and I'm sure you could split it out in different ways. Thank you, Mr. Chairman.

Chairman: Mr. Main.

Mr. Main (interpretation): Thank you, Mr. Chairman. There is different technology that Mr. Pereira mentioned: wind, solar, geothermal, (interpretation ends) hydroelectric, and nuclear. (interpretation) There are different options of what can be used. He stated that they would look at those options.

They also need to really consider the fact that the people of Nunavut have to be involved in installing and maintaining technologies. Some places in Nunavut have a larger Δ 67%>C66: Γ 10 $L\Delta$ 6.

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In Inuktitut the term means "something that never goes away." If it caused contamination, you can't get rid of it. I don't think there is anything in Canada that is operating right now that can never be cleaned. Putting that kind of technology in the north is very worrisome. The other options, including wind or solar energy, are not as dangerous as nuclear power, but I know it's still under study. I wanted to mention that. It has to be appropriate for Nunavut and I don't know if nuclear power is the right choice for Nunavut.

(interpretation ends) My next question for the Auditor General's office is regarding this upcoming work on employment and education. I understand you're still fleshing out what you're going to focus on. Can you give us a bit more background in terms of the draft scope maybe, Mr. Chairman?

Chairman: Thank you, Mr. Main. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. At this point really not. We are still at the development stage. We have to work through all of those things with the department. There is really not more that I can tell you other than our general idea for what we want to look at. There will be a lot of work that has to go into actually developing the scope and the criteria. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Main.

Mr. Main: Thank you, Mr. Chairman. Just

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for clarification, this will focus on the Department of Education, or will other organizations such as Nunavut Arctic College be pulled into the mix in terms of this audit? Thank you.

Chairman: Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. Again, as we develop what we want to look at what our lines of inquiry are, it will help us determine which organizations we have to look at. Right now we won't limit it to any specific organization. If we find that there are multiple organizations that are involved in this file, then we will include them all. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Main.

Mr. Main: Thank you, Mr. Chairman. Looking at the Auditor General's past reports, there are some common themes that emerged: insufficient human resource capacity, lack of training, and noncompliance with policies. This might be a question that's maybe a bit too broad, but in terms of general trends within the Government of Nunavut, take human resource capacity, are you seeing that things are moving in the right direction in terms of that capacity issue? Thank you, Mr. Chairman.

Chairman: Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. How long do I have?

This could take a while. I think what I would say is audit after audit, we see a lot of the same issues, whether they are capacity issues. Again, when they are capacity issues, a lot of them tend to be the dollars are there and the positions are there; it's just the people that are not there. Why is that? We

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haven't gotten down into the root cause of that.

As we have seen here, there's a lot of work that goes on in organizations and they get things sort of to a draft stage but then not actually an implementation stage. Again, we see all of our audits tend to identify that the results that are being achieved are not the results that are expected. This is the same thing we do at the federal level and in the other two territories. We want to encourage all departments and organizations to put their emphasis on what are they trying to achieve, what are the results that they are trying to achieve, and are they achieving them.

I think that too often organizations get themselves caught up in process. Even on this file, you could end up with a very good strategy and a very good implementation plan without actually any results. It's not just about getting a strategy in place and getting an implementation in place. It's also saying, "Okay, what are we actually doing to make sure that we are properly dealing with adaptation and mitigation?"

Something we see in a lot of organizations as well is problems with managing their data. Again, we see it at the federal level as well as the territorial level. I think organizations need to make sure that they are paying attention to capturing the data, they are capturing appropriately, and then using that data to help them understand what are the things that are working. We also see in a lot of our audits problems with the public reporting and the reporting to legislatures and Parliament. That public reporting isn't always fulsome.

We see a lot of those issues. I think those same issues come up time and again in the audits that we do here in Nunavut. I'm not saying that things are getting worse, but I

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wouldn't say things tend to get any better either. I think that trying to put a lot of focus on making sure that results are being achieved for the people of the territory is what all departments and organizations need to focus on. Thank you, Mr. Chairman.

Chairman: Thank you for that, Mr. Ferguson. Mr. Main.

Mr. Main: Thank you, Mr. Chairman. I'll just conclude with a comment. I'm very interested to see the upcoming audit and it's great that it's going to be focusing on education and employment. Because it's related to the human resource capacity issue, the fact that we can't seem to figure out how to get Nunavut residents into those over thousand vacancies, I believe, I think that's one of the things that was tried too that was at the root of Nunavut's decentralization initiative when the territory was formed.

I have mentioned it too that depending on who you talk to, decentralization was either the greatest thing ever invented or it was a very bad idea which has handicapped the Nunavut government going forward. I think it's pretty obvious where I stand. I come from a decentralized community of Arviat and the people have benefited immensely from those jobs.

I would call the decentralization experiment a wild success and I would like to see it expanded. I have expanded on and I have made that known. I would be very interested to see the Auditor General's office turn their lens on the decentralization initiative in Nunavut at some point in the future. That's just a comment, Mr. Chairman. Thank you.

Chairman: Thank you, Mr. Main. I'll go on to my next name, Ms. Towtongie.

Ms. Towtongie (interpretation): Thank you,

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Mr. Chairman. (interpretation ends) My question is to the Auditor General of Canada. Looking at the recommendations of your office to the government agreeing to the recommendations, I would have wanted to see the potential financial impact of climate change because, as the Government of Nunavut, we're going to have to shift and it would have to be the whole of government approach, not individual departments.

In saying that, we also need the Government of Canada that just recently did not agree to, I believe, six of the infrastructures that we wanted in Nunavut; one is isolation, the road from Manitoba to the Kivalliq, and a number of infrastructure needs. The potential financial impact of climate change and the Government of Nunavut agreeing to it, I see that as an omission of the report.

Secondly, in March 2018 most of Canada, including you, provincial auditors, released a collaborative report on climate change. In that report, it was intended to reduce greenhouse gas emissions. These emissions are a common form of carbon pricing, a carbon tax, and a cap and trade system.

However, your report to the Nunavut legislature does not discuss the issue of carbon pricing and did not examine the role of the Department of Finance in addressing climate change in Nunavut. I'm wondering: why did you decide not to address the issue of carbon pricing in your report to us? Thank you, Mr. Chairman. That's my final question. *Taima*.

Chairman: Thank you. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. Carbon pricing would be a mechanism or a tool to try to encourage reducing emissions of greenhouse gases. It's a policy tool that governments have to decide on. Our role is

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not to recommend policy or try to tell government what their policy should be. Given that there was no specific policy about carbon pricing in Nunavut, there was nothing for us to audit because what we audit is implementation of policy.

If Nunavut decides that they want to do carbon pricing, then we would audit how they go about implementing that and making sure that it is properly charged and properly collected. Given that it has not yet been part of the policy of the government, there's nothing for us to say because that would be us stepping across a line of trying to tell the government what its policy should be. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Ferguson. Mr. Akoak.

Mr. Akoak: Thank you, Mr. Chairman. I think this is just going to be a comment but maybe a question in the end. This is in line with Mr. Main's comment, your topic of employment and scope of one of your audits.

We do have a lot of people who are capable of getting hired instead of just staying on casual within the government. Within the government as well as the arm's-length corporations, I will give an example with the housing association. There were a lot of people that applied for management at the Kikitak Housing Association in Gjoa Haven. They live in the community and they tried but were never hired and they got somebody else from outside of the community who comes from the south.

I'm just wondering if there can be an audit done on that sort of item where there are a lot of people who, like I said, are capable of working in higher positions instead of just working as casuals. Thank you, Mr. Chairman.

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Chairman: Was that a question, Mr. Akoak, or just a comment? A comment. Thank you very much for that. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. My question is for the Department of CGS and I'm following up on Mr. Main's question on barriers to implementing alternatives to fossil fuels.

Mr. Mulak's response was that the Technical Services Division is the area within CGS that is responsible for looking at alternative energy in our capital projects. My question is: out of all the 2018-19 capital projects, how many of the projects did the Technical Services Division look into incorporating alternative energy, and why is it that only one project, the Baker Lake maintenance, actually include alternative energies? Thank you, Mr. Chairman.

Chairman: Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. I'm not aware of the exact number of projects that they looked at. I am aware that in the majority of our major capital projects, we do a process of energy modelling and determining what energy measures make sense in terms of investment.

I think most often the decision is really a dollars-and-cents decision and in most cases the payback isn't there for alternative measures. That may be in part due to the budgets established for the projects are not necessarily incorporating contingencies and allowances to incorporate that technology. I think there is certainly some opportunity there to think about that in terms of how we plan projects and potentially then have some ability to implement some of those measures.

I can't speak to the details of sort of what different options they look at and what ones

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are picked at this point in time. I could probably get some more information on that, though, if necessary. Thank you, Mr. Chairman.

Chairman: Thank you. Mr. Lightstone.

Mr. Lightstone: Thank you, Mr. Chairman. I would appreciate some additional information on that topic.

With regard to the Baker Lake project, how much was allotted to the alternative energy source to be incorporated in this project? Thank you, Mr. Chairman.

Chairman: Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. I do not have any details about the Baker Lake project, but we will get you that information. Thank you, Mr. Chairman.

Chairman: That was the last name I have on my list. I guess that will conclude the report. I do have one question that I would like to ask to Mr. Suvega. In paragraph 106 at the very end it says basically that the government has not fully assessed the risks of climate change to Nunavut. I understand, with the Climate Change Secretariat, the staffing challenges and different challenges with regard to implementing strategies and action plans.

What is a realistic time frame for Nunavut to really grasp updating the strategy and implementing an acting plan? Are we talking 1 year, 2 years, 5 years, 10 years, or 20 years to really wrap our heads around what impact...? I know it's going to be a continual moving target, but to get a good sense of the impact that climate change is having not just on our bottom line, but on our quality of life as well. Mr. Suvega.

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There's quite a bit of work to do. It's hard to pin a definable kind of time frame on this. There are already a lot of different moving pieces that we can kind of compare it to nationally that we would like to be at. Something like two years to have some kind of a definable time frame may be more achievable, but it would also depend on the scale and how much we're able to take on and we're approved to take on. That's the shortest I could probably provide. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Suvega. At this time I understand that all the government departments and agencies have closing comments, but I would like to further charity Mr. Ferguson for any closing comments and final observations. Mr. Ferguson.

Mr. Ferguson: Thank you, Mr. Chairman. I think I would just pick up on your last question, really. I think, over the course of the hearing and the questions, there have been some things that have been talked about that are very specific right there down to things like do you put skirting around housing units and things like that.

There have been some activities that have been talked about that have been very specific, and then there are the bigger-picture things like the strategy and the actions that

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are needed. Something like trying to cost the impact of climate change and is something like melting permafrost around buildings because of climate change or is that just because of buildings as opposed to if you have to design buildings going forward in a different way because of the potential for climate change? Well, then there's certainly an additional cost there in the construction that would be attributable to climate change. There are some very specific things and very specific actions that have been talked about and then there are these higher-level questions.

I think the main thing that I would encourage everybody at the government level in terms of trying to move this file forward is not to get bogged down trying to come up with a perfect strategy, a perfect framework, a perfect plan. Try to identify what needs to be done, whether it's in the areas of buildings, permafrost, efficiency, energy efficiency, housing efficiency, responding to emergencies like the coastal erosion or perhaps not emergencies but the more imminent problems like the coastal erosion, and even the impacts on wildlife. What are the main categories that need to be looked at? What are the actions that need to be taken in those main areas? And then put some priorities around it.

My biggest fear is that it will get bogged down in trying to get to a perfect strategy and I think just trying to get something that is a coherent approach that takes into consideration the impacts of climate change from a government department and organization point of view so that some progress can be made on this is really what I think needs to be done to try to keep it within a realistic time frame.

I think, just in general, that would be the way that I would very quickly sum up some of the Γ ᢗᡃ᠘ᠸᡙ᠘ᠳ᠘ᢏ᠘ᡧ᠘᠘᠘᠘᠘᠘ ᠑᠋᠃᠙ᢗᠫᡣ᠙ᡏᠳ᠙ᡯ᠙᠘᠘᠙᠘᠘᠘᠘᠘᠘᠘ ᡏ᠙ᢖ᠘ᠳᠳᡀᠬ᠘᠘ᡁ $D<_{0}^{\circ}U\Delta >D\cap V$ $<^{\circ}\Delta$ P \cap P σ $<^{\circ}$ D \cap P \circ PYT $^{\circ}$ Λ CL $^{\circ}$ L σωσος Δυασι ÞιLsbdne 'bΔΔ'ጋና CL⁶dd 'PΓ'PΔ⁶CÞ⁵λα'b⁶⁶<'? ᠑᠆᠙᠘ᠳ᠘᠘ᢋ᠙᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘ የረርሲታሲላ'ቴጐ<ና? ረջ'ርኦንኦኦጚ' ﴿٢٥٥٥ حامه ٢٠٩٥ كالمعادد

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things that I have heard. Thank you, Mr. Chairman.

Chairman: I appreciate those insights, Mr. Ferguson. Thank you very much. Mr. Audla.

Mr. Audla: Thank you, Mr. Chairman. The past day and a half or two days have been very instrumental in the sense of it shows what the Nunavut Housing Corporation is doing and what it needs to do to improve its responses with respect to how we can work towards mitigating a lot of the issues that come about because of climate change or the immediate climate that we have to deal with, with respect to the extremes between the indoor and the outdoor, HRV units, the mould remediation, and the level of maintenance and technical training that is needed for the purposes of ensuring that there is dignity among our tenants when it comes to living in public housing, and how we can try to work towards improving the overall maintenance of the aging stock, and how we can work towards a future in the sense of making better builds and ensuring that it's on land that is stable, and that there is actual work done with the appropriate department with respect to the geotechnical aspect of determining whether these sites are appropriate for the purposes of putting our structures on.

I really enjoy having the privilege to appear before this Committee and to work with the rest of you on what we can do better. I look forward to more of a progress report as we go along and to encourage the Hon. Members to keep me in the loop when they do hear about issues within their communities and their constituencies, and to try to make it so that the Nunavut Housing Corporation is that much more reactive and proactive at the same time. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Audla. Your

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attendance has been very much appreciated during these proceedings. Mr. Pereira.

Mr. Pereira: Thank you, Mr. Chairman. I would like to thank you, Mr. Chairman, and the Committee Members. I would also like to thank the Office of the Auditor General.

At the outset in my opening statement I said that the Qulliq Energy Corporation is well positioned to play a key role in a territorial energy strategy, including supporting any territorial emissions reduction targets. We are ready to participate in that discussion.

We have a role both as a territorial energy corporation but also as a member of the extended GN family. We look forward to working with the Nunavut Housing Corporation, CGS, and the Climate Change Secretariat. Based on the discussions today and the comments, I think clearly we're on the same page. We have some obstacles to overcome. Maybe our own administrative processes may be lumped into that group.

I do think that we all want to produce results for Nunavummiut and I think we're all focused on doing that. Again, Mr. Chairman, thank you very much.

Chairman: Thank you, Mr. Pereira. I applaud your optimism.

>>Laughter

Mr. Mulak.

Mr. Mulak: Thank you, Mr. Chairman. CGS is certainly very pleased to be sitting around this table and having this conversation. We thank the Committee for giving us the opportunity.

We look forward to continuing to collaborate with our partners at the Department of

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Environment, the NHC, and the QEC and continuing to explore best practices and new technologies in the areas of construction and maintaining buildings after they are built so that we can help to reduce emissions and demonstrate our commitment to climate change adaptation and mitigation. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Mulak. I know you're kind of late to the game, so I appreciate your quick ability to catch up. Mr. Suvega.

Mr. Suvega: Thank you, Mr. Chairman. Thank you, both Chairs, for giving us the time and opportunity to allow each other to communicate. Thank you to your staff, OAG, as well as our interagency and interdepartmental partners.

There is a much wider table that we are hopefully able to speak to as well. There are a lot of partners that aren't here today, a lot of them from the territory, and we look forward to working with them. One of the future partners of course will be you as Members. We very much look to each of you for your support as we look to build on these initiatives and opportunities going forward.

I very much want to thank our secretariat team and department officials for assisting us this week. A very special "thank you" to my colleague, Sara, to my right for participating in an important forum like this. Engaging in an open dialogue like this, I believe, is very important.

I look forward to what the report will detail and bringing that back to government and engaging with our interdepartmental and interagency colleagues. Thank you, Mr. Chairman.

Chairman: Thank you, Mr. Suvega. I

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appreciate your renewed focus. I know that as the Deputy Minister of Environment, there are a lot of competing interests and I'm very excited and optimistic to see your desire to move this file forward. Thank you for your time.

Just in closing on behalf of my Committee Members, I would like to thank Mr. Ferguson and obviously Ms. Cotnoir and Mr. McKenzie for their attendance here. I know, Mr. Ferguson, your schedule is very busy. You have a whole nation that you're in charge of, not just the three territories. Taking time out of your schedule to attend this hearing personally is very much appreciated. Your obvious interest in the file from your understanding of the details of the report, I get a strong sense that this isn't just a title with a report with your name on it. You actually have had your fingers in it as well. I very much appreciate that interest.

To the government witnesses, I appreciate the candour. As a territory I know we have a lot of work to do and I think myself and my Committee Members are going to make sure that some of the commitments that were made during this hearing are going to be monitored very closely. I can state with a great amount of confidence that the committee report to the government will request an action plan on the ten recommendations from the report. We will be monitoring that regularly.

There's a number of Members that have a very strong knowledge base in this topic, so I think this is going to be a really strong topic for the next three and a half years of this government's mandate to keep your feet to the fire. I encourage you and the Ministers responsible for your department or agency to continue focus on this topic of alternative energy and the impact on climate change that it's having, and what measures we can do as

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a society and as a territory to make improvements and to extend the quality of life that we have right now.

I would like to thank all of my Committee Members for the fantastic questions and the level of detail that they have drawn out from the witnesses. I would like to thank each and every one of you individually.

I would like to thank Mr. Baldwin and Mr. Innuksuk sitting beside me to keep me in line, on track, and full of information.

I would just like to thank for sure the interpreters. Like I always say, I would not be able to do my job without them. It's very much appreciated.

I would just like to thank the people who were tuned in to pay attention in these proceedings, whether it be for work or personally-related interest. Sometimes what we do in here, we don't see all the people who are paying attention out there. I know there are people who are watching on TV or listening on the radio at the community level and at the government level. I would like to thank them for tuning in and their interest.

I just appreciate everyone's interactions during this hearing. Thank you all very much and we're all considered as adjourned. Thank you.

>>Committee adjourned at 16:04

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