



# Yukon Legislative Assembly

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## STANDING COMMITTEE ON PUBLIC ACCOUNTS

**Public Proceedings: Evidence**

**Wednesday, February 14, 2018 — 10:00 a.m.**

Chair: Stacey Hassard

## **STANDING COMMITTEE ON PUBLIC ACCOUNTS**

**Chair:** Stacey Hassard

**Vice-Chair:** Paolo Gallina

**Members:** Ted Adel  
Hon. Tracy-Anne McPhee (substituting for Don Hutton)  
Wade Istchenko  
Liz Hanson  
Kate White (substituting for Liz Hanson)

**Clerk:** Sarah Edwards, Acting Clerk of Committees

**Witnesses:**

**Office of the Auditor General of Canada**

Michael Ferguson, Auditor General  
Casey Thomas, Principal

**Department of Environment**

Joe MacGillivray, Deputy Minister  
Sherri Young, Acting Assistant Deputy Minister  
Kirsten Burrows, Acting Director, Climate Change Secretariat

**Department of Community Services**

Paul Moore, Deputy Minister  
Dennis Berry, Assistant Deputy Minister

**Department of Highways and Public Works**

Jaime Pitfield, Deputy Minister  
Kevin McDonnell, Assistant Deputy Minister  
Scott Milton, Acting Assistant Deputy Minister

**Department of Energy, Mines and Resources**

Stephen Mills, Deputy Minister  
Shirley Abercrombie, Assistant Deputy Minister  
Shane Andre, Director, Energy branch

**EVIDENCE****Whitehorse, Yukon****Wednesday, February 14, 2018 — 10:00 a.m.**

**Chair (Mr. Hassard):** I will call to order this hearing of the Standing Committee on Public Accounts of the Yukon Legislative Assembly.

The Public Accounts Committee is established by Standing Order 45(3) of the *Standing Orders of the Yukon Legislative Assembly*. This Standing Order says: “At the commencement of the first Session of each Legislature, a Standing Committee on Public Accounts shall be appointed and the Public Accounts and all Reports of the Auditor General shall stand referred automatically and permanently to the said committee as they become available.”

On January 12, 2017, the Yukon Legislative Assembly adopted Motion No. 6, which established the current Public Accounts Committee. In addition to appointing members to the Committee, the motion stipulated that the Committee shall “have the power to call for persons, papers and records and to sit during intersessional periods.”

Today, pursuant to Standing Order 45(3) and Motion No. 6, the Committee will investigate the Auditor General of Canada’s Report, entitled *Report of the Auditor General of Canada to the Yukon Legislative Assembly — 2017: Climate Change in Yukon*.

I would like to firstly thank the witnesses from the departments of Community Services, Environment, Energy, Mines and Resources, and Highways and Public Works for appearing. I believe that the deputy ministers will introduce these witnesses during their opening remarks. Also present today are the officials from the Office of the Auditor General of Canada. We have Michael Ferguson, the Auditor General of Canada, and with him is Casey Thomas, Principal.

I will now introduce the members of the Public Accounts Committee: myself, Stacey Hassard — I am the Chair of the Committee and Member of the Legislative Assembly for Pelly Nisutlin; to my left is Paolo Gallina, who is the Committee’s vice-chair and Member for Porter Creek Centre; to his left is Liz Hanson, Member for Whitehorse Centre; to her left is Ted Adel, Member for Copperbelt North; to his left is Wade Istchenko, Member for Kluane; and behind me is the Hon. Tracy-Anne McPhee, who is substituting for Committee member Don Hutton.

The Public Accounts Committee is an all-party committee with a mandate to ensure economy, efficiency and effectiveness in public spending — in other words, accountability for the use of public funds. The purpose of this public hearing is to address issues of climate change in Yukon. Our task is not to challenge government policy but to examine its implementation. The results of our deliberations will be reported back to the Legislative Assembly.

To begin the proceedings, Mr. Ferguson will give an opening statement summarizing the findings in the Auditor General’s report. The deputy ministers will then be invited to make opening statements on behalf of their departments, and Committee members will then ask questions. As is the

Committee’s practice, the members devise and compile the questions collectively. We then divide them up among the members, and the questions that each member will ask are not their personal questions on a particular subject but those of the entire Committee.

After the hearing, the Committee will prepare a report of its proceedings, including any recommendations that the Committee wishes to make. This report will be tabled in the Legislative Assembly.

Before we start the hearing today, I would ask that questions and answers be kept brief and to the point so that we may deal with as many issues as possible in the time allotted for this hearing.

I would also ask that Committee members, witnesses and officials from the Office of the Auditor General wait until they are recognized by me before speaking as this will keep the discussion more orderly and allow those listening on the radio or over the Internet to know who is speaking.

With that, we will now proceed with Mr. Ferguson’s opening statements.

**Mr. Ferguson:** Mr. Chair, I am pleased to be in Whitehorse today to discuss our report on climate change in Yukon. This report was submitted on December 5 of last year in the Yukon Legislative Assembly. Joining me today is Casey Thomas, the Principal responsible for the audit.

Research shows that climate change is happening faster in the north than anywhere else in Canada. Yukon is experiencing significant changes, which are affecting its land, wildlife and people. These changes can damage infrastructure, ecosystems and traditional ways of life.

In 2016, many legislative audit offices across Canada decided to look at the issue of climate change and they developed similar audit approaches and questions to examine climate change action within their governments. As part of this initiative, the Office of the Auditor General of Canada decided to do federal and territorial climate change audits.

To date, 10 out of 13 jurisdictions have submitted their audit reports and a report summarizing these audits will be issued in the spring.

In this audit, we looked at the Government of Yukon’s efforts to adapt to the impacts of climate change and to reduce greenhouse gas emissions. We noted that the government had created a climate change strategy and made 70 commitments to respond to climate change. These were good first steps in providing leadership and direction. However, the commitments weren’t ranked and most didn’t have milestones or completion dates, which would make it difficult to measure progress.

The Climate Change Secretariat also prepared two reports on the government’s progress on its climate change commitments, but these reports weren’t clear or consistent. For example, the reporting on the formal 70 climate change commitments was mixed in with reporting on other climate change activities. This made it difficult to follow progress on the commitments themselves.

One of our most concerning findings was that the departments of Energy, Mines and Resources and Community

Services had gathered and produced information on adapting to climate change but had taken little concrete action. For instance, in 2009, the Department of Energy, Mines and Resources assessed how climate change was affecting Yukon's trees, but it failed to implement measures that were recommended in the assessment. In another instance, between 2011 and 2016, the Department of Community Services produced information to help communities understand whether they were at risk for forest fires and floods, but they did not produce this information for all communities. Although gathering information is an important step, it's not enough. The benefits of the information can be fully realized only when it's used to take concrete action.

We also concluded that the four departments that we looked at had not done enough to meet the government's targets for reducing greenhouse gas emissions. Either the departments did not meet many of the government's 12 targets for reducing greenhouse gas emissions or they were unable to measure their progress against those targets. The departments need to turn their commitments into concrete action to successfully adapt to the impacts of climate change and to reduce greenhouse gas emissions.

We made four recommendations to help the four departments plan and lead climate change efforts. All of the departments have agreed to implement our recommendations.

Mr. Chair, this concludes my opening statement. We would be happy to answer any questions the Committee may have. Thank you.

**Mr. MacGillivray:** Good morning.

I'm Joe MacGillivray. I'm the Deputy Minister of Environment. With me is Sherri Young, the ADM of Corporate Services, and Kirsten Burrows, the director of the Climate Change Secretariat.

The Department of Environment is pleased to appear before the Public Accounts Committee to respond to the audit conducted in 2017 by the Auditor General of Canada on the Government of Yukon's response to climate change.

The Department of Environment takes the leading role in supporting sustainable interactions with our environment, and importantly for today, in helping to address the challenge of global climate change.

It's important to note that Yukon, like other northern jurisdictions, has unique challenges with respect of climate change. Climate change has a greater and faster impact on the north than other parts of the world. For example, over the past 50 years, Yukon's average temperature increased by two degrees Celsius and winter temperatures increased by four degrees Celsius. This increase is two times the rate of southern Canada. This has a significant impact on Yukon's buildings, roads, power lines, water supplies and other critical infrastructure. It also impacts the traditional activities and culture of Yukon's First Nations as weather and wildlife patterns shift.

The department's dedicated team in the Climate Change Secretariat is responsible for coordinating the Yukon government-wide response to climate change, forming climate change partnerships with Canada, First Nations, Yukon

specialists, researchers and other stakeholders and organizations, coordinating climate change activities and participation for governments and the public, and for developing climate change policies and strategies. It is because of these responsibilities that we are here today to discuss the recommendations put forth by the Auditor General and our responses to those recommendations.

The audit report contains valuable insight that will inform how the Yukon government moves forward in our efforts to address climate change and I look forward to being able to discuss our current efforts with you today. The audit covered actions, commitments and initiatives undertaken between the period of July 2006 and July 2017. Over this 11-year period, we know that there have been significant changes in the understanding and the global response to climate change. With the adoption of the *Paris Agreement* in December 2015, there has been increased momentum internationally in taking action to address climate change.

Nationally, Canadian jurisdictions worked throughout 2016 to create a national climate change action plan resulting in the *Pan-Canadian Framework on Clean Growth and Climate Change*. The Yukon government was actively involved in the development of the framework, participating in the four national working groups to ensure the federal plan met the needs of our northern jurisdiction.

As you know, Yukon became a signatory to the framework on December 8, 2016. Since that point, we have been working to fulfill the commitments made within the framework. We continue to work on national working groups under the leadership of the Canadian Council of Ministers of the Environment, or CCME. The council is facilitating the implementation of the pan-Canadian framework and we are an active member. As a small jurisdiction, being involved at the national level requires time and dedication, but is essential to ensure national climate change work reflects the needs of Yukoners, the reality of climate change impacts on our region and the response that is needed to address this changing landscape, which brings us here today to talk about climate action in the territory and how we intend to improve our performance going forward.

The audit report includes four overarching recommendations that we will be discussing in detail today. The Yukon government supports and has agreed to all four recommendations, and work is currently underway to address them. I will provide an overview of that work now, just briefly.

The first recommendation is that the Climate Change Secretariat, working with departments and other stakeholders, should prepare a comprehensive territory-wide risk assessment to help prioritize commitments to manage the impacts of climate change. A request for proposals for a government-wide climate change risk assessment has been issued and submissions from interested contractors are currently being reviewed. This work is expected to begin in February and we are on track.

We have also taken the first step in a scoping exercise for a territory-wide climate risk assessment. This will be

supported by the Northern Climate Exchange at Yukon College's Yukon Research Centre.

The second audit recommendation is that the Department of Environment, the Department of Energy, Mines and Resources, the Department of Highways and Public Works and the Department of Community Services should develop climate change commitments that are time-bound and costed. Commitments to reduce greenhouse gas emissions should indicate the intended levels of reductions.

Establishing commitments and targets is planned as we work to develop a new integrated strategy to address climate change, energy and green economic growth in Yukon. It is integrative because the Department of Environment, Department of Energy, Mines and Resources and Department of Economic Development have been working together to replace the Climate Change Action Plan and the Energy Strategy for Yukon, both of which were originally released in 2009. A plan incorporating these three areas will align with a shift nationally and globally to support long-term economic growth while developing cleaner energy, more resilient infrastructure and reducing greenhouse gas emissions.

It is also integrated because we have invited Yukon and transboundary First Nations, Yukon municipalities, the Inuvialuit, the Council of Yukon First Nations and the Association of Yukon Communities to partner in the development of the strategy. Working closely together in partnership will allow a holistic approach to shaping the vision of what climate change action, energy and green economic growth could look like in the Yukon.

The first meeting of the partners took place last week on February 9 and has set the foundation for the partnership going forward. Work is also underway to help improve the accuracy and availability of baseline information from proved reporting to inform our work going forward. This includes the establishment of robust greenhouse gas emissions data, as well as the completion of two state-of-play reports related to energy and adaptation in the Yukon.

In addition, a national working group led by CCME is working to develop common metrics and indicators so that outcomes and actions laid out in the pan-Canadian framework can be monitored and evaluated.

The third recommendation states that the Climate Change Secretariat should publicly report in a consistent manner on progress made on all commitments and on the expenditures associated with meeting those commitments. Methodology for reporting will be an integral element developed with the new Yukon strategy for climate change, energy and green economy.

The methodology for evaluation of the new strategy will be informed by evaluation expertise within the Yukon government. It will also reflect the CCME process I just mentioned, which is establishing metrics and indicators for monitoring nationally. Also, new rigorous reporting and evaluation requirements for 11 projects funded by Indigenous and Northern Affairs Canada have recently been introduced by the Climate Change Secretariat.

Finally, the last recommendation states that the Department of Environment, the Department of Energy, Mines and Resources and the Department of Community Services should complete their work to carry out concrete actions in a timely manner to adapt to the impacts of climate change. This work could include, but is not limited to, implementing recommendations from reports, making information available to decision-makers and explicitly incorporating climate change into directives, processes and policies so that they're integrated into the decision-making. We intend to ensure clear milestones and target completion dates will be established as part of the new climate change, energy and green economy strategy.

This holistic approach to working with First Nations and municipalities in the development of a new strategy will help support the implementation of concrete adaptation action across the territory. We have also established processes to ensure information is available to decision-makers. In 2017, we established two dedicated groups of decision-makers who meet frequently to discuss pressing climate change issues with the most up-to-date information available. One is a deputy ministers committee on climate change and energy and the second is a Cabinet subcommittee on climate change and energy.

I should also note that the audit recommendations align closely with the commitments in the mandate letter from the Minister of Environment, which was issued in January 2017. It directs the department to establish greenhouse gas reduction targets, to accurately track emissions and report on performance in relation to the targets, and to work with colleagues to integrate risk assessments and mitigation actions related to climate change in government policies, processes and projects.

There are a number of other initiatives also underway in response to the recommendations within the audit and I look forward to speaking more about those today.

In closing, I would like to thank the Office of the Auditor General again for all of their work. This audit is just one of 13 audits that have been conducted across the country.

In 2015, the provincial and territorial Auditors General partnered together with the Office of the Auditor General of Canada to start work to examine and report on the progress of climate change actions in their governments. With the majority of the audits now complete, auditors from across the country are producing a summary, which provides a snapshot of the key issues and trends that are common across governments. This audit will help to produce a baseline for future climate change performance audits in Canada.

As I have stated, the Yukon government has accepted all four recommendations of the climate change audit. The Climate Change Secretariat is encouraged to continue its work to lead the territory's response to climate change with this review in hand, as it will help us to develop better policies, processes and programming for future generations.

**Mr. Moore:** I appreciate the opportunity to be here and speak this morning on this important subject. With me today is Mr. Dennis Berry. Mr. Berry is the Assistant Deputy

Minister of Protective Services. Protective Services has responsibilities for emergency measures, wildland fire and our building safety standards, all of which were identified in this audit, and it's good to have his expertise with us this morning.

We are here to provide an update on the progress of the Department of Community Services from the December 2017 report of the Auditor General of Canada on climate change in Yukon. The report states that Community Services' key roles and responsibilities in managing climate change include "coordinating Yukon's preparedness for, response to, and recovery from major emergencies and disasters; ensuring that building safety codes are applied and meet standards; and reducing greenhouse gas emissions." The report recommends that the department carry out concrete actions to adapt to the impacts of climate change.

At Community Services, we know that climate change is affecting the length and severity of Yukon's wildfire season. The four emergency response branches within the department's Protective Services division share the common goals of mitigation, prevention and preparedness for public safety and community protection in response to wildfires. Resources are now brought in earlier in the season, with careful consideration to seasonal weather trends, and we continually evaluate the necessity of their extension. For example, in 2017, we extended the air-tanker contract from 75 to 90 days to accommodate for the longer fire season. In addition, First Nation crews started one week earlier to accommodate spring training, and one extra crew was added for the season, with four additional trainee crew members brought on to bolster our capacity.

As well, the department utilizes the expertise of an on-staff climatologist, who works closely with a national and international network to model and predict needs for long-term operational planning and emergency response activities in Yukon.

The department is also proactively preparing for wildland fires by fostering a landscape fire management approach — and I'm sure we will speak more about that over the course of the day — where we are preparing for and managing the threat of wildfires on multiple scales — from individual homeowners to communities, to the broader landscape. Landscape fire management provides a framework for evaluating a fire's effects, weighing the relative benefits and risks of different scenarios, and responding appropriately on specific objectives.

In the spring of 2017, the department completed the Yukon communities wildland fire risk assessment methodology project. This important pilot project means that we now have a systematic way to evaluate community risk under climate change scenarios, which can now be applied to all Yukon communities.

Community Services' Emergency Measures Organization — I'll refer to it as EMO — leads the coordination, collaboration and cooperation of all Yukon government departments and agencies involved in the preparation, prevention and response to disasters and emergencies. Yukon is not only vulnerable to wildfires, but also flooding,

earthquakes, extreme weather and disruption to our lines of communication. The central role of EMO is to collaborate with local communities, municipalities, First Nations, federal departments, industry and volunteers to support emergency management, readiness and capacity.

Along with a number of emergency preparedness programs, EMO also facilitates access to emergency information through emergency alerts of the Alert Ready program on radio, television and websites, and in April 2018, it will also become cellphone-compatible within the territory.

Climate change is altering the traditional emergency response cycles, such as when and where flooding occurs and the length and severity of the fire season and Community Services' Protective Services division is responding by carrying out new concrete actions to adapt and respond to these impacts. The report also recommends that the department develop time-bound and costed climate change commitments to reduce greenhouse gas emissions.

Community Services leads the Yukon government on federal/territorial infrastructure funds and is working with Canada to establish the Investing in Canada Infrastructure program — sometimes referred to as ICIP. A key objective of this program is to support the reduction of greenhouse gas emissions, to enable greater resilience to the impacts of climate change and climate-related disaster mitigation, and ensure that communities have the capacity to provide clean air and drinking water infrastructure.

Community Services is currently negotiating with the federal government to ensure that this program is used to target projects that will yield the highest reduction of greenhouse gas emissions, particularly investments in building energy retrofits.

Yukon is also working with Canada to ensure that the parameters of this program align with the key actions identified by the *Pan-Canadian Framework on Clean Growth and Climate Change*. Under this program, Yukon will be working to contribute to a national 10-megatonne reduction of greenhouse gas emission targets.

Disaster mitigation and energy efficiency are standard considerations in the development and implementation of all capital projects Community Services is responsible for managing. These include site and geotechnical work to inform design specifications with regard to risks such as permafrost conditions and flood events. Buildings are designed to meet or exceed our value standards derived from the National Building Code of Canada.

As the key department within the Yukon government responsible for emergency preparedness and response and major capital infrastructure development, Community Services supports the recommendations as outlined in the Auditor General of Canada's report.

In aiming to adapt to climate change and reduce greenhouse gas emissions, the Department of Community Services regards both coordinated emergency and infrastructure planning as essential.

I would like to take this opportunity to thank you for being here to speak and to thank the Auditor General. It has

been a very productive and cooperative process. I look forward to this discussion today.

**Mr. Pitfield:** Good morning. I'm Jaime Pitfield and I'm the Deputy Minister of Highways and Public Works. I would like to introduce my two colleagues — Kevin McDonnell, who is corporate ADM at Highways and Public Works, and Scott Milton, who is the acting assistant deputy minister for Property Management.

I'm here today to assist in responding to the report of the Auditor General of Canada to the Yukon Legislative Assembly, 2017 — Yukon's response to climate change. Within the Department of Highways and Public Works' mandate lies the responsibility for Yukon's highway network, government-owned and -leased buildings, procurement and fleet vehicles, all of which have climate change implications.

Government of Yukon is working to reduce the effects of its energy consumption and we're doing this by improving the energy efficiency of government buildings, investing in renewable energy for government operations and by encouraging those within our sphere of influence to reduce greenhouse gas emissions. Most of government's greenhouse gas emissions arise from transportation and building operations. These areas offer the most opportunity for reducing emissions.

Highways and Public Works is working to reduce GHG emissions by making our buildings more energy efficient per square foot and by using vehicles that are more energy efficient per kilometre. The department also encourages employees to make environmentally responsible choices when making purchasing decisions as part of the department's green procurement policy.

All Highways and Public Works climate change commitments in the future strategy will be time-bound and cost-estimated. GHG reductions will be assessed to support prioritization and the decision-making process.

The department will continue to provide input and support to the Climate Change Secretariat, which is leading the Government of Yukon's efforts to reduce GHG emissions and adapt to the impacts of climate change. Highways and Public Works looks forward to continuing collaborative work with our colleague departments of Environment, Energy, Mines and Resources and Community Services to ensure that Yukon has a climate change risk assessment and a climate change, energy and green economy strategy that includes milestones and target completion dates that will support government decision-making.

**Mr. Mills:** Thank you, Mr. Chair. Good morning to members of the Committee. First, I wanted to just introduce my colleagues here: Shirley Abercrombie, who is the Assistant Deputy Minister of Energy, Corporate Policy and Communications, and also with me is Shane Andre, who is the director of our Energy branch. I am Stephen Mills and I am the Deputy Minister of Energy, Mines and Resources.

The Department of Energy, Mines and Resources reviewed the Office of the Auditor General of Canada's report on the Yukon government's response to climate change. We agree and support the Auditor General's four overarching

recommendations. The Department of Energy, Mines and Resources has dedicated resources and effort to meet our commitments in addressing and mitigating the impacts of climate change. We acknowledge that our original commitments associated with climate change lack some of the prioritization, assessment, evaluation and funding transparency that would have improved the accountability of government. We are confirming that work is underway to address these outstanding commitments and the Auditor General's recommendations.

We are actively seeking solutions to fulfill our remaining commitments. One of our primary responses will be the development of a new strategy for climate change, energy and green economy. This new path forward will reflect the needs of all Yukoners and is being developed in partnership with Yukon and transboundary First Nations, as well as municipalities. Our first meeting was held last Friday. We were pleased to start this important work with our partners.

We believe that the strategy will increase Yukon's ability to thrive in and respond to our rapidly changing environment due to climate change. The recommendations from the Auditor General's report will help inform the development of this new climate change, energy and green economy strategy.

I do wish to take a moment to highlight my department's successful actions taken to adapt to and mitigate climate change. Our Energy branch has completed a number of important initiatives that have made a significant and immediate difference. This includes implementing the popular residential and commercial programs offering incentives to retrofit existing buildings to increase energy efficiencies and encourage the construction of super-insulated homes.

We have piloted energy planning exercises throughout Yukon communities resulting in five First Nations and four municipalities working on their energy plans. These plans identify energy priorities and projects specific and appropriate to each community's circumstances and needs.

Our microgeneration policy is generating high interest and creating opportunities for homeowners to generate electricity from renewable energy sources. Our department developed an independent power production policy and is working with ATCO Electric Yukon, Yukon Energy Corporation and Yukon Development Corporation to develop regulations, standards and purchase rates required for its implementation.

The biomass energy strategy has opened opportunities for exploring the sustainable use of Yukon wood for heating purposes. One example of this is the Teslin Tlingit Council, who embraced biomass technology by purchasing and installing 10 boilers, thanks to funding from Government of Yukon, Canada, I believe, and other sources. The First Nation's district biomass heating system will provide heat to 10 of its commercial buildings. The project will create six full-time jobs and 17 part-time jobs and replace the use of diesel fuel with a local renewable resource.

Internally, the Yukon government is exploring the feasibility of introducing biomass heating systems into

government infrastructure such as schools in Watson Lake, Haines Junction and Teslin.

While the majority of our commitments and actions were concentrated within the energy sector, the Department of Energy, Mines and Resources did take action on other fronts. We have conducted a risk assessment on the health of Yukon's forests and identified vulnerable tree species in light of climate change. Our local food strategy is supporting the development and growth of local food production and waste reduction. We are also working with the Department of Environment on a number of climate change research projects that will better inform government decision-making, including the regulating and licensing of resource development industries. Examples of this work include our Yukon Geological Survey's work on the greater Whitehorse permafrost characterization and working with the Department of Highways and Public Works on the Dempster Highway permafrost vulnerability study.

The mining memorandum of understanding established a government-to-government relationship that enables the Government of Yukon and First Nations to identify priorities and work together to achieve concrete improvements to the management of mineral resources in Yukon, and this includes meeting our shared desire for environmental protection.

All of these initiatives are in some way helping to reduce local energy demands, minimize greenhouse gas emissions or mitigate the potential effects of climate change. Compared to other Canadian jurisdictions, Yukon's emissions are relatively small. In 2013, Yukon's total greenhouse gas emissions contributed less than one percent toward the national total. Our emissions may be small from a national perspective, but we believe that every action can cumulatively help to address climate change nationally and globally.

The Department of Energy, Mines and Resources, with other departments, is actively doing its part to make a difference and to address climate change. We see that our efforts are showing some success, and we will continue with a renewed commitment to address climate change issues that affect us all.

**Chair:** I thank all of you for your opening comments, so we will begin at this time. In paragraph 16 of the Auditor General's report, it says that: "Overall, we have found that the Government of Yukon created a strategy, an action plan, and two progress reports to respond to climate change. In developing these items, the government took good first steps toward providing leadership and direction for responding to climate change. However, the commitments in the government's action plan and progress reports were weak and not prioritized. In addition, deficiencies in the Climate Change Secretariat's reporting made it difficult to assess progress on the government's climate change actions."

The first question would be: When did the departments first become aware of their reporting deficiencies?

**Mr. MacGillivray:** I think I can start by saying that we have been aware of some ongoing data issues with the national reporting system for some time. The federal government, through Environment and Climate Change

Canada and Statistics Canada, keeps a database of emissions, and we knew from work that we were doing here in the territory that this emissions data were grossly underreporting emissions in the territory. So I think we have known for some time that we have had issues. We have worked with Canada for many years now, trying to get these deficiencies corrected. We have actually used our own data in the absence of good federal data to report on some of our emissions. I think that progress has been made. The federal government came out with new data about two weeks ago — a revised data set around emissions. That has actually corrected to some degree the differences between the information that we report on. That is part of it; data is a part of the reporting piece.

**Chair:** So, Mr. MacGillivray, do you think then that, if the data that the federal government has provided was not accurate, it would be fair to say that other jurisdictions of Canada may fall under this same problem?

**Mr. MacGillivray:** It is possible. We have focused heavily on the Yukon. The deficiencies were heavily around international — or primarily fuels coming in from Alaska for us. Other jurisdictions wouldn't have those same issues, but they could have other issues.

I know that there were substantial revisions to some other jurisdictions.

**Ms. Hanson:** Just to follow up, I think that the question and the finding of the Auditor General focuses on the Government of Yukon, its strategy, its action plan and two progress reports. The Auditor General is clear in saying that, although the government took good first steps toward leadership in responding to climate change, there really wasn't anything done, and it is saying that the commitments in the government's — the Government of Yukon, not Canada — action plan and progress reports were weak and not prioritized and that is leading to the deficiencies in climate change reporting, which made it difficult to assess progress on the Yukon government's climate change action plans.

I believe the question is: When did the departments become aware of Yukon reporting deficiencies, not the Government of Canada?

**Mr. MacGillivray:** As far as a point in time, obviously it came out through the audit, during discussions with the auditors. Over the course of time, there has been a climate change strategy in 2006, an action plan in 2009, a progress report in 2012 and a further progress report in 2015, so we were identifying initiatives and reporting on those initiatives on an ongoing basis.

I think the audit does identify that there were a number of areas where there was progress made, although specific prioritization based on risk did not occur and action wasn't undertaken on all the initiatives.

**Chair:** Thank you. In paragraph 27 of the report, officials of the Department of Environment told us that, when the department developed the action plan in 2009, it identified potential commitments by conducting research and analysis. The department then worked with other government departments and organizations to identify actual commitments they could make. We were told that, although some high-risk

areas were specifically identified through the research and analysis, the commitments were based on whether they could be done.

The question for the Department of Environment then is: It appears the department focused on what could be done, rather than what needed to be done, so does the department still believe this is how Yukon should tackle climate change? How were priorities determined?

**Mr. MacGillivray:** One of the filters that were used when we were trying to identify actions was readiness to actually undertake the work, but that was one-off. We did look to best practices elsewhere; we did look to other jurisdictions and work that was happening there to inform the projects that we undertook.

One of the filters was whether or not we had readiness and whether or not we had capacity to do the work in the Yukon.

Going forward, this is going to be informed by risk assessments we are doing that will provide us prioritization among the various initiatives that are happening. We have risk assessments happening, both looking at Yukon government departments, identifying high-risk departments and initiatives within those departments, and then we're just in the very first steps of developing a Yukon-wide risk assessment. We're scoping that out at this point in time.

**Chair:** Do you believe that this is still the best way for Yukon to tackle climate change? Just to follow up on your last question, what other departments have discussions taken place with?

**Mr. MacGillivray:** The discussions occurred across government, with all partner departments — the departments in the room today, obviously, but others as well — Yukon Housing Corporation and Education and others.

Sorry, the first part of the question?

**Chair:** I was curious — does the department still feel that this is the best way to move forward?

**Mr. MacGillivray:** Our thinking on this has matured — as a result of the audit and as a result of the work that has happened under the pan-Canadian framework, we are taking a more sophisticated approach at this point in time — utilizing risk assessments, looking to working with our federal partners. The federal government has actually implemented a greenhouse gas emissions lens to much of the funding programs they have put out now. Our approach has matured over the course of time.

**Ms. Hanson:** Just as a follow-up to that, the witness has indicated that they have been working with a number of other government departments and agencies with respect to risk assessments. I just want to remind members of the Committee and witnesses, many of whom were here when the Public Accounts Committee met on June 28 — at which time, we were talking about issues with respect to another Auditor General's report and findings with regard to risk assessments and transfer payment policies — that, at that time, the Department of Finance indicated to the Committee that, as part of the reorganization of the Department of Finance, there was more of a focused central-agency role with respect to

fiscal policy and implementation, evaluation and establishing a cross-government criteria for establishing these risk assessments.

What role has the Department of Finance Economics Fiscal Policy and Statistics branch played in the work, and is anticipated to play in the work going forward, which you mentioned in all your opening comments?

**Mr. MacGillivray:** I think there are a couple of things that have happened. One is that we have tried to better coordinate across departments through the deputy ministers committee, and then a Cabinet subcommittee, where we have effected departments involved on an ongoing basis. Finance is part of those.

We also have the actual departmental risk assessment within government, which will consider Finance. I'm not sure if Finance is going to come up as one of the high-risk departments, but they'll be incorporated in that as well. They participate both at the deputy minister and ADM working group level, and then at the decision-making level with the Cabinet subcommittee.

**Ms. Hanson:** Just as a follow-up, the intent, as we understood it when the witnesses from the Department of Finance presented, was that in order to have an evaluation framework for Government of Yukon in terms of assessing whether government programs had achieved the objectives they set out, there would be this new reorganization to provide that kind of direction so we didn't see 18 government departments and agencies developing wholly different risk assessments, particularly in the common area of climate change.

**Mr. MacGillivray:** I think that's what is intended, and it is still a work-in-progress at this point in time. I think what is intended is that Finance is looking at a broader, government-wide risk assessment versus — this is specific to climate change and will feed into that.

**Chair:** Paragraph 28 of the report says: "In creating its strategy and action plan, the government took good first steps toward providing leadership and direction for responding to climate change. However, we found the following weaknesses in the 2009 action plan and the 2012 and 2015 action plan progress reports:

"Milestones or completion dates were missing from 56 of the 70 commitments..." — which is 80 percent. "In our opinion, this absence of timelines would make it more difficult to measure when progress should occur.

"Many of the targets related to reducing greenhouse gas emissions did not include estimates of reductions in greenhouse gas emission levels. Therefore, the government would be unable to measure whether actions taken to reduce these emissions were sufficient.

"The action plan and two action plan progress reports had no cost estimates for meeting the commitments or the plan overall. Including such information is important to demonstrate the level of resources needed for implementation."

So how will Yukoners know that goals have been achieved if there are no clear milestones or timelines? Maybe

by the same token, why were there no cost estimates on the implementation of the plan as well?

**Mr. MacGillivray:** I think I agree. The auditor was correct in that many of the initiatives and the commitments that were made in the progress reports and in the action plans were not time-bound and costed. That's something that I think we have agreed is required going forward and will be incorporated into the new more comprehensive strategy that we're developing.

Previous strategies really did focus on the Yukon government and Yukon government's initiatives and emissions. This new strategy will be Yukon-wide and is incorporating energy and green economy. There is a commitment to ensure that we address those deficiencies in this new strategy.

**Chair:** Do we know why there were no cost estimates on the implementation of the plan?

**Mr. MacGillivray:** I can't speak for all of the departments involved, but I think that it was a matter of coming up with some initiatives, and costing then became part of the implementation. It wasn't actually part of the target-setting up front.

**Chair:** Paragraph 29 of the report says, "We also found that from 2009 to 2016, the government developed three policies and two energy strategies related to climate change:

"The Energy Strategy for Yukon (2009) provides guidance for producing, conserving, and using energy in Yukon.

"The Green Procurement Policy (2010) incorporates climate change considerations into the government's decisions on procuring goods, construction, and services.

"The Micro-Generation Policy (2013) allows individuals and businesses to install electrical generation systems and connect them to Yukon's electrical grid.

"The Independent Power Production Policy (2015) allows independent, non-utility electricity producers to sell electricity to Yukon's two public utilities through renewable energy technologies.

"The Yukon Biomass Energy Strategy (2016) identifies actions for developing biomass energy in Yukon to reduce the use of fossil fuels."

Will any or all of these policies and strategies be incorporated into the climate change energy and green economy strategy to be released in 2019?

**Mr. Mills:** I can speak to four of the ones that were listed in the auditor's report, but with regard to the green procurement, I will leave that to my colleagues through Highways and Public Works.

The energy strategy itself was developed in 2009, and it had a number of initiatives in it, such as creation of our microgeneration policy — things like that. I would say that there are a number of elements of that energy strategy that have been completed, and there is still work proceeding on other aspects of it. It definitely needs a refresh, and it is an important policy for our department and for the Yukon. When I look at that, as well as the other policies listed in the Auditor

General's report, such as the independent power production and the biomass, we are having significant work on all those fronts. They are very important with regard to decreasing the amount of diesel use in communities, adding power to the grid, and having private individuals being part of the energy solution.

For those reasons, I cannot see how proceeding with creating this climate change energy and green economy would not have key elements of that and may be — I'm trying to think of what the right word would be. They might get reimaged as we move through this process, but they are essential and we continue to implement these policies today. I would say that they need to be part of how we proceed. We have had some really good success with the microgeneration policy. I probably don't need to get into details here, but I can if you want me to. We have had some really good success with the independent power production. We're working with the utilities right now, as I mentioned in my opening comments, but I think that these policies are showing some success, but I think we do need to relook at those as well and map out the next — whether it is five, 10 or 20 or whatever number of years we need to.

**Chair:** Mr. Pitfield, did you have anything to add?

**Mr. Pitfield:** The procurement policy absolutely has a place going forward and we would review this as part of where the Yukon government goes with this strategy. We have managed to complete a number of initiatives, either successfully or they are still underway. There will be a place for it.

**Chair:** Do you know if those policies and strategies were within the scope of the examination by the Office of the Auditor General, Mr. Mills?

**Mr. Mills:** All of these policies and strategies were provided to the Auditor General's office as part of this exercise. Given that the *Climate Change Action Plan* references the energy strategy, I believe — but at least the energy strategy makes reference to how they are connected — it would be a challenge not to at least consider how these policies play with regard to how the government is approaching climate change — whether it's adaptation or reduction of greenhouse gas emissions.

So they were all provided. I probably would leave it for the Auditor General's office to respond to whether or not or how this was incorporated into their review.

**Chair:** Mr. Ferguson, did you have anything to add to that?

**Mr. Ferguson:** We describe in the audit specifically what we examined. We focused in on the commitments that were made under the strategy of the Government of Yukon, but certainly we also acknowledged that these various other strategies and policies also were in place to complement that overall strategy. But fundamentally, what we were looking at was: What were the identified commitments and projects under the overall climate change strategy? So that's where we focused. But again, we wanted to acknowledge that these other strategies and policies that could impact on climate change also existed.

**Mr. Adel:** Mr. Mills, I just have a follow-up on question five. Just so I can be clear — all of the policies and strategies above that were mentioned in paragraph 29 will be completed and/or added to the strategy of 2019, so we can expect — if we ask for a follow-up on that as to how and when they will be implemented and what they will be before 2019.

**Mr. Mills:** I think my comment is that none of these policies sort of have a deadline or an end date on them. To me, the energy policy that I referenced has some — a number of the tasks are completed. So we would see that we need to — as we develop this new strategy, developing sort of how we proceed with energy in the future needs to be a component of this plan.

With regard to the microgeneration policy, IPP — I mean, for the independent power production policy, for example, we had the policy in place, but we're dealing with the implementation aspects. Our goal is to be able to complete that work and be able to go and have independent power producers applying and coming in at the end of this year. We will report back on that at any point, but that is a goal that we have.

With regard to biomass strategy — I mentioned the microgeneration — we're going to continue because these policies — as I mentioned with Teslin Tlingit Council — on biomass and others as well as with microgeneration — when you look around communities and the individuals — plus we have a number of First Nations that have projects under the microgeneration policy. This is an ongoing document and these policies will exist. I think they will be components of any comprehensive policy going forward. They are implementation steps and they may need some revision when we finalize the climate change energy and green economy strategy, but these are key initiatives and we continue to implement them, and we will until such time as this other strategy is completed.

I hope that answers the question.

**Mr. Gallina:** Mr. Mills, it sounds like any current policies or strategies built into the 2019 strategy would be identified as current policies or strategies. I think that's what I hear you saying.

**Mr. Mills:** That's correct, Mr. Chair — and in a much more efficient way than how I answered it previously. Thank you.

**Mr. Gallina:** Welcome, Michael Ferguson and Casey Thomas. Thanks for the opportunity to be with us, the deputy ministers and departmental staff.

I'm going to cover off three categories that are primarily dedicated to the Department of Environment and the Climate Change Secretariat. I would like to talk about the status of the work started in 2016, the status of the risk assessment, and the status and details of the 2019 strategy.

The recommendation at paragraph says: "The Climate Change Secretariat, working with departments and other stakeholders, should prepare a comprehensive, territory-wide risk assessment to help prioritize commitments to manage the impacts of climate change." The secretariat agreed with this

recommendation and said, in response: "The Government of Yukon is already planning a climate risk-management approach for its own operations. In 2016, the Department of Environment was directed to work with government departments to integrate risk assessments and mitigation actions related to climate change in government policies, procedures, and projects. A climate risk assessment contract is under way, and this information will support high-risk departments to develop 'climate risk reduction plans,' including an implementation and monitoring plan. It is anticipated that this work will be completed in 2019. Portions of this work will inform government commitments in a new climate change, energy, and green economy strategy planned to be released in 2019.

"The Government of Yukon will work to complete a Yukon-wide climate risk assessment to help Yukoners prioritize actions that will address the most significant current and expected impacts of climate change. The climate risk assessment would explore specific areas of vulnerability to climate hazards and recommend priority areas for risk reduction."

My first question is: What is the status of the work that was started in 2016 with government departments to integrate risk assessments and mitigation actions related to climate change into government policies, procedures and projects?

**Mr. MacGillivray:** It is still definitely a work in progress. Since 2016, there has been a significant amount of work that was put into participating in the pan-Canadian framework. The development of that — we participated heavily in all four working groups. That was a fairly major focus of our work during that time.

As a result, the federal government is providing significant funding to the territories and provinces on an ongoing basis, or a go-forward basis. Much of those funding envelopes are still rolling out. But there has been a climate lens that has been incorporated into those projects where projects are required to take greenhouse gas emissions reductions into account and to report on those on a go-forward basis.

We have more recently incorporated that climate lens as well around some of the work that we're doing in partnership funding through INAC. We have received \$1.7 million over four years to fund a number of adaptation projects, and many of them are directly related to risk. Right now we have a project underway on permafrost assessment for Yukon government buildings by HPW. There is mapping vulnerability of the Dempster Highway to thawing permafrost, and that is HPW and Energy, Mines and Resources. There is characterizing permafrost in the Whitehorse area — a number of departments are involved in that one — and monitoring and planning for the health impacts of extreme events through Health and Social Services and Community Services. It is something we are working on and it is something we are incorporating into the new strategy. It is still a work-in-progress.

**Vice-Chair:** Do any other departments wish to speak to efforts being made since 2016? I am opening up the floor to

any departments that want to speak to actions that have taken place toward the 2016 mitigation?

**Mr. Mills:** Thank you, Mr. Chair. Given the number of areas under Energy, Mines and Resources — just some references to the fact that we are continuing to take action as a regulator, but also the fact that we participate in environmental assessments on significant projects — both small and large — we continue to include climate change considerations in our project permitting, but also in how we participate within YESAA. YESAA has also developed certain guidance documents that we have participated in, in the past development, that helps to set certain standards for proponents. So we continue to do that work. One of the things we do look at is how project emissions could contribute to climate change and its effects on the environment.

Again, consistent with that, some of the things we look at and provide regulator and expert advice or input on is to consider things, such as when there is potential permafrost — with proponents, there are obligations with how they design their tailings or waste-dumps and other things that are there. How do you deal with the permafrost if it's there, how do you deal with other conditions? Also, very much so, is there are some changes when you're building the infrastructure on how to handle significant events, such as the one in 100 and one in 200, and so on, with the floods and other events.

With our department — just probably at a high level — we are working through our geological survey. We have done climate change hazard mapping for seven communities, I believe. These have been important planning tools and were developed under a six-year project led by the Northern Climate Exchange and Yukon Geological Survey.

We continue to include climate change considerations in our planning exercises. We have the larger regional planning exercises, of course, that we are all well aware of, but also we have a number of local area planning exercises that are underway with communities. The issues of climate change are all considered — for example, factors like flooding, forest fires, growing seasons, melting permafrost and the potential impact on infrastructure. All is information we put into the planning exercises with our local partners.

Our Agriculture branch does modelling for climate change in relation to soil and water, as well as crops. They do permafrost analysis when it comes to land applications, when we're trying to determine land that can potentially be put out for agricultural development.

Those are some examples of the work that we continue to do as a department, Mr. Chair.

**Mr. Pitfield:** Thank you, Mr. Chair. I would just like to point out that our functional business planning does address risk management and risk mitigation. In some areas we're doing it better than others, but I can give you some examples. As a result of the 2017 audit on capital asset management, we put in place a review and assessment of the impact on buildings of permafrost. Out of 102 buildings, we have reviewed 63; the rest will be completed by April.

For each of those buildings, where necessary, we will be developing a risk mitigation plan.

As part of project planning and project approvals, we also review permafrost and the impact of that on roads and highways. When we look at designing projects for buildings, for culverts — that kind of thing — climate change impacts are part of what we're addressing. We need to be more systematic about how we do that, so that we can tell the story and so we have the data to report on it. We do have data; we just don't manage it as well as we need to.

It's a work-in-progress, but much progress has been made.

**Mr. Moore:** Community Services has a number of initiatives that address this question, and I'll just break it down into a few of the key areas. I mentioned some of this in my opening statements. With respect to building codes and building standards, our team is actively involved with their counterparts across Canada. We actually sit on a number of advisory panels that work to develop future building codes that relate to how requirements will be developed to increase insulation ratings, for example. Recently, in the last couple of years, we adopted section 9.36 of the National Building Code. This sets a minimum requirement that must be met for insulation ratings for all new construction of residential buildings. Through the services of the Building Safety and Standards folks, we're actively working around residential and commercial building codes to ensure that emissions are controlled in that respect.

Another area we're involved in that was noted is around our solid-waste operations. Our solid-waste operations have evolved significantly since 2009, when the *Yukon Solid Waste Action Plan* was released. There have been a couple of updates over the years to that. The biggest change perhaps was in 2011, when the open burning of solid waste ended, and we have continued since then to move toward a transfer system where we're able to control and monitor more of the waste that goes into the rural facilities and bring it to a central facility where it's monitored and dealt with and controlled in a more environmentally friendly way.

We continue to improve and work on our solid waste programs. In 2017, the new beverage container regulations came into force. We have worked closely with the Department of Environment and are currently working on proposed amendments to the designated materials regulations. It's an active initiative. We just recently conducted a public engagement on the proposed amendments and we anticipate this first phase of the regulation — which will include tires, electronic and electrical products — to come into force shortly with the potential of more products to be added in the future.

I raise that because I think diversion with respect to solid waste is one of the key initiatives that we were working to improve. We're working with our municipal partners and our community partners, folks involved in transportation and others in the recycling industry, to improve that process across the territory.

We have also continued to fund important community initiatives, including Raven Recycling's zero waste campaign, and we do continue to subsidize both the local recycling processors — that's Raven and P & M — through the use of

diversion credits. Our attempts to work on improving are very active, and right now we have a ministerial subcommittee on solid waste that is made up of our municipality partners. We expect to see a report from them over the next several months, which we're very excited about because, by working together with our municipal partners, we hope we can bring that forward in a way that's going to work for everyone across the territory.

Moving on, I mentioned some of this in my opening statement, but I think it's worth noting, because it's a huge initiative: the ICIP — the Investing in Canada Infrastructure Plan. It will identify about \$600-million worth of infrastructure funding coming into the territory over the next decade. There's a tremendous opportunity with this. As I noted, much of the outcomes and reporting will be with respect to a reduction of greenhouse gas and adaptation to climate change.

Right now, those negotiations are actively happening. In Yukon, we have identified that building energy retrofits is one of the items that would have the most significant impact, and we're working very hard with our colleagues in the federal government to make sure there is funding available to help Yukoners — residential, commercial and institutional — to improve energy efficiency.

I'll talk about some of the programs we're building. Through the infrastructure programs, we have in the past, and we continue, to build significant amount of local infrastructure, whether it's water treatment plants, waste-water plants, solid-waste improvements, as I mentioned. I just wanted to give you an example of one we're currently working on, which is Dawson City's drinking water treatment facility. It is slated for construction this year.

Much work has been done to ensure — and this is both at the municipal council's initiative, as well as what we are hoping to work with, as I mentioned, with this fund. The billings envelope will be designed to meet or exceed all of the RSR values in the national energy code. We are installing photovoltaic panels for solar-powered generation on the south-facing roof to offset power needs. These are just examples. We are working to really find adaptation in all of our infrastructure projects.

Another example that I'll give is also happening in Dawson. We are replacing a significant amount of in-ground piping — water-sewer piping — and we are moving to use what they are calling "super pipe", which is designed to be more flexible to prevent breakage due to permafrost melting. It is just more flexible.

Our engineers are looking at those opportunities and learning what is happening across Canada. We are actually at the forefront of some of that, working with some of our partners here in the territory.

**Mr. Gallina:** In follow-up, what role is Environment playing in assessing this data compiled from departments related to climate change risk assessment mitigation efforts?

**Mr. MacGillivray:** The Department of Environment is actually coordinating and collaborating with the other departments. We have two climate risk assessment projects

underway. The first is a government-wide climate change risk assessment, and an RFP has been issued. We expect to have work actually starting by the end of this month.

This isn't going to result in an actual report back to us until 2020, but we do expect to have inputs prior to that. By the end of 2018, this assessment is going to screen all Yukon government departments for climate change risks and is going to produce a report that identifies key areas of risk exposure. Not all departments are going to have the same level of risk.

By early 2019, this assessment is going to analyze the risk exposure and vulnerability of specific high-risk departments identified in the screening and then produce a report for each of those departments. These are going to be compiled, compared and evaluated in a bit of a synthesis report — the details, the climate risk exposures and vulnerability of the Yukon government as a whole. This is going to help to inform our Yukon-wide risk assessment, which is the second piece.

Do you want me to talk about that one as well?

**Mr. Gallina:** We will get into that. I have questions on that specifically.

**Ms. Hanson:** Just as a follow-up, I would like to — in their opening comments, the witnesses for EMR and Community Services alluded to a couple of examples of risk assessments. I think it would be helpful — I will go back to — Community Services said in the spring of 2017 — Mr. Moore said that the department completed the Yukon communities wildland fire risk assessment methodology project. This important pilot project means that we have a systematic way to evaluate community risk under climate change scenarios, which can now be applied to all communities.

The question I would have is: Is it being applied, when will it be applied and what do these risk assessment scenarios and the evaluation process — is there a common assessment process, and when would you expect to be applying this methodology?

It relates to a second question that I have for EMR, which said, in the opening comments, that we have conducted a risk assessment of the health of Yukon's forests and identified vulnerable tree species in light of climate change. The vulnerable species, climate change — go back to 1997 — what is different about this one, and what is being done with this risk assessment on the health of Yukon's forests? How is it materially being utilized — or will it be utilized — in terms of the management of Yukon's forest resources? So, first to Community Services — because they are both related to trees.

**Mr. Moore:** I will pass it on to Mr. Berry, who does have some more specific answers that he can provide on this question.

Just to answer some of the higher level pieces, it was a project that just started, and it will be available across the territory. Carmacks is the only community so far that has piloted it but, through our EMO, it will be used as we develop emergency plans for all communities across the territory. It will be available, as it is fairly recent — last spring — but it is intended to be actively available both through our emergency measures and through Environment in some of the work that

they are doing as well. It will feed into the 2019 report, of course.

With that, I will pass it over to Mr. Berry to answer some specific questions about it.

**Mr. Berry:** What I would say is that, currently, wildfire management — the impact of climate change has been well-known since about 1985. We are part of a national working group called the Canadian Interagency Forest Fire Centre. We sit on the science and technology committee. We're actually a core member of that group. That is specifically looking at prevention and mitigation of wildfire management practices as we adapt to changing climate.

We currently, of course, do model fire behaviour already and we map — this is our partnership with the Forestry branch — and as you've noted, there are a number of inter-connected departments here from a whole-government approach. When we're dealing with forests, it is the Forestry branch that we are aligned with largely. Sometimes they are the driving partner. When it comes to forest fire modelling, that falls to us.

The methodology project is actually, from our perspective, leading nationally. We're beta testing it here. We used Carmacks as the example. That is our forward-looking program to identify how changing climate and climate species are going to impact fire behaviour and what mitigation activities we may need to take in order to adapt to that.

Again, we are aligned closely with Forestry because Wildland Fire Management, of course, is a first-response service, whereas Forestry is a land management service. If we're going to move forward under these broader programs — as Deputy Minister Moore spoke about — which was landscape fire management — really, we're going to need participation from multiple sectors, including social license from communities, in order to mitigate and adapt to those.

So what I would say is that we currently ran the methodology. I do, as an example, have a climatologist — a PhD in climatology — on staff, and I have done for over 20 years. We run meteorological centres across the Yukon — in fact, they're the largest weather system — that not only predict locally, but we can predict at a Yukon level. Those all feed into this methodology. Like I say, we're beta testing it right now to see its efficacy and to see if it is going to work for us. We're hoping it is. It's feeding into the larger national discussion that we sit on through CIFFC. So that's where that is.

**Ms. Hanson:** With respect to that, the timeline for completion of the pilot project — in terms of its application in the Yukon as a whole?

**Mr. Berry:** So the methodology has been completed. They're evaluating it right now. I'm expecting through the new fire season we'll evaluate, again, its efficacy and whether it is working. Then we'll roll that out by community as we go forward. I can't give you a precise timeline, but it is forward-looking on the impact of climate change.

But to put it back to what do we do right now — and I really do want to separate out what we do as a first-response agency — we model currently. Wildfire behaviour — we have a climatologist, we have fire behaviour specialists, we have

mapping of Yukon's forest — we do that actively right now and we have those for every community. This is a methodology looking forward as a result of climate change, but in terms of: Are we ready as a first-response agency? Yes, we are. Are we prepared to fight fires in communities? Yes; we have been doing it for 70 years; we're absolutely prepared.

**Mr. Mills:** I think the question was related to — partially, I think it was section 53. Well, my opening comments first, of course, and then also it comes up in section 53 of the Auditor General's report with regard to forestry.

There was a forest — the name of it — the vulnerability and adaptive capacity of Yukon tree species to climate change — it was a technical report that was done in 2009.

The consultant, or the expert, was Craig — I am going to say this and spell it for the purposes of transcription services, so that I don't get a call later in the day. It is Craig Nitschke, so we can all pronounce it whichever way we would like to, but I believe it is pronounced "Nish-kee."

The vulnerability assessment report was done. It was important for use to note in this report — and we have looked at this because it did stand in the Auditor General's report. It was one that we have done some looking into and I have become very familiar with this report. This report — the practices, research needs, everything that was recommended — they came out with considerations, but it was actually not prescriptive and where the Auditor General spoke to us not fulfilling three of the four recommendations, they weren't actually recommendations that were in that report. It was a vulnerability assessment and there were some suggestions or thoughts of the author, but they didn't come out as a concrete, "Here are four recommendations that you should do." I would note that the assessment is useful because of the all the background information. It did give us a good assessment of the vulnerability of our forest resources. But some of the recommendations — if I can respond to that, because I think that is an important part of this conversation — I don't know if this is taking us in a different direction, Mr. Chair, but there are some of the recommendations that I could actually speak to — the challenge with the recommendations that were there.

**Chair:** We can actually come back to that further in, Mr. Mills.

**Ms. Hanson:** I just wanted to clarify — because the witness indicated that in his opening comments — we have just referenced now a report is almost 10 years old — 2009 — but the way I heard it being said was that the Department of Energy, Mines and Resources have conducted a risk assessment on the health of Yukon's forests and identified vulnerable tree species in light of climate change. My question is: So what? Did you just do this report, or is this a 10-year-old report and we're just commenting on it in this statement?

**Mr. Mills:** Mr. Chair, the scope of the audit did cover this period of time and so it did reference the report because this report is also referenced under the reporting of the climate change action plan, so it was listed. The assessment was done. This report was done by Mr. Nitschke and we did use it. It was helpful as we move forward. I would note that it is not that we just sort of sat on it and didn't move with this — and

maybe if I can just — based on some of the information — we have continued in 2017 forward. We did establish permanent sample plots in Dawson, for example, that will allow for future monitoring, tracking of forest responses to climate change.

In 1988 to current, we have been monitoring changes in forest vegetation through permanent sample plots established throughout Yukon. We are in the development of a forest resource management plan for Whitehorse and the Southern Lakes that includes a climate change component that includes recommendations for adaptive management in monitoring forest indicators.

In 2002 to current, we have an annual health forest monitoring program so that we maintain an annual forest health monitoring program that contributes to identification of trends in forest pest incidences due to climate change.

We had conducted studies in 2013-14 related to the mountain pine beetle in novel habitats, predicting impacts to northern forests. So we did this study in collaboration with UBC — the University of British Columbia — to identify potential responses to Yukon's pine trees. We also collaborated with the University of Northern British Columbia and the community of Teslin and with the First Nation in relation to — in 2012 to 2016 — with regard to a study to support future work, research and management considering the risks of climate change in that area.

We currently have a very interesting project underway in the Lewes-Marsh area related to a study on determining the response of lichen growth to forest harvesting with consideration to the effects of climate change.

In 2008-10, we worked again with UBC in a series of focus groups on climate change in the Champagne-Aishihik traditional territories. In 2013, the current forest indicators and monitoring program in Dawson included adaptive management approaches in response to climate change as identified in the approved forest resource management plan that we developed with the Tr'ondëk Hwëch'in.

We continued to 2015 — the current forest vegetation inventories and timber supply analysis in Haines Junction. That includes identifying changes in the landscape — and also working with the Yukon Wood Products Association and other RRCs and other groups as we look at silviculture program establishment. Finally, we do work, of course, around fuel-abatement projects. We're doing some work in the Champagne-Aishihik area.

So the report itself provided a very good basis for what some of the threats are that we have. It does allow our Forestry branch to work in cooperation, especially with First Nations and local communities. We are sort of driven through our relationship in chapter 17 and the importance of renewable resource councils and the First Nations as partners in looking at forestry management, harvesting opportunities and so on.

So sorry that it's a bit of a long list, but I just wanted to sort of — that analysis — we have done a number of additional studies and also implemented pilot projects and projects throughout Yukon through our Forestry branch.

**Mr. Gallina:** On the risk assessment contract — I know that some details have been provided already, but can you provide more details on this? Who is conducting the risk assessment specifically? What are the specific goals? When will it be completed and how will it be utilized?

**Mr. MacGillivray:** I think I described, initially, the departmental or the Yukon government risk assessment that was happening — that is happening looking at the work of the Yukon government. We have just actually started a scoping exercise around a Yukon-wide climate risk assessment. So what this is going to do — it is a larger scope than the government-focused climate assessment. We're beginning this work with a scoping exercise, as I've said, which is going to better define the resources required and the methodology that is most appropriate for a Yukon-wide assessment.

So that methodology has not yet been determined. We're actually going out and seeking expertise to help us with that. This work is going to be undertaken in collaboration with researchers at the Yukon College's Northern Climate Exchange. It's going to help us understand the scale of the work necessary in order to best prioritize actions to address the most significant and expected impacts of climate change facing Yukoners.

Once the scoping exercise is completed, then we'll begin the work to procure a contractor to undertake this territory-wide assessment. Whatever possible preliminary information from both the departmental — the government assessment and the territory-wide assessment are going to feed into the new climate change, energy and green economy strategy development.

So we're not going to wait to try to incorporate some of this information in. Wherever possible, we'll be incorporating that in along the way. Does that make sense?

**Mr. Gallina:** Is the scoping exercise being done internally or have we hired a contractor for that?

**Mr. MacGillivray:** The college's Northern Climate Exchange is going to do that for us or with us.

**Mr. Gallina:** So there were tender documents that were released in January 2018 when departments knew of the need — sorry, why were the tender documents released in January 2018 when departments knew of the need to improve climate change actions and that the course of the action had been agreed upon months before?

**Mr. MacGillivray:** So the 2018 RFP that went out was for the departmental work. This was just a matter of the work that was required to pull together that RFP.

**Mr. Gallina:** Okay. Moving on to the 2019 strategy — so when in 2019 will the strategy be released?

**Mr. MacGillivray:** So the strategy — it's almost a two-year development process. We have taken an approach where we are working with partners on this. This is not going to be a solely Yukon-government strategy. This is a strategy that we're developing with our partners. So we have only just had our first meeting. Final deadlines for completion will be developed with partners as we move forward. So we don't actually have a firm, hard date at this time. We know that 2019 is the target.

**Mr. Gallina:** At this point, are we expecting it to be released in 2019?

**Mr. MacGillivray:** We are expecting 2019 as the completion date — yes.

**Mr. Gallina:** Can you provide more detail on the work being undertaken on the strategy — specific?

**Mr. MacGillivray:** I could provide more detail, but Ms. Burrows is actually leading the initiative, and I will hand it off to her.

**Ms. Burrows:** The three departments that are leading this integrated strategy — those are Energy, Mines and Resources, us at Environment, and Economic Development — have been working on establishing the process and what this new integrated strategy will look like. This is a new approach for us, of course. The climate change strategy and the energy strategy were separate previously. Now bringing in Economic Development really reflects the change at a national level to look at the transition to a low-carbon economy.

So where are we? In fall of 2017, letters were sent out to First Nations, municipalities, the Inuvialuit, the Association of Yukon Communities and the Council of Yukon First Nations to come join us in partnering this strategy at a very early stage. We are just starting to establish what that partnership will look like and the foundations for that. As was mentioned earlier, we just had our first partners meeting last Friday, and that was really just an introduction to the process and the strategy. Going forward, the partners will be helping us to develop a public engagement strategy — what the key principles and objectives of the strategy are throughout the entire process until we release it in 2019.

**Mr. Gallina:** To clarify, who is taking the lead? Which is the lead department — can you reiterate?

**Ms. Burrows:** All three departments are leading jointly — Energy, Mines and Resources, Environment, and Economic Development.

**Mr. Gallina:** Who do you plan to consult with as part of the strategy? Have consultations begun?

**Ms. Burrows:** With this partnership approach, engagement — although we are calling it a partnership — with the First Nations and municipalities has begun, and then public engagement, of course, will be part of that process, so we are intending to engage with the public and key stakeholders during that process.

**Mr. Gallina:** Has any of this engagement begun?

**Ms. Burrows:** No, working with our partners, the plan for engagement is still to be developed in the coming months, and engagement will start once that plan has been developed.

**Mr. Istchenko:** When you say “key stakeholders”, can you highlight who the key stakeholders are?

**Ms. Burrows:** Sure. Of course, key stakeholders will be what we sometimes call “subject matter experts”. In terms of climate change, in terms of energy, in terms of economic development, we will, of course, be engaging with Yukon College, Yukon Energy and the Yukon Conservation Society, but we will also be engaging with industry organizations as well.

**Mr. Gallina:** The Yukon government has stated that this new strategy will reflect the needs, concerns and ideas of all Yukoners. How will you ensure that this will be done?

**Mr. MacGillivray:** As has been stated previously, through this partnership approach and by not having this as a government-only strategy — this is intended to be a Yukon strategy — we are hoping to be able to bring all of the impacts and the needs together into this document.

**Mr. Gallina:** I know that there has been some talk about existing initiatives being considered for this strategy. Does anyone want to speak to any new initiatives being examined for inclusion in this strategy?

**Mr. MacGillivray:** I think it is premature right now. We are taking the partnership approach seriously, and so there really isn't any kind of predetermined outcome at this point in time.

**Ms. Hanson:** The recommendation in paragraph 31 says, “The Department of Environment; the Department of Energy, Mines and Resources; the Department of Highways and Public Works; and the Department of Community Services should develop climate change commitments that are time-bound and costed. Commitments to reduce greenhouse gas emissions should indicate the intended levels of reductions.”

The departments agreed with this recommendation and said: “It is anticipated that commitments and targets in the new 2019 Yukon strategy for climate change, energy, and green economy will be supported by clear milestones, completion dates, and associated costs. More rigorous monitoring and reporting for Yukon actions would work to support the actions and outcomes in the *Pan-Canadian Framework on Clean Growth and Climate Change*.”

“The Government of Yukon will work to include levels of greenhouse gas emission reductions anticipated to be achieved in future commitments.”

So for each of the departments and the secretariat — I ask these questions because the focus is often that we're going to do this in the plan in 2019, but we all recognize that we've been talking about this since at least 2009. It's important that there be some recognition of work being done now and in the interim.

What progress have you made on developing commitments that are time-bound and costed? I would ask that of each of the deputies.

**Mr. MacGillivray:** There has been a lot of reference to the upcoming strategy and there are commitments to incorporating the recommendations of the Auditor General in that strategy, so there is work already happening there. We are working, as I have said — all jurisdictions went through a similar audit and the findings in the Yukon were not unique. There were some common themes across the country.

This is something that is being dealt with through working groups under CCME, the Canadian Council of Ministers of the Environment, so we have good reporting at the national level as well on the pan-Canadian framework. As I mentioned previously, reporting really does come down to having good data. If it's garbage in, then it's garbage out.

We have been working for some time now with the federal government on the accuracy and availability of baseline information. We have had some success; we have brought the Bureau of Statistics into this recently. The Bureau of Statistics is now under the Department of Finance. We're now using reliable Yukon fuel tax data and we have managed to get so Statistics Canada is using that fuel tax data as well to come up with the data on emissions.

As I said, this has resulted in a very recent revision that has improved, although not fully corrected, the data from our perspective. I think that's part of this.

**Ms. Hanson:** Thank you and I thank the witness for that. I would just remind you that the Public Accounts Committee, in preparing for this, has thoroughly read the Auditor General's report and is apprised of the work of Ms. Gelfand in terms of working across the country. There are two items — you haven't indicated how those are time-bound or costed.

The cost elements — I am just looking for what progress is being made on developing commitments that are time-bound and costed.

**Mr. MacGillivray:** There aren't any commitments actually being developed at this point in time. The commitments will be developed through the strategy. That's where the next series of commitments will emerge.

**Ms. Hanson:** There are no commitments with respect to addressing climate action? Maybe perhaps you need to reflect on that. I think that there are, from what I have been hearing — that there are actions and activities being taken to address climate change and mitigation in this territory by government departments and agencies.

Are you saying that none of those are costed and they have no time limits? Is that essentially what you're saying?

**Mr. MacGillivray:** What I'm saying is that there's a difference, and I think this is an area that the auditors teased apart in the audit — that there's a difference between commitments and initiatives. Commitments are just that: they're commitments for future reductions, for future greenhouse gas reductions and/or adaptation initiatives.

We have a number of projects underway currently that are, as you have said, having costs associated with them and completion dates identified, but those aren't commitments as per what you would see under a strategy.

**Chair:** Mr. Mills, did you have something to add to that?

**Mr. Mills:** I believe I do, Mr. Chair. I think the question also is: What are we doing now? I just wanted to speak to a couple of things. One is that, as we move forward, there are various federal government funding programs that are there, such as the low-carbon economy fund and other ones. As we structure potential projects to fit within that, we are addressing the issues of ensuring that they are time-bound, as well as costed. So we are on a go-forward plan identifying those components — plus prioritization of some of these projects with regard to the potential reduction in greenhouse gas emissions as a way to prioritize our own projects that we're looking at.

As we're looking at projects, we're doing that, but our department also continues to deliver projects that are seeing tangible results, such as some of our residential energy incentive programs and commercial incentive programs. In the last three years, we have seen 291 as our number of super-insulated new homes that were built. We understand the savings there — approximately \$475,000 in energy costs, or the savings, and preventing 203 tonnes of carbon dioxide from being emitted.

I would say this is quite unprecedented for a small jurisdiction that we have here.

For our home energy retrofits, we have had 1,126 retrofit rebates issued to Yukoners in three years. These participants have saved \$126,000 in energy costs, preventing 264 tonnes of carbon dioxide from being emitted. We have some 60 LEED retrofit programs that we have offered with savings that we track.

When we look at all these different programs, our numbers — and they're accurate — show that, with all these programs, we have saved enough energy to power over 1,600 homes for one year. Participants have saved over \$7.7 million in energy costs and prevented 33 kilo tonnes of carbon dioxide.

We have a number of initiatives through our Energy branch. We continue to deliver those projects. As we move forward, we have to look at the strategy identifying clear targets but, as we move toward that, we are tracking and seeing the benefits that flow from these various programs.

I just wanted to add that information. My apologies if it's off the mark to your question, but I think it's helpful information.

**Ms. Hanson:** Thank you and I thank the witness for that. What you have identified is that your department has tracked a range of data. In identifying and expending resources for those programs, were there any targets that you were attempting to achieve? Not just the financial outlay, but also targets with respect to diverting energy from fossil fuels utilization or a reduction in greenhouse gases through other means — what were the targets that you were attempting to reach in expending the resources for these various programs?

**Mr. Mills:** For these existing programs, we don't have specific targets that we're trying to reach with these emissions. We are trying to reduce greenhouse gas emissions — we are trying to do this — but we don't have those specific targets. When it comes to the new project — what we're looking at under, say, the low carbon economy fund and other ones — in these particular programs themselves, we identify the target of each of these sorts of project asks — to set that sort of target as to what we want these particular projects to do. We still need to look at the larger overall target of the government, and that is one of items that will come as part of our development overall. I would note that we still have, for example, in the energy strategy, priority action targets such as increasing energy efficiency in Yukon by 20 percent by 2020. These are still identified within the energy plan, and, in this case, should we meet the timeline, it would be taken through

the identification of where we're going with regard to the climate change, energy, and green economy strategy.

**Mr. Moore:** With respect to the question in terms of how it related to Community Services programs, perhaps the best example is what we're doing around the National Building Code. I referred to that a little bit, to the work that we're doing on a national level. It is not necessarily time-bound. It is just that we have a commitment to adopt the National Building Code as it continually evolves — to take the greenhouse gas reductions. New technologies evolve. So we continually adopt that, but I agree that it is not time-bound at this point in time. It is just a commitment to continue to adopt that as those new rules roll out.

The other example I would use that is time-bound is the commitment that will be under the ISIP, the Investigating Canada Infrastructure Plan. It is a national commitment to around a reduction of 10 megatonnes, and that is time-bound in the next 10 years. The methodology and how that will be reported is still in development and part of those discussions with the federal government, but, once that agreement is finalized and signed off, those reporting mechanisms will then commit us to how we contribute to that reduction as we go forward with our infrastructure programs in the territory.

**Mr. Pitfield:** In terms of the 70 commitments made in 2009, 18 of them applied to Highways and Public Works, and on all of these, work has progressed. Some of our commitments were time-bound and some were not. Some did have targets and some didn't. All were costed as part of their implementation. I would say that, in terms of energy-efficiency projects — and this would apply Yukon government-wide — where savings pay for the investment, those would have been costed very carefully beforehand.

We have successfully completed some of our commitments; others continue. In terms of the strategy to come, many — if not most of it — would be rolled forward because they are all valid approaches to climate change reduction.

**Ms. Hanson:** I thank the witnesses for their responses. I had another question here with respect to these commitments. When we were talking about it as a group, we talked about it in terms of what impediments there might be to meeting commitments. Given the Deputy Minister of Environment's comments, I guess the question should be rephrased: What impediments are there to establishing commitments?

**Mr. MacGillivray:** I would say that primarily it is the information required to have enough information to know what is required financially to complete the commitment and to have enough certainty around the greenhouse gas emissions reductions to know what kind of reductions might result as a result of the initiative. Those are a couple where the initiatives fit within the broader priorities of government as well.

**Ms. Hanson:** As the lead department, what baseline measurements does the Department of Environment have in place to inform the 2019 strategy?

**Mr. MacGillivray:** As we have mentioned, we are working hard to ensure that we have the best data possible and we are working with Canada to do that, both with our Bureau

of Statistics and with Statistics Canada. We are ensuring that we have risk assessments that will feed into these, both on the departmental and the Yukon-wide basis. What we have done, actually — because we're bringing a number of partners together to develop this strategy — is that we have developed these two state-of-play reports. If you haven't seen them, I would encourage you to take a peek. There is one on energy and one on adaptation, and it brings together much of the science that we have currently so that everybody is starting on the same page in the development of those strategies.

That reflects a good deal — as you've heard around the room. The secretariat really does play a coordinating function and the departments really are responsible for individual projects and programs. Much of the expertise resides within the departments with regard to the data and some of the mitigations required.

**Ms. Hanson:** So just to confirm — that the state-of-play reports essentially will form the baseline measurements to inform as the starting point for the 2019 strategy?

**Mr. MacGillivray:** They are actually inputs. They're making sure that everybody is starting with the same basic information — the basic understanding of what the impacts are, what the risks are, what some of the challenges are for the territory. So it has everybody kind of pointed in the same direction.

**Ms. Hanson:** I ask that question because, yes, there is a difference between the environmental scan and actual data. So I was asking the question with respect to baseline measurements that are in place to inform the 2009 — we've been talking about this for almost 10 years so I was confused there. It's the 2019 strategy that we're working toward.

**Mr. MacGillivray:** The strategy development is happening within a broader framework as well. We have Canada entering international, global commitments under the *Paris Agreement*. We then have the provinces and territories coming together with their commitments under the pan-Canadian strategy. Then, nested under that is our own strategy. These all kind of build up to meet Canada's commitments internationally.

**Ms. Hanson:** One of the questions we have is: How will the departments work together to achieve their time-bound and — when they establish them — costed commitments to reducing greenhouse gas emission levels, and what accountability mechanisms are anticipated to ensure that they are achieved?

**Mr. MacGillivray:** So as I've said, these are still very, very early days as far as how we are going to be doing this. There are subcommittees that are meeting nationally under the CCME frame. There are committees specifically meeting on metrics and monitoring so that we — I mean, obviously, all provinces and territories. There's a benefit if we're all measuring and reporting in a similar manner so that it's more easily compiled into a Canadian contribution to our commitments under Paris.

So there is a whole lot of work that is happening at the provincial and territorial level. Then, within the territory, based on those metrics that become best practices across the

country, we will be working with our partners to try to feed into that.

**Ms. Hanson:** The question was focused on the Yukon. Do you anticipate accountability mechanisms to be built into the Yukon's time-bound and costed commitments to reducing greenhouse gas emission levels?

**Mr. MacGillivray:** I think we do expect or we do anticipate at this point in time that the commitments that are made in our new strategy will be time-bound and costed, and they will identify estimates of the greenhouse gas emissions that will be established up front, and then it's a matter of — as long as we have regular reporting on that, I think that is the accountability mechanism.

**Ms. Hanson:** The government's response to the report indicates that there will be clear targets for emissions reductions. Will these be economy-wide targets?

**Mr. MacGillivray:** It is one of the areas that has received, I think, a lot of discussion. Economy-wide targets are more difficult for us in that we are a small jurisdiction, with 38,000 people. If we have a single large development occur in the territory, our emissions profiles change significantly. That has, I think, fed into the decision previously to develop sector-specific targets. I think that the auditor, and rightly so, identified that the sectors that we had come up with didn't add up to what the Yukon-wide target might look like. I think that is something we are going to need to deal with going forward. I do envision that there are going to likely be sectors that would add up to something that might be Yukon-wide, but they are early days at this point in time.

**Ms. Hanson:** When and how will industry be consulted on the establishment of targets?

**Mr. MacGillivray:** Business and industry will be part of the strategy development, and, again, it comes down to us providing them good information up front so that they can understand what the potential impacts might be and the requirements.

**Ms. Hanson:** Paragraph 43 of the report says: "We found weaknesses in the Climate Change Secretariat's reporting on the government's progress on its climate change commitments:

"The action plan and progress reports used inconsistent terminology. For example, one report referred to the same commitment as both an initiative and an action.

"A reader could not easily distinguish the reporting on commitments from the reporting on other projects.

"The 2015 action plan progress report did not clearly show the status of progress made on individual commitments, as was done in the 2012 action plan progress report.

"The commitments did not include the actual costs of carrying them out."

I guess my question is pretty straightforward: What happens between now and 2019 to remedy these weaknesses?

**Mr. MacGillivray:** I think the auditor has helped to bring these to the fore, and we have agreed that we are going to address these going forward. We have a perfect opportunity now, in that we are developing a new strategy. On top of that, we have all of our partners across the country, provincially

and territorially, working to figure out how, what best matrix and how best to monitor climate change. I think there is a commitment going forward from here. I mentioned as well that it's in my minister's mandate letter that there will be targets established, and so this is something that we are going to be developing with our partners over the next year and a half.

**Ms. Hanson:** I just note that six years ago there were costs with respect to the actions and the action plan. The question was: What happens between now and 2019 to try to at least get to that stage of having some data? What kind of reporting will occur? Who will report and to whom? How regularly will the Climate Change Secretariat report and make reports public?

**Mr. MacGillivray:** Again, this something that is being dealt with nationally as we all feed up into the pan-Canadian framework. There is an interest in ensuring that, when partners are identifying a reduction, it is a real reduction.

One of the things that we do is that we use an independent third party verifier in the climate registry. We are one of the few jurisdictions in Canada that actually does this. We are the only jurisdiction that has our greenhouse gas emissions verified and reported through the climate registry. That is one of the things that we are going to consider, going forward.

**Ms. Hanson:** I don't think that the witness has addressed the issue that I was raising. The auditor found that the 2015 action plan progress reports did not clearly show the status of progress made on individual commitments. I understood earlier that the deputy said that there are not commitments, but there were individual commitments. It was done, however, in 2012. Those action plans — of the 2012. The progress report did show status of progress.

My question was about — between now and when we get the new strategy that is supposed to be done sometime in 2019, what kind of reporting will occur from the Climate Change Secretariat on actions that are being taken? As we have heard, the government as a whole is doing work not just on greenhouse gas emissions, but on a number of adaptation and mitigation efforts. What kind of reporting will occur, and to whom will all of those reports be made?

**Mr. MacGillivray:** I don't know if I'm following entirely what you are looking for here. There were a number of commitments that were made through a series of three reports previously: the action plan in 2009, the progress report in 2012, and a further progress report in 2015.

The progress report in 2015 did two things: it reported on progress to date, and it also committed new actions going forward. Those actions that are currently underway are still continuing where appropriate, but we are now in a position where we are developing a new approach to climate change — a more comprehensive approach that incorporates energy and green economy. I guess that is an outstanding question as to what kind of reporting is going to continue on those previous commitments.

**Ms. Hanson:** I hate to belabour the point, but the auditor — and the departments agreed with the auditor's

findings — simply said — and I will repeat it: “The 2015 action plan progress report did not clearly show the status of progress made on individual commitments, as was done in the 2012 action plan progress report.

“The commitments did not include the actual costs of carrying them out.”

So, between now and whenever we get the strategy in 2019, does that mean that, since 2015 and to 2019 sometime, we will have no idea of the costs of carrying out any of the projects or commitments made under the action plan?

**Mr. MacGillivray:** No. I think what we’ve heard from the other departments is that individual projects and individual initiatives will be costed and will have greenhouse gas emissions reductions, especially if they are being funded through federal programming. The federal government has implemented this new carbon lens that they’re applying to their funding projects, so that will be occurring on an individual project basis.

Broader sectoral commitments are not envisioned to be made between now and 2019.

**Ms. Hanson:** Paragraph 43, as we started at the outset, was with respect to the Climate Change Secretariat so, when I had asked my question originally, it was: What kind of reporting will occur? Who will report to whom? How regularly will the Climate Change Secretariat report?

It’s in the context of what work has been ongoing, and I’m trying to ascertain: Will there just be a vacuum of information? There will be no reports made to the Yukon — I can understand to funding sources, but to Yukon and Yukoners — about initiatives and progress being made on any of the work that has been done under the current aegis of whatever plans are in place?

**Mr. MacGillivray:** That is an outstanding question right now, to be honest. We have the strategy that was developed in 2006, the action plan in 2009, the first progress report in 2012, and the second progress report in 2015. The next three-year period is 2018 but, because we are transitioning into a new strategy — a strategy that is more broad, that is Yukon-wide and that incorporates climate change, energy, and green economy — there is an outstanding question about what reporting will happen between now and the completion of that strategy.

**Chair:** With that, I will recommend that we take a break for lunch and reconvene at 1:30 p.m.

*Recess*

**Chair:** Thank you very much, everyone. I hope everybody enjoyed their lunch.

We’ll get back to the hearing and carry on with Mr. Adel.

**Mr. Adel:** Thank you, Mr. Chair. I would also like to thank the Auditor General and his Principal for being here, and the Deputy Ministers and their staff as well. It always makes these fun-filled meetings and a great afternoon ahead of us, so I will get started.

The recommendation in paragraph 44 says — and I quote: “The Climate Change Secretariat should publicly report in a

consistent manner on progress made on all commitments, and on the expenditures associated with meeting the commitments.”

The secretariat agreed with this recommendation — and I quote: “It is envisioned that reporting systems, including frequency, reporting language, cost, and established metrics for each commitment or target, will be part of the new Yukon strategy for climate change, energy, and green economy.”

This is for the Climate Change Secretariat: What progress have you made in defining the nature and frequency of public reporting?

**Mr. MacGillivray:** Thanks for the question. Unfortunately, some of this ends up being things that I have said previously — but the methodology for evaluation of the new strategy is going to be informed by the CCME process, so the national process that we have to establish metrics and indicators. We also have some expertise within government now and so we’re not waiting.

What we have done is, we have a number of projects that we have funded this year under INAC funding — 11 projects that we’re starting to use some of these measures in currently. So we have good costing up front with clear timelines around delivery of these projects and, where there are greenhouse gas reductions, many of these are adaptation projects, so they don’t actually have greenhouse gas reductions associated with them. But we are incorporating some of those measures into the projects that we are initiating now.

We have, as we have said, committed, through the course of this audit, to ensure that we do have time-bound, costed commitments and I think that is going to be developed with our partners. We do envision that it will be developed earlier in the process though, so it won’t be an afterthought. It will be part of the development of the strategy and it will include how we are going to report and how we are going to monitor and how frequently we will report on the commitments that are made.

**Chair:** Before I carry on, I neglected to mention that Kate White is here this afternoon, filling in for Liz Hanson. Thanks, Kate, for being here. Mr. Adel, please.

**Mr. Adel:** Thank you, Mr. Chair, and welcome, Kate. I guess as a follow-up to that — what I’m hearing is that you’re waiting for the federal government’s guidelines before we start having a defined public frequency on reports and you’re going to use those guidelines to form yours, or are you forming your own outside of those, so we will get the reports sooner than waiting for the federal government?

**Mr. MacGillivray:** Some efficiencies we have through the pan-Canadian framework — all jurisdictions are working on how to report through the pan-Canadian framework — what to measure and how we are going to report reductions and efforts that have been made. I don’t envision that we will be creating a different wheel in the Yukon. We will be using very similar metrics and so we’re getting past practices. We’re learning from the work that is happening nationally and we’re bringing that back to use with our own strategy here.

**Mr. Adel:** Okay. What progress have you made on costing expenditures? Is there a metric that you're using or is it on an each-project basis?

**Mr. MacGillivray:** Currently, with the initiatives that we're undertaking — those are all costed up front. They have a budget and we track costs against the budget.

What we envision with the new strategy is that, as commitments are made, we're going to be putting our minds to how best to cost those up front. It's going to be a difficult process, to be honest with you, for some of the commitments that could be made in a strategy like this — bridging climate change, energy and green economy. But it's something we need to put our minds to, for sure.

**Mr. Adel:** Will you be working with the Department of Finance and those — you have your overarching committees, so they'll be going through Finance as well?

**Mr. MacGillivray:** Yes, we will. As we've said, we have a deputies committee. There's also a working group under that at the ADM level. Finance is part of that. Highways and Public Works deals with much of our procurement and is also part of that. We'll be taking a broader approach with this for sure.

**Mr. Adel:** What principles or guidelines will you use to inform the public or with reporting to the public?

**Mr. MacGillivray:** We have learned through this audit that we need to have consistent reporting. It needs to happen on a consistent time frame and needs to be clear and transparent. Those are some of the principles that we're going to be looking to incorporate.

**Mr. Adel:** The government's response to this recommendation and to the recommendation in paragraph 55 uses the word "envision". The government says it is envisioned that reporting systems will be part of the new climate strategy. It also says that it is envisioned that it will include milestones and target completion dates.

What stood out was the use of the word "envision" versus something more concrete. "Envision" just means that it's possible, not that it will actually happen. Without a concrete guarantee, it's hard to see how the government is appropriately responding to the Auditor General. Is it a guarantee that the new climate change strategy will have reporting systems, milestones and target completion dates?

**Mr. MacGillivray:** I think the wording that was used in our response to the climate change audit was carefully selected. It's difficult today to absolutely guarantee that something is going to happen. This was in 2017; it's difficult to guarantee that something is going to happen in 2019.

We also didn't want to pre-determine absolutely, given that we had envisioned that there was going to be a partnership in developing the strategy. I can tell you, though, that it's one of our goals and objectives going into this, as the Yukon government, to ensure that we have good reporting.

**Ms. White:** Just before we move on to the next point, when we're talking about the regular reporting, so the progress report came out every three years — 2009, 2012, 2015 — and then the other departments also have regular progress reports. One of the concerns that we have had and

that we have been trying to vocalize in a way that seems to be getting lost in translation is that 2018 — so theoretically, we would be expecting a progress report, as we did in 2012 and 2015. But everything right now talks about how we're developing a new strategy for 2019, and then it will take, I'm guessing, two to three years to have the first reporting on the new strategy. So that would leave us from the last one in 2015 to possibly 2020-21.

My question is, what kind of — I'm trying to find the words here. How can we make sure — in our position, one of the things that happens is that your ministers will present progress reports, and that gives us, particularly from the Opposition, the ability to go through what the commitments were and what the stated goals were to say, how are you meeting this? It's not very often that I get to have the department heads here able to speak, which is very exciting for me, because you guys know your departments better than anyone else.

My concern is that we're talking about the strategy that will hopefully — although no concrete timeline — sometime in 2019, be ready to go — and 2019 is 12 calendar months. In my head, I'm like, "December 2019, this strategy will come out." But what progress reports will happen until that point? What is going to come to the Legislative Assembly? What's going to come to the public? How are we going to make sure that we are still doing a check and balance? We can look toward the future, which I don't think is a bad thing, but if all we're doing it looking forward and we're not paying attention to where we are right now, heaven forbid we should have a six-year period where there's no reporting because we're working on the new strategy before we do the first reporting.

We have talked about developing the strategy. Based on my limited six years' experience, developing a strategy means that there's going to be a number of years before that first strategy is reported on, so 2020-21 would be my conservative estimate. What happens between now and then, as far as accountability? How can the departments say that this is the goal, so this is how we're going to reduce our greenhouse gas emissions, this is how we're going to electrify the highway or change the fleet vehicles, or this is how we're going to do hazard mappings in communities, if what we're talking about now is 2019 and forward?

I'm just looking for what the interim is. My last report was 2015, and I have had different reports from different departments, but I really want to know how I, as a person, and how the public can follow along if what we're just talking about now is post the 2019 strategy?

**Mr. MacGillivray:** I understand the question. I'm going to answer in a couple of different ways, though. What the auditors in the audit report were telling us was that we did not have a frequency for reporting identified in our actual reports. It was our practice to report every three years, but it wasn't actually required within the documents. I think that was the first thing the auditors had noted.

It was just our practice that we had 2009, 2012 and 2015. That practice would lead you to believe that there would be something happening in 2018. We have a new mandate and

we now have a commitment to a new strategy. The point you raise is a very good one. It's one that I don't have an answer for, for you for today, as far as a broad progress report would go, but I think you have correctly identified that individual departments will be reporting on progress made within their own programs, as they have previously. It's just at this point in time, I don't have the answer for you around a broad progress report.

**Mr. Adel:** Okay, that pretty well covered what my next question was, so that's pretty good. As a little follow-up, though, my question was: What are you doing differently from 2015 — because the Auditor General looked at that report and decided that we weren't getting the information we wanted? How are you going to fundamentally change your departmental reports so that we get more concrete costs, metrics and reporting?

**Mr. MacGillivray:** I think one of the things we're going to do is build that right into the frame of the strategy up front. So by thinking about that while we're building the strategy, I think we'll have a more robust system. So I think that's one of the things we're going to do.

It's envisioned that we're going to have some sort of frequency of reporting within the report — within the actual strategy. So it will be clear that there will be a two-year or three-year reporting cycle.

As I've mentioned previously, there is a whole lot of work happening. We are not the only jurisdiction that is addressing this currently. There is a whole lot of work that is happening across the provinces and territories. We're looking at best practices as well.

In addition to that, we have processes that our federal partners are kind of driving us toward to make us better at identifying or using this climate change lens when we're applying for funding and projects. So some of that is built right into some of the monies that we'll receive for projects and that we will be reporting back on.

So there is a variety of different things that are underway right now that are going to, I think, improve the way that we collect data, that we monitor and that we report.

**Ms. White:** Sorry, Mr. Adel. I was really eager. So this will not follow the most recent question but it follows the question I asked before.

One of the concerns that I have — and it's not about looking forward, because I fundamentally believe that we do need to change track. What we knew before is not what we know now and definitely not what we know will be happening in the future. Reading the report from the Auditor General's office — and, of course, I've had the opportunity to go through the reports that are referenced, just because of my position — I guess one of the concerns that I have — so we're looking forward toward this new strategy sometime in 2019. But the one concern that I have is the continuity — so the continuity within the department, the continuity within the government as a whole — because — I mean, it's going to sound really shiny when I talk about election cycles, but election cycles affect government direction because you get new mandate letters. I understand that sometimes, you could

have been going in one direction and then your department is moving toward another one.

So part of what I think is fundamentally important based on my conversations with each of at different points in time, understanding that you're the experts within your fields, is: How do we ensure that you future-proof it? How do you make sure that what you're setting up right now is election-proof? How do we make sure that the direction that you guys are aiming for now — so we're talking about — and I appreciate that we've thrown the green economy into it, because we've actually broadened the scope. So the next Auditor General report that will come out in 2022 after you've reported one time will have a broader — you know, we'll need more tables and more chairs and there will be more people here to answer the questions.

But how do you as deputy ministers who are working toward — because we've talked about how this is a multi-approach to making this new strategy — how do we — or how do you, I guess is the question — because I'm just going to see it at the end — how do you make sure that it is being future-proofed? How do we make sure that it is going to stand the test of moving forward? Just because — like I said, unfortunately, your work is affected by — unfortunately or not unfortunately, depending on how you want to look at it — election cycles.

So when I talk about the continuity right now of the reporting, I have grown to expect them in three-year cycles — occasionally two-year cycles from different departments — but how do we make sure — because like I said, my concern is that I am not going to have the information that I need to take a look at what is happening between now and when the new report is out.

How do you envision — especially that we have multiple deputy ministers here and, of course, the lead of the development — how are you future-proofing this new strategy? How are you going to make sure that, come 2021 — that is the latest time that the new election can be called — that we're not going to be, "Well, actually we're starting again at zero and we'll report to you sometime in 2023-24"?

**Mr. MacGillivray:** That is a tough question. As senior bureaucrats, I don't know that election-proofing is necessarily our goal with this. I can tell you though that the approach is being taken this time where we have strategy that brings in a number of partners. It is bigger than the Yukon government. We are one of many different partners in this strategy. I think it is going to have the effect that you're looking for. I think that it is going to reduce the impact of the election cycle on the ultimate product, because there will be others who are buying into it — First Nations and potentially municipalities — and it may change that going forward.

**Mr. Adel:** Almost done. Though it doesn't feel like it sometimes, we are actually here and my question is to help. What are the impediments you are facing to move from envisioning to "guaranteeing reporting systems, milestones and target completion dates with the new strategies"? What do you envision as we look to getting back to you down the road in six months or so and saying, okay, how is it coming? What

do you see are impediments to that right now that we could maybe work with and help you with?

**Mr. MacGillivray:** This is bigger than just the Department of Environment and the Climate Change Secretariat, but I think — right off the bat — data deficiencies, data gaps and capacity. There is a variety of things out there that we are going to need to re-jig our systems and build some new systems to be able to ensure that we have good reporting.

**Mr. Adel:** Paragraph 53 of the reports says — and I quote: “However, we also found that although the Department of Environment; the Department of Energy, Mines and Resources; and the Department of Community Services had taken some concrete action for 11 of the 18 projects, more action was required. Our findings included the following:

“The Department of Environment developed a bioclimatic ecosystem classification system and a field guide for one of nine bioclimatic ecosystem zones in Yukon in 2016. However, the Department had not developed field guides for the other eight zones. Department officials told us that the work required to develop these field guides was extensive.

“The Department of Energy, Mines and Resources conducted an assessment in 2009 of the vulnerability and adaptive capacity of Yukon tree species to climate change. However, it had not implemented three of the four recommendations made in the assessment.

“The Department of Community Services produced detailed community hazard, risk, and vulnerability assessments between 2011 and 2016, aimed at helping Yukon communities develop emergency preparedness plans for potential threats. However, the Department had produced these assessments for only eight communities in Yukon. Department officials told us that they provide these assessments to communities only on request.”

My question was: Why has Environment not developed field guides for the eight zones?

**Mr. MacGillivray:** That is a good question. I can tell you a little bit about what this was. These ecosystem models, or bioclimatic reporting, deals with the link between the living organisms and the climate. What we did is we actually applied to Indian and Northern Affairs Canada for some funding. This was a costly endeavor. I think there was close to \$500,000 put into this initiative. We completed the first of nine and, to be honest, that was the money that was provided and we didn't have funding to go further and complete the next eight.

**Mr. Adel:** Why has EMR not implemented three of the four recommendations?

**Mr. Mills:** Thank you, Mr. Chair, for the question. I think I just got going on this earlier and then I was told to wait for a while, so I am going to start this again.

With regard to the forestry assessment report — again, this was a report that was produced in 2009 by Craig Nitschke. It was important to note a couple of things, but it is important to note, Mr. Chair, that the practices for the research needs that were identified as recommendations were, in fact, ideas or considerations in this report and they were not

meant to be prescriptive, especially within the Yukon's forest context. So what I do want to do is maybe just talk about the three really quickly here, because I think it's fair to sort of point out why it's a bit of a challenging report.

It's a very comprehensive report. I'm not sure if I'm allowed to use props in here, but it's a really big one. I don't know. It has a lot of great information. The thing was that some of the suggestions that came from the author were — one of them was that they recommended thinning for lessening risks posed by multiple disturbances. So they thought that — they recommended thinning in all forms — so pre-commercial, commercial and fuel reduction. So I do want to point out that we do — in fact, thinning practices that have been talked about — we do fuel abatement firesmaring programs. So, in fact, elements of this recommendation are part of the practice that we have with Community Services as well.

The concept of going and doing thinning — when we have, in our case, a very new and fairly low level of a forest industry — is really challenging. The idea of people running their fuel-wood businesses, for example, or collecting material at this time for biomass all through simply a thinning exercise — it's borderline commercial at this point, or at least cost-effective. So this recommendation, in our opinion, was really based around a southern context of a much more mature forest industry, not of something that would work effectively here.

We do thinning as necessary and, as we start to open up — and I do believe there is a future growth in our forest industry related to the biomass efforts and other efforts that are there — that we will be able to look at other aspects, such as thinning, on the margins of some of these productive areas for our forest industry.

But it was a very challenging recommendation and, in our opinion, it wasn't — well, first of all, it wasn't even a recommendation — but it was a challenging suggestion by the author, but it was one that doesn't work within our commercial — this idea of spending money — huge money — on pre-commercial thinning operations sort of in our hinterland and our forest resources is really a challenging concept.

The second recommendation that was not — according to the Auditor General — sort of followed, was this idea of enrichment planting. So the suggestion of the author was that we should do enrichment planting — so establish shade-tolerant species of trees that are sort of in the understory of our established forests. So currently we estimate — and there are probably other folks — a minimum of \$1,000 per hectare when we're looking at silviculture and planting. We have 28 million hectares of forest in the Yukon. The concept of starting to try to plant shade-tolerant trees within our existing forests is a challenge because, right now, we're looking at a silviculture program related to — as we cut areas, we develop silviculture. There are issues about some real benefit to shade-tolerant — actually, more fire-tolerant trees — when we're around communities. That's maybe a different concept.

I would note too that our forest industry — we are a fire-driven ecosystem here and we have almost — all our species

of trees — whether spruce, pine, birch and that — some might be marginal, but they're all shade-intolerant species. So this concept of doing some of this introduction is very challenging and we think, again, that this recommendation was more of a southern-based recommendation. This author has done similar reports in British Columbia, other provinces, and all around the world, but we think that it was not really a relevant recommendation in relation to our forest industry.

A third recommendation that came forward that was discussed was about the silviculture systems and the idea that we would start to manage our forests and look at uneven age systems. I believe, and I talked to our Forest branch, the concept here is we have a forest — it might be 80 years old — we'll cut 20 percent and replant. Thirty years from now, we'll cut another 20 percent or 30 percent, replant and we start to get different age structures within the forest. That is a really challenging approach, given we are a fire-driven sort of forest here and if — again, going back to the cost — with regard to silviculture and how marginal the economics are with regard to forest harvesting, it would be very challenging to try to implement this type of recommendation — and there are some other solutions that go.

Those are the three recommendations of the four that are said through Energy, Mines and Resources that we failed to implement. I have had to defend my report card before and it has always been a challenge, but I think in this case, part of it is just the nature of the actual — these recommendations really are challenging and maybe it goes back to how you do a peer review of some of these articles that end up having a life that was now a decade old. That is something that we have to look at.

I mentioned earlier — and it was on the record for discussion — we are undertaking a large number of activities with our First Nation partners and municipalities and other groups and the Yukon Wood Products Association and others. We have a large number of studies that we are working on to come up with a viable forest industry. We are currently finalizing the plans with regard to a silviculture program that is going to work and that is Yukon-specific. We haven't necessarily been sitting on our hands and not implementing these recommendations. In fact, we have been working quite hard to try to build what is a sustainable forest industry.

I hope that helps to answer some of the questions with regard to that issue, Mr. Chair.

**Mr. Adel:** Thank you, Mr. Chair. Many communities do not have the resources to produce detailed community hazard risk and vulnerability assessments. Why did the Department of Community Services decide to provide these assessments to communities only on request, rather than working with every community to develop emergency preparedness plans?

**Mr. Moore:** I appreciate the question and the opportunity to discuss this issue. Working with the OAG over the course of something like this, there is a lot of information that gets passed back and forth. Currently we have — I am going to mention five different initiatives related to hazard assessment. What I would like to take the opportunity to do is

clarify the difference between the community hazard mapping project that you refer to and another one, the LiDAR in particular, which was around flooding.

The importance of this is that for these hazard assessments that you were referring to in your question, EMO Community Services was actually the funding agent for that project. Funding flowed through our department, but in fact the lead was actually Yukon College. Yukon College worked with communities — actually a number of partners — First Nation partners, municipal partners, the Climate Change Secretariat and others — to identify which communities that work was going to be done in. It was a finite project. There was a funding pot and those projects were identified and done. They are now — and I'm not sure at what point in time, but my understanding is that, as soon as those were done, they were actually put on the Yukon College website and are currently available on that website. So they were available through that process.

The focus there was on permafrost, flooding and there were a number of areas that that focused on. There are four other projects that I was going to mention. One of them is the Yukon flood plain risk mapping project. This was a LiDAR-based project where it mapped out gradients to understand flooding risks in all communities, and that was done across the territory — 13 communities across the territory — flooding being a very significant risk, probably secondary to wildland fire, but certainly important in many of our communities.

That one, I believe, there was some communication around — it's a very technical report. Water Resources branch uses it — other experts use it. We haven't shared that publicly, although we could. It is more of a — it feeds into consultants, engineers and others for when we are looking at developing infrastructure, subdivision development — those sorts of things. This isn't available publicly and we think maybe there was some confusion there, because certainly the hazard mapping is available publicly and it is right now on the Yukon government website.

Your point is also well-made — the Auditor General's point — that all communities need this support. We couldn't agree more. That project was finite — the funding pot — and those communities were done. We continue to support work with communities on this. I mentioned the LiDAR project.

We also have done a Yukon hazard and risk vulnerability assessment, which was funded through the Canadian Safety and Security program, the Yukon operational flood forecasting system study and a hazard risk vulnerability assessment around floods. There are four other studies that have happened within the last several years to work with communities, and that's certainly a priority. We have never seen the work that was done on this hazard mapping as being the be-all and end-all. It was a project and it was done and that funding was spent out, but we look to continue to working with communities at all times.

I have a list in front of me here. We actually have emergency plans for all municipalities across the territory. We have an ongoing project working with First Nations to support

some of them. There are different statuses; some of them have pretty up-to-date, workable emergency plans; others we're working with actively to develop those.

With those plans, we take an all-hazard approach. We're looking at what happens in an emergency in a community, which are important agencies we need to partner with, and what kind of lines of communication are available or not available. When we're working on a community plan, it's more that kind of approach — if there's an emergency of any sort, how do we, as a first-response agency, get people the help they need and bring the resources together to deal with that emergency, should it happen?

**Ms. White:** Just for clarification, my understanding was that, with the hazard mapping that was done through Yukon College, it was done around municipalities and it was for them to future plan. It highlighted in the community where the permafrost zones were, where the low-lying spots were, and so, to me, not necessarily the same as emergency preparedness. It was very different.

Just to build on what Mr. Adel said, one of the reasons why the hazard mapping that was done through the college was so valuable to those communities is that, when they were doing their community plans, they were able to look and say that this land right now may look good, but we know that the permafrost is only 35 centimetres down and, at the rate we're melting, this may not be what you're looking for. One of the reasons why that hazard mapping, when we look at the Yukon College website and we see what it does, and then talk to municipalities, especially through the AYC, and find out that, for the municipalities that had access to that — it really helped them with their community plans.

Now I understand that the funding went through the college to do that, but would there be an opportunity for the communities that didn't have that done to request that kind of assistance to build those maps for their own future planning processes?

**Mr. Moore:** Let me just read — the communities where these mapping projects happened were Mayo, Dawson City, Faro, Ross River, Pelly Crossing, Burwash Landing, Destruction Bay and Old Crow — a bit of a mix of municipalities and unincorporated communities. It doesn't change the question; I think it's very valid.

We would happily support that kind of initiative, given funding sources and capacity to do it. Over the course of the audit and this coming to light, we have done some work on the decision-making process for these communities to be chosen over others. We're not entirely clear; we're going back in time a little bit, but one of the biggest parts was active partners — who was most keen on getting it done?

Should other partnerships come in, we would certainly be more than happy to work with them to try to identify money, if the capacity is there. I would want to point out that the LiDAR, which is particularly important around flooding, and the work that Mr. Berry talked about earlier around wildland fire — we're filling in some of those gaps. The wildland fire risk assessment methodology is going to help us on a community-by-community basis, which is more than what

was done on those hazard mapping exercises. The LiDAR work did identify a lot of the topological hydro features that fed into that around flooding.

So we have filled in some of the gaps there. That said, we would be more than happy to work with communities. Some communities are really keen to do that.

**Ms. White:** Thank you, Mr. Chair, and thanks for the answer. Again, it's just that they were very different. I understand the difference between mapping out the floodplains and the fire risks, but I think that Teslin, Watson Lake and Carcross were the last big three that weren't mentioned, especially with Carcross working on developing their community plan. Watson Lake is continuously trying to find ways to grow. I'll just put in a pitch to those guys that they should contact you.

I do appreciate that they're different and I do appreciate now, when we look at the numbers of maps, that they now are very complex, which is great. It gives more information, which is helpful on all sides. The ones I was referring to were definitely used for community planning, so thank you.

**Mr. Adel:** I would just like to thank everybody for being here today and answering questions to the best of your abilities. I know the PAC will be looking for more answers down the road, as we send you more questions and follow up. Thank you very much.

**Mr. Istchenko:** The recommendation in paragraph 55 says: "The Department of Environment; the Department of Energy, Mines and Resources; and the Department of Community Services should complete their work to carry out concrete actions in a timely manner to adapt to the impacts of climate change. This work could include, but is not limited to, implementing recommendations from reports, making information available to decision makers, and explicitly incorporating climate change into directives, processes, and policies so that they are integrated into decision making."

The departments agreed with this recommendation and said: "The Department of Environment; the Department of Energy, Mines and Resources; and the Department of Community Services will carry out concrete actions in a timely manner. It is envisioned that the new 2019 Yukon strategy for climate change, energy, and green economy will include milestones and target completion dates to support decision making. Where appropriate, recommendations from reports..." — key words being "from reports" — "... will be included in directives, processes, and policies."

I have five questions and, with each question, I would like each department in turn to answer the question. My first question is: What progress have you made on work to carry out concrete actions?

**Mr. MacGillivray:** This is one of the objectives through the development of the new strategy, as we have said. In the interim, we are trying to incorporate this into projects that we have. Within the Climate Change Secretariat, we're primarily the coordinator. We play a secretariat function, but we do have some INAC monies that are flowing to us now for adaptation projects, and we are incorporating those principles into those projects as we deliver on them.

**Mr. Mills:** In addition, I won't repeat some of the things we're doing with regard to forestry, but I think it is important to highlight some of the concrete actions that we are undertaking. As a regulator, we recognize and include climate change considerations in our project permitting and licensing processes.

With our local resource industries, we participate in YESAA assessments and under those assessments, resource projects are also assessed on how they propose to mitigate and adapt to climate change. The environmental assessment is done through YESA. The Yukon environmental and socio-economic assessment considers how the project emissions could contribute to climate change and its effects as well, so we feed into those assessments.

On the mining side, when major mine projects are under government review, we assess how the project's infrastructure could be impacted. We also can propose project adaptations and mitigations to manage the risk. I spoke earlier about the fact that we very much play a key role — along with, of course, our colleagues from the Department of Environment — when we are doing our submissions to ensure that mine site infrastructure and the way it is designed does in fact take into consideration what, at one point, seemed unlikely events but seem much more common now — the one-in-100, the one-in-two, the one-in-500 sort of events — based on the risk of — if you hit those events, what is the potential risk to the environment or to public health and safety?

Just even on a recent one, just to flag it — the Kudz Ze Kayah project, or the BMC project. I know that the company did provide some detail on how they were addressing climate change, but ultimately the executive committee did request that they provide more information, partly based on comments from us as well as from Environment and other parties, related to the hydrological flow regimes. They are related to a number of factors, even including changes to the range of the Finlayson herd due to changes in snow conditions, which are climate-driven changes.

We are continuing to play an active role in looking at and ensuring that resource development projects, as they proceed, are done — that we are considering all of these effects.

We are also working with communities, and there was just discussion about the hazard mapping projects and the role of our Yukon Geological Survey, along with Community Services, academics, Yukon College and local communities. All recent local area plans that have been developed consider the impacts of climate change, as I mentioned earlier. Local area plans include climate change policies that are appropriate for rural Yukon communities, such as promoting agricultural development, local food markets and other things with an attempt to reduce such things — when we think of our local food strategy — reducing the emissions that go with the transportation of goods from the south by replacing it with local and healthy sources.

A few other things — our Agriculture branch, as I mentioned, does provide climate change modelling in relation to soil, water and crops, as well as permafrost analysis on land applications. We also provide agriculture funding to support

environmental stewardship, including the adoption of energy-efficiency and water-efficiency upgrades with regard to agriculture. There are other reviews.

Across the board and, of course, with our energy programs as well — and I touched on some of those earlier — those are some of what we believe are concrete actions that started with these policies coming into place. Some of these programs have been in place for a few years. We continue to put concrete actions in these.

**Mr. Pitfield:** Of the 70 commitments, we had 18. I will go through them at a certain level, and if you want me to drill down, I would be happy to. The first one is that we were to complete a Yukon infrastructure risk and vulnerability assessment. As I mentioned earlier, we will shortly be completing a permafrost assessment of buildings affected. As well, we have completed an assessment of 282 of our larger buildings from a condition point of view that gives us a planning tool, if you want, for what we do going forward.

Government-funded commercial and institutional construction and renovation will meet or exceed LEED, which is an energy-efficiency standard. We are actually now using the National Building Code, and so we are above LEED and are doing better than the National Building Code itself by 25 percent.

Incorporate environmental performance considerations in procurement decisions — so this is the green procurement policy. We use this actively. We will be looking at it as we renew the strategy going forward to see what else we can do and how we can better make it part of day-to-day actions. This is a behavioural change that we will be trying to effect.

Conduct an energy analysis of all Yukon government buildings and complete energy savings retrofits — we have made great progress here. We have a system that we are using that actually tracks all of the energy from a dollars-and-cents point of view, and also from an energy-fuels-source point of view for all of our major buildings. In addition, we have completed a significant number of energy-efficiency upgrades, which generate considerable savings and reduce greenhouse gas emissions, and those will continue as technology improves.

We are to reduce emissions in the transportation sector by 10 percent. There is more work to be done here. We haven't achieved this. We have improved in this. By 2020, we are to meet 20 percent of government building space heating requirements with clean energy sources. Again, we are making progress on this but we haven't achieved it yet. By 2050, we are to reduce emissions from Yukon government light fleet operations by five percent. We don't have the data for this, but we have continuously been upgrading the fleet of light vehicles and fuel efficiency is the greatest determinant of what product we buy. Again, there is more work to do here but we have made progress.

Consider fuel efficiency in vehicle replacement decisions — we do that in every case.

Develop a performance audit program for suspected problem buildings and develop a plan to improve the energy performance of these buildings. This is ongoing. We do this. I

can give you several examples of buildings where we have projects that are planned and will generate significant savings, if you wish.

In cooperation with the federal Department of Natural Resources, educate commercial fleet operators and drivers on driving techniques, et cetera — we have done that and it is completed.

Improve energy efficiency and reduce the greenhouse gas emissions of the light vehicle fleet — this was a 2012 priority action. We continue to work at that.

Develop an information campaign targeting Government of Yukon staff to increase energy literacy and reduce energy use in government buildings — this is an ongoing training requirement. I think there is room here to do more, and we will be looking to do more.

Use road-construction methods designed to preserve permafrost on the Yukon highways — we actually have significant experience managing permafrost in Yukon. It continues to be a challenge and, as climate change — if I can say it — gets worse, this is an area where we are spending more and more of our time. To the extent possible, we are mitigating impacts of permafrost on both our roadways and our buildings. It's very difficult, as you appreciate.

Accelerated replacement of old vehicles with more fuel-efficient vehicles — we do this on an ongoing basis and actually, in 2015-16, tripled the budget that went toward this, which would have made the fleet at that time younger than otherwise.

Install fleet management information systems in select heavy- and medium-duty Government of Yukon equipment as a pilot project — this is happening right now. This system is being implemented right now right across the fleet at the heavier-vehicle end. It will generate significant efficiency savings, including fuel and that kind of thing, but it will also make the operators safer, so safety is another benefit.

Develop a building construction best practices manual of Yukon-appropriate energy efficient measures for government buildings — this is underway and will be completed this spring. We introduced a secondary sales program in four government buildings to optimize the use of hydro-generation during low-use periods. This was completed in the winter of 2017-18. I don't have any further information on that.

Transfer budgets and billing for utility payments to departments and agencies as an incentive — this is in progress. We do have the data; we can make the transfer. From an administrative point of view, my question as a new deputy would be: Does this make sense? It relies on the behaviour of occupants to generate savings, so there is a significant benefit to doing that.

I'll stop there, Mr. Chair.

**Mr. Moore:** I have already mentioned a number of things that Community Services has been working on, and I too don't want to be repetitive, so I'll go high-level, and if there's anything else — any specifics — I'm open to those questions.

I'll start with infrastructure development. We talked quite a bit about our work around managing the federal programs,

but I would like to talk a little bit about how the process works when we're developing or project managing specific projects in communities.

Our team would work very closely with project engineers. They would use some of the tools we have already talked about — the hazard assessment maps, the LiDAR reporting — so it's very much integrated into our project-by-project planning. That would include things like — as I mentioned — flooding, erosion, drainage control and those sorts of things.

We also have to work very closely with local governments and First Nations. We have done that in large part through talking about the integrated community sustainability plans. We do support them in the OCPs and the developing of OCPs and reviewing of those with an eye to sustainable development. That has always been a big part of the lens that we have looked at, and of course, it is becoming more into focus as we start looking at the impacts of climate change.

An example I use for how we integrate some of those changing considerations is in Whistle Bend. The Land Development branch in Community Services has been overseeing that project. We have focused on a storm-water drainage system there and overall flow management, which probably is beyond what we would have done 10 years ago, taking into consideration some of the concerns around climate change.

That has been a very significant change, and it has made that community much more resilient to extreme weather, such as flash floods. Another example would be — I mentioned the new drinking-water treatment facility in Dawson; fire halls — we have built a number of fire halls in the last few years and water plants, and they're all built to post-disaster standards, making sure that communities have buildings that are able to withstand earthquakes and other events, to provide safe places in communities, should a disaster happen.

In Dawson, we are designing the new drinking-water facility to these standards, and that means laying concrete foundations that are designed to withstand flooding and taking considerations with the building layout how sensitive equipment is placed and those sorts of things.

It is really being operationalized as we start planning any of these new developments.

With respect to the geotechnical components of that particular project, all those studies were referenced and we're actually backfilling below the foundation with non-frost-susceptible materials, and we're including the installation of backup generators to run the facility in the event of power outages.

The message I'm trying to deliver is that we really have operationalized, or normalized, some of this in our planning as we go forward so we're ready to respond and manage if climate change impacts continue to be felt and to be able to predict them as best as we can at this point in time.

I mentioned already around emergency preparedness that we have changed the length of our contracts related to fighting wildland fire. We're bringing them in earlier, because that has been our experience over the last number of years, that forest

fire season is happening earlier. We have also brought in some additional crew resources to be prepared for increased severity, which some of the modelling is suggesting that will happen in the Yukon.

Interestingly, some of the modelling is predicting that we'll see increased precipitation — so what kind of impact that would have on our fire season. We're continuing to study that, but part of this issue is being able to understand those variable factors.

In Community Services, we talked a little bit about landscape management. A colleague at EMR talked about that. It's certainly a factor for us. One component of that is the FireSmart program, which we have continued to run. FireSmart is very important and we look at that as a model for where we would like to go, as we consider landscape management and the importance of landscape management down the road. It is really the best proactive tool that we have at our disposal.

So far, we have invested \$15 million in over 500 FireSmart projects across the territory. In 2017-18, for example, 30 projects were funded, totalling \$850,000.

The last thing I will mention, although I have kind of touched on this, is the National Building Code — another very significant work we do not only around — we talked about the GHG reduction components of that, but also parts of it have to do with adaptation — increased snow loads, windage and those sorts of things are being considered as codes are being developed down the road.

We'll leave it at that, if there are any further questions.

**Ms. White:** Just to follow up, Mr. Pitfield, on something you said about reducing emissions within the transportation sector — so you said that you were replacing vehicles with better gas mileage. At this point in time, how many electric vehicles or hybrid electric vehicles does Highways and Public Works have, for example, in the fleet vehicle section?

**Mr. Pitfield:** We have one and we're running a pilot. The issue in the Yukon with these is batteries, of course.

**Ms. White:** Absolutely. Historically, of course, we've heard the stories about the batteries, although we have also heard quite a few success stories. An example would be the Mount Lorne transfer station. They just put in their first electric car charging solely from solar. So I appreciate that there's a pilot project right now with one electric vehicle, but I would definitely urge the deputy minister to consider maybe expanding that as technology — my new hero is Tony Seba. He is a future planner and he talks about how we're getting to the point where the disruption in technology and demand will change and those advancements will happen.

My hope is, when we talk about reducing our emissions in the transportation sector, that we recognize that — Tesla, for example, has just come out with their first electric transport truck. I have gone from heating by oil to an air-source heat pump. I think that there are options, and technology is definitely one of those ones, but there have to be early adaptors in order to help make that push. My hope is that, when you look at reducing those emissions in

transportation, you go farther. I will support the minister in going farther.

I just wanted to know how many electric cars you had.

**Mr. Istchenko:** Continuing on with the line of questioning, it was great for the departments and the witnesses here to highlight some of the actions that you are taking. I know there are a lot of actions that have been going on, and they are important actions.

One thing I would like to ask department now is: Now that you have undergone a lot of these different actions — some of them are complete, and some of them are a work in progress — and you measure the effectiveness of these actions with regard to climate change, how will you measure them and how will you report on those?

**Mr. MacGillivray:** As a secretariat, as I said previously, we are responsible really for coordinating, collaborating and providing that secretariat function. One of the things that we have done and we will continue to do is to help government set a standard and to try to ensure that we have folks following that standard. As we've said before, this will happen over the next 18 months with the development of this strategy.

We're also feeding into, though, the national — so through us, we feed the Yukon government data up into the national processes as well. That's primarily our job.

**Mr. Mills:** We continue to report on certain program areas within our departments, such as our Energy branch, on annual reporting that gets tabled in the Assembly and we are able to look at the costs, the expenditures, how many people participated in these programs, the reduction in greenhouse gas emissions as a result of that.

I think that, as we move forward and we develop the strategy, the missing link is setting the target, of which we are trying to determine the efficient use of those resources — and is it getting us toward a target that is being set by the government. This is part of our process of rolling this up. I know the Auditor General's recommendations are absolute, but these strategies do need to have these sorts of goals that we need to establish and then measure our success against. We'll continue to report on that over this interim period. We'll continue to do the work that we're doing with our Forestry branch and other ones in health of the forest or delivering out of these programs. But again, we do need to work with our partners and come up with real milestones, goals and timelines and look at the effective use of resources.

The other thing I would note is the challenge — and when you look at all the recommendations that came out and we look at our report card about what we completed and what's ongoing — we need to improve the nature of the recommendations because some of them, for example, say to continue to implement energy efficiency programs. There is no end date. There is no real goal that you're looking at. It's ongoing, so you can say we didn't complete it but there is no completion on it. When I look through a lot of the things where it simply shows it as ongoing or incomplete, it's because these programs don't really — the objective in here doesn't actually set out a goal of what we're trying to achieve

through the delivery of these programs — continue to educate. Things like that aren't necessarily action-oriented or don't set what we want to strive for.

**Mr. Pitfield:** We already have rich data on the building side and we'll continue to be able to report against that. On the transportation side, as you've heard, we are getting better and better at what we're doing and, as technology improves, our data will improve as well.

The other area of influence that we can contribute efforts to is in procurement, so here we can influence government behaviour. We can influence what is actually purchased so, if we wanted green cars, that is a way of influencing that. We can also influence the behaviour of the private sector through our requirements. This is more amorphous to measure. It is more difficult, but I think that as we're able to, under the next strategy, be more sophisticated with what we're doing here, we'll be able to provide better data as well. That's all I have to say.

**Mr. Moore:** There's a bit of a theme here. I was going to say that Community Services is a very operational department. We help people build stuff through the National Building Code and we coordinate and plan emergency responses. It's hard to put tangible measures on some of that, although we do agree and we're going to work hard as we move into the 2018 strategy to develop targets that are measureable, because it is useful. We're working on — frankly across the board — improving how we evaluate our programs and services. I think it is a very important for government to do across the board, not just on climate change. We do want to find some targets, and that will see that conversation happening as we work through the strategy.

There are some specifics that we can talk about. I did mention that we'll have very defined reporting mechanisms as we spend the money in the ICIP program. Canada will — we haven't seen it yet, but we understand there will be templates and measurements, so that part of our programming will have targets and we're working with Canada on that.

The second one that I would mention is that we have a lot of data around wildland fire, and we are working with our counterparts across the country at CIFFC. They are actually working on developing some benchmarks, data and reporting that will help track and measure things. We have a lot of information under wildland fire, but it is really important to share that and learn across the country as we learn and make that program more effective. We're working with them to develop those targets.

**Mr. Istchenko:** I thank the witnesses for those answers. I understand that, with the concrete actions and with measuring the effectiveness, baseline data is key to that. My next question is: What baseline information is in place, and is there further baseline work that is needed?

**Mr. MacGillivray:** I think we mentioned previously the *National Inventory Report* — it was noted in the audit. We believe the inventory report that Canada produces is underreporting greenhouse gas emissions here in the Yukon. There has been a lot of effort that has gone into that, to be honest with you, over the past several years, and we have just

recently had a revision to that, which Canada is out consulting on currently. That is part of what the baseline is requiring — just good reporting. We're trying to make sure that jurisdictions are reporting in a like manner as well, so this can be rolled up into meeting our national commitments. That is another area that we're focusing on.

As I have said, we have actually taken a step in the past of going one step further with the carbon registry that we had participated in. Again, this allows us to get an independent audit of the actual numbers that we're reporting on, on an annual basis. We're one of the only jurisdictions in Canada that actually uses a registry in that manner and that actually uses it to report as well. That is some of the work that has been done.

There is a whole lot of work that now that is happening, like I said, around best practices across the country. We'll be talking a lot about what data we have in the territory, what we can report on and where we need to be putting additional resources to get new data.

**Mr. Mills:** In the information we have, there is the energy state-of-play report that was developed and is part of some of the baseline information as we move forward with our partners in relation to developing this policy, so that has been referenced earlier. There is one state-of-play report in relation to climate change. We have one in relation to energy as well. We definitely have information related to energy use — some of the effectiveness of the programs, where we're at through our annual reporting that we do through our Energy branch.

With regard to land and geology, for example, we have fairly extensive information related to geology in the Yukon. We continue, through these hazard mapping projects, to develop additional information related to communities, but there is still more — it was pointed out by one of the members of the Committee that there are communities that also need additional work done.

With regard to our future and if geothermal fits within the future, we do have a well and a monitoring program in the Hot Springs Road area that is starting to collect some key information that helps to provide some more verification to some of the CanGEA and our Geological Surveys mapping work that was done throughout the Yukon to identify geothermal potential.

That's important baseline data for us as to whether or not there are opportunities around geothermal for either displacing on heating or even potential power generation. We're looking at another project with our partners in Ross River over the next month to do some additional monitoring work with regard to that potential in the Ross River area.

There is this information that is there, but definitely more information will have to be collected. I would assume, as you enter into this process with the partners and you talk to different players and stakeholders, that we'll probably identify other information gaps that are necessary to develop baseline data so that we can have something to measure against. I think that would come out through this exercise as we develop the strategy, and whether that input comes from government or

First Nations or the other partners, or with industry — there are a lot of holders of this information.

I thought I would share that, Mr. Chair.

**Mr. Pitfield:** Our baseline data comes in three forms. On fleet vehicles and heavy equipment, we have emissions data as well as fuel usage that we can contribute. Energy use in buildings — I have talked about this before. We have a massive database of this information, and it has all the information for major buildings in the Yukon government going back to 2010. I don't know of another jurisdiction that can talk about their portfolio that way.

We also have data in terms of building conditions that indirectly leads to energy usage and greenhouse gas emissions.

We may be able to contribute more on the adaptation side of these issues. I mentioned earlier culvert sizing. That happens more and more as watersheds change and flows increase. We also have much to contribute in terms of permafrost, and that's an evolving story. Going forward, we'll be able to contribute more.

Two of these areas — vehicles and energies in buildings — those are two of the biggest contributors to the whole issue of climate change. By having good data, we will enable the strategy to come out.

**Mr. Moore:** We definitely have availed ourselves of much of the data that's out there already. We have already heard some of it around the flooding history — and that's held by Water Resources — and precipitation measurements and permafrost that my colleague at HPW has worked on. We avail ourselves of that and that data is very important to us.

I mentioned some of the work that we're doing with our colleagues in wildland fire through CIFFC, so I won't go into that anymore. One of the things that I think is really important and that I haven't mentioned yet is around asset management. Community Services is leading an initiative to develop asset management capacity across the territory, so we have worked with municipalities and First Nations. They have all received funding within the last year to develop an asset management database and an understanding of how data asset management can really help them in their communities. That was up to \$40,000 that came through to the Yukon government as part of the northern strategy funding envelope.

We developed a community of practice and, even just last week, we had a workshop where we had First Nation and municipality infrastructure or capital-type managers learning about the importance of asset management. I mention that because it ties into the question directly. I talked about the Dawson in-ground water and sewer installations that are happening. That has only been 15 years since those were installed in Dawson on Fifth Avenue.

In Haines Junction last year, there were 14 or 15 breaks in the in-ground services. I do think we need to particularly understand our in-ground services better, and that's what that asset management project is going to give us. It's going to give us a better understanding and help us as we plan forward. As a gap, it's there, and I think we have an approach through

that asset management process to help us better understand and plan for replacement over time.

**Mr. Adel:** I just have a quick question for HPW. The last time we were here at a public meeting, before you were here, Mr. Pitfield, they were talking about data verification on the assessment they did with the buildings and that it had sat dormant for so long on understanding what the building energy and all the other things were doing because the information wasn't verified. Has that been done since?

**Mr. Pitfield:** I'm told that is complete and we're using it for budgeting purposes.

**Mr. Istchenko:** I thank the witnesses. I know the line of questioning this morning — that a lot of that stuff you're repeating now and have gone through on some of the actions. We have heard a lot of them, and I thank you for that. I asked earlier about measuring the effectiveness of these actions in regard to climate change, and then, of course, baseline data stuff. What I am wondering now is: With all this work and all this planning, how is that going to be used to inform decision-making and then policy-making as you move forward?

**Mr. MacGillivray:** I guess that really is the challenge for us going forward — collecting information that will help us inform decision-making and policy-making. This is part of what we're going to try to build into the climate change strategy that we're working on with energy and green economy as well. That really is what this is about — bringing our partners together and working to ensure that the strategy gives us tangible ways to actually implement and incorporate this into the work that we do going forward.

The secretariat is involved in that realm, and it is work underway at this point in time.

**Mr. Mills:** I thank you for the question. I'm just trying to think of — to me, we are continuing to deliver what we think are good programs. We will continue to do the inventory work with regard to forestry. We will continue to deliver the programs related to — whether they're residential, commercial, retrofit programs — things like this.

To me, it's a point of continuing to deliver what we believe is working well, but also looking forward to development of a strategy that allows us to determine whether or not there are elements of our programming that it's time to shut down, whether there are some areas that we need to put additional resources toward — but with us working with the other departments toward specific goals that are Yukon-wide.

So I'm not sure if I'm answering the question, but I just feel like this isn't — it's not that we're saying the strategy is just sort of out there to reach — kind of working toward — or that it's a buzzword or anything. This is essential for us to ensure that we are allocating the necessary and appropriate resources to things that we need to do in Yukon with regard to whether it is adaption or real efforts in reducing our greenhouse gas emissions. So we're in a bit of a transition period here. We still have some ongoing program. We also have some commitments that we continue to address. We look forward to coming up with what I think will be a new strategy and a new vision that will assist in making good decisions at a department level, but also at a Yukon-wide level.

**Mr. Pitfield:** We definitely will use this now and we do use it now. We'll use it going forward in terms of our capital planning. It's a consideration in terms of our functional planning. We definitely use it for any building project — or building-related — and less so in terms of roads in highways. It is a consideration in our procurement policy development.

I guess, stepping back from this, it's a consideration in all of our business decisions. However, there are other significant drivers that go along with that — the needs of citizens, the costs, the budgets that we're looking at, the priority of projects and conditions of assets and all this kind of thing. So this is one significant driver and there is a handful of significant ones.

**Mr. Moore:** The first thing that came to mind with the question was around the infrastructure program — what types of infrastructure projects are selected and prioritized? In part, that would be to meet the reporting on that 10-megatonne reduction of GHGs, but equally important is focusing on how we build resilient communities across the territory. How do we make sure that when emergencies happen, the infrastructure resources are there to help communities deal with that?

With respect to wildland fire, it already very much informs what we do on a year-to-year basis. I've already alluded to much of that — when we tender contracts, what kind of contracts we're tendering, how we choose to export crews or not, depending on what and where fires are, what part of the season it is — landscape fire management decisions — where are our big fuel loads? Those sorts of questions — to all be informed as we start developing that landscape management capacity.

With respect to the National Building Code — as we continue to adopt the best practices that are encapsulated in that code — so how buildings are constructed across the territory, or be informed as we learn more and that data becomes more available. It certainly informs the emergency planning we do. I mean, we have always and we will continue to do emergency planning — that all-hazard approach — but certainly, it will be effected by our growing understanding of emergencies — where, when — those sorts of things.

**Mr. Istchenko:** Just one final quick question — I do want to thank you for the answers. I think we have just about most of what I needed to hear today and what the committee needed here today. So my final question for you would be: Are the four departments confident that what they've said in the House here today — that within six months from this date — because we know that we can't just wait for the 2019 strategy — and just a yes or no answer: Are you confident that you will be where you want to be?

**Chair:** He said it's simple — yes or no.

**Mr. MacGillivray:** I think that we're going to be on a path. I don't think we will have reached the destination.

**Mr. Mills:** Yes, Mr. Chair.

**Mr. Pitfield:** Yes.

**Hon. Ms. McPhee:** Thank you, Mr. Chair, and thank you to the Committee for the opportunity to be here, and thank

you to all of the witnesses and to the Auditor General and the officers who are here today.

Some of the questions and responses have already touched on some of my questions today, but my questions are quite specific about greenhouse gas emissions and the targets. So I think we'll just go back there for just a few minutes.

In the report, in paragraph 56, it says: "The reduction of greenhouse gas emissions requires estimation of emission levels, tracking of these levels over time, forecasting of future levels, and setting and achieving targets."

It goes on to say in paragraph 57: "The National Inventory Report, produced by Environment and Climate Change Canada, contains Canada's annual estimates of greenhouse gas emissions dating back to 1990. Officials at the Climate Change Secretariat told us that the Government of Yukon determined, on the basis of analysis, that the National Inventory Report underestimated Yukon's emission levels." We have heard a little bit about that today. "Consequently, the Government of Yukon calculated its own estimates of greenhouse gas emissions, primarily from fuel consumption for transportation, heating, and electricity generation between 2009 and 2015. These estimates differed from those in the National Inventory Report."

My first question with respect to that is for the Climate Change Secretariat, and maybe the next couple are as well. How do we arrive at the correct information about greenhouse gas emissions? Said another way, how should we resolve this conflict between what the Yukon is clearly estimating as possible greenhouse gas emissions and targets and what the national body has said?

**Mr. MacGillivray:** That's a good question. I think we have been working collaboratively with Environment Canada and with Statistics Canada, and we have now brought our Bureau of Statistics in as well. We have managed to show the federal government that there are fuels coming into the territory that they are missing. They have acknowledged that, and now it's just a matter of how we get to the solution.

As I said, about two weeks ago, Environment Canada came out with some new emissions data. It has really narrowed the gap. What it has done is that it has almost removed the gap — five years back. So they have been working retrospectively. The gap is very small for 2010, 2011 and 2012, but for 2013 and 2014 — or I may be wrong — it is 2014 and 2015 — the gap gets larger again. To be honest, we have just received these, we are analyzing, and we are trying to figure this out. We have a willing partner in the federal government to try to correct his, and I think we are on the right path.

**Hon. Ms. McPhee:** Again, my questions are quite specific — but is the Yukon now measuring greenhouse gas emissions consistent with the methodology that is used in the *National Inventory Report*. I appreciate that you have said that targets are getting a little closer by virtue of analysis that has been affected by the Yukon's contribution, but are we using the same tools?

**Mr. MacGillivray:** The short answer is no, but I think I am going to ask Ms. Burrows to respond a little bit more.

**Ms. Burrows:** We undertook a study in 2015 that was meant to look just at transportation, so we had a contractor undertake that work. They ended up undertaking an economy-wide look at fuel use and then looking at greenhouse gas emissions across the territory. That is where we understood where the *National Inventory Report* was different from the data that was available in the territory. That is how we understood that the *National Inventory Report* was underreporting for us. So no, we are not using the same methodology because we are using fuel tax data from the Department of Finance and with support from the Yukon Bureau of Statistics and converting that fuel use data using conversions to greenhouse gas emissions.

What I can say is that, as was mentioned, we just got updated data from the *National Inventory Report* about two weeks ago, and they have managed to make improvements, so it's not as big a discrepancy as it has been, because they are starting to use the fuel tax data that we have been using for our calculations. We are not using the exact same methodology, but we are definitely on the right path for what we are doing to calculate our emissions and it is actually being used by the federal government now.

**Hon. Ms. McPhee:** Thank you for that. It helps to explain some of where we are going. I do think we need to be using the same measuring sticks — or at least something that is convertible so that we are able to understand it.

In paragraph 59 of the report, it says: "Setting and achieving targets is essential to the reduction of greenhouse gas emission levels. We found that the Government of Yukon forecasted greenhouse gas emissions for 2010 to 2027. However, because it could not accurately predict population, level of industrial activity, and economic growth, the Government of Yukon determined that it could not set a territory-wide target to reduce greenhouse gas emission levels."

My question as a result of that is — presumably these factors are somewhat unpredictable in other jurisdictions as well, so what is the government doing with respect to that comment by the Auditor General? How will Yukon reduce its greenhouse gas emissions if the government believes that it can't set territory-wide targets, or even targets that are not necessarily territory-wide for greenhouse gas emissions? How are we going to tackle that problem?

**Mr. MacGillivray:** This has been a conundrum that has been around for a long time with a small jurisdiction and small population, developing economy and heavy reliance, really, on the mining sector. When we get a new mine that opens, it changes our emissions profiles enormously, it has impacts on the population, and it has impacts across the board. This is one that we struggle with. In part, that's why we ended up with sector-specific targets under the previous strategies. It at least allowed us to isolate the mining sector and we could be making progress in other areas, and then when a new mine came on and our numbers went through the roof, and then a mine shut down and our numbers went through the floor — things that were really out of our control to a large degree could be more isolated.

As far as the answer going forward, that's something that we and our partners will be working on through the development of the strategy. It is a tough question — knowing where the territory is going to be in 10 years' time.

**Hon. Ms. McPhee:** I have one more quote for you. I think it sets the tone of the question. I will make reference to paragraph 61: "We found that according to information provided by the Climate Change Secretariat, of the 12 targets to reduce greenhouse gas emissions,

"2 of the 4 targets had been met ahead of their 2020 completion dates;

"4 targets had not been met, and of these, 1 was not measurable; and

"4 targets could not be measured because data was not yet available.

"For 1 of the 4 targets that could not be measured because of unavailable data, the 2010 baseline information was still not available. In our opinion, this situation was not acceptable."

I have a couple of questions about that. There continued to be targets for which there is no data available?

**Mr. MacGillivray:** We have the 12 targets that were identified through the course of the three different strategy-setting or progress reports. Whether or not there is data — we have had data issues. What happened was that we set 2010 as the baseline. Our data collection improved and we had a hard time rebasing back to 2010, and so I think the short answer is that there are probably targets that we have a hard time coming up with an apples-to-apples comparison. Those were Yukon government-specific targets that we're talking about.

**Hon. Ms. McPhee:** My follow-up question from that then would be: If there is still 2010 baseline information that is not available, for let's say one of the targets or any of the targets, why is that the case? Is there not some way to resolve that?

**Mr. MacGillivray:** What has happened is, because of the data improvements that have been made over the course of time, it is now a matter of, is it worth the time and resources to go back and to recalculate 2010? It actually means some new data-gathering. Given the limited resources that we have, is that really where we want to be spending our time — going back and collecting new information for 2010 so that we can actually make it comparable to today?

**Hon. Ms. McPhee:** I didn't hear the last part.

**Chair:** Sorry, Mr. MacGillivray, we missed the last part.

**Mr. MacGillivray:** Sorry; my apologies. It really does come down to setting priorities with limited resources.

**Hon. Ms. McPhee:** My last question would be then: What is the target for which this baseline data was not available? The information seems to be that there was one for which that was not available. What are we talking about there? What is the target?

**Mr. MacGillivray:** I am looking at my notes right now. Perhaps the auditors can help us with that one.

**Ms. Thomas:** Right now, I don't have that information with me, but definitely we can get back with that.

**Mr. MacGillivray:** We did have a hard time reconciling some of the targets with the final numbers at the end of the day in the report and so, yes, that would be helpful.

**Chair:** Before I adjourn this hearing, I would like to make a few remarks on behalf of the Standing Committee on Public Accounts. First of all, I would like to thank all of the witnesses who appeared before the Public Accounts Committee today. I would also like to thank the officials from the Office of the Auditor General of Canada and, of course, Sarah Edwards, our Acting Clerk of the Public Accounts Committee, for all of their help here.

The purpose of the Public Accounts Committee is to ensure accountability for the use of public funds. Public hearings are an important part of this work. The Committee's report on this hearing will be tabled in the Legislative Assembly and we invite those who appeared before the Committee, and other Yukoners as well, to read the report and to communicate to the Committee their reaction to it.

I would also like to add that today's hearing does not necessarily signal the end of the Committee's consideration of the issues raised in the Auditor General's report. The Committee may follow up with a department or with all departments on the implementation of the commitments made and respond to the recommendations of the Auditor General and of the Committee itself. This could, of course, include a follow-up public hearing at some point in the future.

If I could, I would just like to take the opportunity to reiterate with the deputies here today, and for the record in general, that a vital component to these hearings and the process that we undertake as a Committee to address reports from the Auditor General is the completion of the commitments that departments themselves make. The completion of commitments is a priority for this Public Accounts Committee and we will continue to follow up with departments to track progress. Our efforts to follow up will be evident to some of our departments already, as we have begun to reach out and follow up on two previous hearings that took place. Those, of course, were the capital asset management and the government transfer to societies.

With that, again, I would like to just thank everyone for their participation today and all of the help leading up to today and I declare this hearing adjourned.

*The Committee adjourned at 3:06 p.m.*