

# Chapter 1

## Section 1.02

Ministry of the Environment, Conservation and Parks

# Climate Change

Follow-Up on VFM Section 3.02, 2016 Annual Report

### RECOMMENDATION STATUS OVERVIEW

	# of Actions Recommended	Status of Actions Recommended				
		Fully Implemented	In Process of Being Implemented	Little or No Progress	Will Not Be Implemented	No Longer Applicable
Recommendation 1	2			2		
Recommendation 2	2			2		
Recommendation 3	2			1		1
Recommendation 4	1					1
Recommendation 5	3					3
Recommendation 6	2					2
Recommendation 7	1			1		
Recommendation 8	2	1				1
Recommendation 9	2					2
Recommendation 10	1					1
Recommendation 11	3			3		
Recommendation 12	1			1		
Recommendation 13	2	2				
Recommendation 14	2			2		
Recommendation 15	1			1		
Recommendation 16	1			1		
<b>Total</b>	<b>28</b>	<b>3</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>11</b>
<b>%</b>	<b>100</b>	<b>11</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>39</b>

## Overall Conclusion

On July 3, 2018, the Ontario government revoked the cap-and-trade regulations under the *Climate*

*Change Mitigation and Low-carbon Economy Act, 2016* and filed a new regulation (Ontario Regulation 386/18) prohibiting Ontario cap-and-trade participants from purchasing, selling, and trading cap-and-trade allowances. On July 25, 2018, the

Minister of the Environment, Conservation and Parks introduced Bill 4, the *Cap and Trade Cancellation Act* (Act), which received Royal Assent on October 31, 2018. The Act repeals the *Climate Change Mitigation and Low-carbon Economy Act* and winds down the cap-and-trade program. With the change in government and passing of the Act, 39% of the actions we recommended in our *2016 Annual Report* are no longer applicable.

Prior to July 2018, the Ministry of the Environment and Climate Change (now the Ministry of the Environment, Conservation and Parks) had made progress in implementing a number of these recommended actions. Of the remaining recommended actions, as of August 15, 2018, 18% have been fully implemented. For example, the Ministry has fully implemented recommendations relating to incorporating climate change into environmental assessment guidance.

However, the Ministry has made little or no progress on 82% of the remaining recommended actions. For example, since our 2016 report, the Ministry has not reviewed its *2011–2014 Climate Change Adaptation Strategy and Action Plan* (Adaptation Plan) to determine whether any revisions are needed, nor has it publicly reported on the implementation status of all items. The Ministry is currently drafting a new climate change plan relating to both mitigation and adaptation, which is expected to be released in fall 2018.

The government has stated that one of the purposes of the *Cap and Trade Cancellation Act* is to limit the province's vulnerability to litigation related to the cancellation of cap and trade. However, at the time of our follow-up, Tesla Canada filed legal action against the provincial government related to the cancellation of the Electric and Hydrogen Vehicle Incentive Program (a program that was part of the government's climate change action plan), citing it had been unfairly excluded from the wind-down grace period. On August 27, 2018, an Ontario Superior Court Judge ruled in favour of Tesla and required the government to review the wind-down of the program or provide

justification for Tesla's exclusion. On September 11, 2018 a lawsuit was filed on behalf of Greenpeace Canada alleging the government unlawfully failed to engage in public consultations over the cancelling of cap and trade, as required by Ontario's *Environmental Bill of Rights*. Following this, the government posted Bill 4 on the Environmental Registry for a 30-day comment period.

The status of actions taken on each of our recommendations is described in this report.

## Background

Scientific studies indicate increased emissions of greenhouse gases, such as carbon dioxide and methane, from human activities have warmed the Earth's atmosphere and altered climate patterns around the world. The international community has highlighted climate change as an urgent and potentially irreversible threat to humans and the environment, and agreed an international response is required to reduce greenhouse-gas emissions.

The Ministry of the Environment and Climate Change (now the Ministry of the Environment, Conservation and Parks) (the Ministry) had identified climate change as a critical global environmental and economic challenge that will bring increasingly severe weather to Ontario in coming years. The Ministry had a mandate to lead Ontario's efforts to reduce greenhouse gases and adapt to the effects of climate change.

To do this, it had defined emission-reduction targets and introduced policies and programs, one of the most significant of which was a cap-and-trade system that commenced in January 2017. The rules for how cap and trade would operate in Ontario, as well as how cap-and-trade revenues were to be spent, were set out in the *Climate Change Mitigation and Low-carbon Economy Act, 2016* and its regulations. In response to the impacts of climate change, in 2011 the Ministry released its *2011–2014 Climate*

*Change Adaptation Strategy and Action Plan* (Adaptation Plan).

In January 2018, the province linked its cap-and-trade system to existing ones in Quebec and California, which meant that businesses in all three jurisdictions were able to trade allowances with each other. This allowed one jurisdiction to claim an emissions reduction that was achieved in another.

In the four-year period from 2017 to 2020, the Ministry expected to raise about \$8 billion in revenues from the sale of cap-and-trade allowances, and it committed this revenue largely to emission-reduction initiatives. These initiatives are identified in the Climate Change Action Plan that the Ministry released in June 2016.

At the time of our 2016 audit, the Ministry said that Ontario was on track to achieve its target to reduce 2020 emissions by 15% from 1990 levels.

Our 2016 audit found the following:

- It was likely that less than 20% of reductions required to meet the province's 2020 target would be achieved in Ontario: Of the 18.7 megatonnes (Mt) of greenhouse-gas emissions that will have to be cut to achieve the 2020 target, only 3.8 Mt (20%) were expected to be achieved in Ontario. The remaining 80%—about 14.9 Mt—were actually forecast to be reduced in California and/or Quebec, yet Ontario planned to take credit for both its own reduction and this 80% reduction occurring outside of Ontario. We noted that the 2015 Paris Agreement allows one country to claim another's emissions reductions, but only if both federal governments (e.g., Canada and the United States) have formally agreed to such an exchange. At the time of our 2016 audit, no such agreement existed.
- Small reductions in emissions in Ontario were expected to come at a significant cost to Ontario businesses and households. Under the linked cap-and-trade system, Ontario businesses were expected to pay

up to \$466 million by 2020 to Quebec and California for allowances. Based on preliminary estimates by the Ministry in 2015 used to inform program design, that amount could rise to \$2.2 billion by 2030.

- The Ontario Energy Board ruled not to separately disclose the cost of cap and trade on natural gas bills despite stakeholder groups' interest in disclosure.
- Under the linked system, Ontario's cap did not actually control the amount of greenhouse gases that could be emitted in Ontario. Because Ontario chose to link with California and Quebec, Ontario could exceed its own emissions cap if Ontario emitters decided to purchase allowances from Quebec or California.
- No formal agreements or rules were established among the three jurisdictions to prevent a reduction of emissions from being reported in more than one jurisdiction. For example, if an Ontario company buys an allowance from California, that allowance could be reported by the Ontario government as a reduction in Ontario, thereby helping Ontario meet its target. However, California may also count the same reduction toward its target—meaning more reductions overall would be claimed than were actually achieved.
- Based on our review of the Climate Change Action Plan (Action Plan), we noted that the Action Plan contained unrealistic or unsubstantiated assumptions. For example:
  - \$100 million of cap-and-trade revenues was to be used to help natural gas distributors increase their use of biogas, a “renewable” natural gas made from the decomposition of organic materials. The Action Plan indicated this initiative would reduce greenhouse-gas emissions by 1 Mt. However, our review of information from the Biogas Association of Canada indicated that the production capacity

for biogas at the time was insufficient to meet this proposed demand and that the required capacity to achieve the 1 Mt was 500 times more than what was available in 2016.

- Between 2017 and 2020, the Ministry planned to spend up to \$1.32 billion of cap-and-trade revenues to reduce electricity prices, stating this would result in 3 Mt of greenhouse-gas reductions. However, neither the Ministry nor the provincial agency that oversees Ontario's electricity system could show how they arrived at the 3 Mt estimate.

Our other findings included:

- The reduction of greenhouse gases was not an established priority of many ministries, and there was no government-wide process to ensure climate change was adequately considered in decision-making processes.
- The Ministry had taken little action to identify or follow up on key risks Ontario faces from the anticipated future effects of climate change. Although the Ministry issued an Adaptation Plan in 2011 that was to have been fully implemented by 2014, only 30% of the actions set out in the Plan had been completed as of August 2016. Further, the Ministry did not have the authority to require other ministries to complete the actions in the Adaptation Plan.

We made 16 recommendations, consisting of 28 action items, to address our audit findings. We received commitment from the Ministry that it would take action to address our recommendations.

## Status of Actions Taken on Recommendations

We conducted assurance work between April 1, 2018, and August 15, 2018. We obtained written representation from the Ministry of the Environ-

ment, Conservation and Parks (formerly the Ministry of the Environment and Climate Change) that effective October 31, 2018, it has provided us with a complete update of the status of the recommendations we made in the original audit two years ago.

## Recent Global Initiatives May Force Ministry to Refine Targets

### Recommendation 1

*To ensure Ontario's targets are aligned with those of the federal government, the Ministry of the Environment and Climate Change should:*

- *co-ordinate with the federal government regarding impacts of the federal targets on key policies and programs in Ontario;*
- *ensure any process for revising targets considers the impacts on and interests of Ontarians.*

**Status: Little or no progress.**

### Details

In 2007, the Ministry released a climate-change mitigation plan, which contained the following targets for reducing Ontario's annual emissions, using 1990 emissions as a baseline (in 2015, a midterm target for 2030 was added):

- 2014—6% below 1990 levels, estimated to be 171 Mt;
- 2020—15% below 1990 levels, estimated to be 154.7 Mt;
- 2030—37% below 1990 levels, estimated to be 114.7 Mt; and
- 2050—80% below 1990 levels, estimated to be 36.4 Mt.

In October 2016, 192 countries, including Canada, signed the Paris Agreement, which commits them to “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.” At the time of our audit, the Canadian government indicated it would

review its national target. However, to date, the federal government has not revised its targets in light of the 2015 Paris Agreement.

At present, Canada's greenhouse-gas targets are not province-specific, and Ontario's previously legislated 2030 target of 37% below 1990 emission levels was more stringent than the equivalent target based on Canada's 2030 target of 30% below 2005 emission levels. The Ministry had been working with Environment and Climate Change Canada to provide the information required to confirm that Ontario's current climate change approach is aligned with the federal benchmark. In March 2017, the Ministry met with federal representatives in Ottawa to discuss the alignment of Ontario's Climate Change Action Plan and the planned actions in the federal Pan-Canadian Framework on Clean Growth and Climate Change.

Ontario's current targets were enshrined in legislation under the *Climate Change Mitigation and Low-carbon Economy Act, 2016* (Act). However, the *Cap and Trade Cancellation Act* repealed the 2016 Act and Ontario's original greenhouse gas targets. The *Cap and Trade Cancellation Act* states that the government will establish new targets for the reduction of greenhouse gases and a climate change plan. At the time of our follow-up, no new targets or plans had been announced.

## Coal Plants Closing and Recession Main Contributors to Achievement of Ontario's 2014 Reduction Target

### Recommendation 2

To keep Ontarians updated on the status of its efforts to reduce greenhouse gases, the Ministry of the Environment and Climate Change should:

- report at least annually to the public on its overall progress toward meeting its emissions targets;

**Status: Little or no progress.**

### Details

As of the 2007/08 fiscal year, the Ministry committed to report annually on emissions levels and its plans regarding future efforts to cut emissions. However, until 2016, it was under no legal obligation to do so, and it issued no reports in 2011 and 2013. Under the *Climate Change Mitigation and Low-carbon Economy Act, 2016* (Act), the Ministry established the requirement for annual reporting on the status of actions outlined in any climate change plan. These reports were required to be tabled in the legislature and posted on the Ministry's website.

On March 14, 2018, the Ministry released its first progress report under the Act. This report included the province's total emissions in 2015 and the province's forecast emissions reductions for the 2020 and 2030 target.

However, the *Cap and Trade Cancellation Act*, which received Royal Assent on October 31, 2018, repealed the *Climate Change Mitigation and Low-carbon Economy Act, 2016*. The new Act still requires progress reports on climate-change plans, but it does not outline how often the Minister will provide progress reports and what the progress reports will include.

- explain the outcomes of its specific initiatives to reduce emissions.

**Status: Little or no progress.**

### Details

The *Climate Change Mitigation and Low-carbon Economy Act, 2016* required the Minister to describe the status of the actions set out in any climate-change action plan.

The Ministry's 2017 Climate Change Action Plan Progress Report included estimates of reductions to 2050 for initiatives implemented in 2017. The Ministry informed us that when the progress report was developed, information about actual initiative-level emissions reduction was not available for the period between implementation of the Climate Change Action Plan in 2016 and the end of

2017. While not required by legislation, starting in January 2018, the government required ministries to submit reports every six months (for periods ending March 31 and September 30) explaining actual emissions reductions for initiatives funded by cap-and-trade revenues. In April 2018, the Ministry informed us that the information in these reports would be incorporated in the next annual report expected in March 2019.

The *Cap and Trade Cancellation Act* removed the requirement to report on climate change “actions.” Neither the 2016 Act nor current Act require the Minister to quantify the reductions achieved by individual initiatives (as opposed to collective greenhouse-gas reductions from actions). This makes it difficult for the government and public to evaluate the outcome of those initiatives.

We continue to believe the Ministry should report at least annually to the public on its overall progress toward meeting the province’s emissions targets, as well as the outcome of individual initiatives to reduce emissions.

## Ontario Cap and Trade Will Not Significantly Lower Actual Emissions up to 2020

### Recommendation 3

*To ensure Ontarians receive a complete picture of the province’s emissions reductions, the Ministry of the Environment and Climate Change should report publicly on:*

- *the short- and long-term financial impacts of cap and trade on Ontarians;*

**Status: No longer applicable.**

### Details

Up until June 2018, the Ministry was preparing to update the cap-and-trade program for the post-2020 targets by modelling and analyzing the impact of the program on the economy (for example, gross domestic product and trade), household costs, net emission reductions (both domestic reductions and

purchases of allowances from Quebec and California), and competitiveness. The Ministry intended to finalize its design for the post-2020 cap-and-trade system by December 2018, after a planned consultation period with stakeholders in late 2018.

However, on July 3, 2018, the Ontario Government revoked the existing cap-and-trade regulation and filed a new regulation prohibiting all trading of emission allowances, and announced they were “committed to an orderly wind down of the [cap-and-trade] program.”

- *both the projected and actual reductions for its 2020 and other targets, in accordance with the reporting requirements of the Canadian National Inventory Report.*

**Status: Little or no progress.**

### Details

The 2017 Minister’s Climate Change Action Plan Progress Report, released on March 14, 2018, shows historical emission estimates and forecast progress toward Ontario’s 2020 and 2030 targets. These forecasts included emission reductions from allowances purchased from Quebec and California, which at the time, were not included in historical emissions reporting in Canada’s National Inventory Report.

It is unclear how the cancellation of cap and trade and repeal of the *Climate Change Mitigation and Low-carbon Economy Act, 2016*, will affect Ontario’s projected emission reductions. At the time of our follow-up, the government had not announced what climate-change initiatives Ontario will adopt going forward.

### Recommendation 4

*To ensure that it adopts the best possible greenhouse-gas-reducing system, the Ministry of the Environment and Climate Change should better study the emissions impact of Ontario joining a linked cap-and-trade system to confirm that Ontario’s*

participation is contributing to additional global emissions reductions.

**Status: No longer applicable.**

#### Details

As noted in our 2016 report, California has a variety of complementary policies, in addition to cap and trade, to reduce emissions. For instance, California's 2014 climate-change plan forecasts that 70% of reductions required to achieve its 2020 goal will be achieved through initiatives other than cap and trade. These policies have reduced the demand for allowances in California's cap-and-trade system. This, combined with the fact that allowance auctions in May and August 2016 were undersold, cast doubt on whether cap-and-trade or other complementary policies are responsible for driving down California's emissions. Therefore, our report recommended that the Ministry study the cap-and-trade system to confirm that Ontario's participation is contributing to additional global emissions reductions.

At the time of this follow-up, no subsequent studies had been done to study such impact. However, considering the government's cancellation of the cap and trade system, this recommendation is no longer applicable.

#### Recommendation 5

*To ensure the new cap-and-trade system operates consistently and fairly to achieve maximum greenhouse-gas emissions reductions in Ontario, the Ministry of the Environment and Climate Change (Ministry) should resolve outstanding matters before implementing the system. Specifically, the Ministry should:*

- *develop protocols for accurately measuring and verifying the impacts of projects eligible for offset allowances;*
- *consider the impact of the free allowances it plans to offer Ontario businesses for emissions reductions achieved before the implementation of cap and trade;*

- *ensure that the same reductions are not reported by multiple jurisdictions.*

**Status: No longer applicable.**

#### Details

Ontario's cap-and-trade system allowed for up to 8% of emissions from large emitters to be covered by "offset allowances." Offset allowances are emissions-reducing projects, such as planting trees and collecting landfill gases. In our 2016 audit, we noted that the emissions-reducing impacts of such projects may be difficult to measure and verify. The Ministry introduced the offset regulation and first offset protocol—rules outlining how to measure and approve the reductions—on January 1, 2018. The second and third offset protocols were posted to the Environmental Registry for public comment in February 2018. Prior to June 2018, the Ministry was working with a consultant to finalize the remaining 10 protocols throughout 2018 with input from a technical task team and a stakeholder team.

Under Ontario's cap-and-trade system, the Ministry had also planned to issue free allowances to companies for up to a total of 2 Mt worth of allowances for emissions reductions achieved between 2012 and 2016, prior to the start of cap and trade. In our 2016 audit, we noted that the Ministry had not factored these free allowances into its cap and that there was risk that these companies will now have allowances permitting them to collectively emit up to 2 Mt more than the cap. The Ministry proposed a regulation including rules for early-reduction credits, and posted it for public comment on February 25, 2016. The final rules for early-reduction credits was targeted for fall 2018. The Ministry expected to analyze the impact of distributing these credits when it finalized the regulation by the end of 2018.

Since our *2016 Annual Report*, Ontario has continued to engage directly with Canada in the development of Article 6 of the Paris Agreement. This article deals with accounting for internationally transferred mitigation opportunities (for example, cap-and-trade allowances purchased from

outside the province). The Ministry held a two-day workshop in March 2018 with international experts and Quebec and California partners to inform development of Article 6. Prior to June 2018, the Ministry anticipated that an accounting methodology for the linked cap-and-trade system would be finalized by fall 2018 (when the United Nations Framework on the Convention of Climate Change Secretariat is expected to finalize, at its next conference in November 2018, a rulebook for how to account for such reductions).

However, in light of the government's cancellation of the cap-and-trade system, this recommendation along with its three action items is no longer applicable.

## Ministry Forecasts Less Greenhouse-Gas Emissions Reduction Than Its Own Action Plan Publicly Communicates

### Recommendation 6

*The Ministry of the Environment and Climate Change should ensure that projected emissions reductions expected from the 2016 Climate Change Action Plan initiatives that it intends to fund from cap-and-trade revenues:*

- are supported by sound assumptions;
- it selects initiatives that achieve the highest value for money.

**Status: No longer applicable.**

### Details

In June 2017, a consultant engaged by the Ministry finalized a guide to be used by all ministries when estimating future greenhouse-gas reductions and actual reductions achieved by climate-change programs. To assess the eligibility of programs to receive funds from cap-and-trade revenues, the Ministry created a standardized form for ministries to fill out, detailing the estimated cost of the program and forecasting the greenhouse-gas reductions it could achieve.

After ministries submitted these forms, the initiatives were assessed by an inter-ministerial Technical Assessment Committee (composed of technical subject matter experts) and by Assistant Deputy Minister and Deputy Minister committees. When reviewing proposals, committee members were to assess the validity of estimated greenhouse gas reductions, and determine whether the program's impact is supported by the results of studies or empirical evidence, or has been proven in other jurisdictions.

However, given the government's recent decision to end the cap-and-trade system, and wind down and retract the funding of programs from the Climate Change Action Plan, this recommendation is no longer applicable.

## Impact on Emissions Often Not Routinely Considered in Provincial Ministries' and Agencies' Decision-Making

### Recommendation 7

*To help guide decisions of ministries and agencies on projects and initiatives, the Ministry of the Environment and Climate Change should develop guidance on the social cost of greenhouse-gas emissions that the ministries and agencies can consistently factor into their decision-making.*

**Status: Little or no progress.**

### Details

At the time of our 2016 audit, ministries were not required to consider the impact of their projects or initiatives on greenhouse-gas emissions. Government decision-making historically considered only the direct financial cost of a project and not the emissions it produced. In March 2018, the Ministry retained an external firm to develop a document to educate ministries about how to include a social cost of carbon when submitting applications for funding from cap-and-trade revenues. This was intended to act as a pilot project that could later expand to decision-making government-wide. For

instance, the government committed to explore opportunities to apply a social cost of carbon in the Long Term Infrastructure Plan.

Given the government's recent decision to end the cap-and-trade system, and wind down and retract the funding of programs from the Climate Change Action Plan, the pilot project for applying a social cost of carbon to projects will no longer occur. At the time of our follow-up, the Ministry had not identified alternative plans to address this recommendation.

### Recommendation 8

*To support climate-change mitigation and adaptation efforts government-wide, the Ministry of the Environment and Climate Change should:*

- *evaluate whether the Minister's Table on Climate Change is sufficient to ensure climate-change mitigation and adaptation goals are also given priority in ministries' and agencies' projects and initiatives and take any necessary corrective action;*

**Status: No Longer applicable**

#### Details

The Ministry has informed us that it does not plan to review the effectiveness of the Minister's Table on Climate Change because it is a policy committee of Cabinet and not under its purview. Further, the Minister's Table no longer exists under the new government.

- *revise the guidance on how environmental assessments are conducted to ensure it includes a range of alternatives that have varying impacts on greenhouse-gas emissions.*

**Status: Fully implemented.**

#### Details

Under the *Environmental Assessment Act*, the Ministry has the authority to set the criteria that must be considered when an environmental assessment is conducted on a proposed project or plan. In

2014, the Ministry updated the requirements for all environmental assessments to consider climate change, but did not draft supporting guidance until 2016.

Subsequent to our 2016 audit, the Ministry finalized the *Guide: Consideration of Climate Change in Environmental Assessment in Ontario* on December 14, 2017. The Guide recommends "proponents should include evaluation criteria, such as greenhouse gas emissions and impacts on carbon sinks, in the assessment of alternatives and alternative methods. In concluding an environmental assessment study, the proponent should also include a statement in their study report about how climate change was considered in the environmental assessment and how the preferred alternative (project) is expected to perform with climate change considered."

## Communication to Public about Cap and Trade Has Been Confusing

### Recommendation 9

*To ensure that Ontarians have a clear understanding of the impact on them of cap and trade, the Ministry of the Environment and Climate Change should:*

- *ensure that its communications to the public are open and transparent;*
- *explain clearly how it plans to meet its targets for reducing greenhouse-gas emissions, including all costs to Ontarians associated with implementing the system.*

**Status: No longer applicable.**

#### Details

In light of the government's cancellation of the cap-and-trade system, this recommendation and its action items are no longer applicable.

However, in the spirit of this recommendation, we believe the government's communications surrounding the cancellation of cap and trade should be open and transparent, including all

associated costs to Ontarians, and it should now clearly explain how it plans to meet any targets for reducing greenhouse-gas emissions it sets under the new legislation.

### Recommendation 10

*In order to ensure transparency and inform natural gas ratepayers about the greenhouse-gas impacts of their energy choices, the government should ensure that natural gas bills disclose the portion of charges in the bill attributable to the cap-and-trade program.*

**Status: No longer applicable.**

#### Details

At the time of our 2016 audit, natural gas utilities included the cost of cap and trade within the delivery line of consumers' bills, but not as a separate line item. Instead, they provided further information on their websites, where a consumer could use a "bill calculator" tool to get an estimate of how much of their bill consists of the cap-and-trade charge.

Following the government's decision to cancel cap and trade, the Ontario Energy Board issued a procedural order to gas distributors asking them to stop including an amount for the cap-and-trade system on consumers' bills. By July 13, 2018, utilities confirmed to the Ontario Energy Board that they have stopped charging an amount.

### Recommendation 11

*To better prepare Ontario for the effects of climate change, the Ministry of the Environment and Climate Change (Ministry) should:*

- *review its Climate Change Adaptation Strategy and Action Plan to determine whether it should be revised, and revise it as required;*

**Status: Little or no progress.**

#### Details

In the summer of 2017, the Ministry determined, in addition to the 2011–2014 Adaptation Plan, further work was necessary to drive government-wide

action on climate-change adaptation. In the winter of 2017/18, it conducted public consultations and identified four key areas for additional work, including the creation of an adaptation governance framework, a new organization focused on climate-change adaptation, a new province-wide risk assessment of climate impacts, and increased public awareness.

On June 7, 2018, the Climate Resilience Centre of Ontario was incorporated as a not-for-profit, non-Crown organization, with the purpose of working collaboratively with stakeholders to assemble, develop and share credible scientific information required for planning to address climate change impacts in Ontario.

In June 2017, the Secretary of Cabinet directed the Ministry to work with the Treasury Board Secretariat, Ministry of Infrastructure, Ministry of Finance, and Cabinet Office to develop options for a climate-change adaptation governance framework.

The Ministry indicated to us that it planned to complete a province-wide climate risk assessment by March 2021. This assessment would quantify the risk of climate change, including impacts on water resources, agriculture, finance, and the boreal forest. It would also look at key climate-change impacts, vulnerabilities and risks facing Ontario, and how they potentially impact specific sectors of the economy, stakeholders and Ontarians overall. The government could use this assessment when developing policies and materials for public access. An interim report was expected to be available in mid-2019, a year after the assessment begins.

At the time of this follow-up, the governance framework had not been finalized and the risk assessment had not yet started. The new government plans to release a new climate change plan in fall 2018, but has not confirmed if either the risk assessment or governance framework will still be pursued, or how the government plans to engage the newly created Climate Resilience Centre of Ontario.

- ensure all Climate Change Adaptation Strategy and Action Plan actions have completion timelines;

**Status: Little or no progress.**

#### Details

Our 2016 audit found that as of August 2016, only 30% of actions in the Ministry's Adaptation Plan had been completed, a further 30% were in the process of being implemented, and little progress was made on about 40% of the actions.

The Ministry has informed us that the new climate change plan it is developing for release in fall 2018 would incorporate elements from the 2011–2014 Climate Change Adaptation Strategy and Action Plan, but could not confirm whether the new plan will have completion timelines.

- ensure it completes the action items for which it is directly responsible.

**Status: Little or no progress.**

#### Details

In our 2016 audit, we identified that nine of the adaptation actions from the 2011–2014 Adaptation Plan under the Ministry's jurisdiction were incomplete and required further work. Following our 2016 audit, the Ministry had not assessed the implementation status of these actions. Based on our review, we identified four actions where the Ministry made further progress since our audit:

- in February 2017, the Ministry published the Lake Simcoe Adaptation Strategy;
- as of December 2017, the Ministry included climate-change considerations in Environmental Assessments (see the details section for **Recommendation 8**);
- instead of conducting a climate indicator study, the Ministry planned to complete a province-wide risk assessment of climate change by March 2021 (see the details section for **Recommendation 14**); and
- participating in the United Nations Development Programme's territorial approach to climate change.

However, we found little additional progress was made in the remaining actions, including:

- considering climate-change adaptation when updating or developing programs or policies;
- promoting water conservation;
- incorporating considerations of climate-change adaptation in drinking water and stormwater management systems; and
- establishing a climate-modelling collaborative.

#### Recommendation 12

*The Secretary of Cabinet, in conjunction with relevant ministries through the Ontario Deputy Ministers' Council, should help to ensure that actions in the Climate Change Adaptation Strategy and Action Plan that are not the direct responsibility of the Ministry of the Environment and Climate Change are completed on time by their respective ministries.*

**Status: Little or no progress.**

#### Details

Since our 2016 audit, ministries have not submitted updates on the status of actions in the 2011–2014 Adaptation Plan to Cabinet or the Ministry. The Secretary of Cabinet has also not issued any directives related to the Adaptation Plan.

In its June 2017 review of the government's approach to climate-change adaptation, the Ministry noted that there is no comprehensive direction for ministries or their agencies to consider climate risks, and few have the expertise to apply climate data into program design. As part of the government's revised adaptation approach, the Secretary of Cabinet directed the Ministry to work with the Treasury Board Secretariat, Ministry of Infrastructure, Ministry of Finance, and Cabinet Office to develop options for a climate-change adaptation governance framework. (See the details section for **Recommendation 11**.) However, at the time of this follow-up, the new government had not confirmed if this governance framework will still be pursued.

### Recommendation 13

*As recommended by the Expert Panel on Climate Change Adaptation, the Ministry of the Environment and Climate Change should:*

- *obtain information on multiple weather forecasting scenarios using different weather, precipitation and temperature assumptions across Ontario;*

**Status: Fully Implemented.**

#### Details

In 2007, the Ministry assembled an Expert Panel on Climate Change Adaptation (Expert Panel) to consider the potential risks posed by climate change. The Expert Panel noted that accurate weather forecasts are difficult to develop, and that any one forecast will not be sufficient to support proper planning. It indicated that the best approach is to use multiple forecasts. At the time of our 2016 audit, the Ministry regularly posted climate data on two publicly accessible academic data portals, but had not created the type of combined weather model recommended by the panel.

In March 2016, the Ministry provided \$180,000 for a project that aimed to consolidate all climate projections available for Ontario into one standardized set of climate projections that will include other emission scenarios, multiple temperature and precipitation assumptions, and much finer resolution (climate projections will be available for areas as small as 10 square kilometres). The final version of the project was launched online through the Ontario Climate Data Portal in June 2018. This data model provides users with projections for annual and seasonal average temperatures and precipitation, as well as extreme climatic indicators such as heat waves, across the province for up to 50 years into the future.

- *share this information with all relevant stakeholders for planning adaptation preparations.*

**Status: Fully implemented.**

#### Details

As noted above, the Ministry made information on multiple weather forecasting scenarios using different weather, precipitation and temperature assumptions publicly available online through the Ontario Climate Data Portal in June 2018. In addition to this, the Ministry planned to direct a new climate-change adaptation organization created in June 2018 (see action item one of **Recommendation 11**) to make climate data more accessible. This would include working with municipalities and conservation authorities to make the data useful for preparations to adapt to a changing climate. It is unclear if this will occur as part of the government's new climate change plan expected to be released in fall 2018.

### Recommendation 14

*In accordance with its Climate Change Adaptation Plan, the Ministry of the Environment and Climate Change should:*

- *conduct a Climate Impact Indicators Study to track and assess the success of government policy and programs in the Adaptation Plan;*
- *share the results of the study with other appropriate ministries and municipalities to support decisions made or determine what further actions need to be taken*

**Status: Little or no progress.**

#### Details

The 2011–2014 Adaptation Plan required the Ministry to conduct a Climate Impact Indicators Study to track and assess the success of government policy and programs in the Adaptation Plan, for example, on the following areas:

- Broad environmental—water quality and quantity, fish and wildlife populations, and forest health.
- Economic-specific sectors—golf course open/closing days, yields on agricultural products, ski-lift-pass sales, etc.

- Social and health—heat alert days, reported respiratory distress (which can be brought on by extreme heat), and municipal water-use restrictions.

The Plan indicated that the climate indicator study was to be used in conjunction with ongoing climate-monitoring data—such as precipitation, wind speeds, and humidity—to analyze trends and assess government policy and programs. At the time of our 2016 audit, the Ministry had not conducted this study.

As noted in action item one of the **Recommendation 11**, in 2017 the government committed to a province-wide risk assessment. The Ministry informed us this was in place of a climate indicator study. However, it is unclear if the Ministry's new climate change plan to be completed in fall 2018 will include a climate-change indicator study or a climate-change risk assessment.

### Recommendation 15

*To help Ontarians assess their own vulnerabilities to climate change, and to take action to address them, the Ministry of the Environment and Climate Change should provide the public with regular information on specific risks of and possible responses to the effects of climate change in Ontario.*

**Status: Little or no progress.**

#### Details

Since our 2016 audit, the Ministry has not provided information on specific risks and possible responses to the effects of climate change. It is unclear if the Ministry's new climate change plan to be completed

in fall 2018 will provide the public with regular information on risks and possible responses to the effects of climate change in Ontario.

### Recommendation 16

*To promote transparency and accountability, the Ministry of the Environment and Climate Change should revise as needed and regularly report publicly on the implementation status of its Climate Change Adaptation Strategy and Action Plan.*

**Status: Little or no progress.**

#### Details

At the time of our 2016 audit, the Ministry had publicly reported on the status of the 2011–2014 Adaptation Plan only once, in 2012.

As part of the public consultation on adaptation in November 2017, the Ministry provided an update on some of the initiatives in the Adaptation Plan and included on its website links to programs that address some of the actions in the Adaptation Plan, such as land use plans. However, this was not a formal and comprehensive update on all 37 actions in the Adaptation Plan. For example, no updates were provided for Action #15 (to pilot adaptation strategies in the tourism sector), Action #16 (to conserve biodiversity and support resilient ecosystems), or Action #9 (integrating adaptive solutions to drinking water management).

At the time of our follow-up, the Ministry had no additional plans to publicly report on the Adaptation Plan and had archived this section of its website.