Ontario's Climate Act
From Plan to Progress

MINISTRY COMMENTS

Environmental Commissioner of Ontario

2017 Greenhouse Gas Progress Report: Ministry Comments

Contents

General Response from Ministry of the Environment and Climate Change

The Ministry of the Environment and Climate Change has reviewed the Environmental Commissioner's Annual Greenhouse Gas Progress Report.

We share the Environmental Commissioner's passion for a better environment today and for future generations and applaud the important role of her office in ensuring that the government is accountable for its role in environmental protection and fighting climate change.

We thank the Commissioner for recognizing our participation in a "best in class" carbon market. As the Environmental Commissioner indicated in her report, research shows linked cap and trade is the most cost-effective way to achieve emission reductions with certainty while reducing costs for Ontario residents and businesses.

The ministry also appreciates the Commissioner's assessment that all of the Greenhouse Gas Reduction Account initiatives announced to date meet the requirements of the Climate Change Mitigation and Low-Carbon Economy Act, 2016, and that they are reasonably likely to reduce, or support the reduction of, greenhouse gas emissions.

The report recognizes Ontario's work in introducing dozens of new policies and programs to reduce emissions from buildings, transportation, waste, land use and other areas.

While we are proud of our record and leadership on climate action, we acknowledge there is more work to do. In particular, the Commissioner made several recommendations for the ministry, specifically related to the development of protocols for use in its carbon offsets program for compliance with the cap and trade program to ensure their effectiveness.

We will carefully consider the report and all of its recommendations. We are committed to working with our many ministry, government, business and community partners to help achieve the strong, low-carbon economy that Ontario deserves.

Chapter 1: Ontario's Emissions in 2015

Ministry of Agriculture, Food and Rural Affairs

General Comments

The ECO notes that the level of greenhouse gas emissions from Ontario's agriculture sector are "holding steady", and identifies the need for additional initiatives if Ontario is to meet future emission reduction targets. Under the Climate Change Action Plan (CCAP), Ontario is supporting the agriculture and agri-food sector in reducing emissions through investments of:

- Up to $115 Million to aid the transition of the Food and Beverage Processing, and Covered Agriculture facilities to low-carbon operations;
- Up to $20 million towards demonstration projects for Renewable Natural Gas transportation fuelling using agricultural and food waste-based materials
- Up to $30 Million to support implementation of components of Ontario's Agriculture Soil Health and Conservation Strategy.

To complement CCAP actions, OMAFRA is working with the Ministry of the Environmental and Climate Change to seek additional funding through the federal government's Low Carbon Economy Fund.

Ministry of the Environment and Climate Change

General Comments

The Ministry of the Environment and Climate Change (the ministry) is pleased that the ECO report highlights that GHG emissions have dropped faster than expected in all three WCI partners.

As a complement to its cap and trade program, Ontario will continue to make investments in projects that are reasonably likely to reduce, or support the reduction of, greenhouse gas emissions, in order to support meeting Ontario's 2020 and 2030 reduction targets.

Chapter 2: Policies and Programs Since the Climate Change Action Plan

Ministry of Agriculture, Food and Rural Affairs

General Comments

OMAFRA appreciates the ECO's acknowledgement of additional ministry initiatives that will contribute to reaching Ontario's climate change objectives.

- The provincial Pollinator Health Action Plan (PHAP) will enhance the health of Ontario's pollinators by addressing key stressors, including climate change.
- OMAFRA sought public feedback on using renewable natural gas from agricultural and food waste-based materials for transportation as input to the Agri-food RNG for Transportation Demonstration Program.
- OMAFRA released its draft Agricultural Soil Health and Conservation Strategy to enhance the health of the province's agricultural soils, including their ability to sequester carbon.

OMAFRA's draft Statement of Environmental Values explains how the ministry is considering climate change in decision making.

Ministry of the Environment and Climate Change

General Comments

The ministry appreciates the ECO's comprehensive review of climate change actions in Ontario in 2016 and 2017. Ontario continues to work towards establishing itself as a leader in climate change action and science by building a strong, low-carbon economy.

Ontario has made significant progress towards its 2020 target. Based on Environment and Climate Change Canada's 2017 National Inventory Report, Ontario has over-achieved its 2014 GHG reduction target of reducing emissions 7 per cent below 1990 levels. From 2005 to 2015, Ontario's emissions decreased by 38 megatonnes—significantly more than any other province. This accomplishment has been achieved through various initiatives, including phasing out coal-fired electricity generation; using cleaner energy, including renewable fuels; increasing investment in clean technology; collecting landfill gas; and expanding public transit.

The ministry appreciates the extensive review that the ECO undertook to present a summary of the main climate change actions taken since the launch of the province's Climate Change Action Plan in 2016, including advancing the cap and trade program and implementing complementary policies.

From an adaptation perspective, ECO accurately captured at a high-level the proposed Adaptation Approach in Section 2.3 of the list of Policy and Programs implemented or to be implemented. Feedback provided from the public/private sector and First Nations communities will help refine the details of the overall approach and inform the ministry of the climate change information service needs in Ontario as it establishes a non-crown, not-for-profit organization that will provide leading-edge, accessible and

practical information and services to support the public and private sector decision making and to better equip governments, businesses and communities in building climate resilience.

We will consider the ECO's recommendations carefully in an effort to improve our approach and maintain our leadership position.

Ministry of Transportation

General Comments

The Ministry of Transportation (MTO) appreciates the insight and perspectives of the Environmental Commissioner's Office. The carbon footprint associated with the transportation sector is significant. This is why MTO continues to take steps to broaden and enhance past practices and identify further opportunities to reduce greenhouse gas emissions.

MTO's policies and programs highlighted within the report demonstrate our on-going support of the province's Climate Change Action Plan. One such MTO program is the Electric School Bus (ESB) Pilot.

The ESB Pilot was launched in August 2017 as an initiative under the Climate Change Action Plan. This pilot is designed to test the operational feasibility, benefits, and constraints of the deployment of electric school buses across Ontario.

The ESB Pilot provides funding to school bus operators to switch school buses from diesel to electric. Funding covers the purchase of an electric school bus and the purchase and installation of associated charging infrastructure. Results from this pilot will be used to inform future action plans to increase the use of low-carbon buses in Ontario and to produce a business case for operators who are considering adding an electric school bus to their fleet.

MTO looks forward to continuing to collaborate with partners and stakeholders to advance existing programs and policies that support greenhouse gas reductions, such as cycling, electric vehicles, and green commercial vehicles.

Chapter 3: The National and International Context for Ontario's Climate Policy

Ministry of the Environment and Climate Change

General Comments

The ministry welcomes the comments made by the ECO that a linked carbon market reduces costs for Ontario residents and businesses and creates a bigger, more stable and more liquid market. Ontario also agrees that the Western Climate Initiative is a "best in class cap and trade system".

The ECO notes that international carbon markets are emerging and new rules are being developed under Article 6 of the Paris Agreement. Ontario continues to support international carbon markets and reinforce and build new relationships with other jurisdictions to advance global climate change action, especially among subnational governments.

Ontario considers the Western Climate Initiative, with its robust accounting and high environmental integrity, a model of the kind of market envisioned in the Paris Agreement under its Article 6. With that in mind, the province looks forward to continuing its work with other provinces and the federal government on the implementation of Article 6 under the Paris Agreement through the use of International Transfer of Mitigation Outcomes (ITMOs). Ontario will actively engage with its linked partners and continue to work with the federal government to ensure its interests are reflected in Canada's international negotiating position.

Our ministry will continue to work with its partners in Quebec and California to promote collaborative initiatives that potentially include subnational and national jurisdictions. The continued growth of the WCI emissions trading market, and the attraction of new members committed to the same principles of environmental integrity remains a high priority for the province.

Ontario looks forward to continuing to work with its linked partners as each jurisdiction works towards finalizing the design of their respective post-2020 programs.

The province is encouraged at the increased adoption of carbon markets around the world, and looks forward to continuing to demonstrate leadership and partnership in carbon pricing.

Chapter 4: Carbon Offsets

Ministry of Agriculture, Food and Rural Affairs

General Comments

OMAFRA recognizes the value of the proposed Offsets Program in helping Ontario reach its greenhouse gas (GHG) targets.

While the Ministry of the Environment and Climate Change is responsible for the offsets program, OMAFRA is actively participating in this work recognizing the potential contribution of agriculture to reducing GHG emissions and the potential role of offsets in incentivizing the adoption of new technologies, management practices and activities by the agriculture sector.

OMAFRA recognizes that certain offset protocols present more challenges than others under a compliance program (e.g. conservation cropping), however they may be suitable under the voluntary offsets program.

Involvement of the agriculture and agri-food sectors and rural communities is critical to the development of agriculture-related protocols. It is important to recognize the contributions of the agriculture sector to reducing emissions and the realities of achieving farm emissions reductions. Efforts will build on and strengthen ongoing initiatives, such as the industry-led efforts to encourage 4R nutrient management stewardship.

The ECO's recognition that a suite of tools is necessary to encourage investments in on-farm practices to reduce GHG emissions is consistent with OMAFRA's approach to this issue. For example, 'New Horizons: Ontario's Draft Agricultural Soil Health and Conservation Strategy', proposes a framework for action on soil health including incentives for soil care, which are a key element of OMAFRA's agricultural stewardship programming.

Ministry of the Environment and Climate Change

General Comments

Ontario is developing two distinct carbon offsets programs, each with their own set of rules and requirements. One program will generate offset credits for use in Ontario's cap and trade program that puts a cap on greenhouse gas pollution; the other will be for use by individuals, organizations and companies who want to voluntarily reduce greenhouse gas emissions.

Compliance offsets

On January 1, 2018 a new regulation came into effect to allow for the creation of offset credits that can be traded in the carbon market and used to meet compliance obligations under the cap and trade program.

The regulation allows Ontario to issue offset credits for eligible initiatives that reduce, avoid greenhouse gas emissions or remove greenhouse gases from the atmosphere outside of the sectors subject to the cap and trade program and that follow rules in the regulation and in an approved protocol. This program will allow for offsets that are created for projects from across Canada.

Ontario allows organizations and companies subject to the cap and trade program regulation to use offset credits to help meet up to eight per cent of their compliance obligations.

Offset credits will encourage innovation while giving regulated facilities lower-cost options and flexibility in how they meet their compliance obligations.

We agree with the ECO that a vibrant compliance offsets market in Ontario, based on rigorous design, can be an effective way to reduce GHGs at a low cost to business.

Voluntary offsets

Ontario is developing a voluntary carbon offsets program for businesses, organizations and institutions that want to reduce their own GHGs, but whose emissions aren't covered by the cap and trade program. This program will source its offsets from Ontario projects.

This will create a clear set of rules and requirements for anyone who wants to create carbon offsets projects to reduce, avoid, or sequester GHGs and to sell the carbon offset credits generated from these projects.

The voluntary carbon offsets program will also support the government's carbon-neutral commitment.

Ontario posted a discussion paper to the Environmental Registry on key elements of a proposed voluntary carbon offsets program. The ministry will continue to work with Indigenous communities, stakeholders and other partners in the development of the voluntary carbon offsets program.

The voluntary program is meant to complement the WCI compliance offset program, and feature equivalent levels of environmental integrity but design features that would be distinct from present in the WCI program.

Specific Comments

ECO Statement/Recommendation	Ministry Response
To maximize the co-benefits for Ontarians, the Ontario government should, whenever practical, purchase its voluntary offset credits (for achieving carbon neutrality) from Ontario-based projects.	The ministry agrees that Ontario's voluntary carbon offsets program should be limited in scope to Ontario based projects only, and will ensure this requirement is included in the program eligibility requirements. Ontario will purchase voluntary carbon offset credits to support the government's commitment to carbon neutrality. These offsets will come from Ontario-based initiatives that may occur anywhere within the province including rural areas and in Northern Ontario.

To ensure the credibility of California-registered offset credits used by Ontario emitters, the government of Ontario should ask the California Air Resources Board to demonstrate the science behind the discount rates (for leakage) used in California's offset protocols.	The ministry shares the ECO's concern with the approach to leakage embodied in California's forest projects protocol. However, it is important to note that Ontario has yet to determine its own approach to managing leakage. The Ministry's partner ministry, the Ministry of Natural Resources and Forestry, has reviewed many forest compliance protocols and different approaches to dealing with leakage that may be considered by the MOECC-led Forests and Afforestation technical task team. This task team is charged with reviewing candidate protocols for adaptation and use in Ontario. Within that context, the MNRF will continue to promote a credible and defensible approach to managing leakage in the course of the adaptation of the protocol. Ontario is now linked to California, and will continue to work with California and Quebec to ensure the integrity of each parties' offset program.
Ontario should only authorize compliance offset protocols that will result in emissions reductions that are real, quantifiable, additional, permanent, verifiable, and assessed for leakage. Even though Ontario emitters are entitled to buy and use offset credits recognized by California and Quebec, Ontario should not simply mimic offset protocols from those jurisdictions. Where California or Quebec has accepted offset protocols that do not meet key regulatory criteria, Ontario should work with its partner jurisdictions to 'level up' the protocols in all three jurisdictions.	The ministry agrees that only those protocols that ensure reductions are real, quantifiable, additional, permanent, verifiable and assessed for leakage will be adopted for use by Ontario. Ontario will continue to work with its WCI partners to ensure that our offsets program, including offset protocols, meets the highest possible standards. All three jurisdictions have adopted the same criteria for offset creation that are described in Offset System Essential Elements Final Recommendations Paper, July 2010 developed by the partners in the Western Climate Initiative project. Ontario was an active participant in this project. Ontario is not aware of any deviation from the Essential Elements, which dealt in considerable detail with the defining criteria for offset creation, namely the criteria of real, quantifiable, additional, permanent, verifiable, and assessment for leakage. Should any deviation become apparent, Ontario will immediately address this issue with the WCI partners. Ontario is not accepting California protocols "as is", but using a consensus-based approach to adapt protocols most appropriate for use by Ontario.

The ECO makes the following recommendations with respect to the development of compliance offset protocols:	Ontario appreciates the ECO's input on protocol development, and we will consider the ECO's input as we move forward with the protocol adaptation project. Ontario will ensure that only protocols that satisfy the WCI criteria assuring the integrity of GHG reduction and removal activities that form the basis for offset awards will be adopted for use in the compliance market. The protocol adaptation process includes ample stakeholder engagement opportunities.
Landfill Gas (LFG) Capture and Destruction The ECO recommends that the province move forward with an LFG offset protocol, given its potential for local socio-economic co-benefits and some level of climate mitigation.	Ontario has formally adopted the LFG protocol for use in our cap and trade program, and was included in the final offsets regulation.
Mine Methane Capture (MMC) and Destruction The ECO recommends that the province proceed with caution in developing a coal mine methane protocol, and commit to working with its WCI partners to monitor any influence that offset revenues may have on North American coal production.	Ontario will work with our WCI partners to monitor any impacts on North American coal production. Ontario is intending to post the mine methane protocol on the EBR for public review early in 2018. The Ontario protocol will apply only to mines located in Canada.
Ozone Depleting Substances (ODS) Capture and Destruction Given the low potential for regulatory or other concerns, and given the high mitigation potential of ODS offset projects, the ECO recommends that the government proceed with developing an ODS offset protocol.	Ontario intends to post the ODS protocol on the EBR for public review early in 2018.
Refrigeration Systems The ECO recommends proceeding expeditiously with the development of a refrigeration systems protocol. The protocol appears to present negligible regulatory or other concerns; has a high mitigation potential; and may have significant co-benefits for Ontarians.	Ontario intends to post the refrigeration system protocol on the EBR for public review in 2018.
Conservation Cropping	Ontario is working with its WCI partners, our consultant (the Climate Action Reserve) and other technical experts

Due to concerns about permanence and additionality, the ECO recommends that the government discontinue developing a conservation cropping protocol for inclusion in Ontario's offset program.	to explore permanence and additionality issues associated with conservation cropping before we make a decision on the protocol. Continuing to work on the adaptation of the protocol will help to advance the science in this area and provide Ontario with the evidence base it requires to decide whether or not to adopt the protocol for use in the compliance market. As is the case with all protocols Ontario adapts or develops, concurrence of our WCI partners regarding their acceptability will be required. It may be decided that the protocol is not suitable for use in the WCI compliance market, but may still be useful for Ontario's proposed voluntary market, for which a rigorous standard must still be adhered to. For this reason Ontario will be getting good value for the funds spent to adapt a protocol for this project type.
Fertilizer Management The ECO recommends proceeding with a fertilizer management protocol. If the protocol is carefully drafted, the mitigation potential of these projects coupled with significant ecological and socio-economic co-benefits could make these projects worthwhile. The protocol should have sufficient means of accounting for additionality risks and should include provisions for crediting farmers who do not use synthetic fertilizers (or alternatively, the government should provide an equal or better level of government support for such operations).	Ontario intends to complete the adaptation work early in 2018 and to post the fertilizer management protocol on the EBR for public review in 2018. The proposed protocol does not exclude the use of synthetic fertilizers. If a synthetic fertilizer reduces GHG emissions, it would be eligible to apply for offset credits, assuming all requirements specified in the Offsets Regulation and associated protocol are met. In addition, all regulatory requirements governing the use of fertilizers would have to be met. All Ontario protocols will ensure the offsets criteria are met, including the additionality criterion. Ontario will give consideration to the ECO's recommendation that support outside of the offsets program be provided to encourage the use of non-synthetic fertilizers.
Emission Reductions from Livestock Overall, because very little is known about the proposed enteric fermentation offset protocol, the ECO does not have enough information to provide a rating or make an informed assessment of its relative merits and demerits. If such a protocol is developed, it will need to consider the full impacts of these types of	Continuing to work on the adaptation of the enteric fermentation protocol will help to advance the science in this area and provide Ontario with the evidence base it requires to decide whether or not to adopt the protocol for use in the compliance market.

projects on a suite of social and ecological values.	
Grassland The ECO recommends proceeding cautiously in the development of a grassland protocol. Permanence, leakage, and additionality issues can likely be minimized through proper program design, including through the use of discount factors, and the co-benefits associated with these projects are wide ranging.	Ontario is working with its WCI partners, our consultant (CAR) and other technical experts to explore permanence and additionality issues associated with grasslands before we make a decision on the adaptation of this protocol. At this stage in the adaptation process, leakage does not appear to be a risk, though Ontario will continue to apply a conservative approach to the adaptation of all of its protocols. Continuing to work on the adaptation of the protocol will help to advance the science in this area and provide Ontario with the evidence base it requires to decide whether or not to adopt the protocol in the offsets regulation for use in the compliance market.
Anaerobic Digestion Because of the range of co-benefits associated with this project type and low level of regulatory risks, the ECO recommends the government move forward with anaerobic digestion projects in Ontario's offset program. The ECO also strongly encourages the government to include food waste and waste streams from municipal wastewater facilities in its definition of project eligibility to maximize organics capture and methane destruction.	The anaerobic digestion and manure management project types have been combined into one protocol type: Anaerobic digestion (organic waste and manure). The protocol will include municipal waste water.
Organic Waste Management The high climate mitigation potential of improved organic waste management, together with the numerous ecological and socio-economic co-benefits that could flow from these projects, make this a desirable protocol to pursue. The government should pursue the development of an organic waste management protocol, but should manage additionality concerns for projects located in Ontario by allowing credits for projects that begin to divert organic waste from landfill before the proposed organics ban comes into effect.	Ontario is working with its WCI partners, our consultant (CAR) and other technical experts to explore regulatory additionality issues associated with organic waste management before we make a decision on the adaptation of this protocol and how credits for early action might be allowed. The offsets regulation allows for GHG reductions achieved since 2007 to be eligible for receiving offsets, provided such projects meet the requirements of the regulation and applicable protocol. The ability to base future offsets on this protocol will depend on the timing and the specifics of regulations that may be introduced governing the management of organic waste. A waste management regulation may limit the

	eligibility of some, but possibly not all, organic waste management projects to receive offsets. Also, on November 16, 2017, the province released a proposed Food and Organic Waste Framework. This Framework supports Ontario's goals of fighting against climate change and building a circular economy by outlining strategic commitments to be taken by the province, including regulatory and non-regulatory actions, and providing direction to further the provincial interest in resource recovery and waste reduction.
Forest Management Protocol It would not be appropriate to use offsets based on the forest protocol to potentially worsen the overall environmental outcomes for Ontario's forests and wildlife, especially because intact healthy forests are essential for Ontario's adaptation to climate change, as well as for Ontario's protected area commitment	Ontario is working with its WCI partners, our consultant (CAR) and other technical experts to ensure risks associated with forest management projects are identified and effectively managed before a decision is made on this protocol. Continuing to work on the adaptation of the protocol will help to advance the science in this area and provide Ontario with the evidence base it requires to decide whether or not to adopt the protocol for use in the compliance market. The protocol adaptation process, through its extensive consultations with experts and stakeholders, will address risks associated with basing offset credits on forest management-based sequestration projects. The resulting choice of a preferred protocol for adaptation will be a result of a consensus-based iterative process. The ministry anticipates that the ecological risks of offset projects are likely to be minimal since it is a condition of MNRF's forest carbon policy initiative that it be implemented within Ontario's sustainable forest management framework. Ontario will not adopt a protocol for use in the compliance market that does not satisfy the WCI criteria assuring the integrity of GHG reduction and removal activities that form the basis for offset awards, or that worsen the overall environmental outcomes for Ontario's forests and wildlife. MNRF maintains a sustainable forest policy that includes the protection of wildlife habitat and the continuation of a healthy forest.
Afforestation and Reforestation Protocol Straightforward afforestation and reforestation, with native tree species	MOECC agrees that forest-based offset projects be undertaken with great care to ensure adherence to

and without wood harvesting, has many fewer risks than other forms of forest management. In particular, additionality and leakage of wood harvesting are much less of a concern. There could be greater confidence in permanence if paired with a conservation easement that binds the land to permanent use as forest. The risk of displacing agricultural land uses, leading to deforestation elsewhere, can be minimized with appropriate conditions, and there can be obvious advantages for ecological integrity and wildlife habitat. Accordingly, the ECO cautiously supports an afforestation and reforestation protocol based on the planting of native tree species, secured by a conservation easement, and without wood harvesting except as necessary for the health of the forest. The project should not shift agricultural land uses to a different location.	essential criteria, including those that assure additionality, leakage, and permanence. MNRF is currently undertaking a comprehensive review of regulatory issues that will be considered in the development of policy options for the management of forest carbon. The concept of employing a conservation easement as a strategy for ensuring permanence is an interesting one that MOECC will explore with MNRF.
Urban Forests Because of the high potential for ecological and socio-economic co-benefits, and the relatively low regulatory risks associated with urban forest projects, the ECO recommends that the government include them in Ontario's offset program.	Ontario is working with its WCI partners, our consultant (CAR) and other technical experts to explore permanence and additionality issues and other risks associated with urban forest projects before we make a decision on proceeding with these protocols.

Ministry of Natural Resources and Forestry

General Comments

The Ministry of Natural Resources and Forestry (MNRF) thanks the ECO for its assessment of the potential benefits and risks of forest carbon offset projects.

The MNRF's forest carbon policy initiative will highlight how managed Crown forests could help Ontario meet its greenhouse gas (GHG) reduction targets while continuing to contribute to the social, economic and environmental needs of current and future generations. Understanding the potential for managed Crown forests to store more carbon, outlining opportunities to influence the amount of carbon stored in

harvested wood products, and developing policy approaches to consider this in forest management will contribute to the government's objective of mitigating climate change impacts.

Forest carbon policy developed by MNRF will:

- Be implemented within the existing sustainable forest management framework;
- Involve types of forest management planning decisions and operations already undertaken by forest managers consistent with provincial requirements; and
- Continue to support forest resilience, biodiversity and other objectives and targets considered within Ontario's sustainable forest management framework

One of the three purposes of MNRF's forest carbon policy initiative is to: "Provide timely support, expertise and input to MOECC as they adapt forest carbon offset protocols for use in Ontario". Forest protocols are intended to broadly apply to all forest types and ownerships; a well-designed protocol will provide flexibility for the development of policy options and selection of policy instruments for Ontario's managed Crown forests.

The creation of forest carbon offset credits from managed Crown forests is one potential forest carbon policy direction described in MNRF's 2017 discussion paper: "Ontario's Crown Forests – Opportunities to Enhance Carbon Storage". Modifications to the extent and timing of approved forest management practices that exceed "business-as-usual" practice may offer potential to provide forest carbon offsets in a regulated market.

Specific Comments

ECO Statement/Recommendation	Ministry Response
ECO Recommendation: To ensure the credibility of California-registered offset credits used by Ontario emitters, the government of Ontario should ask the California Air Resources board to demonstrate the science behind the discount rates used in California's offset protocols.	**MNRF Response**: The MNRF is aware of California's approach to managing leakage and shares concern over the equivalence of offsets within the regional cap and trade system. Ontario has chosen to link with California with the intention of resolving issues going forward as part of ongoing efforts between Western Climate Initiative partners to improve their offset programs.
ECO Recommendation: Forest management projects should not be eligible to create compliance offsets in Ontario until their substantial ecological and regulatory risks are comprehensively addressed and greater scientific consensus is achieved.	**MNRF Response**: The ecological risks of offset projects are minimal since it is a condition of MNRF's forest carbon policy initiative that it be implemented within Ontario's sustainable forest management framework. Although the ECO has not identified specific regulatory concerns, MNRF is currently undertaking a comprehensive review of regulatory issues that will be considered in the development of policy options.

ECO Recommendation: The ECO encourages the government to continue its efforts to build a Land Use Carbon Inventory, and to apply Greenhouse Gas Reduction Account funds to finance further research on the role of forests in climate change mitigation.	**MNRF Response**: MNRF, with MOECC, OMAFRA, MAA, MNDM and MIRR, is developing a land use carbon inventory by 2020 to support estimation of GHG emissions and removals from agriculture, forestry and other land uses in Ontario. The inventory will build a better understanding of the contribution of the land use sector in affecting climate change, and will inform future policy decisions related to climate change mitigation, land use planning and resource management.
Scientific Basis for Forest Compliance Offsets	Ontario has ongoing (proactive) forest research and monitoring programs that inform planned policy and actions. MNRF researchers have published and supported more than 400 reports and scientific publications to increase our understanding of climate change and its effects on the environment. Forty-five reports have been published in the MNRF's Climate Change Research Report Series since 2005, with topics ranging from climate change projections in Ontario, regional vulnerability assessments, and carbon storage and sequestration in Ontario's forests, to current and future impacts of climate change on biodiversity, outdoor recreation, peatlands, invasive species, and species at risk.
Interests of Indigenous Peoples	Ontario is continuing to engage with Indigenous organizations and communities in the early stages of forest carbon policy and offset program development to understand their perspectives and interests. Input received during early engagement will inform program decisions, development of policy mechanisms and future engagement efforts. Most of the input received to date suggests that Indigenous organizations and communities are interested in the potential benefits that may accrue from offset projects. While there are examples of offset projects leading to the displacement of Indigenous Peoples in other countries, this does not reflect the Ontario context or the province's offset program and forest carbon policy development approach.
Treatment of Leakage – California Forest Compliance Offset Protocol	Ontario has yet to determine its approach to leakage and has not committed to using California's approach. MNRF has reviewed many forest compliance protocols and different approaches to dealing with leakage that may be considered by the MOECC-led Forests and Afforestation technical task team. This task team is charged with reviewing candidate protocols for adaptation and use in Ontario. Within that context, the MNRF will continue to promote a credible and defensible approach to managing leakage.

Sequestration of Carbon in Wood Products	There is extensive evidence that harvested wood products (HWP) act as a carbon sink after life cycle analysis (LCA) emissions associated with their manufacturing, transportation, maintenance, and end-of-life disposal are accounted for. MNRF believes this evidence is sufficient to demonstrate that HWP from Ontario registered offset projects would reliably sequester carbon for long periods of time. HWP contribute to removal of carbon dioxide from the atmosphere and consequently to climate change mitigation by acting as a carbon sink and substituting for more GHG-emission costly materials such as steel, aluminum, concrete and plastic. GHG emissions in the forestry sector depend largely on the country-specific portfolio of HWP and emissions associated with energy generation; these emissions in Canada are very different from those in the United States. The greenhouse gas and carbon profile of the Canadian forest products industry shows that HWP in Canada are a carbon sink even after HWP LCA emissions are taken into account.
Life Cycle Emissions	The MNRF understands the importance of using (LCA) to help inform policy and has continued with related research of forest carbon balances and modelling of forest ecosystems, forestry activities and harvested wood products to help support the development forest carbon policy (Climate Change Research Report CCRR-03, CCRR-33 and CCRN-06 CCRR-02). The process of developing an offset project involves a streamlined LCA to determine the baseline and overall direct and indirect effects of the project on carbon balance.
Offsets and Fossil Fuel Subsidies	There are no fossil fuel subsidies that favour the forest sector. Although the California protocol does not require quantification of GHG emissions associated with forest management activities (including harvesting), fossil fuel use is covered under the current cap and trade system, with increased fuel surcharges applied by fuel providers. Projects without GHG mitigation value would not be proposed (or considered economically viable) in the first place.
Potential Environmental Impacts	There is little evidence to support the assertion that offset projects in Ontario could have serious impacts on non-carbon forest benefits, such as wildlife habitat, nutrient cycling, air and water purification, and ecotourism. It is also unclear how offset projects would amplify these concerns. There is no evidence of linkage between offset projects and MNRF performance for species at risk in Ontario. Any forestry activities, including offset projects, would have to follow Ontario's rigorous forest management policy framework.

Forest Management (4.4.7) Rating: Red	The effects of forest management practices on the carbon dynamics and ecology of Ontario's forests are well understood (*Scientific Basis for Forest Compliance Offsets*). Although there is uncertainty with respect to climate change science and the possible response of Ontario's forests, there are well-established approaches to minimize the effects of uncertainty. For example, MNRF scientists consider a variety of scenarios so policy-makers and practitioners are prepared for a range of outcomes and possibilities. Research and adaptive management practices (making decisions based on current knowledge and through monitoring and new learning, adjusting practices accordingly) also help to address uncertainty.

Chapter 5: Spending From the Greenhouse Gas Reduction Account

Ministry of the Environment and Climate Change

General Comments

The ministry appreciates the ECO's assessment that along with its cap and trade program, all of the GGRA initiatives announced to date are in compliance with the Climate Change Mitigation and Low-Carbon Economy Act, 2016.

Ontario's first three cap and trade auctions have had robust results, with the third auction selling out of current and future vintages. In all, the auctions have provided Ontario with $1.50 billion in proceeds to be invested in programs that will reduce greenhouse gas pollution and help families and businesses reduce their own emissions through the Climate Change Action Plan.

MOECC, working with its ministry partners, provides Treasury Board with the Minister's evaluation of eligible initiatives, including those outlined in the Climate Change Action Plan that can be charged to the GGRA. Following necessary approvals by Treasury Board, Ministries are able to start or continue the implementation of their programs. Proceeds from the first three auctions totalled $1.50 billion. To date, Treasury Board has approved $1.43 billion (or 93%) for initiatives that can be charged to the GGRA. Further decisions will be sought from Treasury Board in the coming weeks, with confirmation of proceeds from the fourth auction.

Proceeds from the province's carbon market auctions are funding programs in 2017-18 that help people and businesses across Ontario reduce pollution.

The carbon market has funded a wide variety of initiatives, including:

- Establishing The Green Ontario Fund to help homeowners and businesses access and finance low-carbon technologies to reduce greenhouse gas pollution from buildings and from the manufacturing of goods.
- Creating a cleaner transportation system by addressing greenhouse gas pollution from cars by increasing the availability of zero-emission vehicles on the roads and making cycling infrastructure and transit more available.
- Developing and delivering targeted training through post-secondary institutions and other training partners to ensure Ontario has the capacity to build, maintain, and repair low-carbon buildings.
- Supporting local emissions reduction projects proposed by municipalities.
- Helping hospitals and school boards save energy and encourage the use of more renewable energy technologies.

Besides helping to reduce pollution, greenhouse gasses and other air contaminants, these initiatives will help modernize our schools and hospitals, improve social housing, make biking a safer option, upgrade our homes and businesses, and other social and economic benefits.

Initiatives are also focused on clean tech research and development, as well as training and skills development for the low-carbon economy. These efforts will help stimulate the low-carbon economy, grow our clean-tech sector, and prepare our workforce for this long-term transition.

On the question of GGRA-funded investments in capped versus non-capped sectors, GGRA-funded investments (and other policy measures outlined in Chapter 2) are guided by the Climate Change Mitigation and Low-carbon Economy Act, 2016, and the Climate Change Action Plan (CCAP). One of the basic concepts embodied in the CCAP is the need to focus GGRA resources on the sectors with the highest emissions to maximize made-in-Ontario reductions and help businesses and citizens thrive during the transition to a low carbon economy.

The ministry also agrees with the importance of making investments in non-capped sectors. 2017-18 GGRA investments include the 50 Million Trees initiative which aims to plant 50 million trees across Ontario, including 2 million in urban areas, and the Land Use Carbon Inventory, which will fund the development of an inventory to quantify and assess emissions sequestration from agriculture, forestry and other land uses.

The ECO raised concerns with two GIF initiatives: the Social Housing Electricity Efficiency Program (SHEEP) and support for First Nations communities. The ministry acknowledges that in some cases, when Ontario's electricity production is completely zero carbon, electricity conservation may not reduce emissions. However, given that natural gas is still a significant part of the electricity mix in Ontario, on average, electricity conservation measures will reduce emissions. Although SHEEP does not reduce a significant amount of GHG emissions, it does assist low-income households and vulnerable communities with their transition to a low-carbon economy, which are legislated priorities the Minister is required to consider. The Ministry will take this concern about electricity conservation into consideration when it comes to its future initiatives and is working with the IESO do develop more accurate emission factors for the electricity sector.

We acknowledge that the distinction between mitigation and adaptation is less clear in the context of First Nations communities. Capacity development within First Nations communities is important in supporting both mitigation and adaptation. However, the ministry acknowledges the ECO's concerns and in the future will focus on mitigation in First Nations communities when using GGRA funding.

As noted by the ECO, government ministries now have a standard methodology for calculating projected GHG emission reductions. The ministry expects ongoing and "learning by doing" improvement in the level and consistency of documentation provided for the MOECC's review. The standard methodology to be used for future applications for GGRA funding does include additionality tests. We appreciate the assistance that was provided by the ECO on the development of the guidance document that contains the standard methodology for calculating projected GHG emission reductions.

The ministry shares the ECO's belief that a government-wide understanding and awareness of Ontario's GHG emissions and opportunities to reduce them is one important benefit of the process of competing for GGRA funds. The ministry continues to work with partner ministries to ensure that climate change considerations are integrated into government decision making.

As required by legislation, an annual report on the use of GGRA funds will be released by the ministry, with the first planned for early 2018.

Specific Comments

ECO Statement/Recommendation	Ministry Response
Each ministry and sector should have an explicit and steadily declining carbon budget tied to Ontario's climate targets, and should transparently account to the public for how they use GGRA and other government funds to achieve it.	Climate Change Action Plan (CCAP) policies and programs are primarily focused on major sources of emissions in Ontario – Transportation, Industry and Buildings. Tracking of GHG emissions reductions is an integral part of the CCAP initiatives and ministries are responsible under the CCAP framework for reporting financial and GHG reduction results. These results will form the basis of CCAP annual reports and inform future reviews and improvement of the CCAP. The cap and trade program includes a steadily declining carbon budget for the combined capped sector, which account for over 80% of emissions in the province. It is not clear how sector specific budgets would enhance achievement of the overall cap as individual entities are already subject to declining budgets. The government will transparently report on for how GGRA funding is used by reporting on progress in 2018
This accounting should, at least for major expenditures, include a comprehensive assessment of the impact of each initiative on the public interest, including GHG reductions, cost-effectiveness, impacts on low-income and vulnerable communities, and environmental, economic and health effects.	The Climate Change Action Plan outlines the actions across sectors that Ontario will focus on over the next few years. The ministry agrees, and the GGRA funding process does represent a comprehensive assessment of these impacts. The criteria are both qualitative and quantitative to ensure flexibility in the process. This takes into account the need to include consideration of "important but indirect or longer-term effects, including research, development, capacity building and standards development" as the ECO recognized in the report. However, the focus remains on GHG reductions. The Minister's Evaluation Process continues to improve as the ministry gains experience in GGRA funding assessments in collaboration with other ministries.

Ministry of Housing

The Ministry of Housing supports the Environmental Commissioner of Ontario's (ECO) work in reviewing the programs funded through the Greenhouse Gas Reduction Account (GGRA). The ministry understands the concerns shared by the ECO about the Social Housing Electricity Efficiency Program (SHEEP) in the 2017 Annual Greenhouse Gas Progress Report.

Under the Green Investment Fund (GIF) initiative, the ministry received funding for two one-year pilot programs to assess the greenhouse gas reductions that could be achieved in two distinct social housing building forms:

- The Social Housing Apartment Retrofit Program (SHARP) targeted high-rise apartment buildings of 150 or more units, and received $82 million in funding under GIF; and
- The SHEEP program targeted lower density units (i.e. single and semi-detached, townhouse, and row house) that were electrically heated and where the tenants paid the costs of electricity. SHEEP received $10 million in funding under GIF.

It was clearly evident that the SHARP initiative contributed much more to greenhouse gas reductions than SHEEP. With the introduction of the GGRA guidelines following the implementation of the SHARP and SHEEP programs, the ministry focussed only on high-rise apartment buildings through the new Social Housing Apartment Improvement Program (SHAIP).

The ministry remains committed to its support for greenhouse gas reduction programs, and welcomes information that assists in the review and assessment of programs on their merit and efficiency to meet stated objectives.

Ministry of Indigenous Relations and Reconciliation

General Comments

MIRR supports MOECC's response to the ECO with regard to the concerns raised in the report about the support provided to First Nation communities through the Green Investment Fund.

Chapter 6: Freight

Ministry of the Environment and Climate Change

General Comments

Our ministry acknowledges that the transportation sector contributes a large amount to Ontario's total greenhouse gas emissions. Through the Climate Change Action Plan, the province will continue to support emission reduction opportunities in the freight industry.

We are working with other ministries towards reducing the carbon footprint of freight transport. The province will provide incentives for businesses to purchase greener vehicles, including electric and natural gas-powered trucks.

The ministry will be working with partner ministries, including the Ministry of Transportation, to develop strategies to reduce emissions from the transportation sector, and to accelerate the development and adoption of low-carbon vehicle technologies. Transportation emissions growth is expected to be ameliorated through policies targeting fuel efficiency and larger scale adoption of newer technologies (e.g., electric vehicles) for road-based vehicles. It is not necessarily the case that adding new road capacity will result in more GHG emissions

The ministry will consider the Commissioner's recommendations in consultation with appropriate ministries.

Ministry of Transportation

General Comments

The Ministry of Transportation would like to thank the Environmental Commissioner for her recommendations.

Our ministry has a number of freight-related initiatives under the Climate Change Action Plan that would reduce emissions from the transportation sector such as the Green Commercial Vehicle Program (GCVP). This program is intended to support emission reductions from on-road freight in particular and will provide incentives for businesses to purchase alternative fuel vehicles and fuel saving devices to support the development and adoption of low-carbon vehicle technologies. Supporting the installation of the infrastructure for such technologies is critical for the program's success.

We will be working closely with partner ministries, such as the Ministry of the Environment and Climate Change (MOECC), to ensure vehicles funded through the GCVP program are achieving the intended greenhouse gas reductions. We will be working closely with partners in industry and government to ensure that the program remains responsive to the rapidly evolving technological and regulatory environment in which the freight industry operates.

Looking beyond the vehicle, the ministry has several freight-related initiatives currently underway that focus on increasing productivity and therefore reducing congestion and greenhouse gases from the on-

road trucking transport sector. These initiatives include the Long Combination Vehicle (LCV) Program, the Extended Stinger-Steer Auto Carrier (ESSAC) Program, and the Extended Semitrailer Trial. These types of initiatives benefit both the environment and the economy by increasing trucking productivity within the on-road freight transportation sector.

The province continues to make strategic investments that support the Climate Change Action Plan, a strong economy, and build a resilient transportation system. These include investments in cycling infrastructure, public transit investments, High Occupancy Toll (HOT) lane pilot and GO rail electrification.

The GO Regional Express Rail (RER) program includes electrification, substantial track work throughout the network, modernization of signalling systems, and building of additional stations. The RER system currently relies on diesel-powered locomotives hauling bi-level passenger coaches. Ontario's power supply is mainly generated through a mix of nuclear, hydro and renewable energy sources. Electrification is, therefore, a key component of Ontario's strategy to reduce emissions from transportation energy use.

Ontario is undertaking a feasibility study on the use of hydrogen fuel cells as an alternative technology for electrifying core segments of the GO rail network. Recent advances in the use of hydrogen fuel cells to power electric trains in other jurisdictions make it important that Ontario consider this clean electric technology.

The Ministry of Transportation will continue to advance our goal of a strong, integrated transportation system through new technology, user-focused design, and collaboration with partners and stakeholders.

Specific Comments

ECO Statement/Recommendation	Ministry Response
The provincial government should prioritize road pricing and complementary investments to reduce traffic, instead of new highway construction, which increases traffic.	The Ministry of Transportation (MTO) recognizes that a multi-modal solution, including transit, road pricing and highway infrastructure, is required to adequately address congestion in the province. There is no 'one-size fits all' solution to reduce traffic congestion. MTO is committed to providing new travel options for commuters that will improve traffic flow, maximize highway capacity, and help manage congestion. As populations across Ontario have grown, the need for economic infrastructure has also grown. To support our province's economic growth, we need to invest in quality roads, bridges, highways, public transit, and cycling infrastructure. Strategic investments will help reduce greenhouse gas emissions, manage congestion, connect people to jobs,

	and improve the economy and quality of life for Ontarians. Examples of MTO's current and ongoing investments include: • Public transit • Cycling infrastructure • High Occupancy Toll (HOT) lane pilot – Canada's first HOT lane was launched on the Queen Elizabeth Way (Greater Toronto Area) as a pilot – Information from the pilot will support long-term planning for a future network of HOT lanes, including new, dedicated HOT lanes with electronic tolling on a section of Highway 427 (Toronto), which will open by 2021
The provincial government should phase out diesel truck retrofit subsidies when federal requirements make them redundant.	One commitment under the Pan-Canadian Framework on Clean Growth and Climate Change (Dec 2016) is federal-provincial-territorial government collaboration to reduce emissions from heavy duty trucks. The timeline for implementing heavy-duty truck related initiatives under the framework is unknown at this time. As the ECO report acknowledges, the ministry plans to review the province's Green Commercial Vehicle Program on an ongoing basis and subsidies can be adjusted as federal programs come into effect. The ministry looks forward to working with the federal government to ensure consistency between any future federal requirements and Ontario's current programs, including the Green Commercial Vehicle Program.
The provincial government should not subsidize fossil natural gas trucking with cap and trade revenues.	In funding natural gas vehicles, the Green Commercial Vehicle Program (GCVP) considers the fact that the only viable alternative fuel currently available for long haul heavy-duty truck operations is natural gas, which is a lower-carbon fuel than diesel. Natural gas vehicles funded by the GCVP would be able to operate with either fossil or renewable natural gas. As part of ongoing program reviews, MTO will continue to monitor and revise program eligibility for alternative fuels and technologies as new low carbon options

	become commercially available in various vehicle classes (e.g., electric heavy duty, hydrogen). MTO will also be working with the Ministry of Environment and Climate Change on exploring opportunities to establish and align lifecycle performance standards for fossil fuels in the transportation sector.
The provincial government should support renewable natural gas trucking projects that do not have a pipeline connection.	Natural gas vehicles funded by the Green Commercial Vehicle Program (GCVP) would be able to operate off renewable natural gas.

Chapter 7: Taking Climate Change Seriously Across Government

Ministry of Agriculture, Food and Rural Affairs

General Comments

The ECO's recommendations regarding quantifying the GHG emission impacts of proposed regulations, and the need to account for all direct and indirect government emissions when assessing carbon neutrality, have implications for all of government. OMAFRA is committed to the broader government commitments of carbon neutrality and to participating in future efforts to support these recommendations.

OMAFRA will continue its work with stakeholders and ministry partners to reduce greenhouse gas emissions and support Ontario's transition to a prosperous, low-carbon society.

Ministry of the Environment and Climate Change

General Comments

The ministry appreciates the Commissioner's acknowledgment that awareness of climate change is improving across the public service. Important strides have been made to increase awareness of the impact of climate change through our initiatives

The ministry acknowledges that while progress has been made on integrating climate change into government decision making, there is still room for improvement. For example, work is ongoing to improve GHG estimation capacity and the use of tools such as the social cost of carbon and lifecycle assessment to support decision making. As well, the ministry is developing a strong governance framework to ensure an all-of-government coordination to more effectively identify priorities and implement climate change adaptation actions.

Regarding Ontario's Carbon Neutral government commitment, it is the intent to start this commitment based on the emission sources that have been historically tracked. The ministry acknowledges that some corporations chose to include a broader range of "Scope 3" emissions. Ontario will consider the availability of data and associated resources to estimate these emissions and consider including in future reports.

Expansion of the carbon neutrality commitment to the Broader Public Sector could be considered in the future review of Climate Change Action Plan.

Ministry of Transportation

General Comments

The Ministry of Transportation acknowledges the need to mitigate climate change and adapt to an already changing climate and reflect this language in the ministry's Statement of Environmental Values (SEV).

MTO would also like to thank the Commissioner for providing advice in regards to the SEV revisions. We will take into consideration a climate lens as the ministry is revising our Statement of Environmental Values.

Ministry of Education

Specific Comments

ECO Statement/Recommendation	Ministry Response
Section 2.1: Perceived Climate Change Threats and Opportunities: Two ministries (Education and Government and Consumer Services) did not identify any specific significant threat to their respective mandates even though Education, for example, faces challenges posed by overheating in schools and portable classrooms.	The Ministry of Education recognizes the importance of keeping Ontario's schools in a state of good repair, and that improving students' learning environments is one of the best infrastructure investments we can make, which is why it is committed to investing funding for school boards to use towards meeting their renewal needs. While it is the responsibility of the Ministry of Education to set policy that directs the allocation of funds to school boards, it is the responsibility of school boards to allocate funding for each school or program based on local need. Under the Education Act, school boards are responsible for ensuring healthy and safe learning environments. This responsibility includes developing policies, procedures and protocols to ensure its schools are in compliance with all appropriate provincial and municipal health and safety requirements, including temperatures in schools.

Chapter 8: Low-Carbon Procurement

Ministry of the Environment and Climate Change

General Comments

The Ministry appreciates the ECO's observations regarding the government's green procurement policy. We acknowledge that Ontario needs to do more to reduce GHGs associated with products and materials purchased within government.

We are working to find ways to better enable achievement of low carbon procurement, and develop the tools/processes necessary to provide government with practical supports to enable lifecycle analysis and climate-conscious decision making. Ontario spends billions of dollars each year in procurement, building the schools, hospitals, public transit and community assets. We agree that by building it right from the start, the government can ensure that it is maximizing reductions of GHGs.

We agree that it is not enough to simply track the GHG emissions from the energy we use to operate buildings and other infrastructure, but must measure the substantial embodied emissions which take place during the material extraction, processing, transportation, installation and waste management stages of their lifecycles. This is why the Ministry of Infrastructure is currently leading a multi-ministry effort, with the support of MOECC, to introduce a phased approach for integrating Life-Cycle Assessment (LCA) into infrastructure planning and procurement processes, including the application of the social cost of carbon (SCC).

The push to integrate LCA and SCC will both support broader efforts to green the procurement process and better encourage the use of low-carbon materials.

The Ministry is committed to working with partner ministries to advance our commitments on these items.

Ministry of Transportation

General Comments

The Ministry of Transportation appreciates the Environmental Commissioner of Ontario's observations related to low carbon procurement.

MTO recognizes the importance of environmental considerations and green procurement and acknowledges there is much to do to ensure that greenhouse gas reductions and low-carbon procurement factor into the products, services and materials acquired by the ministry and by government.

MTO will continue to learn from and build upon the success of various initiatives that reduce greenhouse gas emissions, including: the use of recycled materials in our highway construction activities, use of LED lamps on traffic signals, and initiatives like the GreenPave Program.

The ministry will continue to actively support key government priorities which support the low carbon footprint in procurement, working in close partnership with Ontario Public Service ministries including the Ministry of Environment and Climate Change in support of the Climate Change Action Plan, and the Ministry of Infrastructure in support of the Long-Term Infrastructure Plan (LTIP).

Appendix B: Technical Aspects of Offsets

Ministry of the Environment and Climate Change

Specific Comments

ECO Statement/Recommendation	Ministry Response
Pg. 12: "To increase the likelihood of stakeholder buy-in and to ensure that projects respect the interests of those that stand to be affected, the ECO believes a stakeholder consultation requirement should be built into the program design, to take place before offset projects are registered."	The public will have opportunity to review and provide comments on draft protocols before they are finalized and before a decision on incorporating them into the regulation. Ontario is working very closely with Quebec to align carbon market protocols and processes and conferring with its other partner jurisdiction, California. The opportunity for stakeholder engagement will be enabled through the public posting of information about the initiative on Ontario.ca after it has been registered and before any offset credits are issued. This is consistent with the approach of our WCI partners (Quebec and California).
Pg. 13: "By banding together smaller projects under the umbrella of a collective, groups such as Coop Carbone have been able to reduce transaction costs and help develop and finance aggregated offset projects in Quebec.52"	Aggregation has been occurring in the voluntary offset market in Quebec, in which Coop Carbone has been active, but not in the compliance market. Quebec also allows for aggregation in the compliance market. However, there have been no offsets awarded under this feature of Quebec's cap and trade regulation.