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RE: ONEIA Submission to ERO Number 013-3738 Bill 4, The Cap and Trade Cancellation Act, 2018

On behalf of the Ontario Environment Industry Association (ONEIA), I am writing to provide the input from our Climate Change Working Group in response to the above-noted ERO posting.

For the past 25 years, ONEIA has represented Ontario's growing environment and cleantech industry. With more than 3,000 companies, this industry generates more than $8-billion each year and employs more than 65,000 people in our province. More than 45% of Canada's businesses in this area call Ontario home and these businesses thrive when governments enact smart legislation, policies and regulations that encourage market-based solutions to environmental problems. In this light, our members are committed to providing advice to all levels of government based on the principles of sound science, sound policy, and a sound environment.

Overview

ONEIA members accept and endorse the overwhelming scientific consensus that climate change is happening and is due largely to greenhouse gases (GHGs) emitted by human activity. According to multiple studies, such activity has already contributed to an increase in global temperatures by an average of one degree Celsius and the recently released International Panel on Climate Change (IPCC) report (October 2018) highlights a number of climate change impacts that could be avoided by limiting global warming to 1.5 degrees Celsius. The degree of warming is greater (and occurring more rapidly) in northern areas, with impacts that are up to two to three times higher in the Canadian Arctic and northern areas of Ontario.

Temperature changes are directly affecting the earth's climate and weather patterns, globally and regionally, and this includes increasing variances in temperature and the increased prevalence and severity of extreme weather events.

This growing and accepted body of scientific evidence has driven global cooperation to address the climate crisis. Governments worldwide have supported and endorsed a common evidence base from organizations such as the IPCC and the Organization for Economic Cooperation and Development (OECD) and have signed a series of agreements such as the recent Paris Accord to commit to GHG reduction targets.

Such studies and agreements have also framed a growing global business opportunity in both climate change mitigation technology and approaches, and investment in adaptive and resilient infrastructure. According to the OECD, as we move to limit global warming below two degrees Celsius, this should boost economic output by one percent by 2021 and 2.8 per cent by 2050. When investments in climate-resilient infrastructure and related measures are included, economic growth could be boosted by 4.7 percent by 2050. While the economic costs of the impacts of climate change are increasingly evident, the economic opportunities for jurisdictions with well-developed environment sectors, such as Ontario, are equally evident.

Extreme weather events will become increasingly common across Canada and their costs are estimated to grow from about $5 billion annually in 2020 to as much as $43 billion by the 2050s. In Ontario alone, data from the Insurance Bureau of Canada indicates that the province has suffered from almost $1-billion in insured damage as of early September 2018 – and this estimate did not include the damage from the tornadoes that struck the Ottawa area later that month. In addition, economies suffer equal or greater costs that are not covered by insurance, additional damage to productivity from power outages and flooding, and other weather-related costs and disruptions.

At the same time as such weather events are increasing in severity and cost, Ontario is making historic new investments in infrastructure. Over the next decade, Ontario is set to spend about $190 billion (including federal bilateral transfers) to expand and renew the province's infrastructure. These new investments will provide the province with a once-in-a-lifetime opportunity to prioritize investments in sustainable and resilient infrastructure, creating new markets for made-in-Ontario technology, products and services that can find global buyers in a world that needs climate resilient infrastructure solutions.

On July 25th, the Ontario government introduced the *Cap and Trade Cancellation Act, 2018* (Bill 4) to repeal the *Climate Change Mitigation and Low-carbon Economy Act, 2016* and set out the legal framework for an orderly wind-down of the greenhouse gas cap and trade program including the compensation framework. Bill 4 also requires that the Province establish targets for reducing the amount of greenhouse gas emissions in Ontario. The Minister of Environment, Conservation and Parks (MECP) is required to prepare a climate change plan and to prepare progress reports in respect of the plan.

In light of the climate challenge facing Ontario, the domestic and global opportunity to develop our province's environment companies, and the parameters of the proposed new legislation, ONEIA is pleased to offer the following recommendations:

Recommendations

ONEIA's Climate Change Task Force offers the following recommendations with respect to Bill 4 and will elaborate these ideas in further engagement with the province.

1) Recommendations for Setting New GHG targets for the Province

ONEIA's longstanding policy in this area is that firm GHG reduction targets send a clear signal to the market and drive the development and uptake of new technologies, products and solutions.

We support the establishment of an advisory panel of experts and stakeholders to develop policy, regulation and/or performance standards mechanisms to reduce GHG emissions to reach Ontario's targets. This panel should be composed of those with scientific and technical expertise and should have clear terms of reference that allow them to recommend evidence-based measures to rapidly reduce Ontario's overall GHG emissions from all sources. This will limit the propensity for governments to "pick winners and losers" instead of setting the winning conditions that will encourage companies to develop the solutions

necessary to meet the targets.

Accordingly, we recommend that Bill 4 be amended to clarify that the establishment of any advisory panel(s) be comprised of experts and stakeholders to develop both the new GHG targets and the new Climate Change Action Plan for the province.

2) Recommendations for the New Climate Change Action Plan

We recommend that Bill 4 be amended to require that the following key components be included to develop specific policies and then implement the province's new Climate Change Action Plan:

a) Energy efficiency and conservation programs: Ontario already has a relatively low-carbon electricity system, thanks to measures begun in the late 1990s and undertaken under successive provincial governments. ONEIA supports programs that improve the energy performance for homes, businesses and other buildings in the public, health and education sectors to the extent that such measure reduce GHG emissions from fossil fueled heating systems or reduce peak demands in areas with strained transmission capacities, thereby reducing the need for standby power generation from fossil fuel sources and freeing up grid capacity for increased electrification of the transportation sector.

b) Encouraging development of Renewable Natural Gas, landfill gas and other renewable fuels: Organic materials from industrial and residential food waste, agricultural waste, and other sources are a significant contributor to Ontario's GHG emissions, with methane from such materials having impacts that are up to several dozen times as severe as CO2. We believe any climate change solution for the province should encourage multiple ways in which such materials can be repurposed and then recycled to supplement or displace existing fossil fuels (e.g. conversion into pipeline-ready renewable natural gas, use in power generation at waste treatment sites, etc.). Such measures would not only benefit Ontario's recycling industry, but would offer new markets and opportunities to agricultural producers as well.

c) Electrification of ground transportation: As transportation makes up one of the major (and growing) sources of GHGs in Ontario, we support the development of policies to significantly and rapidly enable the electrification of transportation including mass transit, personal vehicles, freight and passenger transportation by rail, electric vehicles and low-carbon/zero-emission vehicles.

d) Improving building codes and standards: As buildings continue to be one of the main sources of GHGs in Ontario and represent one of our major vulnerabilities for severe weather events, we support changes to building codes and standards that encourage energy efficiency, building upgrades and other measures that reduce their GHG footprint and increase their resilience to such events as flooding and high winds.

e) Increased efficiency in land use planning: As Ontario's population continues to urbanize, measures that increase density, efficient transportation and efficient land use will become more important as a tool to reduce overall GHG output. Bill 4 should include defined measures that encourage urban growth planning that focuses on high density targets, transit-supportive land use planning, and complete communities that provide public transit, active transportation, support public health, and provide close connections among work, home and outdoor spaces.

f) Infrastructure funding and government procurement: The Ontario government will be the country's largest spender on infrastructure in the next

decade, and is already the single biggest purchaser of goods and services in the province. This offers an important opportunity to use procurement and infrastructure programs as a means to encourage climate mitigation and resilience and imbed it within standard government practices and our built infrastructure.

We support infrastructure and government procurement that requires lifecycle assessment infrastructure and building projects with scoring benchmarked on best-in-class lifecycle GHG emissions. Government procurement policies should also support low-GHG purchasing, manufacturing, and installation to encourage wider adoption of such practices by other major purchasers. Government procurement, particularly through pilot projects and targeted reduction initiatives, could also provide leadership in the infrastructure and buildings sectors by allowing the province to become a "market maker" in areas such as building materials that are GHG neutral and net-zero emission projects.

g) Climate resilience: While the province must continue its commitment to set and meet aggressive GHG reduction targets, the persistence of GHGs in the atmosphere means that a certain amount of climate change is expected for decades to come. As such, it is imperative that the Government of Ontario prepare for the risks of extreme weather, changes in extreme temperatures, and changes in rainfall patterns, as well as the potential opportunities that will affect our economy, infrastructure, and health.

A climate action plan should, therefore, incorporate resilient measures to make our communities less vulnerable and more adaptive to the changing climate. While there are upfront costs to implementing such measures, research has shown that for every dollar spent on climate resilience or hazard mitigation, six dollars are saved from extreme weather damage (https://www.nibs.org/news/381874/National-Institute-of-Building-Sciences-Issues-New-Report-on-the-Value-of-Mitigation.htm).

ONEIA also recommends that the following items be incorporated in a climate change/action plan to address climate adaptation and climate resilience:

i. Provincial climate change risk assessment: We recommend that the Province commission a comprehensive Ontario wide climate risk assessment to identify regional climate change scenarios and climate vulnerabilities and hazards across different provincial regions and economic sectors. Such an assessment will provide information on the climate risks that the Province will need in order to develop policies, programs, regulations and standards to prepare for the changing climate (e.g. increased flooding, drought, high winds, forest fire or extreme heat); what sectors need support (e.g., transportation, infrastructure, health, agriculture, financial sectors etc.); and, the populations that are most vulnerable so that adaptation strategies and mitigation measures can be prioritized and resources can be efficiently allocated.

ii. Climate resilient infrastructure: Ontario needs to identify what specific infrastructure is vulnerable and take measures to make it more resilient. Examples of such measures may include building and updating roads and bridges to withstand intense rainfalls and more frequent freeze-thaw cycles. Storm sewers may need to be retrofitted or redesigned to transport the increased volumes of water from more extreme and short-lived storms. Coupled with urban sprawl and more paved surfaces, more intense rainfall events are expected to overwhelm our current storm sewers increasing flood-related property losses.

iii. Update floodplain mapping systems: While we recommend that development be prohibited in floodplains, many of the floodplain maps in Ontario

are based on outdated climate data. We recommend that the Province fund, in collaboration with local authorities, support the continuous updating of floodplain maps across the province, where relevant, for infrastructure and development.

iv. Climate-resilient natural solutions and landscaping design: We recommend incorporating climate-resilient natural solutions and landscaping design in infrastructure / building design and land use planning to mitigate the climate risks of increasing frequency and severity of extreme weather events (e.g. intense rainfall and wind storms), including directing funds to restore and protect wetlands, increase tree canopy in urban areas, to support the use of pervious materials, and to install bioswales and green roofs.

v. Best practices guidance re agricultural impacts: The changing climate will have significant effects on Ontario's agricultural producers, specifically on our ability to grow crops and raise animals. Improved water management will be needed for irrigation and farmers may need to switch to crops that are more drought-resistant, pest-resistant, and heat-tolerant. Heat stress for livestock will also need to be managed. As such, we recommend that the government develop and provide best practices guidance to assist farmers in adapting to climate change so that they can maximize their crop yields and livestock.

vi. Public education and outreach: Governments and businesses are only one part of the climate change equation. Educating and empowering Ontario individuals and families will be an important part of making our province more adaptable and resilient. Given the health and safety implications of climate change, there is a need to educate the public on ways that they can protect their health from extreme heat, increased incidence of vector-borne disease (such as Lyme disease), poor air quality, and flooding. We also support an increase in science-based education on causes and effects of climate change so that individuals and families can better understand what is driving climate change and, more importantly, the role they can play in helping our society adapt.

We are pleased to submit these recommendations as an initial start to an ongoing and productive conversation between Ontario's environment sector and the Province about how we can reduce our GHG emissions, adapt to a changing climate and take advantage of the business opportunity these changes present. In the coming months, we will engage with your ministry and others on multiple levels as part of our ongoing and nonpartisan effort to encourage fact-based decision making with respect to this issue.

Should you have any questions about these specific recommendations, please do not hesitate to contact the co-chairs of our Climate Change Task Force, Janet Bobechko (janet.bobechko@nortonrosefulbright.com) and Sara Wilson, P.Eng. (sarajustinewilson@gmail.com), or the ONEIA office directly at (416) 531-7884 (agill@oneia.ca).

Yours truly,

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