

Chair  
**Terry Obal**  
Bureau Veritas

**Izzie Abrams**  
Waste Connections

**Robyn Gray**  
Sussex Strategy

**Michele Grenier**  
Ontario Water Works  
Association

**Irene Hassas**  
Aslan Technologies

**Denise Lacchin**  
Golder

**Brent Langille**  
RWDI

**Duncan McKinnon**  
ALS Global

**Brandon Moffatt**  
StormFisher

**Tim Murphy**  
Walker Environmental  
Group

**Sean Thomsson**  
Pisgryph

**Joanna Vince**  
Willms & Shier  
Environmental Lawyers

**Grant Walsom**  
XCG Consulting Ltd.

**Derek Webb**  
BIOREM Technologies

**Agnes Wiertzynski**  
Accuworx

**ONEIA**  
192 Spadina Avenue  
Suite 306  
Toronto, ON M5T 2C2

Executive Director  
**Michelle Noble**

Operations Manager  
**Janelle Yanishewski**

Tel: (416) 531-7884  
info@oneia.ca  
[www.oneia.ca](http://www.oneia.ca)

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Melissa Ollevier  
Senior Policy Advisor  
Financial Instruments Policy Unit  
Ministry of Environment, Conservation and Parks  
[melissa.ollevier@ontario.ca](mailto:melissa.ollevier@ontario.ca)

**RE: Emissions Performance Standards (EPS) program regulatory  
amendments for the 2023-2030 period (ERO #019-5769)**

Dear Ms. Ollevier:

On behalf of Ontario's more than 3,000 environment and cleantech firms, the Ontario Environment Industry Association (ONEIA) is writing to provide our comments on Ontario's Emissions Performance Standards (EPS) program regulatory amendments for the 2023-2030 period, ERO posting #019-5769.

**About ONEIA**

Ontario is home to Canada's largest group of environment and cleantech companies. The most recent statistics from the federal government show that Ontario's environment sector employs more than 226,000 people across a range of sub-sectors. This includes firms working in such diverse areas as materials collection and transfer, resource recovery, composting and recycling solutions, alternative energy systems, environmental consulting, brownfield remediation, and water treatment – to name just a few. These companies contribute more than \$25-billion to the provincial economy, with approximately \$5.8-billion of this amount coming from export earnings.

ONEIA members are committed to engaging with governments as they develop policies and regulations that are consistent with our principles of sound science, a sound environment, and a sound economy. To that end, we convened a working group of ONEIA members to review the ERO bulletin and supporting materials and develop this submission.

**How can the future Emissions Performance Standards (EPS) program design elements to optimize GHG emissions reductions while minimizing carbon leakage?**

ONEIA recommends the Province consider the following EPS design elements:

1. The government could review organic waste diversion from Industrial, Commercial & Institutional (IC&I) sources. Currently, a considerable amount of waste, including organics is sent to Michigan and New York landfills for disposal, and as a result there is significant carbon leakage of methane from landfill emissions that is being facilitated.

2. By clearly defining the carbon intensities of various low-carbon gases such as Renewable Natural Gas (RNG) from food waste, agricultural waste, wastewater treatment plants, landfills, biomass, and other sources, the government could foster fuel switching under the EPS. Additionally, various types of hydrogen, an emerging energy source, could be distinguished under the EPS.

For example, under the EPS (O. Reg. 241/19 under the EPA) - O. Reg. 241/19: GREENHOUSE GAS EMISSIONS PERFORMANCE STANDARDS (ontario.ca), there is no definition of “biomass fuel”. However, communication from MECP indicates they consider RNG to constitute “biomass” under and for the purposes of the GHG Emissions Performance Standards Methodology for the Determination of the Total Annual Emissions Limit. (Published by MECP and referred to as the “Methodology” in the EPS update Oct, 2021 and published on the EPS website” GHG Emissions Performance Standards and Methodology for the Determination of the Total Annual Emissions Limit” [prod-environmental-registry.s3.amazonaws.com]). As set out in the Methodology, the various formulae for calculating the Performance Standard for particular types of emitting facilities, in each case multiply the applicable terms by the “non-biomass fraction” or “NBFy” which is notionally equal to 1- (biomass fuel/total fuel). In the Ontario GHG Quantification, Reporting and Verification regulation (O.Reg 390/18 under the EPA) O. Reg. 390/18:GREENHOUSE GAS EMISSIONS: QUANTIFICATION, REPORTING AND VERIFICATION (ontario.ca) and the (the “QRV reg”), there is both a definition of “biomass” and “biogas”, with biogas being one of the types of materials that is set out in the criteria for the definition of “biomass” (sched 4 to the QRV reg). However, the QRV regulation takes the same approach in only quantifying the CO<sub>2</sub>e from the combustion of “biomass” and deducting that from the total emissions of a covered facility to be reported (see section 6 of the QRV reg).

Ultimately this approach, and by extension the EPS, treats all sources of “biomass” in the same manner under the Methodology, and CO<sub>2</sub> emissions attributable to the “biomass” portion of the combustion fuel is backed out of the formulae for purposes of calculating total emissions. It fails to recognize the carbon negativity of RNG relative to other items that fall under the definition of “biomass” under the QRV reg. This includes not recognizing that RNG production and use results in net negative carbon emissions relative to conventional natural gas, and doesn’t just negate the emissions from its own combustion. As a result, for a regulated emitter under the EPS that may have opportunities to replace natural gas with bio-based alternatives, there will be no perceived carbon benefit under the EPS in choosing RNG over landfill gas (or other forms of “biomass”) even though RNG, on an energy unit basis, may represent significantly enhanced carbon reduction relative to other forms of “biomass”.

3. The Province could consider the impacts of the implementation of load-shifting measures (such as energy storage or demand-controlled ventilation) on emissions in a future iteration of the EPS. Such technologies would enable

companies to shift consumption from times of high-emitting electricity to low-emitting times, without impacting the operations of businesses. This would benefit facilities which may not be able to install on-site generation due to space or other constraints.

4. The Province should consider the growing interest in transitioning from fossil-based natural gas (NG) to renewable natural gas (RNG) since it can be injected into the existing pipelines and pumped into LNG vehicles. The Canadian Biogas Association released a report titled “Hitting Canada’s Climate Targets with Biogas and RNG”, which outlined how RNG is a critical building block to achieving environmental targets, and compares different provincial and federal policies to get there. RNG provides an affordable option to large energy users to fuel switch now, while innovations in other clean fuels like hydrogen energy are under development.

RNG feedstocks include organic waste, manure, wastewater, and landfill gas. With EPS to reduce GHGs coinciding with waste diversion targets, there is a significant opportunity to expand the RNG market through low financial barriers in the near term to help achieve 2030 targets.

The majority of large Ontario municipalities, as well as food and agricultural industries are now diverting their organic waste from landfill and sending it to anaerobic digestion (AD) facilities, which convert it into biogas and CFIA-grade fertilizers. Biogas is then upgraded into RNG that is injected into the NG pipeline.

New Ontario Ministry of Agriculture Food and Rural Affairs regulations allow for AD-to-RNG facilities on dairy and swine farms. When organic waste is combined with manure from these animals and treated using AD technology, biogas, a negative-carbon intensity RNG is produced – meaning it takes more carbon out of the environment than it produces. Rather than spreading the manure on farmers’ fields or storing in lagoons, it is converted into one of the lowest carbon-negative fuels and nutrient-rich fertilizers, and it is utilized to displace fossil fuel-based energy for electricity, heating, and transportation use.

On-farm AD-to-RNG infrastructure is an example of a true and sustainable circular economy. The by-products produced contribute value to the market. The fertilizer can be used to grow crops, the steam from the AD process can heat the barns and greenhouses, the RNG can power the farm and the liquid RNG can fuel the trucks that transport food to market. Excess RNG would then be sold to end user customers (i.e., direct to large energy users, utilities, transportation fleets, etc.), therefore reducing their emissions.

**How should different types of emissions be treated to minimize competitiveness impacts and allow time for new cost-effective technologies to be developed over the medium and long-term?**

1. ONEIA recommends that, rather than assessing all GHGs on a 100-year timescale which is currently common practice, the province consider assessing the types of GHG emissions from various industrial generators to prioritize short lived climate pollutants (SLCPs) including methane, hydrofluorocarbons, and black carbon, because SLCPs are assessed on a 20-year time scale.
2. If load-shifting is included in a future iteration of the EPS, ONEIA would ask the Province to consider using an approach of utilizing marginal emissions factors rather than average emissions factors to quantify the avoided emissions more accurately from load shifting technologies.
3. A growing policy trend is ranking CECs to the carbon intensity of low carbon renewable fuels. Carbon intensity is the measure of greenhouse gas emissions associated with producing and consuming a utility or transportation fuel. It is measured in grams of carbon dioxide equivalent per megajoule of energy.

Under Ontario's EPS CEC Registry, energy producers should receive a quantified number of credits for not releasing these emissions into the environment plus additional credits for generating a low-carbon or even carbon-negative fuel.

Substantial private and public investment supporting the development of AD-to-RNG infrastructure has already been made, which means RNG is being accepted as a sustainable and affordable solution to meeting Canada's 2030 target, eliminating the need for even more funding to support utility or vehicle retrofits.

As RNG processors build capacity, greater public awareness of the ease of switching from fossil NG to RNG must take place to encourage more supply and to incentivize demand. Governments at all levels should implement policies related to decarbonizing the natural gas sector with renewable feedstocks (i.e., organic waste, manure, wastewater, and landfill gases).

One way to raise awareness of RNG for large energy users is to clearly rate its very good emission performance based on its low carbon intensity. For example, natural gas has a carbon intensity rating of approximately +60g CO<sub>2</sub>e/MJ, indicating a high level of GHG emissions. While RNG has a carbon intensity that can be as low as -100g CO<sub>2</sub>e/MJ.

According to the Coalition for Renewable Natural Gas, RNG has one of the lowest carbon intensities of any clean energy source available today. Manure-to-RNG fuel pathways have carbon intensity scores ranging from -100 to -400 g CO<sub>2</sub>e/MJ, which means the process of producing it results in a net carbon reduction. By comparison, petroleum diesel typically has a carbon intensity of +100 g CO<sub>2</sub>e/MJ, and fossil natural gas has a carbon intensity of +70 g CO<sub>2</sub>e/MJ. This means that combusting a megajoule of petroleum diesel or fossil natural gas releases about +100 g CO<sub>2</sub>e and +70 g CO<sub>2</sub>e, respectively,

whereas, combusting a megajoule of RNG from manure prevents the release of 100 to 400 g CO<sub>2</sub>e into the atmosphere.

Jurisdictions like B.C., California and Oregon have recognized that businesses can be incentivized to invest in fuel switching to low carbon intensity fuels to offset their emissions more quickly with some of the lowest negative carbon intensity RNG (i.e., dairy cow manure mixed with organic waste feedstock AD-to-RNG). By quantifying their credits via the carbon intensity under a Low-Carbon Fuel Standard (LCFS), they have created a market that rewards the increased use of the lowest carbon renewable fuels.

**Additionally, ONEIA suggests the following points for clarification for the emission performance standard design:**

1. What would the impacts of the Clean Fuel Standard be on current emission projections?
2. What impact would a renewable gas blending mandate of 15% by 2030 have on the emission forecast?
3. How would any new market structures enabled by the Independent Electricity System Operator (IESO), such as Hybrid Participation, or structures implemented because of the Market Renewal Project impact emissions forecast? The implicit assumption is that additional dynamic market structures encouraging participation of aggregated distributed energy resources will in effect increase the uptake of load-shifting and on-site generation technologies.

ONEIA appreciates the opportunity to provide our comments and suggestions and is ready to work with the Ministry and other areas of the government to advance Ontario's approach for Emissions Performance Standards program regulatory amendments for the 2023-2030 period. We welcome the opportunity to discuss our position and recommendations further. Please contact our office at [info@oneia.ca](mailto:info@oneia.ca) or at (416) 531-7884 should you have any questions.

Yours truly,



Michelle Noble,  
Executive Director, ONEIA