

Comments and Response to Ontario's Climate Change Discussion Paper

May 29, 2015

Background

- **About OSEA & Our Vision**

OSEA is a membership-based association of individuals, community, public and private sector champions.

Our vision is of a prosperous Ontario with a thriving sustainable energy sector, good jobs, resilient communities and healthy environments powered, heated, cooled and moved by portfolios of sustainable energy.

Together we are raising public awareness, advising decision makers and establishing forums for new market opportunities and collaboration.

- **Our Mission**

To be Ontario's most respected sustainable energy advocate and facilitator by providing credible, accurate and timely information and an unparalleled network of community and commercial sector supporters and participants.

- **Leadership in Action: Our Track Record**

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| 2001: | Incorporated to advance a sustainable energy economy and community power in Ontario |
| 2004: | Campaigned and developed the policy document which led to Ontario's Renewable Energy Standard Offer Program |
| 2007: | Launched the Community Power Fund to assist local Community Power generation initiatives with soft cost grants |
| 2008: | Developed the policy document which led to the current Green Energy and Economy Act and Feed-in tariff program |
| 2009: | Early adopter of webinar technology to engage sector leaders and members on current issues and advances in sustainable energy |
| 2010: | Initiated Ontario Energy Drinks, a monthly networking event for industry players;
Created the Ontario Community Power Services Group to assist local community energy initiatives;
Tide's Canada Top 10 award recipient |
| 2011 & 2014: | Countered the negative rhetoric regarding Green Energy and Economy Act and FIT with local education and TV campaigns |

- 2008-2014: Hosted five successful international sustainable exhibitions and conferences (World Wind 2008, Community Power 2009–11 and All Energy Canada 2014)
- 2012: Organized a tour to Germany for community and business leaders
- 2011-present: Host annual sustainable energy showcases under the Green Energy Doors Open communications and public awareness campaign, with more than 110 host sites and 3,600 visitors and which expanded to Alberta in 2014
- 2012-present: Launched the 20/20 Roadmap campaign looking beyond the Long Term Energy Plan, to advance a portfolio approach to powering, heating, cooling and moving Ontario with distributed, affordable, firm and flexible sustainable energy, creating good jobs, resilient communities, healthier environments and a thriving sustainable energy sector

- **OSEA's unique position**

The Ontario Sustainable Energy Association has been championing the transition to a 100% sustainable energy system since its inception in 2001. OSEA takes an evidence-based approach using peer-reviewed analysis. Our diverse membership and partnership network, which includes privately owned businesses from all aspects of the sustainable energy industry, including conservation and energy efficiency, public sector entities, community groups, co-operatives and First Nation communities, allows us to have a unique perspective that incorporates different viewpoints and considerations for a climate change strategy for Ontario.

In the following, please find our input regarding an effective climate change strategy for Ontario.

Discussion Questions

1. Traditional Knowledge

It is important to engage all communities and tap into the knowledge of First Nations when developing a climate change strategy for Ontario. Suggestions on how best to engage will have to come from these communities. We would therefore recommend addressing this with First Nations communities directly.

2. Actions in Key Sectors

What can these sectors do to contribute to Ontario's 2020 and 2050 targets?

Transportation

Build better public transportation

- Continue to build and expand public transportation in urban regions; connect/integrate transit systems in the GTA better.
- Continue electrifying the public transit fleet.
- Roof space on bus terminals, train stations, and highway service stations, as well as the space on GO parking lots (car ports), should be utilized for solar roof-top systems and feed the energy into the grid. Equip all parking areas on those sites with electric charging stations.
- Introduce tolls for all highways; make city limit access exclusive for electric cars

- Make bicycles the choice of transportation for students (it all starts with educating the next generation). Have safe and well maintained bike lanes in the inner city and suburbia.
- Introduce pedestrian areas to make downtown cores of cities more attractive for people than shopping malls. Make them easily accessible by foot, bike, and transit.
- Build better (high-speed) railway nets; connect large cities and the northern cities e.g. Ottawa, Toronto, Thunder Bay and North Bay with electrified high-speed trains making it less attractive to fly. Connect these systems to the public transportation system.

Reduce gas and diesel consumption in commercial transportation

- Reduce the number of trucks on the roads by providing incentives for low carbon transportation methods. Improve railway network and electrify railway network.
- Support electric vehicle charging station infrastructure development, introduce incentives to use E-vehicles.
- Make the use of electric vehicles mandatory in certain areas where there are both types of vehicles available, thereby levelling the playing field for all competitors e.g. large warehouses can have solar energy produced on the tops of their vast roofs to recharge the batteries of their fleet.
- Make electric vehicles mandatory in government agencies fleets, thereby a large number of Ontarians will be introduced to these vehicles thus promoting better private vehicles choices.
- Prohibit transportation of waste on Ontario roads beyond a certain radius (e.g. 50 km).
- Introduce a mandatory local waste management that forbids garbage export to other communities.
- Cooperate with the agricultural sector in collective efforts towards reducing Greenhouse Gas emissions from food waste and food transportation. Support efforts to reduce the amount of food that annually finds its way to landfill and composting, creating unnecessarily high levels of carbon and methane. More efficient movement and marketing of the food products would significantly benefit our economy and reduce environmental impacts.
- Regionalized food hubs could help to more efficiently distribute local and regional agricultural products by shortening the distance between producers and consumers. Expanding and scaling-up the food hub concept will make it possible for Ontario farmers to access new market opportunities by connecting them with regional wholesale, commercial, and institutional buyers. By keeping more of the retail food dollar circulating in the local economy, food hubs stimulate regional economic development, create jobs, and encourages a lower-carbon, more efficient food system.

Barriers to uptake in low-emission, zero emission and e-vehicle use in ON

- The retail price of electric vehicles (EV) is still significantly above the price for standard gas fuelled cars; Extend and implement new incentives for first time EV buyers.
- There are presently not enough models available that appeal to the environmentally unaware and low-income families. Support the development of electric Minivans, SUVs and pick-up trucks that are indistinguishable with regard to their performance and appearance from the regular models.
- EVs suffer from a perceived limited range and reliability gap and are still considered to be experimental technology. Support the automobiles efforts to change the image of EVs.
- We are lacking EV infrastructure. Ways to improve the infrastructure for electric vehicles:
 - Add specific incentives for DC fast charging stations, following the examples of British Columbia and Quebec where EV drivers can top up their charge in only 20-25mins.
 - Change the Ontario building code to require that new construction projects should include the rough-in for 208-240 VAC power (min 40 amp breaker) in residential garages.
 - In new construction parking garages and condo units 15% of parking spaces should be equipped with EV charging plug-ins as well. This is the case already in BC and in California.
- Support programs which provide greater public exposure and access to e-vehicles etc.

Industry

The Canadian industry shows a significant gap in innovative potential and productivity as compared to the leading countries. The reasons may be multiple and cultural, but it is also clear that many European countries with higher productivity than Canada have successfully met challenges through increasingly stricter environmental and emissions regulations over the past decades. Many economists conclude that command and control mechanisms do not have a negative economic impact on the industry, but rather encourage participants to innovate and optimize their processes to better manage (shared) resources through the following means:

- Stop relying on self-regulation by the industry and instead introduce emissions standards in all industries for all relevant and hazardous industrial emissions; this measure alone will immediately increase innovation and productivity.
- Conduct annual emissions reports and biannual audits for companies to obtain mandatory emissions certificates.
- Mandate all industry sectors to set ambitious, and specific 5-year emissions reduction targets for their sector based on international best practices.
- Incentivize achievement or over achievement of targets; punish underachievement.
- Recognize Geothermal as a renewable energy able to conserve and store energy, reduce GHG emissions; provide demand side management; reduce future price risk of heating with NG
- Mandate all new multi-family buildings to be able to curb and/or generate electricity to at least 25% of the building's peak design, particularly in congested urban centers.
- Mandate all new and refurbished hospitals to install CHP wherever technically possible.
- Consider expanding the definition of green roofs: encourage rooftop greenhouse growing operations on grocery stores; as well as commercial and warehouse roofs where possible.
- Encourage CHP to be eligible for gas DSM program funding.
- Allow LDCs to become facilitators of distributed generation to be able to rely more on decentralized power rather than mostly having to buy from large central plants.
- Introduce Chief Sustainability Officer as a mandatory executive position; make CSR reporting according to ISO 26 000 standards mandatory for public companies.
- Industries that jointly contribute 80% of the emissions should be targeted specifically by implementing new provincial emission standards for each of them. These would include, but should not be limited to the following industries:
 - Road transportation/logistics industry
 - Iron & Steel industry
 - Off Road industry
 - Commercial buildings: set standards for heat and electricity conservation in industrial buildings.
- Mandate Geothermal wherever there is the potential for it. Make rooftop solar and solar thermal systems mandatory for all businesses which have sufficient roof space and are in need of significant amounts of hot water and/or steam in their operation.

Agriculture & Food Supply

- Incentivize energy efficient farming in such areas as water, fertilizer, and fuel consumption.
- Support farmers in the implementation of Beneficial Management Practices (BMPs) in the areas of:

- Water and irrigation management,
 - Conservation tillage practices such as no-till or minimum-till,
 - Nutrient and manure management,
 - Emission reduction in livestock production systems, and
 - On-farm energy conservation and generation.
- Mandate reduce, reuse, recycle practice in the industrial scale agriculture (e.g. final use of waste biomass from agricultural businesses in CHP or biogas facilities).
 - Improve the regulatory environment for the development of on-farm biogas facilities, in relation to pricing, timelines, connection.
 - Mandate reduction of food waste/energy waste throughout the entire production/logistics/consumption chain.
 - Expand research and development of renewable biofuels and incentivize their use by industry.
 - Support research, development, and commercialization in Ontario's bio-economy by replacing fossil-fuel based energy with those derived from renewable plant sources.
 - Support and initiate efforts to facilitate knowledge transfer and exchange, particularly among farmers and rural residents; promote educational opportunities, support data collection and dissemination of information among researchers and users.
 - Develop risk assessment and audit tools to assist farmers in evaluating the potential of climate change impact on their operations.
 - Limit urban sprawl and the associated reduction in farmland. Make a concentrated effort for urban intensification, hard boundaries and set targets for higher density development to reduce greenhouse gas emissions from personal transportation and the movement of goods and services.
 - Develop and promote growth plans that maintain agricultural lands in production, which help mitigate the impacts of extreme weather events on urban landscapes by moderating water flows, providing groundwater recharge, and carbon sequestration.

Forestry & Boreal Forest roles as carbon sinks

- Support and strengthen the sustainable forestry certification of Ontario crown forests.
- Increase reforestation and re-naturalization activities in urban centres.
- Support the development of the Northern Ontario Bioeconomy Strategy, focusing on using Ontario forestry harvesting and production residues as a renewable energy fuel.
- Reduce regulatory and policy barriers to bioheat and biopower.

Land-use planning

Sprawling, gigantic residential developments, super malls and giant strip malls combined with a lack of public transportation are unsustainable land-use styles of the past century and a recipe for ballooning carbon emissions. The maintenance of such policies will promote the continuation of "one vehicle per household" practices necessitating the dwellers of these communities to use private vehicles for such rudimentary activities as shopping, visiting government services hubs, bringing kids to school, after school programs or cultural/community centers. Such developments must be redesigned to encourage walking and bicycling over the use of cars to reach the shared and public facilities and shops and improve public health.

3. Communities & Built Form (Growth plan for the Greater Golden Horseshoe area)

- Strongly incentivize retrofitting of old residential buildings through LICs. Expand the program and broadly educate Ontarians about it.
- Incorporate a public transportation integration plan.
- Implement highest standard building codes, i.e. net zero standard for all of Ontario's new built residential homes and commercial buildings.
- Make sustainable district heating for new residential developments mandatory, based upon whatever renewable fuel source available in the respective community, e.g. geothermal or CHP based on biomass, landfill gas, waste to heat.

Recommended changes required to building code and planning processes to increase uptake

- Make net zero standard mandatory for all new developments. Stop talking, start doing.
- Start an effective communications campaign led by the government to educate Ontarians about the facts related to climate change and the resulting risks and opportunities. Find a charismatic champion and face to spearhead this campaign.
- Publicly broadcast the main facts in this discussion paper and encourage all Ontarians to provide their input. Make energy conservation measures affordable through incentives to low income households.
- Increase electricity prices to reflect the true costs and provide help to low-income Ontarians to reduce their consumption.
- Stop all efforts supporting the consolidation of rural LDCs, especially steer away from a situation where Hydro One controls the majority of rural areas. Encourage Municipalities to build and operate their own grids and energy and heat infrastructure. Support rural municipalities that wish to become 100% renewable energy communities (thermal and electrical).

4. Price on Carbon

OSEA agrees that the transition towards a low-carbon society requires a market mechanism that places a price on carbon emissions. Putting a price on carbon generates a cost to regulated industries for emitting GHGs to the atmosphere, thereby creating an economic motivation to reduce further GHG emissions.

OSEA believes that all presently existing mechanisms, i.e. cap-and-trade, carbon tax, or hybrid systems can provide the desired results if they are properly designed and implemented. This would require a clear definition, measurement, and regular evaluation of all parameters.

The Government of Ontario has already announced plans to introduce a cap-and-trade regime to reach our emission reduction targets. OSEA welcomes this move but cautions the government to ensure that the *Cap and Trade System* is well-designed and implemented.

The keys elements for this are simplicity, transparency, and setting of ambitious targets. Specifically, the cap introduced must be ambitious for the various sectors to provide a strong enough incentive to take appropriate measures and keep market prices for emission certificates at meaningful levels.

We believe a Cap and Trade System that allows for offsets from the agricultural sector and industry participants who have implemented technologies that reduce their carbon emissions can provide certainty in ensuring Greenhouse Gas emission reductions while also providing needed flexibility to regulated sectors to meet their new obligations.

When designing the system, the government should take into consideration the over ten years of significant lessons-learned from other jurisdictions. In terms of design, we have several models currently in place in Alberta and Quebec from which to draw. Harmonizing an Ontario Cap and Trade System with these would be advantageous.

Cap and Trade Systems can offer an option for capped emitters to also purchase compliance from a technology fund that will provide money to research future emission reductions and to encourage innovation in industry. This is a key design feature that should be adopted in an Ontario Cap and Trade System.

The system should further be designed in a way that keeps administrative costs at a minimum and allows for the financial revenues to be invested in sustainable infrastructure projects.

Finally, when designing the system, we recommend that the government carefully listens to industry practitioners and avoids second-guessing itself once the system is implemented. Frequent adjustments and changes cause uncertainty and risk and hinder the establishment of a strong, prosperous and low carbon economy.

5. Science & Technology

The Canadian Cleantech sector is proudly home to energy efficiency, conservation and sustainable energy generation technologies with the potential to solve many of our current challenges domestically and internationally. In order to realize existing solutions and spur new innovation in the clean technology space, it is imperative that both the provincial and federal governments fund research and development in the areas of energy, sustainable technologies and efficient use of natural resources.

Research areas that should be supported include:

- Advancements in renewable generators (eg. Improve efficiency of wind and solar generators)
- Alternative fuels (eg. algae as biofuels, hydrogen)
- Building envelopes/ design
- Energy storage
- Recycling
- Smart Grid and energy IT
- Urban Planning
- Waste management
- Water filtration/ treatment

Other: The importance of communities

Communities play an important role in the implementation of any climate change strategy. Past programs and policies, such as the Green Energy and Economy Act, encouraged local community participation. Unfortunately, this encouragement of local participation in all types of projects has diminished with the evolution of the FIT program. We therefore recommend that local municipalities be mandated to develop community energy plans wherein they be encouraged to work with community groups and local businesses to jointly develop and operate sustainable energy projects of all types and sizes. This builds community, increases capacity and know-how by

local citizens and generates economic development, thus enhancing the overall prosperity and quality of life for all members of the community. In order to better enable municipalities to be the drivers for these collaborations, ownership of the local utility is essential. We therefore recommend that municipalities receive a first right of refusal during the proposed sale of Hydro One assets.

Community groups, e.g. co-operatives can play a very important role in driving the development, implementation, and operation of sustainable energy projects in their communities. Unfortunately, most community co-operatives have to rely on volunteers, which becomes a huge hurdle due to the fact that most volunteers are only able to contribute time during their time off. This means conducting any business for the co-operative can be very difficult and slow. Additionally borrowing money from financial institutions to finance different parts of project development is almost impossible due to the fact that any FIT contract awarded to a co-operative is not considered collateral against which the group can borrow money. A loan guarantee program for co-operative developments under the FIT and LRP program, similar to the loan guarantee program that exists for Aboriginal FIT projects, would be greatly beneficial and help alleviate financial indemnification, allowing co-operatives to become viable partners in sustainable energy developments, thereby ensuring that profits and benefits from renewable energy generation stay in the community and nurture growth and development.

Conclusions

OSEA appreciates the opportunity to provide feedback and commentary to this important discussion. Climate Change is an important issue that also provides an incredible opportunity to build strong, resilient communities. OSEA's has been championing a 100% sustainable energy system for Ontario. To get us there, we believe that we can tackle these problems in a modular fashion based on portfolios of sustainable technologies.

Our members hold the key to building these portfolios through technological solutions that they offer and/or the communal approach of their implementation. It's paramount that every Ontarian becomes part of these solutions.

We look forward to engaging with the Ministry of Environment and Climate Change helping to develop mechanisms to reduce greenhouse gas emissions and creating a comprehensive climate change strategy for Ontario.

Sincerely,

Nicole Risse
Director

Cc: Hon. Glen Murray, Minister of Environment and Climate Change