SOCIETY *of*
UNITED PROFESSIONALS
IFPTE 160

SUBMISSION ON BILL 214, THE "AFFORDABLE ENERGY ACT"

SUBMITTED ON BEHALF OF THE SOCIETY OF UNITED PROFESSIONALS

NOVEMBER 18, 2024

INTRODUCTION

The Society of United Professionals represents over 10,000 engineers, scientists, supervisors, and other professionals in Canada's energy and legal sectors. For 80 years, our organization has represented professionals in Ontario's electricity sector.

Our members work in every aspect of the electricity industry. They are involved in generation, transmission and distribution of electricity, management of the electricity system, regulation and enforcement of standards, and management of the electricity market. They are employed as first-line managers and supervisors, professional engineers, scientists, information systems professionals, economists, auditors and accountants, as well as many other professional, administrative, and associated occupations.

As the union of choice for professionals in the energy sector, the Society takes great interest in the Government's Bill 214, also known as the "Affordable Energy Act", which we believe is an important first step in building an electricity system that will enable us to achieve net-zero emissions. However, the Society does have some significant concerns with the legislation and cannot support the bill as written without amendment.

THE NEED FOR ELECTRIFICATION AND NUCLEAR

The time for incremental action on climate change is over. Provincially, nationally, and globally, we are running out of time to take the bold action necessary to avert catastrophic climate change. Scientists began issuing warnings about climate change in the 1950s, and efforts to suppress climate science and delay climate action have largely succeeded for more than half a century. Today, we are in the midst of a climate emergency that demands action and a response on the scale we have seen in response to the COVID-19 pandemic.

As fires and floods ravage so many precious regions of our planet, species become endangered and extinct, and livelihoods dry up; it is clear that in many respects we are already too late.

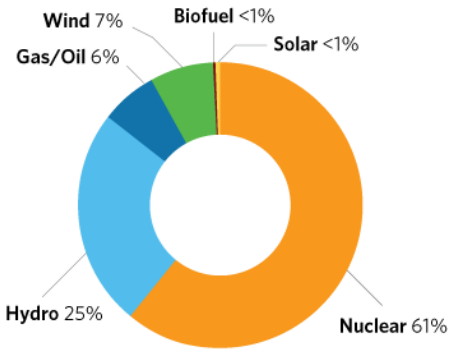
Though the best time to act would have been decades ago, the second-best time is now. We must act urgently, as though our kids' and grandkids' lives and livelihoods depend on it — because they do.

The government, in the Society's view, should focus on achieving net-zero greenhouse gas emissions through a fair and just transition for all communities and workers. The government can achieve this in part by supporting a shift towards electrification in Ontario, powered by greenhouse gas emission-free nuclear, hydro, and renewable electricity. Currently, approximately 93% of Ontario's energy output comes from these three GHG-free sources. In order to maintain Ontario's position among world leaders in low carbon electricity grids, the province needs to invest in maintaining our existing nuclear fleet, as well as expanding it through the construction of new full sized CANDU reactors, and small modular reactors (SMRs).

The Society applauds the government's prudent decision to refurbish the Pickering Nuclear Generating Station (PNGS), in addition to recent announcements to construct a new, full sized nuclear generating station at the Bruce Nuclear site, and the installation of three additional SMRs at the Darlington new nuclear site.

These announcements are crucial first steps to power the electrification of Ontario, though more action is needed. According to recent IESO forecasts, if the province doesn't significantly expand it's supply of carbon-free electricity generation, the coming spike in electricity demand will be fueled by natural gas generation. Relying on natural gas for baseload generation will see Ontario's carbon emissions from electricity generation nearly triple over the next two decades, returning to levels equivalent to when the Nanticoke coal plant was still in operation. While natural gas emits only 60% of the lifecycle carbon emissions of coal fired generation, gas generation is still 35-40 times as carbon intensive as the province's other sources of electricity generation.

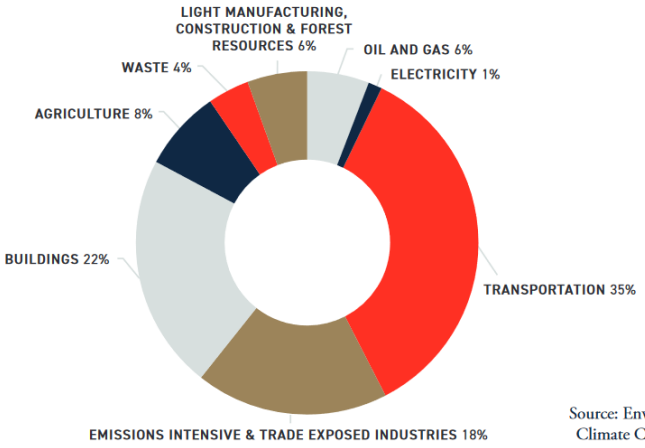
ONTARIO ELECTRICITY GENERATION BY FUEL TYPE



The Society views Bill 214 as a crucial first step in creating an electricity system that can power our net-zero energy transition. The legislation's clear prioritization of nuclear power generation ensures Ontario's electricity system will remain one of the cleanest in the world, even as demand for electricity increases significantly.

The shift towards electrified transportation will make significant progress in reducing Ontario's carbon emissions. The IESO forecasts that if the province reaches the projected 6.6 million electric vehicles by 2042, Ontario could eliminate 22 megatonnes of carbon emissions – a 13% reduction from current emission levels. However, without significant expansion of the province's nuclear fleet, a significant portion of the province's emissions reductions through electrification will be undone by a greater increase on fossil fuels for electricity generation.

ONTARIO CARBON EMISSIONS BY SOURCE



Source: Environment and Climate Change Canada

However, electrification of the provincial economy must extend beyond electric vehicles. The province should aim to reduce carbon emissions from all of its major economic sectors, particularly the buildings sector and emissions intensive industries. Recent decisions by the government suggest that it will continue to support the province's reliance on natural gas for home heating, instead of supporting a shift to electric heat pumps, an important emissions reduction action that is necessary for us to meet net-zero goals.

To combat climate change, Ontario needs to reduce its reliance on carbon-based energy, not increase it. The Society believes that Ontario should not only proceed with the announced refurbishment of the Pickering

Nuclear Generation Station, expansion of Bruce Nuclear, and adding more SMRs to the Darlington new nuclear site, but continue to significantly expand the province's publicly owned and operated nuclear fleet through the investment in additional new, full-sized CANDU reactors at OPG in order to support the transition to a low-carbon economy. This is not only the best option to combat climate change, but also the most cost-effective option. A 2017 Financial Accountability Office report compared the levelized unit cost of different forms of new electricity generation and found that nuclear was the most cost-effective non-carbon emitting source of baseload power1.

The shift towards electric vehicles should be a welcome change, but in order to maximize the benefit of switching to zero-emission transportation, we need to ensure that the electricity powering the vehicles is generated from emission-free sources of power. The EV evolution will have a major impact on the fundamental operation of our electricity system, with changes to long established time-of-use and seasonal demand patterns. Ensuring our energy supply is planned appropriately for the coming changes will be of paramount importance to ensuring system reliability. Only nuclear power generation can provide reliable baseload power, while remaining sustainable and emission free, and meet the scale of demand necessary.

In its Pathways to Decarbonization2 report, the IESO estimates that in order to meet net-zero targets by 2050, Ontario will need to approximately triple the installed capacity of nuclear power. This is in addition to massive increases to wind and solar capacity.

Bill 214 provides a clear indication that the government is serious about expanding the province's supply of ultra low-carbon electricity like nuclear power, an approach that is fully supported by the Society.

At COP28, Canada committed to the pledge to triple nuclear capacity by 2050. This pledge was in recognition "that analyses from the OECD Nuclear Energy Agency and World Nuclear Association show that global installed nuclear energy capacity must triple by 2050 in order to reach global net-zero emissions by the same year"3.

Ontario, as Canada's leader in nuclear generation, is in an ideal position to help Canada meet its COP28 pledge to triple nuclear capacity. The province should work with the federal government to ensure it makes good on its international commitment to nuclear expansion, and push for federal investment in new nuclear generation at OPG.

Additionally, when planning for the expansion of Ontario's nuclear fleet, it is imperative that the government recognize the value to the provincial and national economy of the existing CANDU supply chain, which is 95% Canadian. Canada's CANDU supply chain currently supports over 89,000 good, mostly unionized, jobs. Any nuclear expansion should seek to leverage the existing supply chain to create as many Canadian, and Ontarian, clean energy jobs as possible. As such, the Society urges the government to commit to using proven, Canadian, CANDU technology for any new full-size nuclear reactors in the province.

Considering the long lead-time and regulatory process involved in building new nuclear, the province should immediately begin the work to continue to expand the capacity of nuclear generation through a mix of Small Modular Reactors and full sized CANDU generating stations.

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[1] https://www.fao-on.org/en/Blog/Publications/FAO-NR-Report-Nov-2017

[2] https://ieso.ca/en/Learn/The-Evolving-Grid/Pathways-to-Decarbonization

[3] https://natural-resources.canada.ca/energy/resources/international-energy-cooperation/cop28-declaration-triple-nuclear-energy-2023/25591

MAINTAIN IESO TECHNICAL REPORTING

While the Society supports the prioritization of electrification and nuclear power contained within Bill 214, it cannot support the bill as written. The has significant concerns with amendments made to The Electricity Act, 1998, in Schedule 1 of Bill 214. Of particular concern is the repeal of Sections 25.29 to 25.31, and the text proposed as substitution.

In repealing section 25.29 of the Electricity Act, the proposed legislation appears to remove the requirement of consulting the technical expertise of the IESO in preparing the long-term energy plan (or integrated energy plan, as Bill 214 calls it). The repeal of section 25.29 would include in its removal section 25.29 (3), which reads:

> Technical reports by IESO
>
> (3) The Minister shall, before issuing a long-term energy plan under subsection (1), require the IESO to submit a technical report on the adequacy and reliability of electricity resources with respect to anticipated electricity supply, capacity, storage, reliability and demand and on any other related matters the Minister may specify, and the Minister shall,
>
> (a) consider the report in developing the long-term energy plan; and
>
> (b) post the report on a publicly-accessible Government of Ontario website or publish it in another manner, before undertaking any consultations under subsection (4).

The Society's members at the IESO are experts in their field and are the most qualified voices to discuss long-term energy planning in the province. The Society is proud of the work our members do and cannot support any legislation that removes IESO consultation from the province's energy planning process. The Society is deeply concerned that Bill 214 signifies a shift from energy planning by technical experts to energy planning by lobbyists.

The Society urges the committee to amend the proposed legislation to reintroduce the language from 25.29 (3) of the Electricity Act that is repealed in the proposed Bill 214.

RESTORE THE FOCUS ON EMISSIONS

In addition to the concerns raised in the repeal of 25.29 (3) of the Electricity Act, the Society is deeply troubled by what appears to be a removal of limiting greenhouse gas emissions as one of the stated objectives of the energy plan, as described in section 25.29.

The existing language in the Electricity Act, that would be repealed under Bill 214, specifically lists greenhouse gas emissions as a consideration in electricity planning:

> 25.29 (2)(e) air emissions from the energy sector, taking into account any projections respecting the emission of greenhouse gases developed with the assistance of the IESO;

The proposed substitute language in Bill 214 makes no reference to limiting greenhouse gases, air emissions, or carbon emissions as one of the goals and objectives which may be included in the energy plan.

Any long-term energy plan needs to acknowledge the catastrophic impact of climate change, and the carbon emissions that causes it. The Society strongly believes in the need to decarbonize Ontario's economy through electrification through ultra-low carbon electricity. Any energy plan that does not acknowledge the need to mitigate carbon emissions is not based on current scientific consensus and cannot be supported by the Society.

The Society urges the committee to amend the proposed legislation to reintroduce the repealed language identifying carbon emission levels as an included goal and objective of long-term energy planning.

SUPPORT, DON'T PRIVATIZE, LOCAL DISTRIBUTION COMPANIES

Finally, the Society notes that while Bill 214 takes important steps in acknowledging the need to expand our low-carbon electricity generation capacity to meet the demands of electrification, significant support needs to be provided to Local Distribution Companies across the province. Ontario's LDCs face significant infrastructure challenges preparing for the shift towards electrification. Addressing the needed infrastructure upgrades will require significant capital investment, which may prove difficult for some of the province's smaller LDCs.

The Society believes the provincial government should be supporting LDCs through capital investment in infrastructure upgrades to prepare them for electrification. However, a section in the Fall Economic Statement instead raises concern that the government's solution to LDC infrastructure needs is to encourage privatization of LDC assets.

Annex 1 of the Fall Economic Statement provides for a tax reduction in the Transfer Tax on the fair market value of LDC assets for LDC's with more than 30,000 costumers from 22% to 0%. This change is clearly meant to encourage the privatization and consolidation of local LDCs.

The Society strongly opposes the privatization of our existing electricity assets, and encourages the Government to support our LDCs by investing in the capital upgrades needed to facilitate the electrification of our economy.

CONCLUSION

In summary, as the union representing professionals across the province's electricity sector, the Society supports the general intention of Bill 214 to prioritize investment in nuclear energy to power the electrification of Ontario's economy.

However, the Society is unable to support the legislation as drafted, as it reduces the role Society members at the IESO, the technical experts on our electricity system, in crafting the integrated energy resource plan. Furthermore, the proposed legislation removes existing references to greenhouse gas emissions in our long-term energy planning.

The Society once again calls on this committee to amend the proposed legislation with the following amendments:

1) After section 25.29 (2) of the proposed legislation, add:

Technical reports by IESO

(3) The Minister shall, before issuing an integrated energy resource plan under subsection (1), require the IESO to submit a technical report on the adequacy and reliability of electricity resources with respect to anticipated electricity supply, capacity, storage, reliability and demand and on any other related matters the Minister may specify, and the Minister shall,

(a) consider the report in developing the integrated energy resource plan; and

(b) post the report on a publicly-accessible Government of Ontario website or publish it in another manner, before undertaking any consultations under subsection (4).

2) After section 25.29 (2)(d), add:

(e) air emissions from the energy sector, taking into account any projections respecting the emission of greenhouse gases developed with the assistance of the IESO;

The Society is grateful for the opportunity to share its concerns with Bill 214 with this committee, and look forward to any further discussion on the proposed legislation.

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