

# Power Workers' Union (PWU) Feedback to Ontario Government 2022 Budget Consultation

February 9, 2022

The Power Workers' Union (PWU) is pleased to submit comments and make recommendations to the Ontario government regarding the 2022 budget consultation. The PWU is a strong supporter and advocate for the prudent and rational reform of Ontario's electricity sector and recognizes the importance of planning for low-cost, low-carbon, high-value energy solutions that enhance the competitiveness of Ontario's economy.

The PWU has participated in several consultations pertaining to Ontario's energy sector: the IESO's energy planning including the Annual Planning Outlook (APO) and Resource Adequacy (RA); the Ministry of Energy Northern Development and Mines (MENDM) regarding the reform of Ontario's Long-Term Energy Planning (LTEP) framework; and the Ministerial Advisory Council (MAC) regarding the impacts of COVID-19 on Ontario's energy sector. The PWU has called for the inclusion of climate change and total system cost in Ontario's planning criteria, the reform of the IESO's procurement approach, and the accelerated implementation of low-carbon infrastructure needed to ensure cost-effective electricity system reliability in the future and to effectively leverage the economic benefits of Ontario's energy infrastructure investment dollars.

The PWU makes two recommendations to help the government mitigate the risks facing Ontario's electricity system:

1. Advance siting and licensing activities for significant new nuclear capacity in the province; and
2. Support forestry supply chain development and expanded production from the Atikokan Generating Station (AGS) in northwest Ontario.

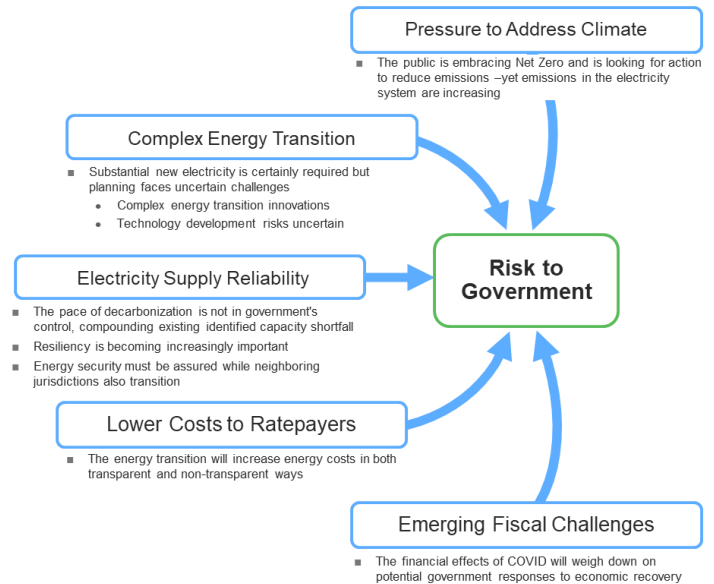
## Managing Ontario's Energy Risks

The PWU summarized the complexity of managing Ontario's energy transition in its submission to the MENDM in April of 2021 as shown in Figure 1:<sup>1</sup>

- (1) Pressure to address climate change and carbon emission reductions in the electricity sector and all other sectors;
- (2) The need to cost-effectively integrate complex, rapidly emerging technologies.
- (3) Managing ratepayer expectations regarding rising energy costs.
- (4) An energy supply shortage in the near-term and reduced reliability in the long-term; and
- (5) Emerging fiscal challenges from Covid-19

Risks have increased in the following ways since then, notwithstanding proactive government actions.

Figure 1: Ontario's Energy Risks



### 1) Pressure to address Climate Change

In response to requests from many municipalities, the IESO assessed the feasibility of eliminating gas-fired generation in Ontario by 2030.<sup>2</sup> The IESO's assessment concluded that this was infeasible.<sup>3</sup> The IESO was then directed to assess a moratorium on new gas-fired generation and to develop a pathway to reduce emissions in the electricity sector.<sup>4</sup>

Concurrently, several independent studies have demonstrated the growing need for significant new electricity system capacity to achieve emissions reductions.<sup>5</sup> The IESO's 2021 APO, for the first time, includes an electrification scenario that similarly reflects higher demand needs in the next decade. These projections align with those identified for 2030 to 2035 in the PWU's MENDM submission last April. Ontario needs new low-carbon electricity generation options.

### 2) Complex energy transition

A global consensus is emerging that the complex energy transition to a low-carbon economy will include a trifecta of solutions,<sup>6</sup> including: Electrification using low-carbon electricity; Hydrogen produced from low-carbon sources such as electricity; and, Decarbonized fossil applications using carbon capture.

Some of these areas have been addressed by government actions to explore carbon storage<sup>7</sup> new hydroelectric facilities<sup>8</sup> and clean energy credits.<sup>9</sup> Two critical elements recommended by the PWU have yet to be addressed – the role of nuclear energy and its support to hydrogen production and enhancing leverage of forestry waste biomass.

### 3) Higher costs to rate payers

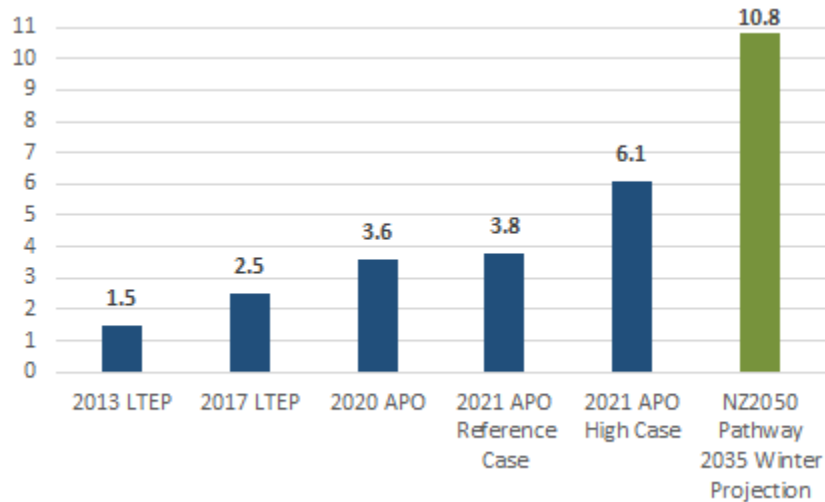
The IESO's recent 2021 APO forecasts a tripling of the hourly electricity price arising from their planned energy market mechanisms. This will unnecessarily add over \$1 billion/year to the cost of electricity for ratepayers, much of which will be in the form of higher returns to existing natural gas-fired generators. Nuclear options will reduce costs.<sup>10</sup>

### 4) Electricity supply reliability

For many years, the IESO has identified the need to address the emerging capacity gap initiated by the long-planned retirement of the Pickering Nuclear Generating Station and has been evolving its procurement approach for the required supply.<sup>11</sup> Many stakeholders, including the PWU, have noted the inherent limitations and timeline risks of the IESO's procurement approach in securing low-carbon supplies to meet the needs in the late 2020s and beyond.<sup>12,13</sup> The Ministry directed the IESO to accelerate its procurement activities.<sup>14</sup> Yet, their procurement timelines have experienced further delays.<sup>15</sup> The Ministry provided a more specific directive regarding these timelines in January of 2022.<sup>16</sup>

The IESO's recent 2021 APO highlights a greater shortfall in supply than previously identified. This trend of deteriorating reliability has been evident since 2013 as shown by Figure 2. The forecast gap assumes all existing resources are renewed. Furthermore, the IESO now acknowledges that, even in the reference case, both generation capacity and energy production capabilities are at risk of a shortage. The APO's higher electrification case shows a much greater increase in demand, consistent with other analyses of Ontario's requirements to meet the significant decarbonization challenge ahead.<sup>17</sup> And, the IESO has indicated that the electrification of the building heating and industrial sectors has not been included. Both will emerge in the medium term suggesting the next APO will show a larger capacity gap.<sup>18</sup>

**Figure 2: Trend in IESO 2030 Capacity Gap Forecast Assuming All Existing Resources are Renewed**  
(GW by Source of Forecast)



The IESO’s procurement timelines are inadequate to develop the nearly 11 GW of capacity required by 2035. To site and develop this needed capacity will require at least a decade before new facilities are operational whether it is nuclear, hydro, biomass, renewables or gas-fired generation. Given these timelines, it is already impossible to meet the projected reliability needs for 2030. Furthermore, the IESO’s higher electrification demand case will expose Ontario to a reliability and energy shortfall prior to 2030 with few if any remedial actions available to the IESO. This suggests that Ontario faces the risk of energy brownouts before the decade ends. The APO-identified electrification case demand should be addressed immediately and urgently.

These risks in the IESO’s near-term procurement approach caused the IESO to sidestep it and use a bilateral agreement to renew Lennox and influenced the Government’s intervention to direct bilateral agreements to renew contracts for Brighton Beach, Calstock, and other generators, as well as for new facilities, e.g., Oneida Energy Storage Project.<sup>19,20</sup>

The IESO’s use of the 2021 APO reference case for 2022 resource acquisition planning defers procurement planning efforts for the higher demand case until 2023. While this approach aligns with the release of the Ministry-directed study on gas moratorium and zero emission pathways to inform the December 2022 APO, it defers for yet another year the time critical planning for requisite new large-scale generation and transmission infrastructure.

New mechanisms are required to accelerate planning for near-term and long-term procurement processes that better mitigate the risks of sustained electricity shortfalls and brownouts in the next decade and beyond.

## 5) Emerging Fiscal Challenges

Ontario, like other jurisdictions around the globe, will have to address the risks to its energy security that are presented by post Covid-19 economic recovery impacts on rising inflation and compromised supply chains.

## **Recommendations**

The risks posed to Ontario's electricity system by these events should be addressed in the IESO's approach to procurement going forward and be supported by Ontario's 2022 Budget.

### **Recommendation #1 - Advance siting and licensing activities for significant new nuclear capacity in the province.**

The PWU has consistently advanced the benefits of deploying new, low-carbon nuclear generation to help meet Ontario's growing needs for electricity.<sup>21</sup> The emission reduction, cost and economic benefits of nuclear are well documented.<sup>22</sup>

The IESO's 2021 APO highlights Ontario's need for bulk generation, particularly to supply the GTA. In 2025 the GTA will need 5,000 MW in summer and 7,000 MW in winter from east of the GTA, increasing by 2042 to 8,000 MW in summer and 10,000 MW in winter.<sup>23</sup> These requirements are prior to the IESO's higher electrification demand case. With Pickering's retirement in 2026, the City of Toronto's aversion to gas-fired generation, and the transmission constraints east of the GTA, Ontario will need new large-scale, baseload capacity such as new nuclear.

Ontario will need 55 GW of new generation supply by 2050, four times the existing capacity of Ontario's nuclear and hydro fleet.<sup>24</sup> Infrastructure build out at this scale will require billions of dollars.<sup>25</sup> Those investments need to be optimized for societal benefits and job creation.<sup>26</sup> Nuclear is the only form of large-scale, non-emitting generation capable of addressing the baseload components at a competitive cost while also contributing significant jobs and GDP growth.<sup>27</sup> The International Energy Agency has identified nuclear as an integral part of Canada's decarbonization plans.<sup>28</sup>

The government should evaluate the timeline and cost risks associated with the IESO's current procurement mechanisms to secure the required new large-scale facilities, whether new nuclear or the carbon storage and new hydroelectric facilities options already being explored.<sup>29</sup> To support this assessment, the government should advance siting and licensing activities for all nuclear technology options, including maximizing the capacity opportunities of potential sites. Potential sites could include existing licensed facilities (Darlington, Pickering, Bruce, etc.), sites where existing transmission infrastructure could be leveraged (e.g. Nanticoke, Lennox); or any locations of critical importance to regional system reliability. Funds should be allocated in the 2022 Budget for such an assessment.

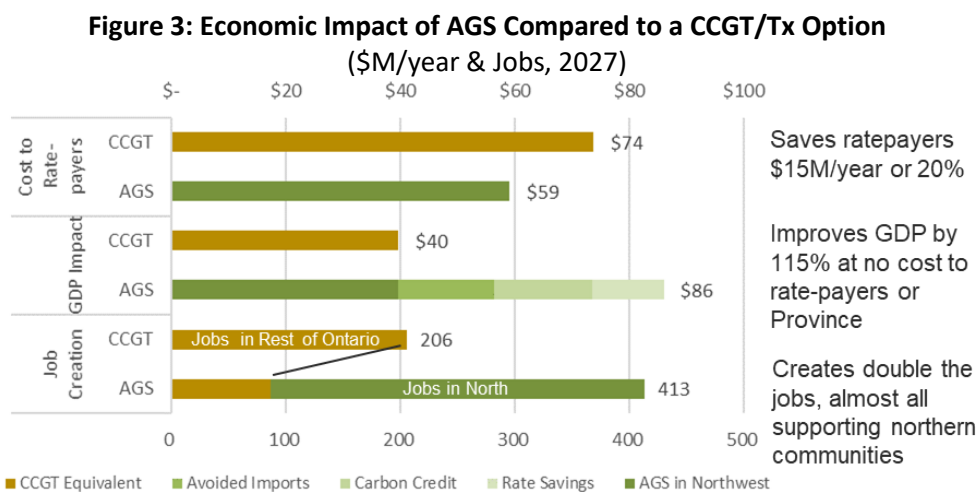
### **Recommendation #2 - Support forestry supply chain development and expanded production from the Atikokan Generating Station (AGS) in northwest Ontario**

Ontario's 200 MW AGS has played a significant role in meeting peak electricity system needs and providing backup for extended periods of time. The Atikokan GS is capable of increasing production to provide more baseload and intermediate electricity using a domestic, low-carbon renewable fuel that will enhance reliability and energy security in the region and in Ontario and can create significant jobs and GDP benefits in the Northwestern region of Ontario for local and indigenous communities.

A recent study shows that Ontario's resource adequacy and supply gap challenge will be acutely felt in the region and that the 200 MW capacity of the AGS is an essential element to ensuring the reliability of electricity in the North.<sup>30</sup> The report identifies several risks: 1) Deteriorating near term energy security in the northwest due to facility closures in the region; 2) increasing local demand driven by urban growth,

new supply lines to remote communities and new mining developments; 3) The IESO’s near term procurement approach that deprioritizes the needs of the northwest; and, 4) the capacity shortfall risk in the neighboring regions that would supply the northwest. This last risk threatens the IESO’s plan to supply the northwest from gas-fired generation in the south.

The government has recognized the importance of Ontario’s forestry sector and supports a longer-term transition plan that uses waste biomass.<sup>31</sup> As illustrated in Figure 3, expanding operations at the AGS provides several benefits: low-carbon energy for the region at a lower cost than transmitting gas-fired supply from southern Ontario; greater economic growth to the province; and, more local jobs. This AGS scenario also provides more provincial GDP, jobs, and tax benefits compared to the gas-fired alternative.



The Minister of Energy has noted that “Ontario’s draft Forest Biomass Action Plan commits to ensuring that existing facilities that consume biomass for electricity generation and are approaching the end of their contract are provided with the opportunity to negotiate a new contract for a 5-year term with IESO, balancing the benefits to the forestry sector with the value for the ratepayer and taxpayer.”<sup>32</sup> The Ministry has directed the IESO to enter into bilateral contracts for other biomass facilities in the region. This has not been applied to the AGS; however, the directive noted its eligibility.<sup>33</sup>

The PWU recommends that Ontario provide support for the expanded operation of the AGS and expansion of the biomass supply chain in the region in the province’s 2022 budget.

**Closing**

The risks facing the reliability of Ontario’s electricity system should be acknowledged and addressed by the 2022 budget.

The PWU has a successful track record of working with others in collaborative partnerships. The PWU is committed to the following principles: Create opportunities for sustainable, high-pay, high-skill jobs; ensure reliable, affordable, environmentally responsible electricity; build economic growth for Ontario’s communities; and promote intelligent reform of Ontario’s energy policy.

We believe these recommendations are consistent with, and supportive of Ontario’s objectives to supply low-cost and reliable electricity for all Ontarians. The PWU looks forward to discussing these comments in greater detail.

## References

---

- <sup>1</sup> PWU, Feedback to MENDM on Reforming the LTEP Framework Consultation, 2021  
<https://www.pwu.ca/submissions/ero-019-3007-mendm-submission/>
- <sup>2</sup> The Energy Mix, Toronto City Council Calls for Ontario Gas Phaseout, 2021;
- <sup>3</sup> IESO, Decarbonization and Ontario's Electricity Sector: Assessing the impacts of phasing out natural gas generation by 2030, 2021.
- <sup>4</sup> Minister of Energy, Ministerial Directive to IESO, October 7, 2021.
- <sup>5</sup> Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021; EPRI, Canadian National Electrification Assessment: Electrification Opportunities for Canada's Energy Future, 2021; Institut de L'Energie Trottier, Canadian Energy Outlook 2021, 2021; SNC Lavalin, Engineering Net Zero, 2021; IEA World Energy Outlook 2021, 2021; IEA, Net Zero Emissions by 2050 Scenario, 2021.
- <sup>6</sup> Council for Clean and Reliable Energy (CCRE) Commentary: Toward a National Energy Vision: Canada's Low-Carbon Energy Infrastructure Opportunity in a Global Net Zero Future, 2021
- <sup>7</sup> NDMNRF, Consultation on Geologic Carbon Storage in Ontario, 2022.
- <sup>8</sup> Ontario News Release, Province Asking OPG to Investigate New Hydroelectric Opportunities, 2022.
- <sup>9</sup> Minister of Energy, Ministerial Directive to IESO, January 26, 2022.
- <sup>10</sup> Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021.
- <sup>11</sup> IESO, Resource Adequacy Engagement website.
- <sup>12</sup> Strapolec, Electricity Markets in Ontario, 2021.
- <sup>13</sup> PWU, Feedback on Resource Adequacy September Meeting, 2021; PWU, Feedback on Resource Adequacy November Meeting, 2021.
- <sup>14</sup> Minister of Energy, Ministerial Directive to IESO, November 10, 2021.
- <sup>15</sup> IESO, Resource Adequacy December Meeting, 2021. Material showed the final LT RFP being issued in January 2023, while the IESO Annual Acquisition Report (AAR) released in July showed the LT RFP commencing in 2022.
- <sup>16</sup> Minister of Energy, Ministerial Directive to IESO, January 28, 2022.
- <sup>17</sup> Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021.
- <sup>18</sup> Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021.
- <sup>19</sup> Minister of Energy, Ministerial Directive to IESO, January 15, 2021, February 22, 2021, August 27, 2021, November 10, 2021, and January 28, 2022.
- <sup>20</sup> IESO, February Stakeholder Advisory Committee Meeting, 2021.
- <sup>21</sup> PWU, Inputs to the Energy Ministerial Advisory Council (EMAC) for MENDM, 2020; PWU, Feedback to MENDM on Reforming the LTEP Framework Consultation, 2021.
- <sup>22</sup> Strapolec, Emissions and the LTEP, 2016; Strapolec, Renewables and Ontario/Quebec Transmission Interties, 2016; Strapolec, DER in Ontario, 2018; Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021.
- <sup>23</sup> IESO, 2021 APO Overview Engagement Meeting, 2022.
- <sup>24</sup> Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021.
- <sup>25</sup> Council for Clean and Reliable Energy (CCRE) Commentary: Toward a National Energy Vision: Canada's Low-Carbon Energy Infrastructure Opportunity in a Global Net Zero Future, 2021
- <sup>26</sup> PWU, Feedback to MENDM on Reforming the LTEP Framework Consultation, Recommendation ES-4 2021; Strapolec, Electricity Markets in Ontario, 2021; Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021; Council for Clean and Reliable Energy (CCRE) Commentary: Toward a National Energy Vision: Canada's Low-Carbon Energy Infrastructure Opportunity in a Global Net Zero Future, 2021
- <sup>27</sup> Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021.
- <sup>28</sup> IEA, Canada 2022 Energy Policy Review, 2022.
- <sup>29</sup> Strapolec, Electrification Pathways for Ontario to Reduce Emissions, 2021.
- <sup>30</sup> Strategic Policy Economics, Extending Atikokan Biomass Generating Station Operations, 2022.
- <sup>31</sup> Minister of Energy, Ministerial Directive to IESO, January 28, 2022.
- <sup>32</sup> Minister of Energy, Ministerial Directive to IESO, January 28, 2022.
- <sup>33</sup> Minister of Energy, Ministerial Directive to IESO, November 10, 2021.