

# Lambton's Electricity Future

Wind, Solar & Battery  
Storage or More  
American Gas?

# Acknowledgments

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## Overview

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Ontario Power Generation (a.k.a., Atura Power) is seeking permission from the Township of St. Clair to submit a bid to the Independent Electricity System Operator (IESO) for a contract to build and operate an up to 500-megawatt (MW) gas-fired peaker plant on the site of the former Lambton coal-fired generating station in the Township of St. Clair in Lambton County.<sup>1</sup> The proposed peaker plant would be used to meet our electricity needs during peak demand hours on our hottest summer days and our coldest winter nights.

However, the proposed gas-fired peaker plant is not in the public interest for the following reasons:

- 1 | Ontario has much lower cost options to meet its peak hour electricity demands.
- 2 | It will jeopardize our national security by increasing our dependence on gas imports from the U.S.
- 3 | It will increase smog pollution in Lambton County.
- 4 | It will increase Ontario's greenhouse gas emissions that are contributing to our climate crisis.

Fortunately, there are better ways to utilize Ontario Power Generation's (OPG's) Lambton Generating Station site.

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## Lower Cost Peak Demand Options

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In May 2024, the IESO agreed to pay Atura Power approximately \$1,681 per MW per business day<sup>2</sup> to build and operate a 430 MW gas-fired peaker plant in Napanee (business days exclude weekends and statutory holidays). This adds up to a costly power source compared to alternatives such as battery energy storage, commercial, institutional and industrial demand response, the residential Peak Perks program, and summer peak power imports from Quebec.



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## Battery Energy Storage

According to the IESO:

“Storage facilities can charge during off-peak hours, take advantage of Ontario’s clean energy supply mix, and inject energy back into the grid when it is needed most. These characteristics provide the IESO with flexibility to leverage non-emitting supply to displace the use of natural gas during peak demand periods.”<sup>3</sup>

In May 2024, the IESO announced that it had procured almost 1,800 MW of battery storage at a cost of \$672 per MW per business day<sup>4</sup> – a cost that is 60% lower than a new gas-fired peaker plant (\$1,681 per MW per business day).

The IESO’s LT2 procurement process is seeking to procure additional battery energy storage for Ontario’s electricity grid. Bid submissions are due on December 18, 2025.<sup>5</sup>

## Commercial, Institutional and Industrial Demand Response

The IESO has contracted with commercial, institutional and industrial consumers to shift some of their demands from peak to off-peak periods during the summer of 2025 and the winter of 2025/26.

The payments to shift demands to off-peak periods are \$332 per MW per business day in the summer and \$139 per MW per business day in the winter.<sup>6</sup> This is 80-92% lower than the cost of a new gas-fired peaker plant.

The IESO can avoid the need for new gas-fired peaking generation by raising its annual capacity auction procurement targets for demand response resources.

## Residential Peak Perks Program

In May 2023, the IESO established the Peak Perks program to turn down the thermostats of residential air-conditioners and heat pumps by up to two degrees Celsius on hot summer weekdays (but not weekends or holidays) between June 1 and September 30.

Participants are paid \$75 when they enroll and \$20 for each additional year that they stay enrolled.<sup>7</sup> These payments are equivalent to \$411 per MW per business day assuming participants remain enrolled for five years,<sup>8</sup> which is, 76% lower than the cost of a new gas-fired peaker plant.



**Storage facilities can charge during off-peak hours... and inject energy back into the grid when it is needed most**

According to the IESO, the Peak Perks program's savings are forecast to rise from 152 MW in 2026 to 183 MW in 2050.<sup>9</sup> This is simply not good enough. If all of Ontario's three million homes with central air-conditioning or a heat pump were enrolled in Peak Perks, the annual savings would be 2,700 MW<sup>10</sup> – more than five times the size of the proposed Lambton peaker plant.

The IESO can avoid the need for new gas-fired peaking generation capacity to power our air conditioners on hot summer days by adopting more ambitious market share targets for its Peak Perks program.

### Summer Peak Power Imports from Hydro Quebec

Quebec's demand for electricity peaks on cold winter nights since most of its homes are heated with electric baseboards. As a result, Quebec has a huge surplus of electricity generation available for export to Ontario in the summer.

In 2024 the IESO and Hydro Quebec signed a seven-year trading agreement that enables Ontario to import 600 MW from Hydro Quebec during the summer.<sup>11</sup>

In addition, in December 2024 the IESO contracted with Hydro Quebec to import an additional 400 MW of capacity during the summer of 2025 at a cost of \$332 per MW per business day<sup>12</sup> – 80% lower than the cost of a new gas-fired peaker plant.

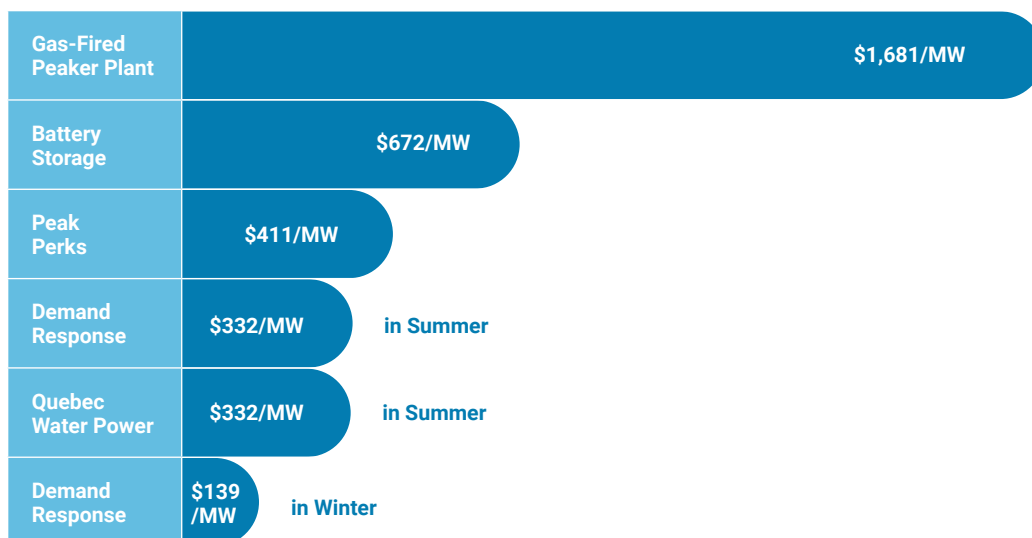
Using existing transmission lines, Ontario can import an additional 650 MW from Hydro Quebec during the summer.<sup>13</sup>

The IESO should procure an additional 650 MW of peak power imports from Hydro Quebec in the summer to help Ontario phase-out gas power.



Quebec has a  
**huge surplus**  
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for export during  
the summer

**Figure 1 | Ontario's Peak Demand Options**



## National Security

More than 70% of Ontario's fossil gas supply is imported from the U.S.<sup>14</sup> The proposed Lambton gas plant is part of the IESO's plan to use gas to produce 25% of our electricity in 2030<sup>15</sup> – up from only 4% in 2017.<sup>16</sup>

Increasing our dependence on American gas imports for electricity generation is the last thing that we should be doing when Ontario and Canada are under attack by President Trump.

## Smog Pollution

The carbon monoxide, nitrogen oxides and fine particulate matter (PM 2.5) emissions of a new gas plant in St. Clair Township would lead to increased asthma attacks and heart and lung diseases in Lambton County.<sup>17</sup>

## Protecting our Climate

Ontario already has 10,700 MW of gas-fired generation capacity (28% of our total generation capacity).<sup>18</sup> To protect our climate, we need to reduce our use of gas for electricity generation, not increase it.

Thirty-five (35) municipalities, that represent almost 60% of Ontario's population, are calling for a gas power phase-out by 2030 or as soon as possible.<sup>19</sup>

## Better Options for OPG's Lambton Generating Station Site

### Battery Storage

Atura is building a 250 MW battery storage facility in Napanee that will be able to provide 250 MW of electricity to the grid for up to 4 hours.<sup>20</sup> In addition, Atura is proposing to build a 300 MW storage facility in Napanee that would be able to provide 300 MW of electricity to the grid for up to 8 hours.<sup>21</sup>

According to Atura, its proposed 300 MW battery storage project "will increase Ontario's electricity storage capacity, support grid reliability, and help advance Ontario's path to a low-carbon energy future."<sup>22</sup>

Atura could also build a large battery energy storage project at its Lambton site.

### Solar Power

The total area of the Lambton Generating Station is 1,166 acres. According to a report prepared by McDiarmid Climate Consulting, this site could be used to host a 153 MW solar generating station, which would produce 190 million kWh of power per year – enough electricity to power more than 21,000 homes.<sup>23</sup>

According to a report prepared by the Energy Futures Group, the cost of new utility-scale solar power is roughly 75-80% lower than the cost of new nuclear power.<sup>24</sup>



Thirty-five municipalities, that represent almost 60% of Ontario's population, are calling for a gas power phase-out by 2030 or as soon as possible

### Lake St. Clair Offshore Wind Power

Trillium Power Wind Corporation has proposed a plan to build a 1,164 MW offshore wind farm in Lake St. Clair<sup>25</sup>, which would produce about 5 billion kWh per year<sup>26</sup> – enough electricity to power 555,555 homes.<sup>27</sup>

OPG's Lambton site could be used to connect a Lake St. Clair wind farm to Hydro One's transmission grid. According to the Energy Futures Group, the cost of offshore wind power is roughly 40-60% lower than the cost of new nuclear power.<sup>28</sup>

According to the National Audubon Society, "two-thirds of bird species in North America will face extinction unless we tackle climate change."<sup>29</sup> As a result, Audubon supports environmentally appropriate offshore wind projects to help decarbonize the economy and stabilize the climate:

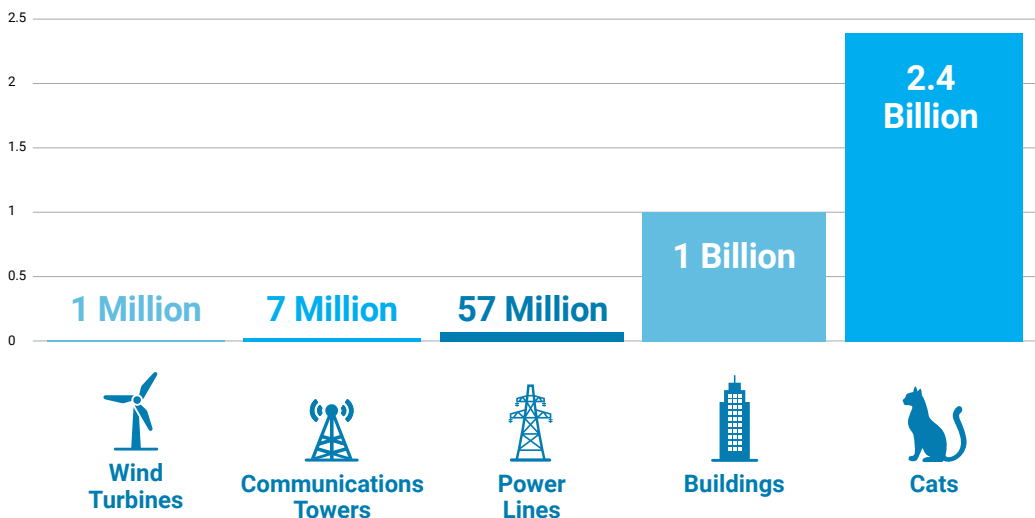
"Audubon supports the responsible siting and operation of offshore wind and emphasizes that this development must be done in a way that both minimizes harm to birds and provides a path toward a more climate-stable future."<sup>30</sup>

According to Christina Davy, Associate Professor of Biology at Carleton University, bats are the species that are most vulnerable to offshore wind turbines. Nevertheless, she says that: "We can run wind energy in bat-friendly ways."<sup>31</sup>



**A Lake St. Clair offshore wind farm could produce about 5 billion kWh per year – enough electricity to power 555,555 homes**

**Figure 2 | Annual Bird Deaths in U.S.\***



\* Mark Jacobson, *No Miracles Needed: How Today's Technology Can Save Our Climate and Clear Our Air*, (2023), page 258.

Specifically, Professor Davy says that offshore wind turbines can produce bat-friendly power if they are turned off from dusk to dawn during the migratory bat seasons (late April and May and mid-July to the end of September) whenever wind speeds are less than seven metres per second, since bats fly more when wind speeds are low.<sup>32</sup>

### Jobs

Gas-fired power plants mostly provide jobs during construction and require only a handful of staff to operate. For example, the York Energy Centre's 456 MW gas-fired peaker plant near Newmarket, Ontario has only nine permanent employees.<sup>33</sup> Developing offshore wind in Lake St. Clair, and solar power and battery storage on the former Lambton site, would create a significant number of construction jobs. Furthermore, by providing power at a much lower cost, they will also reduce electricity rates and make Lambton County industries more competitive. Similarly, working with industries to improve energy efficiency and reduce peak power demand is an opportunity to improve competitiveness and reduce the need for a new high-cost gas peaker plant.

## Conclusions & Recommendations

Ontario Power Generation's (OPG) proposal to build an up to 500 MW gas-fired peaker plant in the Township of St. Clair is not in the public interest since we have lower cost, more secure and cleaner options to keep our lights on.

To receive a contract from the IESO to build a new gas-fired power plant in St. Clair Township, OPG must obtain a Municipal Support Resolution (MSR) from the Township of St. Clair. Therefore, the Township of St. Clair can protect Ontario's electricity consumers, national security, local air quality and our climate by:

- 1 Declining to provide OPG with a MSR for its proposed gas-fired peaker plant;
- 2 Providing OPG with a MSR for battery energy storage and/or solar energy at its Lambton Generating Station site; and
- 3 Passing a resolution in support of permitting offshore wind projects in Lake St. Clair on a project-by-project basis – subject to environmental assessment reviews that demonstrate that their potential adverse impacts have been minimized and that ongoing monitoring of impacts on birds and bats is in place.



**The Township of St. Clair**  
can protect Ontario's electricity consumers, national security, local air quality and our climate

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