

# **Proposed Wesleyville/ Port Hope Nuclear Plan**

## **Missing Information in the OPG Project Description Required Under Section 22 of the Impact Assessment Act**

**February 3, 2026**  
**Blue Dot Northumberland<sup>1</sup>**

### **Summary Recommendations**

#### **Recommendation 1**

That the Impact Assessment Agency of Canada direct OPG to come back with a properly scoped project description that provides a detailed analysis of the need and the alternatives to the project as required by Section 22 (1)(d) and (f) of the Impact Assessment Act [IAA].

#### **Recommendation 2**

That more time be provided for public comment so that adequate public education can be provided on the missing components in the OPG Project Description with regard to financial cost, risks to health, safety, accidents, security and sustainability of the nuclear option under Section (1)(a) IAA.

## **I. Introduction**

The Ontario government is proposing to build the world's largest nuclear generating station producing as much as 10,000 MW from ten reactors.

This proposal raises serious questions about cost, safety, security, risk, environmental impact and health exposure from accidents and radioactive waste when cheaper, safer and sustainable alternatives of wind, solar with battery backup and energy conservation are readily available; issues that Ontario Power Generation (OPG) and the Ontario government have avoided addressing so far in the Impact Assessment process.

As local residents and concerned citizens affected by this development, we believe people in Northumberland County and Ontario deserve clear, factual information and alternatives before decisions of this magnitude are made on our behalf.

This document outlines the issues that are missing from the current Project Description of the proponent.

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<sup>1</sup> See the description of the community group, **Blue Dot Northumberland** and the authors at the end of the Brief before Endnotes.

## 2. Nuclear Economics in Ontario

### The Wesleyville Proposal

In January 2025, Ontario Power Generation - the Crown agency responsible for over half of the electricity in the province - announced a desire to build a massive nuclear generating station in Port Hope. “Only with the express permission of the community” said OPG CEO and President Nicolle Butcher.

While asking the CNSC for the approval of 10,000 MW, there has been no confirmed design, no alternatives to the project and no publicly released cost estimate for the Wesleyville plant<sup>1</sup> Also, no expressed approval from the community, yet the Impact Assessment process is going ahead.

Therefore, a clear assessment of the need for this project and alternatives to the project to meet the need must be required by the Impact Assessment Agency of Canada. When the nuclear plant is built to full capacity in 2048, the cost will be approximately \$165.7 Billion CDN to \$245 Billion CDN <sup>2</sup> based on the U.S. National Renewable Energy Lab [NREL] estimates for 2030 and the most recent nuclear costs to build two new Westinghouse AP1000 nuclear power reactors (Vogtle Unit #3 and Unit #4) in the U.S. state of Georgia. Since there are no private investors in Ontario’s nuclear program, this massive project, cost overruns, delays and debt will be paid by taxpayers and electricity consumers in Ontario.

#### **Nuclear reactor costs for Wesleyville not provided**

If Ontario uses Westinghouse American style light-water reactors, or GE Hitachi they will be fueled with American enriched uranium and we would be dependent on the US to meet our fuel supply. This does not make sense under Canada’s plan to diversify away from the United States, especially on energy.

The other possible option, not yet operational, is the Atkins Realis Monark reactor which is currently being certified by the CNSC. It would be the first 1000MW sized Canadian Candu reactor fueled by Canadian natural uranium. However, new designs carry with them a higher likelihood of costly mistakes and delays.

Construction costs for the ten Wesleyville/Port Hope reactors follows thirty years when no new large-scale reactors have been built in Canada or in the United States. The Westinghouse reactors in the state of Georgia took 15 years to build and started to produce energy in 2023/24.<sup>4</sup> Westinghouse went bankrupt after building these reactors and the two other reactors they did not finish in South Carolina. Brookfield Investments and Cameco purchased Westinghouse in late 2023.

Given the poor record of Westinghouse and the lack of a tested Candu 1000MW reactor we in Ontario are put under a great deal of financial uncertainty as to the viability of this project. The nuclear option should be compared to the offshore wind and solar proposal for the Wesleyville site articulated by the Clean Air Alliance and the costs of each alternative carefully scrutinized.

Nuclear costs are not theoretical. They are already showing up in electricity bills.

In December 2025, OPG applied to the Ontario Energy Board for a near-doubling of the price it receives for electricity generated by its existing nuclear plants. If approved by the Ontario Energy Board, the OPG request could nearly double consumer power costs.<sup>5</sup>

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### Pickering: A Cautionary Example

In 2025, the province announced a \$26.8 billion refurbishment of the aging Pickering Nuclear Generating Station – another example of escalating costs tied to Ontario’s aging nuclear fleet. <sup>6</sup> In the late 1990s and early 2000s, Ontario Hydro (and later Ontario Power Generation) shut down seven to eight of its 19 nuclear reactors at Pickering and Bruce for several years. These shutdowns were a massive corrective program triggered by a combination of safety, management, and financial crises.

The primary reasons for these extended closures included:

- **Critical Safety and Performance Issues:** A 1997 independent audit (the "Andognini Report") found that Ontario Hydro’s nuclear division was "minimally acceptable" and suffering from "below standard" management. Specific technical issues included outdated safety systems. Ontario Hydro went bankrupt.
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### Old Debt Still Being Paid

We are still paying for past nuclear construction such as Darlington built more than 35 years ago. The Ontario Electrical Financial Corporation’s 2024 Annual Report shows \$12.1 billion in outstanding nuclear-related debt is being paid in our hydro bills under ‘Debt reduction’ and provincial taxes. <sup>7</sup>

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### Two Simple Truths Regarding the Need for the Project and Alternatives

Taken together, these facts suggest:

- Nuclear power is the most expensive and risky form of electricity generation locking the province into decades of debt and future risk.
- The government is making no serious effort to prioritize far less expensive and safer wind and solar power, despite their proven viability with battery storage.

Notably, OPG has failed to mention cost including existing nuclear debt, future liabilities, and rising electricity rates – costs borne by us, our children, grandchildren, and generations to come. While the ‘rebates’ our government provides on our hydro bills are being paid by every taxpayer in the province.<sup>8</sup>

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### 3. Health, Safety, and Proximity Risks

Nuclear power carries inherent health risks due to exposure to ionizing radiation. In Canada, the health effects of nuclear power are primarily managed by the Canadian Nuclear Safety Commission (CNSC), which maintains that **properly operated plants** pose no significant health risks to the public. However, if there is a severe accident some analysis of the potential consequences has been studied by the Canadian Nuclear Safety Commission “at the 12 km. radius, excess childhood thyroid cancer risks of approximately 600% and 130% compared to the baseline were projected for the single- and multi-unit [housing] scenarios, respectively”<sup>9</sup> Children who live inside the 10km. radius of the nuclear plant would have zero impacts under the Ontario Provincial Nuclear Emergency Response Plan (PNERP) because they are expected to get potassium iodide [iodine thyroid blocking tablets] in the few hours after exposure. The risk lasts for 30 years among children exposed without pills.

Regarding health effects to adults, a 2025 study examining cancer incidence among residents living near nuclear plants in Massachusetts concluded: “residential proximity to nuclear plants in Massachusetts is associated with elevated cancer risks, particularly among older adults”<sup>10</sup>.

For Canadian nuclear plant workers, findings suggest that they have an increased risks of prostate cancer and melanoma from low dose ionizing radiation exposure.<sup>11</sup>

### 4. Less Costly Electricity Alternatives Already Exist

Independent cost analysis shows that Ontario has far cheaper options than nuclear power.

In 2024, the Ontario Clean Air Alliance Research Group compared electricity costs and found:

- **Wind and solar: 10-10.5 cents per kWh (midpoint)**
- **Nuclear power: 24.4 cents per kWh (midpoint)**

**This means nuclear electricity costs more than twice as much as renewable alternatives.**<sup>12</sup>

### 5. The Purpose of Wesleyville: Looks like it is to export power to the United States not to solve the climate change crisis

Ontario already exports some surplus power to the United States on the ‘spot market’. Expanding nuclear generation at Wesleyville/ Port Hope raises an important question: Is it fair to ask Ontario taxpayers to fund a massive energy project, in order to set up a long-term contract to sell that power to the United States under the province’s “Fortress Am Can” plan? <sup>13</sup> As the plan brought forward in January of 2025 states: “Enhance and build out the integrated Am-Can energy and electricity grid to encourage more exports of Canadian energy and electricity to the U.S., including Ontario’s clean nuclear

energy, to power economic growth on both sides of the border.”<sup>14</sup> **Does exporting nuclear generated electricity qualify as a legitimate ‘need’?**

Meanwhile, estimates suggest <sup>15,16</sup> that between 2015 and 2020, total losses from exporting surplus electric power reached approximately \$8.8 billion. In 2020 alone, the province lost a record \$1.8 billion by selling electricity for less than the cost of production. As much as 9% of all exports were sold at negative prices, meaning Ontario paid U.S. counterparties to take its surplus power. These "below-cost" sales occurred because Ontario's non-dispatchable power sources (like nuclear and certain hydro) often produced more electricity than the province could use.

The demand for electricity in the province is expected to rise in large part because of a transition to electricity for transportation and heat. Electric vehicles and heat pumps are supposed to drive demand. Yet, the government of Ontario has done very little to advance this transition and in many cases has fought against it by blocking cheaper EVs coming in from China and encouraging more natural gas pipelines in communities including actually forbidding municipalities from limiting the expansion of gas infrastructure and forcing all gas consumers to pay for new lines instead of just the new subdivisions or users.

With so much money on the line, the Ontario government and OPG owe taxpayers in this Impact Assessment process an explanation why we are building a nuclear plant for export. OPG is being disingenuous calling climate change ‘the need and purpose’ for building the Wesleyville/Port Hope nuclear plant when the Ontario government has no climate plan and spent \$231 million to cancel 758 wind and solar projects.<sup>17</sup>

## 6. Nuclear Waste: Another Unanswered Question

After almost 50 years examining the high-level nuclear waste problem, the Ontario and federal governments have not yet provided a final plan for storage on site, transportation or the final location for the repository for high level nuclear waste. A new hearing is taking place to look at the same solution - deep geologic burial once again, the solution first proposed in 1978. This time a site near Ignace Ontario is having an Impact Assessment hearing which is happening at the same time as the Wesleyville Impact Assessment and the Bruce Impact Assessment hearings. **Having all hearings going on at the same time weakens the public’s participation and that of organizations in the assessment processes of each important multi-billion-dollar project.** Nuclear waste remains hazardous for hundreds of thousands of years representing a long-term ethical and environmental burden way beyond the experience of human beings on the planet.

Site storage of high-level nuclear waste also poses risks such as loss of cooling and potential security intrusions on site.<sup>18</sup>

## 7. Nuclear Risk and Security

- The Wesleyville nuclear plant will be critical infrastructure and consequently, Port Hope and Northumberland County will be ground zero in any future conflict involving Canada or in any altercation or annexation with the United States.
- During the war between Russia and Ukraine, nuclear sites at Zaporizhzhia and Chernobyl are still both sources of extreme concern to the International Energy Agency as explosions went off nearby and on site. After Zaporizhzhia was seized by Russian invaders, it has become a desirable asset to retain by Russia.
- Having all our 'eggs' in one basket limits our resilience. <sup>19</sup>
- OPG have armed security guards at all nuclear stations which will increase significantly, especially if American enriched uranium reactors are built. Armed guards are not necessary for wind and solar projects.

## 8. Brittle Power vs. Resilient Energy Systems

- "Nuclear radiation incidents impose long-term societal burdens, requiring decades of costly health monitoring and medical follow-ups for affected populations. In contrast, wind and solar technologies do not carry these catastrophic environmental or public health risks."
- Nuclear generating stations, by virtue of its scale, complexity, slow learning curves, and security requirements become centralized brittle machines with a very low tolerance for failure. While wind and solar, tend to embed values of decentralization, resilience and acceptance of small, non-catastrophic failures as a price of innovation.
- A living system is diversified, adaptive, repairable and resilient. That is the kind of grid we need now, and it is the one that becomes possible when engineers, planners, regulators and investors start taking their cues from nature's renewable sources of energy and efficiencies.

## 9. An Obsolete and Inappropriate Technology

**Nuclear power is often considered "advanced" but is inefficient and outdated.**

- Nuclear plants convert only about one-third of the energy from nuclear fission into electricity.
- Two-thirds of the energy will be released directly into Lake Ontario as waste heat in the discharge water at degrees 8C to 17C warmer.
- The environmental impact of this great an amount of heat from ten reactors on one site remains unstudied. Will it affect Port Hope drinking water? Area fish populations? Other aquatic flora and fauna?

## 10. Conclusion

**In short, nuclear power:**

- **Is dramatically more expensive than currently available viable alternatives of solar, wind with battery storage.**<sup>20</sup>
- **Is financed entirely by taxpayers and ratepayers, with no private risk-sharing.**
- **Produces dangerous radioactive waste that must be managed over 250,000 years.**
- **Carries serious health and environmental risks.**
- **Is vulnerable to accidents, security threats, and geopolitical instability.**

**We ask that renewable energy alternatives for the Wesleyville site be included in the Impact Assessment Agency scoping of the issues that OPG should address under Section 22 (1) (f) The Ontario Clean Air Alliance has a plan that would connect offshore wind (out of sight) to the shore at Wesleyville/ Port Hope and on land solar, to create the same amount of electricity without the risks or cost.**

*Document prepared by Blue Dot Northumberland Members, Michael Perley MA CM, Judy Smith and Ralph Torrie with input from the Wesleyville Organizing Committee of Blue Dot Northumberland.*

*Blue Dot Northumberland is a non-partisan, independent volunteer organization in Northumberland County, Ontario, advocating before all three levels of government for environmental rights and protections. We host candidates' forums on environmental issues and educate our communities on a variety of concerns affecting our health, our natural world and sustainability. We participate in and organize events and actions to achieve our goals and have a solid reputation in our community for science-based, reliable and balanced information.*

## End Notes

NOT ABLE TO POST END NOTE HYPERLINKS TO THIS SITE,

Source: 'Ontario Exploring New Nuclear Generation in Port Hope' Ontario Government news release Jan. 15 2025

<sup>1</sup> Calculation based on the U.S. National Renewable Energy Lab [NREL] and on the Vogtle reactors built in Georgia at a cost of \$35 billion U.S. for two AP 1000 Westinghouse reactors. Therefore, ten AP 1000 Westinghouse reactors under review for Wesleyville would therefore cost between \$245 Billion CDN based on Vogtle and using the NREL conservative estimate amount of \$16,571/ kW in Canadian dollars or \$165.7 Billion CDN for the Wesleyville plant.

<sup>2</sup> Source: Ontario's Nuclear Emergency Response Plan

<sup>3</sup> Vogtle Electric Generating Plant Wikipedia see Units 3 & 4 description. Plants started construction in 2009.

<sup>7</sup> Source: "Ontario Power Generation seeks rate Increase for electricity from nuclear plants", Jan 14<sup>th</sup>, 2026,

<sup>6</sup>Source: Ontario greenlights Pickering Nuclear Generating Station refurbishment

<sup>8</sup> For a detailed financial analysis, see: "Ontario's Costly Nuclear Folly," Perspectives Journal, September 12, 2025

<sup>9</sup> 'Projecting thyroid cancer risk to the general public from radiation exposure following hypothetical severe nuclear accidents in Canada' CNSC Journal of Radiological Protection (September 2020)

10.Source: "Residential proximity to nuclear power plants and cancer incidence in Massachusetts, USA", Springer Nature Link, Volume 24, article 92 (2025).

11.Source: Protracted exposure to low-dose ionising radiation and cancer incidence among Canadian nuclear power plant workers Occup Environ Med. 2025 Oct 17;82(8):370-379.

<sup>12</sup> Clean Air Alliance Port Hope’s Electricity Future: Wind and Solar or the World’s Largest Nuclear Station?

<sup>13</sup> Source: **Building Fortress Am Can Ontario’s Am-Can’s Growth Plan Jan 2025**

<sup>14</sup> *Ibid* page 19

<sup>15</sup> Globe and Mail Explainer ‘Ontario’s electricity exports may not be the bargaining chip they were first thought to be.’ Matthew McClearn March 17 -

<sup>16</sup> **Electricity Export Analysis** Ont. Society of Professional Engineers 2024

<sup>17</sup> *Ford Government’s cancellation of renewable energy projects to cost at least \$231M’* Nov 19 2019

<sup>18</sup> **Storage of Spent Nuclear Fuel at the Pickering Site: Risks and Risk-Reducing Options** by Gordon R. Thompson, Institute for Resource and Security Studies IRSS May 2018 Prepared under the sponsorship of Ontario Clean Air Alliance Research

19. Rethinking Risk in the Age of Climate Chaos Ralph Torrie Corporate Knights January 30 2026.

<sup>20</sup> Question to Perplexity AI 10 Sources “Sketch a simple numeric example comparing an all-new-nuclear build to a “wind/solar plus storage” portfolio using the cents-per-kWh figures from Ontario-specific sources, to show the cost gap in concrete terms.”

### What the gap looks like

| Scenario                       | Assumed firm cost (cents/kWh) | Annual cost for 1TWh | Notes   |
|--------------------------------|-------------------------------|----------------------|---|
| All-new/refurb nuclear         | 16.5                          | 165 M \$/year        | Based on OPG filings to OEB for 2025 nuclear price. <a href="#">cleanairalliance +2</a> |
| Wind/solar + storage portfolio | 12                            | 120 M \$/year        | Based on high-end Ontario-cited wind/solar+storage costs. <a href="#">ieso</a>          |

Difference: **about 45 million \$/year more** for nuclear for every 1 TWh/year in this simple example (roughly 37 percent higher cost).