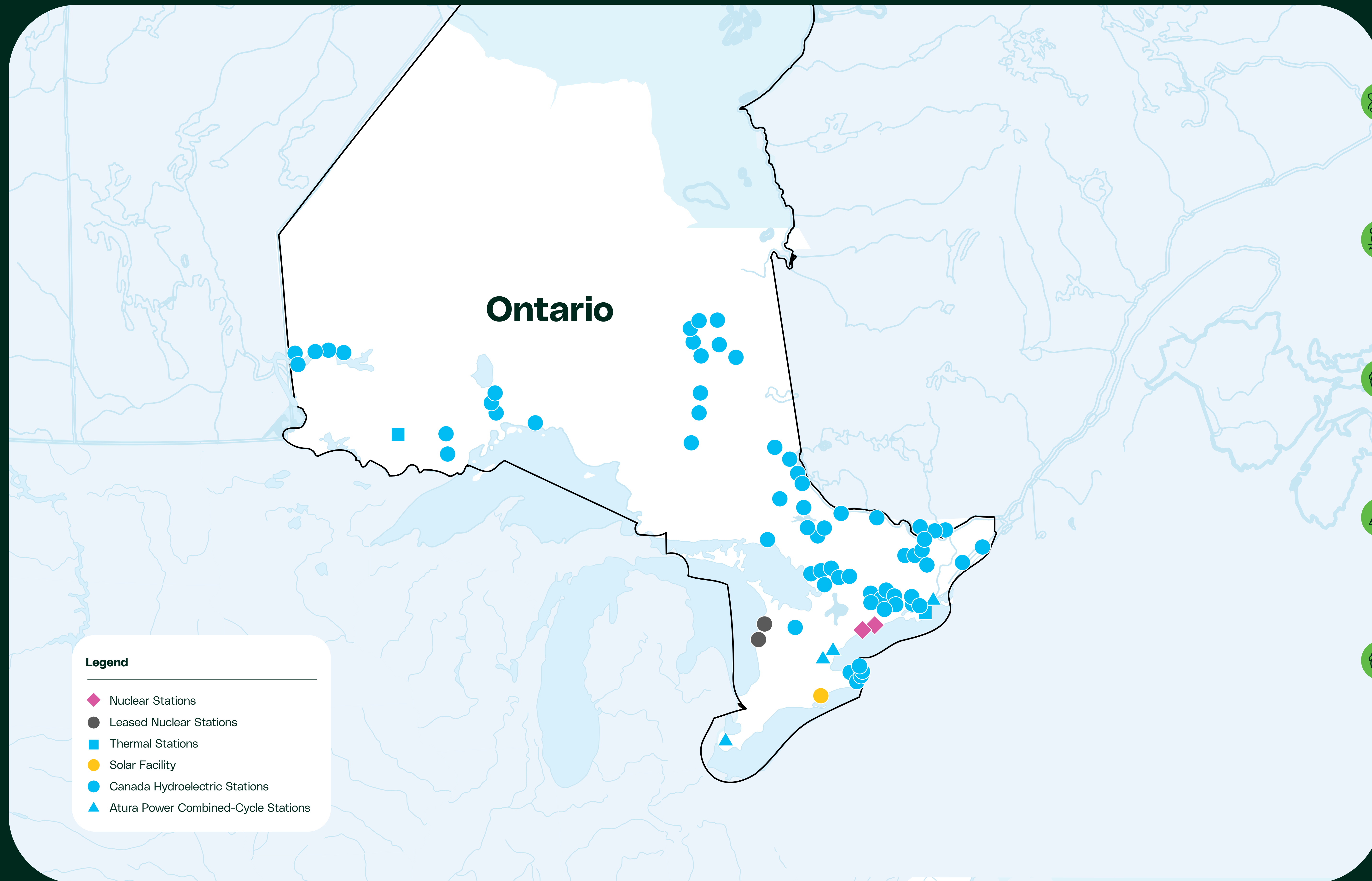


Powering Possibilities in Port Hope April 2025 Public Information Sessions

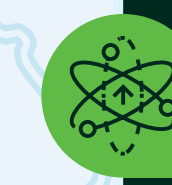
Information materials and FAQs

OPG Generation Portfolio



Legend

- ◆ Nuclear Stations
- Leased Nuclear Stations
- Thermal Stations
- Solar Facility
- Canada Hydroelectric Stations
- ▲ Atura Power Combined-Cycle Stations



2

Nuclear
Generating Stations



66

Hydroelectric
Generating Stations
in Canada



2

Thermal
Stations



1

Solar
Facility



4

Atura Power
Combined-Cycle
Generating Stations



Powering
Possibilities

ONTARIO
POWER
GENERATION

Nuclear Energy

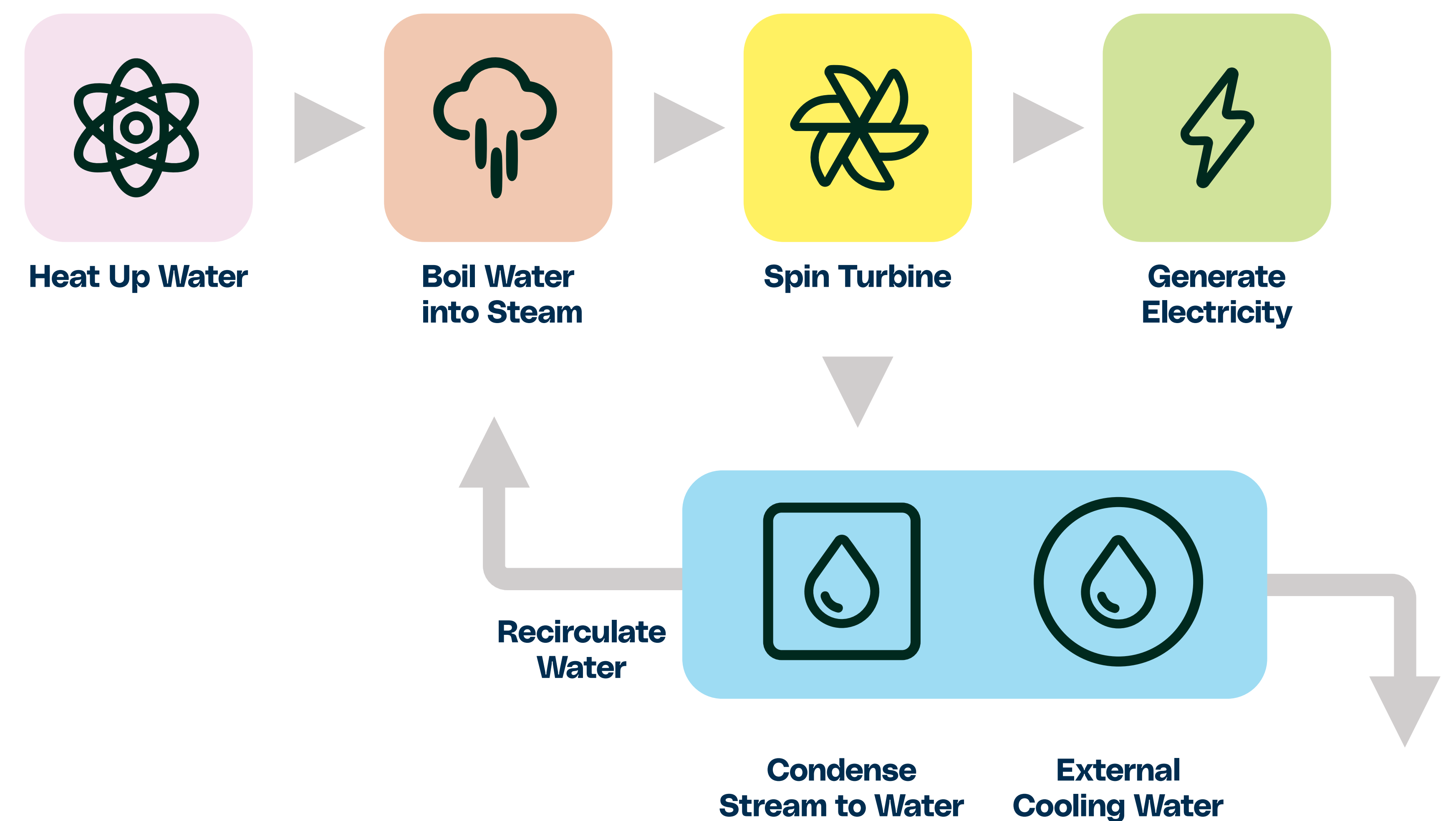
In its most basic form, a nuclear reactor is a device that produces heat. The heat is created in the reactor through the splitting of the atom, known as fission.

The heat is used to boil water into steam and the steam spins large turbines, which drive the generator, producing electricity.

An external cooling water source cools the steam, condensing it into water before it is recirculated.

Watch: Nuclear energy: the core of Ontario's power

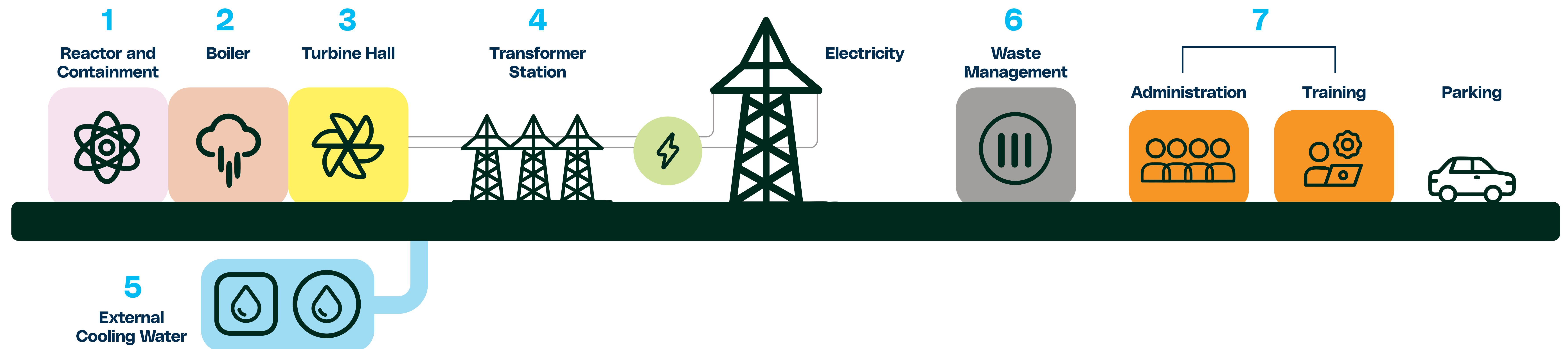
Watch: Ontario's electricity system in :60



*General and high-level overview shown, not specific to any technology.

Infrastructure Support

Support systems play a vital role in the safe operation of a nuclear generating station:



- 1. Reactor and Containment:** Reinforced concrete walls house the reactor and other important components to ensure safety.
- 2. Boiler:** Boils water to produce the steam that drives the turbines.
- 3. Turbine Hall:** Contains the equipment needed to generate electricity from steam.

- 4. Transformer stations:** Step up the voltage of the generated electricity, safely transmitting it to the grid.
- 5. External Cooling Water:** A closed loop system is used to absorb heat and convert steam from the turbine back into water.
- 6. Waste Management:** Nuclear waste is safely managed and stored to ensure the protection of workers, the public and the environment

- 7. Administration & training:** Our strength is our people. OPG's highly skilled and highly trained staff is innovating energy production to electrify life in one generation.

Nuclear Waste

OPG has been safely managing waste for more than 50 years. We prevent and minimize waste before it's created, manage the waste in our care, and harness waste and by-products to make isotopes.

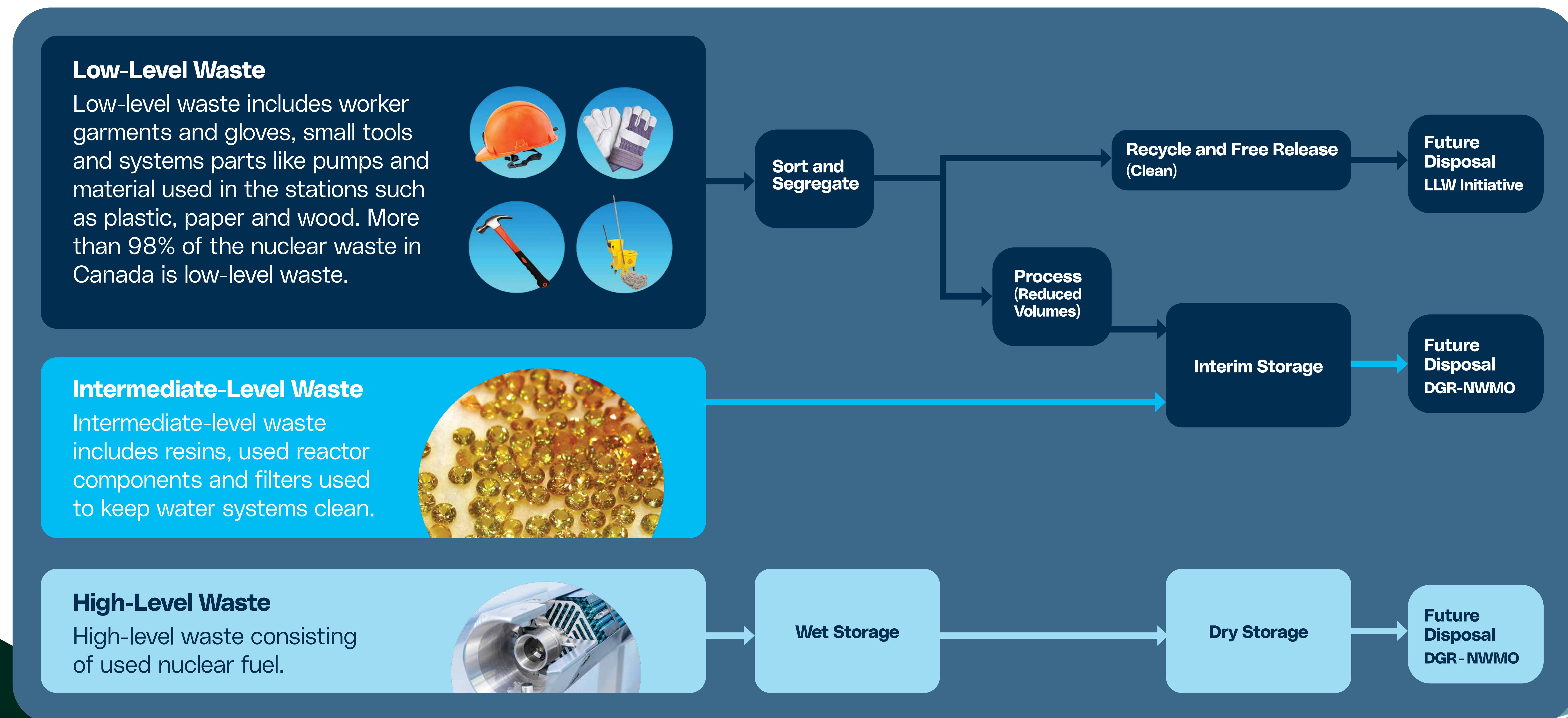
All energy sources create waste and by-products. The nuclear industry is the only energy industry that accounts for and manages all of its nuclear waste and by-products, which are safely stored and managed.

OPG's current nuclear operations produce several life-saving medical isotopes via nuclear by-products, once thought to be waste. Half of the world's Cobalt-60 is sourced from Ontario's CANDU reactors and used to sterilize medical equipment and food. Through our subsidiary Laurentis Energy Partners, OPG's Darlington reactor produces Moly-99, which is used in more than 40 million medical procedures a year to detect cancer and heart disease, and Yttrium-90, which can be used as radiation therapy to destroy liver cancer cells and shrink tumours.



OPG's Waste Categories

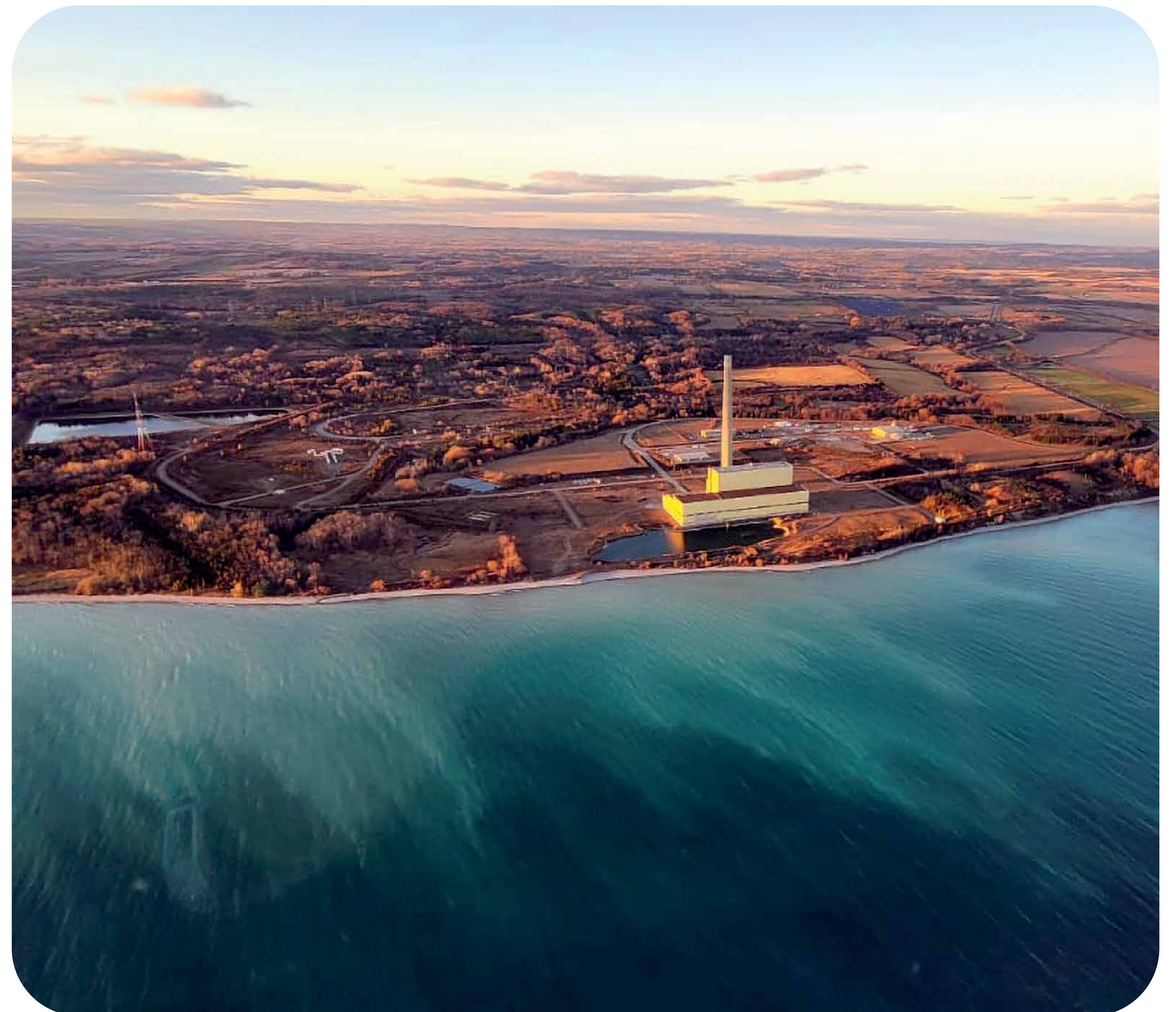
Nuclear waste can be divided into three categories:



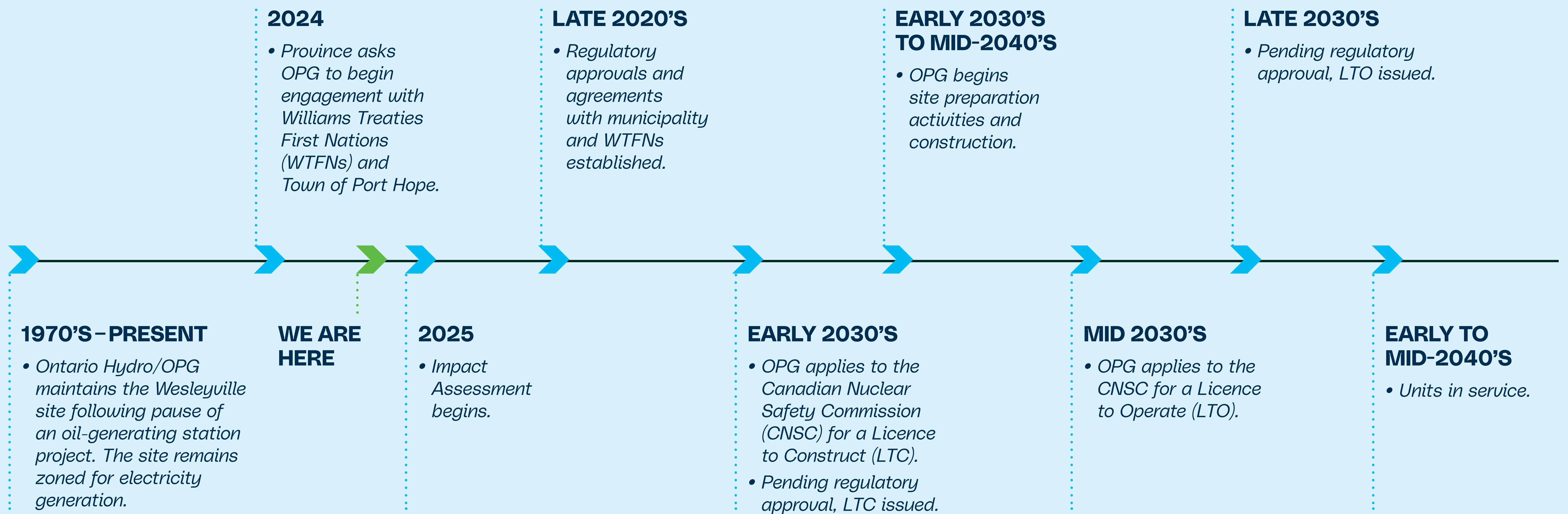
Why Wesleyville?

The **1,300-acre** Wesleyville site, which has been municipally-zoned and maintained for electricity generation for more than **50 years**, has many features that make it ideal for hosting a large nuclear development, including:

- ✦ Potential to co-locate other industries.
- ✦ Existing access to transmission, railways and roads.
- ✦ Located in the Durham-Northumberland clean energy corridor, which is also home to Pickering and Darlington Nuclear Generating Stations.
- ✦ Has the potential to host up to **10,000 megawatts (MW)** or enough to power the equivalent of **10 million homes**.



Roadmap & Potential Timeline



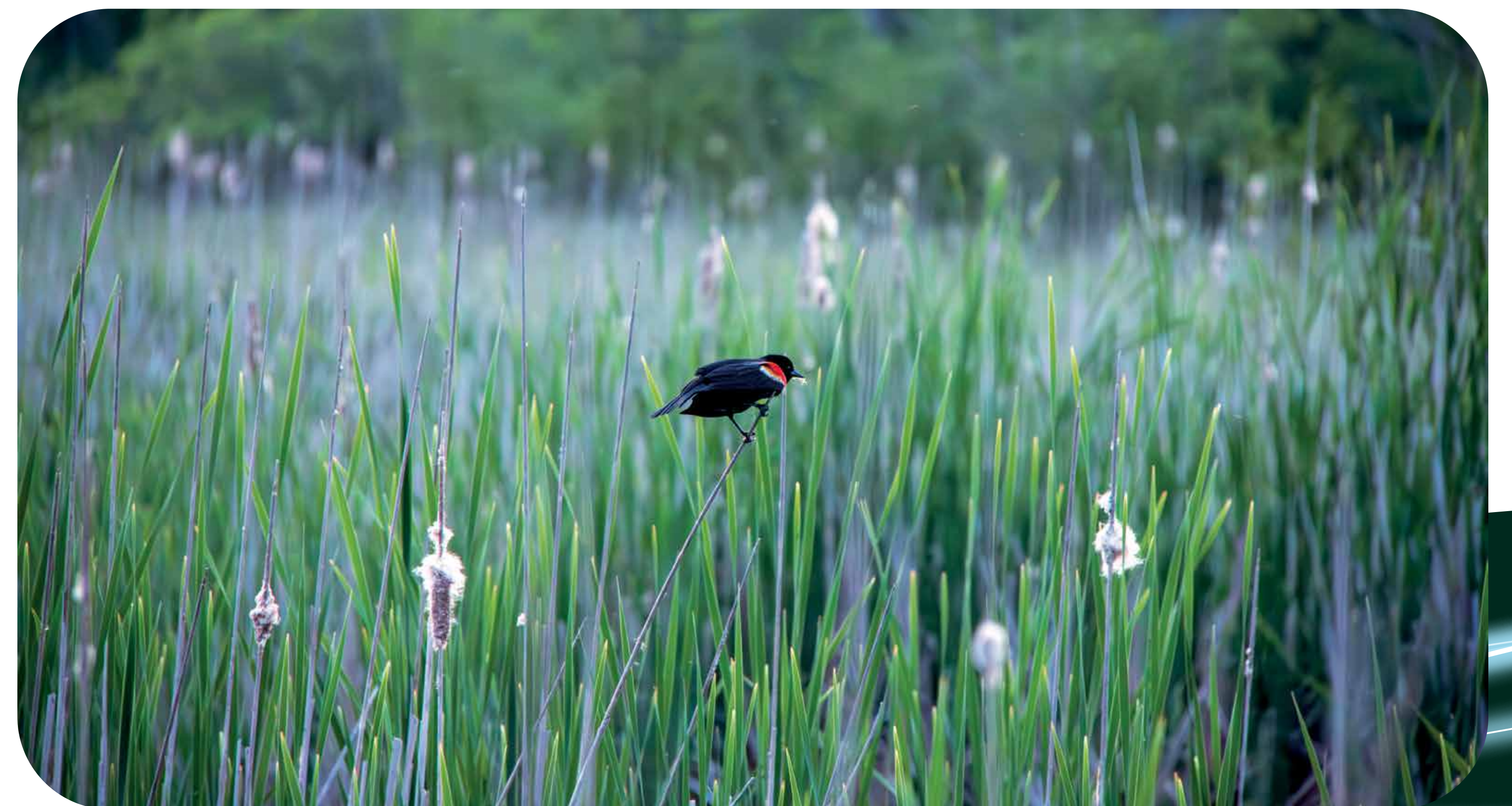
*This potential timeline is subject to change based on project planning and regulatory approvals.

Planned Initial Site Assessment Work

Initial activities to study site characteristics will provide information on current site conditions and help assess the suitability of hosting new nuclear generation at Wesleyville.

+ These activities can include:

- Drilling and monitoring of borehole and groundwater monitoring well locations.
- Installation of air monitoring equipment.
- Meteorological tower installation (to gather weather data).
- Walkdowns and ecological data collection.
- Socio-economic studies, encompassing culture, heritage and sustainability, among others.



Wesleyville Site

Potential Land Use



Potential Economic & Community Benefits

+ Economic Impact*

- \$65.7 billion GDP boost
- \$10.5 million annual municipal tax revenue
- \$235 billion provincial GDP boost

+ Employment*

- 1,700 jobs during design and construction
- 1,600 jobs during operation and maintenance
- 15-20% boost to local employment

*According to the Conference Board of Canada, the potential benefits to Port Hope over the project's life (95 years).

+ Additional Community Benefits could include

- Supply chain spending
- Employee spending in the region
- Corporate and employee charitable giving
- Environmental and biodiversity initiatives



Community Investment

OPG believes our power can help change the world, and not just by electrifying economies.

We believe there is power in community and are committed to doing our part to be a good corporate citizen and neighbour.

✦ The Power for Change Project pillars are:

- Protecting the planet
- Advancing reconciliation
- Supporting strong communities
- Empowering the next generation

\$3M+ reinvested each year in Ontario

300+ not-for-profit partners in our local communities

200+ student awards and scholarships awarded annually

20+ years of corporate philanthropy



Opportunities for Learning & Sharing

OPG's goal is to develop and maintain strong relationships, foster transparency and develop alignment on goals and values.

Additional opportunities for public input and collaboration on potential new nuclear at Wesleyville include:



OPG Community
Information Centre



Newsletters



Social Media



Information Sessions
and Workshops



Community Advisory Committee



Community Liaison Staff



Frequently asked **Questions:** ***Potential Environmental Impact***

Q: What is an impact assessment and when will it be conducted for the Wesleyville site?

A: A federal impact assessment (IA) is overseen by the Impact Assessment Agency of Canada and examines the potential positive and negative effects of proposed projects. This information helps identify potential impacts, mitigation measures, and enhancement to positive impacts. Throughout the IA process, assessments will thoroughly evaluate potential impacts to local ecosystems, water quality, wildlife habitats and breeding areas. The IA at the Wesleyville site is targeted to officially begin in Q4 2025 and will be accessible to the public to ensure ongoing transparency and community engagement.

Q: What are the considerations around the cumulative impacts of this project and other operating nuclear facilities in the region?

A: A federal impact assessment will include an assessment of cumulative effects to estimate any impacts of potential new nuclear generation at Wesleyville combined with other existing operating nuclear facilities in the region, as well as other past, present or future nuclear and non-nuclear projects that are reasonably foreseeable.

Frequently asked **Questions:**

Potential Environmental Impact (continued)

Q: As part of current operations, what testing does OPG nuclear do on the discharged cooling water before it is returned to the lake?

A: As part of current operations at the Darlington and Pickering nuclear generating stations, lake water is used as an external cooling source to condense the steam that is used to generate electricity. The lake water circulates in a closed-loop system and does not interact with radioactivity. OPG conducts rigorous testing on effluent water before it is discharged back to the lake to ensure environmental safety and compliance with regulatory standards.

Q: What types of nuclear waste does a nuclear station generate? How is it safely stored?

A: Nuclear waste generated at OPG's stations can be divided into three categories. Low-level waste (LLW) includes worker garments, small tools and material used in the stations such as plastic and paper. Intermediate-level waste (ILW) includes resins, used reactor components, and filters used to keep water systems clean. High-level waste (HLW) consists of used fuel. As part of current OPG operations, LLW and ILW are processed and placed in interim storage. HLW is placed in wet storage to allow the fuel to cool for up to ten years before being placed in dry storage at the station site. Under the Nuclear Fuel Waste Act and the Integrated Strategy for Radioactive Waste, the Nuclear Waste Management Organization (NWMO) is federally responsible for the long-term management of all of Canada's high and intermediate-level waste. NWMO planning includes a Deep Geologic Repository in service in the mid-2040s for Canada's used fuel and intermediate-level waste.

Frequently asked **Questions:**

Potential Environmental Impact (continued)

Q: How would waste be managed at a new nuclear facility at Wesleyville? What measures would be in place to ensure safety and address potential environmental impacts?

A: All energy sources create waste and by-products. The nuclear industry is the only energy industry that accounts for and manages all of its nuclear waste and by-products, which are safely stored and managed. OPG has been safely managing waste for more than 50 years. We prevent and minimize waste before it's created, manage the waste in our care, and harness waste and by-products to make isotopes. You can learn more about OPG and medical isotopes here: [Nuclear projects | Nuclear isotopes – OPG](#). Management of the waste from new nuclear generation at Wesleyville will be assessed through the impact assessment.

Frequently asked **Questions:** *Project updates*

Q: What is the potential timeline for new nuclear generation at Wesleyville?

A: As a first step, OPG would initiate a multi-year process to assess the site, identify a suitable generation technology, and complete a range of impact assessment activities to ensure there were no adverse social or environmental impacts that couldn't be mitigated. Participation of Indigenous and local communities is essential to this process.

Should a new generation project be approved, a subsequent multi-year regulatory process is initiated with public input throughout, including through public regulatory hearings.

The decision to proceed with a nuclear generation project will ultimately be decided by Rightsholders, local government, the residents of Northumberland, and the Canadian nuclear regulator.

Click [here](#) for the potential project timeline.

Frequently asked **Questions:** ***Project updates (continued)***

Q: What updates are available regarding changes to the Wesleyville project, including the project scope, timelines, and strategic site selections?

A: Updates on the Wesleyville project, including the project scope, timelines, and strategic site selections, will be provided regularly through our website as the main repository of information. A variety of other engagement channels, including newsletters, information sessions, workshops, and community meetings will offer an ongoing and varied approach to engagement. We will also open a community office in Port Hope to facilitate direct communication with the local community.

Q: How much will the project cost?

A: We are currently in the early stages of project assessment and feasibility. As the project develops, the overall cost of the project will become more certain.

Frequently asked **Questions:** ***Infrastructure and Community Impact***

Q: Will there be an impact to surrounding properties or Lakeshore Road because of this project and how will the construction of new roads impact traffic patterns, noise levels, and local infrastructure?

A: Initial assessments conducted by OPG will include an assessment of traffic, including the current conditions and use of roads that could be affected by future project activities. This assessment will consider access routes, traffic flow conditions including expected traffic volumes and resulting impacts (ie: noise) for each phase of the potential project (e.g., construction, operation). Traffic count surveys of the local area will be included in those assessments and are expected to start this year. The information gathered in this early assessment stage will be analyzed, and mitigation strategies determined, as required, through the impact assessment process that will take place over the next several years.

Q: What job opportunities will be created by the project, and how can community members apply for positions?

A: According to the Conference Board of Canada's conceptual analysis, roughly 1,700 jobs will be supported during the design and construction phase and 1,600 during the operation and maintenance phase of the potential project; an average 15 to 20 per cent boost to overall local employment levels. Community members can apply for a variety of positions through our website, community office, and job fairs.

Frequently asked **Questions:** **Technology and Safety**

Q: What is the size and generating capacity of the potential nuclear station at Wesleyville?

A: The size of a facility would depend on the type of nuclear technology that is suitable for the 1,300 acre property and surrounding area. Early studies indicate the Wesleyville property could potentially host 8,000-10,000 MWe of electricity, which could power the equivalent of eight to ten million homes.

Q: What types of nuclear technology are being considered, and what are their safety, efficiency and environmental impacts? What is the timeline for technology selection and implementation?

A: Over the next several years, detailed evaluations of a range of nuclear technologies will be conducted to select the most suitable technology using a criterion that includes safety, efficiency, environmental impact, and economics.

Q: What is an exclusion zone and what size is the exclusion zone for this project? Will OPG expropriate land?

A: The Canadian Nuclear Safety Commission (CNSC) defines an exclusion zone as “a parcel of land within or surrounding a nuclear facility on which there is no permanent dwelling and over which a licensee has the legal authority to exercise control”. An exclusion zone supports comprehensive safety and emergency planning designed to protect the public and the environment. Very early conceptual assessments indicate that the bounding exclusion zone for all potential technologies is feasible within the OPG-owned lands. The exclusion zone considerations and impacts will be thoroughly assessed as part of the Impact Assessment process. OPG does not have the ability to expropriate land.

Frequently asked **Questions:** ***Decision-Making and Stakeholder Engagement***

Q: How will the decision-making process behind the project involve stakeholders, and what approval procedures are in place?

A: OPG places great importance on building strong relationships and partnerships with host communities, neighbours and Indigenous Nations on whose traditional territory we operate. Exploring new power generation is a complex and lengthy process that includes multiple opportunities for input and an ongoing program of public education and engagement. The decision to proceed with nuclear power will ultimately be decided by local government, Rightsholders, the residents of Northumberland, the Federal Impact Assessment Agency, and the Canadian nuclear regulator, the Canadian Nuclear Safety Commission (CNSC).

Q: How will the project engage with Indigenous communities and respect their rights and perspectives?

A: OPG acknowledges the importance of early involvement of Aboriginal and Treaty Rightsholders and is committed to creating lasting mutually beneficially relationships with Indigenous Nations and communities. OPG has begun early engagement with Aboriginal and Treaty Rightsholder Indigenous Nations proximate to the Wesleyville, to ensure they have a voice at the table, including participation in impact assessment activities.

Let's Stay in Touch

To ensure an ongoing open line of communication, there are a number of ways to connect with our team.

Have a question?

[Submit question *here*](#)

Send us an email:

wesleyville@opg.com

Check out our website:

opg.com/wesleyville

Give us a call:

[1-800-461-0034](tel:1-800-461-0034)