

# Ontario's Proven Energy Advantages

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In today's world, sustaining environmental and economic prosperity depends on the delivery of environmentally responsible, reliable and secure supplies of energy to homes and businesses at an affordable price. No one solution fits all. In large part, achieving these outcomes depends on leveraging the inherent and proven energy advantages at hand.

In Ontario's case, these advantages are our developed hydroelectric generation assets and world-leading nuclear technology. Together, Ontario's low carbon, hydroelectric and nuclear generation provide over 80% of our electricity and represent one of the world's smallest carbon electricity system footprints. Ontario's nuclear fleet is the system's 24/7 baseload electricity workhorse. Hydroelectric stations are used to meet both base and peak electricity demands.

These hydroelectric and nuclear resources ensure a secure, safe, domestic supply of electricity for Ontario's residential, commercial and industrial consumers. As Ontario's lowest cost sources of electricity, the province has used its hydroelectric and nuclear generation to offset rising electricity costs over the last decade.

Commendably, Ontario's most recent Long-Term Energy Plan (LTEP) recognizes the significant environmental and economic benefits provided by its nuclear fleet. The LTEP confirms the provincial government's commitment to refurbish the Darlington and Bruce Power nuclear reactors, extend the operation of the Pickering Station to 2024 and support the development of small modular reactors and exports of Ontario's nuclear technology and expertise.

The Plan acknowledges that Ontario does not have vast hydroelectric resources like those in Quebec and Manitoba and that developing the remaining remote sites will be expensive and involve long, costly transmission lines but the Plan does call for the upgrading of existing hydro stations.

The LTEP places significant emphasis on regional energy planning and increased investments in renewable distributed energy resources (DER) such as remote hydro, wind, solar and also energy storage and microgrids. Such investments are positioned as being cost-effective ways to lower greenhouse

gases and improve reliability and resilience while creating local jobs and an Ontario clean energy technology sector.

Currently, carbon-emitting natural gas generation is relied upon to back up intermittent wind and solar generation over 70% of the time. The LTEP implies that in the future, energy storage and renewable natural gas will meet more of this requirement. That could be an important benefit, as Ontario imports over 99% of its natural gas, and by 2021, 74% of this natural gas will be met by U.S. supplies, primarily shale gas.

Ontario's experience with the 2009 "Green Energy and Economy Act" suggests that investments in DER and microgrids should be preceded by transparent, comprehensive cost-benefit analyses. Any future investments should be made strategically and only in regions where the value has been clearly demonstrated. Advocates of these new technologies – multinational companies, technology developers, financiers, and prosumers – want a share of the electricity sector's solid revenue streams. But consumers don't know the ultimate costs

and benefits or how they will be shared. Will more "localized" investments mean different electricity rates across the province? What about public and worker safety?

Decommissioning and waste management costs are another consideration. Ontario's hydroelectric and nuclear sectors are highly regulated. For example, well-defined, fully funded decommissioning and waste management systems are in place for Ontario's nuclear facilities. By comparison, similar provisions for the province's wind, solar and battery energy storage installations are unclear.

The Plan also calls for additional investments in bulk transmission and distribution. Ontario's bulk electricity and distribution networks will remain as valuable as ever, knitting all of the pieces together to provide secure supply across the province. Such investments should be focused on making these networks smarter and more durable to withstand and quickly recover from extreme weather events.

Making the right choices today is the best way to ensure a strong Ontario economy in the future.

## Ontarians **Deserve** Transparent, Cost and Benefit Based Energy Decisions

Ontarians need to understand the decisions that impact the price they pay for electricity.

We know that Ontario's nuclear and hydroelectric generation:

- Provides the province's lowest cost, reliable electricity
- Lowers climate changing GHG emissions and smog-causing pollutants
- Are subject to transparent regulation
- Delivers tens of thousands of high-value jobs
- Ensures energy security
- Reduces the need for expensive fossil fuel and electricity imports
- Keeps the economic benefits in our province

The costs and benefits of emerging technologies like distributed wind, solar and energy storage batteries configured into microgrids are not as clear.

Advocates of these technologies—multinational companies, technology developers, financiers and prosumers—want a share of the electricity sector's stable revenue streams.

- What will these investments ultimately cost consumers?
- Will GHG emissions rise?
- Who will pay for decommissioning and managing toxic wastes from this equipment?
- Who will pay the costs of reconfiguring Ontario's existing transmission and distribution infrastructure?
- How will the costs and benefits be shared with consumers?
- What about public and worker safety?

Investments in emerging technologies should be preceded by transparent, comprehensive cost and benefit analyses.

Please visit [pwu.ca](http://pwu.ca) to learn more about Ontario's energy decisions.

**FROM THE PEOPLE WHO HELP KEEP THE LIGHTS ON.**

