

# Ontario Needs to Start Building Big Nuclear Again – and Fast!



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Ontario's Independent Electricity System Operator (IESO) and others have identified a looming electricity capacity gap starting in 2035, with demand for electricity rising much faster than we are building new, clean generating facilities. According to the province's Integrated Energy Plan, between now and 2050, we could need 17,500 MW of additional nuclear generation alone, the equivalent of adding five new Darlington-scale nuclear stations. Analyses by the Power Workers' Union have suggested that the gap could be much bigger. While the IESO projects a 75% rise in demand for electricity in Ontario, some experts indicate the actual need could be more than double today's levels, and that is no small task.

Ontario's large reactors have been the quiet workhorses of our clean-energy system for more than half a century. They have given the province one of the lowest-carbon electricity grids in the world. The CANDU technology that powers them today is Canadian-designed, Canadian-built, and globally respected for its safety, reliability, and long operating life. Nuclear also has one of the highest capacity factors of any electricity source — over 90 per cent — and the smallest land footprint per unit of energy produced. That stability anchors Ontario's low-carbon grid.

To address the imminent electricity crunch, Ontario really needs to start building large-scale nuclear again. The planning, engineering, regulatory review, permitting, and construction time takes years. Delays have real costs. Ontario is already building more gas generation to meet rapidly growing demand driven by electrification of transportation, heating systems, AI data centres, and industrial processes. Expediting the next wave of large-scale nuclear development will help control costs and reduce the need for new carbon-emitting gas generation to keep the lights on during the transition to a net-zero electricity system.

Small modular reactors (SMRs) represent innovative and promising new technologies. They are well-suited to complement the new large-scale workhorse reactors needed to power high-demand growth regions like the Greater Toronto Area.

More importantly, SMRs (typically up to 300 Megawatts (MW)) will be particularly valuable in locations that require hundreds of MW of new carbon-free electricity generation rather than the thousands needed in Ontario's major load centres. This fit-for-purpose scale, combined with the prospect of shorter design and construction timelines, has attracted interest from multiple provinces, industries, and the federal government. Construction of the first four of these SMRs is already underway at the Darlington site in Clarington, Ontario.

Now there are even more reasons to get moving quickly: economic development, high-skilled jobs, industrial renewal, and energy sovereignty. Canada's trade relationships are undergoing an unprecedented restructuring that will take years if not decades to develop and stabilize. In this environment, Canada's nuclear industry is not just an energy workhorse; it's an economic accelerator. The nuclear industry supports more than 250 Canadian companies, contributes billions to GDP, and sustains tens of thousands of direct, high-skilled jobs in engineering, construction, manufacturing, mining, and plant operations. Canada's nuclear supply chain is dominated by domestic companies, many of which are concentrated in Ontario's industrial heartland. Our uranium, our technologies, and our workforces keep energy dollars and control

here at home and underpin our economy and sovereignty.

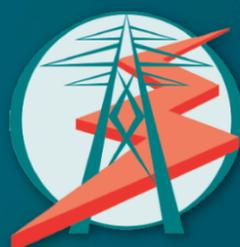
Over half of Ontario's electricity is produced on three relatively small sites in Pickering, Tiverton, and Clarington. In the face of unprecedented electricity demand growth, neither Canada nor Ontario can afford delays in launching a new generation of large-scale nuclear projects. That must start with Bruce C on the existing Bruce Power property in Tiverton and with Wesleyville on the existing Ontario Power Generation site near Port Hope. These are truly generational projects to drive Canadian prosperity while cutting emissions and protecting our energy sovereignty.

Canada's nuclear industry is essential to meet Ontario's massive demand growth for clean electricity, power economic growth, and deliver on our net-zero-by-2050 commitment- all while building on Canada's longstanding strengths as an energy superpower. We call on Ottawa to treat new large-scale nuclear as the nation-building priority it is: fast-track approvals through Major Projects designation and ensure federal funding and Clean Economy Investment Tax Credits to support their construction. Large-scale nuclear, capable of delivering large volumes of clean, reliable, around-the-clock power, will help secure Canada's economic future and long-term energy sovereignty.

## NATION BUILDING HAS LARGE-SCALE NUCLEAR AT ITS CORE

- Ontario Will Face Massive Electricity Crunch by 2035
- Ontario Forecasts 75% Growth in Electricity Demand
- Large-Scale Reactors Remain the Proven, Low-Carbon Workhorse to Grow the Clean Grid and Avoid Unnecessary Gas Buildout
- Time to Move Now on Bruce C and Wesleyville
- Big Nuclear Means Jobs, Economic Sovereignty, and Net-Zero

Ontario and Canada must move quickly to plan and build enough reliable, affordable, carbon-free electricity infrastructure to close the growing gap between rapid electricity demand growth and carbon-free supply.



**POWER  
WORKERS'  
UNION**



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