

# YOUR NUCLEAR ENERGY PARTNER

For over 60 years, Ontario has been a global leader in nuclear energy, safely operating nuclear power plants. This legacy began in 1962 with the first made-in-Ontario CANDU (Canada Deuterium Uranium) reactor in 1962, a groundbreaking achievement in Canadian engineering. Today, Ontario's nuclear power stations in Pickering, Darlington, and Bruce County are internationally recognized for their safety, reliability, and performance. Nuclear energy forms the backbone of Ontario's clean electricity grid, reducing emissions while supporting economic growth and energy security through continued investments in innovative technologies, sustainability and a skilled workforce.

## ONTARIO'S NUCLEAR INDUSTRY BY THE NUMBERS

**10**

REACTORS BEING  
REFURBISHED

**16**

CANDU REACTORS IN ONTARIO  
ACROSS 3 NUCLEAR POWER  
STATIONS - BRUCE, DARLINGTON,  
AND PICKERING

**51%**

OF ONTARIO'S ENERGY  
OUTPUT (2024)

**12,184<sup>MW</sup>**

INSTALLED NUCLEAR  
POWER GENERATION  
CAPACITY (2024)

**200+**

COMPANIES MANUFACTURING  
MAJOR COMPONENTS,  
SPECIALIZED EQUIPMENT  
AND ENGINEERING SERVICES

**80,000+**

JOBS (INCLUDING  
SCIENCE, HIGH-TECH AND  
ENGINEERING)

## OPPORTUNITIES IN **SMALL MODULAR REACTORS (SMR)**

SMRs are versatile nuclear reactors typically generating around 300 MW or less that can be factory constructed and assembled at the point of use. Ontario is proceeding with construction of the first of four SMRs at the Darlington new nuclear site, the first SMR project in a G7 country.

REDUCES 2+  
MEGATONNES OF  
**CO<sub>2</sub>** EMISSIONS

**\$38.5B**  
TO GDP

(2030-2035)  
**1,200<sup>MW</sup>**  
CLEAN, RELIABLE  
ELECTRICITY

**3,700**  
SMR JOBS

# RESEARCH AND INNOVATION

Ontario is a global leader in nuclear energy and medical isotope innovation, supported by top-tier universities and research institutions committed to advancing nuclear science, engineering, and technology. The launch of the Nuclear Isotope Innovation Council of Ontario (NIICO) will help double the province's medical isotope production by 2030, strengthening its role in global health care.

With over 86,000 STEM graduates annually and five universities in the University Network of Excellence in Nuclear Engineering (UNENE), Ontario is preparing the next generation of nuclear talent. The province is home to 75% of Canada's research reactors, providing critical infrastructure for nuclear research and development. Together, these assets position Ontario at the forefront of innovation in clean energy and life-saving medical technologies.



The world's first SMR engineering and service center [in Ontario] [...] highlights the strong collaboration between government, industry and academia that is the backbone of Ontario's reputation as an energy superpower"

**Dr. Steven Murphy**  
President and Vice-Chancellor  
Ontario Tech University

## MEDICAL ISOTOPES PRODUCTION:

New, innovative medical isotope production processes are being developed in Ontario's CANDU power reactors. Their unique design allows for the isotopes to be harvested while they continue to operate and generate clean energy.

### COBALT-60

Half of the world's Cobalt-60 medical isotope supply is produced in Ontario's nuclear power reactors.

### MOLYBDENUM-99 AND YTTRIUM-90

Key medical isotopes for diagnostics and cancer treatment expected to begin commercial production at Darlington in 2025.

### LUTETIUM-177

Bruce Power unit 7 became the first commercial power reactor to produce the Lutetium-177 isotope used for cancer treatment and Laurentis Energy Partners at Darlington will begin production of the isotope in 2027.

### IODINE-125 AND HOLMIUM-166

McMaster Nuclear Research Reactor is the world's leading supplier of isotopes, providing treatment for more than **70,000** cancer patients every year.

**FOR MORE INFORMATION ABOUT ONTARIO'S  
CLEANTECH SECTOR:**

[SourceFromOntario.com](https://SourceFromOntario.com) | [InvestOntario.ca](https://InvestOntario.ca)



All figures are in Canadian dollars unless otherwise noted.  
This information is accurate at the time of printing.

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