



Creating the Conditions for Success: Bruce Power Case Study on Building a Nuclear Industry Ecosystem

Presentation to: CSG Energy Masterclass

August 15, 2024

Purpose of learning session

1. EXPLORE

Explore the successful public-private partnership between Bruce Power and Bruce County that created an economic and innovation ecosystem to support a multi-billion-dollar refurbishment program.

2. DISCUSS

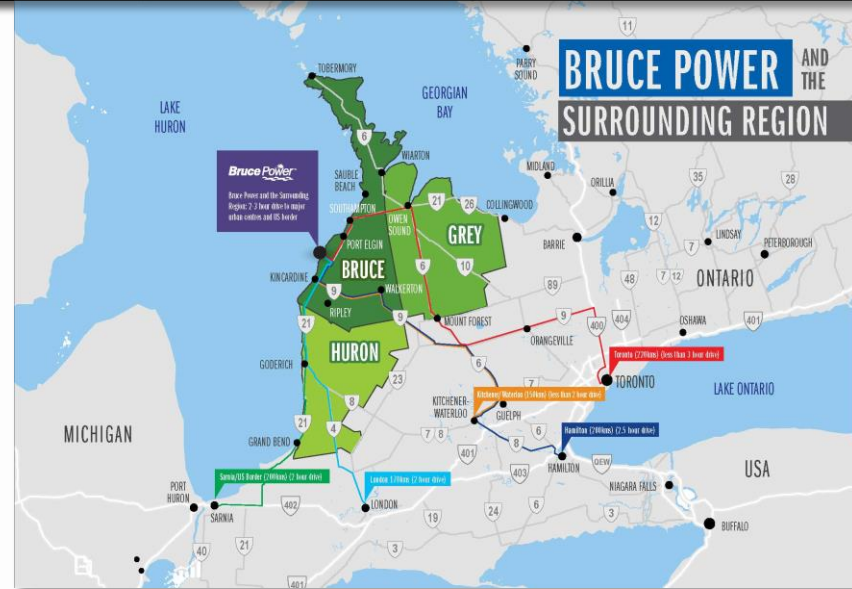
Discuss the strategies employed to attract and retain nuclear supply chain companies; develop the workforce; foster innovation and engage with a diverse range of stakeholders to drive regional growth and local workforce development.

3. ENHANCE

Enhance regional training, education and employment opportunities that align with the nuclear sectors long-term needs.

The region

- ▶ Bruce, Grey and Huron Counties (the **Clean Energy Frontier**) are made up of 26 rural municipalities with numerous communities, towns and hamlets in each municipality.
- ▶ A collective population of 235,667*
 - The largest municipality is Owen Sound with a population of 21,000.
- ▶ Key economic regional drivers: energy (nuclear), agriculture and tourism.



The nuclear industry

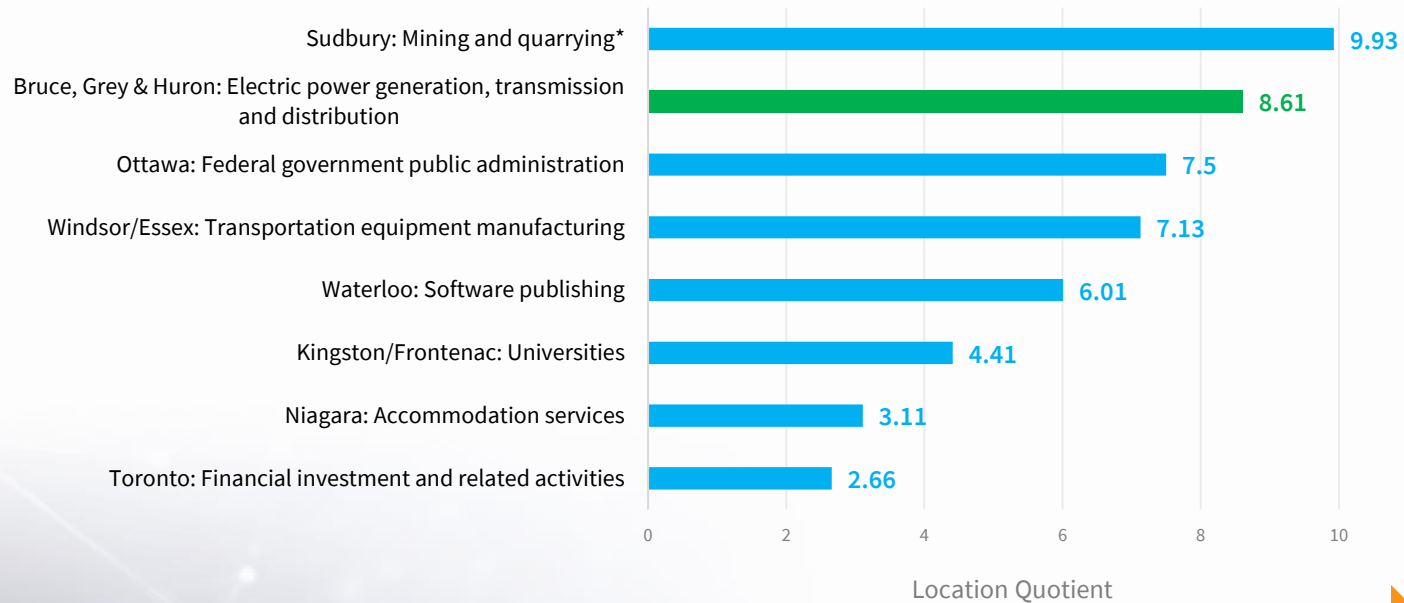
- ▶ The Clean Energy Frontier region is home to Bruce Power, one of the world's largest operating nuclear electricity generating station—located on the shores of Lake Huron in Bruce County.
- ▶ Over 4,200 permanent employees working to produce 6,550MW of electricity production (roughly 30% of Ontario's electricity generation capacity) and life-saving medical isotopes.
- ▶ Most employees live across the three counties—70% within 35kms and the remaining 30% spread across Bruce, Grey and Huron Counties.



The nuclear industry in the region

Selected regional industry clusters in Ontario, Location Quotient values (Canada = 1.00)

Source: Statistics Canada 2016 Census - Figure 6



The opportunity

- ▶ In September 2016, Bruce Power and the County of Bruce launched the **Nuclear Economic Development and Innovation Initiative**.
- ▶ A public-private partnership to establish a common vision for economic development and growth across the region as it relates to expanding local opportunities in the nuclear industry.
- ▶ The partnership was in response to Bruce Power's multi-year, multi billion-dollar private sector investment program to refurbish 6 of its nuclear reactors and extend the life of its units to 2064.
- ▶ Considered Canada's largest construction project lasting over 15 years.
- ▶ Directly and indirectly creating and sustaining 22,000 jobs across Ontario.

Economic development program goals

GOAL 1

Expand the regional supply chain network to support Bruce Power and the nuclear sectors long-term needs.

GOAL 2

Support and promote community investment readiness to better prepare the public sector for growth in their communities.

GOAL 3

Enhance regional training, education and employment opportunities that align with the nuclear sectors long-term needs.

2016 major suppliers

- ▶ 13 major suppliers
- ▶ 3 communities
- ▶ 1 county

GOAL 1

Expand the regional supply chain network



13 BRUCE COUNTY

7 KINCARDINE

4 PORT ELGIN

2 TIVERTON

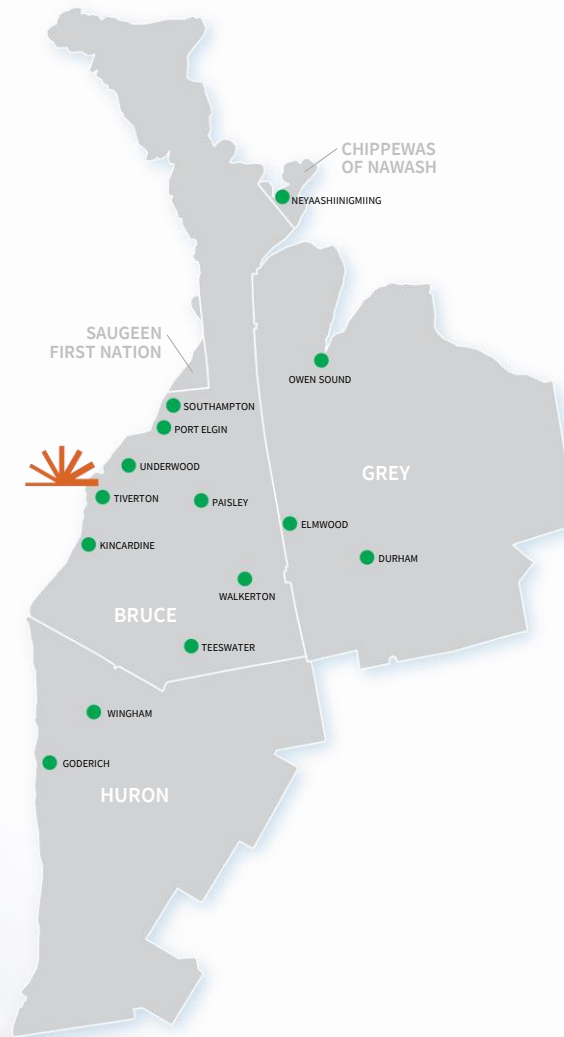
By 2019

REGIONAL NUCLEAR SUPPLY CHAIN NETWORK



2024 major suppliers

- ▶ 60+ major suppliers
- ▶ 14 communities
- ▶ 3 counties
- ▶ 1 indigenous community



52 BRUCE COUNTY

- 22 KINCARDINE
- 1 PAISLEY
- 19 PORT ELGIN
- 1 SOUTHAMPTON
- 1 TEESWATER
- 6 TIVERTON
- 1 UNDERWOOD
- 1 WALKERTON

7 GREY COUNTY

- 1 ELMWOOD
- 1 DURHAM
- 5 OWEN SOUND

2 HURON COUNTY

- 1 GODERICH
- 1 WINGHAM

1 CHIPPEWAS OF NAWASH

- 1 NEYAASHIINIGMIING

Goal 2: Community Investment Readiness

- ▶ Regional Advisory Committee – multiple stakeholder engaged and involved in setting priorities – committee remains active and engaged in sector-specific issues today.
- ▶ Developed a regional Welcome Website to promote the region to prospective and new residents– a one-window portal into the region.
- ▶ Developed a New Resident Tool-Kit -a resource for municipalities and community groups on how to better engage, support and inform new residents (e.g. website design recommendations, community events) – promoted it across the region.
- ▶ Engage development community / private sector investors to review/ assess planning and development limitations/ restrictions/ opportunities to further support and enhance growth.
- ▶ Provided input to the public sector planning processes and barriers to growth.

Goal 3: Regional training and education

- ▶ **Local Training Action Team** established with key sectors and partners (private sector, government, trades unions, educational institutions) to develop a plan; understand collective industry demand and assess the regions assets and opportunities.
- ▶ In 2018 – Bruce Power announced the creation of the **Nuclear Innovation Institute** (NII) which included formalizing a role in the region to support more local training and education.

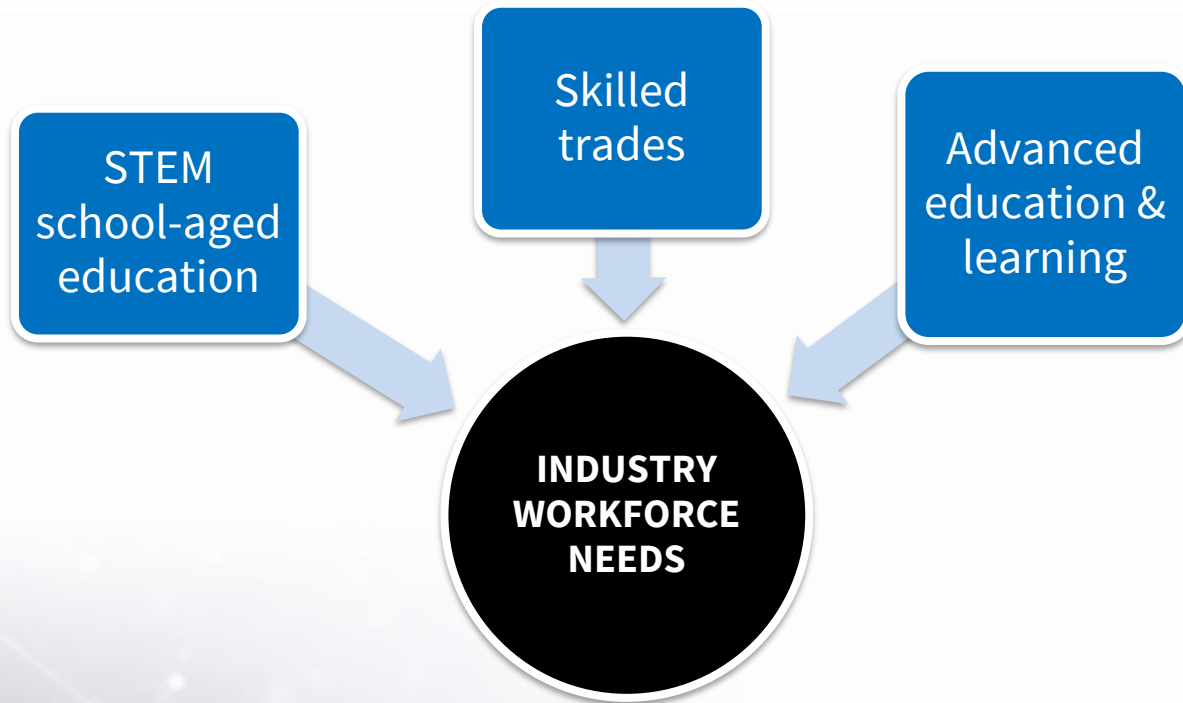
NII's Purpose

- ▶ To conduct or support **scientific research and experimental development** for the purpose of advancing technologies and applications in nuclear power generation and related industries.
- ▶ To promote **public awareness and broader community engagement** with the science and technologies that are driving the path to a net zero economy, with a particular focus on applications in rural communities.
- ▶ To deliver programs, and other advisory services, to its members, that enhance and support economic sustainability of Bruce, Grey, Huron Counties and help workers in nuclear and related industries acquire **new skills and knowledge** in the clean energy sector.

NII at a Glance

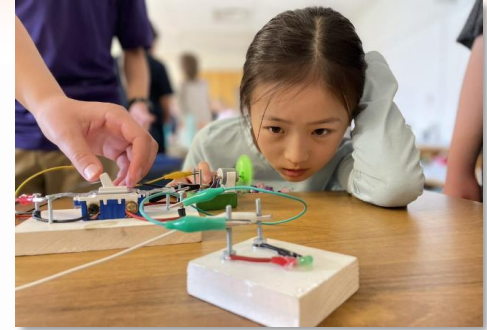
- ▶ Born from the success of the expansion of nuclear supply chain in the region
- ▶ Designed to capitalize on the experience, expertise and skillset of the expanded employment base.
- ▶ An independent, not for profit, member-based organization initiated by Bruce Power. Largely private sector funded with some support from public sector.
- ▶ NII continues to deliver on the region's nuclear economic development priorities alongside local/ regional public institutions and private sector investors.
- ▶ The efforts from 2016 made NII possible.
- ▶ NII keeps this effort going.

Regional training and education at NII

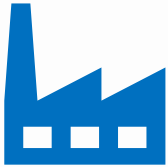


STEM school-aged education

- ▶ NII's educational programming aims to advance education in science and technology for young students in Bruce, Grey and Huron counties.
- ▶ Seeks to motivate local students to both enjoy and continue studying STEM subjects.



Skilled trades



Focus on in-demand trades in the region (direct and indirect to the nuclear/ clean energy sector); working with employers/ industry partners to understand demand.



Coordination function – inventory of regional assets, facilities and organizations that support skilled trades development for students



Identify gaps and expand local delivery opportunities of skilled trades training include delivery of NIIs high school coop program.

Advanced education and learning

- ▶ In-career professional development and post-secondary level courses, training and programming delivered locally.
- ▶ Focused on expanding skillset, growth and opportunities of current workforce (e.g. upskilling, leadership development).
- ▶ Actively working with multiple institutions to deliver in-demand courses not offered locally (e.g. radiation protection, engineering).
- ▶ Providing a physical learning space (near the Bruce Power site) and coordination function to support delivery of local training

Lessons learned: keys to success



A coordinated, collaborative approach with clear parameters established at the onset



Private sector driven with public sector engagement

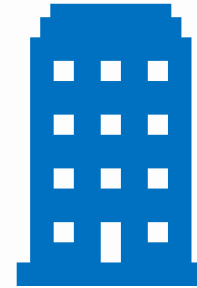


Dedicated support function

Lessons learned: keys to success



Focused on in-demand requirements/
responding to industry needs

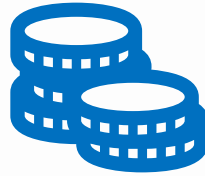


Understanding assets and
amenities

Lessons learned: keys to success



Early, often and ongoing engagement



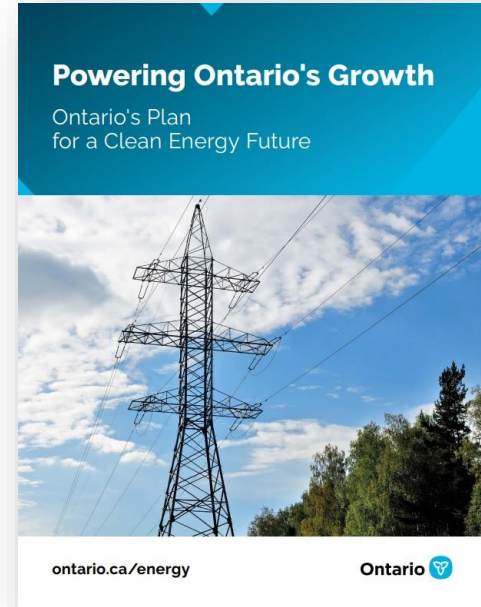
Identifying and addressing broader ecosystem needs and opportunities



Recognizing the importance of community capacity building (including local Indigenous communities)

The future of the Clean Energy Frontier region

- ▶ The province and Bruce Power are starting **pre-development work** to site the first large-scale nuclear build in Ontario since 1993 at its existing Bruce nuclear site.
- ▶ Bruce Power will conduct an **Impact Assessment** with the potential to build up to **4,800 MW of new nuclear generation** on the Bruce site.





Discussion / Questions

Get in touch

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