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Knowledge Knows No Boundaries

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Canadian Association for University Continuing Education

Clean Energy Skills for a Growing Sector

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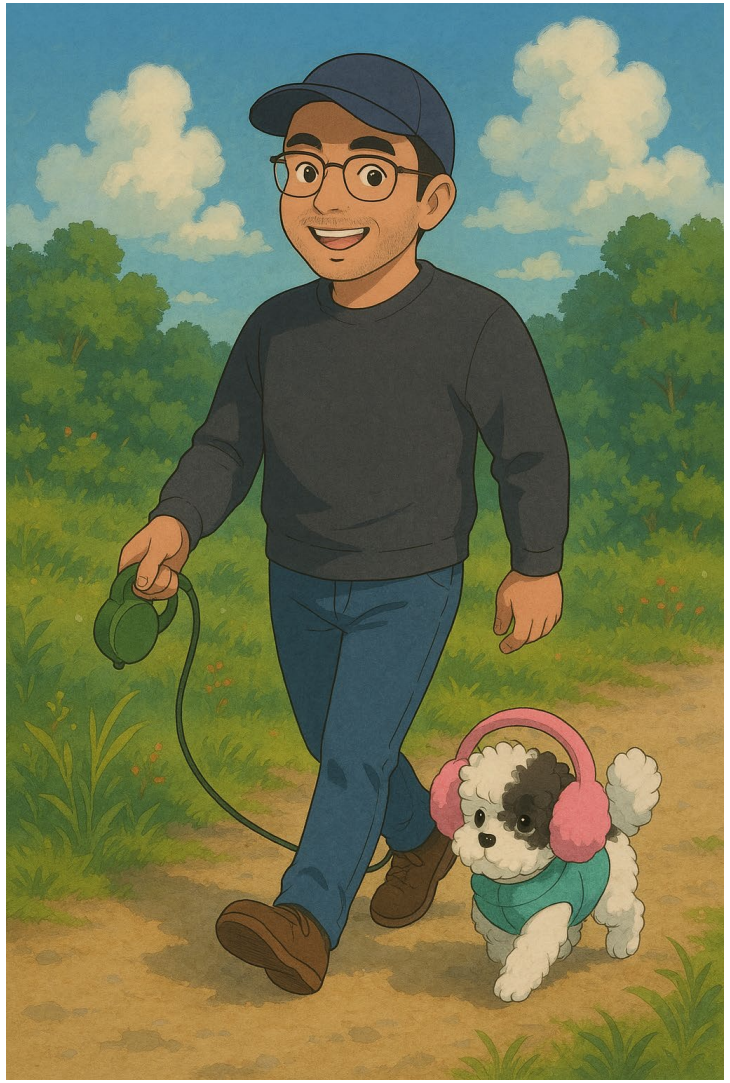
Hi, I'm Karla

Hi, I'm Partha



Agenda:

1. Overview of NAIT and CCE
2. Sustainability Initiatives and Transition Workforce Development
3. Role of Continuing Education in the Transition to Clean Energy
4. Strategies & Challenges
5. NAIT Projects & Lessons Learned
6. Key Takeaways and Q&A

Northern Alberta Institute of Technology (NAIT)

1. Ranked as one of the top 5 Polytechnics in Canada
2. Offer 110 credit programs: degrees, applied degrees, diplomas and certificates
3. 93% employment rate within 9 months of graduation from credit programs
4. One of the largest apprenticeship trainers in Canada – 29 registered trades programs
5. 17,000 enrolled students enrolled in credit programs & over 15,000 enrolled in non-credit courses

NAIT

NAIT's Corporate & Continuing Education

- BUSINESS & PRODUCTIVITY
- HEALTH & LIFE SCIENCES
- ENERGY & ENVIRONMENT
- CONSTRUCTION, TRADES & MANUFACTURING
- DIGITAL LITERACY & IT TRAINING
- ACADEMIC UPGRADING

NAIT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International Training: TVET & Capacity Building

Canada's Plan to Net Zero Emissions by 2050

2030
Reduce greenhouse emissions by 40-45% below 2005 levels

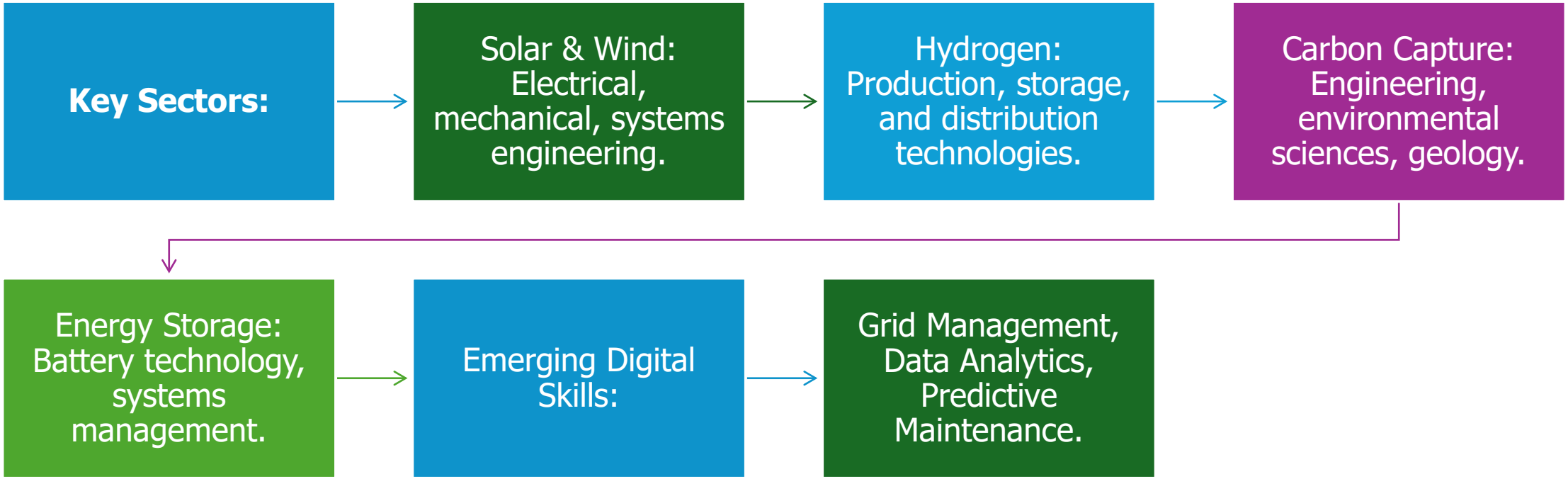
2035
Reduce greenhouse emissions by 45-50% below 2005 levels

2050
Achieve net-zero emissions, meaning any remaining emissions will be offset by verifiable and permanent removals

Factors leading to green jobs in the emerging green economy

- Environmental Awareness
- Market Demand
- Policy and Regulations
- Investment and Funding
- Technological Advancements
- Corporate Social Responsibility (CSR)

The Clean Energy Transition and Skills Gap



Job postings in Clean Energy over the last 2 years

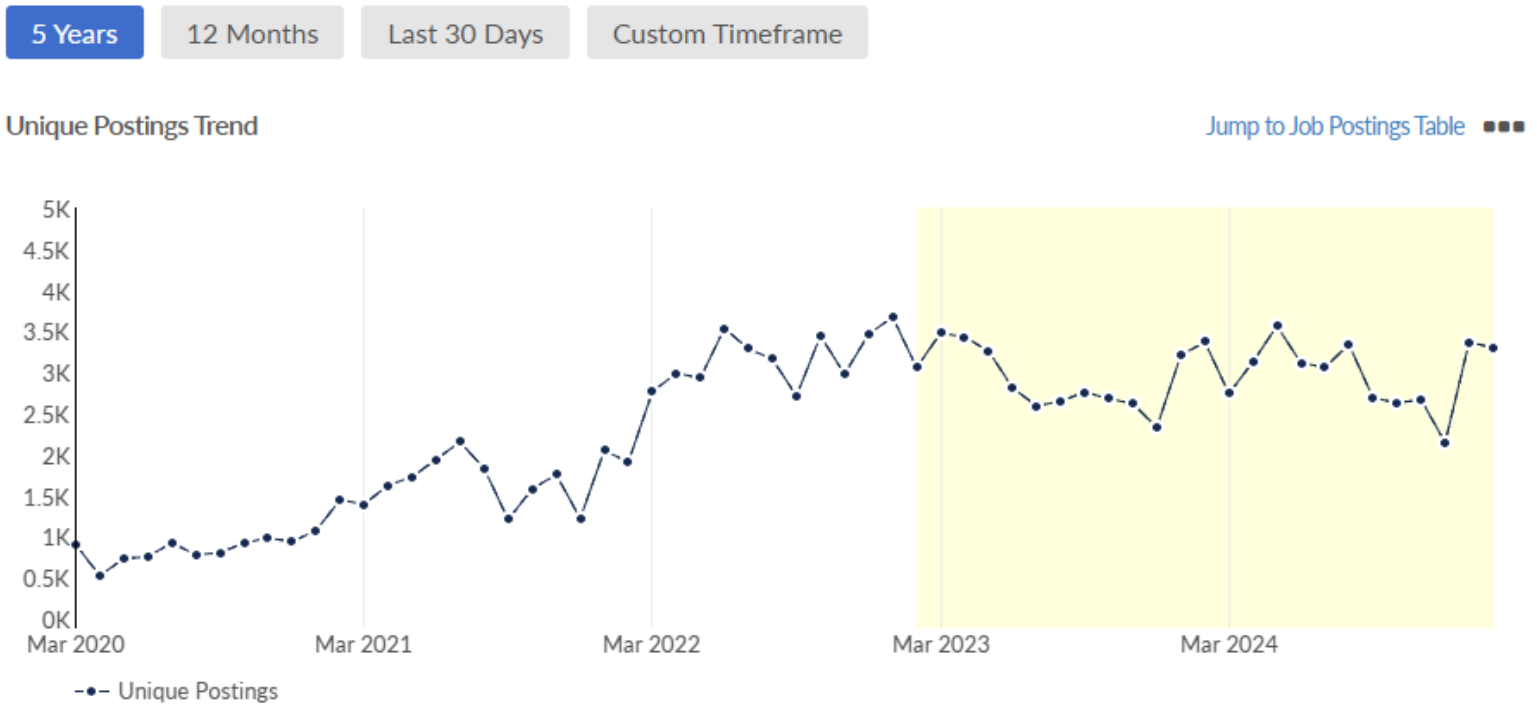
Job Postings Regional Breakdown

Jump to Job Postings by Location

Province	Unique Postings (Feb 2023 - Feb 2025)
Ontario	31,613
British Columbia	12,837
Alberta	12,163
Quebec	8,434
Saskatchewan	2,350

NAIT

Upward trend in demand for Clean Energy related skills (based on job postings in Canada)



How is Canada addressing the training Needs of the Clean Energy Workforce?

Industry-led partnerships

Government funding & support

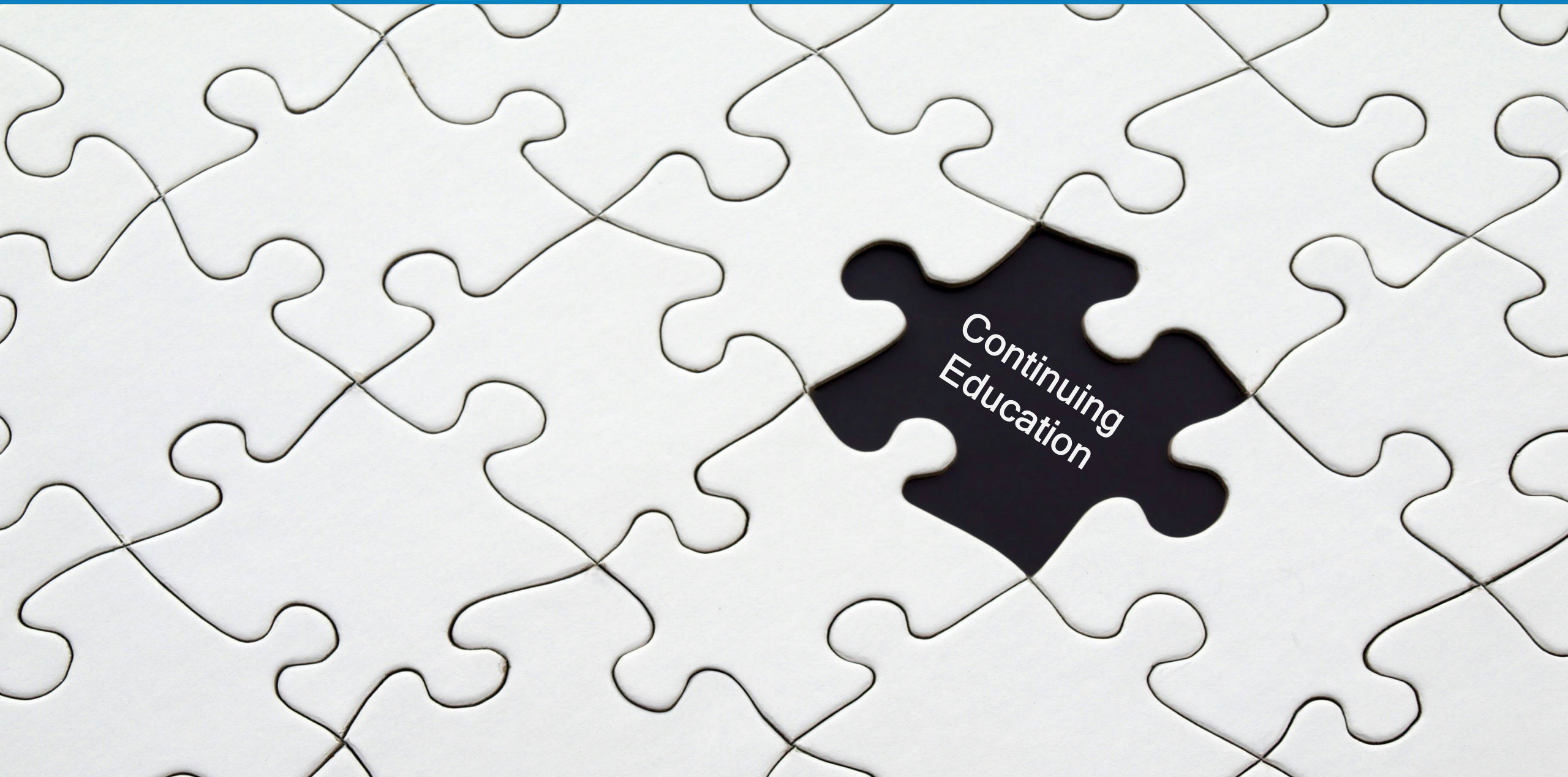
Specialized training programs

Provincial & Federal Policy Initiatives

Clean Growth Program: Funding for businesses adopting clean technologies

Energy Innovation Program: Government support for workforce development

Alberta's Renewable Energy Framework: Provincial initiatives supporting renewables


Continuing
Education

Full-Time Credit Programming		Continuing Education Programming
Recent high school graduates, early-career individuals		Working professionals, those seeking skill upgrades or certifications or are looking for Pathways
1-4 years		Short-term, from hours to months
Degrees, diplomas		Certificates, digital badges, micro-credentials, professional development credits
Structured academic calendar		Highly flexible; online, evening, weekend options
Higher, often subsidized or financial aid available		Generally lower, employer-sponsored, or individual-paid
Prepares for entry-level and some specialized roles		Rapid upskilling, reskilling, immediate industry needs

NAIT

Quickly upskill or reskill to meet evolving industry demands

Accessible for working professionals through online and part-time options

Effectively closes skill gaps by providing targeted training tailored to current needs.

Enables workforce to respond swiftly to clean energy project needs

Focused on current technologies, certifications, and practical skills

More affordable and often employer-sponsored

How do we ensure our training is relevant?

01
Market Research

02
Program Advisory Committees

03
Mapping sessions with SMEs

04
Align with Industry Standards and Certifications

05
Pilot sessions

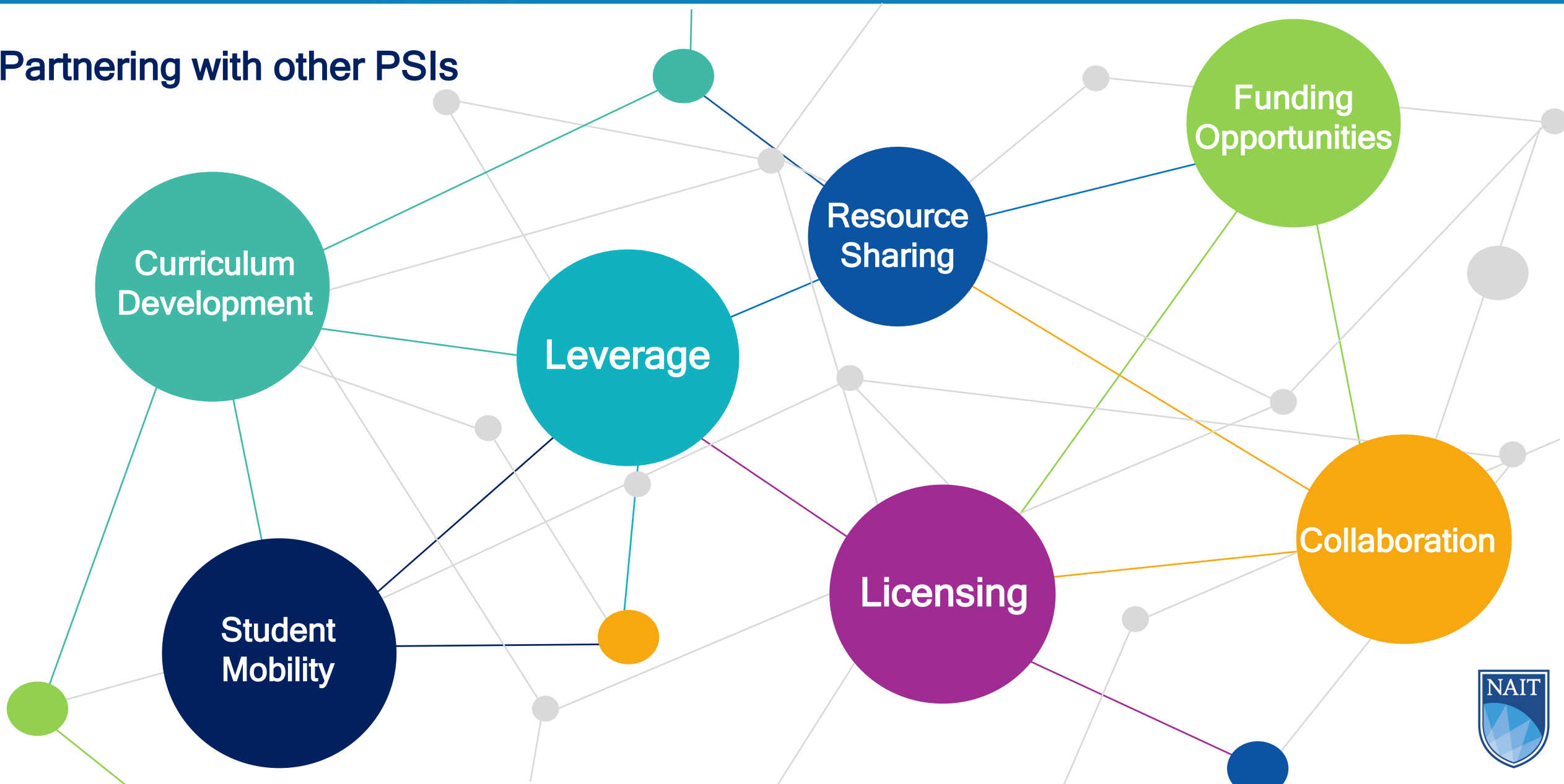
06
Program reviews

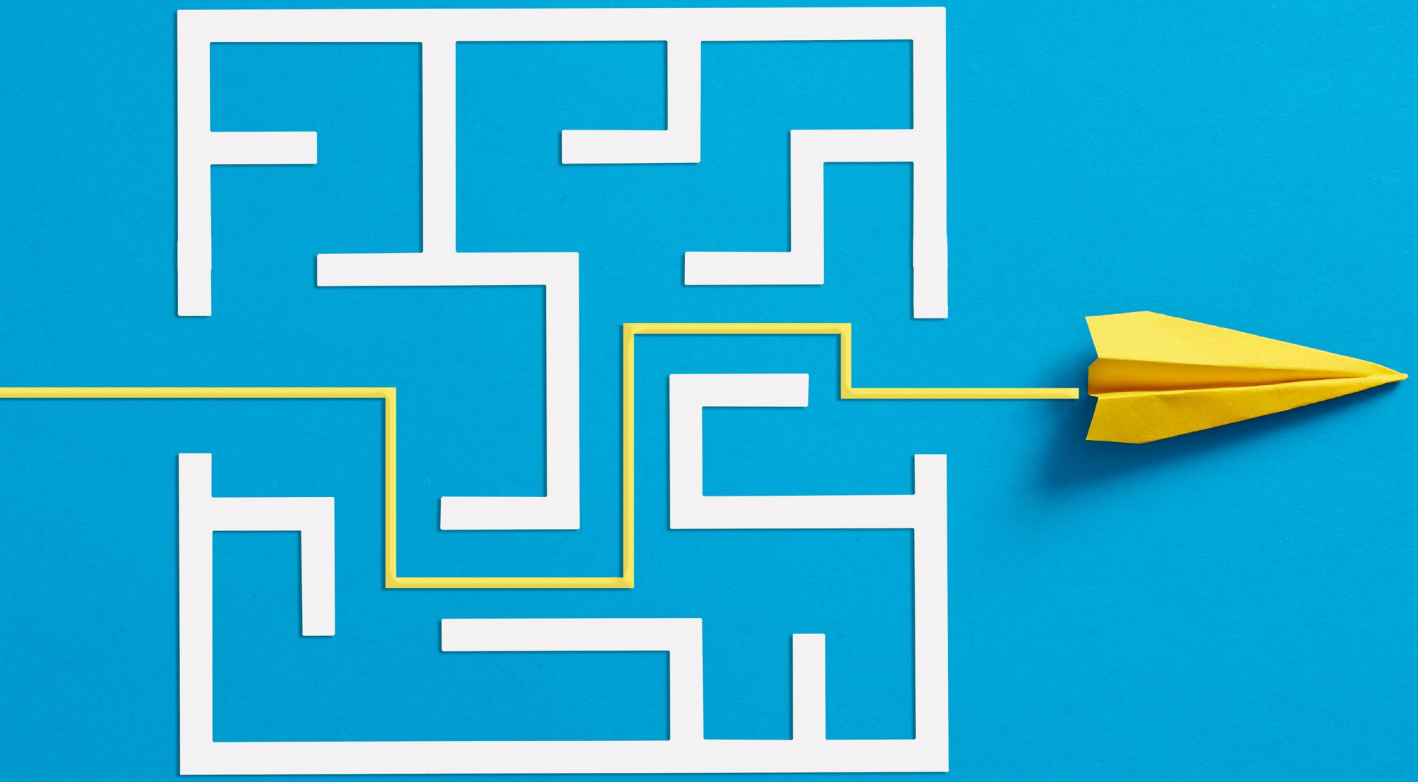
Strategies

- Build long-term relationships with industry stakeholders and associations
- Stay up to date with industry trends
- Leverage Grants and Funding Opportunities
- Incorporate Industry-led Guest Lectures and Workshops
- Develop Work-Based Learning Opportunities
- Partnering with other PSIs

NAIT

Partnering with other PSIs





Challenges

- Rapid technological advancements
- Limited access to practical opportunities
- Proprietary concerns
- Resource and funding limitations
- Policy and regulatory changes
- Financial sustainability

Success Stories & Lessons Learned

Clean Fuels Awareness

Funder: Natural Resources Canada ($300,000)

Skills: Increased knowledge around the carbon footprint of various clean fuels

Partners:
- NAIT Applied Research
- ATCO
- EPCOR

Demographic:
- General Public
- Clean Fuel Producers

NAIT

Clean Energy Professional Upskilling

Funder: Palette ($260,000)

Skills: Low-carbon fuel production, storage, and transportation – Hydrogen & CCUS + Soft Skills

Partners:
- NAIT Applied Research
- Over 30 Industry Partners (WIL)

Demographic:
- Mechanical Engineers
- Chemical Engineers
- Professionals transitioning from Oil & Gas Sector
- Professionals in the Energy Sector

NAIT

Hydrogen Powered Vehicles Training

Funder: Natural Resources Canada ($247,000)

Skills: Basic maintenance & Operations

Partners:
- SAIT
- Diesel Tech Industries
- Alberta Motor Transport Association
- Canadian Hydrogen Association

Demographic:
- Heavy Equipment Technicians
- Medium and heavy vehicle operators

NAIT

What are other PSIs doing?

Key Takeaways

- Clean energy sectors are rapidly growing, requiring specialized skills.
- Transitioning workers through retraining is crucial for success.
- Collaborative efforts from industry, academia, and government are necessary.
- Lifelong learning and flexible training programs ensure ongoing workforce adaptability.

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