

Technology Access Centre for Energy and Environmental Sustainability (TACEES)

Northern Alberta Institute of Technology (NAIT)

📍 Edmonton, AB

TECHNOLOGY ACCESS
CENTRE FOR ENERGY AND
ENVIRONMENTAL SUSTAINABILITY



ABOUT TACEES

About Our Centre

The Technology Access Centre for Energy and Environmental Sustainability (TACEES) is uniquely positioned to provide research expertise and facilities for the evaluation and advancement of technologies for the energy industry. Our goal is to ultimately enhance the economic and environmental performance of Alberta's Energy and Mining industries. Through collaboration with industry, small- and medium-sized enterprises (SMEs), and other post-secondary institutions, we test novel approaches to energy and environmental sustainability challenges. Housed in a state-of-the-art research facility, our team includes applied research scientists, engineers, technicians and students.



We are now a Technology Access Centre:

We have now joined a network of Canada's 64 TACs across the country. TACs are specialized applied research & development centres affiliated with publicly-funded colleges.

What this means for our clients:

We now offer businesses different ways to collaboratively access our state-of-the-art facilities and multidisciplinary teams of experts that can turn innovative ideas into market-ready products.

Our goal is to help Canadian-based businesses, especially Small and Medium-sized Enterprises (SMEs) – to get their products, processes and services market-ready by:

- Offering objective advice and specialized technical services;
- Providing training related to new types of equipment and processes; and
- Conducting applied research and development projects focused on company problems.

Our Commitment to Safety

At the Centre, we are committed to having a safe workplace for all of our staff, researchers, and visitors. We believe that



safety is a top priority.

Why work with us?

Unique Ability to Leverage Funds

As an educational institution, we have access to various grants for Applied Research projects in Alberta and Canada.

Our Talent, Your Advantage

Applied Research is what we do best. Harness the power of our expertise and culture of partnership.

Active Involvement of Students

Providing experiential learning to students.

Trusted Industry Advisor

We identify specific industry challenges and mobilize knowledge to overcome them. We are a preferred provider of technology services for many of our partners.

Friendly Intellectual Property (IP)

Industry maintains and advances the IP to commercialize and remain competitive. NAIT does not retain any interest in the IP.

Leveraging partnerships with other institutions and centers

We are a collaborative research group and work with partners across Canada and other centers at NAIT. We are also a member of the TAC network, connecting with 63 other TACs across Canada.

Contact TACEES

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 www.nait.ca/applied-research/about/centres/technology-access-centre-for-energy-and-environmen

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RESEARCH AND INNOVATION EXPERTISE

EXPERTISE

1. Solving Tailings
2. Solving Water Quality
3. Recovering Valuable Resources
4. Process Optimization
5. Improving Measurements

Previous Research Projects

- **Water Treatment Technology:** Development of a passive, plant-based naphthenic acid remediation technology for treatment of oil sands process-affected water (Phytoremediation)
- **Water Treatment Technology:** Membrane Technology Assessment Program (MTAP) that validates novel produced water treatment technologies developed by industry and small and medium-sized enterprises (SMEs) in Western Canada
- **Oil Sands Extraction Technology:** GHG Emission Reduction, economic growth and diversification (CCITF)
- **Tailings Management Technology:** Fundamental characterization and dynamics of clays and clay/flocculents agglomerations – to develop methodologies and broad understanding of mature fine tailings (MFT) composition and characterizations
- **Tailings Management Technology:** Optimization, development and assessment – to implement standardized methodologies to support industry’s ongoing improvements to technologies
- **Tailings Characterization and Identification technologies** – to assess existing and identify new technologies to improve the cost and effectiveness of characterizing clay types and clay/flocculent behaviours

Fields of projects

- Solid/Liquid Separation
- Characterization of Aqueous Materials
- Characterization of Oil-Based Materials/Sediment & Water Analysis in Oil
- Characterization of Mineral Solids & Ashes
- Technology Validation for Oil Sands Tailings
- Characterization of Oils and Contaminants for Pipelines
- Thickeners, clarifiers, high density flocculation, filter press, centrifuge), flotation
- Major anions & cations, naphthenic acid fraction compounds, slurry viscosity, slurry yield stress

