

## YOUTH EDUCATION PROGRAM

# 2024 - 2025 Energy Innovation Days



## PROGRAM GOALS

**SHOWCASE** local energy innovations and research

**INSPIRE** and provide opportunities for energy efficiency initiatives for schools, communities, and homes

**FACILITATE** a broader understanding of the connection between energy, sustainability, and climate change

# Introduction

In the 2024-2025 school year, Inside Education's Energy Innovation Days program gave junior and senior high school students the opportunity to see energy innovations in their communities firsthand and explore topics such as clean fuels, renewable energy, energy efficiency and careers in the energy sector.

Each Energy Innovation Day consisted of a full day of experiential learning through speakers, tours and hands-on workshops, all with the goal of educating students about energy innovations in their regions. The program also provided tools and resources to empower students and teachers to get involved and take action at their schools and in their communities around energy literacy and education.

The Energy Innovation Days program was open to teams of junior and senior high school students from Grades 7 - 12. In total, **307 students** and **22 teachers** from **13 schools** participated in **7 unique Energy Innovation Days**.

**November 13, 2024 | Grande Prairie**  
**November 15, 2024 | Fort St. John, BC**  
**February 6, 2025 | Lloydminster**  
**April 24, 2025 | Edmonton**  
**May 15, 2025 | Rocky Mountain House**  
**June 5, 2025 | Fort McMurray**  
**June 12, 2025 | Calgary**

Participating communities:

Calgary  
 Cochrane  
 Edmonton  
 Fort St. John, BC  
 Grande Prairie  
 Fort McMurray  
 Leslieville  
 Lloydminster  
 Rocky Mountain House  
 Sexsmith  
 Sherwood Park



# Grande Prairie Energy Innovation Day

**November 13, 2024**

## PROGRAM AT A GLANCE

**Program Welcome and Introduction**

**Wapiti Deep Cut Plant Facility Tour**  
*Canadian Natural*

**Horse Lake Energy Junction Tour**  
*Horse Lake First Nation*

**Roska Facility Tour**  
*Hosted by Keyera*

**Wrap Up & Take Action**

**Program End**

## Participating Schools:

**Charles Spencer High School**

- **Grande Prairie - Grade 9**

**St. Mary Catholic School -**

- **Sexsmith - Grade 7 & 8**



The Grande Prairie Energy Innovation Day saw 51 students from two schools participate in a day of hands-on learning. Charles Spencer High School (Grande Prairie) and St. Mary's Catholic School (Sexsmith) both kicked off the day with a quick introduction with Inside Education about electricity and energy, building excitement for the upcoming tours.

The first stop for St. Mary's Catholic School was at Horse Lake First Nation, where students visited their Bioreactor. This hands-on tour allowed students to explore the facility and interact with the exhibits, encouraging them to ask questions and touch various components, enhancing their learning experience.

While St. Mary's Catholic School toured the Bioreactor, students from Charles Spencer High School toured Canadian Natural's Wapiti Deep Cut Plant. There, students took a behind-the-scenes look at the inner workings of the natural gas facility. As part of the tour, students discovered and learned more about innovative carbon capture and emissions reductions technologies.

After the visit to Horse Lake First Nation and Canadian Natural, both schools met for a tour of the Roska Facility, hosted by Keyera. During this tour, students had the opportunity to hear from a range of professionals about how energy is produced, the processes involved, and the various career opportunities available in the energy sector. One of the highlights was a demonstration showcasing the new technology they are using, including advanced computer systems and photography techniques. Students returned to their respective schools and concluded the program with a debrief and online survey completed by participants.

The day was a great success, offering students valuable insights into the energy industry and sparking their curiosity about future energy careers.

**"This program was a great opportunity to learn about the innovations in conservation and environmental considerations in the oil and gas sector."**

**- Donya Clayton, Teacher at Charles Spencer High School**





# Fort St. John Energy Innovation Day

## PROGRAM AT A GLANCE

### Program Welcome and Introduction

#### Morning Tours:

- Group 1 - Fort. St. John Micro Hydro Project Tour
- Group 2 - Energetic Services Tour

#### Lunch & Learn

Kate O'Neil, BC Hydro

#### Afternoon Tours:

- Group 1 - Pembina Taylor Terminal Facility Bus Tour
- Group 2 - Northern Lights College Tour

### Wrap Up & Take Action

## Program End

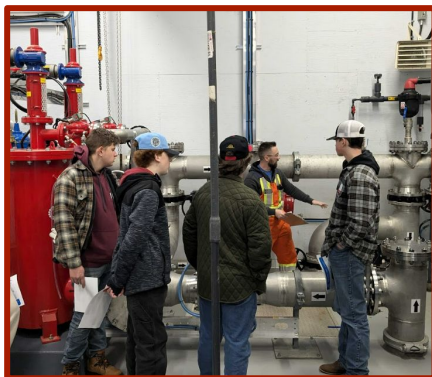
### Participating Schools:

#### Bert Bowes Middle School

- Fort St. John - Grade 9

#### Energetic Learning Campus

- Fort St. John - Grade 10



## November 15, 2024

Despite the cold and snowy setting, a spirited group of 53 students from Energetic Learning Campus and Bert Bowes Middle School participated in the Energy Innovation Day in Fort St. John, BC. The day began at each school with a kickoff presentation from Inside Education, where students learned about the energy sector in British Columbia, with a focus on the Fort St. John area.

Following this introduction, the students from Energetic Learning Campus toured Fort St. John's Micro Hydro Project. During the tour, students explored different hydro sites, learning about the systems in place to keep our water safe, while also turning water into energy. Meanwhile, students from Bert Bowes Middle School toured Energetic Services' facility and learned more about the importance of hot, cold, and salt water to oil and gas operations. There, students toured the facility and interacted with a water tank truck.

As part of a Lunch & Learn, both schools met together to learn more about BC Hydro's Site C Clean Energy Project from BC Hydro's Stakeholder Engagement Advisor, Kate O'Neil. This presentation held particular significance for the students, many of whom had witnessed changes in their community over recent years. Students asked questions and learned more about the developments at the facility and future impacts to their region.

Following the presentation, students from Energetic Learning Campus travelled to Pembina Taylor Terminal where they received a tour by bus around the facility, learning more about operations along with the various machinery and technology onsite. Concurrent with this tour, students from Bert Bowes Middle School toured the Northern Lights College. There, students learned more about the various energy programs offered by the College, along with a facility tour of the engineering lab and oil and gas training areas.

At the conclusion of each tour, each group returned to their school to debrief the program. Overall, the Energy Innovation Day offered a valuable learning experience, deepening students' understanding of energy production and its direct impact on their community.

**"It was an eye-opening and educating experience, paired with great interaction from people and industries in our own local area. I would recommend again!"**

- Sydney Vandergaag, Teacher at Energetic Learning Campus



# Lloydminster Energy Innovation Day

**February 6, 2025**

## PROGRAM AT A GLANCE

**Program Welcome and Introduction**

**Energy in Alberta Presentation**  
*Strathcona Resources*

**Hands-on Hydrogen Car Workshop**  
*Inside Education*

**Energy Innovation Scavenger Hunt**  
*Inside Education*

**Energy Centre Tour**  
*Lakeland College - Lloydminster Campus*

**Wrap Up & Take Action**

**Program End**

The Lloydminster Energy Innovation Day took place on February 6, 2025, and welcomed 36 Grade 7 students from E.S. Laird Middle School to a day filled with learnings related to the local energy sector.

The day began with a presentation from Inside Education about the current energy landscape in both Alberta and Saskatchewan. The students then hopped onto the bus to the Servus Sport Center, where they heard from Chad Orbeck, the operations supervisor of Lloydminster Thermal. Chad talked about the Organic Rankine Cycle (ORC) system, a new emissions reduction technology at Orion Thermal Oil Facility in Cold Lake.

After a presentation from Strathcona Resources, the students completed two hands-on activities with Inside Education; They built hydrogen fuel cell cars, and located and discussed energy innovations on Inside Education's Energy Innovation Poster.

After lunch, the students hopped back onto the bus and headed to Lakeland College Lloydminster Campus. Here they heard from Simon Stilgoe, the Chair of the School of Energy, all about the role of a power engineer in running power plants. The students divided into three groups and had the opportunity to tour the Energy Center, a lab where power engineers receive hands-on training on how to run a steam power plant. The day concluded back at the school with a wrap-up and debrief from Inside Education.

## Participating Schools:

E.S. Laird Middle School

- **Lloydminster - Grade 7**

**"This program was a great experience, with lots of great information, and was very relevant to our community."**

- Christine Johannesson, Teacher at E.S. Laird Middle School



# Edmonton Energy Innovation Day

**April 24, 2025**

## PROGRAM AT A GLANCE

Program Welcome and Introduction

**Canadian Hydrogen Convention**  
(in collaboration with DMG Events)  
Hydrogen Fuel Expert Presentations  
Exhibition Hall Networking Tour

Pembina Pipeline Control Centre Facility Tour	Hands-on Hydrogen Car Workshop Inside Education
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Wrap Up & Take Action

Program End

### Participating Schools:

Shauna May Seneca School

- Edmonton - Grade 7-9 STEM
- Strathcona Christian Academy Secondary
- Edmonton - Science 30

A total of 36 students participated in Energy Innovation Day in the Edmonton area. A group of Grade 7-9 STEM students from Shauna May Seneca School and Science 30 students from Strathcona Christian Academy Secondary participated in the program. Inside Education started the day with an interactive presentation at each respective school, introducing students to how Edmonton fits into Alberta's energy landscape.

All students then travelled to the Edmonton Convention Centre to attend the Canadian Hydrogen Convention, in collaboration with DMG Events. There, students engaged with three groups of presenters, exploring the topic of hydrogen production and technology through the scientific, engineering, and post-secondary lens. Students heard from Kelsey Brooks, Executive Director of the Canadian Hydrogen Association; Michaela Foss, Sales Coordinator of Fluor Canada; and NAIT's Business Development Lead and Program Manager Michael Chae and Karla Barron. Following the presentations, students had an opportunity to explore the Canadian Hydrogen Convention Exhibition Hall and network with various energy professionals in the topic of hydrogen and alternative energy sources.

In the afternoon, students from Shauna May Seneca School had a facility tour at the Pembina Pipeline Control Centre. Students interacted with engaging hands-on stations and learned more about careers, fractionalization, and pipeline network management. Meanwhile, students from Strathcona Christian School returned to their school and put hydrogen into action by building hydrogen fuel-cell cars in their classroom.

To conclude the day, students debriefed the program at their respective schools. This program, in partnership with DMG Events, allowed for a unique opportunity to interact with various industry professionals and learn more about upcoming energy technologies and innovations in Alberta.



**"The program takes students into a different realm of science-related activities and people in those industries. It puts real people into the work of science."**

- Cindy Christensen, Teacher at Strathcona Christian Academy Secondary



# Rocky Mountain House Energy Innovation Day

## PROGRAM AT A GLANCE

Program Welcome and Introduction

Strachan Gas Plant Facility Tour  
*Keyera*

Lunch & Learn  
Vlad Zatonski, *Eavor Technologies*

Sustainability Project Tour

Wrap Up & Take Action

Program End

### Participating Schools:

David Thompson High School

- **Leslieville - Grade 9-11**

Rocky Christian School

- **Rocky Mountain House - Grade 8-9**



## May 15, 2025

The Rocky Mountain House Energy Innovation Day took place on May 15, 2025, and welcomed 25 Grade 8-9 students from Rocky Christian School and 9 Grade 9-11 students from David Thompson High School to a day filled with learnings related to the local energy sector.

The day began with a presentation from Inside Education about the current energy landscape in Alberta. The students hopped onto a bus and headed to Keyera Strachan Gas Plant. Here they learned all about technology and innovation in natural gas processing. During the visit, they gained insight into how natural gas plants function, took a guided tour of the facility, observed behind-the-scenes operations, and learned about the various career opportunities available in the natural gas industry.

The students then boarded the bus to the Rocky Regional Recreation Centre for a Lunch & Learn session with Vlad Zatonski from Eavor Technologies. During this presentation, they dove into the world of geothermal energy and learned all about the innovative projects happening around Rocky Mountain House.

After lunch, the students headed to the Sustainability Project, an off-grid tiny home development. There they heard from Linda Robinson, founder of the Sustainability Project. The students had the opportunity to tour the property, which is equipped with a tiny off-grid house, a water catch system, a greenhouse, and a community gardens. They learned all about living sustainably and explored practical ways to reduce their environmental impact through gardening, water conservation, and renewable energy use. The day concluded back at each school with a debrief and survey follow up.

**"The program was so much fun and all the presentations were very interactive."**

- Victoria, Student at  
David Thompson High School





# Fort McMurray Energy Innovation Day

## PROGRAM AT A GLANCE

**Program Welcome and Introduction**

**Hands-on Hydrogen Car Workshop**  
*Inside Education*

**Air Quality Presentation**  
*Wood Buffalo Environmental Association*

**Oil Sands Discovery Center Exhibits**

**Automated Trucks & Giants of Mining Tour**  
*Suncor Energy Foundation*

**Reclamation and Bison Viewpoint Tour**  
*Suncor Energy Foundation*

**Wrap Up & Take Action**

**Program End**

## Participating Schools:

Father Patrick Mercredi High School

- **Biology 20 - Grade 11**

Holy Trinity Catholic High School

- **Grade 9 Science**

## June 5, 2025

The Fort McMurray Energy Innovation Day took place on June 5, 2025, and welcomed 35 Grade 9 students from Holy Trinity Catholic High School and 15 Grade 11 students from Father Patrick Mercredi School to learn about energy and climate within the region.

The day began with an introduction presentation from Inside Education about the current energy landscape in Alberta. From there, the group headed to the Oilsands Discovery Centre (OSDC), where students built their own hydrogen fuel cell cars, gaining insight into alternative energy technology. The students then heard from Wood Buffalo Environmental Association regarding air quality, monitoring practices, and health impacts. Students then had time to explore the interactive exhibits at OSDC, delving into the science and history of oilsands and mining in the region.

Following lunch, the students embarked on the Suncor Interpretive Loop, with their first stop at Giants of Mining. There, they observed industrial equipment used in oilsands operations and learned how autonomous trucks are revolutionizing production. The second stop on the Loop brought students to the Bison Viewpoint, where they had the opportunity to observe grazing bison and hear from Suncor representatives about land reclamation efforts, the history of the area, and the management of tailings ponds. The day concluded back at school with a debrief and a survey to reflect on their learning experience.

**"I learned a lot about the energy industry that my parents work in. It was fun and really interesting!"**

*-Student, Holy Trinity Catholic High School*



# Calgary Energy Innovation Day

**June 12, 2025**

## PROGRAM AT A GLANCE

### Program Welcome and Introduction

**Trades Training Centre  
Tour**  
ENMAX Power  
Corporation

**Carbon Capture  
Utilization Facility Tour**  
CleanO2

**Global Energy Show**  
(in collaboration with DMG Events)  
Interactive Presentations and Stations, SAIT  
Exhibition Hall Networking Tour

**Wrap Up & Take Action**

**Program End**

### Participating Schools:

**Building Futures - Community  
Learning Centre**

• **Cochrane - Grade 10**

**Rundle College Jr./Sr. High School**

• **Calgary - Grade 8**

The Calgary Energy Innovation Day took place on June 12, 2025 and welcomed 23 Grade 10 students from Building Futures - Community Learning Centre and 22 Grade 8 students from Rundle College Jr./Sr. High School. This program focused not only on Calgary, but a unique opportunity for students to connect with the global energy landscape.

To start the program, each school received an introductory presentation from Inside Education on energy innovations, technology, and Alberta's energy context. Following the presentation, students from Building Futures were lead through ENMAX's Trades Training Centre where they learned about the career and apprenticeship opportunities in becoming a Power Line Technician. As part of the tour, students learned about the various equipment used in the industry and interacted with engaging hands-on training simulations. Meanwhile, students from Rundle College went behind the scenes at CleanO2, where they learned about the innovative ways carbon dioxide is chemically converted into potassium carbonate to make soap and other useful products. At the end of the tour, each student was given bar of soap made from converted carbon dioxide.

"When we asked the question 'what is the most important thing about energy?', most exhibitors said things about clean energy and how it is the future. This makes me feel hopeful that people are trying to make energy clean and efficient."

- Robyn, Student at Rundle College Jr./Sr. High School

Following the morning tours, each group travelled to the BMO Centre to take part in the Global Energy Show, in partnership with DMG Events. There, students engaged with energy professionals while exploring the Exhibition Hall. After lunch, instructors from SAIT taught students ways in which electricity is brought to rural areas around the world as part of the *Light Up the World Project*, and then lead them through interactive stations focused on energy technology and innovation. The program concluded at each respective school with a program debrief and reflection activity.



# Program Impact

## Energy Innovation Days Post-Survey

**7 Programs**  
**307 Students**  
**22 Teachers**  
**13 Schools**  
**11 Communities**

Inside Education is proud of the many successes of the Energy Innovation Days program. In a follow-up to each of the 7 programs held, teachers and students were asked to evaluate their experience at the Energy Innovation Days through an online survey. All respondents shared very positive and encouraging reflections about the tours, speakers, sessions, and overall value of the day. We are pleased to share some of the survey results below.

- My students learned new content about energy and climate in Alberta (1 = not at all, 4 = very much so!)  
**Average of teachers' responses = 3.9**
- I learned new information about energy and climate innovations that I will incorporate into my teaching. (1 = not at all, 4 = very much so!)  
**Average of teachers' responses = 3.7**
- After attending the Energy Innovation Day, I feel like I know more about technology and innovations addressing energy and climate challenges in Alberta. (1 = not at all, 4 = very much so!)  
**Average of all responses = 3.2**

**"I thought that the sessions were informative and interesting. The program was a great opportunity for the students to be able to see the types of careers that were available in their own local community as well as being able to learn from the different people that had experience in those fields explain the process."**

*-Nina Li, Teacher at Bert Bowes Middle School*

**"The Energy Innovation Day allowed for a hands-on learning experience for students to engage in today's reality of addressing energy demands in Alberta. Students have lots of opportunities to ask questions that drive their curiosity and to learn from experts in the field. Small group activities like the poster and building hydrogen powered cars bring concepts to life."**

*-Matthias Cheung, Teacher at Strathcona Christian Academy Secondary*

**"A highlight was getting to see the process of making energy via steam. I would tell other students that an Energy Innovation Day would consist of touring 2-3 places, and learning about the different types of energy, career paths, and the whole system/process to making the energy."**

*-Anthony, Student at Bert Bowes Middle School*



## Program Funders

A special thanks to our program funders who provide laudable support to make our Energy Innovation Days possible. The funding provided ensures that schools are able to participate in the program at no-cost including all program elements and busing. Inside Education strives to make programming opportunities equally accessible to schools in urban, rural and Indigenous communities, the contributions of our funding partners makes this possible.

*These Inside Education programs were made possible through the support of our program funders:*



# Summary and Future Opportunities

The Energy Innovation Days held in the 2024-2025 school year were a great success. From the 7 programs in 11 different communities across Alberta, a total of **307 students** and **22 teachers** from **13 schools** participated.

All participants were exposed first-hand to local energy innovations in their communities and learned about energy sources, climate change, and careers along the way. The lasting impact of the Energy Innovation Days is evident through the feedback from teachers and students; the participants shared that the experience inspired them to continue learning about the energy sector and gave them ideas for how to get involved through careers and action projects at their schools.

The Energy Innovation Day format proved to be successful largely due to its accessibility for teachers and students. It was a no-cost, one-day program that invited teachers to apply with either a small team or full class, ranging from Grades 7-12. This format proved successful because it allowed teachers to use their discretion regarding how many of their students would benefit from the experience and which grade(s) it would be most suitable for, and in turn allowed Inside Education to tailor the program according to which participants were attending. A unique aspect of the Energy Innovation Days program was having the opportunity to bring students to two large-scale professional conferences, including the Canadian Hydrogen Convention and the Global Energy Show. Inside Education hopes to continue building its relationship with the organizers of these conferences (DMG Events) and other conference organizers to continue granting junior and senior high school students access to these valuable professional events.

The number of applications received for the Energy Innovation Days this school year was comparable to the large number received last year, indicating a continued and growing interest in the program. Inside Education looks forward to continuing this format of program and plans to host Energy Innovation Days across Alberta again in the 2025-2026 school year.



## Contact

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