» Globally, there is a divide between energy-poor countries which do not meet their energy needs and those that do but produce too many emissions.

Part 2: Energy exposition

Now that students have an idea of some of the trends, they are going to put on an Energy Exposition (Expo). In small groups, students will take the roles of representatives from an energy company (dedicated to a specific power source). Students will then create some sort of visual/oral presentation to be featured in their expo booth to educate other participants about the reality of the industry and current trends. *Encourage students to be realistic and non-biased*, even though some industries are biased to protect their earnings.

Steps

1. **Choosing energy sources and groups**: Separate students into groups of three/four and designate an energy source that they will research. Be sure to include a variety of non-renewable (oil, gas, coal, nuclear) and renewable energy sources (see Article 3 for definitions of safe-bet sources like wind, solar & hydro, as well as wild-card sources of energy such as small modular nuclear, geothermal, nuclear fusion, and green hydrogen) as well as others such as modern biofuels.
2. **Researching and presenting**: Give students a class or two to find information on their energy type and its trends and to format their presentation (e.g., visuals on a poster or table work best, but a laptop screen could work if time is short). This topic is a great one for teaching about credible sources of information, as the energy industry includes some entrepreneurs and climate-science deniers who are biased and may be deliberately spreading disinformation to support their industry or beliefs.
   - **Worksheets:**
     - » Students can use the handout **Energy Expo Research Notes** worksheet to guide their research notes.
     - » Use the **Credible Sources Checklist** to guide students in finding credible and unbiased sources.
3. **Presentation day**: Set up for the first few minutes of class; then have other classes come learn or have students alternate between sharing information and mingling and asking questions. This will take most of the class if you want to give time for all students to mingle and learn. Maybe provide some gentle 'mood setting' conference music? Snacks? Door prizes? Student presenters should have 'breaks' to mingle with other presenters to learn about each of the energy sources.
   - **Templates:** See **Comparison Table for Energy Expo Participants** for a fillable table for mingling students to compare each energy source.
4. **Optional**: Provide an exit question or get students to vote on which energy sources they think will provide the greatest potential for the future.

Closing & Debriefing: Circle opportunity

Allow time for each student to reflect on the expo and reflect on the second part of this lesson's overarching inquiry question: *Which energy sources should we be investing in for the future?*

Have students try drawing conclusions about the best sources of energy and how we should use energy (how much and in what way) to preserve a stable climate.

Extension Lesson: Energy Access, Autonomy, and Transition in Canadian Indigenous Communities

Background

As is outlined in one of the graphs from this lesson, energy use, although growing exponentially and contributing to the climate crisis through greenhouse gas emissions, is less accessible to many communities around the world, and there are many who are considered to be in energy poverty.

In Canada, one way this inequity in energy access exists is through lack of access to reliable energy in remote communities. Many of the reserves for Indigenous people do not have access to the electrical grids of towns and and thus must be **self-sufficient**. Many still rely on diesel generators for their communities. For this reason and others such as the need for **energy sovereignty**, many communities are switching to renewable energy sources.

"There are currently 197 renewable energy projects associated with Indigenous communities in Canada, however very few are controlled by Indigenous communities." (Indigenous Climate Hub)

Terminology:

- **Energy self-sufficiency:** When a community or building does not need to buy, connect to, or import energy from an external company or electrical grid to meet its needs — especially important for remote communities that do not have an electrical grid.

- **Energy sovereignty:** Indigenous communities (or other communities) being able to make informed decisions about and supply their own energy needs in a way that is affordable to the community. It is part of the process of decolonization.

Inquiry question(s)

What factors are encouraging Indigenous communities in Canada to seek renewable energy sources for their communities? What are some of the challenges these communities face in terms of energy access transitioning to renewables?

This activity is best done through case study examination and discussion.

Suggested materials:

- Inspiring videos and examples of Indigenous communities converting to net-zero energy sources

Opening

Start with finding an example of an Indigenous nation that is working on a renewable energy project. The Indigenous Clean Energy Project Map created by Indigenous Clean Energy can help you find one near to you. Find a video or a story that can help students understand the concepts of inequity in energy access (energy poverty), and the concepts of self-sufficiency and energy sovereignty for Indigenous communities. Two great examples include the following:

» T'Sou-ke First Nation (see link for video) on Vancouver Island, British Columbia or T'Souke First Nation: Using solar energy to strive for net-zero

» Coastal First Nations village of Klemtu on BC's Central Coast (see link for Video)

» Athabasca-Chipewyan Solar Project reduces diesel dependency and expansion to 3 projects in Alberta

Activity

Research and explore the reasons Indigenous communities are becoming leaders in renewable energy transitions and net zero. Have students select an energy transition project in an Indigenous community or by an Indigenous company. Have students reflect on the challenges that remote communities face in terms of energy access and three of the main reasons communities are leaders in the energy transition: energy autonomy & sovereignty, worldviews and traditions, and sustainability.

Template: Use the Venn diagram in the associated handout to help guide students in their exploration of the case study.
Note: You may want to choose one case study for ALL students to explore or use one of the opening examples to examine more deeply.

Closing circle opportunity: Convene in a circle for students to share their learning. Consider this prompt:

One thing that surprised me about Indigenous communities and energy was…

Other resources

Decolonizing Power Podcasts: Podcasts examining the reasons behind why Indigenous communities may seek out renewable energy projects and energy sovereignty. Waasamoo-Electric (Episode 1, June 7, 2021) features a community making the switch to solar from diesel and highlights the transition to renewable as well as the benefits and challenges.

Reconciliation through Renewable Energy Science Direct Study: A study on the current renewable energy projects on First Nations territories and how many of them are owned or co-owned by Indigenous peoples. This article stresses the need for these projects to be managed by the communities they support — a step toward true reconciliation.