INDIGENOUS LEADERSHIP FOR CANADA'S ENERGY FUTURE

Overview

In this activity, students will use the Great Canadian Electricity Giant Floor Map to understand some of the unique requirements First Nation, Métis, and Inuit communities are faced with in terms of obtaining electricity. Students will learn about and locate various Indigenous-led energy projects in Canada and will come to understand the necessity and importance of Indigenous inclusion in Canada's energy future to ensure all communities in Canada have equal access to clean energy.

After completing the lesson, students will be able to answer the following questions:

- What are examples of energy-related challenges experienced by some First Nation, Métis, and Inuit communities across Canada with respect to electricity?
- In what ways are Indigenous Peoples major players in Canada's energy transition?
- How can non-Indigenous organizations respectfully include and learn from Indigenous perspectives in their commitments to a healthier planet and a more inclusive economy?

Time

75 minutes (can be divided)

Grade

4 - 12 (modifications for younger grades provided)

Lesson implementation

Minds on (20 minutes)

Explain to students that they are going to learn about the relationship between Canada's geography and clean energy initiatives, while also considering Indigenous Peoples in Canada: First Nations, Métis, and Inuit. Ensure all students have a proper understanding of the term "Indigenous," which is used to refer to all three groups collectively. Explain that First Nations, Métis, and Inuit are distinct and separate peoples (with many different nations and cultures among them) who have been the traditional guardians of Turtle Island (North America) since time immemorial and who have unique rights as Indigenous Peoples according to section 35 of Canada's Constitution Act.

If necessary, review the data layers on the Great Canadian Electricity Giant Floor Map using the provided legends. Ensure that students have a proper understanding of the following layers:

- Land cover
- First Nations communities, Inuit communities, Inuit Nunangat, and Métis Settlement Lands
- Reserve parcels
- Indigenous languages (Note: The font size corresponds to the relative number of speakers. The larger the font size, the more speakers who self-identified in the 2016 Census as being able to conduct a conversation in their traditional language).
- Historical and modern treaties

Have students walk around the Giant Floor Map and ask them to locate various First Nation, Inuit, and Métis communities across the country (if needed, divide students into groups and give each group a legend). Ask them to observe the geography and infrastructure around these communities, including things like land cover, waterbodies, landforms, potential climate, roadways, railways, ferries, etc. Next, have students repeat this exercise, this time locating major metropolitan areas in Canada (e.g., Toronto, Montreal, Vancouver, Ottawa, Calgary).

Ask students the following questions to get them thinking about the relationships between geography, climate, urban development, rural and isolated communities, and the production and distribution of energy in Canada:

- How can geography be a barrier to clean energy for different communities in Canada?
- How can geography be an asset to clean energy for different communities in Canada?
- How can climate play a role in the production of energy in different communities in Canada?

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Subjects

- Geography
- Social studies
- Science
- Technology
- First Nation, Métis, and Inuit studies

Topics

Energy; natural resources; inclusive practices; sustainability

Materials

- Legends (5)
- Indigenous-led energy projects cards (8)
- **Optional:** Devices with internet access for research

Learning objectives

Upon completion of the lesson students will be able to:

- Understand how geography can affect the distribution of clean energy across Canada.
- Describe how some First Nation, Métis, and Inuit communities face unique challenges with respect to obtaining clean energy.
- Explain how different Indigenous-led energy projects in Canada are providing leadership in Canada's commitment to net-zero emissions.
- Appreciate the importance of a diversity of voices and an inclusive workforce when making decisions about Canada's energy future.

- How can climate change affect energy infrastructure (e.g., permafrost melting can halt/damage construction projects, sea-level rise can affect coastal projects and communities, increasing temperatures and increasingly-frequent weather-related disasters can increase energy demand).

Have students explore the map a second time, paying close attention to the network of electrical transmission lines. Note that transmission lines can cross multiple treaty territories, so companies and utilities must work with multiple Indigenous groups to garner support for a transmission line as opposed to a generating station, which may affect only one community. Canada's vast geography requires massive transmission lines to move electricity between Canada and other countries, between provinces and cities, and from generation facilities to homes and businesses. However, not all communities in Canada are connected to this network. Ask students:

- How does the map show that access to electricity (and more generally, clean energy) is different for rural/isolated Indigenous communities versus metropolitan areas?
- Why would some communities be served by electrical transmission lines and others not?
- What are some challenges for building new electrical infrastructure across Canada?

Explain that Indigenous communities, and in particular northern/remote communities, experience a higher-than-average reliance on diesel as their main energy source. Ask students to consider the following:

- Should access to electricity and clean energy be a right shared by all Canadian citizens?
- If a community does not have access to electricity or clean energy, will that affect things like jobs, educational opportunities, and quality of life?
- How might your day be different if you did not have reliable access to electricity, or if electricity was very expensive?

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Connections to the Canadian Geography Learning Framework

Geoinquiry

- Ask geographic questions
- Interpret and analyze
- Communicate

Geospatial skills

- Foundational elements
- Spatial representations

Concepts of geographic thinking

- Interrelationships
- Geographic perspective

Action (45 minutes)

Part 1: Creating an inclusive electricity sector

Now that students can appreciate that not all communities in Canada have equal access to electricity, have them sit in a circle around the map, and ask them the following discussion question:

- Is the solution to unequal access to electricity simply to find ways to extend Canada's existing network of electricity transmission lines? Why or why not?

Use the map to ensure that students understand that significant geographical and economical barriers mean that alternative solutions are needed, and that these solutions must be in keeping with Canada's commitment to fight climate change and achieve net-zero emissions by 2050. Increased carbon emissions that result from energy production methods that pollute the environment (e.g., the burning of fossil fuels) are destabilizing the Earth's natural balance and are leading to issues such as biodiversity loss, decreased access to clean water, poorer air quality, increasing global temperature, and increased climate-related disasters such as wildfires and floods. It is incumbent upon us to collectively work towards restoring the Earth's natural balance by using cleaner and greener solutions for our energy-related needs.

There is an incredible potential for Indigenous and Western knowledge systems to complement one another's strengths to better inform and create holistic policies and practices that can address this challenge head on. First Nations, Métis, and Inuit have lived in balance and harmony with the Earth for thousands of years. Their connection to the land, water, and wildlife is deeply-rooted in their cultural values and provide a unique perspective on Canada's energy future. This connection also means that they are often the first to notice the negative impacts of climate change and are the most significantly affected by it. Discuss with students how climate change is uniquely affecting the lives of Indigenous people, both in cities and in remote communities. For example, use the map to discuss how climate change can result in:

- Reduced access to traditional foods and reduced food supply
- Disruption of traditions and cultural practices
- Conflict over traditional lands and resources
- Forced relocations of communities
- Weather-related disasters
- Political and economic marginalization

Next, ask the class if they are familiar with the terms "equity," "diversity," and "inclusion." Work together to define these terms. (E.g., equity means enabling people to have equal opportunities by removing systemic barriers; diversity means having a variety of people with different backgrounds and characteristics; and inclusion means ensuring everyone feels valued, respected, heard, and supported.)

Have a discussion about the positive results that can come from the inclusion of a diversity of voices and perspectives in Canada's energy workforce. Why are multiple perspectives better than one? How do Indigenous Peoples face obstacles when seeking inclusion in this sector? Might there be hesitancy on their part to participate? Could other marginalized communities, minorities, immigrants, and disability groups face obstacles when seeking inclusion in this sector? What could energy-related organizations focus on to support the inclusion of all communities? (E.g., greater communication between different communities and employers, support for skill development, job training and apprenticeships, prioritizing cultural traditions, and providing a welcoming and responsive environment.)

Part 2: How Indigenous peoples are shaping Canada's energy future

While there are many obstacles to overcome, there are numerous organizations that seek to educate and inspire students about a future in STEM (including the energy sector), as well as companies that seek to collaborate with Indigenous communities on energy projects. Indigenous Clean Energy Social Enterprise (ICE) is a Canadian not-for-profit platform whose aim is to increase the prevalence of Indigenous leadership, inclusion, and collaboration in Canada's energy sector and economy. With its support, programs, youth leadership initiatives, and resources, they are helping to foster an energy future in which all communities have access to reliable and sustainable energy. According to ICE, almost 200 medium-to-large energy projects in collaboration with Indigenous Peoples are under construction or operational.

Students will now have the opportunity to locate these projects on the Giant Floor Map. Distribute the **Indigenous-led energy projects cards**. Divide students into appropriate group sizes so each group has one card. Ask students to locate their assigned project on the map and have a discussion using the questions on the cards. Once students are done discussing in their groups, gather them as a class to discuss the common themes they observed in the projects they studied.

Conclusion (10 minutes)

Close the activity by asking students to share what was discussed in their group (consider inviting one representative to summarize their group's discussion).

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Modifications

There are many ways in which this activity can be modified for younger age groups. Here are some of our suggestions:

- Choose one Indigenous community to explore together. Focus on map elements (roads, water, locations of cities) and using the legend.
- Ask students to take a look at the map. What natural resources do they see? Ask students to think about what they know about how Indigenous Peoples use the land. What does it mean to have a "respectful relationship with the land?" How might climate change be changing the way Indigenous Peoples can use the land?
- As a group, find the locations of a few of the **Indigenous-led energy projects cards**. Ask students what they notice about the geographical features around the location. Is there water? Is it flat or are there elevations? What's the nearest major city? Are there any other energy projects near this one?
- Ask students to imagine that discussions are happening about building a new solar farm in the vicinity of an Indigenous community. An energy company wants to consult with the local community. What considerations should be made to commence these discussions? What questions should be asked? Who should be included in the discussions? What should happen if the local community is opposed to the project?

Extend your learning

Once students have had a chance to interact with the Giant Floor Map, encourage them to take their learning beyond the classroom! Here are some extension activities which should allow students to take action based on their knowledge of Indigenous leadership in Canada's energy sector:

- Students can explore the Indigenous Clean Energy Social Enterprise website and learn about how it is supporting Indigenous-led energy, as well as its programs for youth (English only).
- Students can research and summarize recommendations around inclusivity of Indigenous workers in the energy sector through the Electricity Human Resource Canada's Aboriginal Workforce Participation Initiative Reports.
- Students can invite representatives from local Indigenous communities and energy organizations to speak to the class about ongoing research and initiatives (and the dos and don'ts of proper allyship and consultation).

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Supporting resources

- Climate Atlas of Canada
- Electricity Human Resources Canada
- Indigenous Clean Energy Social Enterprise
- Market Snapshot: Overcoming the challenges of powering Canada's off-grid communities
- Net-Zero Emissions by 2050
- Government of Canada: Market Snapshot – Indigenous Ownership of Canadian Renewable Energy Projects is Growing
- ECO Canada