Canadian Geographic EDUCATION

ENERGY IQ

LEARNING INQUIRIES

ENERGY PROJECTS AND PERSPECTIVES

TIME: 60-75 MINUTES

DEVELOPED BY: CANADIAN GEOGRAPHIC EDUCATION

OVERVIEW/FOCUS QUESTION

Students will research international global energy projects and compare them with those already in place in Canada or explore the possibility of these types of projects in Canada.

SUBJECT/TOPIC

ENERGY, SCIENCE, GLOBAL ENERGY PRODUCTION

GRADE LEVEL

GRADES 9-12

LEARNING GOALS

Students will:

- Gather information about global energy projects.
- Assess the possibility of certain types of energy projects in Canada.
- Discuss current energy projects in Canada.

MATERIALS NEEDED

- Devices with Internet access for research and writing
- Materials needed to complete projects (e.g. paper, pens, art supplies)

CONNECTION TO THE CANADIAN GEOGRAPHY FRAMEWORK

CONCEPTS OF GEOGRAPHIC THINKING

- Spatial significance
- Patterns and trends
- Interrelationships
- Geographic perspective

INQUIRY PROCESS

- Ask geographic questions
- Communicate
- Reflect and respond

GEOSPATIAL SKILLS

- N/A

LESSON DESCRIPTION

MINDS ON

Students will discuss current energy projects in Canada and around the world.

ACTION

In groups, students will research global energy projects and examine their feasibility in Canada.

CONCLUSION

Taking on the role of various interested parties, students will present their research.

LESSON IMPLEMENTATION

MINDS ON

Ask students about the types of energy resources available in Canada. Inform students that Canada is one of the only countries in the world that can produce several different types of renewable and non-renewable energy. Next, ask students to think about what types of energy projects are available at a large scale in Canada that might not be available in other parts of the world. For example, in which areas of the world would it not be economically or geographically feasible to build a hydroelectric dam? Discuss students' answers.

Ask students what environmental, community, company and government perspectives might need to be considered for a Canadian energy project versus a project in another part of the world. Different regions of the world have different plant and animal species that need protecting, different communities, and different rules and regulations. For examples of Canadian energy projects, view the regional fact books on the Energy IQ website.

ACTION

Divide students into groups and have them research a global energy project. Remind them of the importance of finding reliable sources and being critical of the content they read when considering author bias. Once students have chosen the energy project they'd like to research, have them answer the following questions:

1. Where is the project located?
2. Why was this project created in this location?
3. What perspectives did the company need to take into account and were those perspectives fully considered?
4. What is the potential for this type of project in Canada or is there a project already like this in Canada?
5. If the project is feasible, what would be the best location for it and what perspectives should be considered?

Students can present their research in different formats: A research paper, a poster, a presentation, an infographic, a diorama, a news article, etc.

CONCLUSION AND CONSOLIDATION

Have students present their research to the class. If desired, students can take on the role of the different groups affected by or involved with this project (e.g. government, energy company, local community council, conservation group, etc.) and present the energy project from multiple perspectives.

Have a class discussion about what students think the future of Canada's energy production might look like. Ask students how we can ensure that the energy needs of Canadians are met with the resources we have.

EXTEND YOUR GEOGRAPHICAL THINKING

- Have students explore the Energy IQ Interactive Map to learn more about energy production and transmission in Canada.
- Invite a representative from a Canadian or global energy project to speak to your class.
- Consider using the lesson plans *Stakeholders at the oilsands* and *Resource extraction* as examples to get students thinking about different perspectives.

MODIFICATIONS

- The way students demonstrate their learning can be adapted for student needs.
- Projects can be completed individually.
- The information required in the projects can be adapted for student needs.
- As a class, students can research one project, such as the Trans Mountain Pipeline. Divide students into groups and have each group research a different topic: The provincial and national economic benefits of the project, environmental and marine protection currently in place and to be considered, safety precautions and considerations, Indigenous perspectives, and provincial and federal regulations.
- Extension: Students can compare their energy project with a current energy project in Canada.
- Extension: Create a world map outlining all of the global energy projects researched in Canada and around the world.

ASSESSMENT OPPORTUNITIES

- Teachers can take observational notes of students' ideas during discussions.
- Students can share their projects with another group or the teacher for feedback.
- Teachers can assess the final copies of projects.

SOURCES AND ADDITIONAL RESOURCES

- Visit the Energy IQ website for more information about energy.
- Visit the lesson plan *Responsible Energy Production* to examine the environmental impacts of energy production in Canada.
- On Our World in Data, explore different countries' energy profiles.
- Visit the International Energy Agency's Data and Statistics page for information on different energy sources.
- Explore the economic contributions of the oil and natural gas industry across Canada.
- Learn about the role of renewable energy in Canada with the Canadian Renewable Energy Association.