

## Grade 10: MORE POWER AT TOWN HALL?

*Students explore issues and opportunities related to hydroelectric development in their community by staging a town hall meeting.*

### CURRICULUM CONNECTIONS

#### Related Outcomes

This lesson will contribute to the student's ability to

- consider further studies and careers in science- and technology-related fields;
- demonstrate appropriate critical thinking and decision making skills when choosing a course of action based on scientific and technological information;
- use the decision making process to address an issue related to hydroelectricity generation and transmission in the student's community or province/territory.

#### Related Coursework

This lesson works well in classes studying

- principles and sources of electricity and energy conservation;
- hydroelectric generation/transmission and related environmental impacts;
- the impact of social and human needs on industrial or environmental practices;
- community decision making processes;
- persuasive speaking and writing, and debating.

### PREPARATION

#### Learning Objectives

During this lesson, students will

- work in small groups to research and develop a case for or against hydroelectric development in their community;
- explore occupations related to hydroelectric development using the profiles provided and incorporate the perspective of a selected occupation into their cases;
- determine a course of action for their community based on the cases presented;
- report on a specific issue or opportunity related to hydroelectric development, including related career opportunities using their medium of choice.

**Total Time** 140 minutes, spanning at least two periods

#### Material Required

- Copies of My EnviroConcern Hydroelectricity from the Aboriginal EnviroCareers website/CD-ROM (one per student)
- Interest Group Packages (one copy per group) including
  - Hydroelectricity Backgrounder (provided)
  - Profiles of the following occupations, taken from the EnviroCareers section of the Aboriginal EnviroCareers website/CD-ROM and grouped into the following interest groups
    1. Community and Culture: Aboriginal liaison, TEK advisor.
    2. Sustainability: clean energy researcher and environmental engineer.
    3. Protection/Conservation: fisheries technologist, conservation biologists, wildlife technician, botanist.
    4. Laws and Legislation: environmental policy analyst and environmental lawyer.
    5. Hydro Company: environmental lawyer, clean energy researcher and environmental engineer.
- Town Hall Moderator, ideally a decision maker from your community, to facilitate the town hall meeting



20 minutes



1. **Introduction: Exploring Hydroelectric Development And Its Social And Environmental Impacts** (*Brainstorming*)
  - 1.1 Brainstorm and record words, images, issues, etc. related to “hydroelectricity.”
  - 1.2 Circle the “scientific” responses and underline the “social/human” responses. Discuss: “Why is hydroelectric development a controversial issue?”
  - 1.3 Distribute My EnviroConcern Hydroelectricity and read aloud. Compare the class explanation of why hydro development is controversial with the handout’s explanation.
  - 1.4 Explain: “Many Aboriginal communities are now significantly involved in the decision making process when hydro development is being considered in or near their communities.”

60 minutes

2. **Main Activity: Holding the Town Hall Meeting** (*Research and Role Play*)

*Preparing For The Meeting*

- 2.1 Introduce the activity: “We’re going to hold a town hall meeting to decide whether or not to allow the development of a proposed hydroelectric dam and generating station in our community. Groups will present a case for or against the development based on the views of a selected interest group.”
- 2.2 Discuss the concept of “interest groups.” Explain: “A town hall meeting is a forum for interest groups and individuals to express their perspectives and influence a community’s course of action.”
- 2.3 Divide the class into numbered groups of 4 or 5. Display the Interest Group list (provided) on the overhead, briefly reviewing each group. Ask each group to select an interest group. Record each group’s number beside its selected interest group.
- 2.4 Provide further instructions to the groups
  - a. “Select and sign up for an interest group.”
  - b. “Research your interest group’s main concerns using the Aboriginal EnviroCareers occupational profiles, Hydroelectricity Backgrounder and other sources if needed.”
  - c. “Decide on a position for/against and identify three to five points to support this position. Develop a five minute presentation of your case.”
  - d. “Present your case at the Town Hall meeting two classes from now.”
  - e. “As a class, discuss the arguments presented and determine a final decision.”



- In preparation for this lesson, research the decision making process in the community, i.e. consensus, referendum, executive council, etc. Structure the “town hall” proceedings to reflect the process used in your community.
- 1.2 Encourage students to consider why human needs and traditional perspectives are as important as science and technology considerations when deciding on hydroelectric development projects.
  - 1.4 Additional information: Land claim agreements (Resource Management Areas) and partnerships between stakeholders enable more communities to exercise their right to determine how their land is used. Many Aboriginal communities now decide whether or not to permit hydroelectric development on their land.
  - 2.3 As an alternative, expand the interest groups listed in Material Required by adding roles for concerned citizens, Elders, youth, business people, environmentalists, and hydroelectric industry representatives.
  - 2.4 Review Balancing Perspectives in this guide’s Additional Resources. Encourage students to consider the world view(s) they are representing in their cases.
    - 2.4.b Consider providing or directing students to additional research sources such as



45 minutes

2.5 Provide the remainder of class time for research as well as an additional class for group work. If needed, assign further research as homework.

*Holding the Meeting*

2.6 Outline the meeting procedure

- proceeding facilitator opens the meeting and invites the first group to speak;
- each group presents its case;
- the floor is opened for questions and debate;
- decision is reached using the appropriate community decision making process.

2.7 Conduct the meeting.

15 minutes

**3. Closure and Evaluation: Debriefing the Town Hall Meeting**  
*(Discussion and Homework)*

3.1 Discuss the following questions as a class

- “How might some of the occupations you learned about combine traditional and scientific knowledge in work related to hydroelectric development?”
- “Which points (human needs, traditional, scientific, etc.) most influenced your vote? Why?”
- “How were your grandparents and great grandparent’s generations affected by/involved in decision making about hydroelectric development? How might your children or grandchildren be affected by/involved in it?”

3.2 As homework have students select one of the debrief questions and discuss it further in a brief essay or report.

- Provincial/territorial hydropower provider’s website. Manitoba Hydro ([www.hydro.mb.ca](http://www.hydro.mb.ca)) and BC Hydro ([www.bchydro.com](http://www.bchydro.com)) have comprehensive sections on their environmental policies;
- Hydropower and Aboriginal Communities in About Power on the Canadian Hydro Association website: [www.canhydropower.org](http://www.canhydropower.org);
- Articles and case studies of hydroelectric development in Aboriginal communities. Search the Internet using key words such as: James Bay, Waskwatim, and Delgamuukw.

2.6 Prior to the class in which the meeting is held, remember to

- meet with the moderator to review the meeting procedure;
- organize the room layout to facilitate presentations and to reflect the decision making process used in your community, i.e. executive council, use panel and audience.

Evaluation Considerations

Did each group

- make decisions collectively;
- demonstrate the perspective of their assigned practitioner;
- defend its point of view?

Did individual students

- listen to and consider other groups’ points of view;
- participate in group discussion and contribute to the decision making process;
- describe opportunities to integrate Traditional Environmental Knowledge and western science in various environmental occupations;
- complete the homework assignment?

**SUGGESTIONS FOR ADAPTATION**

- For a Grade 11 or 12 class, have students develop and present their cases individually. Cases should be detailed, formally structured arguments focusing on the environmental impacts most relevant to their selected occupation.



## HYDROELECTRICITY: Backgrounder

### Quick facts

- Over 60% of electricity produced in Canada is hydropower.
- In 1997, the Supreme Court of Canada ruled Aboriginal peoples must be informed and consulted about hydroelectric developments affecting them, their environment, their culture and their way of life.
- The electricity sector, including coal, oil and gas, produces 17% of the green house gas emissions in Canada.
- There is controversy over whether hydropower is a clean and renewable resource.

### What does hydroelectric development involve?

- Hydroelectric projects often involve flooding land to construct and operate a dam. The dam controls the flow of water.
- Camps for construction workers, access roads to the site, and construction power are usually required during development.
- All weather roads are also often built to provide ongoing access to the generating station once it has been completed.
- Some hydroelectric facilities require a storage dam or reservoir to store the water for long periods of time.

### How can hydroelectric development affect the environment?

Hydroelectric development may:

- Change water levels at the dam site and throughout the water system, sometimes stabilizing water levels, other times changing water levels daily
- Produce green house gas emissions if a storage dam is built
- Increase shoreline erosion and debris which can:
  - Increase sediment, making the water murky
  - Change fish habitats and spawning grounds
  - Increase food sources such as bugs and minnows, which can increase fish populations
- Cause mercury to be released from flooded peat beds, potentially affecting the local commercial fishing industry
- Destroy vegetation during construction, through flooding, by causing increased shoreline erosion
- Alter the types of shoreline plants in the area as a result of changing water levels
- Destroy wildlife habitats when clearing or flooding the land
- Increase people's access to the area, possibly increasing hunting of and accidents involving animals

### How can hydroelectric development affect a community directly?

Hydroelectric development in or near a community may:

- Attract new services such as retail stores, Internet access, etc.
- Increase population, potentially causing a housing shortage
- Affect the community's local or traditional economy and way of life
- Create a "boom and bust" economy
- Create jobs with hydroelectric companies and in supporting industries like childcare and construction
- Provide training opportunities before and during the project
- Generate profits for the community if it shares ownership in the hydroelectric development facilities
- Develop new recreational activities and locations, like boating on the reservoir