

## CHAPTER 10

## HANDOUT

## BLM 10.3.1

# Investigation 10.C: Fossil Fuels as Energy Sources: A Risk-Benefit Analysis

In this investigation, you and your group will research the use and production of fossil fuels in Alberta and propose a plan to reduce the impact on the environment.

## Issue

What are the risks and benefits of continuing to depend on fossil fuels as our primary energy source in Alberta?

## Gathering Data and Information

1. As a class, produce a list of fossil fuels that are produced and used in Alberta, and the ways in which they are used.



Would you like to have a coal-burning power plant near your home? Some people might be upset by this idea because they believe that there may be a health risk caused by pollution from the plant. Other people might think that a coal-burning power plant poses very little threat, and the benefits are worth the risk. Who is right? How do you decide?

2. Divide into groups of three or four students. In your small group, research one of the fossil fuels and its uses. Your research should include
  - benefits: where is it recovered, what is it used for, how does it benefit our economy, how large are the reserves (how long will we be able to use it)?
  - risks: what potential harm could recovering and using this fossil fuel have on the environment and human health? What will happen when the reserves are depleted?
  - technology, including both processes and equipment, that has been developed to reduce the risk. How does it reduce the risk? **ICT**

## Organizing Findings

3. Perform a risk–benefit analysis on our dependency on fossil fuels.
4. In your group, propose a plan that would reduce the impact of our dependency on fossil fuels.
5. Share your proposal and findings in a presentation or as a poster that incorporates data, graphics, and text in a persuasive manner.

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HANDOUT		

### Opinions and Recommendations

1. Discuss the groups' findings as a class.

(a) Are the safety, environmental, and health concerns arising from fossil fuel production and use in Alberta being addressed adequately?

(b) In general, do the benefits of producing and using fossil fuels in Alberta outweigh the risks?

(c) Do you think your proposal to reduce the negative impact of fossil fuel production and use is reasonable? Explain your answer in detail.