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NATURAL RESOURCES FOR ENERGY



ENERGY
EDUCATION
TOOL KIT

BY INSIDE EDUCATION



NATURAL RESOURCES FOR ENERGY

GUIDING QUESTIONS

- What are natural resources?
- Which natural resources are renewable and which are non-renewable?
- Where are natural resources found in Alberta?
- How do we use natural resources for energy?
- What are the opportunities and challenges of using different types of natural resources for energy?

A **natural resource** is something found in nature that helps us meet our wants and needs. Natural resources can include living or non-living things, and we can use them in different ways. The natural resources in this activity are energy resources, which means we use them for heat, fuel or electricity.

A **renewable** resource is a natural resource that can naturally replace itself within a human lifetime. We have an infinite, or endless, supply of renewable resources.

A **non-renewable** resource is a natural resource that took millions of years to form and cannot replace itself within our lifetime. We have a finite, or limited, supply of non-renewable resources.

A **natural region** is an area of land where you expect to see certain wildlife, plants, weather and natural resources. Alberta has six natural regions and collectively they have all of the natural resources we use to make energy in Alberta.

There is no perfect source of energy, using each of the natural resources comes with opportunities and challenges. In Alberta we use a mix of energy resources to meet our needs.

Natural Resource	Used for Heating	Used for Fuel/Transportation	Used for Electricity	Other Products
 Biomass	✓	✓	✓	Biomass is often waste material from agriculture and forestry products
 Geothermal	✓		✓	
 Solar Energy	✓		✓	
 Water			✓	
 Wind			✓	
 Natural Gas	✓		✓	Petrochemical products (i.e. plastics, pesticides, glues, dyes, cosmetics, etc.)
 Oil	✓	✓	✓	
Not currently used in Alberta				
 Coal*	✓		✓	Steel, cement
 Uranium	✓		✓	Medicines, powering spacecraft, nuclear weapons and for research

* As of June, 2024, Alberta has completely phased out coal-fired generation. Coal is on track to be phased out from heat and energy production in Alberta by the end of 2023.

MATERIALS FROM KIT

- 9 natural resource samples (coal, oil, natural gas, biomass, nuclear, solar, wind, water, geothermal)
- 9 Natural Resource Riddles (Elementary)
- 9 Natural Resource Riddles (Junior/Senior High)
- Alberta's Natural Resources map
- Considerations For Using Natural Resources For Energy In Alberta (chart)

TRY THESE ACTIVITIES

- Match the riddle cards to the natural resource samples
- Look at the Alberta Natural Resources Map
 - Which natural region is your school located in?
 - Which natural resources can be found in your natural region?
- Examine the "Considerations For Using Natural Resources For Energy In Alberta" chart
 - Can you think of other opportunities and challenges?

CONSIDER ...

Where your energy comes from.

If you could choose the energy source(s) used most in your community, which would you choose and why?

CONNECT ...

Think about the careers provided by the energy sector in Alberta. Oil and gas provides the most jobs and there are tons of opportunities in working with wind and solar as well. Do you know someone who has a job connected to energy? Would you be interested in a job in the energy sector?

LEARN MORE ...

In 2025, nuclear energy was not used in Alberta, but that could change over the next decade. The idea of introducing nuclear energy in the form of Small Modular Nuclear Reactors is being explored across Canada, including in Alberta.

Learn more here: <https://smractionplan.ca>