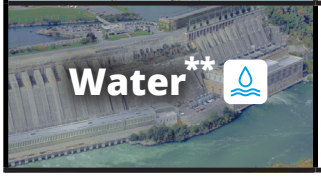
1 NATURAL RESOURCES FOR ENERGY

CONSIDERATIONS FOR USING NATURAL RESOURCES FOR ENERGY IN ALBERTA

(CHART)

ENERGY EDUCATION
TOOL KIT
BY INSIDE EDUCATION

NATURAL RESOURCE	OPPORTUNITIES	CHALLENGES
	• We have lots in Alberta • Sell to other countries to grow our economy • Natural gas power plants respond easily to changes in energy demand	• Non-renewable • Greenhouse gas emissions • Pipelines and wells have an impact on land, air, water, plants and animals
	• We have lots in the Alberta • Source of electricity in remote communities • Sell to other countries to grow our economy	• Non-renewable • Greenhouse gas emissions • Seismic lines, wells, pipelines, rail lines have an impact on land, air, water, plants and animals • Water is used during extraction, production and refining
	• We have lots in Alberta • Lower costs compared to other resources because mines, power plants and transmission lines already exist	• Non-renewable • Greenhouse gas emissions • Mines have an impact on land, air, water, plants and animals • Coal-fired power plants respond slowly to changes in electricity demand
	• A small amount of uranium makes a lot of energy (efficient) • No greenhouse gases are emitted	• Non-renewable • Radioactive waste is produced • High cost to build a power plant • Uranium is mined in remote locations and transported long distances to power plants
	• Renewable • No greenhouse gases are emitted • Reliable source of energy *(supply doesn't change)*	• High cost to build wells and power plants • Not available everywhere *(parts of Alberta have low underground temperatures)*
	• Renewable • No greenhouse gases are emitted • Photovoltaic *(solar)* panels require little maintenance once built • Solar panels can be built where you need them *(i.e. on the roof of a home)*	• High cost to build solar panels • Supply varies throughout the day and is not available at night • Energy storage technology is lacking for large projects
	• Renewable • Makes use of waste material that would otherwise contribute to landfills *(wood chips, cow manure, food waste, etc.)*	• Greenhouse gases produced • Limited supply of waste material in some cases. • If grown for just energy this impacts land for food production
	• Renewable • No greenhouse gases are emitted • Small physical footprint on the landscape	• Supply varies and wind speeds can be too high or too low • Wind turbines obstruct views • Birds and bats flight paths affected
	• Renewable • No greenhouse gases are emitted • Reservoir can be used for recreation • Responds quickly to changes in electricity demand	• High up front cost to build dams and reservoirs • Impacts river/stream flow and aquatic habitat • Reservoirs flood surrounding land impacting local communities, including First Nations

**** Coal is on track to be phased out from heat and energy production in Alberta in early 2024***

***** Water can generate electricity in various forms (eg. run of the river, tidal and hydro). In Alberta, water is only used in hydro generation***