

## 16.1 Natural Resources & Energy p. 376

### 1. Natural Resources

a. A **natural resource** is a feature of Earth that benefits people.

b. Earth's natural material resources are things like air, fresh H<sub>2</sub>O, & soil.

### 2. Energy & Daily Life

a. Energy use - Examples of transportation & electricity energy = brushing teeth, shower, breakfast, bus, alarm clock.

b. Electricity - Earth's natural energy sources are used to make electricity  
- Average U.S. household uses about 10,000 kWh of electricity

c. Transportation -

- In the U.S. 130 billion gallons of gas used each year  
- Gasoline = made from crude oil found in the ground on land or ocean.

d. Heating & Consumer Products

- **Petroleum** - another name for oil and is a natural resource (Heat & bones)  
- Petrochemicals - compounds made from oil: Ex: Plastic, Paints, medicines, cosmetics

## 16.2 Supplying our Energy needs p. 379

### 1. Making & transporting Electricity-

#### a. Starting @ the Power plant

- Electricity is made in a power plant
- Most p.p. burn fossil fuels (natural resources like coal & oil or natural gas)
- Next this heat is used to boil water. The steam from that turns turbines which ~~generate~~ turns a generator to produce electricity.

#### b. electricity is carried by wires-

- Electricity leaves the plant & is carried to homes by wires.
- Fuel energy like coal, oil, or natural gas changes as it is transported and that change produces heat to heat your homes

### 2. Electricity from fossil fuels

a. nonrenewable resource - a natural resource that is not replace as it's use

b. fossil fuels - substances found in Earth's crust that were formed over millions of years from the remains of dead plants & animals. Ex: coal, oil, natural gas.

### 3. Electricity from Nuclear Energy

a. What is nuclear energy -

- U.S gets about 20% of it's electricity from nuclear power.
- The fuel used in N.P. is uranium
- uranium is an extremely high energy source of heat

b. Advantages/Disadvantages of nuclear energy

- Advantage

- does not pollute air

- Disadvantage

- Stay dangerously radioactive for a long time.

- ~~the~~ storage of nuclear waste is also more dangerous.

### 4. Electricity from renewable

a. renewable resource - a natural resource that can be replaced in relatively short period of time naturally

(only 9% of electricity <sup>comes</sup> from

b. Solar energy - energy from <sup>the</sup> sun

- 99% of heat comes from sun however it is not always reliable (cloudy days or winter).

### C. wind energy -

- System that capture the energy of motion from moving air (wind)
- disadvantage - it's not always wind out when electricity is needed.
- advantage - it's clean & at times there can be a lot of it

### D. other renewable energy source:

- hydroelectric = water
- Geothermal = heat within the earth
- biomass = once living thing like wood or corn.

## 5. Transportation & Energy Sources

### A. Gasoline use

- The main energy source for powering cars = petroleum
- The U.S. does not produce enough gas to power all of its cars so we rely on other. We produce 40% & import 60% from other countries.