

ENERGY

Advantages and Disadvantages

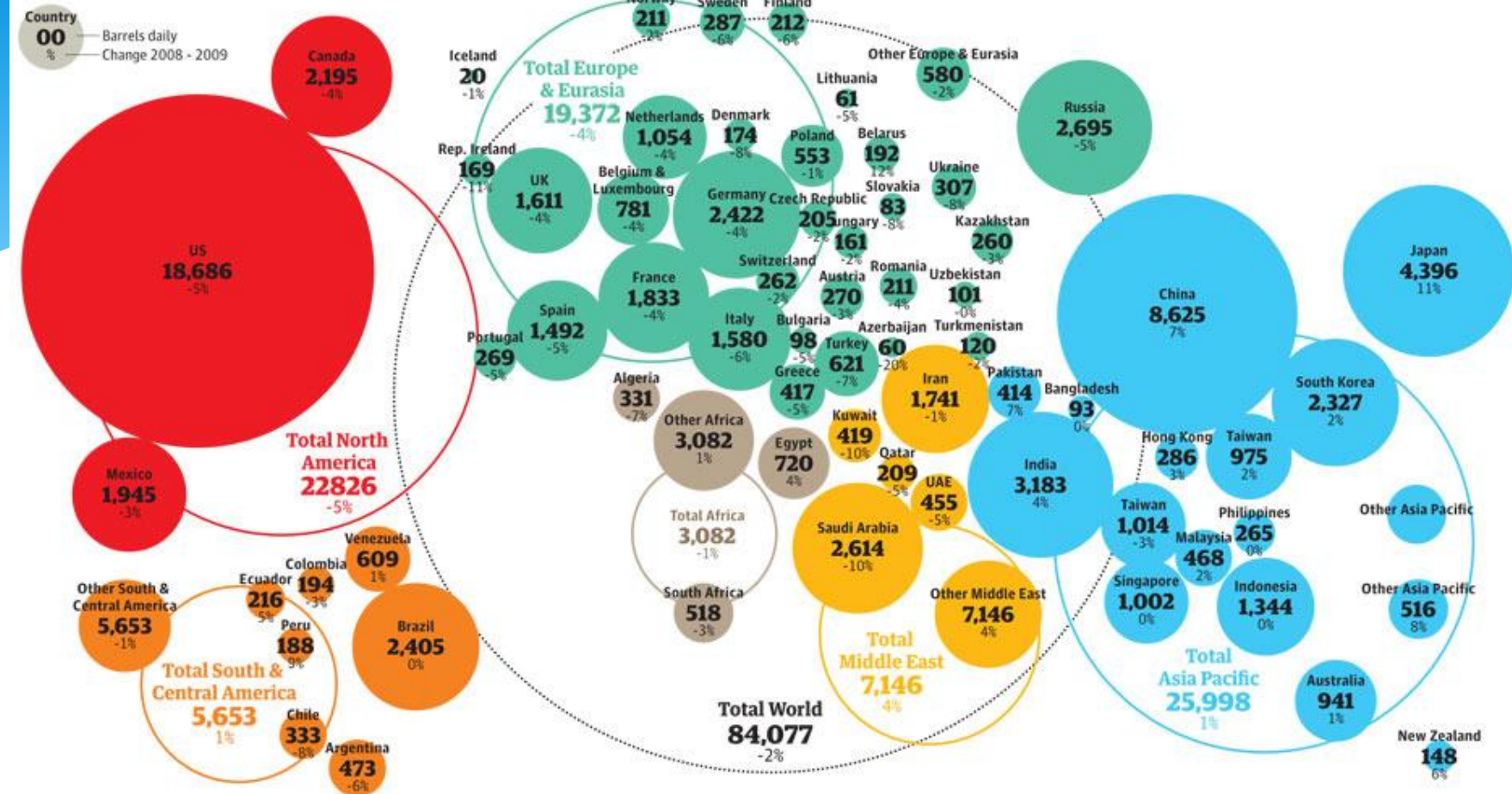
What is the best way to get our energy?

OIL

- * Liquefied remains of ancient organisms, which can be extracted from rock and either burned or converted into other materials.

Oil consumption around the world

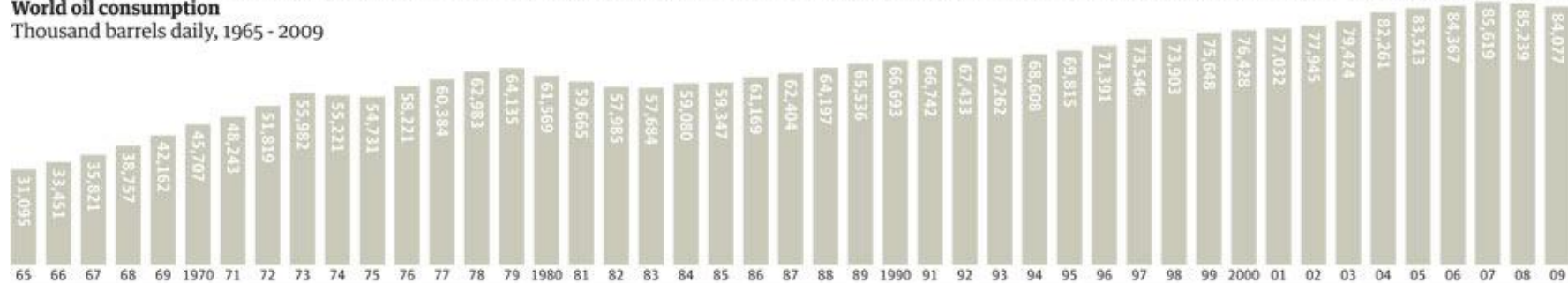
Thousand barrels daily 2009



SOURCE: BP STATISTICAL REVIEW OF WORLD ENERGY

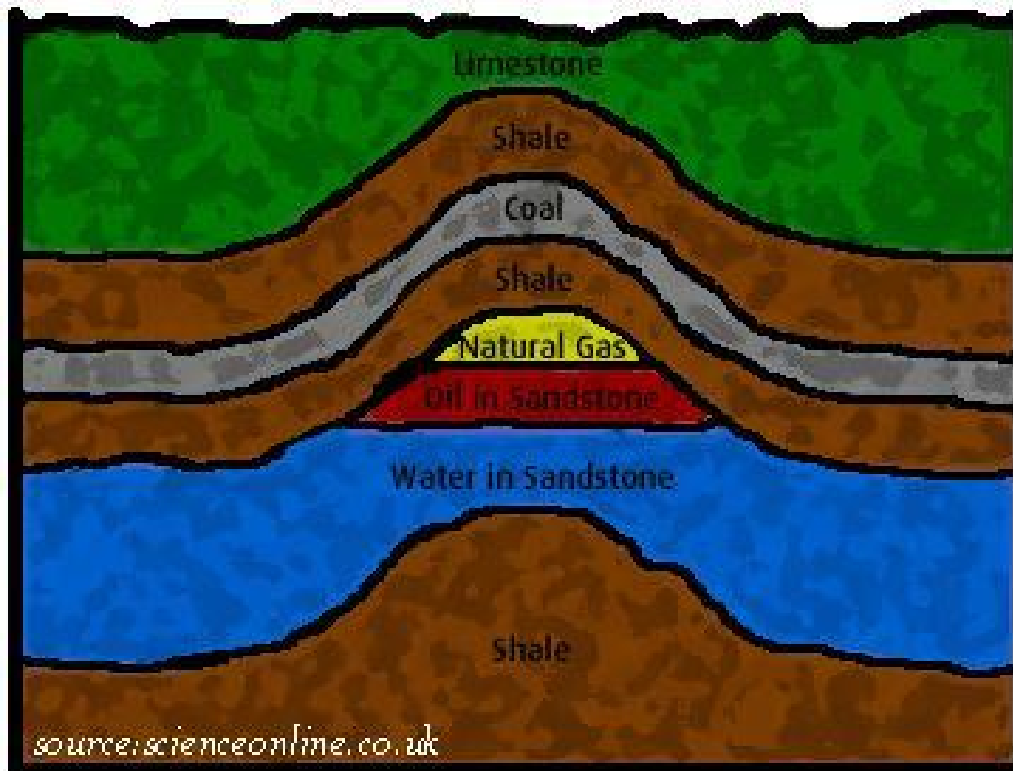
World oil consumption

Thousand barrels daily, 1965 - 2009



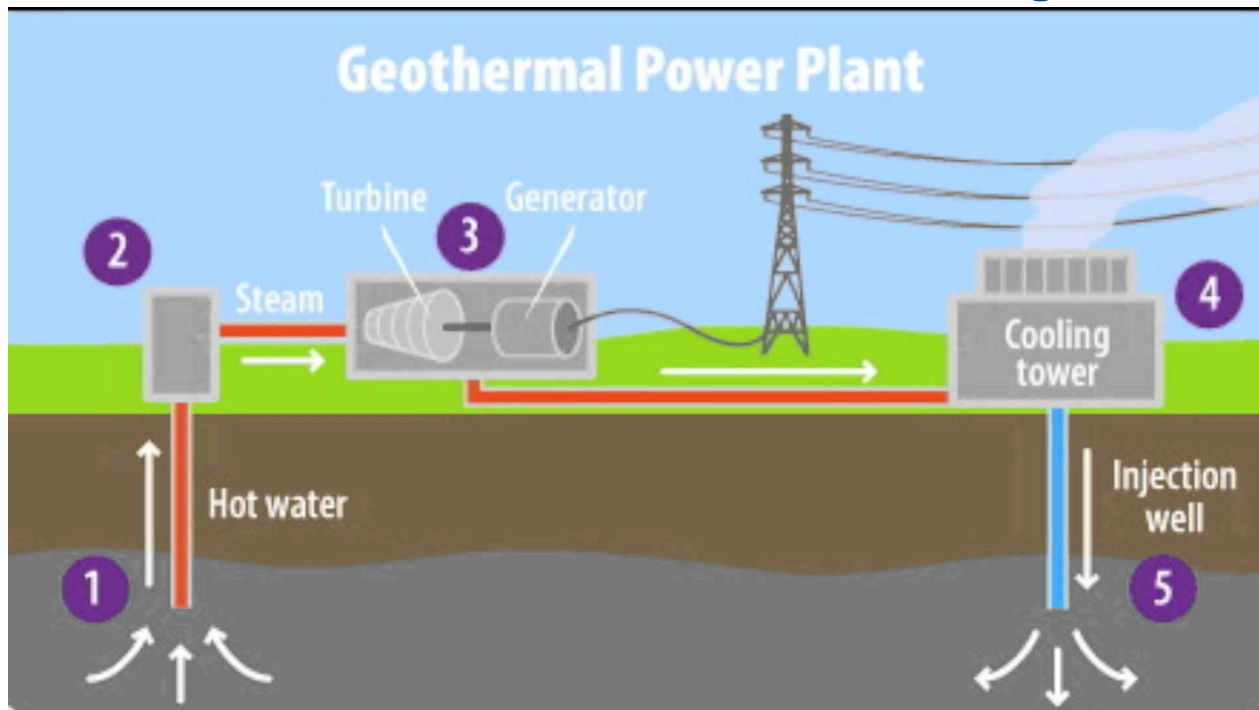
NATURAL GAS

- * Flammable gasses found beneath the surface.



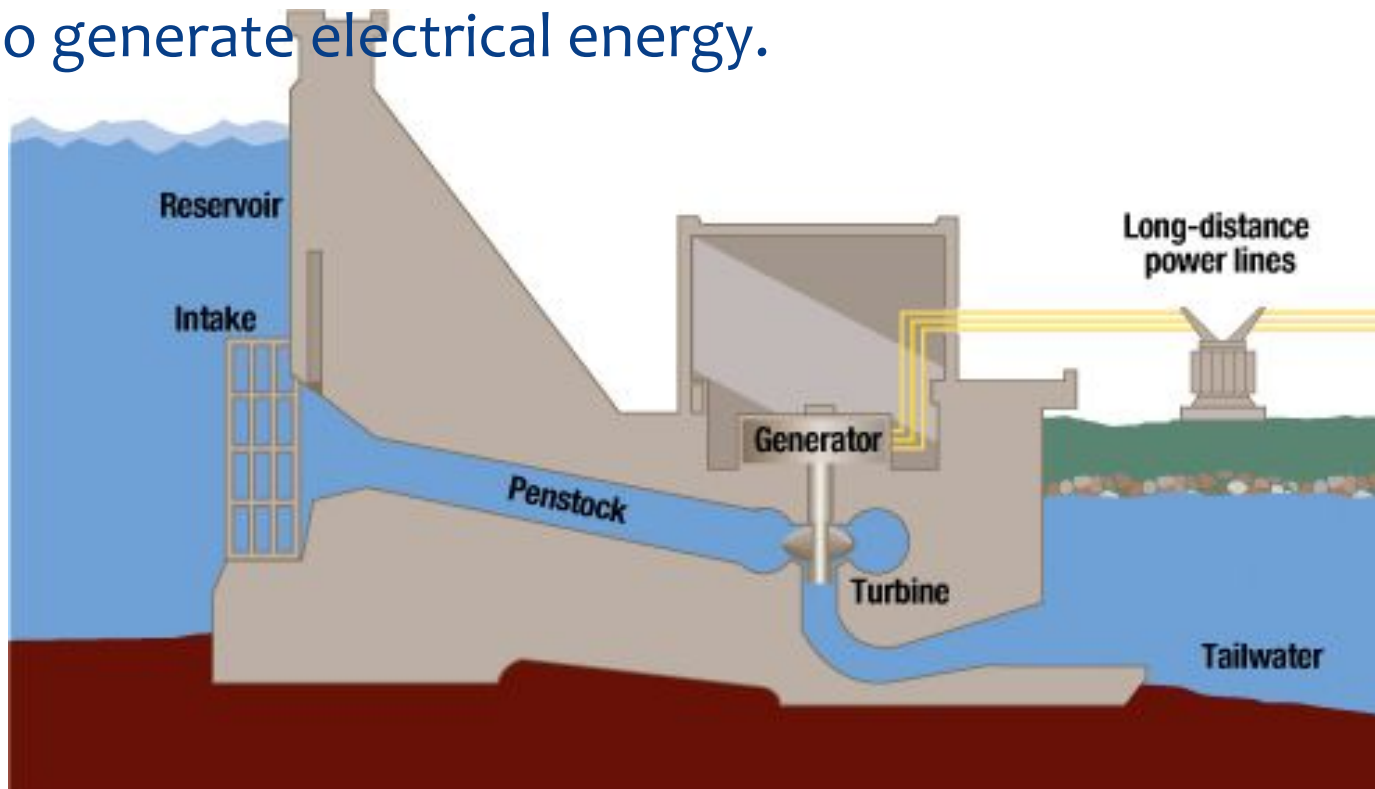
GEOHERMAL

- * The heat trapped below Earth's surface can be harnessed to save or even produce energy.



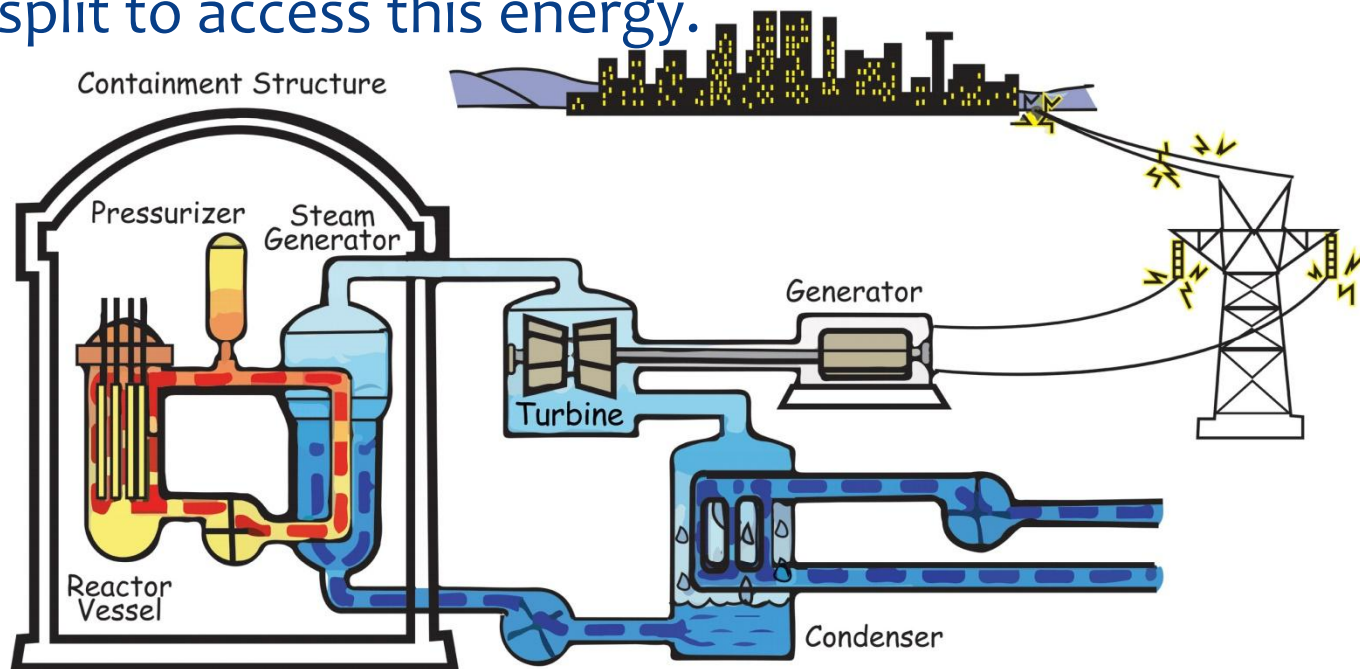
HYDROELECTRIC

- * The natural downhill flow of water can be harnessed to generate electrical energy.



NUCLEAR

- * Nuclear energy is stored in the nucleus of atoms. Large uranium and plutonium atoms are commonly split to access this energy.



WIND

- * Kinetic energy of wind can be converted directly into electrical power.



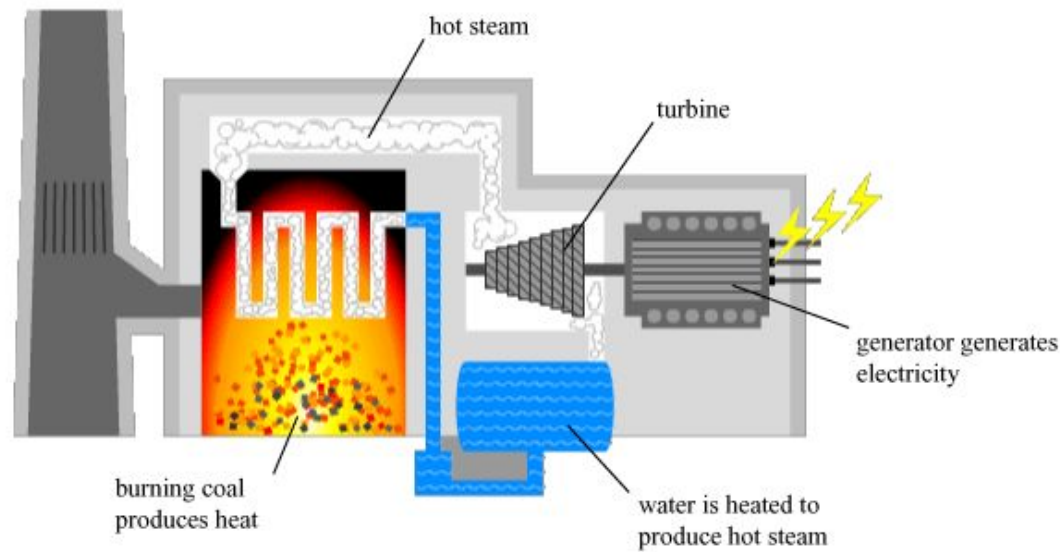
SOLAR

- * Sunlight can be converted into electricity using various methods.



COAL

- * Coal is a sedimentary rock, loaded with carbonized vegetation, which can be burned for energy.
- * It is currently the largest source of electrical energy worldwide.



OIL

Pros

- * Exists in large quantities.
- * Able to be used in many different ways.

Cons

- * Nonrenewable.
- * Emits CO₂ when burned.
- * Environmental hazard.

NATURAL GAS

Pros

- * Cleanest fossil fuel.
- * Burns efficiently.
- * Cleaner alternative to gas.

Cons

- * Nonrenewable.
- * Emits CO₂ when burned.
- * Contains lots of methane.

GEOHERMAL

Pros

- * Natural heating/cooling system.
- * Generally environmentally friendly.
- * Consistent.
- * Renewable.

Cons

- * Expensive to get started.

HYDROELECTRIC

Pros

- * Renewable.
- * Nearly pollution-free.
- * Consistent and reliable.

Cons

- * Environmental consequences of damming a river.
- * Expensive to build dams.

NUCLEAR

Pros

- * Extremely efficient.
- * Disasters are due to human negligence.
- * Little greenhouse gas emission.

Cons

- * Catastrophic risks.
- * Waste must be stored securely.

WIND

Pros

- * Environmentally friendly.
- * Renewable.

Cons

- * Low potential – very difficult to gather enough energy.
- * Expensive to build.

SOLAR

Pros

- * Renewable.
- * Environmentally friendly.
- * Reduces electricity costs.

Cons

- * Expensive to build.
- * Inconsistent – the sun is not always shining.
- * Requires lots of space.

COAL

Pros

- * Cheap and plentiful.
- * High potential – contains lots of energy.

Cons

- * Nonrenewable.
- * Releases CO₂ when burned.
- * Mining is dangerous.

What do you think?

What do you think is the best form of energy?

Let's decide as a class!