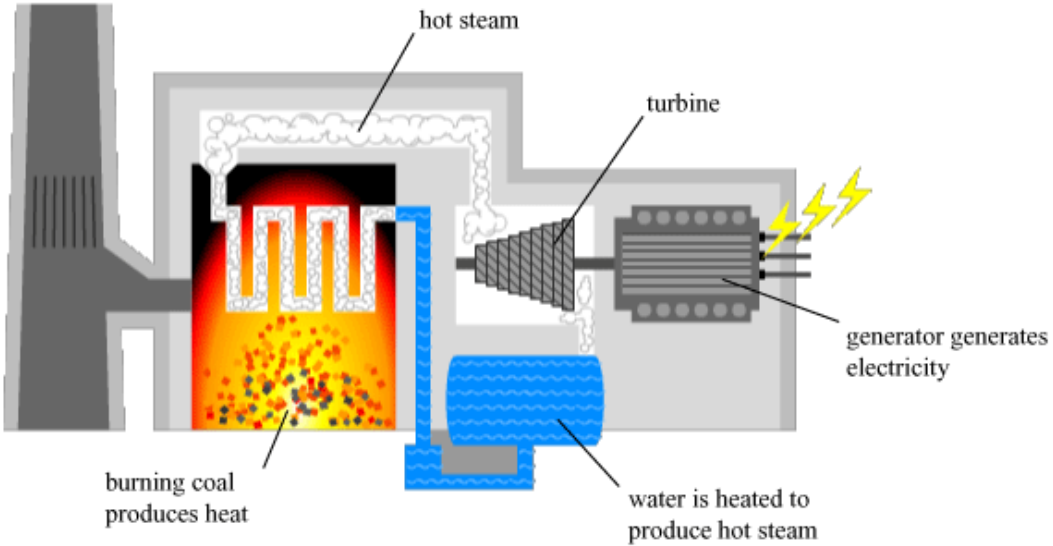
ENERGY

Advantages and Disadvantages

What is the best way to get our energy?

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.



COAL

Pros

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

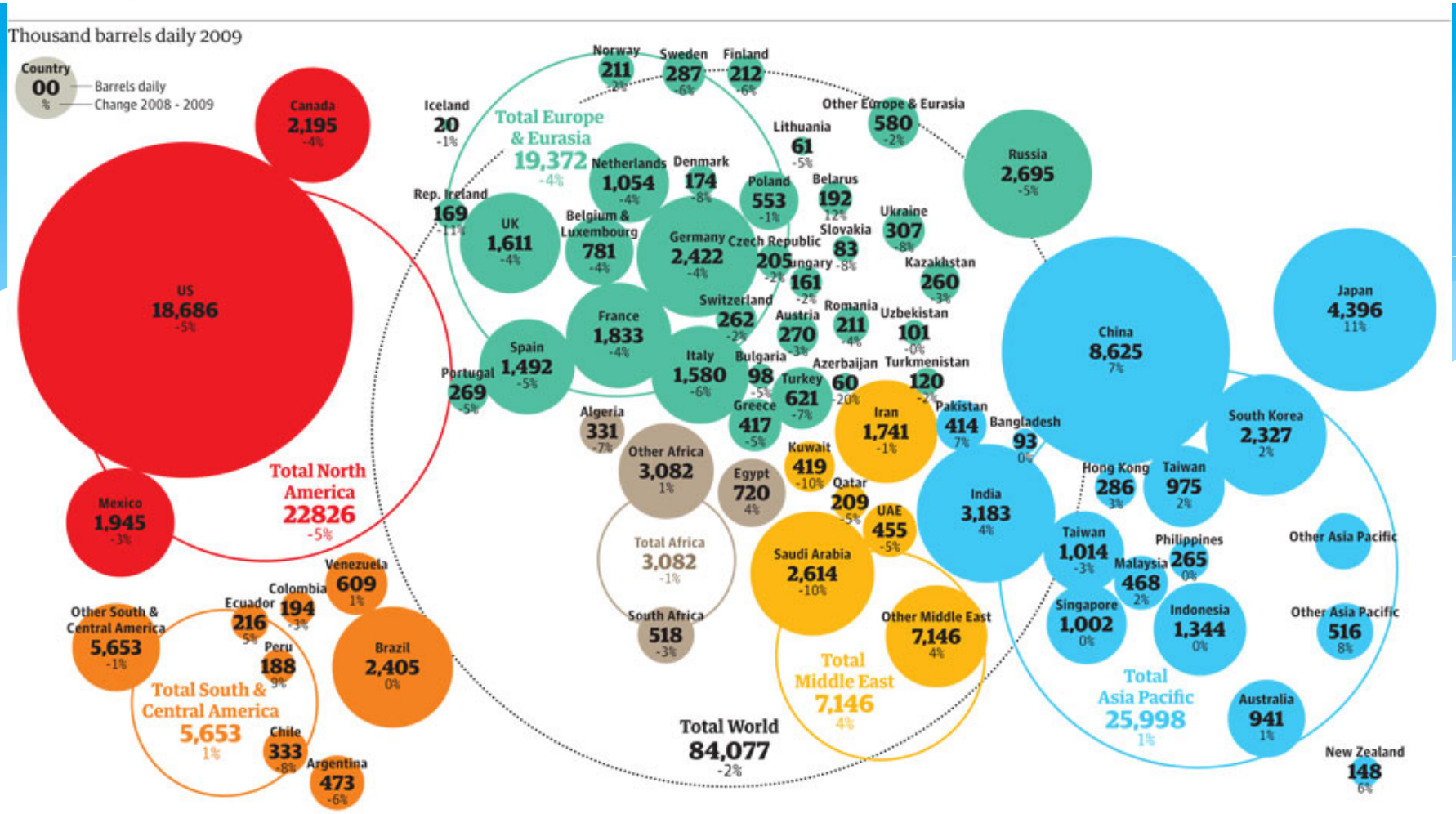
Cons

* Nonrenewable.
* Releases CO_2 when burned.
* Mining is dangerous.

OIL

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

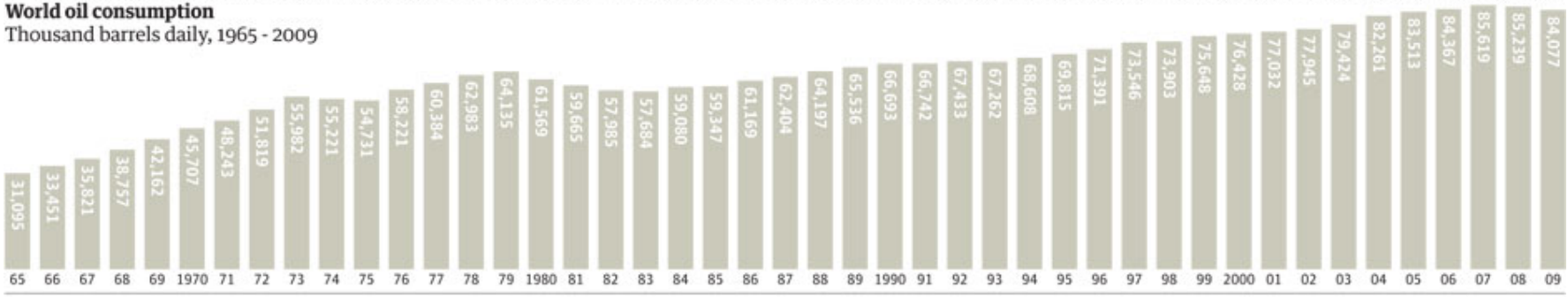
Oil consumption around the world



SOURCE: BP STATISTICAL REVIEW OF WORLD ENERGY

World oil consumption

Thousand barrels daily, 1965 - 2009



OIL

Pros

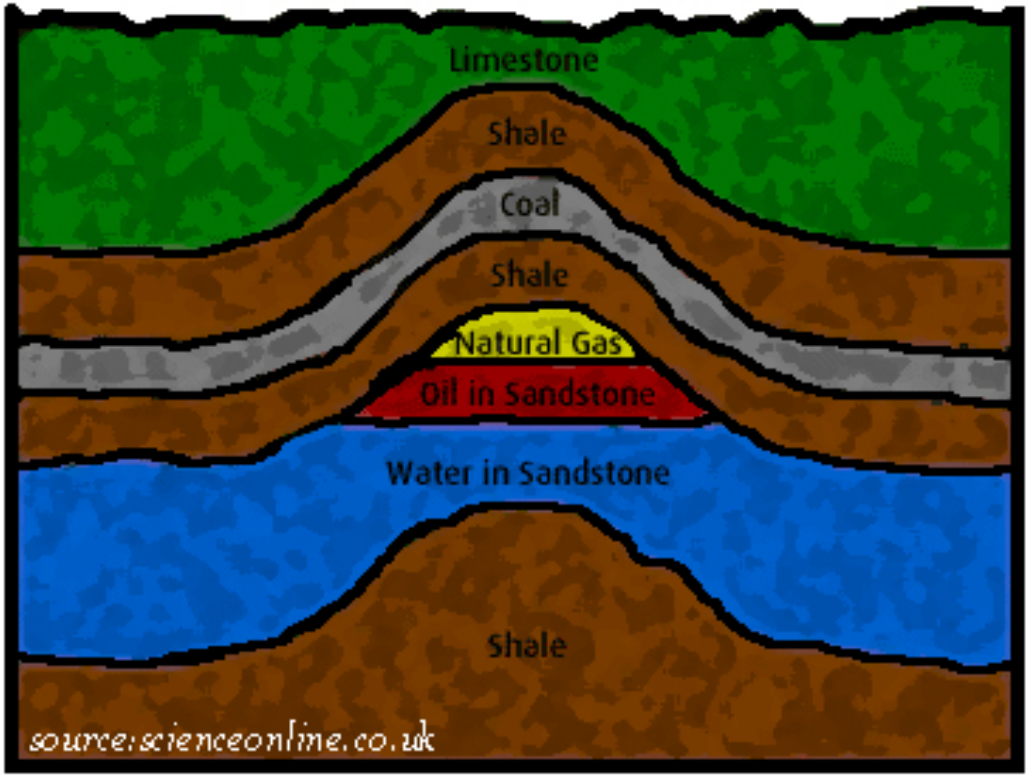
* Exists in large quantities.
* Able to be used in many different ways.

Cons

* Nonrenewable.
* Emits CO_2 when burned.
* Environmental hazard.

NATURAL GAS

* Flammable gasses found beneath the surface.



NATURAL GAS

Pros

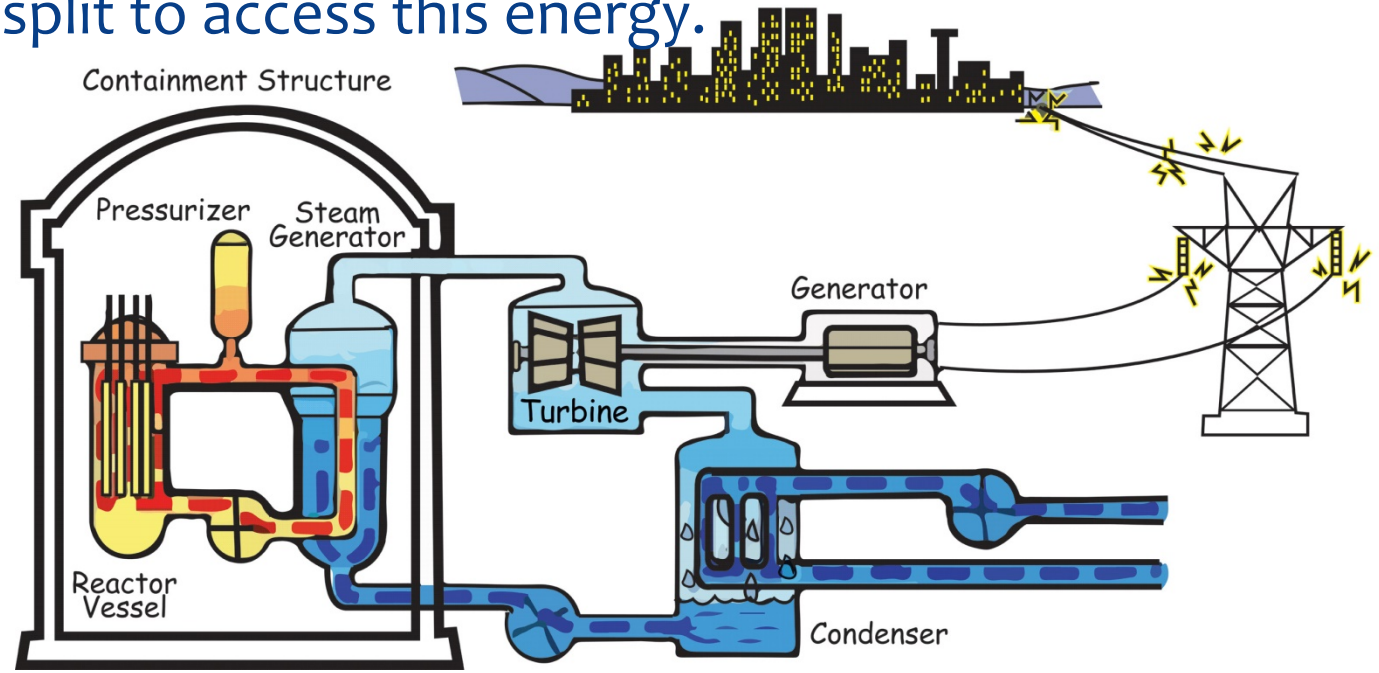
* Cleanest fossil fuel.
* Burns efficiently.
* Cleaner alternative to gas.

Cons

* Nonrenewable.
* Emits CO_2 when burned.
* Contains lots of methane.

NUCLEAR

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



NUCLEAR

Pros

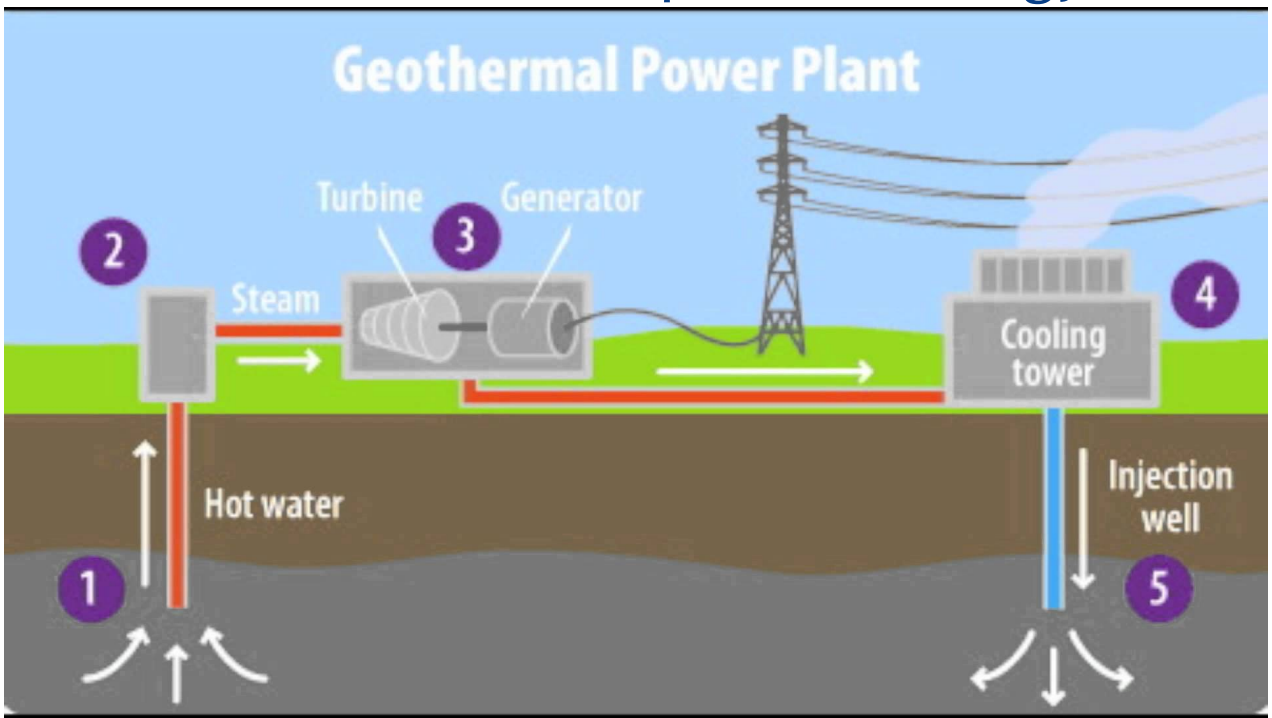
* Extremely efficient.
* Disasters are due to human negligence.
* Little greenhouse gas emission.

Cons

* Catastrophic risks.
* Waste must be stored securely.

GEOTHERMAL

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



GEOTHERMAL

Pros

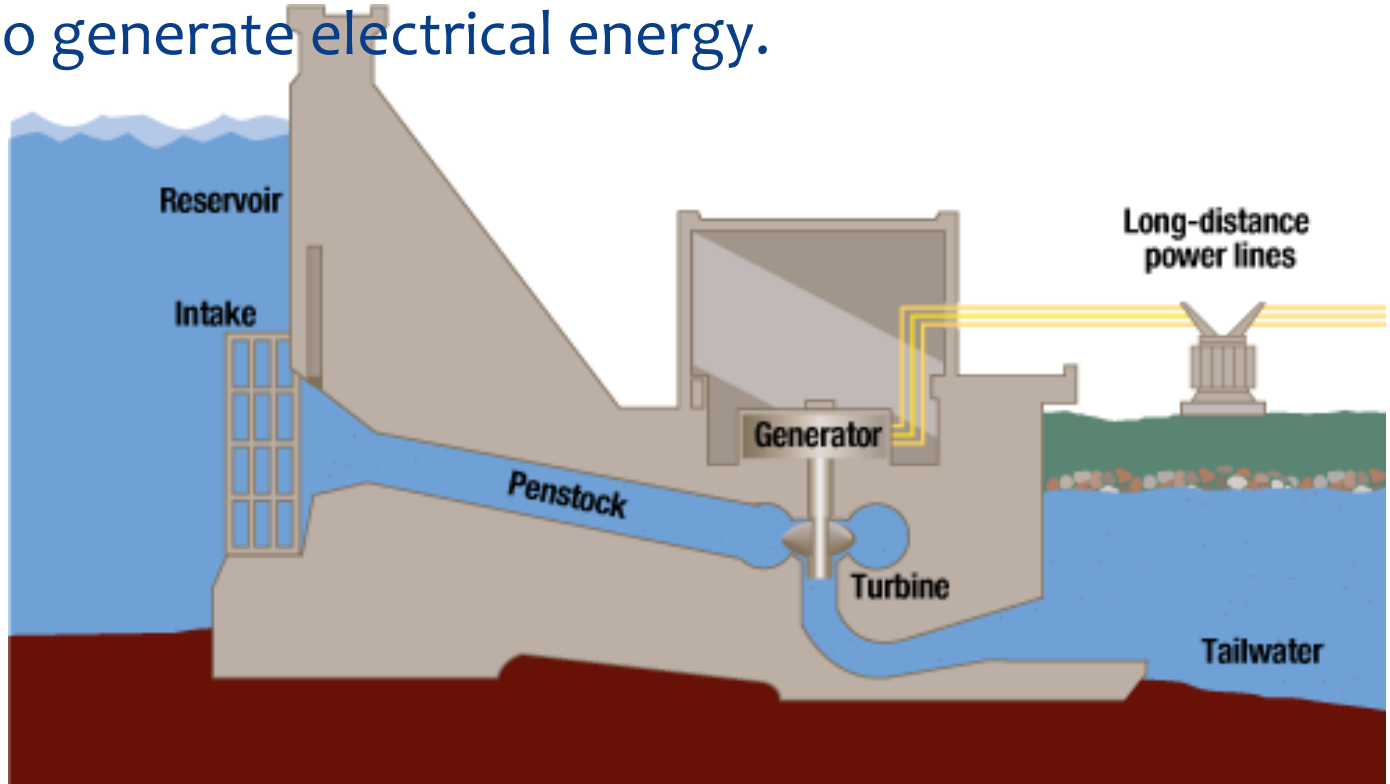
* Natural heating/cooling system.
* Generally environmentally friendly.
* Consistent.
* Renewable.

Cons

* Expensive to get started.

HYDROELECTRIC

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



HYDROELECTRIC

Pros

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

Cons

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

WIND

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

WIND

Pros

* Environmentally friendly.
* Renewable.

Cons

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

SOLAR

* Sunlight can be converted into electricity using various methods.

SOLAR

Pros

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

Cons

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

What do you think?

* Write a short paragraph answering the following question:

What do you think is the best form of energy? Why?