Green energy

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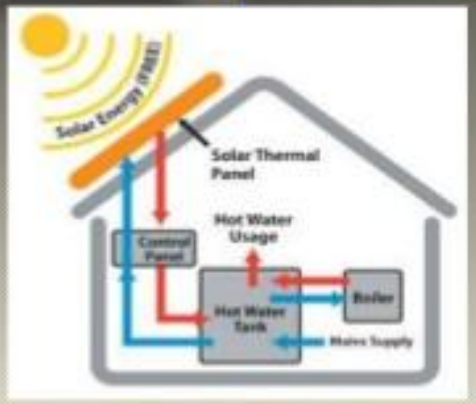
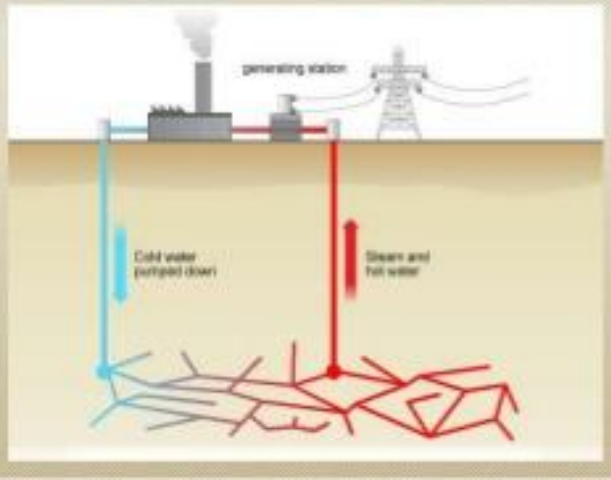
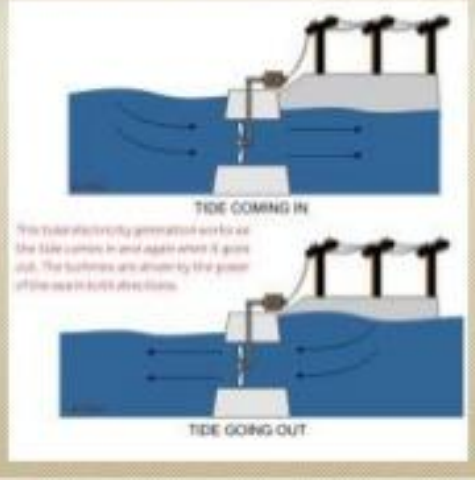
Renewable energy

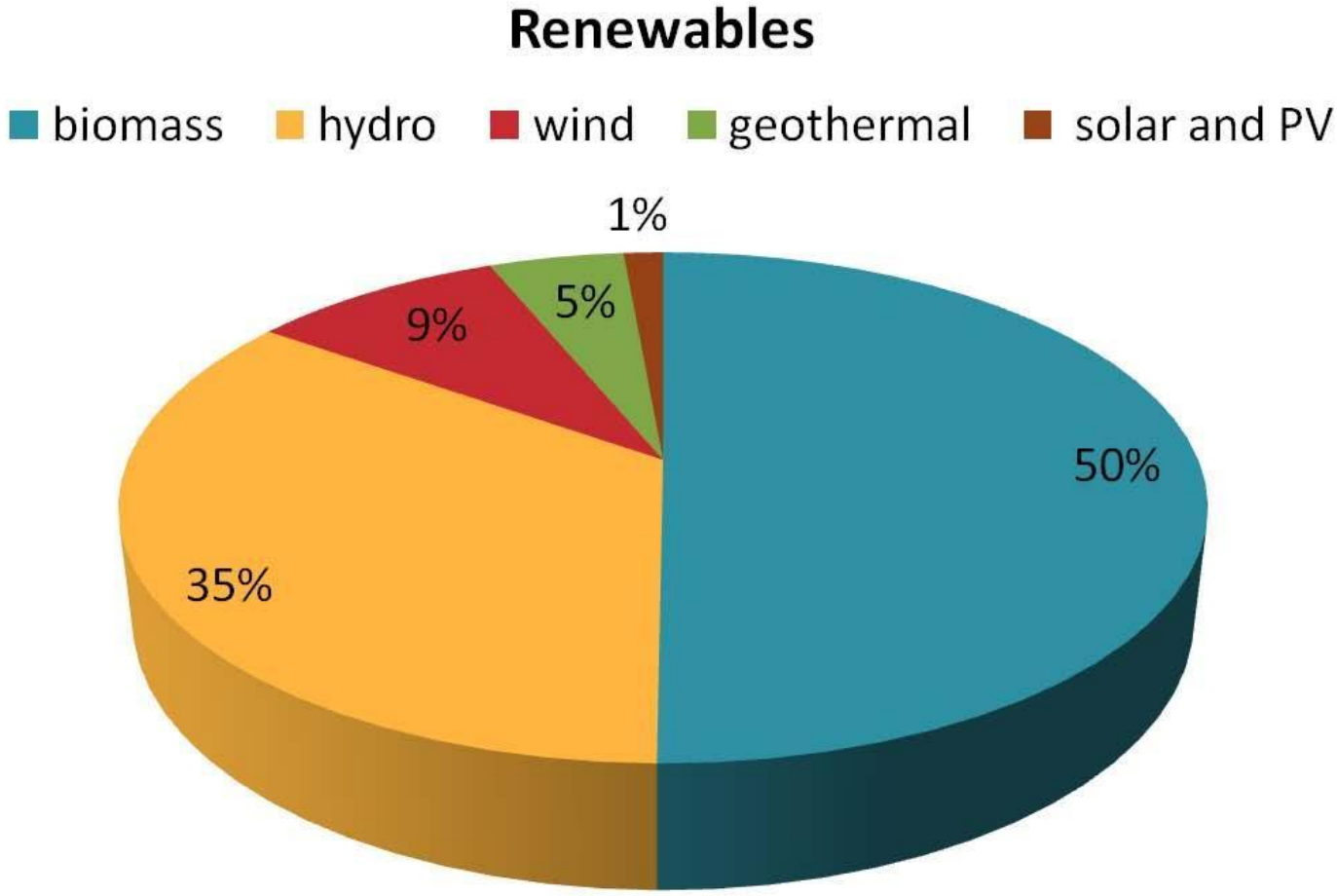
Wind Solar Hydroelectric Geothermal Ocean Biomass

Data collection and presentation by Carl Denef, Januari 2014








Renewables
biomass
hydro
wind
geothermal
solar and PV
1%
5%
9%
50%
35%

Wind Energy

DEFINITION:

- Wind energy is a renewable energy source that uses wind power to generate electricity. The primary means to obtain it are the turbines, "windmills".

Advantages and Disadvantages

ADVANTAGES:

- Wind is a clean energy source.
- It is very cheap to supply, so you do not have to pay lots of money for it.
- Wind doesn't need a factory to be produced, so it is protecting the environment.
- It can be recycled.

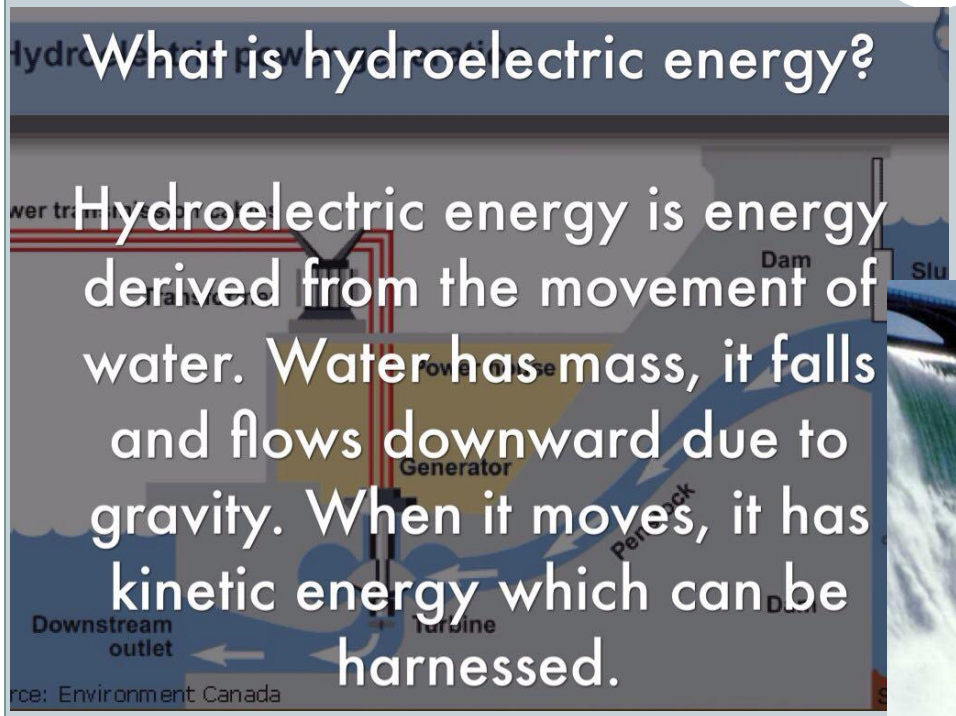
DISADVANTADES:

- In summer, there is not as much wind as the rest of the year, so the amount of the supply is inconsistent.
- It makes a lot of noise.
- It needs big open spaces of land to be on.
- Windmill farms are only available in certain states.

Hydro Energy

What is hydroelectric energy?

Hydroelectric energy is energy derived from the movement of water. Water has mass, it falls and flows downward due to gravity. When it moves, it has kinetic energy which can be harnessed.



Hydroelectric Power

Advantages	Disadvantages
• Renewable • Water can be used for recreation or irrigation. • Once the dam is built, it is virtually free and lasts a very long time • Produces no waste/pollution • Very reliable method to create electricity	• Dam is expensive to built. • Building dams leads to flooding upstream. • Dams can affect wildlife living in the rivers (ex salmon spawning).

Tidal Energy

What is Tidal energy?

- Tidal Energy (or Power) is the energy transported by the tides currents in the ocean in form of mechanical energy.
- It can be converted into a useful forms of power (energy), mainly electricity generation.

ADVANTAGES

1. It is a renewable source of energy.
2. Tidal energy is environment friendly energy and doesn't produce greenhouse gases.
3. Because 71% of Earth's surface is covered by water, it is possible to generate this energy on a large scale.
4. Efficiency of tidal power is far greater as compared to coal, solar or wind energy. Its efficiency is around 80%.

DISADVANTAGES

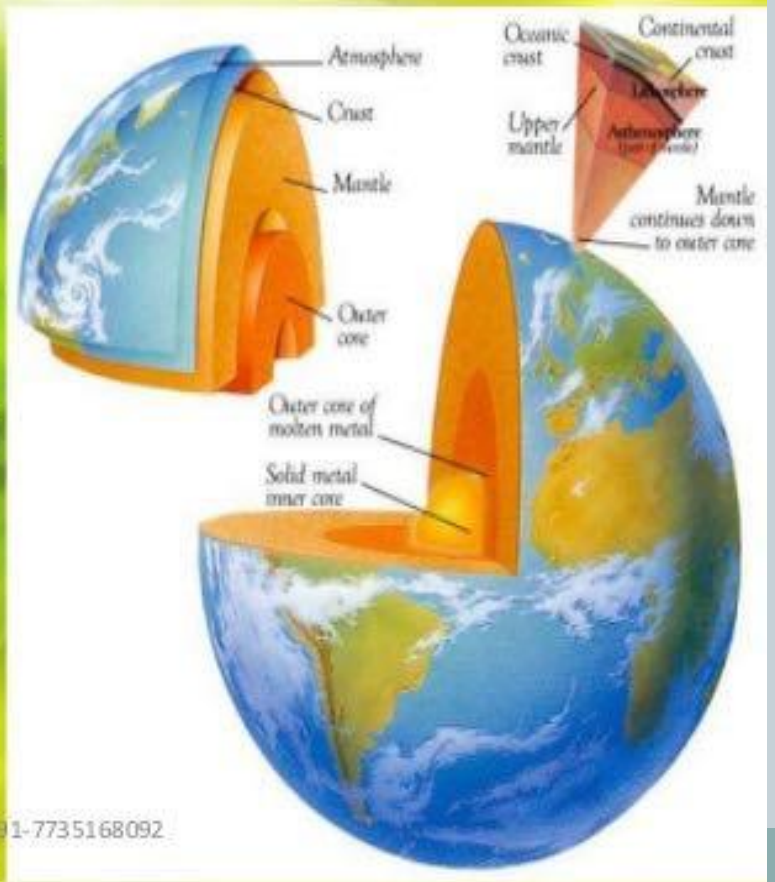
1. Cost of construction of tidal power plant is high.
2. There are very few ideal locations for construction of plant and they too are localized to coastal regions only.
3. Intensity of sea waves is unpredictable and there can be damage to power generation units.
4. Influences aquatic life adversely and can disrupt migration of fish.

Geothermal Energy

WHAT IS GEOTHERMAL ENERGY???

- The word *geothermal originated from the Greek roots* ***geo means earth and thermos means heat.***

- In simple means, **Geothermal energy is thermal energy generated and stored in the Earth. Thermal energy is the energy that is related to the temperature of matter.**

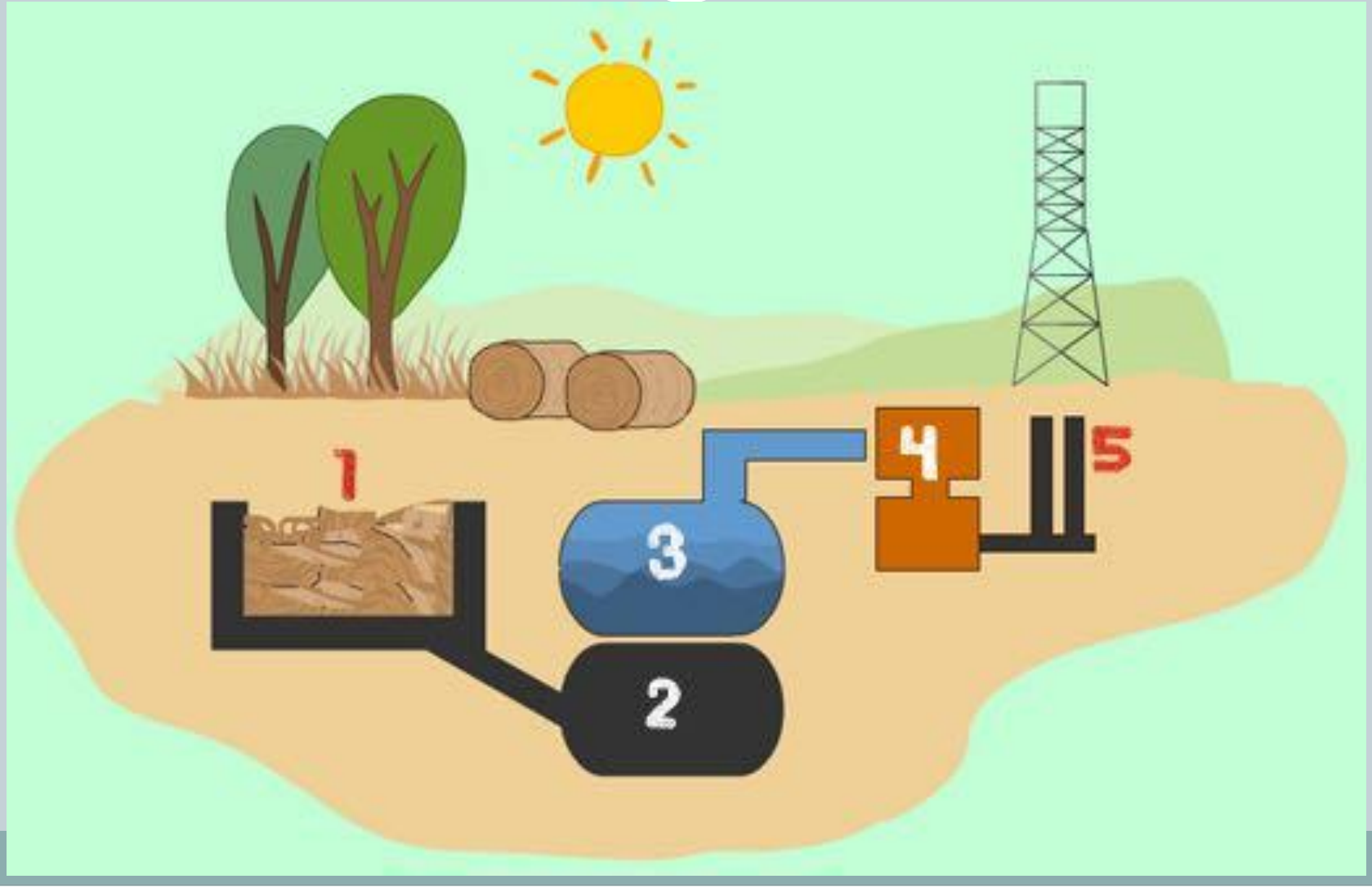


GEOTHERMAL

- Advantages
- Low cost
- Inexhaustible
- No environmental impact
- Pumps can store heat for later use.

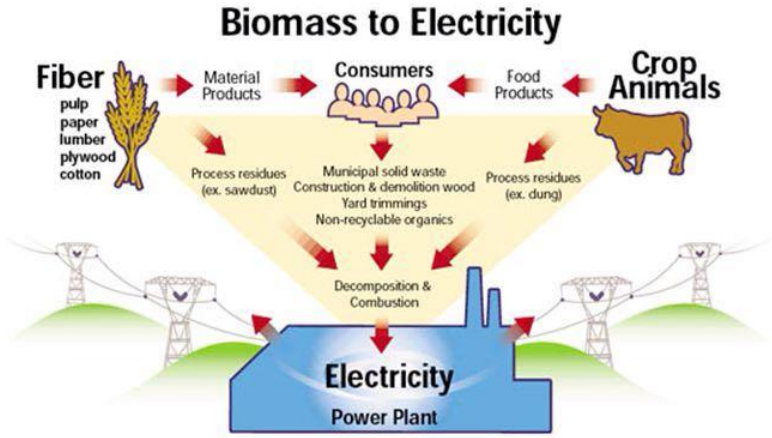
- Disadvantages:
- Source is close to volcanic activity.
- Some plants use lots of water – creating water pollution.
- Supply could change.
- Cannot be transported.
- High start up cost.

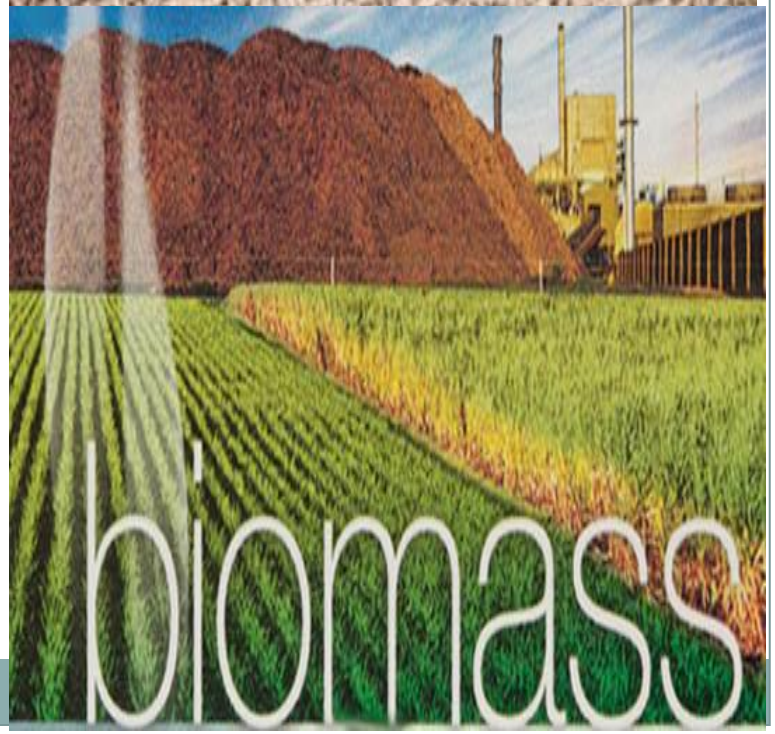
Biomass



Biomass

- **Biomass energy** is organic matter that can be burned or decomposed to be used a source of energy.





Historically, humans have harnessed biomass-derived energy since the time when people began burning wood to make fire.

Even today, biomass is the only source of fuel for domestic use in many developing countries. Biomass is all biologically-produced matter based in carbon, hydrogen and oxygen.

Wood remains the largest biomass energy source today

BIOMASS

- Advantages
- Produces less harmful greenhouse gases.
- Can be sustainable.
- Can be used for different purposes.

- Disadvantages:
- Takes a lot of space.
- Not entirely clean.
- Expensive
- Not easily transported.

- Types
- Working


THANK YOU
FOR YOUR
ATTENTION
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