

Natural Engineers Renewable Energy Sources

PSP2

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Radom

Renewable energies

- ▶ Renewable energies are the ones which sources are inexhaustible and which operation causes as little as possible environmental damage.



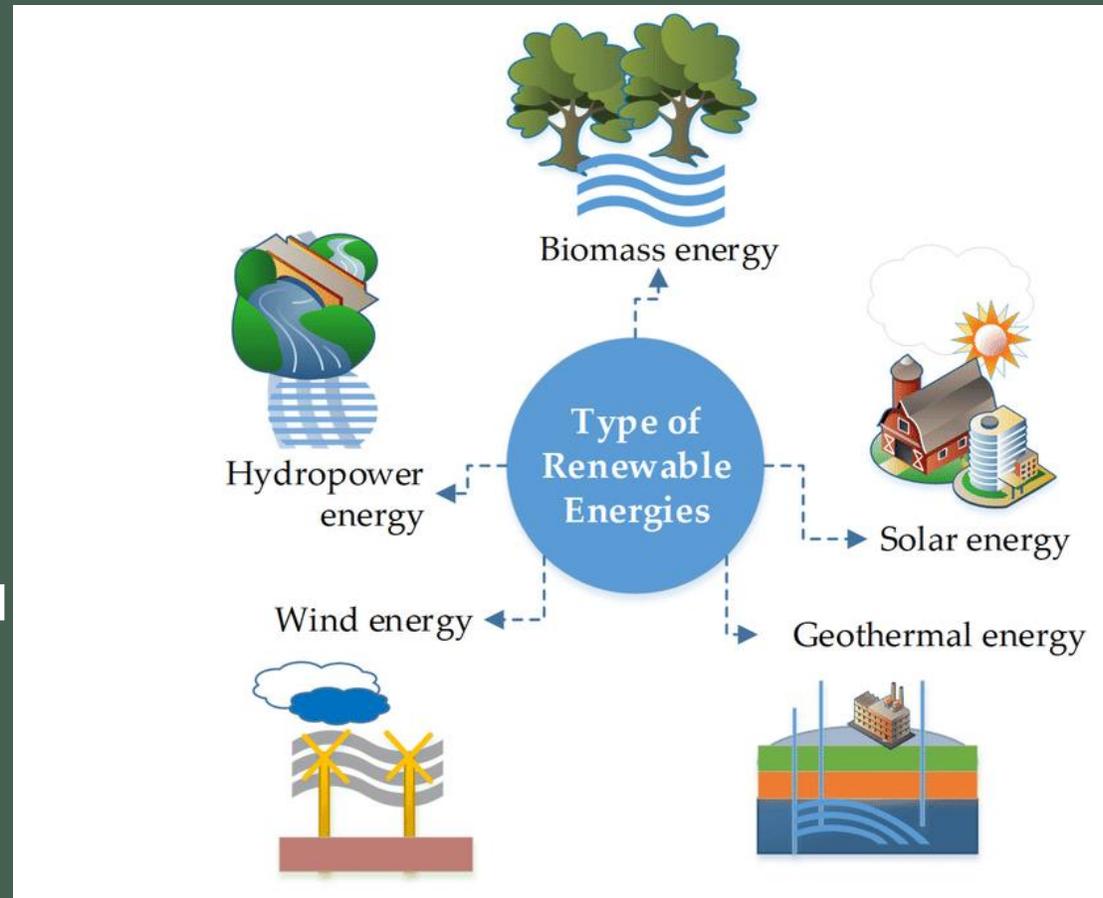
Why Renewable Energy?

Reasons for interest in renewable energy sources:

- ▶ universal access, and limitless resources;
- ▶ much less interference with the environment compared to traditional energy sources;
- ▶ alternative to energy produced by burning fossil fuels;
- ▶ reduction of pollution;
- ▶ energy independence of countries;
- ▶ access to electricity in areas where there are no other energy sources.

Renewable energy sources in Poland:

- ▶ biomass,
- ▶ water energy,
- ▶ wind energy,
- ▶ geothermal resou
- ▶ solar energy.

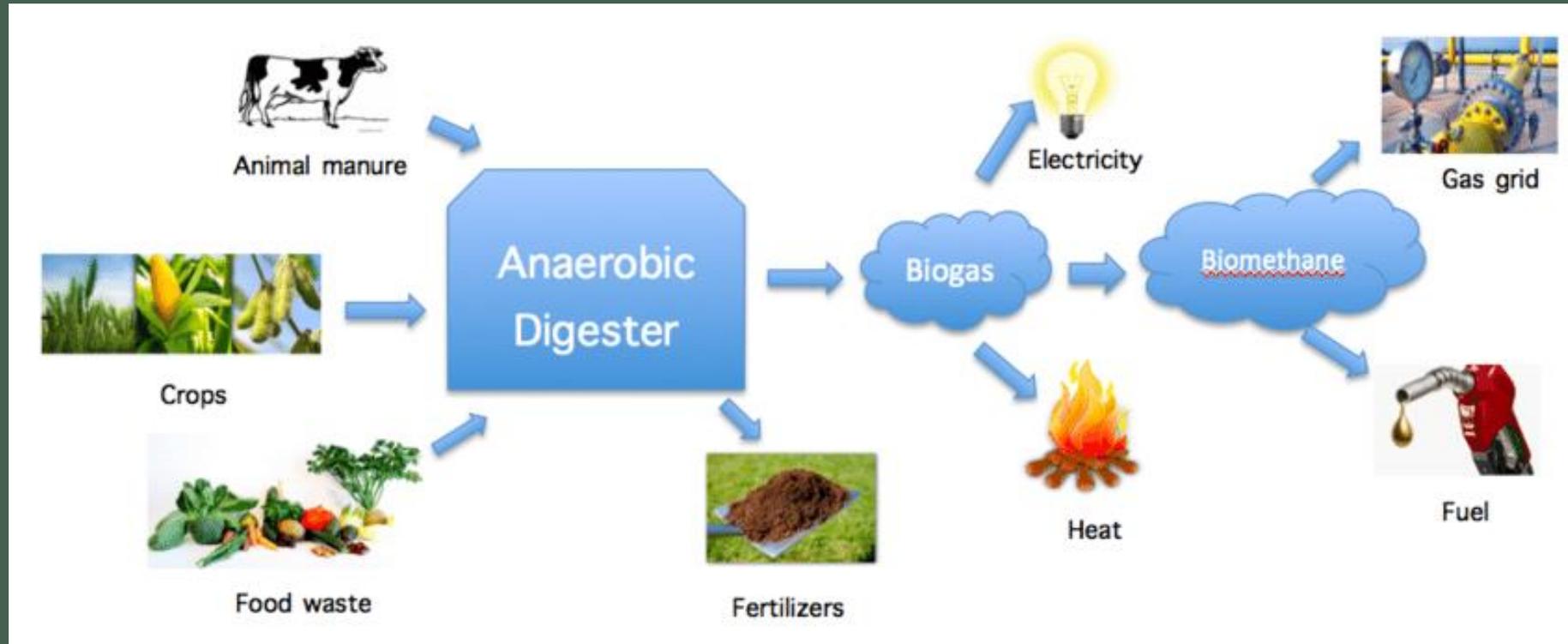


Biomass

- ▶ Biomass is primarily used as a fuel for combustion and co-firing to generate electricity, heat and domestic water heating.



The digestion of biomass produces biogas:



Biofuels from biomass

- ▶ Biofuels is the generic name for transportation fuels derived from rapeseed, wheat or sugar beet crops. The three main biofuels are: Biodiesel, Bioethanol, and Biomethane.



Energy water

- ▶ Harvesting water energy and converting it into mechanical energy using water turbines and then into electricity using electric generators-is called hydropower.



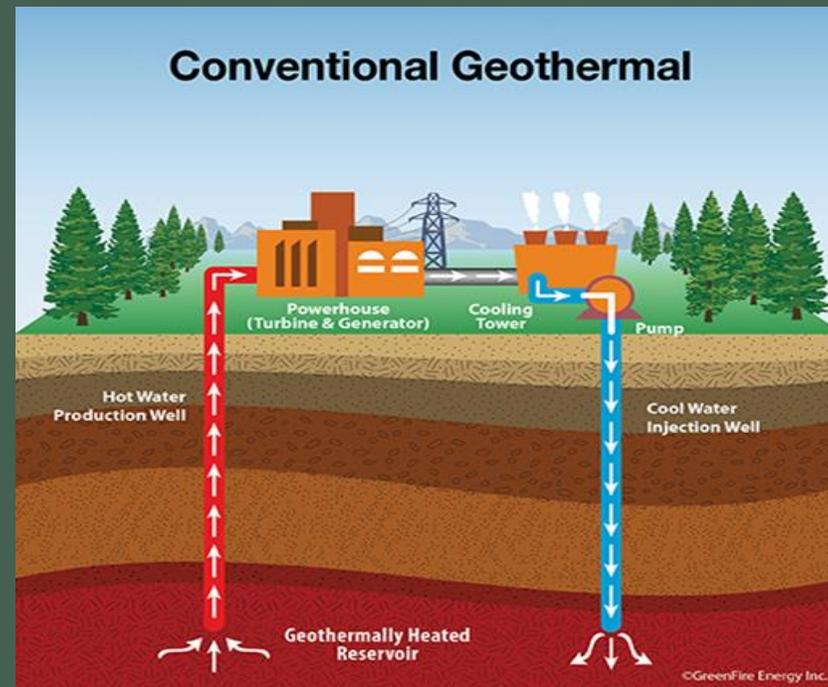
Wind energy

- ▶ Energy from the movement of air masses is one of the oldest renewable energies exploited by man. In the beginning, it was used mainly to drive windmills to grind grain or to pump water.



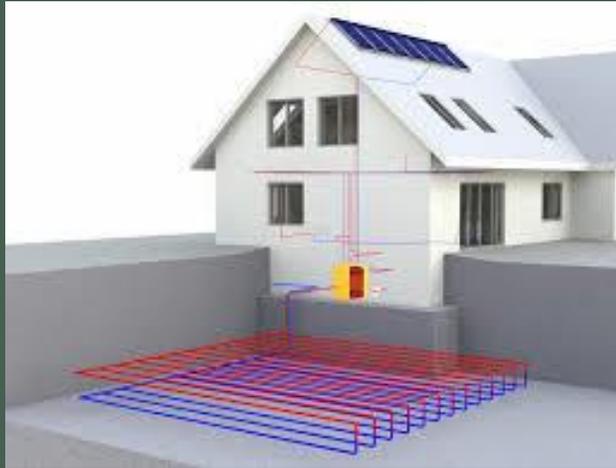
Geothermal

- ▶ Geothermal energy (also known as dry geothermal energy) is the Earth's natural energy accumulated in the ground and rocks, as well as the waters filling the porous structures of the Earth's crust



Heat pumps

- ▶ The most popular heat pump is the one that uses a low evaporative heat source such as the ground. The main components of a heat pump are the evaporator, compressor, condenser and expansion valve.



Solar energy

- ▶ Solar energy technologies are based on harnessing the sun's thermal energy for heating purposes and also use solar radiation to generate electricity. Today, solar energy is one of the fastest growing energy technologies.



How to save energy?

9 WAYS TO SAVE ENERGY IN YOUR HOME



TURN OFF UNNECESSARY LIGHTS



USE LED LAMPS



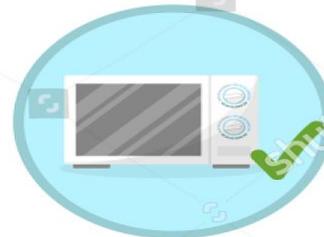
WASH ONLY FULL LOAD OF CLOTHES



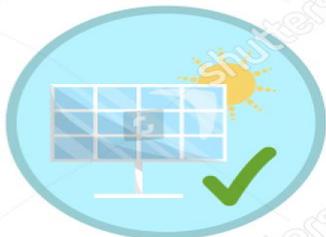
WASH CLOTHES WITH COLD WATER



TAKE SHORTER SHOWERS



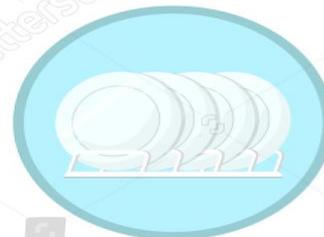
USE MICROWAVE WHEN YOU CAN INSTEAD OF ELECTRIC OVEN



USE SOLAR ENERGY



USE PROGRAMMABLE THERMOSTAT



AIR DRY DISHES INSTEAD OF USING DISHWASHER

Sources:

- ▶ Wikipedia