*Renewable and non-renewable energy sources*

**2.slide:**

**Renewable energy:**a group of energy carriers that can be renewed in human time

**Types of it:**

**Solar energy:** solar cell, heat production

**Bioenergy:** wood, vegetable oil, biodiesel

**Water Energy:** situational energy, running water - motion energy, wave

**Wind energy**: wind turbine, windmill

**Geothermal Energy:** The energy inside the Earth is partly left over from the origin of the Earth and partly the product of radioactive decay inside the Earth.

**3.slide:** Advantages

**Eternal stock:** There is no threat of running out of stock because they are able to regenerate on a human time

**Environmentally friendly operation:** Most of them do not emit gases and by-products that are harmful to the environment and organisms.

**Energy Independence:** The development of renewable energy sources is often justified by energy independence, which also leads to greater domestic value utilization**.**

**4.slide**: Disadvantages

Their use is determined by local conditions.

They cannot be used anywhere and in any quantity.

Uneven production, difficult storage of energy.

Large space requirements so it destroys the environment

**5.slide:** The most commonly used power plants

**Wind Power:** Wind energy uses the energy of motion of the air. The wind wheels rotate the generator to generate electricity. Wind energy is currently growing at an annual rate of 20% and is very popular in Western Europe and the United States.

**Hydropower:** Hydropower is the positional energy of river water. The water coming from the river is dammed up and then drained onto the turbines. Total hydroelectric power in the world is approximately 715,000 MW which 63% of the Earth's total electric power in 2005.

**Solar Power:** Solar energy is the energy that can be extracted from the sun's rays.

**Geothermal Power Plant:** Geothermal energy is energy from the Earth's internal heat. Geothermal energy means virtually unlimited and continuous energy gain. Its extraction is relatively cheap and does not pollute the air.

**Biomass**: Biomass can replace fossil fuels and ideally the plant material that is burned is recycled within one year.

**6.slide:** Solar Power in Hungary

Most of the Hungarian photovoltaic solar panels are small power plants of household size. They are typically located on the roofs of family houses and other buildings.

**Paks Solar Power Plant** (text in the PPT)

**7.slide:** Hydropower in Hungary (text in the PPT)

**8.slide:** Wind energy in Hungary

There are a total of 37 wind farms in Hungary with a total of 172 towers and
329 325kW of installed power.

**Kisigmánd** (text in the PPT)

**9.slide:**  Non-renewable energy sources

Non-renewable energy is a natural resource that does not have a regeneration mechanism or, if any, takes too long on a human scale.

**10.slide:** Advantages

Getting a lot of energy

Enough for mankind's use of energy

**11.slide:** Disadvantages

* These energy carriers are **limited** in the Earth
* Their extraction is **increasingly costly**
* Their use is **increasingly polluting**
* It significantly **changes the composition of the earth's atmosphere** due to the release of carbon dioxide from combustion
* Spent fuel in nuclear power plants is **radioactive** material that is hazardous to the health of organisms

**12.slide**: Commodity

**Coal:** More than 7.5 billion tonnes are mined worldwide each year, with reserves of about mining. 130 years is estimated to be sufficient.

**Crude Oil:** More than 74 million barrels of oil are being brought to the surface today, and this is enough for 54 years, based on the current 1.653 billion barrels of proven reserves.

**Natural Gas:** According to a report from the Energy Information Agency, the world's natural gas reserves will last for 60 years.

**Uranium:** The energy carrier of nuclear energy. According to a 2001 report from the European Commission, primary uranium sources are sufficient for about 42 years but if secondary sources are added it is 72 years.

**13.slide:** Paks Nuclear Power Plant (Text on the PPT)