



„Environment and Sustainability – Understand, Care, Act!”

2018 - 2020

School Exchange Partnerships

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ENERGIA VERDE

"The energy of the mind is the essence of life."

[Aristotel](#)



Sustainable transport and energy
Cadiz, Spain



"Green Energy" is a term that refers to renewable and non-polluting sources of energy. By choosing this type of energy, consumers contribute to the development of clean energies that will reduce the impact on the environment associated with conventional energy and increase energy independence.



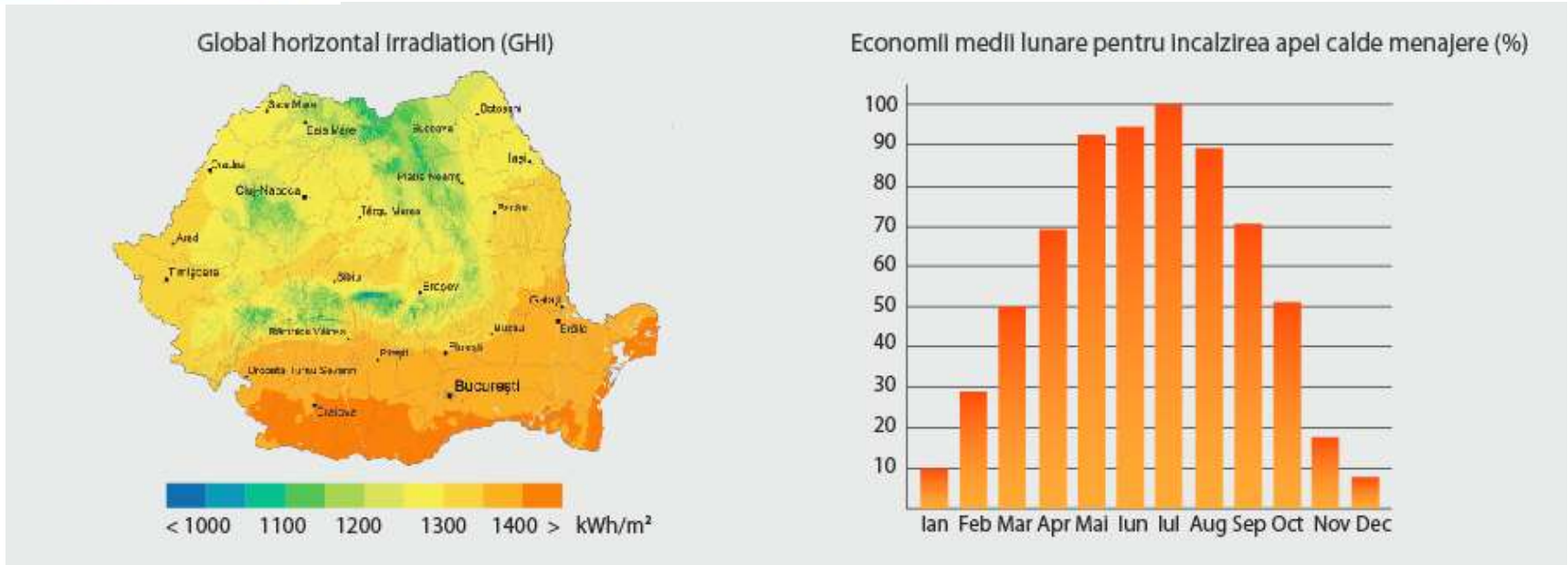


SOLAR ENERGY

It is a type of renewable energy produced by the light and the radiation of the sun.

Uses:

- produces energy with the help of :
 - photovoltaic panels
 - thermal power plants
- produces heating with thermal panels;



- ❖ With about 210 sunny days a year our country is situated in a region with proper conditions for using solar energy.
- ❖ Most often photovoltaic panels are used for producing hot water and sometimes to contribute to a certain extent to the heating our homes. The energy stored between May and August is enough to cover these needs.
- ❖ The chart above shows how much can we save monthly by using photovoltaic panels for hot water.

Benefits of photovoltaic panels:

- They can:
- reduce the consumption of electricity by 50% up to 100%.
 - provide up to 100% the necessary hot water for our homes.
 - be used all year round, even in winter.
 - last for about 25 – 30 years.
 - reduce the carbon footprint produced by your house



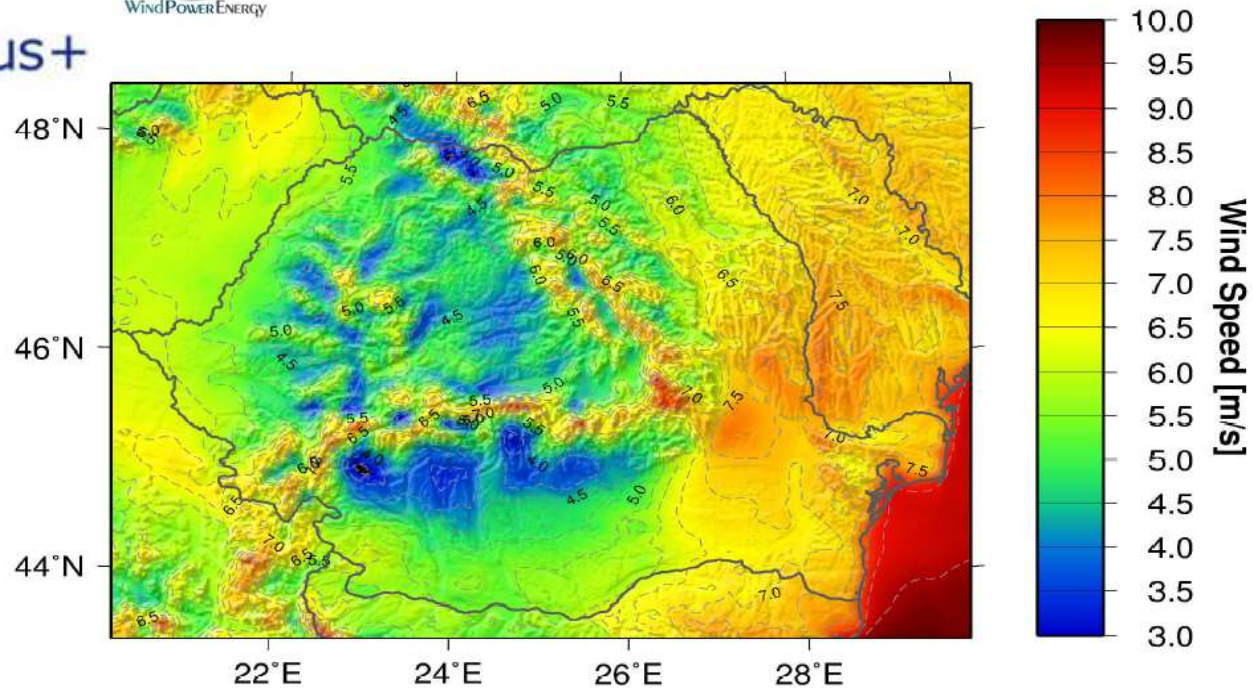
Disadvantages of photovoltaic panels:

- They:
- are expensive;
 - can be used only during the day;
 - less efficient on cloudy days so the panels should have a storage system;



AIR ENERGY

- ❖ It is produced by air currents which appear because our planet is unevenly heated. These currents generate a type of energy known as wind energy.
- ❖ Wind energy can be stored by means of turbines and transformed into electricity.



- ❖ In Romania wind energy can provide more than 20% of the energy needed, being the third most important source of energy after coal and hydropowers.
- ❖ The areas that produce wind energy are situated near the Black Sea.
- ❖ Our country is only number 13 in Europe in what storing wind energy is concerned.



Benefits of wind energy:

- 0 pollution and greenhouse gases because it doesn't involve fuel burning.
- it doesn't produce any waste.
- it is not expensive to stop using it.

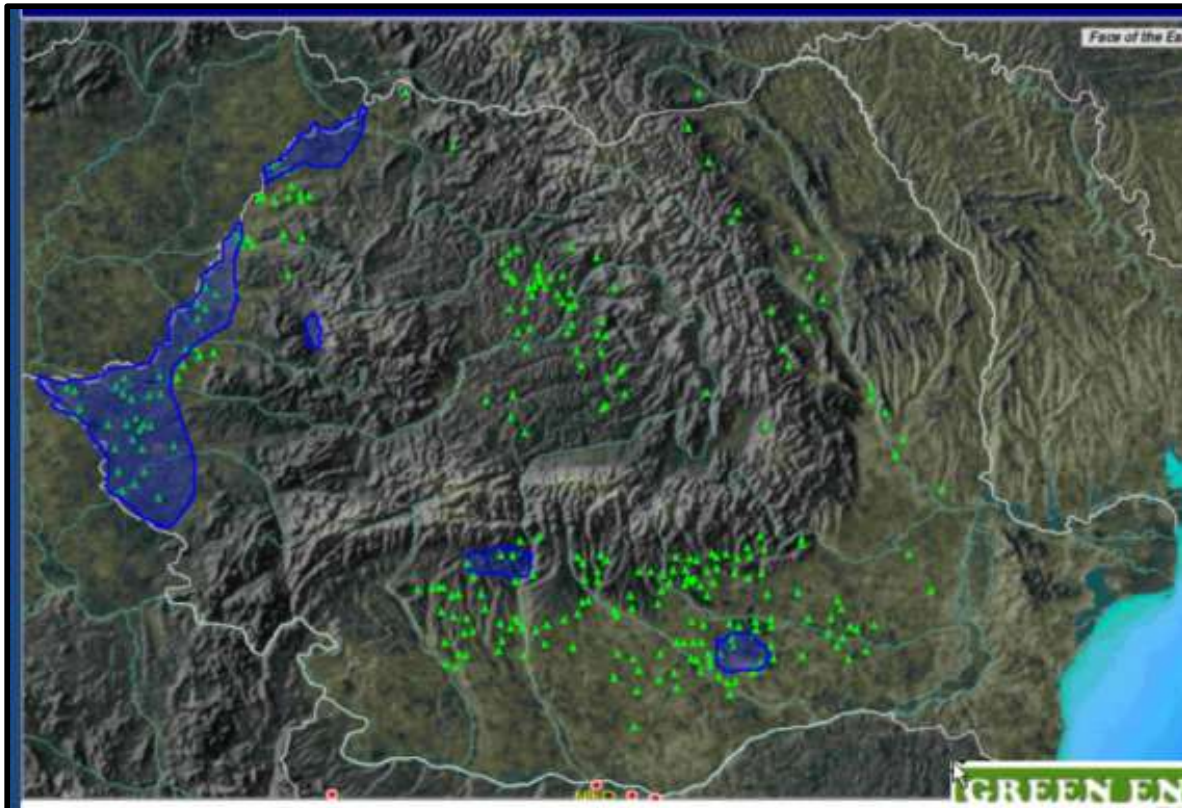
Disadvantages of wind energy:

- it depends a lot on wind speed.
- the number of locations for an wind park is limited.
- it produces "eye pollution" ; it doesn't make the scenery very nice.
- it makes a lot of noise.



GEOHERMAL ENERGY

- ❖ It is also a form of renewable energy obtained from the heat inside earth.
- ❖ It is produced especially in areas with volcanic and tectonic activity because of steam and hot water.
- ❖ It can be used for heating and for producing electricity.



In Romania there are approximately 75 hydrogeothermal probes in different areas of the country. The map shows the locations of these probes.

Benefits of geothermal stations:

- the energy produced is environmentally friendly .
- their functioning doesn't depend on weather or the moment of the day.
- they are cheaper.

Disadvantages of geothermal stations:

- they increase the instability of the soil sometimes causing earthquakes.
- geothermal energy is not endless.



BIOMASS

- ❖ represents the plant component of nature.
- ❖ produces energy by burning wood, farming and household waste.

Biomass can be used for:

- ❖ heating houses;

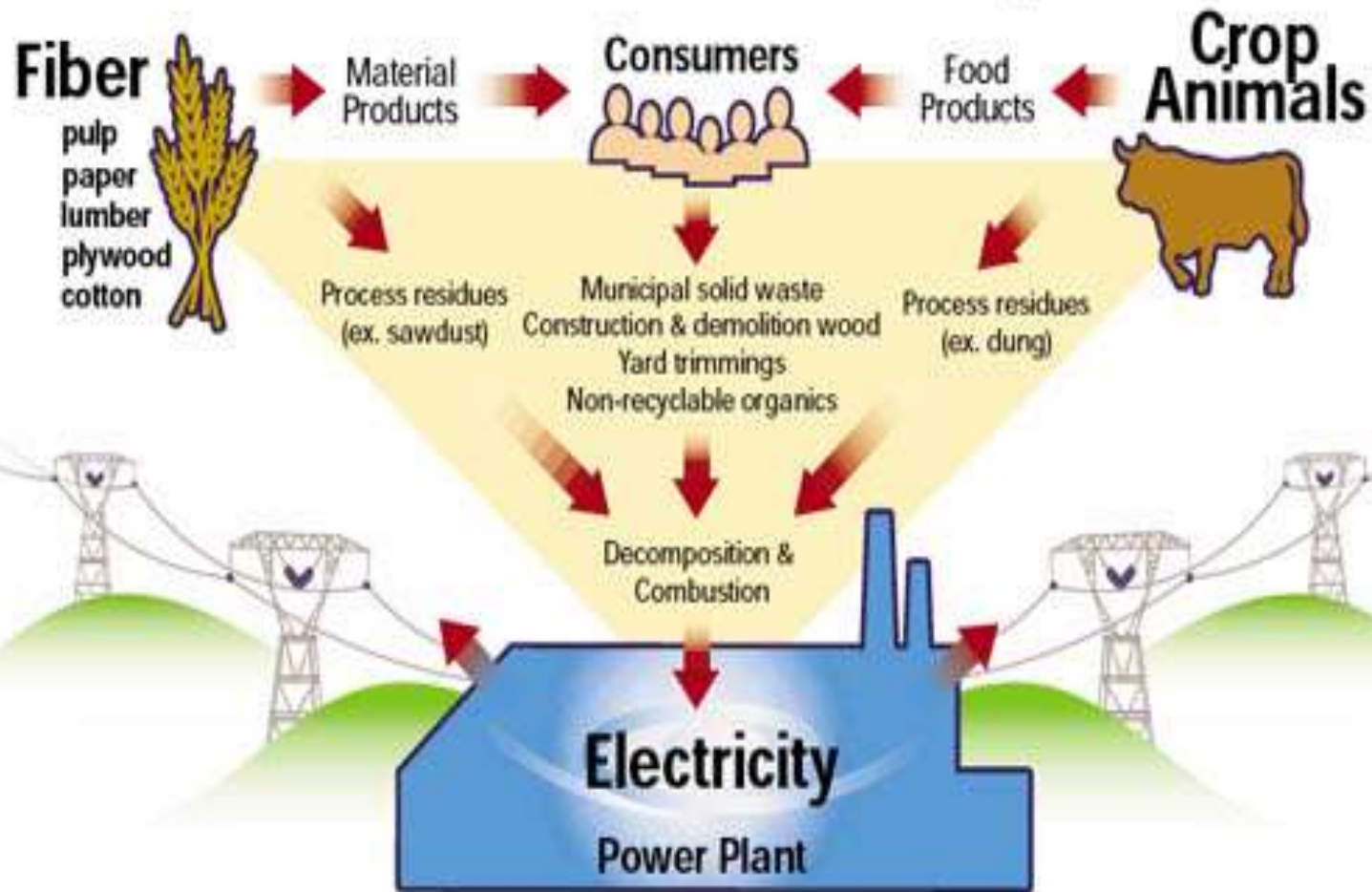


- ❖ producing electricity;

- ❖ fuel for cars;



Biomass to Electricity



Benefits of biomass:

- it can produce all types of fuel (solid, liquid, gas).
- burning biomass reduces considerably CO₂ emissions.
- low costs for transportation.

Disadvantages of biomass:

- negative impact on the environment because it produces greenhouse gases.
- collecting large quantities of biomass can be difficult sometimes.

CONCLUSIONS:

- ❖ The renewable sources of energy will not be able to replace the traditional ones in a short period of time.
- ❖ That is why it is important to use only as much energy we need and not more.
- ❖ In this way we will reduce pollution and we will protect nature.

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