Let's Use Energy Usefully
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Requirements for a sustainable life

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Towards a sustainable 21st century life

The most important technical-scientific challenge of the 21st century is providing energy to humanity in a safe, sustainable and clean way: objectives such as the security of energy supply, environmental protection and ultimately the protection of economic prosperity can only be achieved by addressing the global energy problem in terms of sustainable development! To transform our life in a sustainable life, it will be really important to improve the use of renewable resources in next years. These resources are limitless in terms of quantity, are cost-effective, reliable, sustainable, and environmentally friendly.

History

- 1954 The publication of Living the Good Life by Helen and Scott Nearing marked the beginning of the modern day sustainable living movement. The publication paved the way for the "back to-the-land movement" in the late 1960s and early 1970s.
- 1962 The publication of Silent Spring by Rachel Carson marked another major milestone for the sustainability movement.
- 1972 Donella Meadows wrote the international bestseller The Limits to Growth, which reported on a study of long-term global trends in population, economics and the environment. It sold millions of copies and was translated into 28 languages.
- 1973 E. F. Schumacher published a collection of essays on shifting towards sustainable living through the appropriate use of technology in his book Small is Beautiful.
- 1992–2002 The United Nations held a series of conferences, which focused on increasing sustainability within societies to conserve the Earth's natural resources. The Earth Summit conferences were held in 1992, 1972 and 2002.
- 2007 the United Nations published Sustainable Consumption and Production, Promoting Climate-Friendly Household Consumption Patterns, which supported sustainable lifestyles in communities and homes.

The main renewable resources are:

Solar Energy
Wind Power
Biomass Energy
Geothermal Energy
Hydraulic Energy

This type of energy is used in technologies related to solar and photovoltaic systems; the former allow the production of electricity thanks to the use of solar panels equipped with a tank for the accumulation of water while the photovoltaic systems exploit solar irradiation.

Electricity is obtained thanks to the wind action on wind turbines installed on top of a pole and connected to a mechanical rotor equipped with a dynamo, which allows the transformation of mechanical energy into electrical energy

Water that falls from a height difference involves the creation of kinetic energy; the latter, in turn, is transformed into mechanical energy through the aid of turbines.

Through waste of agricultural and industrial products (urban waste, waste from farm products, firewood and so on), biological products are used as fuels.

There are two types of geothermal energy: the classical one, which exploits geological and volcanological anomalies and the low-temperature one that exploits the subsoil for the production of electricity.

The Future

The future of our planet's environment does not depend solely on the decisions of the great ones on Earth. Each of us is responsible for our lifestyle and every single behavior has a substantial impact on the resources of our ecosystem.
Living a greener life is possible every day, with small and big measures that can make the difference, even if it is difficult to outline a general common procedure for the assessment of social impact.

Tips

- To recycle: in Nature the concept of waste does not exist: everything that is discarded, if it has natural characteristics, is absorbed by the environment and put back into circulation

- To reduce energy consumption: unplugging idle electronics, using LED lights, with a consumption cut of up to 80% or making a better use of natural light

- To set up separate collection

- To reduce car usage

- To limit the consumption of plastic

- To save water by rationalizing consumption

- To consume less

- To fill the house with plants: houseplants improve the quality of the air, helping to absorb potentially harmful gases. Plants filter toxic gases and produce oxygen, making homes more livable

- To eat sustainable: buying 0KM food reduces the steps between producers and consumers and the packaging, so it doesn't pollute.

- Domotics and green IT: advanced technologies are always focused on improving performance while respecting the environment

- To use organic fibers: they are free from chemical additives

Calabria

Calabria, a region of Southern Italy, is becoming really environmentally friendly, in recent months many ecological islands have been completed and many beaches have been labelled as blue ones

Reduse, Reuse and Recycle

are the actions around which a new model of sustainability, innovation and competitiveness has been built in a scenario where waste is transformed from an issue into a resource.

The Past

- From the second industrial revolution, rural communities have been affected by a continuous social and economic decline. The traditional economic development paradigms moved people and investments towards the industrialized metropolitan areas causing depopulation of rural areas and loss of their cultural heritages. This development model became, with time, unsustainable from the social, cultural, and economic points of view.

Today

Modern patterns of rural development highlight that a rational and planned exploitation of agricultural resources together with the valorization of cultural and naturalistic heritage of rural areas are the right leverages to assure sustainable growth. Agritourisms are means of sustainable development for rural communities

The Future

- Calabria Region Government is experimenting with socio-economic community programs involving energy stakeholders in sustainable projects thus increasing competitiveness
- Production of natural gas and hydrocarbons by using industrial techniques is increasing

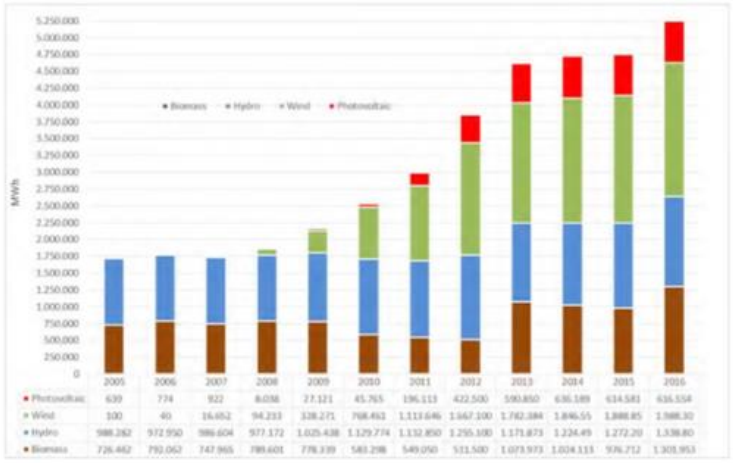


Fig. 1.4.4 - Annual production trend, in MWh, of the various renewable sources in Calabria - Source: Elaborations by the Core Team on GSE data.

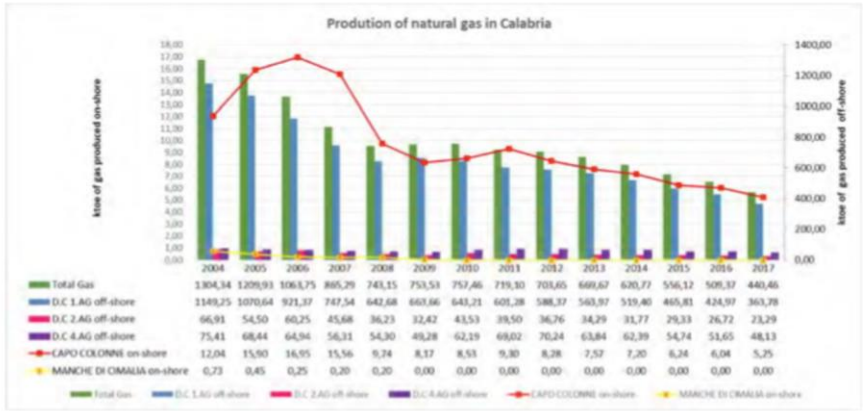


Fig. 1.4.1 Trend of gas production in Calabria, by concession of cultivation. Source: Elaborations by the Core Team on MISE data.http://unmig.sviluppoeconomico.gov.it/unmig/coltivazione/titolicoltivazione.asp

Towards a Sustainable Life

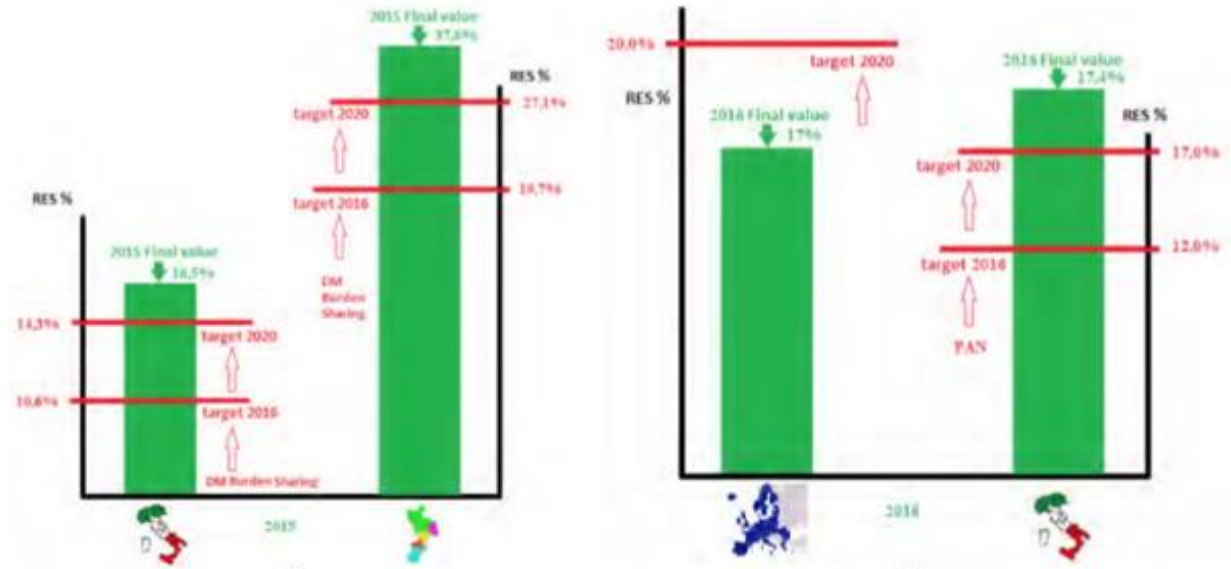


Fig. 1.4.3 – a) Calabria Region versus Italy and b) Italy versus Europe, with reference to RES %, - Source: Elaborations by the Core Team on GSE, ENERDATA, Eurostat.

SAMSUN / ÇARŞAMBA - ÇARŞAMBA KIZ ANADOLU İMAM HATİP LİSESİ

REQUIREMENTS FOR ECOLOGICAL LIFE

Ecological life can simply be described as a way of life where the people:

- Respect the nature
- Not disrupt the natural life
- Not pollute the environment

What is the ecological production?

Ecological production or ecological farming can be thought as the first rule for ecological life.

Organic products do not include these:

Artificial fertilizers

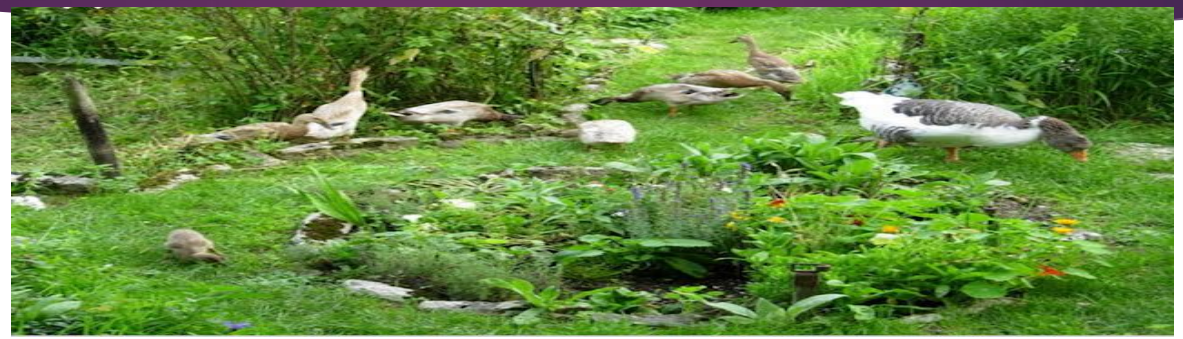
Genetically modified organisms

Weeds, fungicides and insecticides.

What are the criteria for ecological life?

- In order to be certified ecologically the products must comply with the criteria in the regulation.
- Organic agricultural products are grown for at least three years in pesticide and chemical unused fields.
- Farmers can not use pesticides , chemical fertilizers , hormones or antibiotics.

What is ecological animal production?



- It is an environmentally friendly production method that allows animals to:
- show all their natural behaviors,
- be fed ecologically,
- not to be used hormones or antibiotics to increase the yield,
- provide healthier products to consumers.

What are the advantages of ecological nutrition?

- The most important one is that foods are free from chemicals,
- Each stage of organic production is recorded,
- They are environmentally friendly,
- They are more nutrious because they contain natural nutritional value,
- They contain higher proportion of vitamins and antioxidants.

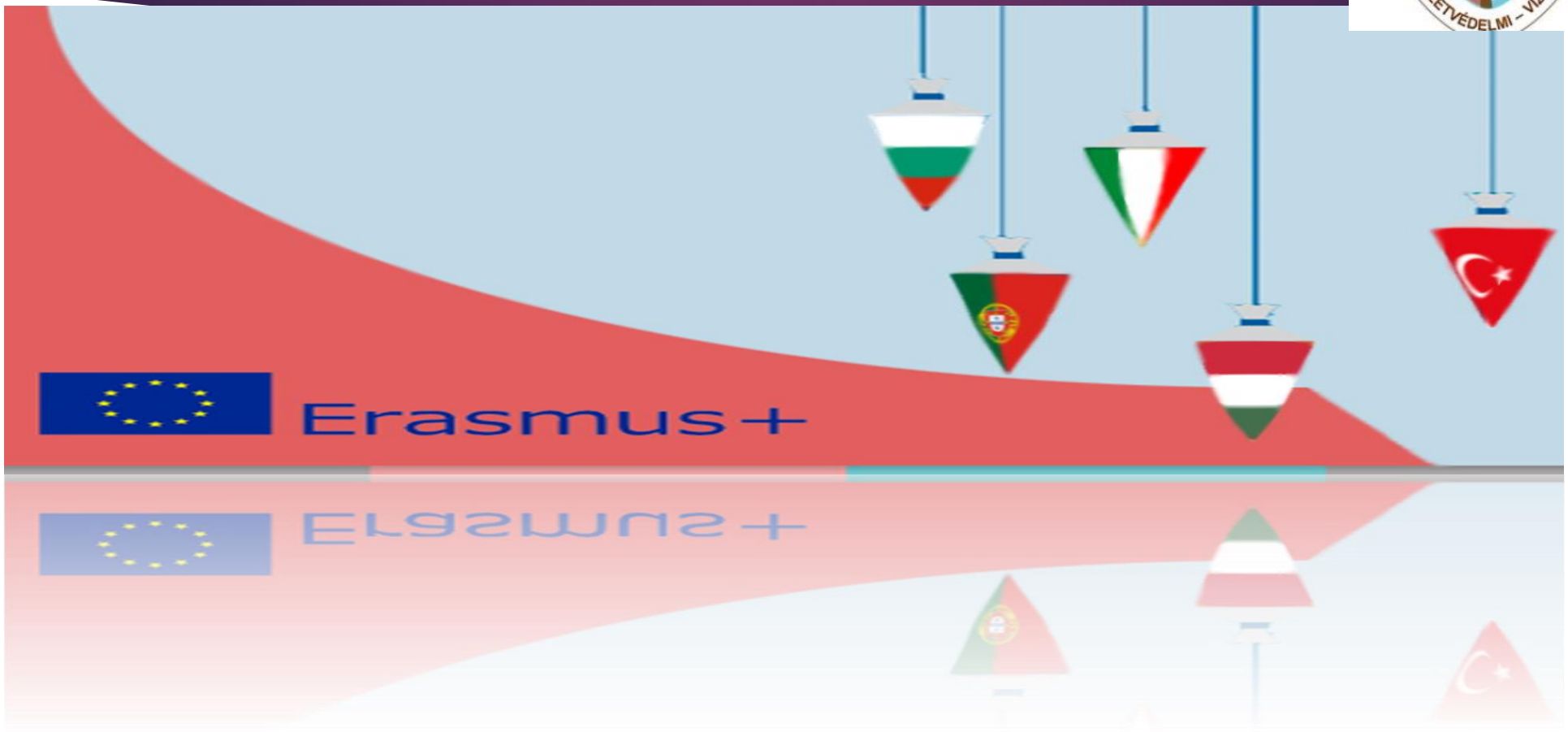
What is ecological architecture?

- In the architecture:
- Natural materials are used
- Low energy consumes
- Energy is obtained by natural sunlight
- Easy to maintain
- Economical structures are designed
- Healhier materials are used
- Waste and wastematerials are evaluated

What can be done individually for ecological life?

- We can:
- Use public transport as much as possible
- walk or cycle
- Separate garbage in our home
- Avoid plastic materials
- Use cloth bags instead of plastic bags
- Prefer nature-friendly products instead of deodorant and parfume

Nyıregyhazı SZC Vasarhelyı Pal Secondary Technıcal School



THIS IS OUR COUNTRY, HUNGARY

Requirements for ecological life

Our school is named after: **Vásárhelyi Pál**

Vásárhelyi Pál is a Hungarian water engineer, engineer of the regulation of the Tisza, member of the Hungarian Academy of Sciences.

In our school, these professions can be mastered:

High-Constructional technician

Deep-Constructional technician

Environmental protection technician

Water Management technician

Water Utility Technician

Ways how Hungarians save energy and water

- Turning off the lights when we leave the room.
- Using energy efficient light bulbs.
- Unplugging devices that are not in use.
- Keeping temperatures at around 20-22 degrees in winter and 26 degrees in summer.
- Not using mobile phone during lessons.

Ways how Hungarians save energy and water

- Turning off the tap while brushing our teeth.
- Showering instead of taking a bath.
- Using a dishwasher instead of washing the dishes to save water significantly.
- Using rain water to irrigate plants.

Energy sources in Hungary

Renewable energy sources

- Solar
- Wind

- Hydro

- Geothermal

- Biofuel

- Solid biomass

Non renewable energy sources

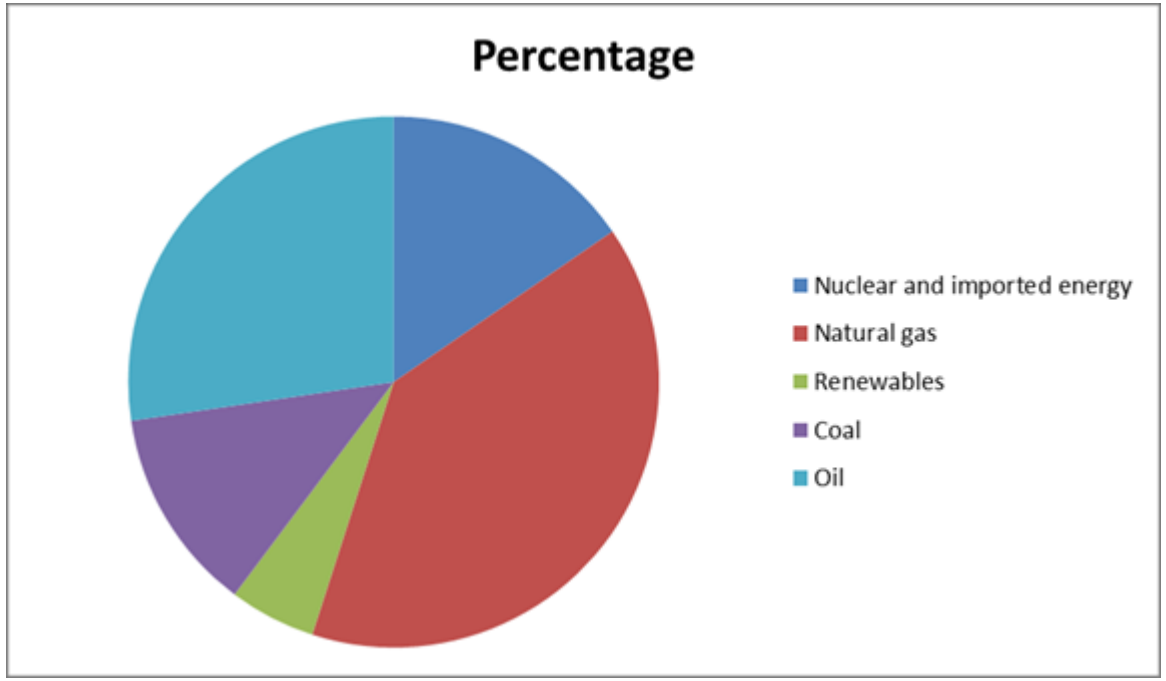
- Nuclear

- Natural gas

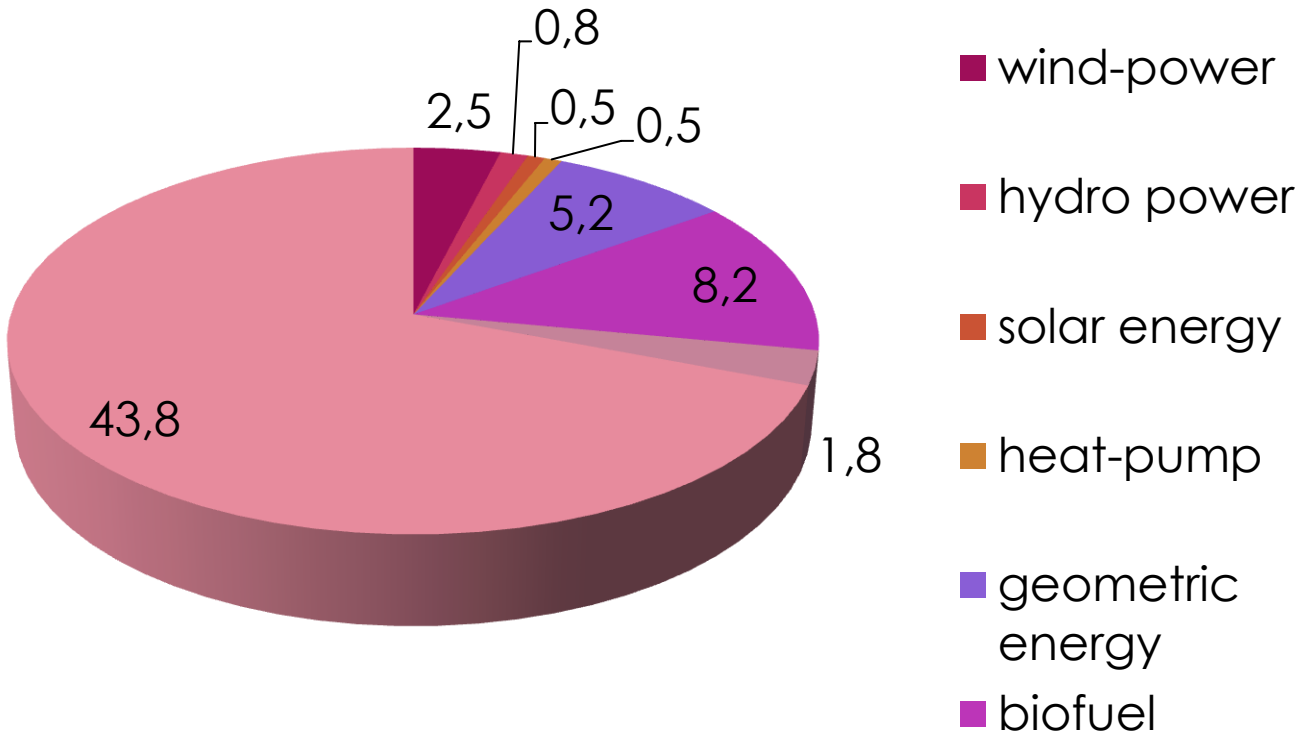
- Coal

- Oil

Distribution of energy in Hungary



Distribution of renewable energy in Hungary



Future energy savings in Hungary

- Insulation of the existing houses to meet the standards.
- Purchasing A class efficient household products.
- Using solar panels.

Agrupamento de Escolas Abade de Baçal

Requirements for ecological life

Towards an ecological life

Kinds of renewable energy for a sustainable life in Portugal

- Wind Energy
- Hydro energy
- Solar Energy
- Geothermal Energy
- Biomass

Wind Energy

- Nowadays it is used to produce electricity, wind power plants are installed in places where the average annual wind speed is 6 m/s, which in Portugal occurs in mountainous areas and near the coasts.

Currently, about 1/5 of the electricity consumed in Portugal is wind produced.

Hydro Energy

The energy rotates the blades of a turbine, creating a rotational movement of the generator shaft which, in turn, produces electricity.

Currently, in the average year, about 25% of the electricity consumed in Portugal is of water origin.

Solar Energy

- A solar panel, also called a solar collector, is a system for harnessing solar energy for heating water.
- The panels basically consist of a housing containing an absorber surface, a tubing with the thermal fluid and a reflecting surface

Portugal produces more and more solar energy, being one of the European countries with more potential to use the sun as energy source

Geothermal Energy

Geothermal energy, or geothermal energy (geo: earth, thermal: heat), is the energy obtained from the heat coming from the interior of the Earth.

In the Azores, due to its location on the plate border, geothermal energy exploration has been developed. Several installed power plants reach an annual power of 235.5 Megawatts.

BIOMASS

Biomass are natural solid waste and waste resulting from human activity, ie biomass is the by-products of livestock, agriculture, forestry or timber industry, etc.

Biomass represented 13% of the primary energy consumed in Portugal in the last decades

BRAGANÇA Region

In 2015, Portugal was the fourth country in the European Union with the largest incorporation of renewable energies in the production of electricity. This position is due to the contribution of water and wind sources (84% of RES). The districts of Viseu, **Bragança** and Vila Real represent a large part of this energy production.

In Bragança :

1. there are 5 hydroelectric dams and they produce half of the total of the country.
2. there are still countless wind power plants

Ecological Life in Portugal

An ecological life aims to improve the living conditions of individuals, while preserving the surrounding environment in the short, medium and, especially, long term following the 4R's of Sustainability: Reduce, Reuse, Recycle, and Recover:

- eating less meat and when confectionery some meal using natural ingredients;
- avoiding introducing exotic species into nature;
- reducing water consumption and avoid heating it to unnecessary temperatures

ПРОФЕСИОНАЛНА ГИМНАЗИЯ ПО ТЪРГОВИЯ И РЕСТОРАНТЬОРСТВО – ВРАЦА

The Vocational School of Trade and Catering- Vratsa

"REQUIREMENTS FOR ECOLOGICAL LIFE"

SAMSUN, TURKEY

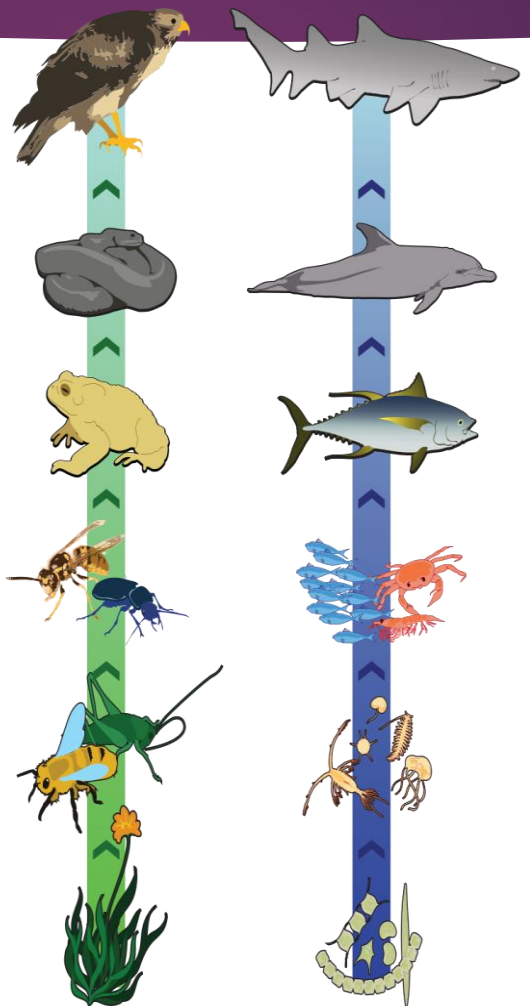
ECOLOGICAL LIFE

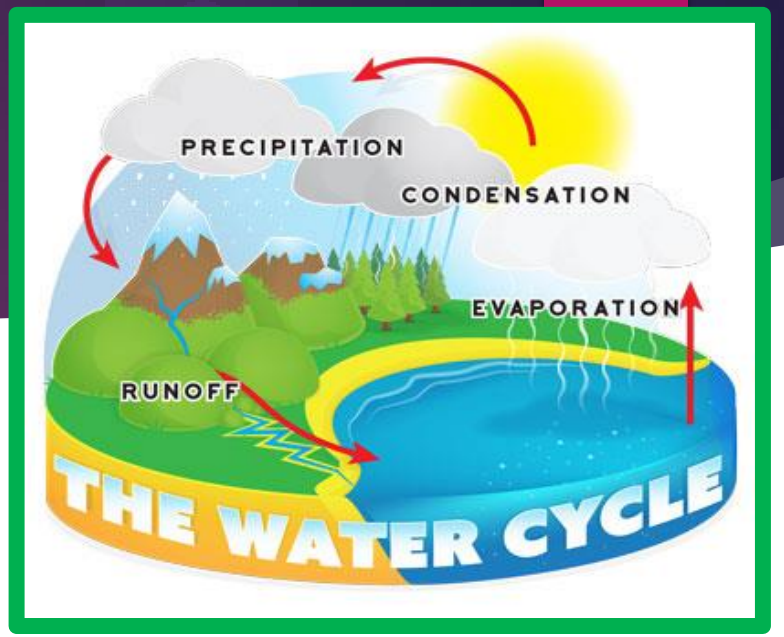
describes a lifestyle that attempts to be Earth-friendly or not harmful to the environment

What is the environment?

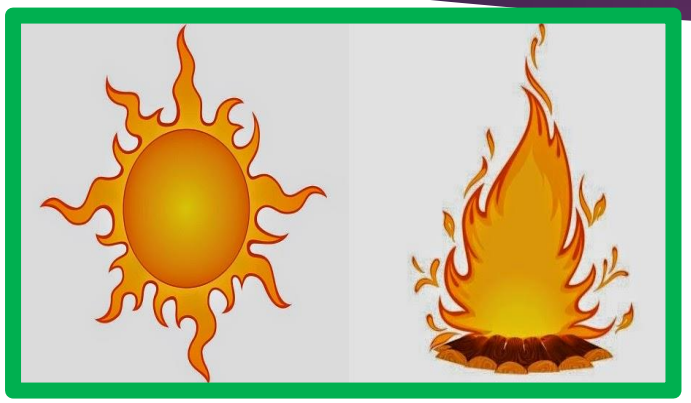
When we talk about the environment we mean:

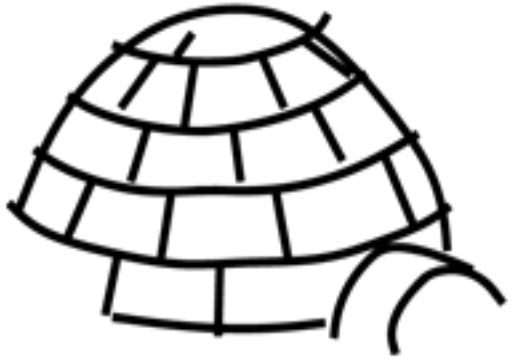
- everything in the world around us that surrounds and affects all life on earth, including:
  - the air
  - food chains
  - the water cycle
  - plants
  - animals
  - other humans

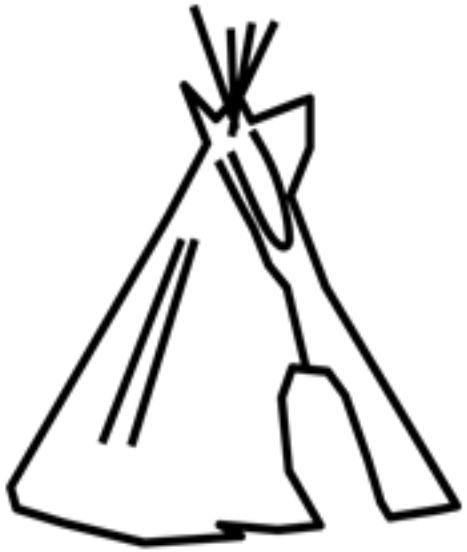


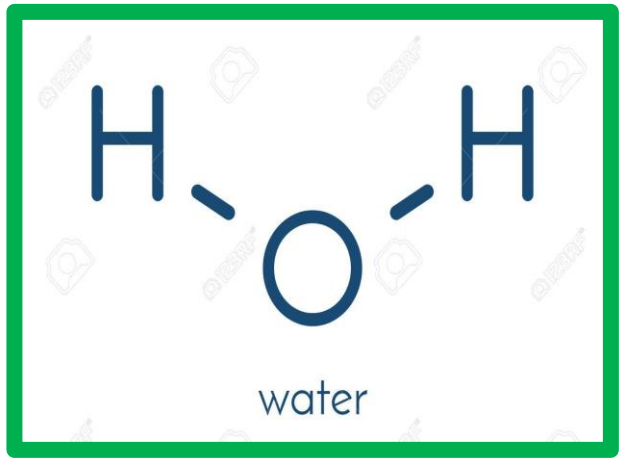


Five basic needs of human beings from the environment are: oxygen, water, food, shelter and warmth









Earth is our home

- ✓ We breathe oxygen from the air
- ✓ We get water from the rain
- ✓ We get food from the plants, animals, fish and birds.
- ✓ We get shelter from the materials we take out of the earth and from plants that grow in the earth (trees) to make our homes.
- ✓ We get warmth from the sun, fire, power (electricity, gas, oil)

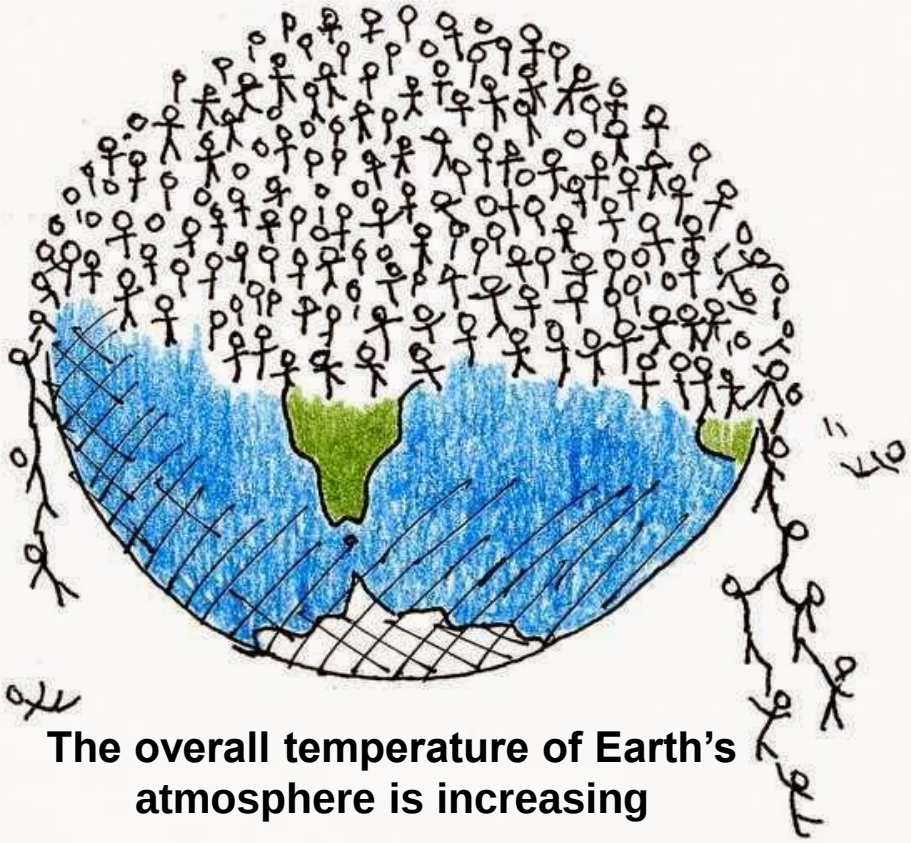
Apart from warmth and light from the sun, these all come from our planet.

Why the environment needs your HELP?

Over the years the human population has grown and grown. This has had a huge impact on the environment of our planet.

This impact has caused changes which have affected our atmosphere:

- ✓ by polluting it (too much smoke, carbon dioxide and other 'green house gases' such as methane),
- ✓ by making holes in the ozone layer which protects us from some harmful rays of the sun



The overall temperature of Earth's atmosphere is increasing

We are beginning to realize that our basic human needs are being affected also.

Making changes

We all need to try to change our ways to help the environment and ourselves.

How you can help the environment:

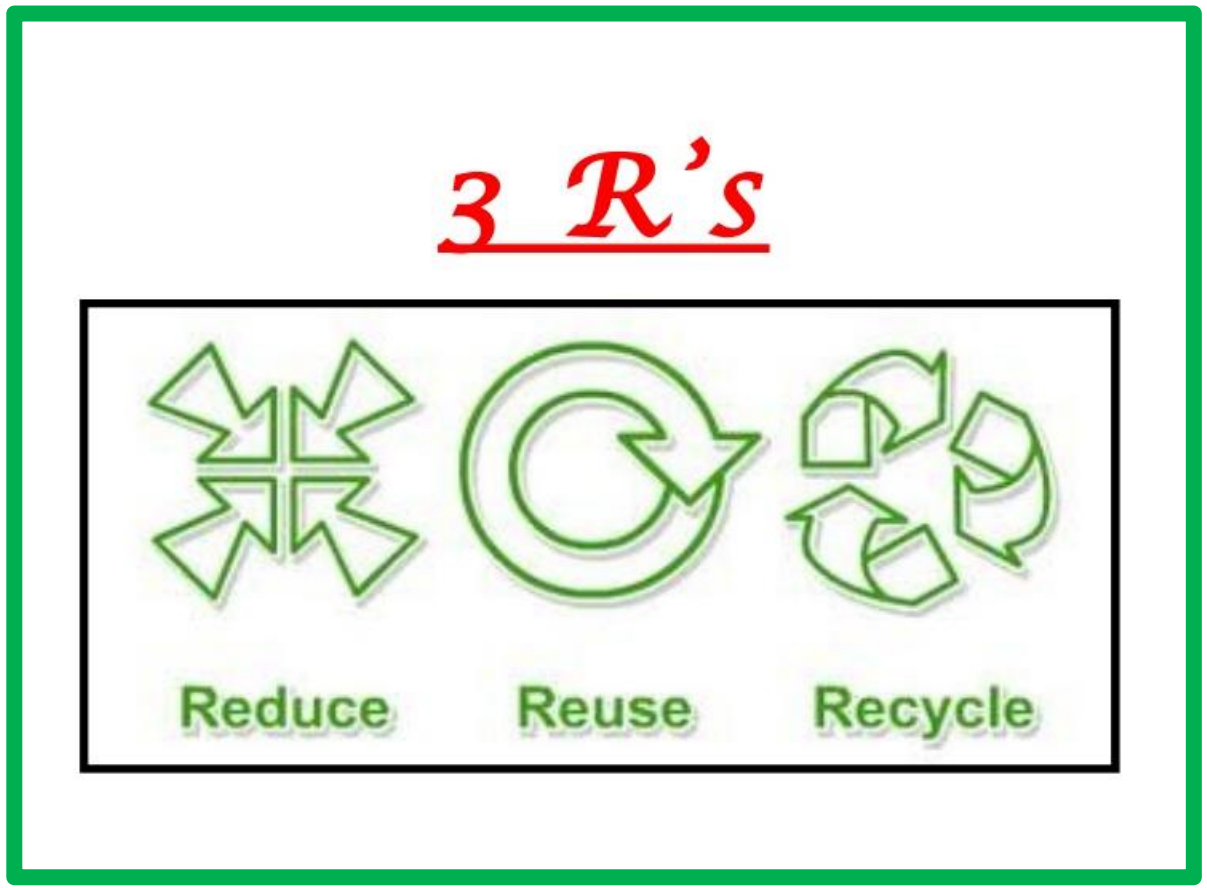
Use less water

Help your family SAVE water

Help your school SAVE water by switching off taps properly

Make less rubbish

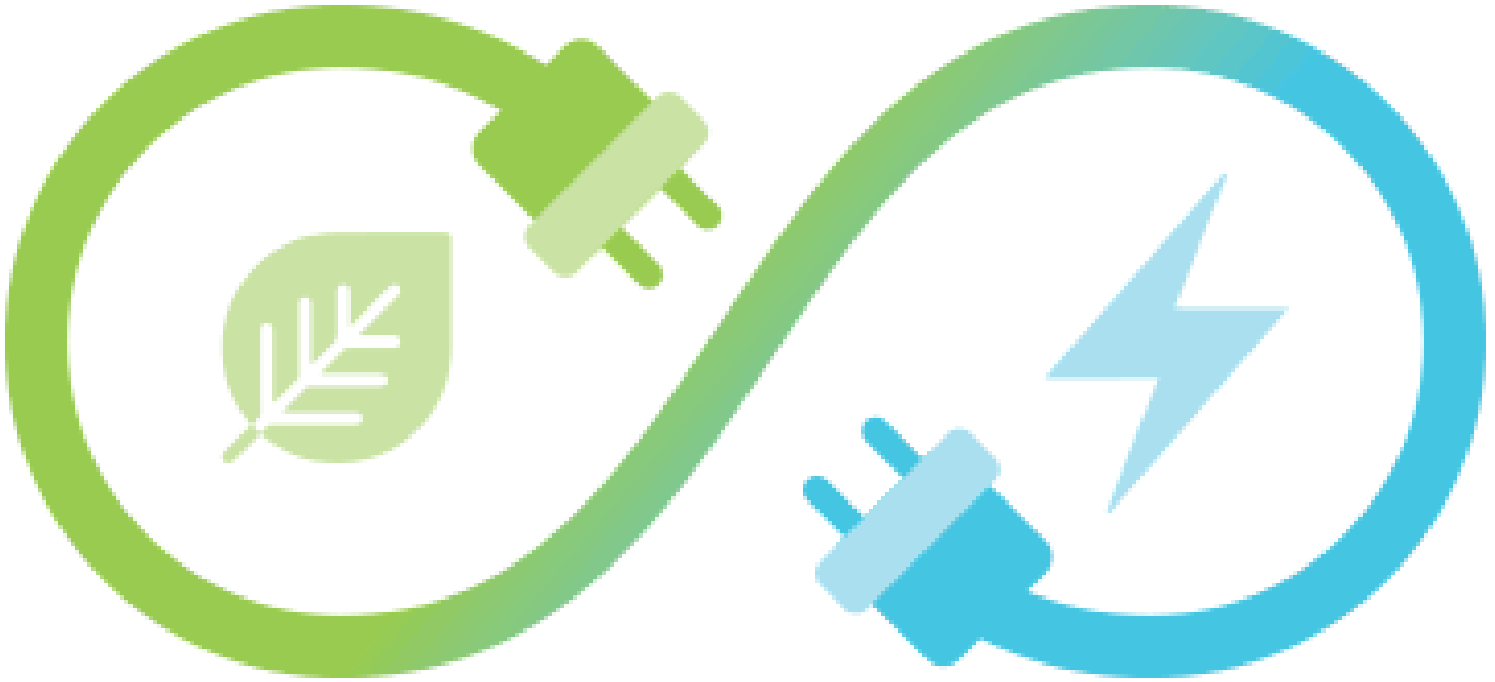
Reduce waste



Use the recycle bin.

Use less power

People are wasteful with their energy use, because it seems like there is so much of it…



What is the solution?

- ✓ Cut wasted use of energy by even 50%
- ✓ Using a more responsible “mix” of renewable and non- renewable energy

- ✓ Increasing our use of renewable energy

Make less impact on the environment!

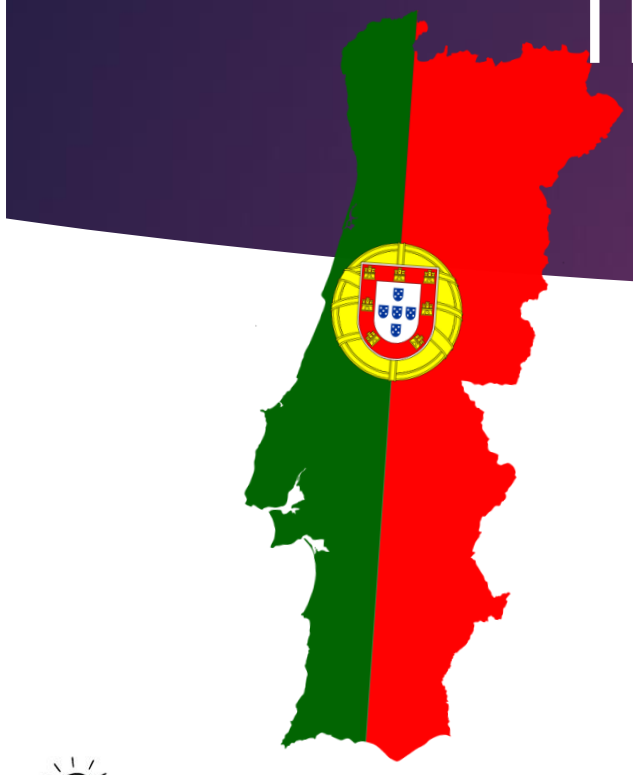
- ✓ For us to be healthy we need to live in a healthy environment.

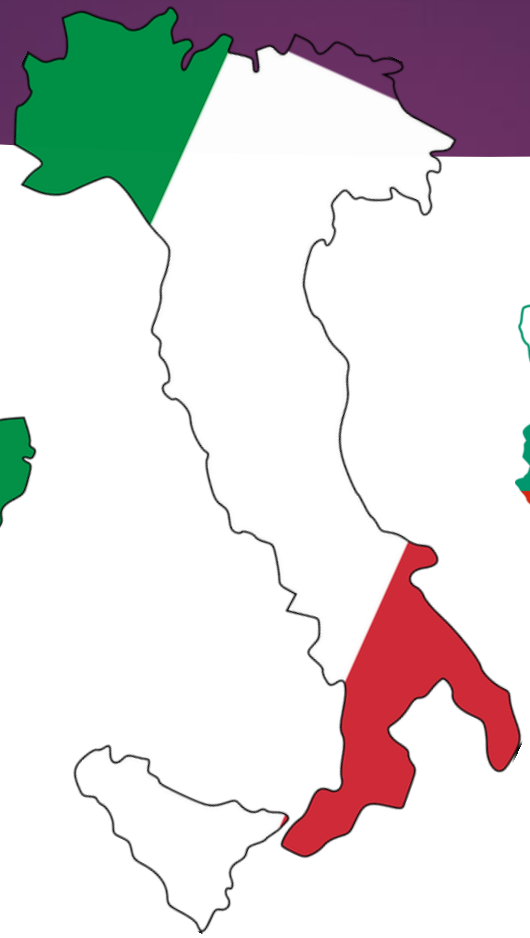
- ✓ The small changes each one of us can make will add up to big changes which will help make our environment healthier now and in the future.

- ✓ Another basic need for humans is contact with other humans. We can do this by respecting and accepting each other's differences, caring for each other and learning to work together to help ourselves and our environment.

- ✓ Remember: WE USE ONLY ONE EARTH!

Thanks for your attention





KEEP CALM AND SAVE ENERGY

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