GREENPRENEUR'S BOOK

Erasmus+ 'Smarter... Greener...Safer...'

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FOREWORD

‘Greenpreneur’s Book’ is the best practice exchange guidebook consisting of a compilation of presentations worked out by students from Poland, Croatia, Italy, Portugal and Finland under Erasmus + project ‘Smarter… Greener… Safer…’ to meet the need for exchange of knowledge concerning environmental issues such as green energy, renewable sources of energy, saving energy, green technology, environmental protection and elements of green entrepreneurship. It is the outcome of the work done by five partner schools to the EU project.

The guidebook has been divided into four parts entitled: GREEN ENERGY, GREEN TECHNOLOGY, GREEN THINKING, GREEN ENTREPRENEURSHIP.

We hope this eco-friendly e-compilation will be a useful source of information to everyone interested in environmental issues and entrepreneurship, serving as educational aid.

Contents:

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PART 1_GREEN ENERGY

- Renewable sources of energy
- Benefits of using green energy
- Green energy in our countries
- How to save energy?

”SMARTER…GREENER…SAFER…”

Renewable sources of energy

WHAT ARE RENEWABLE SOURCES OF ENERGY?

Renewable energy sources are sources that respect human natural resources, so the health of the man and the planet. These energy sources are regenerated after each cycle of use and, therefore, are inexhaustible.

1) EXAMPLES OF RENEWABLE SOURCES OF ENERGY

- **Wind power**

Wind blows to a wind turbine and rotates it. Then the generator turns it into electricity

- **Hydropower**

Water runs through hydroelectric power plant. Inside of it water rotates the turbine and again the generator turns it into electricity

- **Solar panels**

When the sun shines onto solar panels it gathers the heat and turns it into energy. The heat can be used to warm up houses.

- **Wave power**

It is a way to use waves to create electricity. The technique is still being developed

- **Biomass**

Biomass contains energy from the sun. Examples of biomass: biofuel, biogas, burning wood or pellets.

- **Geothermal energy**

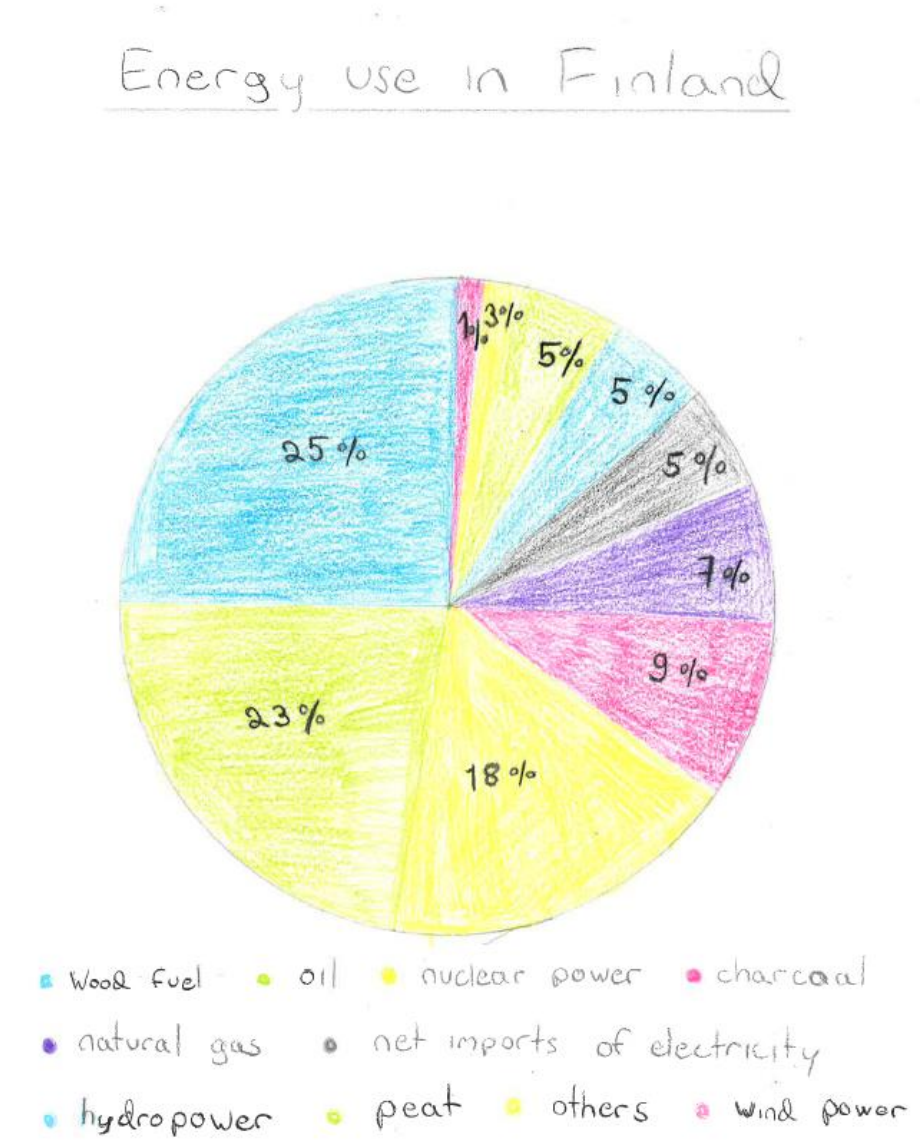
Energy from the original formation of the planet and from radioactive decay of materials. Commonly used in Iceland.

- **Geothermal heating**

Energy comes from solar energy absorbed at the surface.

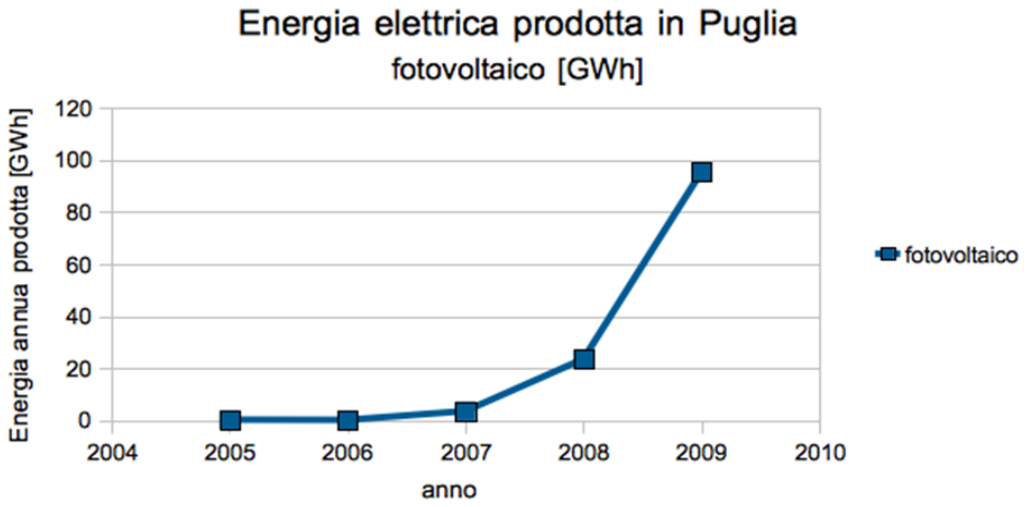
2) EXAMPLES OF GREEN ENERGY BEING MOST COMMONLY USED IN FINLAND

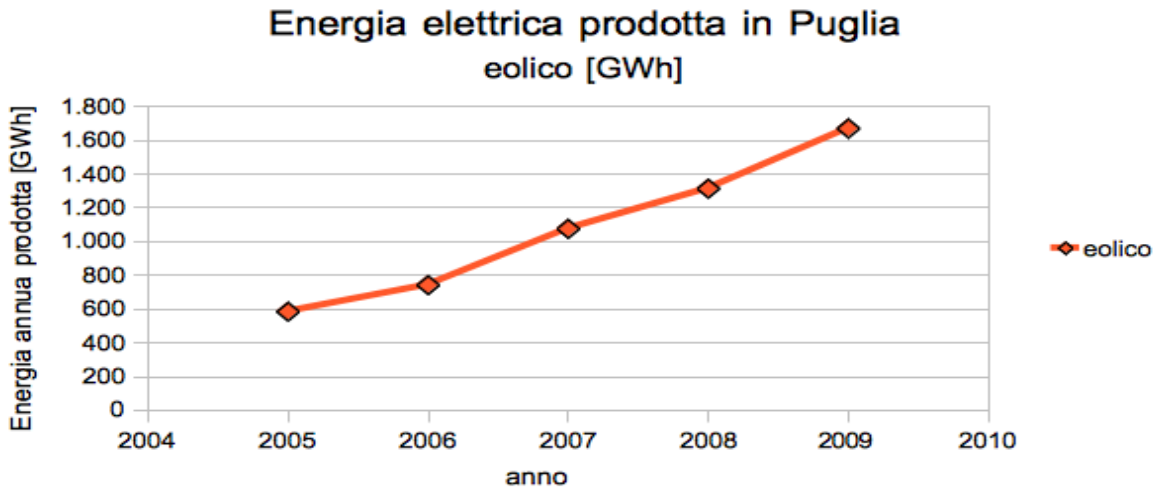
Finland has the second-highest share of renewable energy in Europe (after Sweden). The use of renewable energy sources in the production of electricity and district heat has progressed rapidly. In the last five years, the use of renewable energy sources in the production of district heat has doubled to 36 per cent.



THE GREEN ENERGY IN ITALY

In the recent years we can observe growth of renewable energy used in Italy and especially in Puglia and especially the photovoltaic systems. In fact, the photovoltaic system is the most used technology, with the 97,9 % followed by the eolic system with the 1,9% and by hydroelectric plants.





GREEN ENERGY IN POLAND

Poland national target for the share of renewable sources in gross final consumption of energy in 2020 is 15%. The expected total energy consumption in 2020 is 69,200 ktoe and hence the amount of energy from renewable sources in target year 2020 should be 10,380.5 ktoe. National Renewable Energy Action Plan sets a target of the share of renewable energies to be 19.13% in electricity sector, 17.05% in heating/cooling sector and 10.14% in transport sector by 2020.

GREEN ENERGY IN PORTUGAL

Renewable energy in Portugal was the source for 25.7% of energy consumption in 2013. In 2014, 63% of Portugal's electricity needs were supplied by renewable sources. In 2016, 58% of the power produced in Portugal came from renewable sources, an increase against the previous year (50.4%), while renewable energy consumption represented 27.2% (early data) of the total consumption.

BENEFITS OF USING GREEN ENERGY

FINLAND

What benefits does green energy have?

By using green energy we can minimize our need for fossil fuels. If we use less fossil fuels all of the health concerns will decrease. With green energy the need of gas and oil will also decrease. Green energy doesn`t run out unlike fossil fuels. That is why it`s safer to rely on green energy. We can use different materials which we wouldn`t be able to use for any other purposes, for example pulp mills, waste liquids and flammable household waste.

CROATIA

- Renewable energy sources also have a much smaller impact on the environment than fossil fuels, which produce pollutants such as greenhouse gases as a by-product, contributing to the climate change.
- Green energy utilizes energy sources that are readily available all over the world, including rural and remote areas that don't otherwise have access to electricity.

ITALY

Renewable resources are unlimited in time but they’ve an erratic flew so they’re convertible into electricity with some higher costs.

You can also save nature by using renewable energy source. Renewable energy sources include wood energy, biogas, hydroelectric power, wind power and solar energy. You can take advantage of renewable energy sources, for example by installing a heat pump in your house.

PORTUGAL

- Photovoltaic panels provide clean – green energy. During electricity generation with PV panels there is no harmful greenhouse gas emission, thus solar PV is environmentally friendly.

- Solar energy is energy supplied by nature – it is free!

- Solar energy can be made available almost anywhere because there is sunlight.

- Operating and maintenance costs for PV panels are considered to be low, almost negligible, compared to costs of other renewable energy systems.

HYDRO POWER

- Hydro power is generated by water, so it´s a clean fuel source. Hydro power doesn´t pollute the air like power plants that burn fossil fuels , such as coal or natural gas.

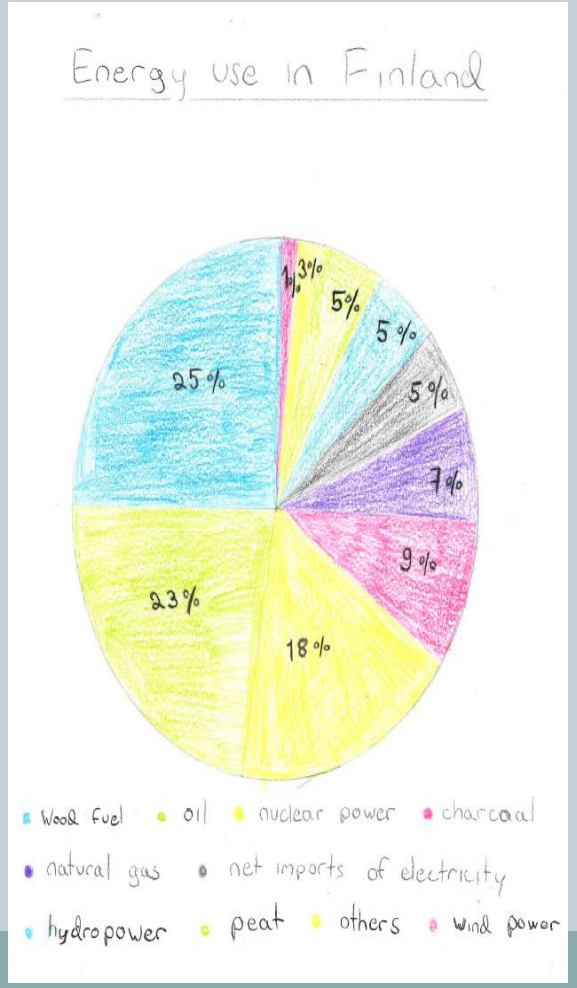
Tidal power is an environmentally friendly energy source. In addition to being a renewable energy, it does not emit any climate gases and does not take up a lot of space. Tidal currents are highly predictable. High and low tide develop with well-known cycles, making it easier to construct the system producing energy

GREEN ENERGY IN OUR COUNTRIES

FINLAND

2) examples of green energy being most commonly used

Finland has the second-highest share of renewable energy in Europe (after Sweden). The use of renewable energy sources in the production of electricity and district heat has progressed rapidly. In the last five years, the use of renewable energy sources in the production of district heat has doubled to 36 per cent.



2) examples of green energy being most commonly used

- Bioenergy from the forests (wood industry or wood harvesting leftovers -> burning or making bio-based fuels)
- The second largest source of renewable energy after bioenergy is hydropower.
- Many Finns have installed air-source heat pumps to their houses. Air-source heat pump absorbs heat from outside air and releases it inside the building as hot air or they can be also used as coolers. There are already as many as 730,000 heat pumps. Heat pumps are a good example of green energy.
- Burning waste to energy in waste incinerators and using the heat from the fire to make steam for generating electricity or to heat buildings.

POLAND

Examples of green energy most commonly used in Poland

Solar energy - energy from the sun. Used in households and vehicles.

Water power – energy from water. Used to power water turbines or water wheels.

Wind power – energy from the wind. Used for wind turbines

Geothermal energy - thermal energy of rocks, water and ground

DAM IN SOLINA

Province near the town of Solina.
The Dam in Solina is located in the Podkarpackie Province.

Application:
-flood protection
-reservoir and water acquisition
-recreational values

PODLASIE SOLAR PARK

The whole project assumes the construction of five solar farms with a total capacity of around 5 MW and will occupy an area of 10 ha. Three photovoltaic farms with a total capacity of 3 MW were launched in 2014, including the installation in Kolno, which is the largest solar farm in Poland. Its capacity is 1.8 MW.

At the end of 2014, the company built a power plant in Leipzig, one of the six included in the complex. The system consists of 1120 PV panels.

Italy

Where we live there is a lot of countryside and the sun shines almost every day, so the fields are used for building solar panels.

Furthermore, on a little hill there are two big windmills.

PORTUGAL, CROATIA

The most famous green energies in Portugal are **Wind Energy**, **Water Energy** and **Photovoltaic Solar Energy**.

Wind Energy, Lousã, Portugal

Water Energy, Castelo de Bode, Portugal

Photovoltaic Solar Energy, Braga, Portugal

Examples

Wind Energy: Wind energy is the transformation of wind energy into useful energy, such as windmills to produce mechanical energy.

Wind Energy

Water Energy: This process uses a turbine system that is crossed by large bodies of water, which make them move, generating an electromotive current that then crosses transformers to be transported to our homes.

Water Energy

Photovoltaic Solar Energy: Energy obtained through the direct conversion of light into electricity.

Photovoltaic Solar Energy

HOW TO SAVE ENERGY?

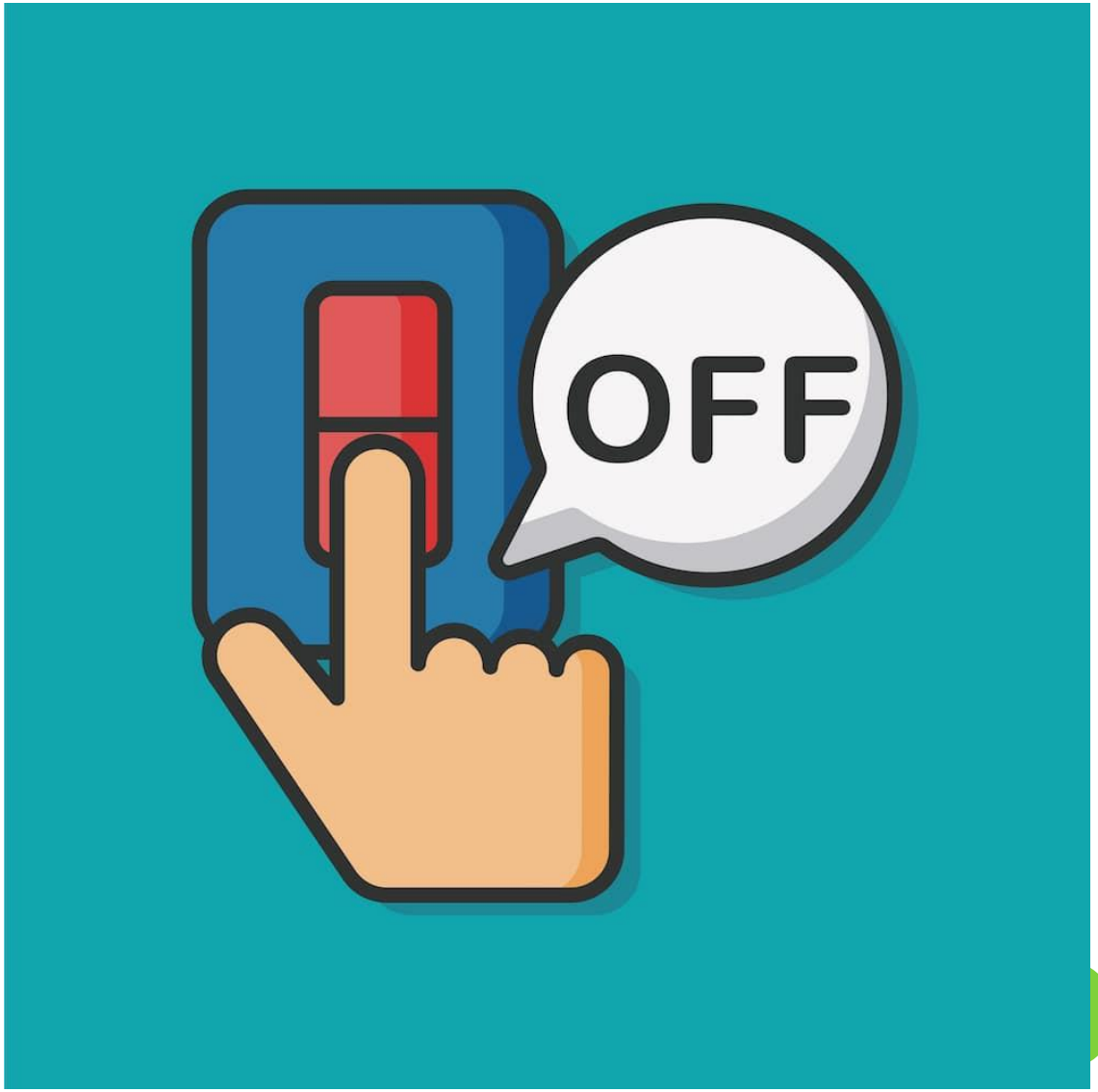
Julia, Kornelia, Justyna, Klara, Izabela, Ania, Jędrek, Błażej, Alessio, Joao

Why is it importart to save energy?

- It is importart to save energy, because energy is produced by a lot of valuable recources such as coal, oil and gas. Lower energy consumption saves these recources and makes tchem still available in the future.

WAY #1

- turn off the lights when you don´t need them



WAY #2

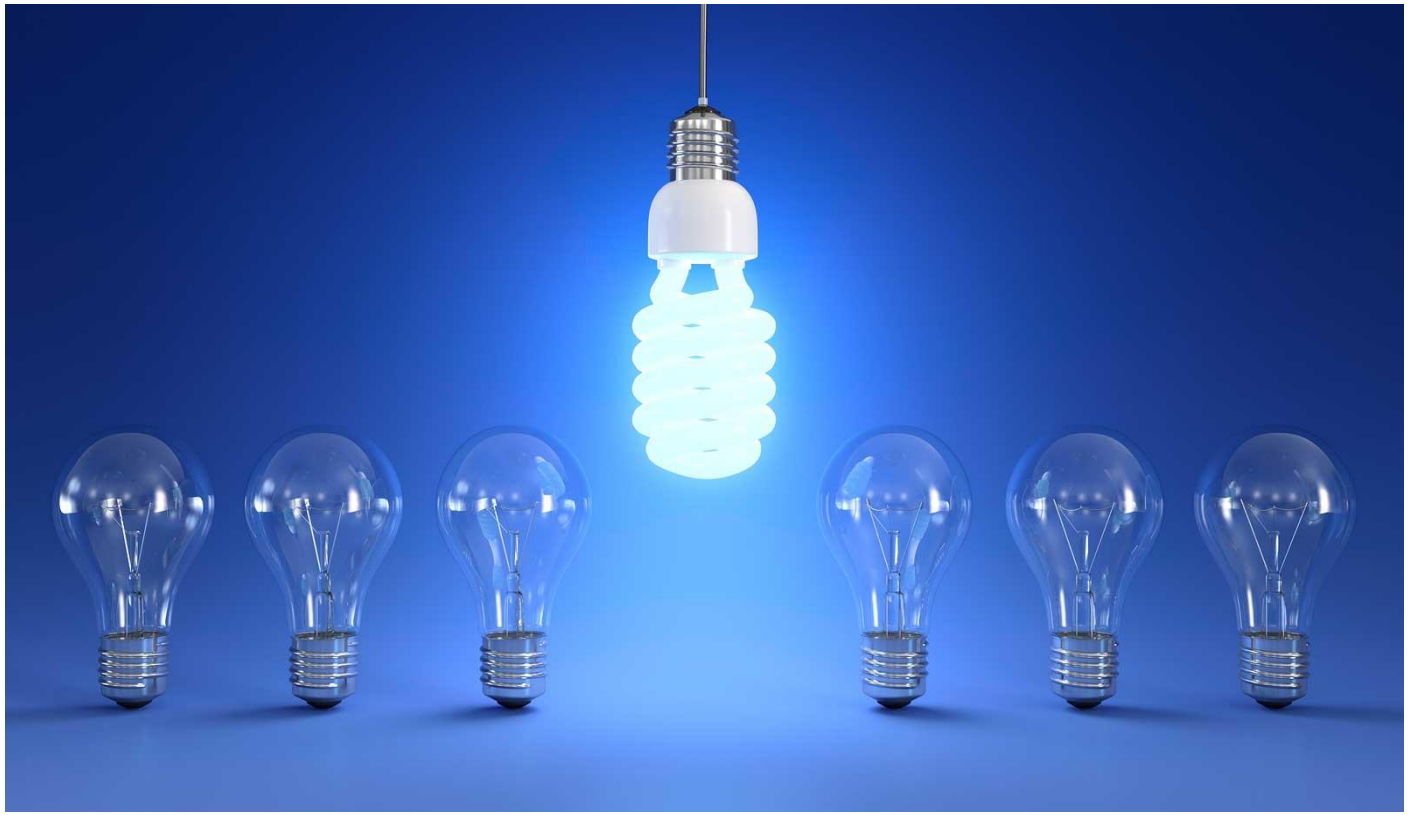
- Use public transport and walk or cycle instead of going by car

WAY #3

- Don´t spend too much time in the shower and do not use too hot water

WAY #4

- Use energy-saving bulbs



WAY #5

- Buy environmentally friendly products.

WAY #6

- Recycle glass, paper, plastic bottles and metal

PART 2_GREEN TECHNOLOGY

- Examples of green technologies and their advantages
- Green technologies commonly used in our countries
- Green technology around us
- Green technologies in our households

Examples of green energy

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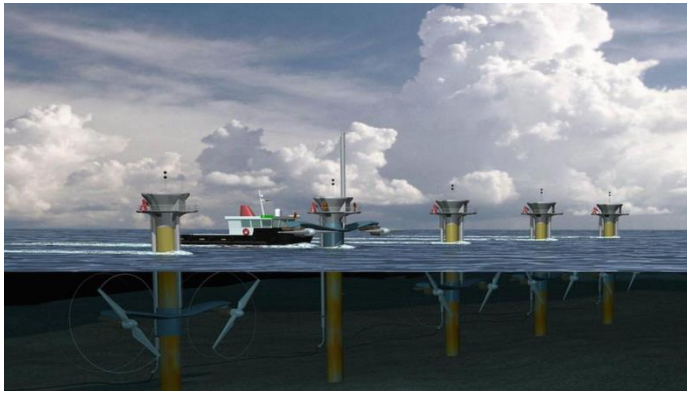
Portugal

- Salt Storage: The storage of molten salt enables the salt to absorb the heat from photovoltaic panels. This technique allows storing large amounts of heat in the molten salt which will in turn, serve to heat water and generate steam. This steam is then used to rotate turbines, even when there is no sun.
- Wave Energy: The waves are formed through the force of the wind on the water. The resulting movement carries kinetic energy that can be harnessed by appropriate devices to store this energy.

Portugal

- Tidal energy: Tidal energy is the one that is obtained from the energy contained in the tidal flow. This energy can be harnessed by transforming the kinetic energy, potential energy of the sea currents into electricity. During high tides, water enters the reservoir, passing through the hydraulic turbine and generating electricity. During low tides, the inverse course is done. The water exits the reservoir, passing through the turbine again and generating energy.



Poland

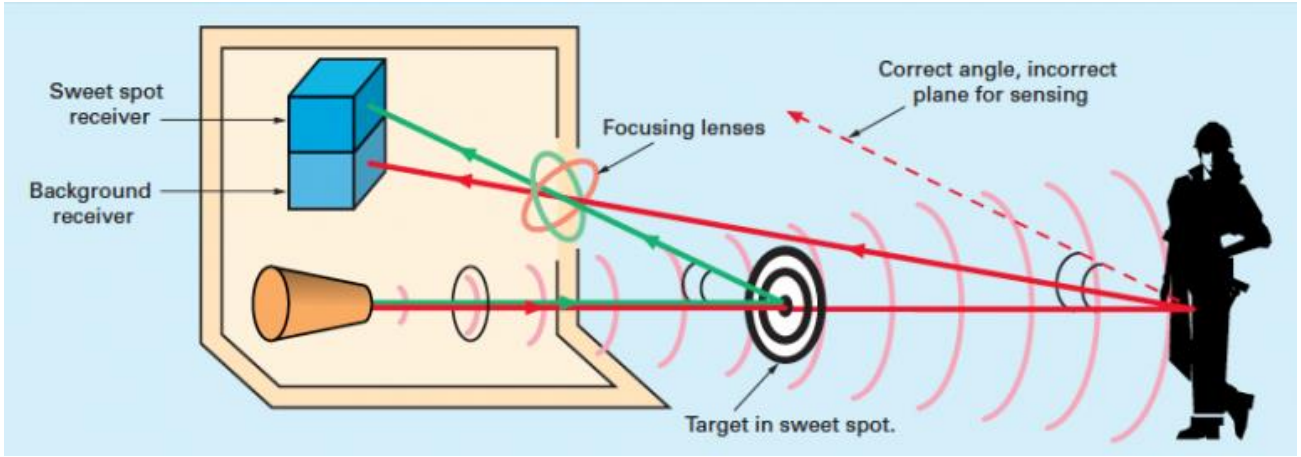
- LED lighting - a light source based on light-emitting diodes (LED), placed in a housing that allows them to be used in a lighting fitting intended for incandescent lamps.
- The basic advantages of LED lamps, compared with incandescent lamps, are their much longer durability (there are LED lamps with a lifetime of approx. 15,000 hours, i.e. approx. 15 years as opposed to 2 years for ordinary incandescent lamps), a wider range of working voltages , greater efficiency, much less heating.

Poland

- Solar energy- Another example of green energy used to save energy is solar energy. It is radiant light and solar heat, which is used using a range of constantly changing technologies such as solar heating, photovoltaic cells, solar energy, solar architecture, salt power plants and artificial photosynthesis. We use the energy of solar radiation, for example, from photovoltaic cells, which directly converts solar energy into electricity. Photovoltaic cells are commonly used in smaller devices such as calculators, traffic lights, signal buoys and even advanced space technology.

Finland

- Sensor lights- lights that intended to detect activity and they turn on. It can also be used to protect the environmental polution.
- Turn off lights when you don´t need them.

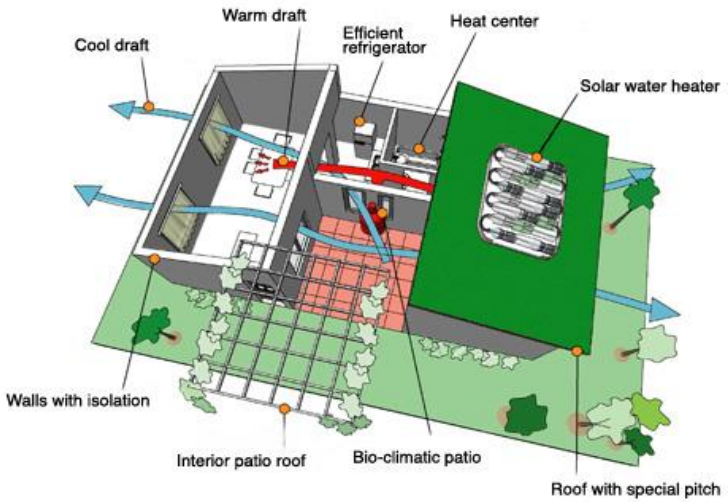


Finland

- Electric cars- is a plug-in electric automobile that is drove by one or more electric motors, using energy typically stored in rechargeable batteries.
- Hydro electricity- Water flows through the turbine and the energy of moving water chances to electric energy in generator. Energy produced this way is called hydro electricity.

Croatia

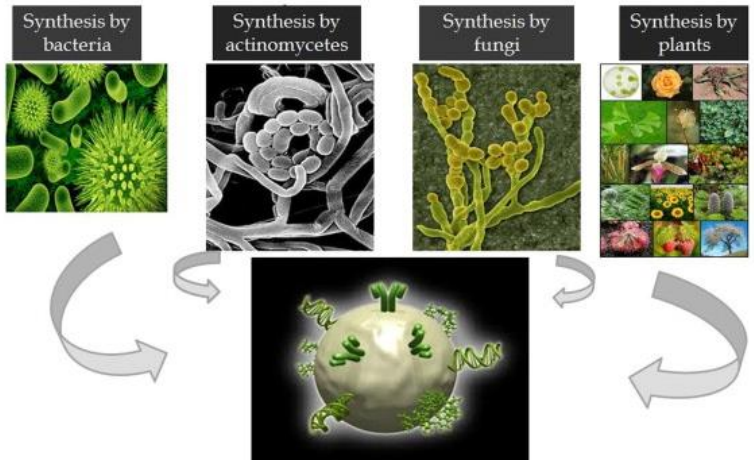
- Green building- Green building encompasses everything from the choice of building materials to where a building is located.
- Environmentally preferred purchasing- This government innovation involves the search for products whose contents and methods of production have the smallest possible impact on the environment, and mandates that these be the preferred products for government purchasing.



Croatia

- Green chemistry- The invention, design and application of chemical products and processes to reduce or to eliminate the use and generation of hazardous substances.

- Green nanotechnology- Nanotechnology involves the manipulation of materials at the scale of the nanometer, one billionth of a meter. Some scientists believe that mastery of this subject is forthcoming that will transform the way that everything in the world is manufactured. "Green nanotechnology" is the application of green chemistry and green engineering principles to this field.



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Green technologies commonly used in our countries

Poland
Portugal
Finland
Croatia
Italy

Portugal

The most commonly used energies in Portugal are:

- Wind energy
- Solar energy

Solar energy

Solar energy is the energy produced by the sun.

Solar energy is by far the best possible alternative to fossil fuels and energy, making it an almost constant factor in private homes and even businesses since the existing energy is virtually inexhaustible.

Photovoltaic solar energy works differently than simplest solar energy, as it is often purchased for a thermal purpose.

There are cars that use solar energy and it is cost effective.

Wind Energy

Wind energy is the energy obtained by the action of the wind, that is, by using the kinetic energy generated by the air currents.

Portugal is amongst the European champions of energy produced from the wind, both in terms of electricity produced and in terms of power growth in the last decade.

Wind energy accounted for 20% of the total electricity produced in Portugal in 2016, placing the country in the fourth position among the 28 countries of the European Union.

Poland

PHOTOVOLTAIC PANELS

- Semiconductor element in which the conversion of solar energy into electrical energy occurs as a result of a photovoltaic phenomenon.
- Electrons move to area n, and holes (see load carriers) to area p. For the first time, the photovoltaic effect was observed by A.C. Becquerel in 1839 in the circumference of illuminated electrodes placed in the electrolyte, and observations of this phenomenon on the border of two solid bodies were made by W. Adams and R. Day 37 years later. The photocell is made of a semiconductor and forms the p-n connector that the light falls on.

Croatia

- **Hydropower**
- The most popular energy in Croatia
- More than half of green energy of Croatia comes from hydro electric power stations
- The biggest one is **Zakučac Hydroelectric Power Plant** - a large power plant in Croatia that has four turbines with a nominal capacity of 122 MW each having a total capacity of 488 MW. It is a high-pressure diversion plant located at the Cetina River mouth into the sea.

Croatia

- Wind energy
- A little less popular than hydro-energy
- The first turbine in Croatia was made in 1988 by Koncar company
- Mostly located near the sea due to perfect climatic conditions, making it most effective

Finland

Finland is on the list of leaders in green technologies, it serves as a laboratory for environmental solutions. Only in 2010, the Finnish renewable energy sector grew 5.6%. Finnish transport innovators are using modern communications technology creatively to provide flexible services that reduce eco-impact. Finland also makes use of solar power and hydro power. It saves nature to use green technology or energy and it supports the idea of cleaner environment.

ITALY

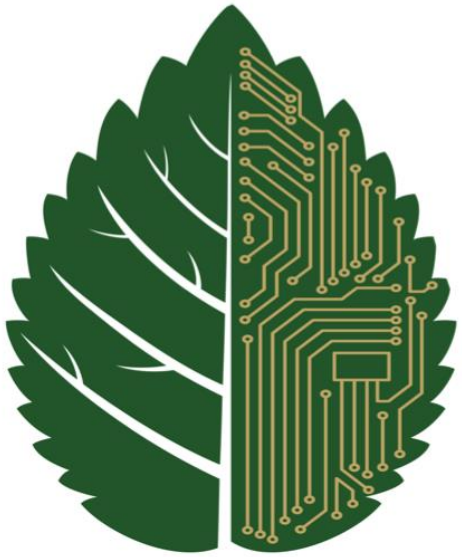
- **Clean Technology in Italy**
- Through its recent policies and financial incentives, Italy has made a major improvement in the use of solar energy technology
- Italy has impressive growth in the renewable energy sector, photovoltaic systems are becoming more and more popular
- Advanced technology for processing and recycling waste; treating and reclaiming water, waste water and polluted marine sites; the promotion of renewable raw materials are all becoming widely used in Italy

Lovro , Sanni , Laura , Wiktoria , Inês , Rita

Green technologies in our homes

What is «Green technology»?

Green building encompasses everything from the choice of building materials to where a building is located.
It saves nature to use green technology or energy and it also gives us a cleaner environment.



House design: a small house - a small problem

- The smaller the house, the lower the heat loss. This is because they depend on the surface of the partitions through which it penetrates. The smaller the area, the smaller the losses. If we do not want to spend a lot on heating, first of all do not build a large house, just a small house.

SMART METER

- Among the priorities of consumers on the podium we find that to pay the bills on the basis of actual consumption is very important. But to meet this need it is necessary that the users always know the details of their consumption and whether it is electricity or gas.
- It is a device that allows to give detailed information on consumption, for example of the various household appliances, allowing the user a control over the actual consumption and also allowing to identify the presence of any leakage.

REUSE COFFEE GROUNDS

- Coffee grounds are excellent as natural fertilizers because they are rich in nutrients, not to mention the virtues of coffee grounds to make the soil acidic for acid-like plants (ideal as an additive for example for those with roses on the balcony or in the garden).
- Some research has revealed the possibility of using it for the production of a bio-fuel and the possibility of the removal of heavy metals from contaminated water.

Electric cars

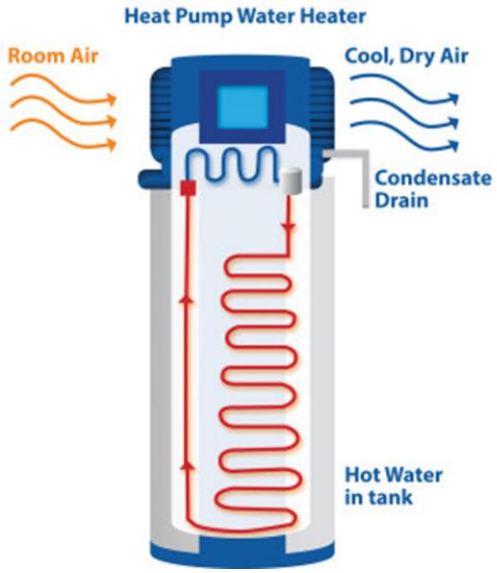
- There is no burning of gasoline or diesel and the proposal is to reduce the brand's carbon footprint and improve air quality in cities through the production of fully electric and hybrid cars.

Lifesaving basin

- Large basin with an aquarium and its fish promotes water saving - the water that comes out of the tap is not the same we have in the aquarium, which contains food and waste from the marine animals and thus is separated by a filter. Thanks to **this** device the water outlet point of the aquarium is limited so the fish will not die if someone leaves the faucet open for long.

Good ventilation favors the house of warmth

- The house is not suitable for energy-efficient operation in the area of the simplest gravitational ventilation system.The share of heat losses for ventilation in total losses of an insulated house is up to 50%, so it is worth installing a device for its recovery from exhausted air, i.e. a recuperator, at home.



Solar battery

- Solar batteries are used to keep solar energy. This is very useful and fuel-efficient. Solar batteries work by solar panels.
- When you install a solar battery as part of your solar panel system, you are able to store excess solar electricity at your home instead of sending it back to the grid.

LED lighting

- The basic advantages of LED lamps, compared with incandescent lamps, are their much longer durability , a wider range of working voltages , greater efficiency, much less heating.

Work done by:

- Ema;
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GREEN TECHNOLOGIES THAT CAN BE USED IN OUR HOUSEHOLDS

Smarter... Greener... Safer...
Erasmus+
2017-2019

❖ What is «Green technology»?

The term "Technologies Verdi" (Green Tech) it is applied to all the disciplines that have the purpose to check and to mitigate the impact of the presence of the man on the environment. The Renewable Energies and the Environmental Protection occupy, in this objective, a privileged place to the purpose of the obtainment of one "Sustainable Development."

❖ THE GREEN TECHNOLOGIES THAT CAN BE USED IN THE HOUSE ARE:

- **Solar water heater**
- **Rainwater collection system**
- **Smart meter**
- **Recycling**
- **Solar energy lithting**
- **Reuse coffee grounds**

SOLAR WATER HEATER

- • It is a highly ecological device that uses a clean, inexhaustible and free natural resource.
- • Considerable energy savings on your bill (can reach up to 70%)
- • Your hot water needs are fulfilled.
- • This is silent energy

RAINWATER COLLECTION SYSTEM

- Water is an irreplaceable element but it is also a limited resource.
  Rainwater recovery systems allow to:
- • Collect rainwater from roofs by conveying it into a cistern.
- • Filter it with more or less advanced filtration and purification systems.
- • Allow storage in underground tanks or from the ground.
- • It is possible to reuse rainwater using the natural slope of the ground or a pump.

RECYCLING

Recycling is obtained from the separation of waste carried out by those who produce them, at home, at school, in offices, in shops, in industries and stored in special containers (bags, bins). Separate collection means a municipal waste collection system for each type of waste (paper, plastic, glass, aluminum, wood, etc.). Recycling means significantly reducing the mass of waste to be disposed of and curbing the exploitation of precious natural resources. Reusing and reusing waste helps to restore and conserve a richer natural environment. Separate waste collection is a great energy saving. Furthermore, producing objects with recycled materials requires less energy than producing them using raw materials.

SOLAR ENERGY LIGHTING

- By adopting solutions for solar-powered lighting, the cost of installation of the electrical system is saved and, once installed, the lighting of the garden is no longer a cost. The solution is also flexible, as the street lamps are easily movable without the need to intervene on electrical conduits, excavations and wiring.
- For example:

Decorative lamps, bricks and luminous strings, cute and original animals, which light up automatically at night, generating an evocative lighting effect, with fixed or iridescent light.

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João

PART 3_GREEN THINKING

- Recycling benefits
- Examples of recycled objects, how to promote anti-consumerism – useful tips
- How and why to protect the natural heritage, useful tips/advice

Recycling and its benefits

Smarter… Greener… Safer… team

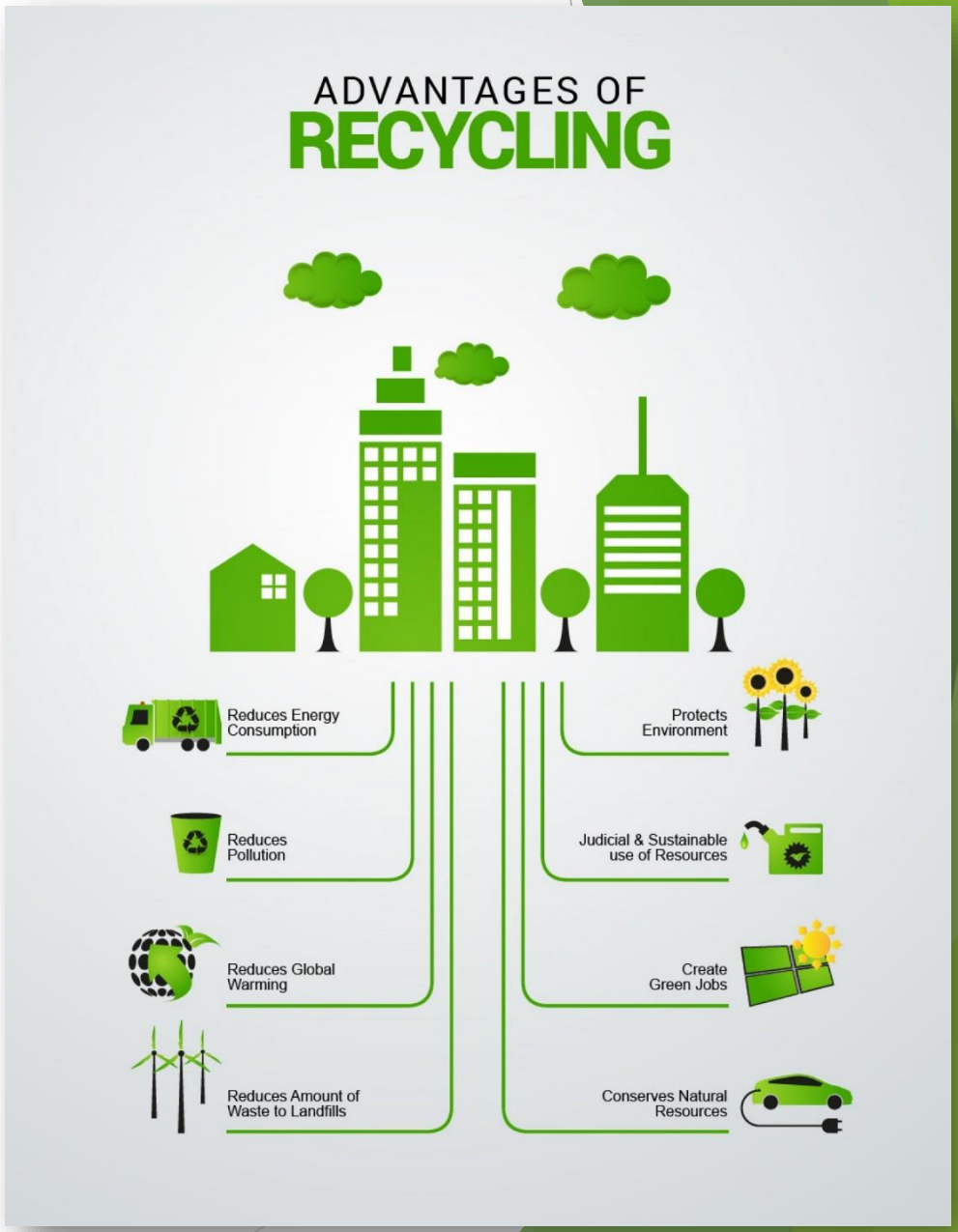
Dora, Venla, Tiila, Beatrice, Mafalda, Inka, Viivi, Mari and Kornelia

Recycling

- Process of converting waste materials into new materials and objects.

Benefits of recycling

- Reduces the amount of waste sent to landfills and incinrerators
- Saves recources and energy
- Reduces global warming
- Free disposal of unnecessary household waste



Useful tips

- Separate your trash
- Use reusable bags instead of plastic ones
- Buy rechargeable batteries rather than disposable ones, and then recycle them using the recycling banks
- Take packed lunch to work or school in a reusable plastic container

Examples of recycled objects, how to promote anti-consumerism-useful tips

Vilja , Annastiia, Neea, Eveliina, Emanuela, Rita, Dora, Izabela

How to promote anti-consumerism?

Anti-consumerism is a sociopolitical ideology that is opposed to consumerism, the continual buying and consuming of material possessions. Anti-consumerism is concerned with the private actions of business corporations in pursuit of financial and economic goals at the expense of the public welfare, especially in matters of environmental protection, social stratification, and ethics in the governing of a society.

The anti-consumerism movement changes the environment of people and themselves. It changes the environment because it reduces garbage, creates art by renewing worn-out parts, encourages cooperation between friends and family in the creation and reuse of new parts, decreases the costs of people and families, but also family income and frees us of objects and products, which often cause harm to our health and society. With regard to anti-consumerism "Less is more!"

Examples of recycled objects

- These chandeliers are made out of jars

- This bag is made out of juice packs

Examples of recycled objects

- This carpet is made out of teddy bears

- Bowls are made out of plastic wrappers

INK cartridges

Most printer ink cartridges contain toxic materials that should not go in the trash.

Major business supply stores, will take your old ink cartridges for recycling. You can also receive a discount off the purchase of a new ink cartridge when you bring your old cartridge to some office supply stores.

Junk mail and cards

You can recycle most of the mail that comes into your home. Make it easy by placing a small recycling bin next to the door you use to retrieve your mail. This helps you remember to recycle junk mail as you walk back inside. Recycle the empty envelopes that remain once you've opened your mail, including envelopes with plastic windows. Even better, make the effort to go paperless at home.

Advantages of recycling

- Recycling minimizes pollution
- It helps to protect the environment
- Recycling minimizes global warming
- It conserves natural resources
- Recycling guarantees that existing resources will be used sensibly and sustainably.

How and why to protect the natural heritage, useful tips/advice

The importance of natural heritage

- The retention and management of heritage places has an important role to play in protecting the environment, creating vibrant communities and sustaining local economies
- Heritage places contribute to the quality of life and cultural identity of our communities

Why should we protect the natural heritage?

- If we protect it humans can live longer on Earth
- It helps the animals
- It slows down the climate change
- The importance of intangible cultural heritage is not the cultural manifestation itself but rather the wealth of knowledge and skills that is transmitted through it from one generation to the next

How to protect the natural heritage?

- We should recycle
- Form an institution which will take care of natural heritage
- Involve children in the protection of the environment from an early age
- Turn off the light when we go out of the room
- We should not pollute the enviroment
- Use public transport
- Plant trees to replenish those that were destroyed by us due to industry and in fires.
- Reduce the amount of paper and paper products so that fewer trees are cut.
- You can help by raising awareness of the importance of preserving these valuable sites by sharing news and links through social media sites such as Instagram, Facebook and Twitter

Iiris, Anni, Kornelia, Irina, Zana, Amanda, Ema, Julia

PART 4_GREEN ENTREPRENEURSHIP

- What is green entrepreneurship
- Benefits of green entrepreneurship
- Green Initiative
- Green Business Ideas
- Green Business Plan

What is green entrepreneurship?

What is it?

- ***Green entrepreneurship***

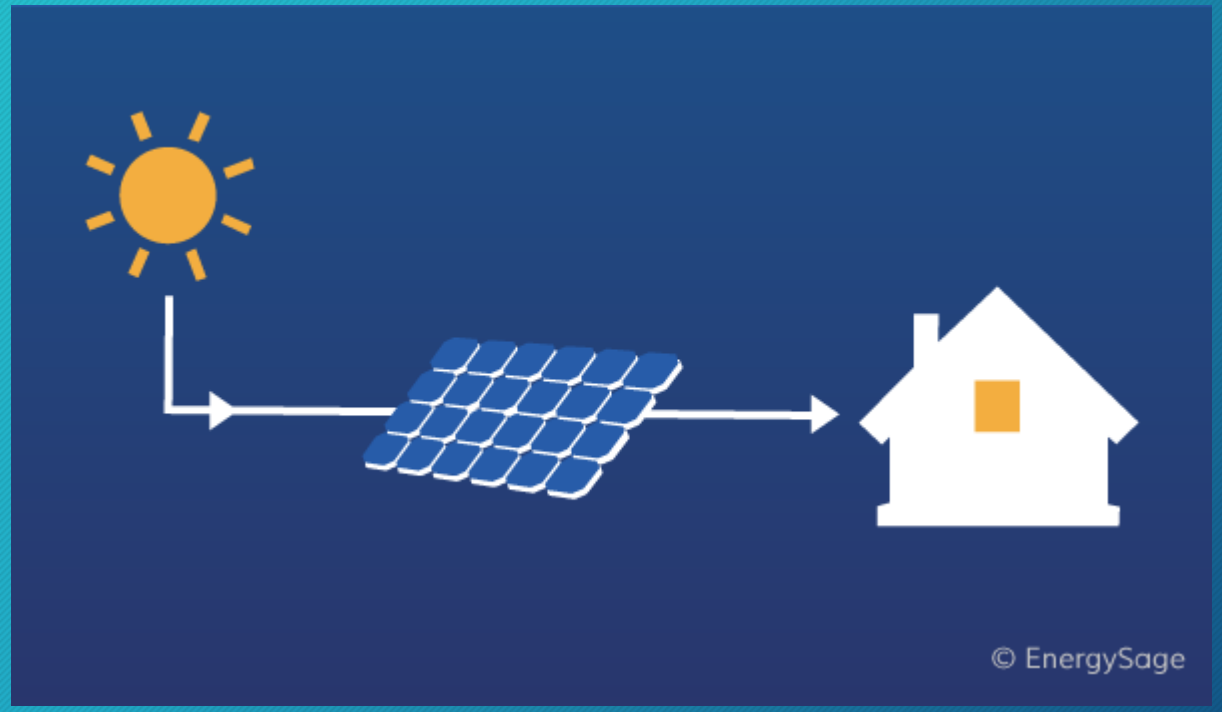
is the activity of consciously addressing an environmental/social problem/need through entrepreneurial ideas, which has a positive effect on the natural environment.

Examples for green entrepreneurship

- Recycling- is one of the methodos of environmental protection.

Solar panels

- **Solar panels** collect solar energy and it is cheaper and good for the natural environment



Manufacturing of Green Products

These are products that do not harm the environment

Examples: manufacturing vegan, organic or herbal soap, lotions

- **Just remember that being eco is good for you!**

What are the benefits of green entrepreneurship?

Business

- The benefits for going green in business include reduced expenses, gaining customers and boosting employee morale
- Increasing energy efficiency saves money
- Reusing existing material in creative ways means that less money is spent purchasing new stock to create products

Customers & Employees

- Going green doesn’t only foster positive feelings from customers
- Employees feel safer working for green businesses
- Good impression on customers and

business partners

Changes in the industry

- Costs are an important factor in the green business
- Easy to apply but because of the policy that no one has created it isn’t in place
- Managers -> analyse costs, see the next big project, remember to account this new green aspect

Green industry

- As more and more internationally known companies go green (Google, Disney, Ebay), the idea of going green becomes much more acceptable
- Auto manufacturer Honda is now known as one of the greenest businesses in the auto industry
- **Efficiency Saves Money !!!**
- Green consulting (more people want to go green)
- Energy efficency -> determining the amount of energy you use at home

and sticking to it is a great step to ensure energy efficency

IDEAS THAT ECO-ENTREPRENEURS CAN INVEST IN AND JOIN THE GREEN BUSINESS REVOLUTION

GREEN INITIATIVE

- The Green Initiative has as its main objective the compensation of greenhouse gases emitted by human activities that can go from complex industrial production processes to a simple car driving to reforestation projects
- Planted trees will absorb carbon dioxide from the atmosphere and will provide the preservation of water and air quality and protection of biodiversity, in addition to environmental benefits

1. Mini-Scrapbox - Mini-box

- Mini-scrabox collects a wide variety of materials, mainly donated by companies that can be reused in the community for example in the theaters or music workshops, clubs, schools and play groups for arts and crafts.

SCRAPBOX

Re-think
Re-create
Re-new

2. Scrapstore

- Swindon Children's Scrapstore runs several projects that aim to promote local community and encourage more people to be green and reuse rather than buy again.

ECOLOGICAL EVENTS

- Ecological exhibitions are events created to show how renewable energies can change the future of young people

The events in 2019:

- World Wetlands Day (2nd February)
- International Day of Women & Girls in Science (11th February)
- World Tsunami Day (11th November)
- Australia Day (26th January)
- International Youth Day (12th August)
- National Science Week (11-19 August), etc.

TECHNOLOGY USED TO PUT OUT FIRES

- The technology that can save our forests
- With the summer the fires return and devastate large wooded areas every year with priceless damage
- Stopping them is possible, just having the intention and having the right technology

ECOTOURISM

- Travelling to the essentials
- If the idea of a holiday with parties, aperitifs, deafening music and distant goals makes you tremble, maybe you need to really stop and recover your time, space and energy
- So what you need is a journey to the contrary: to your inner territories

GREEN IDEAS

- Since 2007, there have been developed highly successful programs, tools and campaigns for governments, businesses and NGOs.
- There are experts in collaborative design and social behavior change, known for wide-reaching initiatives like the Bay Area's Bring Your Own Bag campaign and technology
- As sustainability practitioners with deep knowledge in technological solutions, there are groups of people and organisations in each country which work to:

1) Identify ecological points for change

2) Design new tools, programs and systems that engage those green ideas

Biochar as a Valuable Soil Amendment

- This 2,000 year-old practice converts agricultural waste into a soil enhancer that can hold carbon, boost food security, and increase soil biodiversity, and discourage deforestation
- The process creates a fine-grained, highly porous charcoal that helps soils retain nutrients and water
- Biochar is found in soils around the world as a result of vegetation fires and historic soil management practices. Intensive study of biochar-rich dark earths in the Amazon (terra preta), has led to a wider appreciation of biochar's unique properties as a soil enhancer
- Biochar can be an important tool to increase food security and cropland diversity in areas with severely depleted soils, scarce organic resources, and inadequate water and chemical fertilizer supplies
- Biochar also improves water quality and quantity by increasing soil retention of nutrients and agrochemicals for plant and crop utilization
- More nutrients stay in the soil instead of leaching into groundwater and causing pollution

GREEN BUSINESS IDEAS

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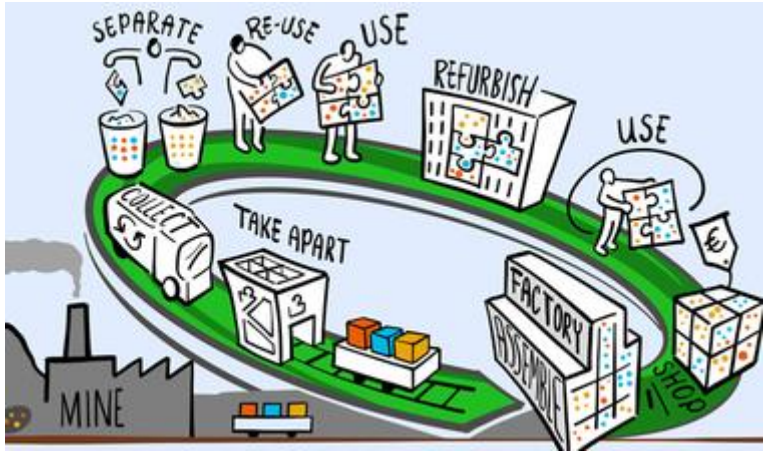
1. Green App Development

-If your prefrence is working in the technology world, use apps that promote a green living ideology through proper waste managment and recycling

2.Waste management/Recycling Business

- Consider offering a pickup service for such electronics and deliver them to recyclers though you may not offer actual recycling services
- Recycling is a great step towards ensuring that toxic waste does not end up in the landfilles



3. Manufacturing of green products

- Consider manufacturing vegan,organic or herbal soaps,lotions and shampoos
- They have few or no side effects as opposed to chemical-based care products

4.Green Consulting

- Good green business idea
- This is because more and more businesses, as well as individuals, are looking to go green even though they do not have adequate knowledge to begin with

Green
consulting

5. Energy Efficiency Auditor

- Being able to determine the amount of energy you use at home and sticking to it is a great step to ensure energy efficiency
- People don't understand the value of this. Aslo make sure that you're well skilled in your chosen area before setting up your recycling business

Eco House

GREEN BUSINESS PLAN

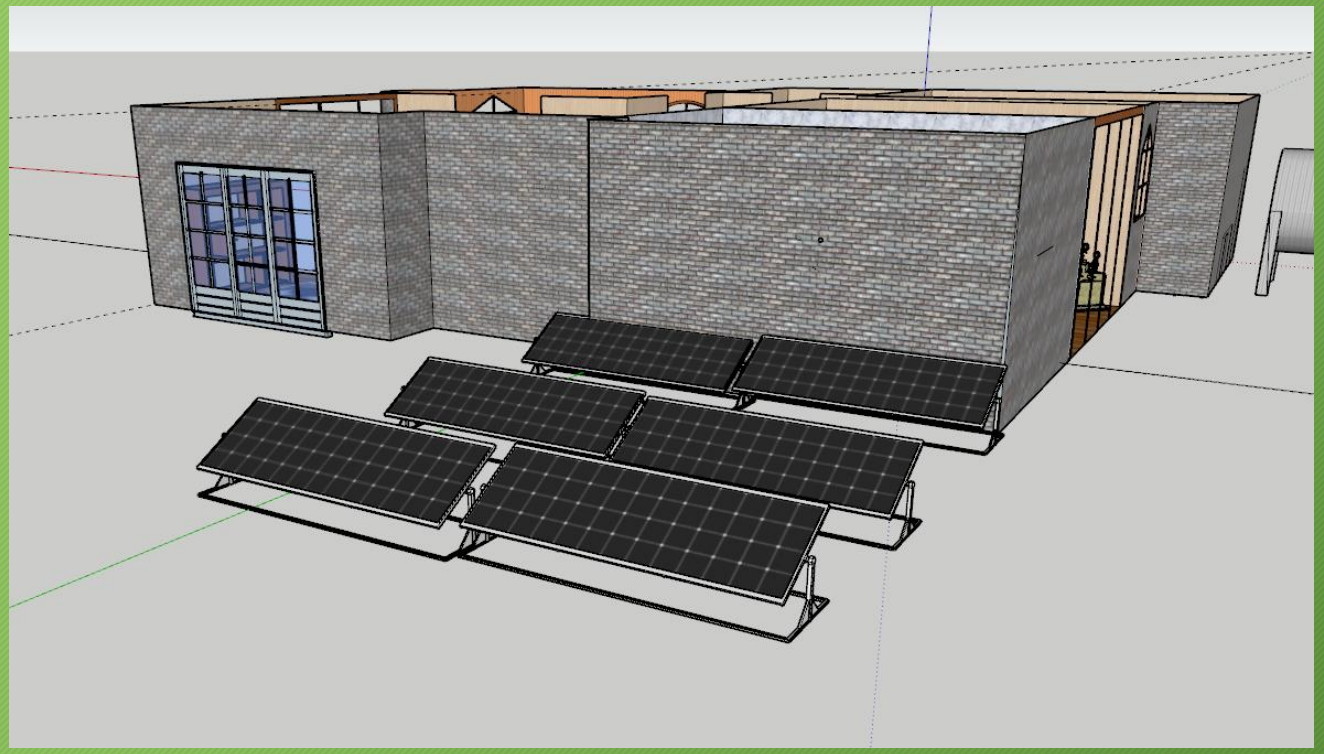
A PRACTICAL IDEA OF IMPLEMENTING GREEN BUILDING

How to start bulding an eco house?

- The main factor for the house are the walls. We would use isolated ones because in winter we wouldn’t lose temperature. All over the walls would be windows so we wouldn’t use lots of energy for lighting either.

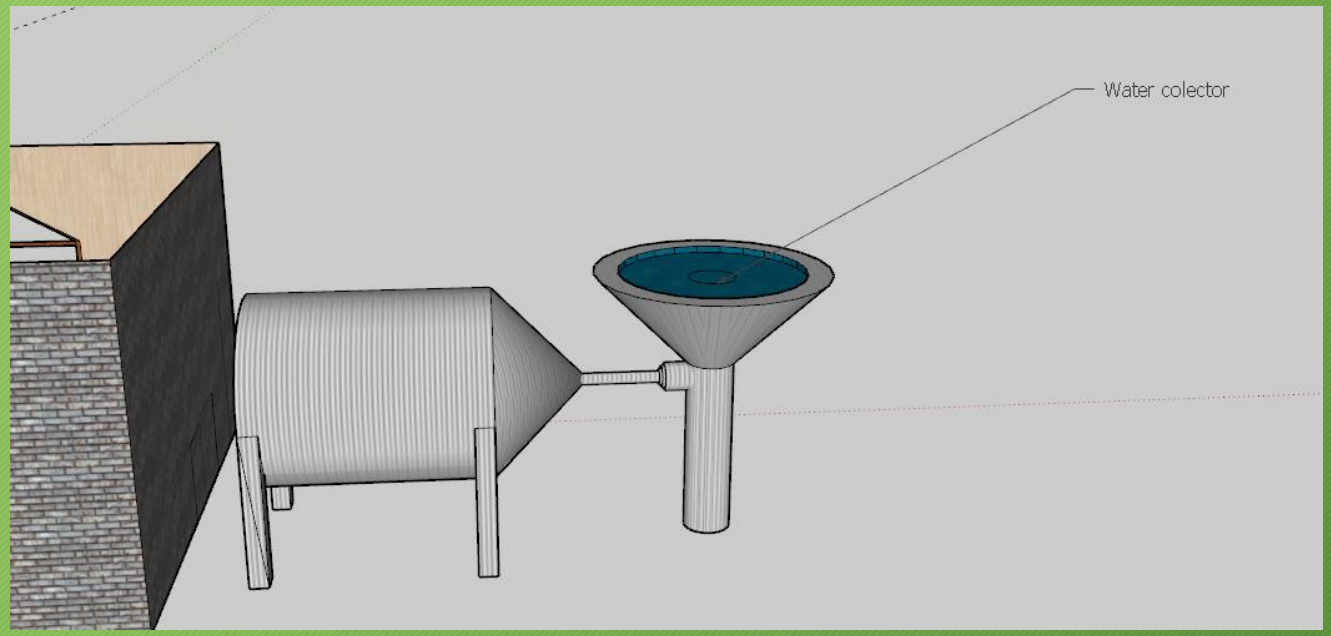
Source of energy

- The source of the energy in our house would be solar panels. They would be placed on the south side of the house.



Source of water

- The water in our house would be collected from the rain and stored in a big container near the house.



The trash

Every family creates half a ton of trash every year. The only solution for that is seperating our waste. That’s why the recycle bins are placed just next to the front door.

Minimal usage

Ways to reduce our usage of water and electricity to the minimum are :

- Turning off lights
- Shower instead of bath
- Turning off water while brushing teeth

Furniture

All the furniture in our house would be as ecological as possible. The beds, wardrobes, shelves and more would be wooden and made by ecological companies.

Designed by international ‘Smarter...Grener...Safeer...’ teams of Portugal, Croatia, Italy, Finland and Poland

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