Interreg - IPA CBC

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ENPOL-EE

ENERGY SAVING

Energy efficiency in buildings & everyday energy saving practices

ΔΗ.Κ.Ε.Π.Α.Π.

Project co-funded by the European Union and national funds of the participating countries

Learn More at:

www.enpolee.eu

Interreg & Energy Efficiency

The European Territorial Cooperation (ETC)

European Territorial Cooperation (ETC), better known as Interreg, is one of the two goals of cohesion policy and provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States.

INTERREG aims to promote intelligent, sustainable and integrated achievements (EU strategy for 2020). Some of the goals are:

- Low carbon economy
- Combating climate change
- Environment and resource efficiency

INTERREG funds energy efficiency actions for CO_2 emissions reduction as a strategy to deal with climate change.

Learn More at:
www.interreg.gr

The Programme

The Programme supports regional cooperation between Greece and the Republic of North Macedonia. The Programme's overall objective is to enhance territorial cohesion by improving living standards and employment opportunities holding respect to the environment and by using the natural resources for upgrading of the tourism product.

The Interreg IPA CBC Programme "Greece - Republic of North Macedonia 2014-2020" was approved by the European Commission on August 6, 2015.
The total budget allocated to the Programme is 45.470.066,00€; 38.649.552,00€ (85%) is Union Support and 6.820.514,00€ (15%) the National Counterpart.

One of the Priority Axes of the Programme is about Protection of Environment – Transportation.

Learn More at:
www.ipa-cbc-programme.eu/

The project "Energy Efficiency in the cross border area as an indicative factor for environmental policy" or ENPOL-EE

It aims to promote the importance of energy efficiency in both public and private space as an indicative factor of the environmental policy for the local authorities of the cross border area.
The "act locally" concept in the field of energy consumption shifts the matter from the global scale to a local, neighborhood one.

"Our school, our square, our store, our home matter" becomes the center of the project, promoting energy efficiency both in public and private spaces.

Partners of the project:

- Municipality of Pella
- Municipality of Negotino
- Culture and Development Public Benefit Corporation of the Municipality of Pella
- Secondary Municipal School "St.Kiril and Metodij" - Negotino

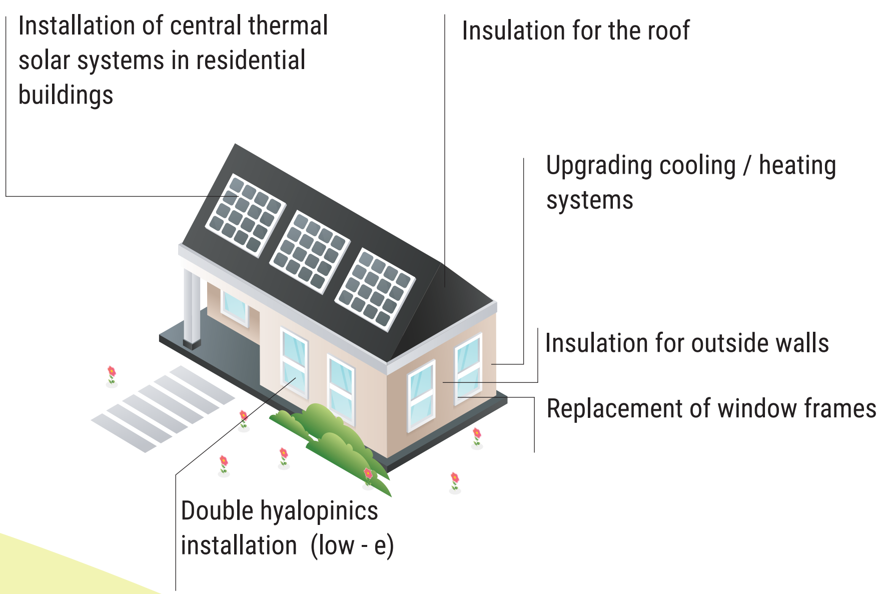
Actions:

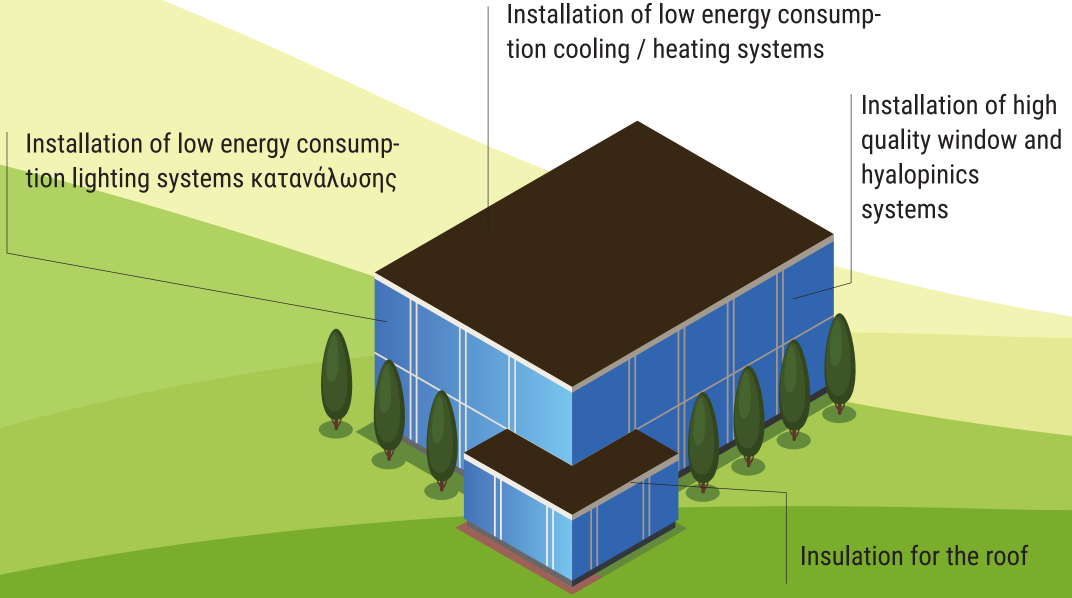
- Energy upgrade of public buildings (Karyotissa & Neos Mylotopoulos Schools)
- A cross-border meeting on environmental policy in the Municipality of Pella
- Info events about energy efficiency in buildings
- School contests for energy efficiency in buildings and its connection with environmental protection
- Energy efficiency contest for local businesses of the Municipality of Pella.

Learn More at:
www.enpolee.eu

Energy saving in everyday life

Intervations in buildings





Insulation for outside walls

In a typical house, most of the energy consumption needs are for heating or cooling. Concerning that many old buildings do not have sufficient insulation, the importance of relevant actions becomes obvious.

Integrated thermal insulation solutions for the building shell, dramatically improves the energy behavior of the building, offering a reduction in energy consumption for heating and cooling, up to 55%!

Insulation for the roof

The roof is the most vulnerable part of a building shell, because of the sun, wind, rain and snow strains. According to that, appropriate thermal insulation reinforcement contributes significantly to the energy efficiency of the building. Concerning that a typical building spends 5-6 € / m2 annually for heating requirements, insulation for the roof can reduce them up to 30%!

Replacement of window frames

Replacing all the existing old technology window frames, with modern, energy efficient ones, with certified properties, is a key intervention.

Double glazing glasses with thermal insulation frame for the windows, achieves approximately 20 to 25% energy savings, while thermal comfort is dramatically improved, eliminating the phenomenon of condensation water vapor in the windows during the winter months and reducing overheating in the summertime.

Cold Applied Roof Coatings

Adding cold applied roof coatings is an environmentally friendly, affordable and easy to do intervention. It offers energy savings for cooling needs, as well as better thermal comfort conditions.

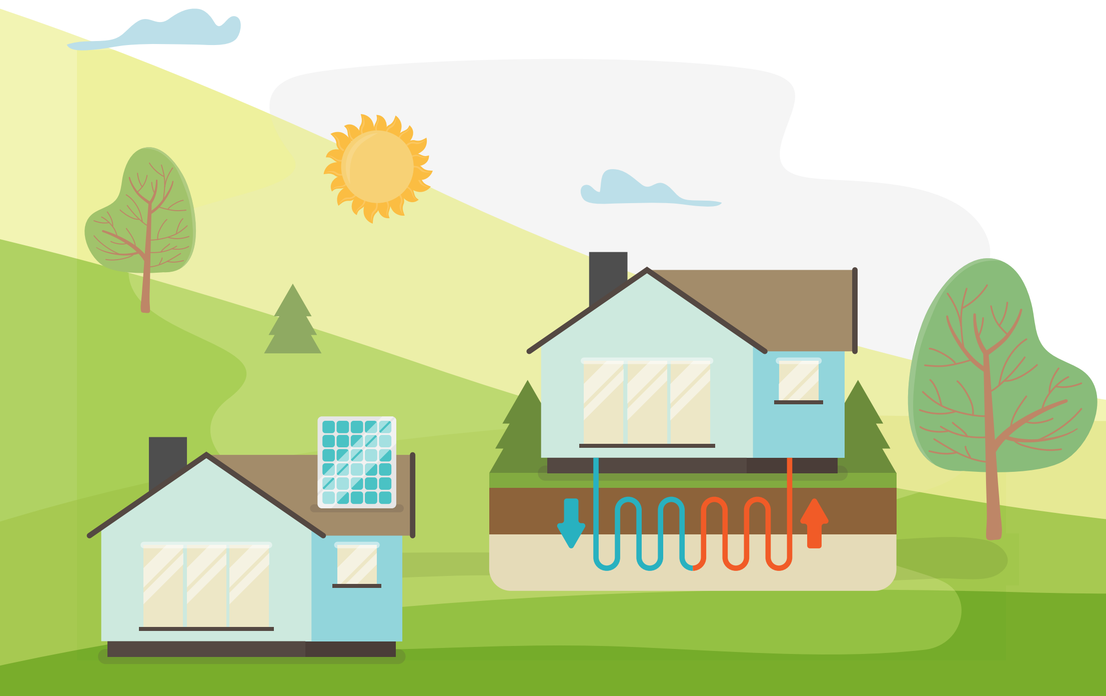
Upgrading cooling / heating systems

These kind of old systems are energy-intensive, so it is worth replacing them with new generation types that consume less energy.

Suggested interventions:

- Pipe and body insulation and function compensation installation
- Boiler and burner replacement by more efficient types
- Radiators replacement by low temperature systems (FC)
- Solar heating system installation
- Installation of low temperature geothermal systems
- Air conditioning system installation with air heat source
- Installation of geothermal air conditioning system.

Source: www.ktizontastomellon.gr



Changing energy consuming habits

Energy consuming behavior is more crucial success factor than any energy management program, since it fully defines the energy performance of a building.

Right vs wrong habits

✗ If a southern window is shaded by a curtain, then it will not convey the expected solar gains.

✓ Changing window shading orientation according to the season, we can avoid overheating in the summer or we can achieve a more natural light input when the day is shorter in the winter. Such practices can reduce unnecessary energy consumption for air conditioning and lighting needs.

✓ Placing portable furniture (e.g. study desk) next to a window can improve visual comfort and can reduce lighting energy cost.

Changing energy consuming habits

- ✓ It is recommended that space ventilation in the summer be done at nighttime. Respectively, in the winter we should avoid window opening during the heating operation.
- ✓ Windows and doors should be sealed by portable or permanent means to reduce energy losses during the winter.
- ✗ Using electrical appliances that produce a lot of heat (e.g. oven) during summer afternoon hours, reinforce the need for air conditioners means usage.

- ✓ Air conditioners replacement by ceiling fans, can gain energy and protect the environment.

Saving energy at home

Tips

We replace the old bulbs by CFL and LED types. LED and CFL bulbs need only 20-25% of the energy, compared to traditional lamps. Energy class A bulbs, reduce power consumption by 80%. We never forget the lights on when it is not necessary (Total CO2 emission reduction by 1.4 million tons per year. 12 euros per lamp annually saved).

We plug a group of electrical appliances into a power strip, so to easily disconnect them when they are not in use.

Older equipment is often less energy efficient. So, we try to replace them with innovative products. When we buy electrical appliances, then we prefer the energy class A ++ models. They should also have an appropriate switch to completely power off the device, or alternatively consume less than 0.5W in a standby mode (Total CO2 reduction by about 300,000 tons per year).

We lower the thermostat of the water heater to 49 ° C.

We do not block the radiators, in order they give the maximum heating.

Tips

We set the computer to a standby mode during inaction periods instead of a screensaver. It is estimated that this option can reduce the electricity bill up to € 25 per year.

We prefer a flat screen or a laptop with a forecast for low power consumption. We can save € 10 - 30 for screens and € 15 - 45 for computers on an annual basis, using sleep mode.

We do not forget the charger in the socket. It continues to consume electricity even when it is not is used.

We constantly repair the hot water pipes insulation. It reduces energy loss for water heating.

We program water heating by installing a timer. It heats the water to suit the daily family schedule needs.

We prefer to wash clothes with cold water. Modern laundries clean just as well with cold water and the drop in temperature is estimated to save about € 54 per year.

Tips

We refrain to place the refrigerator next to heat sources, because when that happens it consumes much more energy. We defrost often. In case of buying a new fridge, we prefer one to have an automatic defrost function.

We adjust the temperature of the refrigerator between 1 - 4. C. The freezer must be adjusted at a temperature of -18. C. The temperature reduced by one degree, the energy consumption increases by about 5%.

We constantly clean or replace the filters in the oven. The filters should be changed every 3 months. A dirty filter slows down the flow of air and makes the system less efficient.

We prefer the microwave for cooking food, since it consumes less energy than the oven.

We avoid using the drying program of the dishwasher. I prefer to open the door for a natural drying. Thus, we reduce energy consumption up to 15-50%.

Simple changes in every day habits can protect the planet and save money

Think globally, act locally

The views expressed in this publication do not necessarily reflect the views of the European Union, the participating countries and the Managing Authority.