



Development and Promotion of Using Green Energy and Energy Saving Principles in Public Houses

Green Public Houses

Priority 2 Common Challenges

Measure 2.3 Improvement of energy efficiency and promotion of renewable energy sources





Short summary of the project

Several scientific studies in EU countries have shown that the buildings sector uses more than 40% from the total energy consumption. Housing, working, lightening, heating, cooling and water heating energy consumption are higher than in transport or even industrial sectors. Furthermore, this consumption continues to grow as well as buildings energy proportion in final consumption and CO2 emission to environment increases. This is the situation in EU countries, but in Russia, it is much worse, because there are lots of buildings, that were built in Soviet times when the energy-efficiency wasn't the priority at all.

One of possible solutions, offered by scientists, for decreasing the energy losses and emission of CO2 is to build energy-efficiently and in sustainable way.

The most common and known methods are the concepts of low-energy houses, passive houses, zero-energy houses and energy-plus building. The common problem of partner regions is low awareness of both states' inhabitants in issues like energy efficiency in buildings, environmental impacts and sustainability of houses. Many different theoretical conferences, study-days, seminars have been organized on these subjects in both states, but there are yet no public energy-efficient buildings, which could be able to prove to the interested parties, that the theory can be used in practice.

This project is inspired by the idea of using green energy and energy-efficient building concepts, as going "green", development of alternative energy resources and promotion of sustainable and effective use of energy are top themes all over the world. With existing technologies, energy savings of up to 30% are already feasible in European Union. In Russia the energy saving potential is estimated at 45% of Russia's current energy consumption. The project aim is to renovate public buildings, which are operating on high cost of heating every year, making them energy-efficient houses to promote using of green energy and renewable energy sources.

Overall objective

To increase awareness, develop and promote the use of green energy and energy saving principles in public houses by effective and sustainable use of energy resources, significantly improved energy savings and development of alternative and renewable energy sources.

Specific objectives

- ✦ To achieve energy savings and adopt the use of green energy through renovation of the buildings in Misso and Strugi-Krasnye
- ✦ To transform municipal buildings in Strugi Krasnye from heavy fuel oil heating to ground source heating structures
- ✦ To introduce the project and its objectives to public
- ✦ To promote the use of green energy to the local governments

Beneficiary

Misso Rural Municipality Government (Estonia)

Partner

Administration of the "Strugi-Krasniye area" of Pskov Region (Russia)





Expected results



Renovation of municipal buildings.

- **In Misso Municipal Centre:** the heating system renovated for dual-system capability; new, energy efficient windows and doors installed; shades on windows installed; the basement, external walls and roof insulated; energy efficient ventilation established with thermal energy consumption savings by heated area – approx. 75% and savings on heating expenses – approx. 11 000,00 EUR per year (70%)
- **In Strugi-Krasnye municipal buildings:** a ground source heating established; new, energy efficient windows and doors installed; the roof insulated; the heat exchanger renovated with thermal energy consumption savings by heated area – approximately 40% and savings on heating expenses – approximately 20 000,00 EUR per year (55%).

Information and experience sharing.

- 4 study trips (with 3 participants from Estonia to Russia, 3 participants from Russia to Estonia) and 2 seminars with 20 participants each to gain knowledge and see the results of the project and analogous objects in partners` region
- Information about the project achievements published and promoted on both partners` web-sites.
- Booklet in PDF-version disseminated and shared through other local governments and administrations information channels.
- Visits to the renovated buildings by foreign guests and other important stakeholders, such as local governments from other parts of south-eastern Estonia and Pskov oblast organized.

Final beneficiaries

-  **Misso municipal government and Strugi-Krasnye rajon's administration**
-  **The population of Misso municipality and Strugi-Krasnye rajon**

Duration

19 months

Budget

Total budget: **379 577,25** EUR

Programme co-financing: 341 619,53 EUR (90%)

Project co-financing: 37 957,72 EUR (10%)

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