

*Regional action plan:*

## ***Transfer of good practices to Savinjska region - SUMMARY***

*Project partner: Development Agency of Savinjska Region, Slovenia,*

**PP št. 9**



**December, 2019**

Regional Action Plan CLEAN:

Transfer of good practices to Savinjska region - SUMMARY

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## Foreword

By definition, an action plan is a document that lists what steps must be taken in order to achieve a specific goal. The purpose of an action plan is to clarify what resources are required to reach the goal, formulate a timeline for when specific tasks need to be completed which stakeholders are to be involved,

The implementation of the CLEAN project will contribute to raising energy efficiency by 4% by 2022 by improving the measures in the ERDF policy instruments that will foster better cooperation between energy stakeholders in European regions.

As part of the project, RASR will influence the implementation of the Operational Program for the implementation of the European Cohesion Policy in 2014-2020, namely the implementation of the thematic axis Sustainable use and production of energy and smart grids, priority Promoting energy efficiency, smart energy management and the use of renewable energy sources in the public infrastructure, including public buildings, and the housing sector.

This priority pursues 2 goals:

### Specific objective 1: Increase energy efficiency in the public sector.

The implementation of the CLEAN project action plan will help achieve the result of "final energy savings in the public sector" through the use of smart lighting that will save electricity.

### Specific objective 2: Increase household energy efficiency

The result to be achieved under this specific objective is:

- final energy savings in the household sector.
- implementation of demonstration projects of complete energy renovation of multi-apartment buildings by virtually zero criteria - energy renovation where possible. It is about using the latest technologies that have a demonstration effect.

The CLEAN project action plan will help achieve the result of "final energy savings in the household sector" by implementing the measures of two measures - The challenge for families - less energy use and the use of the application - the challenge of renewal.

In 2017, Slovenia prepared an Energy Efficiency Action Plan for the period 2017-2020 (AN URE 2020), within the framework of Directive 2012/27 / EU on Energy Efficiency, or the fourth Action Plan since 2008.

The goal of ANURE 2020 is that primary energy use in Slovenia will not exceed 7,125 Mtoe in 2020, which means that it should not increase by more than 2% relative to the base year 2012.

Among the actions of ANRE 2020, the CLEAN Action Plan will help to promote and implement measures to promote the energy performance of buildings.

By implementing all three measures, the CLEAN Action Plan will help achieve the goal that primary energy use in Slovenia should not be increased by more than 2%. Project implementation will also indirectly help reduce greenhouse gas emissions.

In project CLEAN, as a part of projects activities, partners first identified 23 good practices of energy savings that could be used and to be transferred to other regions. From them each partner chooses three of them to use them in their Action plan.

RASR d.o.o. chose three practices that will be best transferred and will give the best results in our region. For the implementation of actions to Savinjska region we prepared Regional Action Plan. In the preparation we included stakeholders such as municipalities, energy agencies, schools, and The Ministry of the Environment and Spatial Planning.

For each action we prepared the description of what steps needs to be taken, who to include (stakeholders), timeframe, estimation of costs, expected results and the means to track the progress of the implementation of actions.

## **Action 1: Use of smart street lighting**

The first practice is to include sensors in public lighting on a selected section of bicycle trails. Sensors detect motion and adjust light. When a passing lamp approaches a street lamp, it increases the power of light from a basic 10% luminance to maximum power. When the pedestrians or cyclists move away, the light power is reduced to the base level.

The essence of the measure is to integrate the sensors into public lighting on the selected section of footpath or cycle path. Sensors detect motion and adjust light. As the passer-by approaches the street lamp, it increases the light output from the basic 10% luminance to maximum power. As pedestrians or cyclists move away, the light output is reduced to a basic level.

The goal is to reduce consumption and carbon footprint.

The first step will be to set up a demo investment project, and then, based on the findings, a study will be made analyzing the potential for the expansion of such systems in the region. A computational model or 3D video visualization will be prepared for the purpose of posting and raising awareness through various digital social channels.

The smart lighting will be implemented in LED control technology with built-in sensors and switching on the corridor (segment) mode. The electricity meters with remote reading will be installed on a sectoral basis, and an online system with on-line analysis, monitoring and monitoring will be installed. The bluetooth technology will be used for implementation.

Municipalities in the Savinjska region will be included in the project. It will primarily involve municipalities already connected or are planning to be connected to regional cycling links.

In addition, we will establish a partnership with the Dark Sky of Slovenia, a non-profit non-governmental organization that seeks to reduce light pollution and preserve the natural dark sky as an important part of our natural heritage.

We will also involve the Ministry of Infrastructure, Energy Directorate in the implementation of the action. They will be involved in selecting the municipality and location where the demo investment project will be installed. They will also cooperate at promotion of action and results. They will be involved in the preparation of the study as consultants.

## **Action 2: A challenge for families - less energy use**

The second good practice that will be used is the integration of families into the energy saving and water saving system while simultaneously checking the microclimate, living comfort (temperature, humidity CO<sub>2</sub>) in the apartment. The action is carried out in the form of a competition that encourages families to behave in a cost-effective way through day-to-day actions. Families who apply are grouped into groups that compete with each other. Each family gets water meters, heat and electricity consumption, and microclimate meters.

The essence of the measure is the inclusion of families in the system of saving energy and water while simultaneously checking the microclimate or living conditions (temperature, humidity of CO<sub>2</sub>) in the apartment. The measure is implemented in the form of a competition that encourages families to behave sparingly through daily actions. The families that sign up merge into groups that compete with each other. Each family receives water meters, heat and electricity consumption, and microclimate meters. Each family "logs in" and analyzes daily / weekly / monthly spending in an online application. The possibility of automatic entry of consumption data and quality of living comfort into an internal database is being developed using intelligent installations and modern ICT systems. Trained counselors work with families to help them spend less. At the end of the competition, the client (municipality) prepares a picnic for all participants, where a symbolic prize is awarded to the winners.

The competition is expected to reduce consumption by up to 8%.

Families in groups of 8 - 12 families will compete in the project. The families will be selected through a public competition, but it will be encouraged that these groups also reside in the same residential buildings - increasing their sense of belonging.

In the implementation of the action we will include municipalities and power distributors in the Savinjska region, who already have their own tendency to raise awareness about rational energy use. An important part of the project will be the media, so that the activities will be well supported by the media.

In the implementation of the action we also will involve local energy agencies, engineering companies in the field of energy efficiency, energy consultants and experts from the municipalities. They will participate in the project as consultants and as "team leaders" of the competition teams; they will be further trained for these purposes.

The Ministry of Infrastructure, Energy Directorate will also be involved in the implementation of the measure. As consultants, they will be involved in the selection of suitable equipment for use in the competition. They will be involved in promoting the competition.

### **Action 3: Use the application - the challenge of renewal**

Third good practice is using the "challenge of reconstruction" game, on issues of saving and reducing the cost of energy consumption through rehabilitation and restoration of dwellings.

The essence of the measure is a developed program that is uploaded to a phone, tablet, computer and which interactively shows the user how, with proper rehabilitation of the dwelling, it can achieve less heat loss, lower energy and water consumption. The application must be user-friendly, enable interactive work and contain calculations of the building in relation to the existing architecture, building physics, existing mechanical and electrical installations against the energy-fully adapted same building (simulation options such as thickness of façade insulation, type of joinery, use must be enabled) RES...). The possibilities of different scenarios of energy adaptation and the possibility of choosing the optimal variant are foreseen. Optimal energy adaptation should also be evaluated in terms of cost, with options for calculating the repayment of the input with energy savings.

The development of the application will involve interested municipalities in the Savinjska region, a development agency, energy consultants and experts, local energy agencies, engineering companies in the field of energy efficiency. Interested municipalities in the region promoting the developed application will be involved in the promotion of the application (on municipalities' websites, at events, etc., ...). The project will also be presented in schools to raise awareness and raise awareness of the importance of energy savings.

We will also involve the Ministry of Infrastructure, Energy Directorate in the implementation of the measure. They will work as consultants in the development of the application. They will also be involved in promoting action and results. They will introduce the application on their website.