



e-Newsletter

Third issue

September 2014.



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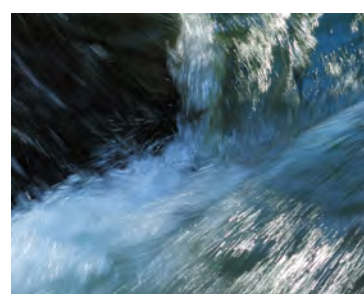
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"For a greener future of rural area"

1. Introduction

The aim of the TERRE e-Newsletter is to inform the external audience, such as RES companies, public bodies, NGOs, local development agencies, local communities, farmers, breeders, wood companies and other key stakeholders about TERRE project activities, new initiatives, events and interesting case studies.

<http://www.terre-project.eu>



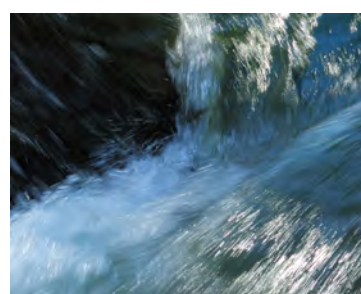
2. Pilot investments

Though project TERRE three pilot investments will be put in place as part of the general strategy developed in local plans, and will be shared with local communities and stakeholders.

Pilots will have a sustainable effect; they will demonstrate to local stakeholders and local communities the usefulness of investments in RES, and that can lead to the local development and new job creation. Information's about pilot investment will be transferred trough transnational meetings, conferences and website, and local media relations; what will assure transferability and replication of investments to all project areas.

Pilot projects will be realized by three project partners:

- *Municipality of Odorheiu Secuiesc will install a boiler with biomass fuel in „Bányai János” Profession high school*
- *IRENA - Istrian Regional Energy Agency will build one small PV solar plant of 6kW on the roof of Elementary School Ivan Goran Kovačić in Čepić.*
- *LIR Evolution will implement photovoltaic panels of 5 kW on the roof of the public building "House of Culture" in the Municipality of Gradiska.*



2.1 Municipality of Odorheiu Secuiesc

Pilot investment:

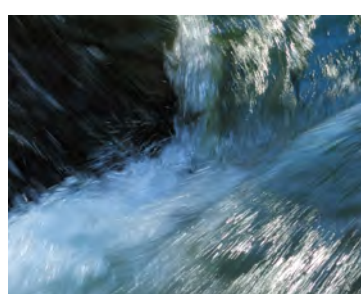
- A boiler with biomass fuel
- Location: „Bányai János” Profession highschool
- Budget: 50.000 EUR

The pilot investment in Odorheiu Secuiesc will consist of installation of boiler with biomass fuel in „Bányai János” Profession high school. The goal is to use these resources as efficiently as possible, so is needed to identify the best practices and the best equipment's to minimize the loss/cost in the use of wooden biomass (Municipality is owning about 1000 Ha of forest). Forest wood cuttings from wood processing and old or scrap wood can be used to obtain energy with using appropriate environmentally-friendly technologies. Wood fuel has several environmental advantages over fossil fuel. The main advantage is that wood is a renewable resource, offering a sustainable, dependable supply. Other advantages include the fact that the amount of carbon dioxide (CO₂) emitted during the burning process is typically 90% less than when burning fossil fuel. In the area of the city are more small wood processing factories, in the city are investments processing wood (joinery, furniture industry). These activities are resulting in a large amount of wood cuttings which can be used as non-conventional energy resources.



Technical data:

- The power of the boiler - $Q = 150 \text{ Kw}$
- Puffer - 3.000 l
- Expansion tank - 300 l
- Electro pump - $Q = 6,62 \text{ mc/h}$ and $H = 2,5 \text{ MH}_2\text{O}$
- The capacity of the storage: max. 52 m³



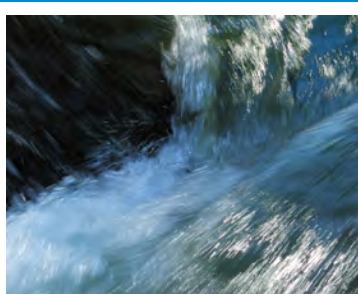
2.2 Istrian Regional Energy Agency

Pilot investment:

- PV solar plant of 6kW
- Elementary school Ivan Goran Kovačić, Čepić
- Budget: 24.000 EUR

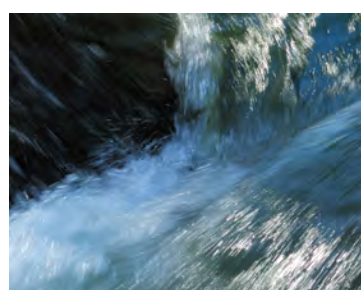
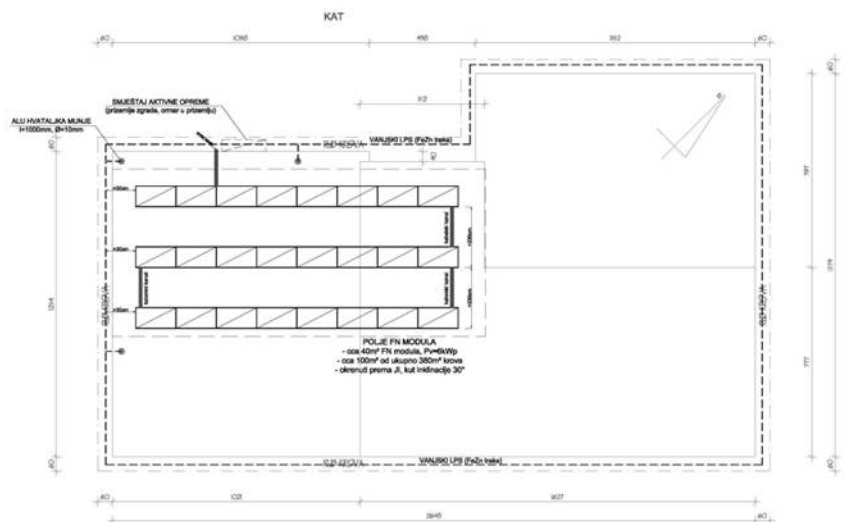


IRENA is building one small PV solar plant of 6kW that will produce electrical energy solely for the power supply of one building . Plant will be placed in the area of Čepić field, or more precisely on the roof of elementary school Ivan Goran Kovačić, Čepić. Annually, plant will produce around 7,500 kWh of el.en. This building was chosen because is ideal for placement of this kind of plant; it has flat roof where you can easily place the solar panels and it annually spends around 9.775,00 kWh of electric power, what means that implemented solar plant will be able to cover about 70-80% of electricity needs of proposed building. Also, thanks to the fact that plant will be placed on the school, it will have a big visibility and demonstrative purpose.



Main components:

1. Photovoltaic modules - 24 PV module units of total combined power of 6kW
2. Main distributor cabinet (GRO) - connection point of customers' installations, installation of PV power plant and external public network.
3. Cabinet for accommodation of active power equipment - accommodation of active power equipment; inverters, batteries and equipment for protection and management of the PV power plant.

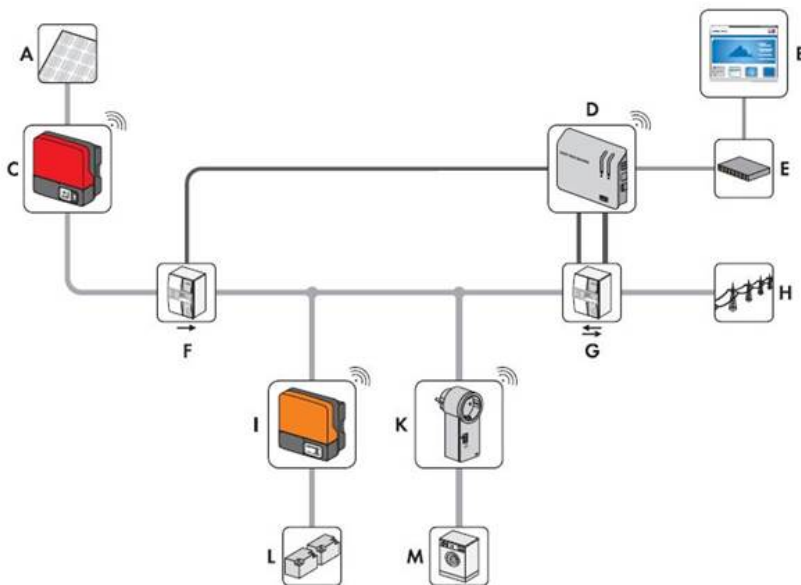


4 . Grid power inverter el.en. (DC / AC inverter) - converts DC power from PV modules into usable AC power and has integrated electrical and voltage protection on DC and AC side.

5. Bidirectional power inverter (AC / DC and DC / AC) and batteries - uses produced el.en. according to consumers' needs or storages surplus of produced el. into the batteries.

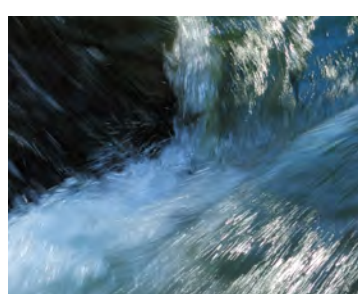
Inverter can work in two modes; Normal mode - in the case where we have power from public network, inverter supplies the consumers with power from the public network and from solar power plant.

Backup power mode- in case of the failure of public network, inverter will provide important electricity consumers with the energy stored in the batteries.



6. Surveillance and communication equipment - microcomputer / communication unit with web interface-central circuit control and monitoring systems that provides monitoring and management of plant operation.

7. External lightning protection system - LPS - will assure maximal protection of the power plant and the school building.



2.3 LIR Evolution

PV solar plant of 5kW

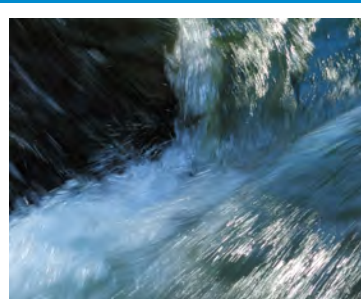
- "House of Culture" in the Municipality of Gradiska
- Budget: 14.400,00 EUR



LIR Evolution decided to build a small solar plant of 5 kW because solar energy represent an example of important renewable energy source exploitation and, as such, an investment in PV panels is fully aligned with the TERRE project main objective of motivating local development through RES exploitation. The use of solar systems in the world is growing rapidly, not only in the form of solar power plants engaged in the production of electricity for sale, but is also increasingly used in homes, shopping malls, parking lots, etc. to support own energy needs. In such a manner, is ensured partial or complete autonomy of energy supply for such facilities. A large number of contemporary designed modern objects are designed in a way that they can maximally exploit solar energy (directly or indirectly). One of the reasons for increased use of solar panels is the fact that the cost of their maintenance is very low, especially when compared with the cost of maintenance of other existing energy sources. As a result there could be an increase in investors' interest for exploitation of solar energy.



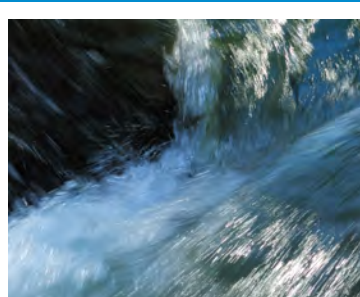
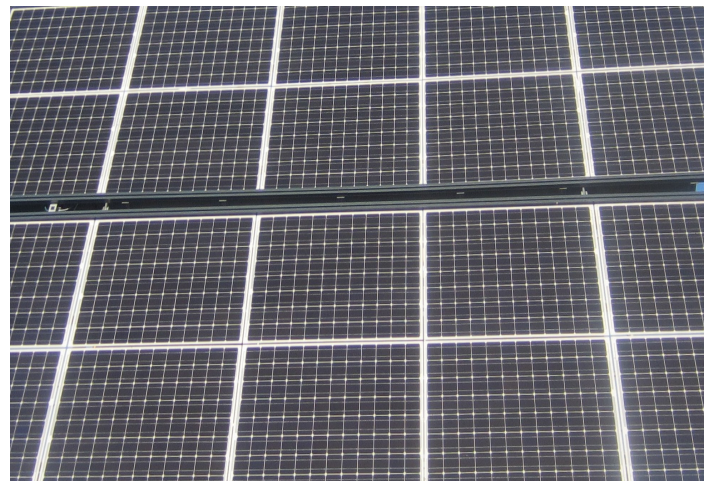
The Photovoltaic (PV) panels of 5 kW will be realized on the roof of the public building the "House of Culture" in the Municipality of Gradiska. The House of Culture is an object located in the centre of the Municipality of Gradiska close to the river Sava and a place where various events such as art exhibitions, concerts, fashion shows, fairs and presentations are held.



Realization of a solar plant, in addition to the positive financial effects, aims to raise technical awareness among stakeholders and visitors of House of Culture about the worldwide trends, application of renewable energy and the design of "on-grid" system. It also has indirect effects of reducing CO2 emissions by decreasing the involvement of thermal power plants. Although this influence is modest, it represents an important contribution to environmental protection.

The installation of PV panels will be conducted through the following phases:

- 1. Project design and development of project documentation,*
- 2. Decision on the positioning and elevation of solar PV panels,*
- 3. Selection of adequate PV panels,*
- 4. Preparation and installation of support structure for the panels,*
- 5. Installation of PV panels,*
- 6. Connection of PV panels with cables,*
- 7. Installation of inverter, protective equipment and port cabinet and their integration into functional unit,*
- 8. Final measuring of the system with commissioning of the system in operation and testing the parameters of the system,*
- 9. Procurement of the licences; electroenergetic consent and certificates of allowed harmonics emissions.*



3. Transnational project partners meeting in Odorheiu Secuiesc

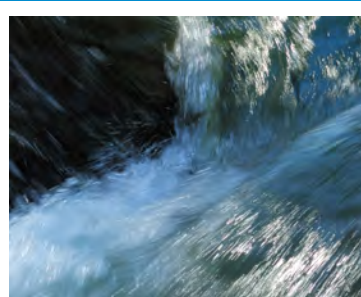


The forth meeting of project partners in the project TERRE - Territory, Energy & Employment, which is co-funded within South East Europe Transnational Cooperation Programme was held on 11th and 12st September 2014. in Odorheiu Secuiresc , Romania.

At the meeting participated members of 11 project partners from 7 different countries.

At the first part of the meeting, representatives from IUAV and EURIS presented innovative polices for energy and climate in European framework; Evaluation Plans: Monitoring and Evaluation for European Framework 2014-2020 and The 2014-2020 European Territorial Cooperation to support the TERRE's energy and climate investments. In the second part of the meeting, coordinators of the work packages presented state of implantation of project activities and partnership discussed about what is still to be done before the project end.

Next day, participants visited Solar park and Biomass plant in Odorheiu Secuiesc, and micro hydro power plant in Zetea.





4. Partnership



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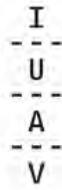
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