

REENERGY

Regional Strategies for Energy Conscious Communities

Overview

Funded by the European Union's Regional Development fund, REENERGY brings together energy conscious public authorities and research institutions from across Europe. The project aims to tackle climate change through close interregional cooperation.

It will give partners the opportunity to share ideas and resources, adding an integral local dimension to the pursuit of national and European green targets.

The project is about more than reducing carbon emissions. Building on the three thematic pillars of; community involvement, policy-making, job creation/business growth, it will use case studies and "Energy Labs"* to learn and develop comprehensive strategies, intended to transform the budding European green economy from the ground up.

Total Budget: EUR 2,210,186
78% ERDF funded

Participants

The partnership consists of 12 partners from 10 countries, including 8 Local Authorities.

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Province of Potenza, Italy (Lead Partner) - www.provincia.potenza.it
- 
National Research Council of Italy CNR-IMAA, Italy - www.imaa.cnr.it
- 
City of Tulln, Austria - www.tulln.at
- 
INTELI – Intelligence in Innovation, Portugal - www.inteli.pt
- 
City of Worms, Germany - www.worms.de
- 
Durham County Council, UK - www.durham.gov.uk
- 
The Association of Municipalities Polish Network "Energie Cités" (PNEC), Poland - www.pnec.org.pl
- 
KTU - Kaunas University of Technology, Lithuania - www.ktu.lt, www.apini.lt
- 
Municipality of Avrig, Romania - www.primaria-avrig.ro
- 
Municipality of Slagelse, Denmark - www.slagelse.dk
- 
Municipality of Szentes, Hungary - www.szentes.hu
- 
Building for the Future Ltd, UK - www.bfff-ltd.com

*Energy Labs

Energy labs, an innovation of the REENERGY project, are new platforms designed to encourage local improvement by ensuring close cooperation between energy experts, producers/suppliers and local authorities. www.renergyproject.eu

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Issue 6 December 14

REENERGY Newsletter

Message from the Lead Partner

After almost three years of working together in developing more efficient energy policies and strategies at the local and regional level, the REENERGY project is reaching the end of its implementation phase. Time has therefore come for a general assessment of the project, together with an evaluation of the general implementation of activities, of the level of efficiency/effectiveness, as well as the quantity and quality of the produced outputs.

All of the work completed was exhibited during the successful REENERGY Final Conference, held in the European Parliamentary Building in Brussels on 15-16th October 2014. Many highly qualified speakers from international organisations appeared together with many REENERGY partner representatives. In particular, speakers included Biljana Markova (UNISDR Programme Officer), Benoit Dalbert (Joint Technical secretariat – INTERREG IVC Programme) and Piernicola Pedicini MEP.

The Final Conference showcased case studies and best practices that have been developed and exchanged during the project term, along with a Model Implementation Plan that has been based on successful case study reports. The event aimed to foster the creation of international cooperation networks and partnership to participate in future initiatives on the project themes.

Regarding the interregional cooperation, it has been stated that, concerning the scientific content, very good cooperation has been established among the partners that participated enthusiastically in the project. This lively involvement has led to significant advancements in terms of methodologies and community awareness fostering an improvement of life standards in the partners' countries and the participation in possible future initiatives.

Moreover, the international cooperation has provided a lot of education and inspiration. The different cultures and ways of working in the public/political systems sometimes have been alike, and other times differed a lot. This has given the opportunity to examine alternative ways of thinking and acting. Together with the different resources and skills these could be applied locally.

During REENERGY's implementation, beyond the originally foreseen content-related activities, several partners carried

out additional activities, eg. participation at and/or organisation of content oriented meetings to generate and share knowledge and experience, as well as preparation of additional thematic articles.

Perhaps the most important additional activity of the project can be considered the pilot action which has been approved by the JTS as CP4 in September 2014. The overall objective has been to increase the awareness of operators and local communities interested in management/use of public buildings concerning energy consumption through 'real-time data' allowing experiment and evaluation of energy saving and energy consumption rationalisation.

The idea has been born because the implementation of thematic activities showed a substantial advancement in the achievement of the expected results. Given such a positive trend, enhanced by the political commitment, the good level of partners' interaction in the exchange of good practices, it seemed appropriate to include an additional activity with highly operative aim: to experiment innovative tools and approaches within the proposed Implementation Plan.

The Pilot Action has been designed to evaluate the effectiveness of innovative ICT applications for real-time monitoring energy consumption of public buildings in accordance with the well-known REENERGY three pillars strategic approach to develop tools to support decisions, Policy Making, raising awareness of local communities to energy efficiency, Community Involvement, and with positive impacts in the field of Market Uptake.

As Project Coordinator, Potenza would like to make a special thanks to all of the partners for the very good work done together. The REENERGY strength stayed in willingness to reach the best possible goals. The very good personal relationships which were born during the three years of project, could be surely considered as the starting point for possible future collaborations and opportunities of development, always looking in the same direction and for the same target: a safer and sustainable world of new people with resilient behaviour.

Enjoy the reading!

Alessandro Attolico,
REENERGY PM Coordinator

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European Union
European Regional Development Fund



Introducing Avrig

Energy has become a strategic factor in global politics; a vital component and cost factor for economic development and the progress of society as a whole, generating a series of major concern worldwide. The European Commission considers it essential for the EU to promote a common energy policy based on energy security, sustainable development and competitiveness.

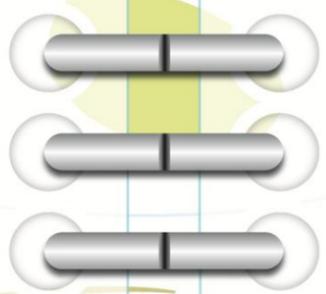
The purpose of EU energy policy, and therefore Romania's, is providing reliable and affordable energy reserves that aren't harmful to health or the environment. Increasing energy demand worldwide has demonstrated the need to identify and implement ways to reduce energy and production. In fact, the world has steadily improved energy efficiency particularly through renewable energy, which is the energy source with the fastest growth rate.

Avrig city's vision is to become one of the reference centres for renewable energy by 2020 and energy independent by 2030. Avrig aims to become an exporter of energy by 2020, using a smart grid and renewable energy infrastructure. It encourages investment incentives to improve energy efficiency throughout the chain: resource - production - transport - distribution - consumption. Avrig local energy priorities contained in the program include; energy production from renewable energy sources, development of energy infrastructure, developing the concept of a "smart city" and initiatives on smart grids,

production of energy crops, development of heat supply units, improving the efficiency of heating (including thermal insulation of buildings), rehabilitation of transmission and distribution, environmental protection and conservation and waste management.

Located in the centre of Romania, in southern Transylvania, 25 km from the municipality of Sibiu, Avrig benefits from some of the best natural resources in Romania: solar, wind, hydro and biomass. The largest investments are proposed in the field of solar and biomass. Biodegradable waste and biomass from the Avrig region will be collected and in bioreactors will be converted into biogas.

Mr. Klingeis G. Arnold, Avrig's Mayor, said: "The SMART Avrig Region Project will be implemented by 2030, with the first pilot plant now operational. Avrig, at present, produces green energy, miscanthus, biomass plantations, biomass recovered from high school Mirsa and we have installed three solar plants that produce hot water for two Avrig Kindergartens and the City Hall. Also Avrig received a national pilot program offered by the company Electrica, in which the Avrig community had its meters replaced with smart meters. All of the results from the RENERGY project will be implemented as a platform for monitoring consumption and renewable energy products at the Avrig level and centralised in the other cities in Europe."



Introducing Slagelse

Fulfilling your ambition takes involvement

The Danish Municipality of Slagelse is one of the partners in the RENERGY project. Situated in the south western corner of the island of Zealand, the municipality has approximately 180 kilometres of coastline, is rich on farmland and has a diversified and illustrious nature sprinkled with historic gems.

Slagelse has taken energy-saving policy to the community, as well as small and medium sized enterprises, and functions as a case study for community involvement. With a set goal of reducing CO₂ emissions by 20 per cent before 2020, it is crucial to involve many stakeholders in order to be able to reach this goal.



Acting role model
Setting ambitious goals for reducing energy consumption is one thing; it is another matter to achieve them in reality. The municipality knew it could not implement the policy themselves and therefore set out to act as a role model to its 75,000 inhabitants. Besides contributing to the fulfilment of their goal, the aim was to encourage citizens to participate in reaching the goals.

Municipal buildings are currently being energy renovated and approximately 17 schools will have solar cells installed. Larger municipal buildings will in future have a trained person responsible for monitoring the energy and water consumption and act on alerts if consumption exceeds the accepted levels.

Community involvement
Slagelse doesn't have major cities or gigantic housing estates. Instead, the majority of the population is spread out in villages, homesteads and farms. Therefore, it has been crucial to identify what ways the population could be reached.

As part of the Climate Plan (2011), the municipality initiated a project called Energy Village. The aim of the project is to learn how a municipality can support villages towards a more climate friendly development, including reducing CO₂ emissions.

Energy Village is not the only initiative stemming from the Climate Plan. Slagelse also offered its citizens one hour of free advice from independent specialists on a choice of energy sources, insulation of existing houses or insulation and heating in new buildings. The initiative acts as an incentive to save money on energy consumption and creates awareness regarding renewable energy sources.

Involving the world of private enterprise

Green Business Development is another initiative taken by Slagelse to involve their stakeholders. Local businesses within the building and housing sectors are encouraged to create a development towards green energy solutions. The aim is threefold and seeks to enable the businesses to:

1. Meet the citizens' demands for energy efficient solutions
2. Create this same demand in the community
3. Make bids on larger building projects using the knowledge and competencies necessary to provide sound energy efficient solutions

A surprising and uplifting development

The initiatives taken by the municipality have been received in a positive spirit throughout the community. Four private businesses established an Energy Network involving the building industry, consultants and the financial sector. They have set up criteria for participation and their aim is to share knowledge about sound energy solutions, to cooperate across professions and to strengthen the cooperation between builders and the municipality.

Energy Village

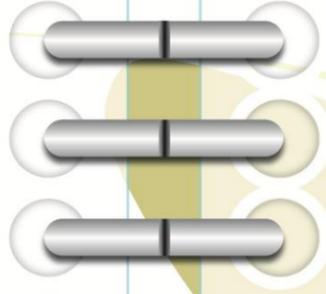
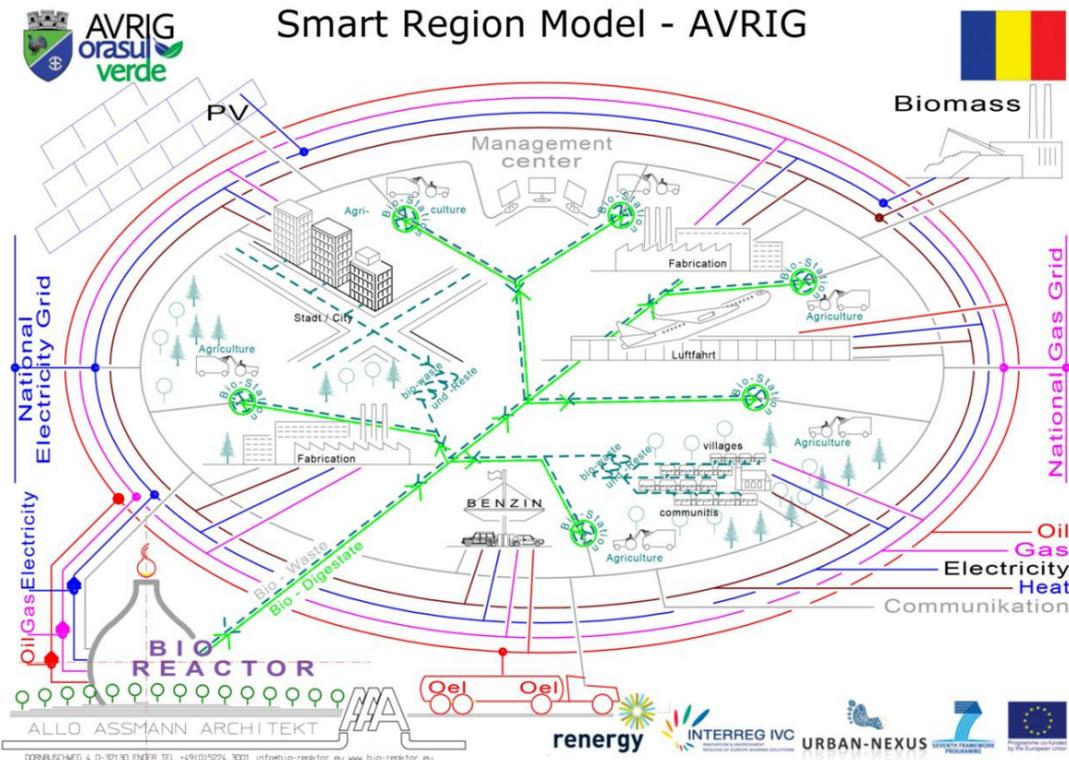
The Energy Village project is designed to learn how municipalities can support villages towards a more climate friendly development, including reduction of CO₂ emissions. Villages were invited to enter the project and the village of Flakkebjerg and the island of Omø applied. They are now fully engaged in the project that ran from 2011 to the end of 2013. The themes and activities involve renewable energy, electric appliances, transportation, water, waste and food.

Facts about the Municipality of Slagelse

- 1288: Municipal charter given to the town of Slagelse
- 2009: Joined the Convent of Mayors
- 2011: Finalised Climate Plan and Sustainable Energy Action Plan
- 2012-15: Participate in the EU financed Renewable Energy and Energy Efficiency in Zealand (REEEZ) project (energy efficiency and renewable energy in public buildings)



Smart Region Model - AVRIG



Newsbriefs from selected regions Snapshots of Recent Activity

CNR-IMAA

The 5th Thematic Group and Steering Group Meeting was held on 26-27 June in Rome at the CNR premises. The Case Studies and the Local Implementation Plans were discussed to set up an integrated framework for improving energy efficiency and the optimal utilisation of renewable resources at EU level.

Tulln

Yield data acquisition for community-owned PV-systems

Due to the high level of investment in renewable energy, it is useful to resort to a yield guarantee with a comprehensive system monitoring. In the central monitoring unit of the municipality of Tulln, tailored software ensures that any interference is detected immediately. With the help of pointer instruments a municipality employee sees malfunctions, which are also visible with a variety of alerting options. If the error message is not resolved promptly, massive yield losses threaten with the result of a missed feed-in tariff.



INTELI

Environmental Education Center of Torres Vedras launch new device to its young users

The Environmental Education Center of Torres Vedras celebrated the first year of its new building on 29 September. To mark the day, and under its main objective of ecological awareness among young people, an interactive device was launched to calculate ecological footprints. These also make recommendations to contribute to a more sustainable world.

Worms

Energy Lab 3b: Energy Concepts for Worms

On 25th July, the fourth and most important energy lab for Worms took place. During the interdisciplinary exchange meeting the project results and the energy concept for a pilot project were presented as well as strategies for implementation being discussed with political representatives.

Inspired by the heat and power plant in Tulln/ Austria, it was investigated whether such a common power supply can also be implemented in Worms. Based on an energy concept for a new planned energy-efficient residential development, new strategies and instruments for climate protection, energy efficiency and the use of renewable energy in existing and new urban quarters were identified. The results of the Renergy project will be tested on a pilot project and used for further urban development projects.

PNEC

Solar thermal collectors in Jaslo

The next stage of the project Installation of renewable energy systems on the public utility buildings and private houses in the Municipalities which are members of the Union of the Wisloka River Basin Communes within the framework of the Swiss-Polish Cooperation Programme has been initiated. From 28th July solar thermal collectors were installed on the roofs of private houses.

Potenza

“Making Cities Resilient” Unisdr Campaign - Il Network

“Provincia Di Potenza – Comuni”

Starting from 17th July 2014, the Province of Potenza started a consultation path with communities, with the dual aim of raising awareness and enhance the ability of people and communities to reduce disaster risks. This will be achieved through the dissemination of knowledge and increasing awareness on the importance of prevention and mitigation practices and to involve them in decision-making and programmers affecting the territory.



On the 25-26th September 2014, the Province of Potenza organised the MED REMIDA Regional Workshop and the 3rd INTERREG IVC RENERGY Energy Lab entitled Public-Private-People Partnership and Smart Energy Solutions for Resilient Communities Regional Cooperation, Development and new opportunities to combat climate change.

Avrig

1 July 2014

Avrig's third Energy Lab of the RENERGY project took place in the conference room of the Palace of Samuel von Bruckenthal Avrig, Avrig City Hall. Held by the National Research Institute for Electrical Engineering ICPE-CA Bucharest and the General Association of Engineers in Romania, the event brought together guests from central Government, as well as regional and local authorities in Romania and representatives from academic, research and design backgrounds, project experts and Global Alliance for Resilience Initiative (AGIR) members across the country.



The meeting focused on the exchange of experience and dissemination, transfer of good practices, development new policy tools and implementation plans.

BFF

Building For The Future (BFF) have continued to work on communications materials for the RENERGY project and planning the FutureBuild 2014 conference in Sheffield on 5-6 November, where RENERGY will be promoted.

The Local Implementation Plan has been finalised, in collaboration with the Local Enterprise Partnership (LEP) low carbon sector group, gaining buy in from local policy makers.

BFF have worked with the University of Sheffield on a project looking at community engagement and resource mapping. Details can be found at <http://solar-future.group.shef.ac.uk>

Slagelse

Homeowners happy with their low energy houses

The National Building Research Institute conducted an evaluation of housing for volunteers and found that the owners of low energy houses are very happy with their houses. The feedback from 370 homeowners shows that 93 per cent of homeowners would recommend low energy houses to others. The great satisfaction is partly due to more than 90 per cent evaluate the indoor environment as satisfactory in both summer and winter.



Other Relevant Industry News

CNR-IMAA

The RENERGY three pillar approach was presented at the International Conference, Sustainable City 2014, organised by the Wessex Institute of Technology. The main results highlighted the effectiveness of RENERGY transfer tools and methods, as well as the relevance of an integrative bottom-up process for stakeholder involvement and interregional cooperation to achieve strategic policy objectives.

Tulln

1st soil protection award granted to Tulln

In June the 1st soil protection award was granted to municipalities with the most sustainable use of soil. From 17 participating municipalities, the first place went to the garden city of Tulln. Soil is the basis for a sustainable supply of regional food to the citizens and is an important CO₂ storage.



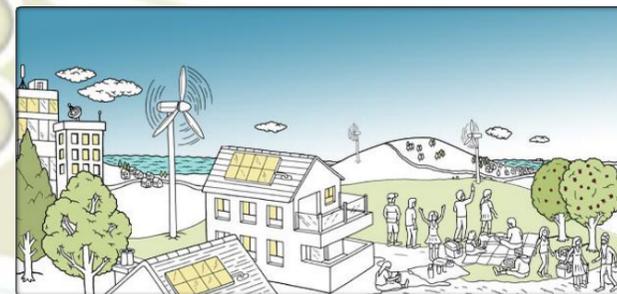
Durham

Sustainable Oakenshaw – A Community Renewable Energy Success Story

The community of Oakenshaw in County Durham has ambitious plans for a community wind turbine in partnership with the local landowner. With support from the landowner, the group raised €20,000 funding for a feasibility study, involving ecology, geophysical, visual impact and wind speed data assessments which were completed and produced some very encouraging reports.

Although the project has taken a few years to materialise, contracts have now been signed between the community and the landowner. Sustainable Oakenshaw stands to receive financial benefits of €30,000 per year for the first 10 years and €50,000 per year for the following 10 years from Feed in Tariffs.

In total, the project will be worth approximately €885,000 to the residents of Oakenshaw, over a 20 year period, which can help to reverse the progress of a community that was previously in decline.



PNEC

Pilot investment – PV in Jaslo

The Mayor of Jaslo, Andrzej Czernecki, is supporting pilot investment of El-mech-Plast company. An 18 panel 5 KW solar PV array was installed on the roof of its furniture factory. The system will fulfill demand for electricity in the offices of El-mech-plast during days with optimal intensity of solar radiation.

KTU

Municipal Waste

Lithuania is among the few EU newcomers that are still polluting the environment with municipal waste – leaving it to decompose on dumping grounds, instead of using it for energy production. At the moment there are more than 420 modern waste burning plants fitted for environmentally-friendly heat and energy production operating all around Europe.

By burning municipal waste, the amount of which in Lithuania reaches 1.3 million tons every year, it would make it possible to produce around 30 per cent of centrally supplied thermal energy. By using the municipal waste for energy production in modern power stations, its amount on the country's dumping grounds could be reduced by up to five times.

Avrig

18 July 2014

Avrig City Hall hosted a visit from a group of students participating in the Summer School European Sustainable Energy Innovation Alliance (ESEIA) organised by the Transilvania University of Brasov.

With the theme sustainable communities tomorrow, teachers and students from Austria, Hungary, Switzerland, Netherlands, Georgia, Armenia, Moldova and Romania have been given information about RENERGY, best practices of the Avrig community and policy recommendations were offered to develop



BFF

FutureBuild 2014

FutureBuild 2014 took place in Sheffield City Hall, UK, on 5-6 November 2014. This free to attend, brand new UK conference focussed on the sustainability of housing, renewable energy and community energy schemes and will culminate in a spectacular Gala Dinner, with a key notes speech from Lord Digby Jones. Read more: <http://www.futurebuild.eu/>

Slagelse

Energy Check Slagelse

As part of the preparation of the Local Implementation Plan, the municipality of Slagelse and SK Power supply company has formed Energy Check Slagelse.

Energy Check Slagelse offers free energy analysis of private housing and guidance on how to turn the energy friendly ideas into reality. At the same time, the project supports and strengthens the local businesses and economy.

Energy Check Slagelse was launched in May 2014 and so far more than 80 homes in the municipality have been checked by an energy adviser through this arrangement.

Image Caption: “Have you found the energy?”

Szentes

On 5 municipality owned institutions (Culture and sport centres, as well as schools) PV panels were installed, co-financed by EU funds. These panels provide sufficient electricity for each institutions, reduces its energy costs.



RENERGY Final Conference

After almost three years of working together in developing more efficient energy policies and strategies at local and regional level, the RENERGY partners assembled, along with politicians and key local players, for the Final Conference in Brussels on 15th October 2014.

The overall aim of RENERGY is to improve the effectiveness of the strategies for the sustainable development of local communities, demonstrating the importance of an integrated bottom-up approach to take local community needs, demands, cultural and infrastructural characteristics into account, empowering local authorities and providing them advanced decision support tools for the implementation of sustainable development policies.

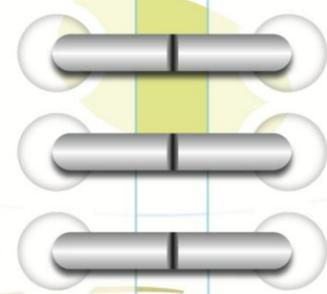
The project has enabled European partner countries with different energy efficiency and renewable energy backgrounds a unique opportunity to increase their knowledge, to promote economic change and social cohesion, as well as disseminate and implement good practices and experiences that focus on relative EU policy issues.

The Final Conference showcased case studies and best practices that have been developed and exchanged during the project term, along with a Model Implementation Plan that has been



based on successful case study reports. Also in attendance were guest speakers from the European Commission, who support the overall theme of the project and provided an official perspective.

The day had the format of a morning plenary session and three parallel afternoon workshops based upon the project pillars and with a focus on related topics. Besides illustrating the main achieved results, the event aimed to foster the creation of international cooperation networks and partnership to participate in future initiatives on the project themes.



Charming Hotel Areias do Seixo (Portugal)

Open to the public since 2010, the Charming Hotel Areias do Seixo, located in the municipality of Torres Vedras (Portugal), is a benchmark in eco-tourism, both nationally and internationally. Although the initiative is private, this investment had the support of Portuguese Tourism (Turismo de Portugal) through an agreement signed between Areias do Seixo and the banking sector, as well as the support of QREN (Innovation Incentives System).

This project was born from a desire to create a unique place where customers from around the world can be welcomed in familiar surroundings with complete respect and harmony with nature. The creation of a low density hotel with a reduced land cover rate, enabling the development of nature and sustainable tourism, with a strong awareness focus, were the main conceptual premises. The creation of a charming and environmentally conscious unit came to fill a gap in the regional/national tourism supply.

Areias do Seixo is actually an exemplar construction in terms of micro-local production and innovative systems for the management and control of resource consumption. Based on the principles of sustainable tourism, its construction and operational phases were based on the concept of self-sufficiency through the local production systems and energy efficient management of resources (photovoltaic, solar thermal, geothermal, automation consumption and savings associated, gray water recovery, etc). Even at the micro-level of energy production, the unit is a representative core with the installation of 36 PV panels of 240W, installed on 2 solar trackers, with a total production capacity of 8640W.

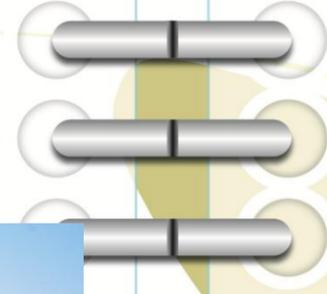
Since its opening, some good results are visible. In 2011, the production of energy obtained from renewable sources was 16.700 kWh, which represents a saving of €1,837 per year. The ambitions are clear; the hotel intends to achieve 35 per cent energy auto-consumption this year, reaching a record of 337,410 kWh in terms of electricity (indirect) consumption (lighting, HVAC, general functioning of equipment) through renewable primary sources and 16,435 kWh in terms of direct consumption from renewable sources.

To improve the management of these results and involve its own employees and guests, the hotel created the Eco Clock, an

innovative integrated automation and multimedia application that allows the automation and control of the electricity, water and sewage infrastructures from the hotel unit. This solution allows the generation of management information of all equipments and facilities of the unit using energy resources as well as monitoring the efficiencies obtained.

From its architectural language, that also reflects the predominance of environmental choices and building solutions with low visual impact and complete integration with the surrounding landscape, to its awareness role the local community, employees and guests, the Charming Hotel Areias do Seixo is one of the best practices for regional and national tourism.

For the future, the plans of the unit seem to be focused on activities with a greater social impact in the local community, engaging local environmental organisations for the development of contents on tourism, nature aspects and environmental practices and activities to guests in order to reduce their ecological footprint.



Challenges in Energy sector in Lithuania

Lithuania is facing challenges in the energy sector in three main dimensions defined in the National Energy strategy:

- Energy independence
- Competitiveness
- Sustainability of the energy sector

This situation has been determined by historic and political circumstances as well as by scarce internal energy resources.

Most of the fuel resources used in Lithuania are imported. After the shutdown of Ignalina Nuclear Power Plant (NPP) in 2009, the country is not able to satisfy its internal electricity demand. The Lithuanian electricity network is not connected to the European electricity system, therefore electricity can only be imported from a limited number of countries.

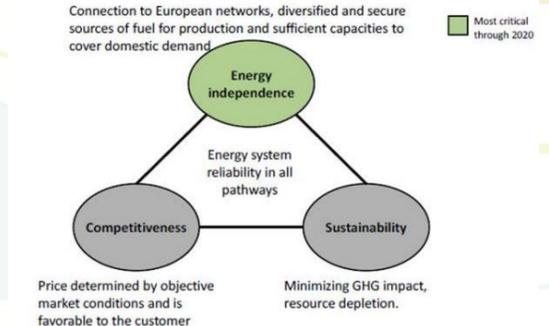


Fig. 1. Principles of energy system development (National Energy Independence Strategy, 2012)

Energy independence: After the shutdown of Ignalina NPP, Lithuania's energy system became highly dependent on electricity import and fossil fuels. Lithuania is isolated from the EU energy systems; there are no electricity interconnections with Continental Europe and the country is dependent on the sole external gas supplier. Consequently, Lithuania imports half of its consumed electricity from neighbouring countries, with most of the remainder of electricity generated by using fossil fuels supplied by a single source.

This situation creates additional threats to consumers. Lithuanian energy consumers are more vulnerable to energy supply interruptions or big price fluctuations than those in the countries possessing diversified and self-sufficient energy systems.

Competitiveness: The energy sector is not fully competitive. The country's energy market, pursuant to the 3rd EU energy package, is being made more competitive through implementation of the ownership unbundling in the electricity and gas sectors. In the electricity sector the ownership of electricity generation is being unbundled from transmission. In the gas sector the ownership of gas transmission and supply is being separated.

Sustainability: The energy sector faces sustainability challenges too. Energy intensity per unit of GDP is 2.5 times higher than the EU average. This reveals vast untapped potential for energy efficiency, especially in heating and transport sectors.

The vision of Lithuanian energy sector is based on all three main principles. However, in different periods of time (2010-2020, 2020-2030, 2030-2050) the focus will fall on different principles.

Asynchronous implementation of a different aspect of the strategy could cause some threats to the Lithuanian energy sector. Sustainability is supposed to be the main aspect of all European energy systems therefore it should be the integral part of the energy system development. When implementing the objective of a first dimension - sufficient capacities to cover domestic demand - unsustainable decisions could be made to cover those needs, if sustainability aspects were not integrated in the process.

Lithuania is a young independent country, having retrieved independence 24 years ago. The main problem of the country for sustainable development is energy autonomy. There is a serious situation in the field of energy security that is highly complicated or nearly impossible to deal with on its own. The other key problems include the long-term reliability of natural gas supply, construction of the prospective new nuclear power plant and integration of the electricity system into that of the EU.

By signing the Covenant of Mayors, the City of Kaunas committed both to implementing the Sustainable Energy Action Plan in the areas falling within the scope of their competence and to reducing the CO₂ emissions by at least 20 per cent on their territorial units by 2020. The idea and actions of the Covenant of Mayors are under implementation:

- The Intergovernmental Panel on Climate Change has confirmed that climate change is a reality and that the use of energy from human activities is largely responsible for it
- Unilateral commitment to reduce its CO₂ emissions by 20 per cent by 2020, as a result of a 20 per cent increase in energy efficiency and a 20 per cent share of renewable energy sources in the energy mix
- The EU commitment to reduce emissions will be achievable only if local stakeholders, citizens and their groupings share it

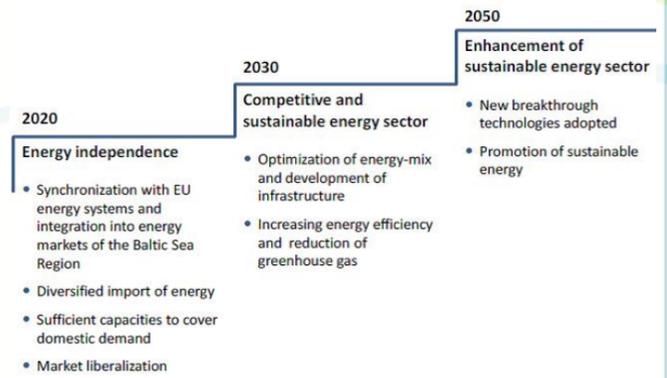


Fig. 2. Long term vision of Lithuanian energy sector (National Energy Independence Strategy, 2012)