



NEC

AEA, Agenzia per l'Energia e l'Ambiente della Provincia di Perugia, Italy

Summary

NEC project aims to create a sustainable energy community (SEC) in Foligno (IT), Brasov (RO), Rouse (BG) thought planning of new energy strategies. These communities will be connected and unified and their aim will be to represent a reference point (pioneers) for the following development of the initiatives applied firstly just at local level and then spread. NEC project also aims to promote and disseminate the SEC concept.

Energy saving Measures through this project will reduce the energy consumption with approximately 20 % in the three communities (15 % in Italy and 25 % in Bulgaria and Romania). Annual savings of 4.8 million tonnes of CO₂ are also estimated by the following measures:

- Energy certifications of buildings
- Inspections of boilers and air-conditioning systems
- New regulation and minimum standards
- Increase of public transports
- Use of methane gas vehicles
- New energy and transports plans

End-user area

New buildings
 Refurbishment of buildings
 Transport and mobility
 Financial instruments
 Industry
 Legal initiatives (regulations, directives, etc)
 Planning issues
 Sustainable communities
 User behaviour
 Education
 Other

Target Audience

Citizens
 Households
 Property owners
 Schools and universities
 Decision makers
 Local and regional authorities
 Transport companies
 Utilities
 ESCOs
 Architects and engineers
 Financial institutions
 Other

Technical

Energy efficiency
 Heating
 Cooling
 Appliances
 Lighting
 CHP
 District Heating
 Solar energy
 Biomass
 Wind
 Geothermal
 Hydro power
 Other

Context

Italy is, compared with Romania and Bulgaria, very different for typology of laws, building standard, heating plant, means of transport while Romania and Bulgaria, for geographical position and for past history, join many common characteristics. Through this project the 3 countries will adapt the same methodology and the experience and results from this project then will be exchanged.



Objectives

NEC project is intended to support the development of pioneer sustainable energy communities. These created SEC have to reach the following objectives:

- Reduction of energy intensity
- Reduction of CO₂ emissions
- Greater use of public transport and greater use of biofuel (oil of colza) for transport
- Become showcases for the dissemination of those concepts around Europe

Process

Both informative and demonstrative pilot actions are considered to be created in these SEC. These will then also be shown as good examples to other and future SEC.

The main project actions are represented by the energy certification of buildings situated in urban districts. This initiative is surely of prior importance. The Citizens in these areas often have a poor knowledge about this new instrument, even if the European law connected to the energy certification of the buildings is going to be brought about. Until this moment we have just discussed at technical level and we have just involved workers of the field. For a shared diffusion of the certification it is very important to create local communities where the application of this analysis instrument will be applied. These communities can support the authorities in spreading facts/information about energy certification.

Starting with the results got from the energy certification, local and regional authorities are going to plan the future political initiatives and to establish new basic building standards for further building realizations.

Together with the energy certification of buildings, in order to promote and awaken citizens and local energy actors, we will also promote the initiatives summarized below:

- Demonstrative actions for the rational and more efficient use of electric energy:
 - Change of the electric energy rate, using a night rate
 - use of household electric appliances at evening hours
 - use of only class A household electric appliances
- A campaign to awaken citizens about RES and RUE opportunities with dissemination of good practice and meeting between citizens and local energy actors
- Trainings courses in primary schools

To create SEC it is important to increase the diffusion of systems which exploit renewable energies and initiatives which grant energy saving.

At last, an urban community has to consider transports and that's why the project also has the following actions:

- Local transports planning
- Demonstrative actions for the use of public means for transports
- Demonstrative actions for the use of biofuels (oil of colza)
- Work for an increase of methane gas vehicles (Buses) in the urban districts

It is a series of actions which have, as common denominator, the energy sustainability, citizens' involvement and their awareness, the creation of interaction between political world, economic market and consumers, innovative approach development for the costs of renewable energy and of energy saving solutions.

Tools: studies and analyses, demonstrative actions, promoting campaigns, workshops, international conference, informative and training courses.



Financial resources and partners

Partic. Role*	Partic. N°	Participant name	Participant short name	Country	EU funding (€)
CO	1	Agenzia per l'Energia e l'Ambiente della Provincia di Perugia	AEA	IT	101.476
CB	2	Asociatia "Agentia pentru Managementul Energiei și Protecția Mediului Brașov"	ABMEE	RO	46.325
CB	3	Municipal Energy Agency - Rousse	MEA	BG	40.282
CB	4	Municipality of Foligno	FOLIGNO	IT	27.449
CB	5	Regione dell'Umbria	UMBRIA	IT	17.104
CB	6	Brașov City Hall	BRAȘOV	RO	10.445

In the project the energy agencies will support the authorities, the energy actors and the citizens with their competence. The employees of the energy agencies will also do the energy certification and the boiler inspection, support local authorities in the creation of a new regulation about energy standard of the buildings. They will organize the workshop about RES and RUE for citizens, experts and authorities. One day dedicated to sustainable transports will also be organized.

The energy agencies will work with local transport companies to increase the presence of clean transports in urban areas. They will also do training courses for teachers and pupils and organize the activities with them.

Results

This project will demonstrate that a high level of RES and RUE is feasible. The three SEC created within this project in 3 different Countries will become showcases for the dissemination of the SEC concept around Europe. Dissemination potential of both local and regional level is very high thanks to the involvement from local and regional authorities.

Tanks to Workshops and the "clean transport day", the NEC project will promote local sustainable concepts, establish favorable conditions for local energy markets, and create awareness through dissemination of good practice examples. Thanks to energy certification of buildings NEC will launch concrete implementation measures for the RUE and open a reflection area for future policy initiatives in this field. In fact, based on the results from the energy certification of buildings, local authorities will produce new regulations and energy plans. Results from the NEC project will also support dissemination at National and EU level by involving Agency net workings, participants/contractors of the CoA EPBD, authorities net workings etc.

NEC project can reach a critical mass of pioneer communities by the end of 2006 with involvement of many different net workings and multimedia instruments.

Benefits of proposed action have been estimated using data from "Green Paper", "White Paper", Agenda 21 and National societies of statistics.

Estimation of expected energy savings is approximately 20 % (15 % in Italy, 25 % in Bulgaria and Romania) due to energy certification of buildings, inspection of boilers and air-conditioning systems and new regulations and minimum standards.

Estimation of expected cost savings is 15 % in the short term and 30 % in the long term due to favorable conditions for local energy markets and local / regional regulations.

The energy supply dependency is expected to decrease with approximately 10 % in the short term, but up to 30 % in the long term due to implementation of good practice.

Improvements of energy service quality are high.



Annual savings of 4.8 million tonnes of CO₂ emissions are estimated after the energy certification of buildings, inspection of boilers and air-conditioning systems, new regulations and minimum standards, increase of public transport, use of methane gas vehicles, new energy and transport plans.

Lessons learned and repeatability

Although the project has not been completed it is possible to draw the following preliminary conclusions:

- Even if the boiler is a well familiar tool for the citizens many of them are unaware of the importance of a boiler inspection.
- Citizens don't know what Energy Certification is, and they are very reluctant to open their home to be inspected
- Citizens don't know the National and European Laws in the field of energy
- Using a tool (the CLASS software) to jointly analyse the buildings situation in different parts of Europe (IT, RO, BG) has given a great possibility to have a common analysis method useful for the further step of the project. Moreover the Consortium has known the big difference in three Countries (in the constructive characteristic).
- Explanation and direct involving in the activities has been a big educational mean. Through this project and concrete actions in the 3 communities we have made awaken all the member of local community from bottom to up. Thanks to this project the citizen now are more aware of the possibility to choose more efficient buildings and the authorities of the importance of promote funding or regulation information.

The model of sustainable energy communities is replicable easily in all European countries because it considers all aspects of saving energy.

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