



'Europe for Citizens' Programme



enpcom

European Network for the Promotion
of the Covenant of Mayors



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THE ENPCOM PROJECT AND THE COVENANT OF MAYORS

At the top of the European political agenda for the next few years there are important issues closely related to the future of Europe and its citizens: economic growth, Europe's role in the world, the democratic participation of citizens and the sharing of UE's policies. A sustainable growth is not only a priority for many EU Programmes, but it is also the pivotal point of a European medium-long term strategy (the 2020 Strategy) that aims to a more competitive Europe, with low carbon emissions, which invests in an efficient and clean energy and employs all the potential provided by new technologies.

The achievement of the European targets on climate and energy (2020 Energy strategy, Energy Roadmap 2050) must inevitably pass through the full involvement of local authorities and citizens, as it's in the cities that the 80% of energy consumption is registered.

The need for a bottom up approach to energy policies is at the basis of the European initiative of the **Covenant of Mayors**, launched by the European Commission in 2009, which started the experimentation of a new method to tackle issues of European interest, based on the direct involvement of local communities and citizens in the fight against climate change and in a sustainable use of energy.

The Enpcom project - European network for the promotion of the Covenant of Mayors - funded within the Europe for citizens programme (1.2 networks of towns) works in this area, strengthening the involvement of European citizens in the fight against climate change by comparing different local experiences and developing methods to enhance individual and collective practices.



ENPCOM is a network of local governments, citizens, industry organizations and associations aimed at strengthening the involvement of European citizens in the fight against climate change.

Municipalities and other European subjects (Counties, regions, associations of local authorities, energy agencies) involved in the project are committed, at different levels, to the planning and the implementation of actions on energy and of CO2 emissions reduction. The sustainable energy action plans represent a planning instrument common to all the European local administrations, with standard and uniform rules valid throughout Europe; these standards enable debates and the sharing of results.

Specific objectives of the project are:

- Integration of the involved communities on the issues of emissions, energy policies and strategies to adapt to climate change
- exchange and comparison of experience of citizens and local governments' good practices, identifying ways to enhance them

- identifying methods of communication between administrators and citizens to improve the quantification and monitoring of consumption/emissions and to improve the effectiveness of the SEAP action
- dissemination of the principles and objectives of the Covenant and of the European energy policies.
- Sharing of the best practices undertaken by local administrations

Project Activities

The project is divided into four thematic events. All the events' activities were carried out through a mix of conferences, exchange of experiences, project planning workshops, technical visits, environmental and cultural visits, tours.

Thematic events:

- Census and monitoring of real energy consumption and the behaviour of citizens (Pisa, 27-30 January 2014);
- The possibilities of action with the interaction between the public and private sector in transport and housing (Bruxelles 22-25 June 2014)
- The possibilities of action with the interaction between public and private in manufacturing companies: innovation, sharing, and energy efficiency (Extremadura, 19-22 November 2014)
- The enhancement of the role of citizens: good daily energy practices, their inclusion in the SEAP and valorisation of results (Quartu Sant'Elena, 26-29 March 2015)

The website

Our joint work resulted in the development of a "net" of municipalities, associations, companies and citizens which brought to the creation of the website www.enpcom-project.eu.

The portal has been translated into two languages – Italian and English - and includes the materials and the multimedia contributions shared by the participants in the project.

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1ST EVENT PISA 27-30 JANUARY 2014

CENSUS AND MONITORING OF ENERGY COMSUMPTIONS AND BEHAVIOUR OF CITIZENS

The first event of the ENPCOM project was held in Tuscany, in the Municipality of Pisa, with the main theme being the policies to fight climate change, the census and the monitoring of energy consumptions, the measurability of data and the behaviour of citizens, the European policies' bottom up approach regarding climate and energy.

From 27th to 30th January 2014 seminars, workshops, debates and technical and cultural visits with local administrators, experts, associations and citizens were scheduled in order to contribute significantly to the ideation and the sharing of innovative instruments to support the European Commission and the Municipalities that signed the Pact in the steps of data collection and result monitoring.

The Pisa event started on 27th January with the introduction of the project and the Europe For Citizens Programme.

On the morning of 28th January, in the Royal Hall of the Municipality of Pisa, the opening conference was held. The theme of the conference was the international and European framework of policies to fight climate change, opened by the intervention of **the Mayor of Pisa, Marco Filippeschi**, who focused on the need to improve the coordination between the Central Government and the local entities in order to be more efficient on the territory in the matter of environmental sustainability and energy saving. Taking Pisa as an example, the Mayor set forth a series of proposals to bring a change in our



cities, which is necessary in order to have good development prospects. Among these, the bureaucracy which burdens local entities and a necessary loosening of the Stability Pact obligations as an acknowledgement of the virtuous action by the administrations. But also specific financial investments in environmental sectors, for instance reaching special conventions with banks and the Cassa Depositi e Prestiti (CDP), and policies for tax exemption.

Filippeschi completed his speech by setting forth a proposal to the other Municipalities throughout Europe which have adhered to the Covenant of Mayors, that is to create a coordination of all the cities which have approved the SEAP led by the city of Pisa, to develop a strategy pertinent to the aims.

Afterwards, there were speeches by Antonio Lumicisi, of the Ministry of the Environment, with the title *Covenant of Mayors in Italy: Current state and future outlook*, and Marco Redini, Head of the Environment area of the Municipality of Pisa, on *Pisa's SEAP: instruments for the collection of energy data and emission monitoring*.

In the second session of the conference, focused on the topic *bottom up approach of European policies on the matter of climate and energy: comparison of local experiences*, the project partners exchanged views and shared different territorial experiences: Antonio Mazzon, Assessor of the environment area of the Municipality of Palermo; Žana Klarić, head of environmental protection area of the Municipality of Zadar;

Micheal Petersen, ECO city Skive energy department of the Municipality of Skive; Manuel Díaz, local development area of the County of Badajoz; Fernando López, Director of the Extremadura Energy Agency.

On 29th January 2014 there was the technical visit to the NAVICELLI SPA of Pisa – a Public Limited Company established to manage the logistics in the matter of the various industrial settlements in the area and the development of the Navicelli Canal itself – where the engineer Giovandomenico Caridi, President of the SPA Navicelli, led the delegation and showed the partners the APEA Navicelli Area and the Navicelli Smart Grid System.



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In the Navicelli area there is one of the largest photovoltaic plant of Tuscany – SOL MAGGIORE – inaugurated in April 2011, which was built inside a hydraulic containment basin, on a soil that could not have been used otherwise, and which is capable of producing energy equal to the need of 3000 families. At “Sol Maggiore”, through a collaboration with the University, a demonstrative

centre for the didactics on environmental topics was created, primarily intended for schools.

Later in the day, there was the visit to the Sol Maggiore Photovoltaic Park, with the engineer Marco Magnarosa, and the visit to the Navicelli Canal by boat, through a sustainable fluvial mobility system.



In the afternoon, the delegates from the various countries were divided into two groups and they worked on the workshops *The census and the monitoring of citizens’ mobility choices*, and *The monitoring of consumptions in buildings*. At the end of the works, the results of the two workshops were presented and discussed.

On the morning of 30th January, in the Royal Hall of the Municipality of Pisa, we had the chance to present the synthesis of the two worktables on mobility and private buildings but also to plan the second ENPCOM event, in Spain.



The results of the Pisa event

The workdays of 28, 29 and 30 January 2014 in Pisa were organised to act through the confrontation, the debate and the proposals on the census and the monitoring of energy consumption/emissions reduction data, included in the Sustainable Energy Action Plans.

The Pisa event was first and foremost an occasion for the various delegations to share the different experiences they implemented on the referential territories. From this comparison, it became clear that, in each region involved in the project, even if they represented contexts that varied a lot one from the other also under a normative profile, local Administrators have started a serious path to the achievement of European objectives. Naturally there are still many issues to face (difficulties to collect real data and in the managing of relationships between entities, lack of resources, normative gaps) but the interest and the commitment to the energy and environment topics draw a future prospect characterized by a greater organization and a keener attention to the implementation of policies to fight climate change.

During those three days in Pisa it was also possible to know the details of the numerous activities implemented by the Municipality of Pisa in the matter of the Covenant of Mayors: an advanced project to monitor the actual energy consumption in the city and the development of a production area (Navicelli) characterized by specific energy efficiency interventions and by the sustainable management of the present human activities. During the worktables it was clear that the monitoring of the efficiency of each action established in a SEAP cannot avoid taking in consideration the method through which this action was planned and quantified in terms of the expected result. This entails, first of all, that in the different Plans adopted in Europe, the census of consumption, thus also of the CO₂ emissions (IBE/BEI) is carried out through actual data and information that are depictive of the specific characteristics of each urban territory. The aim of the event organized in Pisa was to collect, from the different experiences, the ideas and the issues that characterize the work done until that moment through the Covenant of Mayors.

Through this work and the organization of the following events of the project, the aim was to reach a first definition of specific guidelines to be shared at a national and European level. For these reasons in the occasion of the Pisa event it was particularly interesting to see the presence of an heterogeneous partnership, able to represent the various entities that have decided today to undertake the communitarian path established by the Covenant of Mayors. We saw the participation of 29 delegations coming from 7 European countries which represent with full rights all the types of actors involved from the European Commission in the Covenant of Mayors: small, medium and large municipalities, support structures (associations, energy agencies...) and Pact coordinators (counties, regions, unions of municipalities...).

2° EVENT BRUSSELS 22-25 JUNE 2014

THE POSSIBILITIES OF ACTION WITH THE INTERACTION BETWEEN THE PUBLIC AND PRIVATE SECTOR IN TRANSPORT AND HOUSING

The second ENPCOM Project event took place in Bruxelles and part of the works were integrated in the EUSEW – European Union Sustainable Energy Week planning, in order to give the project more exposure and to insert it in an institutional context of a relevant European interest

The aim of the meeting was to present, in the frame of the European growth objectives and the Covenant of Mayors movement, the new models of collaboration between public and private (PPP, ESCOs) in energy policies and to share the best experiences of local projects.

The main theme of the event, “Model of collaboration between public and private for the implementation of energy policies” was dealt with through a working method which assured the discussion and the debate between the partners. Moreover, the direct contact with European institutions and their representatives, contributed to the promotion of the connection between local administrations and European institutions, conveying opportunities and their functioning.



On **23rd June** the opening conference was held at the Economic and Social Committee, in the presence of the EESC representatives, the Covenant of Mayors Office, the European Commission, and of private companies which operate in the sector of management and construction of public-private partnerships.

The meeting, as underlined by **Antonello Pezzini - EESC Counselor**, who opened the works, aims to aggregate interests and to put into focus the terms of the issues, taking stock of the situation. The energy issue is a pivotal element in the EU policy, as proved by Art. 194 of the Lisbon Treaty, which introduced a specific legal base on energy, that enables the EU actions in this sector to be clarified.

Europe wants to pursue new frontiers together with the Mayors, for the implementation of energy policies



and sustainable development. On partnerships, both public-private partnerships and public-public partnerships, an amount of EUR 22 billion was earmarked on the 2014-2020 EU budget, and integrated to the 2020 Horizon Programme. The topic of collaborations between public and private is one of utmost importance, even if it is seldom given proper consideration by local administrations or national institutions (especially in Italy and France). The entirety of funds pertinent to the 2020 Horizon Programme, which amounts to over

EUR 80 million, constitutes a further opportunity for local administrations. Through this programme, new and innovative forms are incentivized, the prototypes, and Europe could be interested in financing them.

It is important to understand the need to broaden our minds when it comes to ideas. The Covenant of Mayors is the tool that allows local administrations to face these topics, and to understand the existence of problems that are not to be solved by Europe or the State, but must be faced by the Region and in some cases, local administrations themselves. Besides the Covenant of Mayors, Europe has also created the Covenant of Industries, which includes the craft sector. In Italy there are about 770.000 industrial warehouses that are energy-consumptive, and also 16 million of electric machinery which have a very high energy consumption level. The 640/2009 Regulation establishes that from 1st of January 2015 in Europe there must be exclusively low energy consumption engines (EF3 or EF2 with a regulator). It is necessary to intervene and develop a synergy between Regions, Municipalities, professional associations, trying to intercept the EIB financings (the Lombardy region is already operating in that direction). The aim is to

decarbonise and, at the same time, to create employment. All this can be done as long as civil society, local administrations, professional associations, can control these issues and turn to specialists to carry out these interventions. Today Europe is working on the new 2030 frontiers, the 20-20-20 targets are considered overcome, and the new targets are 40-40-37. There is a big difference between the speed with which Europe and the most virtuous nations are proceeding, and the slowness of regions such as Italy, and this slowness can be measured in the field of rules enforcement. Sweden, Finland, Germany, Denmark and Holland have the ability to insert themselves in the innovation that is emerging in Europe and to make an impact on it, participating in the creation of innovative directives approved by the Council of Ministers. On the matter of renewable energy, Italy is at 13.5% , while Finland is at 51%. It is clear that, when a directive such as the 2009/28 on renewable energy is adopted, Finland easily succeeds in applying it while Italy lags behind.

Andrea Accorigi, (Covenant of Mayors office) illustrated the state of art of the Covenant of Mayors 5 years after the launch of the initiative by the Commission. Local authorities have a key role in the implementation of EU energy policies, but in countries such as Italy and Spain, where there are many small municipalities, support on a higher administrative level is needed (Provinces, regions and also at a national level). The Covenant of Mayors involves 51 Countries and it is an initiative that goes beyond the European Union (Asia, South America, the Mediterranean basin). Italy constitutes an interesting case because more than a half of the Italian population is represented; as a matter of fact, more than 1 over 2 citizens in Italy resides in a Municipality which has signed the Covenant of Mayors (the signatories are 2734, almost half of the signatories at European level are Italian).

However, there is another significant fact on which can be relevant to reflect on, and that is the one regarding the suspended signatories (there is a suspension in the following cases: if the SEAP is not submitted within the deadline, if the monitoring report is not submitted within the deadline, and if the target of the 20% reduction was not achieved): in Italy there is a growing number of suspended signatories, about 15% of the 2734 signatories; also, about 50% of all the suspended signatories at a European level are Italian. 1912 Italian SEAPs for sustainable energy were submitted.

The majority of the Municipalities which have agreed to the pact are small-sized (in Italy 70% of the municipalities have less than 5.000 inhabitants), with scarce economic and technical resources. Also the majority of the Municipalities which were suspended are small -sized. The Covenant of Mayors is not only a tool for the fight against climate change, but it is above all a tool for economic, social and environmental development in the territories. The SEAP has an aim and it has a strategy to achieve it which involves all the subjects on the territory: not only local administrations, but also enterprises, local craftsmanship, citizens. On the topic of energy security, on 28th of May the European Commission adopted a communication which establishes that the Covenant of Mayors is part of the energy security strategy: Member States are called on fostering the implementation of these Plans to reduce the local energy consumption and to boost the local energy production . Moreover, the Covenant of Mayors promotes the formation of human capital and fosters the opportunity to learn one from the other in order to mutually grow. In order to endorse the



practices from a technical point of view.

Covenant of Mayors to the maximum, a financial, juridical and technical support is necessary. The Covenant of Mayors' policies must be seen as areas for the investment of funds from the cohesion policy. The energy efficiency contract is a finance scheme that, in some way, tackles the limits of the Stability Pact, such as revolving funds and private funds. From a legal perspective, in some regions, the Covenant of Mayors is seen as part of the energy and development strategy of the region. The Covenant of Mayors is also the platform for the exchange of good

Iskren Kirilov Todorov, (European Commission) drew attention to the new partnership models, which are part of an investment package for innovation, and constitute a key tool for the implementation of the 2020 Horizon Programme, the EU research and innovation programme.



The investment package is composed by 5 proposals aimed at the establishment of public-private partnerships in the form of joint technology initiatives under Art. 187 of the Treaty, and 4 proposals aimed at the establishment of public-public partnerships with Member States under Art. 185 of the Treaty, for the joint implementation of international research programmes. The proposals for public-private partnerships regard the sector of innovative medicines, cells and hydrogen fuels, reduction of the environmental impact of the next generation of aircrafts, bio-based industries, etc.

Public-public partnerships include the Active and Assisted Living Research and Development Programme, eurostars II in favour of those SMEs that deal with research and innovation, the European Metrology Programme for Innovation and Research and the 2nd European and African Countries Clinical Trials Partnership. This package represents an overall investment, for the next 7 years, of about EUR 22 billion, of which EUR 8 billion from 2020 Horizon, which will incentivize the income of EUR 10 billion from the industry and of almost EUR 4 billion from Member States. These figures correspond to the proposal made to the Commission; later, through the negotiation procedures, they were slightly reduced by about 10%. After this accelerated negotiation, on 6th of May the Council adopted the corresponding regulations published in the Official Journal of the EU in the 7th of June issue. Now we are waiting for the first calls for proposals, which will probably be published on 7th of July. The new partnerships were conceived within a specific framework. The reference, first of all, is to the 2020 Strategy which aims at developing favourable conditions for investments in the fields of knowledge and innovation, specifying the methods through which smart, sustainable and inclusive growth can be achieved. Public consultation for the revision of the Strategy is open until October, and Municipalities are invited to submit their proposals for the future. The economic crisis underlined how an exclusively service-based economy is not sustainable anymore. This clarifies the target for the industrial sector, which aims at having 20% of the GDP generated by the manufacturing sector by 2020. Therefore, it is also important to consider the framework in which the 2020 Horizon programme was conceived, as these partnerships constitute an instrument for its implementation. The main difference between 2020 Horizon and the seventh framework is that now it is possible to finance all the production chain, from basic research to the placing on the market. The rules of 2020 Horizon were simplified and they are applied to new partnerships. There is hope for a greater involvement of researchers and SMEs. One of the 2020 Strategy's main aims is that of investing 3% of the GDP in research and development, but the progress toward the achievement of this target are still insufficient, especially regarding private investments. The Countries which have invested the most in research and development are those which have shown a bigger resistance to the economic recession. Starting from these observations, Europe has built a new generation of partnerships. Art. 25 of the regulation establishing 2020 Horizon defines the new criteria and the aims of partnerships, that induces us to talk about a new generation. General targets are more ambitious and specific ones are more precise. Moreover, each specific aim is combined with a series of helpful indicators to monitor actions. The governance and the links to regional and national activities were refined. In order to strengthen these links, the group of representatives of the Member States, which is an advisory body to all these partnerships, was strengthened as well. The representatives of the Member States inform the Commission on the development of initiatives of interest in order to strengthen the synergies between those activities developed in the partnerships and those funded also by Structural Funds. Thanks to the group of the Member States' representative, it is possible to make proposals and to follow the activities' development.

Piero Atella, manager of Sinloc Spa's South Area, explained the financial structure of the PPP operations in the sector of energy efficiency.

What are the methods of financing through which actions established in the SEAPs can be implemented? There are two main methods: the classic method of free grants, or alternatively, the public-private partnerships. The Commission identifies the features of partnerships in four elements: a long-term relationship between the public sector and the private sector, a financing method for the project where the private subject provides some of its own financial resources, financing up to 100% of the implemented project, the allocation project risks both to the public sector and to the private sector. In an operation of public-private partnership, the project is the main focus of all the different subjects who are part of the initiative's success. In order to implement a PPP project there must necessarily be an advantage for all the operators. In particular, there is a distinction between the public partner and the private partner. The public partner must ensure that the project is of general interest and that it increases the economic benefits of the community. Afterward, the best course of action to implement that work (PPP, contract) must be pinpointed. As regards PPP, both the interest of the public subject, and the interest of the private subject must be evaluated. It is necessary to ensure that the project is economically sustainable, and that there is a fair relation between project risks and return for the private subject. It is clear that a private does not implement a work if this does not bring in a return. These evaluations are carried out through the cash flow method.

Projects for energy efficiency and PPP schemes

For the application of PPP schemes to energy efficiency projects, the PA should, as a first step, develop a feasibility study to pinpoint the consumptions, the requirements in the different points of consumption, and the pursued targets. In the case of the Italian legislation, the PA has two possibilities: it can opt directly for a call for tenders with a feasibility study, or it can develop a project, which means that it must analyze the initiative from a technical, juridical and economic point of view. If the PA decides to develop the project, the call for tenders phase will open. In the case of a PPP procedure, the model which is generally adopted in the sector of energy efficiency is the creation of the project through an ESCO (Energy Service Company). The winner of the call for tenders, in this case, will have the task of planning the initiative, dealing with the purchasing phase, the implementation of the project, the financing and the management of the work for a specific number of years. The feasibility study evaluates the economic and financial sustainability of the investment, or the need, if any, for a contribution in capital account for the creation of these works. This is an aspect of utmost importance, and it is a guarantee of the participation of private subjects to the call for tenders. These operations can often be funded through a project financing structure.

There are different financial tools to implement energy efficiency works and projects. Public contributions can be used to finance projects that have returns in the long-term (for example, the exterior insulation and finishing of a building). It is unthinkable to carry out a PPP operation financed exclusively by the private subject to do an exterior insulation and finishing of a building, as the operation wouldn't allow for the recovery of the private's capital. With a lack of public funding, this kind of work cannot be carried out in the PPP form.

Another tool is given by the forms of debt deriving from public resources. The Jessica funds and the revolving funds will have an ever-growing role in project financing. In the cases in which resources for the projects come from public funding, they have to be reimbursed and can still finance projects that have a return in the medium-long term, like the investments on public street lighting systems.

Bank financing in this particular moment is unsuitable for projects with very long returns; it is suitable only for those projects that have a duration of a maximum of 10 years. Other kinds of financing are represented

by the infrastructural funds, not much developed in Italy. All these forms of financing can be mixed to finance a project that has different features. For example, energy efficiency can involve the exterior insulation and finishing of buildings, or the renovation of the whole internal plant design. In this case, it will be possible to use in part a public financing, and for the other part a private financing. In the choice between a PPP and a traditional financing, the PA can choose among three forms of financing, such as the transfer of public funds, the indebtedness with all its limits, and the indebtedness through these innovative financial tools, such as the Jessica Funds. To apply the PPP models (ESCO) means to have multiple sources of financing at disposal, and to promote the creation of that mix of financing sources and type of investment.

Energy efficiency projects, being easily implemented by means of building works, have important environmental and economic benefits for the public subjects over a long period of time. It would be important, however, to intervene on the technical background of the PA (with a particular reference to the legal aspects linked to the PPP schemes) and on the capacity of evaluation of business plans on an economic-financial point of view. It would be helpful to establish a planning fund, also valid on European funds, in order to support Municipalities (especially small-sized ones) in the implementation of feasibility studies, which consent to bring the projects to the market. Moreover, the creation of an equity fund to capitalize the ESCOs, supporting the creation of private capitals, and a guarantee fund for the bankruptcy of public subjects.

Renzo Tomellini, manager of a part of the research and innovation programme, explained to local administrators that, within the European research, there is a big package of funds, represented by the 2020 Horizon framework programme. Europe leaders set smart, sustainable and inclusive growth as a EU target, in the document 2020 Europe. If 2020 Europe is the political target for the EU action, 2020 Horizon is the research and development programme to obtain the technological and innovative tools aimed at achieving those objectives. The framework has a EUR 80 billion funding and a multiannual programme for 7 years. This means that it is not necessary to discuss the budget every year. Even during the financial crack period (2008) European leaders decided not to cut the resources of the programme from the previous exercise, as research and innovation are not an expense, they an investment in our future. The programme is organized according to three points:

1. Scientific research at the highest level
2. Research to support industrial competitiveness
3. Innovation and research in the socio-economic field.



The third point finances projects that meet the needs of communities, people, territory, Europe as a whole and of Europe made of individual citizens. The programme finances projects that create new solutions which can be multiplied and diffused in Europe, or local projects for which there is the need for competences from all the EU Countries (for example the Mediterranean anemia, which mainly involves Sardinia but which requires competences at a European level). Therefore, the programme finances projects that involve an issue of general interest, or an issue of local interest for which it is important to

bring together more competences at a European level. As it deals with socio-economic objectives, the programme is divided into chapters called Societal Challenges. That is because it is up to the civil society to establish the objective of research, and to the researchers to find the technologies to answer and achieve the results set by society. The partnerships in research projects are as wide as possible, and they include

the industry that has to develop the technology, the university which has to provide the knowledge needed to support this technology, but also the local authority which will use this technology. Examples of this are given by the use of CO2 for greenhouses, the systems for water purification, a system for field irrigation that takes into account the depth of the soil. Local authorities are invited to take part as users of the research, who will test new technologies. The aim of the framework programme is to promote and develop NEW solutions, that are not on the market yet, taking a step further from the state of the art.

The second part of the conference focused on the debate and the comparison of local experiences with interventions by **Giovanni Caruano**, Assessor of the Municipality of Vittoria, **Salvatore Orlando**, President of the city council of Palermo, **Mauro Contini**, Mayor of Quartu, **Teresa Rocatis Nielsen**, planning manager of the Municipality of Skive, **Thomas Malmstedt**, Manager of the Municipality of Arvika (for the interventions, see the slides posted on the project's website).

On the afternoon of the **23rd June**, at the representative seat of the Sardinia Region, the website of the ENPCOM project was presented. The website, subject to the normative regulating the publishing of websites linked to EU funded projects, contains the obligatory sections in which the contents and the materials produced in the project are to be posted. The website represents an important window for all the Municipalities, which fosters the circulation and the diffusion of specific materials and promotes the strengthening of the cooperation between partners. It needs the active participation of all the partners for the editing and the signaling of contents and for the diffusion of the results.

On the **24th of June**, at the European Commission, delegates took part in the conference for the **EUSEW 2014: Covenant of Mayors, Smart Cities & Communities, and ManagEnergy at the service of energy users** – European commission-DG Energy, executive agency for small and medium-sized enterprises, and directly connected with the EU institutions.



In the afternoon, at the office of Region of Sardinia, the works were concluded. In particular, we discussed the possibility of presenting further planning projects and we tried to develop some, according to the announcements of the 2020 Horizon programme, illustrated on the morning of 23rd of June. We also talked about the place where the last event will be held. On this matter, the Municipality of Skive (Denmark) and the Municipality of Quartu (Italy) have given their availability

3RD EVENT EXTREMADURA, 19-22 NOVEMBER 2014

THE POSSIBILITIES OF ACTION WITH THE INTERACTION BETWEEN PUBLIC AND PRIVATE IN MANUFACTURING COMPANIES: INNOVATION, SHARING AND ENERGY EFFICIENCY

The third event of the ENPCOM project was held from 19th to 22nd November 2014 in the Region of Extremadura (Spain) in the cities of Badajoz, Caceres and Merida. This is a territory of particular interest for the investments and the results obtained in the production of renewable energy and energy saving, and representative of an important part of the ENPCOM project partnership: the County of Badajoz and the County of Caceres, the Region of Extremadura, the Extremadura Energy Agency.

“The possibilities of action with the interaction between public and private in manufacturing companies: innovation, sharing and energy efficiency” was the main theme of the event, which was carried out through conferences and open debates, exchange of local experiences, technical and cultural visits in which many local participants, representing institutions, local associations and citizens, took part, together with the delegates from partner municipalities.



The opening conference, focused on the theme of *innovation in the energy management of productive activities, with particular attention to the role of the public*, was held in the Hall of County Council of Badajoz. The works of the conference were introduced by **Manuel Antonio Díaz – Deputy of the County of Badajoz**, the largest of the counties of Extremadura, which is composed of numerous small municipalities with less than 10.000 inhabitants.

The County, considering its specific territorial characteristics (the presence of small municipalities, a low population density, a rural environment), plays a fundamental institutional role in the promotion and support of the Municipalities for the implementation of measures regarding energy efficiency and the production of renewable energy. Also, it promotes the involvement of privates in the improvement of energy performances.

Currently, it supports about 100 Municipalities in reaching European climate objectives with the result of an energy saving that amounts between 20%-40% up to now.

One of the most positive experiences, that is worth replicating in the territory is the joint management by 4 Municipalities of a series of energy services provided by a single agency. A choice that not only led to the achievement of important results in terms of energy saving, but it also led to a significant rationalization of costs. The County of Badajoz is promoting other projects aimed at the incentivizing the joint management of energy services by more Municipalities, for example, for water management. Currently, more than 80 Municipalities are probably going to be involved. The development and the implementation of these projects are the result of an efficient inter-institutional collaboration among Municipalities, the County of Badajoz, the Extremadura Region and the Extremadura Energy Agency, from which an improvement and an extension of the projects is expected.



Fernando Lopez, director of the Extremadura Energy Agency, explained the situation of renewable energy in Extremadura. In Spain there are many solar thermoelectric plants (CSP) with a production of 1581 MW and a potential of 2425 MW. Of the 42 thermo solar plants that are being activated in Spain, 19 are in Extremadura and they use parabolic technology. In 2013, in Spain, photovoltaic energy was produced for an amount of 4400 MW. At present, in Extremadura, the MW installed are 540 (only two other Spain regions – Castilla La

Mancha and Andalusia – have a bigger photovoltaic energy production than Extremadura). Regarding biomass, there are two plants: one in Miajadas (16 MW) and the other in Merida (20 MW) which use grass and wood residues from agricultural production, collected in the woods of Extremadura. Also, the hydroelectric centrals are numerous even if Extremadura is far from the coast, since there are many lakes and basins.

From 2010, Extremadura has covered 100% of the electric energy consumption through renewable energy. The aim is to reach 135% of production by 2015, that is 35% more than the need. Extremadura produces 7% of the electric energy of the whole country.

Cosme Segador, technical coordinator of the Extremadura Energy Agency, illustrated an interesting study carried out in 4 Municipalities, in the matter of the contracts of energy supply, energy services and the complete maintenance for energy management (building lighting).

The County of Badajoz includes 180 Municipalities. Energy studies were carried out in 101 Municipalities of the County, and on the basis of the results obtained, different groups were ideated.



The studies demonstrated that for small Municipalities (with a population of less than 1400 inhabitants) following an investment of € 100.000 by the Municipality, there could be an annual economic saving that amounts to 33% (about € 23.000 per year). Currently, for these Municipalities, the energy consumption amounts to about € 70.000 per year (56,6% from lighting, 43,5% from buildings).

In medium Municipalities (with a population of more than 3500 inhabitants) the energy consumption amounts to € 160.000 per year (of which 60% from street lighting and 40% from buildings). Also in this case, an investment of about € 200.000 by the Municipality would lead to an economic saving that amounts to 40% (that is € 64.000 per year).

Said groups of Municipalities take in consideration the distance (about 20 KM), and the aim is to rationalize the expenses for energy management.

In the group of four Municipalities, such as Almendral (1.300 inhabitants), La Albuera (2.000 inhabitants), Santa Marta (4.300 inhabitants), Valverde de Leganés (4.200 inhabitants), the method of using a single plant for the purchase of energy services (through an ESCO) was experimented, in order to reduce energy costs, CO2 emissions and to increase energy efficiency. In these Municipalities, thanks to the single management of energy services through the ESCO, important interventions in street lighting were implemented (LED technology and a control system that leads to a significant saving during the night) and in buildings (for example, the installation of timers and sensors for the turning on/off of the lights). Moreover, among the other measures, the monitoring of electric panels and of temperature in buildings,

the use of thermostats, the installation of solar panels in the public buildings, and the installation of 5 biomass boilers. Another service of great importance is the monitoring of street lighting through a system of geolocation which enables citizens to keep the energy expense and the service provided under control. Thanks to the interventions on buildings and street lighting carried out in the 4 Municipalities, on the whole the energy saving amounted to 40%-60%. The investment effectuated by the single plant of the 4 Municipalities is of about € 700.000, and the economic saving is about 19%. The ESCO is the company that invests, and the Municipalities' saving is recorded right from the start. Another very interesting example is the pool climatized through biomass and photovoltaic systems. When the solar panels cannot meet the energy need, they are replaced by the biomass system. For biomass olive seeds (largely produced in Extremadura) are mainly used. The photovoltaic plant is able to cover 100% of the energy consumption of the pool. Another intervention which contributed to the increasing of the saving and the energy performances is the building insulation that measures 6 centimeters instead of 4 centimeters.

Daniel Encinas, Extremadura Energy Agency presented a street lighting project regarding the use of Led technology in the city of Badajoz.



The intervention involved the main street that connects Madrid to Lisbon, which has now become the A5 E90, a residential street with limited traffic, in the city. The Municipality of Badajoz is equipped with an energy efficiency plan which includes actions linked the lighting, but also to public buildings. As a matter of fact, since 2009 specific national norms have compelled the Municipality to adapt to the standards set regarding energy

performances and the consumptions linked to street lighting. Among the solutions adopted: LED technology, electric panels for public street lighting connected to the Municipality optical fiber network for the control of the system, remote control and regulation of the intensity of lighting depending on the time. The use of the LED technology together with the monitoring system and the StarSense system have had relevant results in terms of reduction of energy consumption (80%) thanks to an overall investment of € 400.000. The energy costs with the use of LED technology and the substitution of the old street lighting have been reduced from € 60.210,40 to € 13.595,01. It is important to underline that the amortization period for the investment (€ 400.000) is of about 6 years.

Thomas Malmesdt, manager of the agency that provides heat production and hydroelectric energy in the Arvika district, presented the local experiences and the projects for energy production resulted from the cooperation between public and private.



The agency for heat production, whose main plant is Lycke, was built in 2000 and it is situated between two steel making plants to make waste heat recovery possible. The main data of the plant are: biomass, wood chips, barks 18 MW, biomass, pellets 6,5 MW; industrial waste 2.5 MW. CO2 reduction of over 90%.

An example of cooperation for heat production from industrial wastes is that of Nya Gjuteriet, AB Arvika Smide AB and Volvo Construction Equipment, a consolidated partnership started in 2003 which reached important aims in terms of heat production and CO2 reduction (8,500 tons per year).

Another interesting initiative, developed thanks to the **FEM** project in the framework of the INTERREG Norway-Sweden Programme, is the creation of the **GLAVA ENERGY CENTER**, situated about 20 km south from the city of Arvika. It is an international research centre for the development of innovative solutions regarding renewable energy, a meeting point where different actors work together to create new opportunities for innovation, knowledge, the development and the experimentation in the matter of renewable energies. During 2012, the energy centre was enlarged to include a weather station, energy storage systems, wind power measuring systems, new technologies for solar modules, a new frame for solar modules, a small wind turbine and a scientific research centre for renewable energy. Moreover, studies on smart grid, local DC nets, biogas systems and a small hydroelectric plant are carried out. The aim of the Gava Energy Center is to work as a **experimentation centre** at a regional, national and international level for enterprises and organizations which operate in the field of renewable energy and energy efficiency.

A recently built solar park has been powered this month. Its overall surface is of about 6000 m², 1 MW/1GWh.

Teia Stennevad (Municipality of Skive) presented the project **IMPLEMENT- sustainable development with biogas**, supported by ØKS Interreg, aimed at promoting cross border collaboration between Norway, Sweden and Denmark.

The project focuses on development and utilizes biogas in order to create growth across the Scandinavian countries.



The main objective is to support job-creation and businesses occupied with biogas.

Implement has been developed in Skive in collaboration with Lemvig municipality, Samsø municipality and 27 municipalities in West Sweden and Norway. The project is supported by Region Midtjyllands Vækstforum and has a budget on a total of 16 mill. dkk.

The Implement Project has demonstrated its ability to turn visions into results: increased biogas production, the establishment of new plants, the upgrading of biogas to make it suitable for vehicles and the actual increase of biogascars and buses in Denmark, Norway and Sweden.

During the project period, Implement has contributed to an increase in growth and new business in the order of € 20,000,000 and has led to local job creation across Scandinavia in an emerging sector with potential for further growth.

Additionally, Implement has raised awareness of biogas as part of the 'green change' Europe needs in order to face the climate challenge.

Based on close cooperation between private organisations, municipalities, regions, knowledge-based institutions and research, an international knowledge platform has been created – a platform which following the completion of The Implement Project will continue to facilitate growth and development in the ØKS Region.

Per info: www.implement.nu

Ana Bajlo, head of the energy efficiency sector of the Municipality of Zadar (Croatia), underlined the city of Zadar's participation to a series of European networks committed to strengthening the efforts of local communities for a sustainable development.

In particular, the city of Zadar adhered at a national level to the Energy Charter, and at a European level to the Covenant of Mayors. Moreover, it adheres to the Energy Cities Association, which involves about 1000



cities in 30 Countries. The aim of the network is to strengthen the possibilities and the role of local entities, to represent local interests and influence national and European policies by developing and promoting initiatives on this matter.

The SEAP of the city of Zadar was approved on 13th March 2014 in the City Council, and it includes a series of measures regarding the building, street lighting and transport.

The city of Zadar has promoted various projects in the sector of energy efficiency.

The **SEM project** (Systematic Energy Management in Cities and Counties in Croatia), implemented by the Ministry of the Economy, Ministry of Construction and Physical Planning and the United Nations Development Programme (UNDP Croatia), with financial assistance from the Croatian Environmental Protection and Energy Efficiency Fund and the Global Environmental Facility (GEF).

The project encourages implementation of EE and systematic energy management in all public buildings at a local and regional level.

The main goal of the SEM Project is to create local expert capacities and implement process of continuous and systematic energy management, to introduce strategic energy planning and sustainable energy and other resource management at the local and regional level throughout Croatia.

In the framework of the project: EE info office and EE team was established; EE team was educated (all members have gained a certification for the energy advisor); Energy management Information System (EMIS) was established; A register of the inventory of buildings under the jurisdiction of the City of Zadar was established (those whose bills are paid by the City of Zadar); employees and children in primary schools and kindergartens as well as employees of the City of Zadar and other institutions were educated; Numerous activities of education, promotion, public information and other awareness-raising activities were carried out.

Another project is **promoting the use of solar energy for natural persons in the city of Zadar**. Solar systems were co-financed by National Environmental Protection and Energy Efficiency Fund and City of Zadar for the total amount of 135,764.00 euros. Also, 56 solar systems were installed in the period from 2010 to 2014.

Another initiative is **CO-financing of increasing energy efficiency in buildings**. Projects were co-financed by National Environmental Protection and Energy Efficiency Fund and City of Zadar for the total amount of 75,891.00 euros.

Results:

- 17 projects to increase the thermal protection of the outer shell and/or replacement of existing and installation of new energy-efficient carpentry were co-financed;
- 5 projects of procurement and installation of the stove on wood biomass were co-financed;

About saving in street lighting, at 10 electric substation, a regulatory mechanism has been set which reduces the voltage supply from 24.00 to 6.00 in the morning (from 220-240V to 190 V), thereby reducing the intensity of light. The savings in energy consumption is 25%.

After the opening seminary, there was the technical visit to the ESTELA SOLAR thermoelectric solar plant <http://www.estelasolar.eu/index.php?id=47>.



It is a plant with a 150 MW potential per hour, with a surface of 600 hectares. The delegates watched a video that explained which are the main factors for the selection of a place suitable for the construction of such plant: the sun, the presence of water and of transport routes for the transportation of energy. Water is essential because a thermo solar plant is powered by the water cycle.

Afterward, there was time for a visit to the **documentation centre** on the different species of birds that live in areas of relevant natural interest nearby.

In the afternoon there were **technical visits to renewable energy production plants in Albuera (solar energy, biomass)** which provide energy for municipal services (such as the heating of the municipal swimming pool), and to **another solar energy plant** which provides energy to rural areas.



On 21st March, during a meeting in Mérida at the energy and environment department seat, **Carolina Grau**,



head of the Environment and Energy area of the Region of Extremadura, presented the Region's policies and the programmes for energy efficiency and the promotion of the use of renewable energies in the sector of building, transport and lighting. She underlined that Extremadura is a pioneer Region for the production and the use of renewable energies, as it produces 7.8% of the national energy (6.2% of it derives from renewable sources). In 2011 78% of the production was exported. In particular,

regarding buildings, the Region has promoted various initiatives for the increase of energy efficiency and the use of renewable energies through the ESCOs (Energy Service Company): funding lines to strengthen the use of clean energy through the BIOMCASA-SOLCASA-GEOTCASA ESCOs; Piano 330 ESCO (Activation plan in the State's General Administration Buildings through ESCOs). Among the measures, there was the Regional Plan on green public procurement and the inclusion of eco-design requirements.

Particularly interesting for Extremadura was the recent approval of the **ELENA Project** (European Local Energy Assistance), which allows the Regional energy agency to provide technical support for energy efficiency and the use of renewable energies to the Municipalities of the Region with a budget of more than € 40 ML financed by the BEI for this programme. The Region of Extremadura also used the **JESSICA** revolving fund and, in the matter of structural funds, earmarked € 50 MLN for the 2014-2020 programmes for the activities and the initiatives promoting energy efficiency. Another project of particular interest is the **EDEA** project, financed by the LIFE programme and aimed to the development of energy efficiency measures in social housing. Two buildings were built in order to simulate and test the energy behaviours in the social housing and to monitor geothermal and biomass systems.

Later in the morning, there was the **cultural visit to Merida**, World Heritage since 1993, to the amphitheatre and the Roman theatre.



In the afternoon, there was the technical visit regarding the development and the results of the **EDEA project** presented during the opening conference, and the cultural visit to Cáceres.

The day ended in **Badajoz** with a convivial dinner and the visit to the city.



The Spanish event ended on 22nd November 2014, with a debate on the programme of the fourth and last Enpcom event.

4TH EVENT SARDINIA 29-29 MARCH 2015

THE ENHANCEMENT OF THE ROLE OF CITIZENS: GOOD DAILY ENERGY PRACTICES, THEIR INCLUSION IN THE SEAP AND VALORISATION OF RESULTS

Sardinia hosted, in its Municipalities of Quartu Sant'Elena, Soleminis, Sant'Andrea Frius, Silius – partners of the project – and Cagliari, the fourth and last event of the Enpcom project, focused on the theme “the enhancement of the role of citizens: good daily energy practices, their inclusion in the SEAP and valorization of results”, from 26 to 29 March 2015.

On the morning of 27th March in the Council Room of the Municipality of Quartu Sant'Elena the opening conference of the event was held.

The works were divided into two sessions: the first session dealt with the experience and the policies adopted by the Sardinia Region, and the second session with the comparison between experiences and local project which have brought the attention on actions for the involvement of citizens in the implementation of energy policies.

The conference was started by **Mauro Contini, Mayor of Quartu Sant'Elena**, who welcomed the participants to Sardinia and to the city of Quartu, and presented its territory.



Quartu Sant'Elena is the third most populous city of Sardinia (70.000 inhabitants), with a territory of 100 Km², of which 25 km constituted by the coast, a place of particular natural interest but with a scarce organization and receiving services. The city of Quartu has registered an exponential increase in the population following a poorly monitored building construction development, which made the organization and the planning of the services more difficult.

Currently, the municipal administration is trying to move on, despite the hardships linked to the issue of unemployment, which in the city reaches 50% among the young. The aim of the municipal administration is to create the best conditions to attract investments and to rely on tourism.

The themes of energy and sustainable development are the key points of the political programme of the Municipality of Quartu, which promotes and recognizes the relevance of a direct connection between the European Union and the local entities. Quartu's community is steadily gaining awareness of the importance of the environmental and energy issues and the SEAP, adopted in 2013, is the fundamental step for the cultural change that is happening. All the actions and the measures included in the SEAP cannot work without the involvement and the awareness of citizens, nor without a strong action and support to local communities from regional and national level.

Bruno Manzi, President of the federal council of Legautonomie specifies that the last event of the Enpcom project does not mark the end of a path, but it is a regular meeting, as the Enpcom partnership has to be enhanced and promoted.



The project evokes one of the fundamental objectives of the EU, that is the safeguard of the place where we live, the Earth. The EU objectives cannot be achieved without the leading role of local communities and citizens. In fact, national norms and technologies does not suffice without the citizens' leading role, both at an individual level, linked to an intelligent and aware consumption, and with the ability to understand the measures implemented by the administrators.

In this sense, local entities play a fundamental role in the achievement of the EU objectives, and the Covenant of Mayors represents a key tool for the implementation of those objectives. It is important to succeed in blending tradition with great innovation skills from local communities.

The session I, dealing with the experience of the Region of Sardinia, was opened by the intervention of **Patrizia Lombardo – chief of the CO2 reduction policies service of the Region of Sardinia**, in which she presented the **project Smart City – Comuni in classe A**, through which the Region has provided technical support to the Municipalities signatories of the Covenant of Mayors. The Region of Sardinia, in fact, plays the role of territorial coordinator of the Covenant of Mayors, to which it adhered in 2011.



The project Smart City – Comuni in classe A's aims are rather ambitious: the promotion of an idea of sustainable development measurable not only through indexes of economic growth, but above all through indexes of life quality and localized wellness; the support to the idea of development as a long-term political project, shared with the actors of a given territorial context; the enhancement of endogen development dynamics, generated by local resources.

The governance of the project, which depends on the General Direction of the Presidency of the Sardinia Region, involved some in house agencies of the Region, such as the SFIRS Spa for the technical economic-financial assistance, and *Sardegna Ricerche* for the environmental scientific assistance to the Municipalities. The ultimate recipients are the members of *Comuni Pionieri*. The Sardinia Region, through this pilot project, unique in the national scene, provided direct assistance to the Municipalities for the redaction of the SEAP, and it financed the redaction itself. It provided Municipalities with a pool of multidisciplinary experts who worked side by side with local administrators in all the steps of the SEAP process, including the analysis of the economic-financial feasibility of the operations. In this phase of assistance, the Region tried to foster the aggregation of Municipalities, keeping in consideration the small dimensions of the Sardinian Municipalities (the group that counts between 1,000 and 5,000 inhabitants accounts for more than half of the Sardinian Municipalities). From 2012 to 2013 66 Municipalities were selected and grouped in 21 aggregations or pioneer communities, which involved 151,000 inhabitants. In 2014 the second phase started, with 36 selected Municipalities and 10 pioneer communities. Currently, the Region is proceeding with the monitoring of the SEAP actions, providing the Municipalities with a web tool through which they will be able to update the data regarding energy consumptions . In the matter of the financial part, a part of the **ERDF** funds was combined with the Smart City project, and the **JESSICA** initiative was organized, with **€ 39mIn** overall, of which **€ 4 mln for the technical assistance and governance** and **€ 35 mln to the Jessica tool**. Different campaigns to raise awareness and promote the project were implemented:

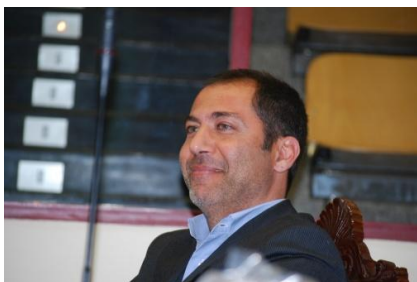
<http://www.regione.sardegna.it/sardegnaCO20/>.

Emanuela Manca, sociologist of Sardegna Ricerche – regional agency for the promotion of research, technological transfer and development – who deals with the technical assistance for the **Smart City project**, underlined the actions for the involvement of citizens in the local energy policies. The composition, for the Smart City project, of a team of people with different competencies (engineers, economists, sociologists) made it possible to develop a common language to intercept the needs of pioneer communities and citizens. The guidelines for the drawing up of the SEAP of the Covenant of Mayors' office stress, in order to develop the SEAP, the importance of understanding what the territory needs; however, to do so, a basic inventory of emissions is not enough: it is necessary to promote the dialogue with all the local stakeholders. The hardships that Municipalities face in the SEAP process are numerous, linked to the Stability Pact and the reduction of the personnel, lack of technical competencies. However, it is not easy to stimulate the participation of citizens. The degrees of participation of a citizen heavily depend on two factors: information and responsibility. In the workshops organized during the preparation of the SEAP of pioneer communities, to stand out were not only the necessities, but also residential consumptions (the bills, for many citizens, are indecipherable). It is important, in fact, to understand how much one consumes,



how and why. A method was experimented and adapted to the various territories: the objectives were shared with the Municipality and a participatory planning was promoted. Citizens were invited to the meetings and the communication between administrators and citizens was enhanced, through, for instance, questionnaires and the constant updating of the website. Citizens of all ages took part in the meetings, even elderly people who contributed to the elaboration of

the SEAP outlook until 2020. In this way, an interesting experiment of confrontation was created, in which the role of elderly people who, in the past, lived in period of great economic and social crisis, and this was of outmost importance in order to transmit to the young a culture of saving and non-wasting which is far from the ways of these years of unrestrained consumerism.



Stefano Lilliu, of the environment department of the Municipality of Quartu, introduced the good practices carried out by the Municipality of Quartu. Among these, the photovoltaic stations for the recharge of electric vehicles, the new car park, the substitution of the fixtures of the Municipality (through the JESSICA funds), the “*cassette dell'acqua*”, drinking water kiosks in different parts of the city in order to bring citizens to reduce the production of plastic wastes. The Municipality action targets above all schools, to inform and educate

the young to a responsible consumption, and important interventions for energy efficiency in the school gyms were carried out. Another interesting initiative that involved children was “the harvest of grandparents and children in the school gardens”. Moreover, the administration is equipping itself with a software for the control and the remote management of the whole street lighting network. The control of the 172 counters spread on the territory was improved by a database that makes it possible to keep costs and consumptions of each contract under control, so it is also an important instrument to verify anomalies. Lastly, the Municipality of Quartu promotes and leads, together with other Municipalities nearby, the temporary special-purpose association called *Green cities for green future* in order to better promote and have access to the benefits mentioned in the Covenant of Mayors.

Rita Pireddu, Mayor of Soleminis, a small Municipality near Cagliari of about 1800 inhabitants, underlined that the SEAP of Soleminis has established the reduction aim of 23%. The annual average of CO2 emission tons pro-capite is of about 3.1% in Soleminis, considerably lower than the national average, which reaches



7%. The greatest part of the CO2 production comes from heating and electricity consumed in private homes. For this reason, during the phase of the SEAP elaboration the focus was on citizens, fostering – through incentives – the installation of solar thermal and photovoltaic panels in housings. The citizens' response was broad and many households are now autonomous on an energetic point of view. As regards transport, for the inauguration of the light underground service which will connect Cagliari to the

hinterland, the Municipality of Soleminis is studying the creation of a sustainable transport system which could enable citizens to reach the Municipality of Settimo San Pietro (10 km far from Soleminis), where the underground that reaches Cagliari will make a stop. Important works were carried out – substitution of gas oil boilers with last generation air conditioning powered by photovoltaic - in elementary and middle schools reaching a decrease of emissions of 30%. Moreover, the Municipality is proceeding to the substitution of the car park. A collaboration with a poultry farm for the production, through poultry manure, of electricity and heating. The poultry manure will be then used in the fields as a natural fertilizer. The Municipality is considering the possibility of using the JESSICA funds to change the street lighting system with a LED technology system. Unfortunately, for small Municipalities there are many hardships, both financial and in trying to access to investments, due to both the Stability Pact and a national policy that does not support properly the Municipalities.

Gunnar, communication expert of the Municipality of Skive, in Denmark, brought to the attention an



interesting example of citizens involvement in the implementation of energy policies: **People and Biogas**. It is an example of participation and sharing which involved the collaboration of citizens with the role of entrepreneurs, local administrators and citizens.

It is the story of three brothers from Balling, near Skive, that have built Denmark's largest on-farm biogas plant. They upgrade the gas themselves and deliver it directly to the natural gas network.

(MADSEN BIO Energy in Balling). The three brothers Kim, Per and Boe Madsen, previously employed in jobs linked to agriculture and pig farming, when the employment crisis broke out, started to consider investing in other sectors. They had the intuition that the biogas sector could be a good investment. The local district heating plant in Balling was due to be disbanded, so the brothers suggested that they could deliver biogas to produce heat. However, Skive municipality had other plans for how the village should be heated and proposed instead, that the Madsen brothers could produce biogas, upgrade it and deliver it to the natural gas network. The brothers wanted to locate the facility on their farmland, even though this was only 800 meters from the village of Balling. The brothers convinced the municipality to allow them to site the plant on their land and together they took the initiative to hold a public meeting on the farm. The municipality prepared a draft of a written invitation that the Madsen brothers edited and distributed among the 115 nearest residents to the biogas plant. The meeting with the neighbors was held in Kim Madsen's barn, where about 35 neighbors showed up. Boe Madsen went through all the details of the project and tried to kill the myths about biogas, explaining how genes with transport and odor can be avoided.

Skive municipality presented a 3D visualization of the project before the visitors promenaded to the future building site. After the visit, the group walked back to the engine house where the Madsen brothers served coffee and cake and opened up for a dialogue, where the guests got answers to their questions and concerns about biogas. The meeting was concluded with an invitation from the municipality of Skive to join a free bus trip 14 days later to Lemvig Biogas. 12 of the neighbors took part in the trip. There were no objections to either the project or the local plan and the brothers feel that the meeting has helped to sharpen the neighbors attention and interest for the project.

The brothers will continue to inform and involve the neighbors in the next steps in the project plans. Next time, however, they decided to invite the whole community- instead of only the nearest neighbors.

Cosme Segador Vegas and Daniel Encinas, technical coordinator and chief of the renewable energy department of the Extremadura Energy Agency.



The energy agency is working on a series of projects with the Region of Extremadura, among which the strengthening of the biomass use through ERDF funds. Particularly relevant, in collaboration with the Region, is the *ELENA* programme, of € 1.2 million with which technical assistance is provided to those Municipalities committed to achieve an energy saving. The actions developed regard: street lighting, buildings and other measures (monitoring, solar thermal, biomasses).

Through a geolocation system it is possible to monitor the consumption of the street lighting network and to verify its efficiency. A considerable decrease in the consumption was registered thanks to the use of LED technology with a saving of 60%. Moreover, the monitoring system makes it possible to notify malfunctions. In the institutional page of the Municipality of Badajoz there is a section for citizens and for the notification of malfunctions: citizens can inform and notify possible malfunctions by taking a picture and sending it to the Municipality that, through a geolocation system, spots the precise place signaled. The malfunction is then registered on the website of the Municipality itself. With the *Muevete en Extremadura* project, a web platform was promoted, which enables citizens to share systems of public transport to move in the three main cities of Extremadura: Badajoz, Caceres and Merida.

Danilo Breusa, Mayor of the Municipality of Pomaretto underlined the results of the SEAP adopted two years ago: measures of energy efficiency were implemented in all public buildings (Municipality, elementary school and kindergarten). In particular, the € 30,000 spent for the heating in 2010 decreased to € 13,000 in 2014.



The interventions were financed with European regional funds. For street lighting, *LED* technology was introduced. All the consumptions of street lighting and buildings come from the production by photovoltaic plants. Two hydroelectric plants are

being built, financed for 80-85% by regional funds (the Municipality could afford to finance the investment with its own resources but the Stability Pact does not allow it). For what concerns the actions for citizens involvement, the municipal administration promotes public meetings with citizens to share the choices and the actions of the *SEAP*. During the *M'illumino di meno* initiative, a guided visit on the municipal territory with a thermal camera was promoted. Following the visit, the data collected through the thermal camera will be analysed during a meeting with citizens.

Another project that is being developed is the *Più per meno* project, whose aim is to make a census of all the private buildings in the territory through an agreement with the agency that provides methane gas (used in 75% of housing) and which will provide the data of the consumption that will be later crossed with the cadastral data. In this way, the current consumption of every single housing unit will be computed, together with the consumption that it could possibly achieve through the adoption of measures for the saving and the efficiency. The municipality of Pomaretto takes part in the project *E2 BEBIS – Environmental and Economic Benefits from Biochar Clusters in the Central Area*, financed by the territorial cooperation programme and whose aim is the production of energy and heat through biomasses. € 250,000 are allocated to the Municipality of Pomaretto for the construction of an energy clusters running pyrolysis plant of 198 electric Kw and 500 thermal Kw, which will be linked to the current methane district heating plant, that registers about € 300,000 per year. The current users of district heating will benefit from a decrease of 25%-28% in their energy bill, and four workplaces will emerge for the providing of chipped wood according to the convention with the agency that set a purchase price of € 65 for each ton of chipped wood. This means that it could be possible to have a short distribution chain on the territory, which is entirely mountainous.

Ana Bajlo, chief of the energy efficiency sector of the Municipality of Zadar (Croatia), the fifth city of Croatia with an ample coastal territory, explained that by adhering to the Covenant of Mayors, the municipal administration has promoted many initiatives and projects for the involvement of citizens. Among those, workshops, information days, energy weeks, all of which focused on the involvement of citizens, especially of the young.



Among the most interesting projects:

Among the most interesting projects:

PRO-E-BIKE supported by *Intelligent Energy Europe (EIE)* programme- promotes clean and energy efficient vehicles, electric bicycles and electric scooters (commonly called "E – bikes"), for the delivery of goods and passenger transport among private and public bodies such as delivery companies, public administration and citizens in European urban areas as an alternative to "conventionally fossil fuelled" vehicles.

FIESTA, Supported by the *Intelligent Energy Europe programme (EIE)*, aims to lead families with children to save energy at home, acting both on their energy consumption behaviour and on their purchasing decisions. As the need for cooling is a growing issue to be faced urgently, the project focuses on cooling and heating solutions which offer significant domestic saving potential.

Antonio Mazzon, environment office of the Municipality of Palermo, underlined how the SEAP of Palermo is the result of a complex work started in 2000 with a long-term outlook. Currently, the attention is focused



on the monitoring of energy consumptions and the reduction of CO2. On the theme of citizens involvement, the Municipality of Palermo created a web platform open to all the 700,000 citizens for the public consultation of the SEAP: an innovative tool not only for the spreading of the contents, but also for the collection of opinions and new proposals. Since the period of the Agenda 21 collaboration, it was noted that periodical reunions only involved the most aware people, that is the environmental associations. It is difficult to involve and change

the citizens' behaviours, both regarding the efficiency measures in private housing, and, for example, the use of sustainable means of transport. In the city of Palermo, 60% of CO2 emissions come from non-sustainable behaviours of citizens. Through the web platform, the 42 SEAP actions are made available for all citizens (intervention description, actors involved and also the costs, the payback time of the energy efficiency intervention and the benefits in terms of CO2 emissions reduction). Citizens can read the content of each action of the SEAP, leave a comment and an evaluation of its priority compared to the others. Furthermore, it is possible to express an opinion on the action included in the SEAP and to suggest measures of correction or integration. Stakeholders can send proposals for new actions to the Municipal Council that will possibly be inserted in the SEAP. The proposals have to be written in a standard format, downloadable on the web site.

It is necessary to rely on private investments, instead of just waiting for public funds, and on the energy saving that the Municipality can obtain. It is also important to simplify the administrative authorizations that often discourage the investments.

A coordination of each SEAP of the counties is of outmost importance in order to avoid incongruencies with the Regional energy data.

Within the bike sharing project, an online survey was carried out for the bike sharing service of Palermo, aimed at spotting the more common destinations of the citizens' movement. This survey, essential for the involvement of citizens in the planning choices, was also a great support for the creation and the localization of the service according to the citizens' needs.

In the afternoon, there was the visit to the **Regional Natural Park Molentargius – Saline**, a true oasis around the inhabited centre.





Regional park since 1999, it was recognized by the Ramsar Convention of 1977 as a humid area of international value for the presence of the avifauna. The delegates visited the park using the bike sharing service and the ecobus. In the Park there are many species of birds, among which the peacock since 1983. In 2014 about 10,000 chicks were born, thanks to a LIFE project that worked on the restoration of the ponds' banks.



The activities on 27th March ended with the cultural visit to the **Archeological museum of Cagliari**, where the delegates saw the fascinating Giganti di Monte e'Prama, important sculptures which date back to 1500 B.C. that are rewriting the history of the Mediterranean Sea.



On the morning of 28th March, in the Royal Hall of the Province of Cagliari, there was the workshop on **“New tools available for local communities: web platforms and social networks”**.

The delegates were divided into three groups and through the method of the tree of problems, spotted the weak points and the strong points of the main theme of the workshop.



In the second step of the workshop, on the basis of criticalities and opportunities witnessed, the groups elaborated project proposals aimed at improving the citizens involvement through the web platforms and the social networks. The three proposals were later introduced.



In the afternoon, at the Municipality of Sant'Andrea Frius, there was the visit to the **Sardinia Radio Telescope (RST)**, an innovative telescope, aimed at carrying out research in the fields of geodynamics, radio astronomy and space sciences.



In the Municipality of Soleminis, there was the visit to a typical *campidanese* house – a particular architectural structure typical of the Sardinian popular architecture, spread in the southern part of the island – regenerated and refurbished by the Municipality for cultural purpose.



EXCHANGE OF GOOD PRACTICES: A COLLECTION OF EU PROJECTS

In this section we collected some European projects on energy efficiency and the use of renewable energies presented by the partners during the events. The exchange of experiences and projects, in fact, enabled the participants to learn from others' experiences, and to increase their knowledge of funding programmes and the policies of the European Union.

Extremadura's projects

The **Agenex**, Extremadura Energy Agency, in collaboration with the department of Agriculture and rural development, Environment and Energy of the Region of Extremadura, has developed European and international projects linked to renewable energies and energy efficiency. Below a brief introduction to some of the projects presented during the events.

EDEA project- Efficient Development of Eco-Architecture: Methods and Technologies for Public Social Housing Building in Extremadura



The **EDEA project**, funded within the **LIFE program**, aimed to develop an efficient methodology for the design and construction of social housing in the region of Extremadura. The goal was to construct sustainable buildings that are more energy and resource efficient, while also being of better quality. The project aimed to demonstrate that with appropriate designs and the suitable application/use of existing products on the market it is possible to improve considerably the environmental performance of buildings. The challenge was to achieve this aim, while keeping the costs down to a reasonable level so that it would present a viable alternative for social house construction.

To achieve these goals, EDEA planned to practice, test, evaluate and disseminate methodologies and technologies – some new, others already existing – that efficiently help to reduce CO2 emissions, optimise the energy consumption process, and constitute best practices in the field of 'bio-climatic architecture' and construction. The project would focus on the use of renewable energies, intelligent home technologies (domotics) for the optimisation of passive energy systems, production and sustainable consumption models, sustainable use of natural resources and materials, and the recovery and recycling of waste, among other aspects of construction. The project planned to cover the overall building life cycle including deconstruction.

The EDEA project focused on the development of an efficient methodology for designing and constructing social housings in the region of Extremadura. To achieve this goal, twin 'demonstration' houses were built in Cáceres on the same plot, with the same geographical orientation (North-South), the same structural system and subject to the same weather conditions. The construction features, surfaces and materials are similar to those currently used in social housing in the region of Extremadura. One of the houses was called

the '**Pattern house**' and would serve as a reference for the project, remaining unchanged during its duration. In the other one, the '**Experimental house**', a range of improvement measures ('strategies') were tested and demonstrated. It was the first time that such a full-scale demonstration had been carried out in a 'hot' country.

Several installations were implemented in the houses: a biomass heating system, a geothermal system for heating and cooling, a heat pump, a condensing boiler, a ground-to-air geothermal exchanger, and a solar thermal, solar photovoltaic and wind energy system for generating electricity. In addition, external weather conditions were measured on site (i.e. temperature, relative humidity, solar radiation and wind speed and direction). Around 300 sensors were placed on each house for monitoring and control (remote management), and a total of 15 different passive and 70 active strategies were studied. The passive strategies are those that improve the construction and design of the building. The active strategies improve the efficiency and CO2 emissions of energy installations. More than 5 000 energy simulations were performed using different software and nine strategies were tested in the houses to assess their performance.

The tests compared the two houses by measuring the real improvement generated by each strategy in order to know which passive strategies generate the best results for the reduction of energy consumption and which active strategies are the most sustainable. The results make it possible to compare several options and evaluate whether investment would be cost-effective, affordable and sustainable for people on a low income. Furthermore, the environmental sustainability of all the 400 construction materials used in the houses was also assessed.

More than 50 companies in the building and energy sectors were involved in the project. The monitoring system is online and accessible to interested parties on the project's website. Moreover, the project also helped shape the 'Special Housing Plan' that aims to improve the comfort and image of social houses that are constructed by the regional government of Extremadura. The project methodology is now being used to inform housing policy at the regional level, particularly in the design of current and future social housing in Extremadura and in the evaluation of energy efficiency subsidies in housing. Contacts were also established with the national housing ministry in order to spread the project results to other Spanish regions and to improve national regulations. The publication of a Methodological Guide on Sustainability could also help to transfer the methodology to other regions with similar conditions. Positive economical results are also to be expected regarding the houses construction and maintenance costs. The project produced a cost-effective/affordable model of bio-climatic/sustainable housing to people with low income, as well as social benefits such as quality improvement of social households in Spain (comfort/human health considerations), education and awareness raising of citizens and users of this type of housing, and training provided to stakeholders (construction, engineering, acoustics and energy fields).

The project comprises strong economical and social aspects as it is included within the "Special Housing Plan" seeking to improve also comfort and image of social houses, constructed by the regional Government of Extremadura

Website : <http://www.proyectoedea.com/>

The *Conéctate a Mérida y Badajoz* project



The project – promoted by the General Direction for the Environment, Energy and rural development of the Government of Extremadura and managed by the Extremadura Energy Agency – is aimed at promoting the electric mobility between the Municipalities of Badajoz and Mérida, through the installation of a safe and efficient net of 40 charging stations for electric vehicles. The 40 charging stations are distributed between the two Municipalities in various places: public streets, underground or street-level car parks, near the buildings of public administrations. The duration of the project is four years, and in order to have access to the service, you only need to register on the portal.

In addition to the installation of infrastructures for vehicle recharge, the project envisages also their maintenance for 4 years from the activation data. For the first year, the recharges are free for all the users.

For more information: <http://www.conectateameridaybadajoz.es/>

The *Retaler II* Project

The Project *Retaler II* – Red Transfronteriza de Autoridades Locales en Energía Renovables



The *Retaler II* Project was financed within the Operational Programme for Cross-Border Cooperation: Spain-Portugal (POCTEP – Programa Operativo de Cooperación Transfronteriza España-Portugal).

The project's lead partner is the County of Badajoz. The partnership involves the Counties of Orense, Salamanca, Huelva, Cáceres, Pontevedra, the AREAL – Regional Agency for Energy and Environment of Algarve, CIMAA – Intermunicipal Community of Alto Alentejo. AMTF – Association of Municipalities of Terra Fria, CIMAC, AMCB – Association of Municipalities of Caba da Beira, ENERAREA – Regional Agency for Energy and Environment of Interior, Sierra de Gata association, CM of Penamacor, Extremadura Energy Cluster.

The project aims at strengthening the cooperation between local and provincial authorities in the field of renewable energies, through the transfer of good practices and methods, and the joint definition of policies and cross-border projects. The aims are:

- The diversification of activities in the various areas to avoid depopulation.
- A solution to environmental and ecologic problems, which particularly affect rural areas.
- Development of cross-border interactive networks.
- Implementation of models of sustainable management of the territory.

Actions envisaged:

- Studies on the biomass and the supply capacity of the Dehesa; studies on energy provision in agriculture; studies on the energy production from forestry residues.
- Projects for the substitution of equipments and installation of plants to improve energy efficiency; projects for the substitution of boilers and building envelopes; projects for the promotion of renewable energy production; pilot project for the micro-generation/installation of thermal solar energy/ and photovoltaic energy.
- Good practices and training for Energy managers and energy services agencies.

For more information: <http://web.dip-badajoz.es/proyectos/retaler/proyecto.php?idioma=e>

Municipality of Skive's projects (Denmark)

Energibyen Skive is the Technical Department of the Municipality of Skive focused on sustainable energy, with projects aimed at reaching the objectives of Skive's Climate and Energy Strategy 2029.

IMPLEMENT project – Sustainable development with biogas



Supported by ØKS Interreg, aimed at promoting across border collaboration between Norway, Sweden and Denmark.

The project focuses on developing and utilizes biogas in order to create growth across the Scandinavian countries.

The main objective is to support job-creation and businesses occupied with biogas.

Implement has been developed in Skive in collaboration with Lemvig municipality, Samsø municipality and 27 municipalities in West Sweden and Norway. The project is supported by Region Midtjyllands Vækstforum and has a budget on a total of 16 mill. dkk.

The Implement Project has demonstrated its ability to turn visions into results: increased biogas production, the establishment of new plants, the upgrading of biogas to make it suitable for vehicles and the actual increase of biogascars and buses in Denmark, Norway and Sweden.

During the project period, Implement has contributed to an increase in growth and new business in the order of € 20,000,000 and has led to local job creation across Scandinavia in an emerging sector with potential for further growth.

Additionally, Implement has raised awareness of biogas as part of the 'green change' Europe needs in order to face the climate challenge.

Based on close cooperation between private organisations, municipalities, regions, knowledge-based institutions and research, an international knowledge platform has been created – a platform which, following the completion of The Implement Project, will continue to facilitate growth and development in the ØKS Region.

Website: www.implement.nu

MOR LUG project

Two projects that become a single project: MOR LUG is, in fact, the synthesis of the MOR project (Minimize Optimize Reduce) and the LUG project (Local Use Gas).



MOR and LUG aim to enhance the use of gas and biogas for private and public vehicles: starting from buses for disabled people and heavy vehicles to the creation of service stations on all the territory to enable the diffusion of the use of biogas for private vehicles. The projects are supported by Trafikstyrelsen (Danish Transport Authority) with 2,8 mln dkk and managed by the Municipality of Skive – together with other partners such as HMN Naturgas, Ringkøbing Skjern Municipality, ESØ Renovationselskab, the Danish National Postal Service,

the Transport Innovation Network and the Danish Technological Institute.

For information: <http://www.energibyenskive.dk/en/projects/mor-lug>

Zadar municipality's projects (Croatia)

Zadar is the fifth city of Croatia with an ample coastal territory. By adhering to the Covenant of Mayors, the municipal administration has promoted many initiatives and projects for the involvement of citizens. Among those, workshops, information days, energy weeks, all of which focused on the involvement of citizens and the young.

PRO-E-BIKE project

Promoting electric bicycles and scooters for delivery of goods and passenger transport in urban areas



PRO-E-BIKE project -supported by **Intelligent Energy Europe (EIE)** programme- promotes clean and energy efficient vehicles, electric bicycles and electric scooters (common name "E – bikes"), for the delivery of goods and passenger transport among private and public bodies such as delivery companies, public administration and citizens in European urban areas as an alternative to "conventionally fossil fuelled" vehicles.

The project actions are directed towards E-bike market uptake and promotion of policies that stimulate the usage of E-bikes in urban transport. Therefore, PRO-E-BIKE aims for a change in behaviour of target groups in urban areas manifested in their decision to replace their conventionally fuelled vehicles with E- bikes. Pilots among target groups will not only help the project to achieve its objectives, but as well, enable the demonstration of measurable effects in terms of CO₂ emission reduction and energy savings by inclusion of E-bikes in urban transport.

Overall, by the actions predicted by PRO-E-BIKE we hope to shift urban delivery transport from fossil fuel delivery vehicles toward E-bike vehicles, and in that way not only to reduce noise and pollution in urban areas, but as well to reduce congestion, save energy and to create new market opportunities for local economy

Partnership: "hrvoje pozar" energy institute (Croatia), European Cyclists Federation (Belgium), OCCAM Ltd (Portugal), Mobycon BV (Olanda), East Sweden Energy Agency (Sweden), Associacao do Instituto Superior Tecnico para a Investigacao e Desenvolvime (Portugal), POLIEDRA - Centri di Conoscenza e Formazione del Politecnico di Milano (Italy), Instituto Tecnológico del Embalaje, Transporte y Logística (Spain), Cicli Lombardo SPA (Italy)

Per info: <http://www.pro-e-bike.org/>

FIESTA project- Family Intelligent Energy Saving Targeted Action



Supported by the **Intelligent Energy Europe programme (EIE)**, **FIESTA** aims to lead families with children to save energy at home, acting both on their energy consumption behaviour and on their purchasing decisions. As the need for cooling is a growing issue to be faced urgently, the project focuses on cooling and heating solutions which offer significant domestic saving potential. With the support of 19 partners (5 technical partners and 14 municipalities), FIESTA involves 5 countries with a Mediterranean climate that require extensive use of air conditioning systems such as Italy, Spain, Bulgaria, Croatia, Cyprus. Energy Help Desks will be established in the municipalities providing support and door to door energy audits for families. These will be engaged in the project activities by means of specific actions towards schools, social housing residents, heating and cooling retailers and installers. To attract additional beneficiaries, several FIESTA lotteries will be organized and a consumers' purchasing group will be created to foster families' investments.

Results:

- Realization of a comprehensive package of tools essential for the Energy Help Desks' performance (FIESTA Energy Efficiency Guide for Households and a FIESTA Animation (available in 5 different languages))
- Training for 28 energy advisors
- Establishment of 14 Energy Help Desks (EHDs) in the participating cities. 2,100 home energy audits (150 energy audits per city). Development of workshops for schools, social housing residents, and for heating and cooling retailers and installers, as well as FIESTA energy efficiency lotteries and local Consumer Purchasing Groups (CPG) agreements.
- Around 700.000 people informed about the project and, thanks to the active involvement of a European Association of Municipalities, 3,000 local authorities has been informed about the project and from these, circa 30 local authorities has been committed to replicate the FIESTA model
- Thanks to the home energy audits and other activities developed by the 14 EHDs, cumulative investments in highly energy-efficient heating and cooling system made by households are expected to reach €0,5 M and FIESTA's actions will lead to 328 toe/year in (primary) domestic energy savings, and 1,130 tCO₂ reduction of greenhouse gas emissions. FIESTA is also expected to trigger RES production (134 toe/year).

Pomaretto municipality's projects (Italy)

E2 BEBIS project- environmental and economic benefits from biochar clusters in the central area



Pyrolysis involves heating biomass, such as agricultural waste, in an oxygen-free furnace to produce clean energy. Instead of emitting air pollutants, the process leaves behind a solid residue called biochar, which can be buried to “sequester” the carbon trapped during bioenergy production, thereby reducing greenhouse gas emissions. Scientific evidences are demonstrating that biochar as a pyrolysis by-product can be exploited for numerous uses in agriculture, construction, electronics, cosmetics, industry and many other sectors.

However, the legal framework has not been updated yet to reflect the recent scientific developments and so biochar, a substance similar to charcoal, is still considered a waste to dispose. Through adoption of pyrolysis, an environmentally friendly technology producing heat, new opportunities to explore suitable solutions for environmental issues regarding CO₂ emissions and waste disposal are opening. The pyrolysis can be easily fitted to different context conditions and the different biomass types in a number of regions not only throughout Central Europe and it is also suitable for managing environmental approaches in both rural and urban communities.



E2BEBIS tackles the limited use of biochar in Central Europe, the lack of a proper legal framework on biochar on EU level, as well as on national levels in the participating countries, and the low awareness of the potential benefits of biochar among policy-makers and other stakeholders. The project runs from June 2012 until November 2014 and consists of a series of activities targeted at all biochar-related stakeholders (eg. public authorities, scientific community, agriculture sector, energy suppliers and end users) and aimed at developing good

practices related to biochar and influencing policy-makers on all levels.

The project is financed by the **EU's Central Europe programme**, a programme that fosters cooperation among the countries of Central Europe to improve innovation, accessibility and the environment, as well as to enhance the competitiveness and attractiveness of cities and regions in the area covered by the Programme and beyond.

More specifically, the project consists of:

- meetings and workshops aimed at awareness-raising among the relevant stakeholders about the potential benefits of using biochar
- setting up 7 regional energy clusters running pyrolysis plants in the participating countries
- lobbying activities aimed at updating the relevant legislative framework regarding biochar

The project consortium consists of 8 partner organisations from five different countries in the Central Europe programme area: University of Bologna – Medical and Veterinary Sciences Department (Italy) – lead partner; National Union of Mountain Municipalities, Communities and Authorities – Piedmont Delegation (Italy); European Development Agency Ltd. (Czech Republic); VSB – Technical University of Ostrava, Energy Research Center (Czech Republic); BJ Energy s.r.o. (Slovakia); Scientific research centre

Bistra Ptuj (Slovenia); Poltegor-Institute (Poland); Institute of Ceramics and Building Materials – Building Materials Engineering Division in Opole(Poland)

Website: <http://www.e2bebis.eu/>

Pisa municipality's projects (Italy)

Progetto NOVELOG- New cOperatiVe business modEls and guidance for sustainable city LOGistics



The project is funded by the European Commission, **Horizon 2020 Program**.

The scope of the proposal is the enabling of knowledge and understanding of freight distribution and service trips by providing guidance for implementing effective and sustainable policies and measures. This guidance will support the choice of the most optimal and applicable solutions for urban freight and service transport, and will facilitate stakeholder collaboration and the development, field testing and transfer of best governance and business models.

NOVELOG will innovate by progressing beyond the state-of-art in urban freight and city logistics within a triple helix of:

- 1) evaluation framework development, data collection, and empirical analyses;
- 2) specific demonstrators and case studies;
- 3) guidelines for Europe-wide take-up of the best policies and solutions.

Partnership: Centre for Research and Technology Hellas / Hellenic Institute of Transport - EL - (Lead Partner), Newrail, Centre for Railway Research at Newcastle University – UK; European road transport telematics implementation coordination organisation - intelligent transport systems and services europe – BE; Promotion of Operational Links with Integrated Services, Association Internationale – BE; Institute for Transport and Logistics – IT; PANTEIA BV – NL; Maritime University of Szczecin – PL; Venice International University – IT; Center for Innovation in Transport / Technical University of Catalonia – ES; D'Appolonia SPA – IT; Mobility consulting and Engineering – AT; University of Thessaly – EL; Centre for transport and logistics / Università degli studi di Roma La Sapienza – IT; IRU Projects ASBL – BE; Renault SAS – FR; TRAINOSE S.A.- EL; K+N S.A. – EL; Emilia Romagna Region – IT; City of Graz – AT; Development Agency of the Municipality of Athens – EL; City of Copenhagen – DK; Municipality of Barcelona – ES; Mobility Agency of Rome – IT; City of Pisa – IT; London Borough of Barking and Dagenham –UK; City of Gothenburg – SE; City of Mechelen – BE; City of Turin – IT.

Per info: <http://www.novelog.eu/>

MEASURES AND INTERVENTIONS FOR THE INVOLVEMENT OF CITIZENS

In this section we collected some interesting experiences – presented by partners during the events – of promotion of citizens' good practices, which go from the raise of awareness, to the participation and planning choices, to the implementation of the actions included in the Sustainable Energy Action Plans.

The Covenant of Mayors, in fact, in addition to being an innovative governance tool aimed at reaching international aims, is also one of the most important programmes for the enhancement of European citizenship and of community policies sharing.

The Sustainable Energy Action Plan, in fact, is not only focused on planning actions and technological/innovative measures aimed at the reduction of CO₂ emissions: it is also a plan that belongs to the community and to the whole civil society, for whose implementation the active participation of citizens is fundamental, both in the promotion of intelligent and aware consumption, and in the ability to understand the actions that local entities undertake. In this sense, local entities play an essential role and represent the key subjects for the reaching of international and European climate objectives.



The element of citizens participation and the enhancement of the citizenship is the theme of the whole ENPCOM project on the promotion of the Covenant of Mayors that, not for coincidence, was introduced within the Europe for Citizens' Programme.

People and biogas: a story about a public meeting in the barn

Municipality of Skive (Denmark)

The following is an example of participation and sharing which involved the collaboration of citizens with the role of entrepreneurs, local administrators and citizens.

It is the story about three brothers from Balling, near Skive, that have built Denmark's largest on-farm biogas plant. They upgrade the gas themselves and deliver it directly to the natural gas network. (MADSEN BIO Energy in Balling)

The three brothers Kim, Per and Boe Madsen, previously employed in jobs linked to agriculture and pig farming, when the employment crisis broke out, started to ponder on investing in other sectors. They had the intuition that the biogas sector could be a good investment.

The local district heating plant in Balling was due to be disbanded, so the brothers suggested that they could deliver biogas to produce heat. However, Skive municipality had other plans for how the village should be heated and proposed instead, that the Madsen brothers could produce biogas, upgrade it and deliver it to the natural gas network.

The brothers wanted to locate the facility on their farmland, even though this was only 800 meters from the village of Balling.

The brothers convinced the municipality to allow them to site the plant on their land and together they took the initiative to hold a public meeting on the farm

The municipality prepared a draft of a written invitation that the Madsen brothers edited and distributed among the 115 nearest residents to the biogas plant.



The meeting with the neighbors was held in Kim Madsen's barn, where about 35 neighbors showed up. Boe Madsen went through all the details of the project and tried to kill the myths about biogas, explaining how gases with transport and odor can be avoided

Skive municipality presented a 3D visualization of the project before the visitors promened to the future building site.



After the visit, the group walked back to the engine house where the Madsen brothers served coffee and cake and opened up for a dialogue, where the guests got answers to their questions and concerns about biogas

The meeting was concluded with an invitation from the municipality of Skive to join a free bus trip 14 days later to Lemvig Biogas. 12 of the neighbors took part in the trip.

There were no objections to either the project or the local plan and the brothers feel that the meeting has helped to sharpen the neighbors attention and interest for the project.

The brothers will continue to inform and involve the neighbors in the next steps in the project plans. Next time, however, they decided to invite the whole community- instead of only the nearest neighbors.

<http://peopleandbiogas.com/en/>

ABISA Web application

(Aplicación de informaciones sobre anomalías) for the notify of malfunctions by citizens on the Badajoz Municipality's website

Badajoz Municipality (Spain)

The Extremadura Energy Agency developed various measures for the promotion of the ICT for the monitoring of consumptions that found important applications for the promotion of interventions aimed at the involvement of citizens.



Among these, on the institutional website of the Badajoz Municipality there is a web application for citizens that permits the notification of possible malfunctions: citizens can inform and notify about possible malfunctions by taking a picture and sending it to the Municipality that, through a geolocation system, spots the precise place signaled. The malfunction is then registered on the

website of the Municipality itself.

<http://tramitesonline.aytobadajoz.es:8087/abisa/>

Car sharing web platform

The *Muévete en Extremadura* project and sustainable mobility

Municipalities of Badajoz, Cáceres and Mérida (Spain)



With the **Muevete en Extremadura** project, a web platform was promoted, which enables citizens to share systems of public transport to move in the three main cities of Extremadura: Badajoz, Cáceres and Mérida.

The Department of Agriculture, Environment and Energy of the Region of Extremadura has, among its objectives, the promotion of energy efficiency and of a rational use of energy, and the promotion of renewable energies.

Concerning these objectives, a collaboration agreement was signed with the Institute for the Development of Energy Assessment (IDEA) – to implement the actions listed in the “Saving and energy efficiency strategy in Spain” 2005-2007 – and develop a series of measures to improve energy performances and the quality of the environment. Among the main priorities of the Strategy there is the development of programmes for energy saving and efficiency in the transport sector, that is the sector with the highest consumption levels.

The Muévete in Extremadura project was created in this context, and it is aimed at enhancing the means of transport sharing, promoting a series of actions to gain more sustainable movements (by foot, bicycle, and with public transport), in order to safeguard public health, economy and the environment. The Institute for the Development of Energy Assessment (IDEA) estimates that the average expense of families for their cars is of € 900 per year. Through the use of public transport people are contributing to energy saving, the care for the environment, and , naturally, a saving for the citizens.

<http://www.mueveteenextremadura.com/>

Thermotour

Visit to buildings' energy waste in occasion of the national energy saving day M'illumino di meno

Pomaretto Municipality (Italy)



During the “M’illumino di meno” initiative – a symbolic initiative promoted by the radio 2 transmission Caterpillar and aimed at raising awareness on energy saving - a guided visit on the municipal territory with a thermal camera was promoted.

Following the visit, the data collected through the thermal camera will be analysed during a meeting with citizens. The objective of the meeting is to raise the citizens’ awareness on possible wastes, by promoting behaviours of intelligent and aware consumption.

Web platform for the public consultation of the SEAP – Sustainable Energy Action Plan Municipality of Palermo (Italy)



The Municipality of Palermo created a web platform open to all the 700,000 citizens for the public consultation of the SEAP: an innovative tool not only for the spreading of its contents, but also for the collection of opinions and new proposals.

Through the web platform, the 42 SEAP actions are available for all citizens (intervention description, actors involved and also the costs, the payback time of the energy efficiency intervention and the benefits in terms of CO2 emissions reduction). Citizens can read the content of each action of the SEAP, leave a comment and an evaluation of its priority compared to the others.

Furthermore, it is possible to express an opinion on the action included in the SEAP and to suggest measures of correction or integration.



Stakeholders can send proposals for new actions to the Municipal Council that will possibly inserted in the SEAP. The proposals have to be written in a standard format, downloadable on the web site.

The platform is also a tool for the coordination of the SEAP in the Sicilian territory.

The municipal energy advisor

Municipality of Arvika (Sweden)

The Swedish municipality established the profile of a municipal energy advisor to inform and assist citizens, associations and small-sized enterprises on the phone two days per week, or at the municipal library bus. The municipal advisor provides information on housing lighting and heating at the Expo Housing, and provided advice to sports clubs (Arvika Ski Club, Arvika Riding and Tennis club), and gave information to house owners on how to save electric energy at home.

CICLOPI project - Pisa pedala in grande

Municipality of Pisa (Italy)

CICLOPI is the new bike sharing system in the city of Pisa, encouraging people to use the bike for work, entertainment or tourism with 14 stations distributed in the urban area.



Becoming a member of the service allows you to take a bicycle on one of the docking stations installed and return it to any of the other docking stations in the city.

Especially over short distances, the bike sharing system is the most convenient and more efficient transport choice to move around in the city. The service is available 24 hours a day, avoiding traffic and parking problems.

In the website it is possible to check availability for the area.

Website : <http://www.ciclopi.eu/Default.aspx>

“Pisa Città che cammina” project

Municipality of Pisa (Italy)

The Pisa Città che cammina project rose from the awareness that proper lifestyles, like the choice to follow a genuine diet or the choice of “zero impact” means of transport to move in the city (by foot or bicycle), have direct positive effects on the health of those who carry them out, but also have important socio-environmental results for the collective quality of life in the city.

The project, ideated by Pisa’s municipal administration with the technical-scientific support of the IEPTO (European Institute for the prevention and the cure of obesity), Pisa’s university-hospital agency, and the

contribution of Pisa's UISP (Italian Union Sport for All), is a type of integrated and multisectorial intervention that sees the involvement of the whole city.

Among the interventions envisaged, the endorsement of a new Urban Traffic Plan of the Municipality of Pisa, which includes also specific intervention on cycling lanes and the "walkability" of the city, and a proposal for the school mobility plan; the endorsement of the P.E.B.A., Plan for the elimination of architectural barriers in the historical centre of the city; the planning and the activation of a walking route Sesta Porta/Piazza dei Miracoli Station; the creation of two cycling-walking routes in the direction of the sea ("Al mare ci vado in bicicletta") and in the direction of the new Cisanello Hospital. Furthermore, car-bike sharing stations, activation of a suitable signage for cycling and walking lanes, easier connections without car to structures outside the centre of the city; activities that target children, with the following projects: "A scuola ci vado da solo" (safe house-school/house-sports centre paths) and "Diamoci una mossa" (physical activities and healthy eating); activities that target adults and old people, like AFA (Adapted Physical Activities).