Local Governance and Sustainable Communities. European Benchmarking and EU Convergence Regions in Southern Italy

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Key words: governance; sustainable community; environment; sustainable development; renewable energies

Summary

Over a decade, sustainable development is an integrated concept into the policies of all institutions and public administrations, from EU to local governments. In Europe, there are many regions, cities and municipalities that have already successfully changed their own energy supply, based on energy plans and intervention policies aimed at promoting renewable energy and sustainable development models.
It is estimated that there are at least a million of community based experiences at global level and hundred millions of people who are living in communities and small sustainable societies.
The sustainable community represents an essential tool for creating efficient territorial systems from energetic, economic, environmental and social point of view. Sustainable communities are laboratories for testing new models of territorial management, local governance, active citizenship and inclusive participation.
In Europe, there was no development of a common model for sustainable communities; some member states have adopted specific initiative. This paper will present the experiences undertaken in Italy starting from POIN energy 2007-2013 for the ‘convergence regions’ aimed at formulating and defining a Community sustainable energy model.
The objective of the paper is to identify the relationship between local governance capacity and the promotion of sustainable communities in contexts of "weak governance" (the four “convergence regions” EU funds targeted in southern Italy), based on benchmarking at European level.
At methodological level, an in depth analysis of a variety of case studies will be performed which refers to successful experiences developed in other areas at national and European level (multiple case study analysis).
In the case study analysis the main attention is paid to local initiatives that have started projects relevant to the field of sustainable energy, to the joint planning and financing of projects (eg public-private partnerships) and involvement of its stakeholders in the inter-institutional and external governance (stakeholder management).
Other factors taken into consideration will be the integrated approach to territorial development, the role of local services and the skills dividend, understood as territorial leadership, communitarian involvement, mobilization of local governments, working in partnership, the role of investments and communitarian financing mechanisms and private investors.
The benchmarking based on SWOT analysis will be framed on a sample of selected sustainable communities (eg. The district of Murau in Austria, the island of El Hierro in the Canary Islands, Community based renewable energy in the Dyfi Valley in Galles, the city of Settimo Torinese in Italy).
The case studies will provide the basis for the identification of an implementation scenario for the commencement of sustainable communities in contexts of weak governance in relation to some of the dynamics represented as

- *processes and institutional relationships that drive the activation of a sustainable community;*

- *modalities for strengthening the systems relationship between institutional subjects and other stakeholders;*
- *Defining the system for assessing the degree of environmental and energetic sustainability of the territories.*
- *Activation of the inclusive forms of accountability;*
- *processes of results dissemination (environmental reports, sustainability reports, social reports, reports related to environmental status);*
- *Systems for assessing and monitoring the implementation of policy interventions (Policy implementation, monitoring project implementation, indicators and control parameters, eg. Carbon footprint, ecological footprint, sustainability indicators GRI).*

First part: The meaning of "sustainable communities"

"Sustainable community" is an expression which indicates a model of collective and territorial organization according to the benchmark of environmental, economic and social sustainability, which has been elaborated to implement, in an innovative and incisive manner, the European Union Cohesion Policy.

Sustainable communities have become factors of regional growth and competitiveness through which to achieve the objectives of the Lisbon Agenda, namely territorial cohesion, social justice and sustainable development.

The EU economic and social cohesion policy aims at promoting a balanced, harmonized and sustainable development of the community by reducing inequalities between various European regions and by transforming them into more attractive, innovative and competitive places where to live and work.

The cohesion policy by means of ad-hoc financial tools – the so called Structural Funds – contributes to establishing sustainable communities, in as much as they assure that economic, social and environmental questions are tackled with integrated policies which are able to renovate and generate the development of both urban and rural areas.

To achieve the objectives described above, identical methods to be applied throughout the European Union do not exist, in consideration of the fact that European cities and regions are not homogeneous. Yet, European common features can be identified, in order to create communities who can augment the standard of life for all citizens. These are the "sustainable communities".

The latter are defined sustainable because they can balance social, economic and environmental interests under a strong and consistent framework, which integrates public and private funding to produce diffused welfare. To give birth to and to keep communities sustainable, require partnerships and a new method for governance.

In particular, a joint approach is necessary for rendering housing policies consistent, from the planning of transport, training and public services, to urban re-qualification. Thus, the culture of decision-making must go towards an effective and modern governance.

Finally, we try to define how sustainable communities should be presented and by what aspects they have to be characterized.

They respond to the different needs of current and future residents, take care of the environment and contribute to improve the quality of life. They are secure and inclusive, well-organized, well-constructed and well-managed, and provide efficient services which can be accessed by everyone.

The only definition of sustainable communities was elaborated under the 2005 Bristol Agreement, according to which this is considered to be a reality which can respond to the needs of current and future residents, take care of the environment and contribute to improve the quality of life; it is secure and inclusive, well-organized, well-constructed and well-managed, and provides equal opportunities and efficient services which can be accessed by each inhabitant.

Sustainable communities are diversified in consistency with their specific local context. A standard model does not exist, on the contrary they may be:

1. ***Active, inclusive and secure*** (just, tolerant and cohesive, with a strong cultural background and activities shared by the community)

2. ***Well-administered*** (with efficient and inclusive participation, representation and leadership). Sustainable communities combine development sustainability, and civil coexistence and responsible reception. These are "the concrete practice of a different way of development, spaces for meeting and integrating diversities, laboratories for experimenting new models of territorial management, of governance, of active citizenship and participation": Sustainable communities shall be pleasant places to live in, on which everyone may thrive as a free individual and as a part of a group. People can take part in the decisions which affect their personal life and in those regarding the entire community, with thorough spontaneity, transparency and sincerity by guide-lining sustainable development policies. Sustainable communities foster and support participatory processes and budgeting practices for the common interest, through summary documents on the state of territorial environment (environmental budgeting, sustainability report, social budgeting). Sustainable communities receive the support of the EU regional and cohesion policy which identifies the initiatives aiming at reducing the effects of climate change and contributes to improved energy efficiency and to the development of alternative energy sources

3. ***Sensitive to the environmental impact*** (capable of providing areas where people can live with particular attention to the environment). Sustainable communities streamline energy relationships with the natural environment and contribute to a high quality of life. The use of clean and inexhaustible renewable energy sources (photovoltaic, wind, geothermal, biomass and biogas) ensure energy saving, protection of habitats, landscape and territorial resources, thus offering actual opportunities for regional and local development and reducing inter-dependence with traditional energy sources (fossil fuels). Sustainable communities manage, in a different manner, green areas and water and re-launch urban and periurban agriculture, protect and encourage bio-diversity through the safeguard of protected natural areas. They provide a multi-dimension evaluation of their action, choices and interventions realized from the perspective of the impact on the environment, through different types of control indicators and benchmarks (carbon footprint, eco-friendly footprint)

4. ***Well-organized and well-constructed*** (characterized by a high quality urban and natural environment). Sustainable communities are secure and welcoming, are established and managed by means of highly sustainable urban structures and high architectural, environmental and eco-friendly quality. Sustainable communities use energy and its natural flows, in order to obtain greater advantages in terms of thermal energy and lighting. They are realized according to the principles of bio-architecture (green architecture, bio-compatible materials, thermal and photovoltaic solar panels, biomass power plants) and bio-climate architecture (natural lighting, glass surfaces

and greenhouses, selective transparent materials, green planning for welfare and comfort, solar chimneys for natural ventilation, heating, cooling and climate control). The sustainable energy architecture represents a positive element of quality and attraction, and determines evident environmental and economic advantages (energy and water savings, increased healthcare benefits for tenants of new buildings, increased profits deriving from resource saving, increased value of reputation for public administrations and building companies, recruitment and long-term employment, increased sales and employment, possible incentives from the Government and utility companies)

5. ***Well-liaised*** (with efficient transport and communication services, capable of liaising people with their work place, schools, healthcare services and so on)

6. ***Well-served*** (with public, private and voluntary services appropriate to people's needs, which can be accessed by everyone). Sustainable communities foster a urban mobility system which is inspired to the principle of efficient use of territorial and natural resources, aiming at ensuring respect for and integrity of the environment. By using less polluting systems which lead to the reduction of traffic and the increase of road safety, thus improving the opportunities for people's mobility and the environmental situation related to air quality, noise and emission of greenhouse gases. Sustainable communities make use of alternative mobility (e.g. rail transport, methane motor vehicles, electric and hybrid vehicles, cycle-lanes and paths, car sharing, car pooling or shared use of private vehicles), so as to respond to the collective needs for freely moving, establishing liaisons and commercial relations

7. ***Flourishing at economic level*** (with a flourishing and diversified local economy). Sustainable communities assure feasible and long-term economic functions by guaranteeing equally distributed economic benefits, like permanent employment (creation of "green" jobs) and opportunities of income and social services by contributing to the fight against poverty. They can balance social, economic and environmental interests under a strong and consistent framework which integrates public and private funding. They acknowledge the environmental component as the motor of a local sustainable economy, so as to enhance the territory and produce welfare for the citizens; sustainable communities benefit from the positive effects created by the eco-tourism sector, based on the optimal use of environmental resources, conservation of the natural heritage and biologic diversity, protection and enhancement of local cultural resources. Sustainable communities implement choices of consumption which privilege local productions, activate eco-energy production chains, allow for the attraction of investment in newly established enterprises and eco-energy activities, realize connections between local networks through the active involvement of the integrated productive-industrial component with the research-university component

8. ***Sound*** (capable of understanding those who belong to other communities at present and in the future). Sustainable communities distribute resources and opportunities in an equal manner; promote justice and equal rights, opportunities and access to every form of Community capital. These are the contexts in which people want to live and work, now and in the future. They can fulfill the various needs of present and future inhabitants by providing good services for all. They consciously act and are responsible towards future generations, who have the right to receive a capital system

at least equaling that which present generations have borrowed, as well as towards the entire planet.

Second part: The Ministry's Project "Comunità Sostenibili"

The diffusion of sustainable communities in Italy's most disadvantaged areas is a strategic priority of this project jointly realized by the Ministry for the Environment and Formez under the Community initiatives financed by EFRD funds. In particular, the project is included in the Community strategy of support to environmental policies which are implemented through the 2007-2013 Inter-regional Operational Programme "Renewable Energy and Energy Saving", thereinafter referred to as POI and aiming at Objective Convergence Regions (Campania, Puglia, Calabria, Sicily).

The general objective of the programme is to augment the share of consumed energy deriving from renewable energy sources and to improve energy efficiency by promoting opportunities for local development, integrating the system of incentives provided by ordinary policies, enhancing the relationships between renewable energy production, effectiveness and the social and economic fabric of the territories in which they are established.

The programme envisages a series of strategic priorities, among which Activity Line 2.3 of the programme dedicated to the "Interventions of promotion and diffusion of energy efficiency in protected natural areas and smaller islands and related networks and inter-connections, according to the participative approach of Sustainable Communities".

With reference to what indicated by POI, the sustainable community is introduced as a key tool for the establishment of efficient territorial systems from the energy, economic, environmental and social viewpoint. This is particularly true for smaller islands and protected natural areas, which represent territorial contexts with specific features that need to achieve energy self-sufficiency.

In this regard, specific in-depth studies and research have been directed to the mechanisms of creation and development of sustainable communities, such as efficient territorial systems which can encourage the diffusion of a rational use of energy and renewable energy sources, thus ensuring optimisation and self-sufficiency of the territorial systems of interest.

POI "Energy" must be developed starting from the general indications included in the national Strategic Framework 2007-2013 (NSF), which defines the application conditions that POI activities must follow. The table below outlines the relevant NSF strategic priorities and indicates the guide-lining conditions which are to be taken into account in the development of the Project POI "Energy".

NSF Priorities	Guide-lining conditions for effective implementation
Priority 3 Energy and environment: Sustainable and efficient use of development resources	➢ To guarantee an environmentally sustainable destination of the resources allocated for the Priority ➢ To augment certainty and stability of the regulatory and ruling framework, also through the full application of Community directives on environment and a more decisive opening to the market ➢ To enhance planning capacities also with the use of ad-hoc tools for learning about and evaluating the environmental impact ➢ To strengthen the comprehensive governance system in the framework of a precise attribution of institutional responsibilities at central and local level, for

NSF Priorities	Guide-lining conditions for effective implementation
	better quality and integration of planning and programming processes, to be sustained also through support activities and the accelerated return to the ordinary conditions
3.1.1 Diversification of energy sources and increased energy production from renewable energy sources	Implementation criteria: the strategy specification must take into account environmental vocations and local opportunities also in an inter-regional perspective by fostering technologies and the use of renewable energy sources or endogenous resources which are more adequate to the territorial context; by ensuring the correct landscape integration and minimized environmental impact related to the realization and adjustment to energy production and distribution plants; by strengthening a preventive environmental evaluation system
	➢ Sharing with local bodies an evaluation and negotiation path for ensuring the social acceptability of interventions, but also and above all for designing and rendering project choices more efficient ➢ Strategic environmental evaluation must be correctly conceived as a process for involvement of experts, local interests and national competences for improving, or better, building a project
Priority 5 Enhancement of natural and cultural resources for attractiveness and development	➢ Full integration between protection and enhancement policies of natural, cultural and landscape resources, as well as between these and territorial planning and rural development policies ➢ Urgent identification of territorial and thematic priorities through the capitalization of the best experiences of integrated planning already carried out ➢ Severe qualitative and quantitative analysis of the current and potential demand ➢ Need identification aiming at the elaboration of training policies for fostering innovative entrepreneurial activities and the development of operators' skills ➢ Forms of collaboration to encourage the institutional partnership and the involvement of local communities ➢ Opening of the local context to external visitors ➢ Integration between various programming scales, at local level and in large areas ➢ Diffused and participated evaluation of policies and of the results achieved compared to the expected objectives

In the light of these aspect, the project was prepared including the following objectives:

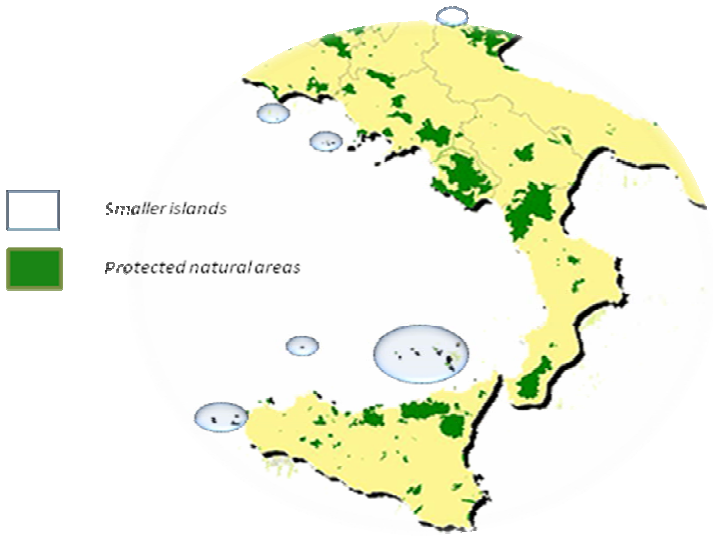
- Circumscribing the perimeter of a sustainable community by identifying features and pre-requisites for its operability in the Objective Convergence regions, in compliance with the criteria of repeatability, opening, transparency and participation
- Designing measurability and *social and ethical accountability* systems for evaluating the degree of energy and environmental sustainability
- Defining possible paths towards convergence for the operational application of the model of sustainable community to a *panel* of selected territories
- Designing general interventions for producing renewable energy and energy efficiency to a subgroup of the *panel* of selected territories with a high vocation for energy and environmental sustainability
- Promoting and diffusing the results achieved - for the purpose of their repeatability - in the Objective Convergence areas which are susceptible to the applications of the model of sustainable community
- To diffuse, in the Objective Convergence regions, the organizational and instrumental model of sustainable communities

- To encourage territorial integration and participation at local and interregional level under the processes of territorial development in the perspective of the energy and environmental profile
- To improve the quality of energy efficiency interventions, above all in terms of meaningfulness and repeatability
- To encourage socio-economic development of Objective Convergence territories through the motor of energy policies

The core activity is divided into three macro-phases.

The **first phase** is dedicated to the formulation of a model of reference through the screening of the sustainable communities experiences conducted at national and international level. The model envisages the possible definition of a record of operational cases which takes into account aspects such as regulatory elements, tools for governance and accountability and tools of local finance.

This phase aims at identifying the distinctive features of the Sustainable Community specifically contextualized in *smaller islands and protected natural areas*.



Picture 1: Smaller Islands and protected natural areas In Italian Objective Convergence contexts

To give greater relevance to the results of the model, we wanted to investigate in depth the successful experiences gained in the field throughout international and Italian territorial contexts. Various cases of excellence have been identified, each of which provided valuable indications, in order to structure d-hoc principles for community functioning.

A study carried out on the territory will allow to guarantee that the core elements of the model may effectively be applied on protected areas and smaller islands in Objective Convergence contexts, in as much as these have been realized according to concrete and not purely theoretical applications.

At the basis of this consideration, the need emerges to envisage a structure of sustainable community which may be adapted to highly differentiated contexts.

The activity of screening and study on the territory will focus on the reconstruction of the following aspects:

- Case studies of sustainable communities and key regulatory and ruling experiences deriving from foreign and Italian regions' regulations
- Relational and communication systems established throughout the territories in the logic of external governance (*stakeholder management*) and relational systems with other institutions (European Union, Government, local regional authorities) in an inter-institutional logic
- Tools adopted by territories for fostering energy sustainability, both in terms of energy efficiency and energy production from renewable energy sources, all this in the logic of territorial development and benchmarking of economic, social, environmental, occupational effects of sustainable energy policies
- Monitoring systems on the territory, of the policies promoted and result budgeting tools (*accountability, energy and environmental budgeting, carbon footprint)*.

The analysis will allow to define the model of sustainable community in accordance with three operational lines:

1. definition of the criteria which lead the activation of a sustainable community, and description of the processes and the methods for establishing sustainable communities
2. characterization and identification of methods for the consolidation of relational systems between institutional bodies and other stakeholders who insist on the territories of the community involved
3. definition of the measurability tools related to the development of sustainable community towards local energy networks

The core of the definition of the model of sustainable community is the elaboration of a positioning matrix to be applied to the territories and communities selected ad hoc, which belong to smaller islands and protected natural areas located in the Objective Convergence and considered to be suitable to the realization of a sustainable community. The positioning matrix will allow for the representation, on the basis of relevant variables, of possible scenarios which identify the optimal state that has been defined by the so created model to be submitted and the intermediate cases, according to which the paths to reach the optimal state will be defined.

In order to measure the critical factors of success of a sustainable community, a benchmarking system will be elaborated, based on a group of indicators for evaluating the level of correspondence of the model of reference for the different case studies to be selected. The group of indicators will be subsequently summarized under a single index, named *Indicatore unico di sostenibilità energetica di Comunità* (IUSEC) (Single Community energy sustainability indicator - IUSEC) which will allow to verify the positioning relative to a territory, with one representative value.

The **second phase** envisages planning in terms of feasibility studies to a range of administrations appropriately selected, so as to verify the correspondence between territories and the model of sustainable community.

The territorial areas will be identified on the basis of the degree of priority compared to the questions related to the importation of energy resources, energy intensity of the local economy, production from power plants with high environmental impact, which are typical of the areas at high physical isolation.

For each pilot area, a path towards a model of reference will be defined, which is characterized by the following elements:

- processes and methods for implementation, for the purpose of establishing sustainable communities

- organizational features and relational systems between institutional bodies and other stakeholders involved in sustainable communities for the correct identification and realization of energy interventions (external *governance*)
- application of operational practices adopted from the best practices identified for the promotion and identification, by sustainable communities, of potential high quality project initiatives. The procedures will be realized in the logic of simplification, accessibility and transparency
- performance monitoring and benchmarking systems through methods for environmental management e.g. Emas3 model

The first set of interventions as regards renewable energy sources and energy efficiency to be planned within the subgroup defined in smaller islands and protected natural areas, will be identified in the light of three key criteria:

- the intervention priorities as defined in Action Lines 1.5 and 2.3 of POI Energy;
- the results of the analysis on sustainable community features
- the territorial vocations of the beneficiaries of the interventions

For each type of intervention identified, as previously indicated, a specific analysis will be associated with strengths and weaknesses, potential hindrances, methods for the quick implementation and an estimate of the necessary investment.

The **third phase** envisages the general planning of the interventions aiming at energy sustainability to a subgroup of pilot areas, previously defined and characterized by adequate vocations, so that the initiatives proposed have the characteristics of high quality, meaningfulness and repeatability that can create an example at interregional level and allow for the full realization of a model of sustainable community.

Each intervention implies the following:

a. in-depth analysis of the following aspects to the subgroup of areas identified:
    - detailed analysis of contextual environmental factors which characterize the geographical area of reference, thus emphasizing the technical feasibility of interventions for establishing power plants for energy production from alternative sources (or the criticalities related to the various forms of energy supply)
    - identification of the local administrations to be involved in the process of establishment of sustainable communities
    - mapping of the territorial *stakeholders* which show a specific interest in energy policies (citizens, businesses, trade associations, public companies, regional instrumental agencies, ARPA, etc.)
    - inter-institutional communication systems to create a networked structure between the administrations involved and to encourage the circulation of the information and the formulation of enlarged and shared decision-making processes
b. identification of planning forms for interventions aiming at establishing power plants for energy production through methods for involving the *stakeholders* in the preliminary phases and through financial tools involving the private and public sectors (access to Community and national funds, etc.)
c. forms of social budgeting which allow us to create the necessary consensus for the project activities of the communities of practice, in order to encourage a transparent administrative action and the information of people about the long-term economic

convenience of these initiatives (e.g. sustainability budgeting and energy and environmental budgeting, *carbon footprint*).

The common denominator of all phases is the attention paid to energy questions regarding public administrations, thus paving the way for a more efficient Italian public sector from an energy viewpoint, which also represents a reference on the territory and a model to imitate.

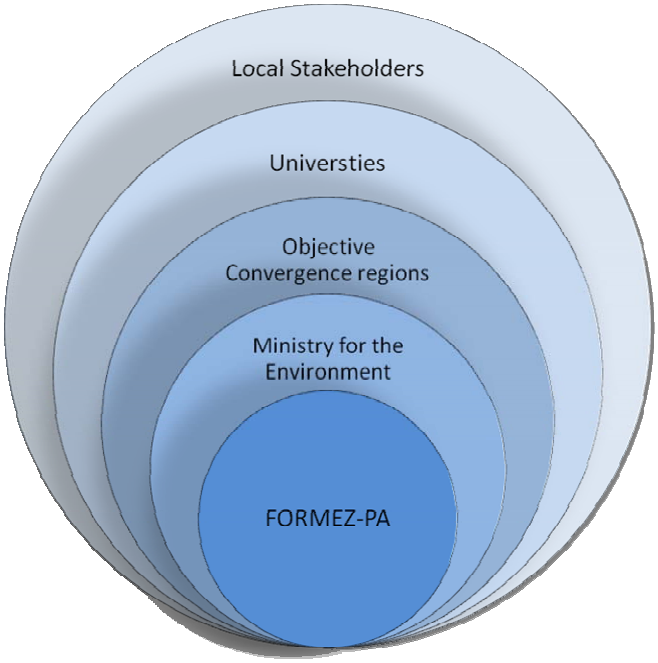
The stakeholders who are currently and actively involved in the phase of project design, are various.

The Ministry for the Environment, Territory and Sea Protection is the implementing body of POI Energy in Italy, together with the Ministry of Economic Development.

The four Objective Convergence regions ensure the strategic coordination of all operational activities through a supervising committee, of which Puglia is the managing authority.

Universities provide Formez with specific know how, thus assuring the conditions of transferability of the solutions adopted at level of private businesses.

To each geographical area about which feasibility studies and projects will be developed, the stakeholders of reference will be adequately identified, so as to embark on interventions in loco in a participated logic. Territorial authorities, instrumental agencies (environmental, consortiums, research centres, chambers of commerce, etc.), private organizations (employers' organizations, businesses, etc.), training institutes, organized groups (trade unions, consumers, etc.), the local community (citizens' organizations) and the production chains interested in this specific project, will be identified.



Picture 2: Stakeholders map

	FESR contributions (a)	National Public contributions (b)	National Private contributions (c)	National contributions (d) =(b)+ (c)	Full Contributions (e)	Contribution rate (f)=(a)/ (e)	Formez project contributions
Axe I: Renewable energy sources production	€ 389.698.088,00	€ 389.698.088,00	€ 0,00	€ 389.698.088,00	€ 779.396.176,00	50%	€ 4.200.000,00
Axe II: Energy Efficiency System	€ 382.195.088,00	€ 382.195.088,00	€ 0,00	€ 382.195.088,00	€ 764.390.176,00	50%	
Axe III: Technical support	€ 32.000.000,00	€ 32.000.000,00		€ 32.000.000,00	€ 64.000.000,00	50%	
Tot.	**€ 803.893.176,00**	**€ 803.893.176,00**	**€ 0,00**	**€ 803.893.176,00**	**€ 1.607.786.352,00**	**50%**	**€ 4.200.000,00**

Picture 3: Financial Plan

Third part: Experiences in progress

International cases

Under the project, some best practices have been identified whose evolution has been considered to be interesting, in order to acquire useful indications for developing the model of sustainable community.

Amongst the most relevant cases, the most studied was that of the island of El Hierro, in the Canaries, on which an innovative project was embarked on aiming at rendering the island self-sufficient in energy terms, through the use of renewable energy sources.

The objective was to make the island of El Hierro the world leader in the implementation of self-sufficient energy systems, based on clean and renewable energy sources, through the following:

a) design, establishment, monitoring, functioning of a wind-hydro power station for the generation of electricity, in order to cover approximately 75% of the electricity demand
b) planning and implementation of a specific programme for fostering solar thermal energy
c) a study on the possible use – in energy terms - of the residual biomass (feasibility analyses on biogas exploitation)
d) actions of awareness-raising, information and training (e.g. implementation of campaigns) about the questions of energy saving and the greater use of renewable energy sources (solar thermal and photovoltaic energy) or sources which utilize various types of biomasses and organic waste produced in the island
e) introduction of an integrated system of alternative means of transport
f) The establishment, on the island, of an Agency for Energy through ITC support and the EU SAVE programme. The agency will deal with the ordinary and daily programme management; will collaborate with Cabildo Insular, Canary Islands R&S institutions and private organizations to identify opportunities for development from renewable energy sources.

The greatest success of this initiative is due to a careful process of involvement of the relevant stakeholders as regards the issues faced and an exact communication campaign aiming at

promoting integration and participation of the local people in the logic of system acceptance. From an on-the-field analysis it has emerged, as a determinant, the high degree of participation of the local people in the strategic decisions regarding the island development.

A second case which deserved an accurate in-depth study is the regional energy project of the Murau area in Stiria, named "Energievision Murau" (Murau's energy vision). The project was developed on the basis of a bottom-up approach with the involvement of all regional stakeholders from the energy sector, including consumers. The regional actors defined an energy strategy for the Murau district, with the objective of realizing an area based on 100% renewable energy. In the framework of this perspective on energy, within 2015 the province intends to become autonomous as regards heating and electric power, so as to cover 100% of the energy need with renewable energy sources. Energy Vision 2015 was developed in a joint manner by the representatives from various sectors and is the answer to the trends in progress and predictable future implications concerning energy consumption and policies at national and global level.

Under the project, regional conferences on energy have been opened to all stakeholders. Participants come from all business sectors (heads of planning, installers, micro-businessmen, energy suppliers and distributors, operators of teleheating and biomasses, farmers and foresters, regional civil servants and other public authorities) and collaborate on common strategies, projects and objectives. A number of thematic work groups (on biomasses, solar energy, green electricity and energy efficiency) have been envisaged.

The issue of the renewable energy funding was faced by the work group on renewable energy sources from Vorarlberg (ARGE Erneuerbare Energie Vorarlberg) with the development and promotion of the ECOPOWER fund (ECOPOWER Bürgerfonds).

Since 2002 the share of renewable energy sources in the sector of heating has augmented from 47 to 53%, while the production of green electricity covers 12% of the total need. In recent years, the energy perspective has become "common" and shared, thus representing an important guide-line for the entire district and for all its inhabitants. The project has led to the creation of many jobs and to the increase of incomes in the area of interest.

Denmark offers an example of sustainable community through the case of the Isle of Samsø. The island has become a model of reference for all, a "renewable energy island". It has gained experiences which range from wind generators to CO2 neutral heating plants and are based on renewable energy sources, from rapeseed oil fuelled tractors to solar panels. The wind generators installed in the sea generate more energy than that used for island transportation. The Samsø Energy Academy participates in the sharing of experiences and conducts scientific activities together with visitors and researchers.

The project actions have been based on large social cooperation interventions with the more or less direct involvement of about 4.200.000 inhabitants from the island. The energy independence from renewable energy sources had already been reached in 2003, five years in advance compared to the pre-arranged objectives, above all owing to the installation of ten wind turbines in the sea and eleven on the firm ground (works carried out by the corporations of which many islanders are shareholders).

In the United Kingdom, communities based on renewable energy sources have been created in the Dyfi Valley, Wales. With this initiatives, local authorities intended to help local people autonomously implement small programmes on renewable energies. The purpose was to improve understanding and support to renewable energy sources, thus optimizing advantages at local level. The support of the Powys County Council, the Welsh Assembly Government and Dulas Ltd contributed to realizing 16 programmes through aid in the form of money and time dedicated to activity development. Amongst the programmes, a 100 kW hydro-geologic project plant in a farm located in the hills and the establishment of the cooperative "Bro Dyfi

Community Renewable energy sources" with two wind turbines (one of 75 kW and the other of 500 kW, subsequently installed) were created. The managing authority "ecodyfi" turned into a social enterprise to encourage the sustainable re-qualification of the community in the Dyfi Valley.

In Austria, the city of Güssing is always mentioned as a successful example when the topics of energy self-sufficiency, the use of renewable energy sources, gasification, etc. are faced. The Güssing model is a network of decentralized biomass fuelled plants which generate the electricity necessary for the town and the heating aimed at residential and municipal buildings. The exclusive use of local raw materials assures a high added value to local producers, as well as the sustainable management of the forest heritage.

After a careful balance of one's natural resources, Güssing centred its programme regarding the development of renewable energy sources, on the abundant local wood supplies and agricultural production. The City of Güssing use forest wood, turns it into gas and thus, heat and electricity. They arrived to the creation of a biomass fuelled power plant, and photovoltaic and biogas plants. The town is self-sufficient as regards the need of electricity and heating, and can rely on extra earnings thanks to the sale of energy surplus which in 2005 reached 13 million of euros. Its production of energy exceeds its internal consumption and the town exports it throughout the region. In 1996, the European Centre of Renewable Energy (EEE) was opened to study and foster the "Güssing model". The European Centre coordinates the activities of the Güssing region in the energy sphere and organizes conferences and training in the sector of renewable energy sources, as well as visits to the Eco-energy Land, the district composed of 10 neighbouring municipalities. The status of Güssing is a concrete example of success, and ensures that the EEE plays the consultancy role on a number of international networks and projects.

The Güssing model is largely transferable to other EU countries (it can be exported to all European regions with woodland) and even to other regions in the world, as it is a simple combination of local resources and sustainable innovative technologies.

National cases

The public sector represents an important driving force to boost new and alternative energy forms.

The Municipality of Settimo Torinese is an exemplary case of "sustainable community" as regards the use and promotion of renewable energy sources in their most diversified forms (from hydrogen to photovoltaic, from co-generation to teleheating). Although the industry continues to be an important economic motor, the municipality has considered to direct choices towards the development of renewable energy sources by conceiving "agile energy systems".

Among the most recent initiatives in Settimo Torinese on renewable energy sources, the Project "Laguna Verde" has been outlined as a model of highly sustainable urban structure and of high architectural, environmental, and eco-friendly quality. This is one of the largest urban re-qualification projects which exist today in Italy, both in terms of dimensions and for the qualitative and conceptual level of the project. The latter can be included in a surface of 815.000 m² along the axis of via Torino, in an area where today, among others, the Pirelli plant is located. The latter will be dismantled in the light of the realization, in via Brescia, of the more technological and advanced Pirelli plant.

Under the "Laguna Verde" project, houses for approximately 8 thousand people, offices, schools, trading and entertainment activities are incorporated (among which a sport facility and a swimming pool), as well as and above all, one or more areas dedicated to research. The

new plant under the “Laguna Verde” has been conceived according to logics of environmental sustainability and eco-compatible products and is based on the trinomial “training, research and industry”, with universities and territorial agencies as the main actors. The concentration of the parts built is organized by compact blocks, like islands which appear on the surface to form a green lagoon made of parks, gardens and green areas (2/3 of the entire area available). The part of the “public city” envisages an entire island aiming at the functions of research and higher training, which in terms of the dimension of the available space, becomes the second function for importance under the project, following the residential function. The activity of research whose feasibility and realization project is assigned to the Polytechnic Institute of Torino, represents one of the core strengths of the Laguna Verde Project for the implementation of sustainable processes and products. The theme of research has been faced in the recent agreements sealed with Pirelli on the development of innovative production technologies for “intelligent” tyres and aims at re-affirming the “Cittadella Politecnica” model.

The objective is to render the new urban settlement the first centre which does not consume more energy than it produces. The Municipality of Settimo Torinese has started up a series of targeted initiatives, like the stand canopy of the rugby pitch covered with photovoltaic panels, the development of teleheating, the approval of a new energy annex to the building regulation which provides extra incentives and cubature for those who realize class A buildings; the use of hydrogen for fuelling the Asm building, the realization and building retrieval from the point of view of energy eco-efficiency. Through the municipalized company Pianeta which has made of planning and implementation of agile energy systems its core business, the idea of “energy at 0 Km” has been taken forward, namely to promote and develop many autonomous and self-sufficient islands e.g. small solar or wind power plants to render communities autonomous and self-sufficient.

The Marine Reserve of Torre Guaceto, in Puglia, and the Marine Reserve of Plemmirio, in Sicily, represent two excellent cases in the Objective Convergence regions.

The presence of ISO 14001 certification and EMAS, state-of-the-art tools for environmental management demonstrate that the territory is managed by paying attention to sustainability related issues. As innovative are environmental budgeting tools which allow to constantly benchmark the impact of man’s activity on the eco-system and the subsequent mitigation of the impact.

In some areas **eco-sustainable production chains** already existed: This is the case of certified agricultural businesses, of local oil and fruit production from organic crops or chains for the re-use of the production reject which nowadays generates energy from renewable energy sources, such as biogas or biomass, in line with the most advanced criteria of the efficient use of resources.

Furthermore, some protected areas can boast tourism initiatives which demonstrate, with a certification, that the merely economic aspects - in these cases related to the tourism area - are strictly linked to the respect for the conservation of the natural heritage of the area in which they take place.

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