

EASY Project



Intelligent Energy Europe

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Issue III



EASY-INTERNATIONAL DISSEMINATION MEETING 6th-7th July 2009, DURRES (ALBANIA)

The International meeting of the EASY project, organized by the Forum of Adriatic and Ionian Cities with support and in collaboration with the Municipality of Durres, was held last 6th-7th of July in Durres (Albania).



The aim of this meeting was to spread the project at international level involving those communities that are not taking part in the project but interested in and with necessity to adapt it to their own context.

The Albanian local authority's representatives and experts gave their contribution to the meeting by sharing their opinions, experiences and problems in the field of renewable energy and energy efficiency in general. The project ongoing activities and results obtained were presented by each partner.

KEY FACTS

- IEE - SAVE 2005
- Total budget: 616.296 €
- EC contribution: 49,14% of the budget
- Duration of the project: 01.12.2007-30.11.2009

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SYKIES OBSERVATORY OF ENERGY

The local observatory of energy is established in the Municipality of Sykies within the framework of the EASY project.

It is consisted by volunteers -citizens of the City Council, who, through the participatory process, expressed their willingness to participate. They are the core network for data collection on energy related behaviour-consumptions (electrical energy, heating-cooling system, transport, etc) at home and the example for changing energy related behaviour, attitudes and lifestyle.

Volunteers are invited to fill in, monthly, a questionnaire, on data on energy consumption at home and transport/mobility and to adopt sustainable energy consumption habits in their everyday life.

The conclusions derived from the collected data and the changes- or no- to consumption levels will form a part of the evaluation phase of the SYKIES EASY model.

EASY tips to reduce energy consumption



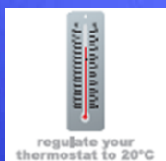
Use low energy light bulbs



Install a water pressure reducer



Choose energy-friendly electrical appliances



Regulate your thermostat to 20°



Use public transport



Unplug chargers once batteries are full



Reduce & recycle litter

EASY INFO DAY IN: SPLIT AND DALMATIA COUNTY

- What: Third EASY Info day
- Where: Croatian Chamber of Commerce - Split Branch
- When: 2nd July 2009

Third EASY Info day was completely devoted to the Local EASY Energy Model that has been presented on this occasion. In case of Split and Dalmatia County the Local EASY Energy Model represents the Energy Model of the Island of Brač. The lecture was given by Damir Pesut from Energy Institute "Hrvoje Požar", who is an energy expert with more than twenty five years experience in modelling of energy systems. All steps necessary for the development of Energy Plan have been presented, from theoretical and practical point of view, followed by the presentation of possible scenarios, plans and all other results achieved.

The Info day was attended by the representatives from the industry sector, mechanical engineers involved in civil engineering, electricity providers, and representatives from the Island of Brač.

After the Energy Model of the Island of Brač has been presented in whole, the discussion that has followed showed how important issue is the modelling of the development of the energy sector of a single region. Although a number of questions were related to "what if" scenarios, after the extensive discussions it was concluded that the model is credible and it was proposed that the similar task should be done for Split and Dalmatia County in whole.

FORTHCOMING EVENTS

7th ETAP FORUM ECO-INNOVATION
Adapting to Climate Change
23-24 November-Copenhagen

The conference will bring together key policy makers and practitioners in this rapidly developing field to explore the role of eco-innovation and make recommendations to the EU and Member States in setting future frameworks to support adaptation measures.

More information:
www.ec.europa.eu/environment/ecoinnovation2009/2nd_forum

CIVIL PROTECTION FORUM
Towards a more resilient society
25-26 November- Brussels

Climate Change is likely to increase the frequency and impact of disasters, and Europe has to be prepared for this challenge. The Forum will start a debate on a comprehensive European disaster management strategy to enhance resilience.

More information:
www.ec.europa.eu/environment/civil/forum2009

CLIMATE CHANGE CONFERENCE
United Nations
7-18 December-Copenhagen

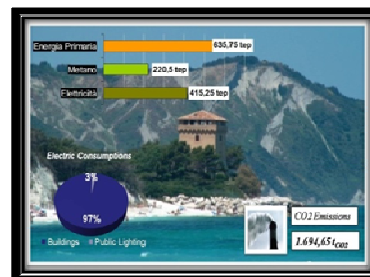
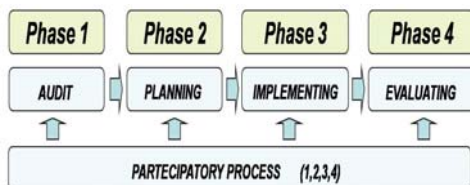
The aim of the conference in December is to produce a new and more ambitious global commitment to tackling climate change. The Commission has published a plan for financing the fight against climate change in developing countries.

More information:
www.en.cop15.dk

LOCAL EASY MODEL: PORTONOVO

The Portonovo bay, 8 km south of the City of Ancona, is a chain of beautiful white stone beaches, located just under the high cliffs of the Conero Mountain (572 mt.). The area is characterized by very intensive **summer peaks of energy consumption (635,75 toe/year)**, by high quantities of **available renewable energy sources such as sun and biomasses**. Furthermore, the area is protected by strict regulations and restrictions with aim to safeguard the landscape and to protect the ecosystem and the biodiversity of the place. For these reasons, the Bay has been selected as testing area for the EASY Project implementation and for the design of the Portonovo EASY Model. The Portonovo EASY Model consists in a **4 macro phases**, which are strictly connected and complementary. In each of these phases the Local Community is completely involved (see the figure 1)

Figure 1 - THE EASY MODEL of PORTONOVO



COMMUNITY INVOLVEMENT

The Community Involvement process is the most important and innovative aspect of the EASY Model. Since the very beginning of the project the Portonovo Energy Forum has been established. It was formed by the main local stakeholder such as NGO, private organizations, Institution, energy experts and urban planners, Environmentalist and researchers from the Universities. In parallel, a Local Expert Group has been created in order to manage and to organize, at local level, the entire EASY process as well as to coordinate the 4 Thematic Work-Groups established: a) Energy Audit; b) New Technologies; c) Biomasses, d) Energy and Urban Planning Integration.

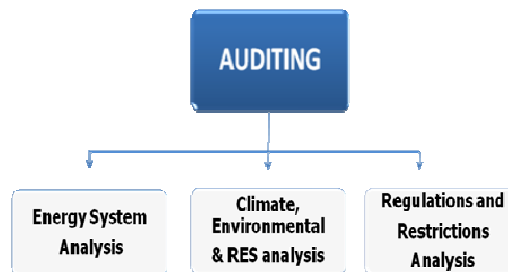
PHASE 1 - AUDITING

The AUDITING step/phase aimed to analyze the whole/entire Portonovo Energy System, lighting failures system, problems and weakness points to be straightened. Mainly the Auditing process consisted in analyzing:

- A) The System of Portonovo: energy demand of the area, the related Co2 Emissions (by sector/by vector), as well as the grid and net connection;
- B) The Main Climate and environmental aspects as well as the RES availability;
- C) The Current Environmental and Urban regulations and restrictions ;

This first phase permitted to collect important data and relevant information in order to design the baseline scenario useful for the Planning Phase. The purpose was to create a framework of information served as basis for the planning, implementing and evaluating phases

Figure 2 – AUDITING PHASE



PHASE 2 - PLANNING

Within the PLANNING phase, the Sustainable Energy Plan of Portonovo has been completed and developed. The main goals of the SEP of Portonovo is to **maximize the energy efficiency** of the Local Energy System by increasing the percentage in **using of renewable energy sources**. Starting from these two main objectives, the SEP of Portonovo defines priorities and fixes targets to be achieved. For each priority, specific projects and actions were developed with aim to improve the energy and environmental performance of the Bay.

Figure 3 – PLANNING PHASE

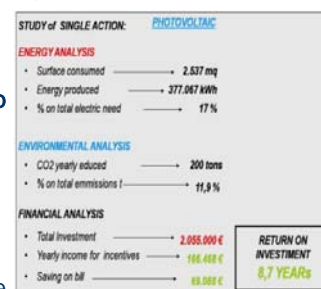


Projects and Actions are related to:

- The introduction of **Photovoltaic and Solar Thermal** plans;
- The Improvement of the energy performance in **Public Lighting System**;
- The implementation of a **Combined Heat & Power Generation plan connected to a Teleheating net** for the SHW needs of the Bay;
- The improvement of the electric grid in order to **reduce the electric energy losses**;
- The exploitation of the **Biomasses from the Park** for the heating needs;
- The Improvement in **building envelops and roofs** for increase the energy saving;

Furthermore, a specific analysis on the possible technological solutions to be adopted have been carried out, taking in strong consideration all potential opportunities provided by the territory. Moreover the integration with Urban Planning tools already in force was a basic step in order to make the SEP feasible.

Figure 4 – PV project summary sheet



PHASE 3 - IMPLEMENTING

Within the IMPLEMENTING phase, 4 possible scenarios with different level of complexity in implementation were drawn. Each scenario gradually integrates and combines projects and actions defined during the previous phase.

The integration process aims to exploit the “economy of scale”, maximizing the efficiency and the effectiveness of the combined action. Basically, the first scenario foresees a minimum level of project implementation and integration, requiring less expense, shorter time of realization and a very low involvement of the private sector. In the opposite, the 4th scenario foresees the fully integration of all projects and actions proposed in the plan, requiring, for this reason, more financial resources, longer time of realization and a stronger partnership between public and private sector. Energetically and environmentally speaking, the expected results and outputs also differ from scenario to scenario.

For this reason, for each scenario was necessary to measure the Energy and the Environmental Balance as well as the Financial Amount requested for the implementation together with the ROI index (Return on Investment).

Figure 5 – IMPLEMENTING PHASE

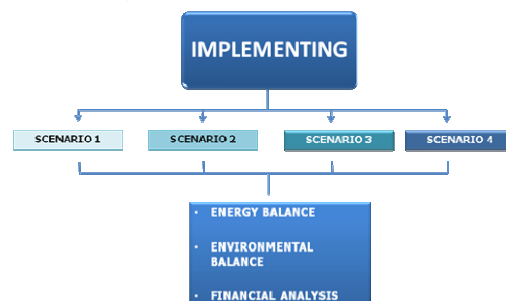


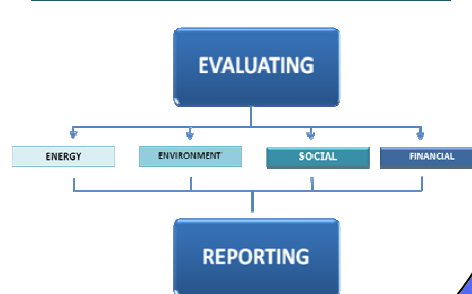
Figure 6 – 4 DIFFERENT SCENARIOS



PHASE 4 - EVALUATING and REPORTING

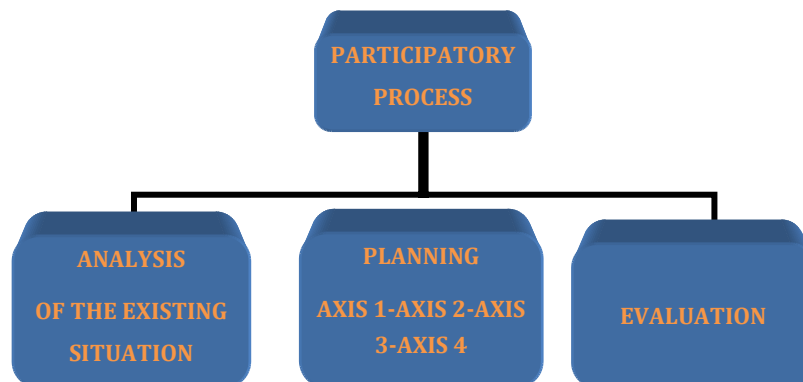
Evaluating and Reporting is the last step of the EASY Model. For this reason a set of Sustainable EASY Indicators has been developed in order to monitor the application of the Plan and to measure the percentage of targets achievement. The developed System of Indicators will provide the politicians with a basis for taking further decisions on the targets and actions for the next future. At the same time, it will provide the stakeholder, including citizens, with a report on what has been done with respect to the targets included in the SEP.

Figure 7 – EVALUATING & REPORTING PHASE



LOCAL EASY MODEL: SYKIES

The Sykies EASY MODEL has as main aim the efficiency and rational use of energy. It is divided in three main phases, analysis of the existing situation, planning and evaluation, the participatory process covering all three.



SYKIES EASY Model is part of the local strategy for the planning and formation of a “green city” as defined in:

A) The Local Program for Sustainable Development 2007-2015 and in particular axis 6 of the Operational Plan “System of Natural Resources and Energy Efficiency”.

B) The first Operational Program of Municipality of Sykies 2007-2010, in particular Measure 1.7 «Rational Use of Natural Resources».

The analysis of the existing situation, comprising consumption data collection and energy studies using a stimulation program defining the energy benefit of each possible intervention, drove to the identification of 4 axis for the planning phase:

◆ *Axis 1: Interventions to municipal buildings*

Twelve municipal buildings have been chosen as the most energy consuming, whereas some of them were selected being old and/ or having bad infrastructure for:

- replacement of thermal insulation and windows
- replacement of old boilers by new energy efficient
- installation of Energy efficiency system (boiler master)

◆ *Axis 2: Energy efficiency of public sites*

Integrated Distance Management and Monitoring for time planning the functioning and the level of lighting (dimmer) of municipal pillars.

◆ *Axis 3: Improvement of energy efficiency of public infrastructure-low costs interventions*

◆ *Axis 4: Information, Awareness raising and mobilization of social actors*

ENERGY AND ENVIRONMENTAL BENEFITS OF SYKIES EASY MODEL FOR 2009-2010-2011:

AXIS	Energy saving	CO ₂ emissions reduction
AXIS 1	588.318 Kwh/year	324,99 tones/year
AXIS 2	126.415 Kwh/year	107 tones/year
AXIS 3	264.121 kwh/ year	51,10tones/year
AXIS 4	-	-
TOTAL	978.854 kwh/year	483,09 tones/year

LOCAL EASY MODEL: VILA-REAL

Vila-real, a city within the province of Castellón, in the Valencian Region (Spain), has experienced a continuous growth in social and economic terms, being nowadays the tenth largest municipality in the region. Vila-real has doubled its population in 50 years up to 49000 inhabitants and it is a neuralgic regional centre for communications, industry and services. Town's economy is now based principally on the ceramic tile industry, as industrial production has overtaken agriculture as main source of income. Vila-real is a world reference in ceramics production, largest manufacturers are to be found within the municipal borders: a fact that has encouraged social development and employment to a large extent over the last four decades. Other minor industrial sectors include local commerce, textile manufacture, chemical production, food production, and the selection and distribution of the locally grown citrus fruits.

However, a fast growth brings associated structural troubles that must be solved regarding the energy structure. In fact, there are some threats that affect the sustainability of the energy model in Vila-real:

- Natural gas high dependency and total dependency on fossil fuels. Fluctuation of fossil fuels prices.
- Insignificant energy production from RES.
- Worrying low levels of energy efficiency in the all sectors, including industry, citizenship and public authorities.

In order to face up the challenges of the current model an innovative initiative it's being developed in the municipality, the elaboration and implementation of a Local Strategic Energy Plan (EASY Plan) in collaboration with other EU cities which share similar difficulties.

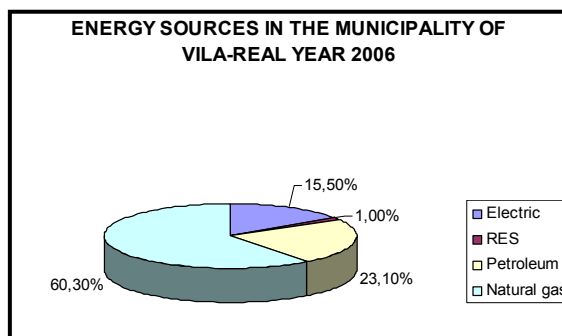
The Plan is based on a two-step procedure: Diagnosis of the global energy model and an Action Plan. The whole process has been developed with the participation, from the very beginning, of an Expert Committee (key experts from and outside the city) and a Local Forum (representing the citizens associations of the municipality).

The goals foreseen in the Action Plan are the following ones:

- Reduce production of CO₂ at local level to boost competitiveness and improve quality of life
- Increase local energy production using renewable sources
- Decrease energy consumption and increase efficiency while maintaining production, comfort and mobility

In order to achieve those aims, the Action Plan incorporates projects and actions assigned to five key programmes: RES Promotion, Energy Efficiency, Sustainable Mobility, Awareness Raising and Training. Some examples:

- Sign European Covenant of Mayors.
- Online energy assessment service for enterprises and industry.
- Improve energy efficiency in existing buildings (new tech-windows), improve heating systems (new tech-boilers), incorporate efficiency criteria in new buildings, low consumption light bulbs, energy audits of municipal buildings and improve efficiency in street lighting.
- Installation of demonstration projects led by the City Council to serve as an example and model to the citizens: a photovoltaic installation in the city centre, Geo-thermal installation, biomass boiler, biogas plant, etc.
- Training for civil servants and citizenship in energy efficiency. Organize an annual Energy Exhibition. Car share initiative, promote walking and cycling and efficient driving training courses.



PARTNERSHIP



Forum of Adriatic and Ionian Cities
www.faic1999.net



Marche Region (IT)
www.regione.marche.it



Sviluppo Marche-SVIM (IT)
www.svimspa.it



Municipality of Sykies (GR)
www.sykies.gr



County of Split and Dalmatia-SDC (HR)
www.dalmacija.hr



Municipality of Vila-Real (ES)
www.vila-real.es



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DOES ENERGETICALLY PERFECT CITY EXIST?

The sun is shining brightly in Abu Dhabi (United Arab Emirates). In a last few days, the sun is spreading its power all over the largest solar photovoltaic plant in the Middle East. The plant, composed of 87.777 solar panels, was official inaugurated last June.

As it is well-known, the United Arab Emirates are controlling 9% of the global crude “oil” reserves and Abu Dhabi is controlling over 90 % of its oil wells. Although the “fossil fuels” numbers are very high, the sheiks from this region are aspiring at the renewable energy sources so strongly that they are constructing in the Abu Dhabi region a totally green City, called Medinat Masdar (which means “the source” in Arabic)

The project will be completed within 2016 and foresees the realization of the city, entirely depending on renewable energy sources based on a zero-waste and zero-carbon emissions economy. It will cover a 6 square kilometres area where the Mobility System will work by means of 2,500 no-emitter vehicles which will make 150,000 trips per day.

The city will be powered entirely by photovoltaic, wind and solar thermal plants which will save more than \$2bn of oil over 25 years and serve as a benchmark for the next generation of green designs. The city will host more than 50.000 residents, 60.000 daily commuters, 1,500 business companies as well as the Masdar Institute of Science and Technology, which will be located about 30 km east from the Abu Dhabi, strategically at the heart of the Abu Dhabi’s transport infrastructure and near the international airport.

The main aim is to build one perfect green city in a very difficult context: the desert.

In these last ten years, projects like this one have been very frequently presented and implemented. Apart of the technological challenges that globalized world faced in the past years, there are lots of “knots to be untied” regarding the Sustainable Energy Planning of cities and territories. Most of these “knots” came up during the recently Easy project conference held in Durres, Albania, where the International EASY Expert Group met for working on drawing a standardized model of local based energy system to be spread over the small/medium scale urban decentralized areas of the Mediterranean Region.

For that reason, the modelling process to which the EASY Project aims, is meeting more difficulties than expected. Whereas the technologic problems were partly faced, shared and somehow resolved , other important problems and aspects remain to be debated and solved such as the sustainable management of environmental resources, the integration of technology with the landscape and local ecosystems as well as the financial source finding. Furthermore remain to face all those problems linked to the necessity of developing an international regulatory - framework univocally acknowledged and adequate to support the energy reengineering processes of different areas.

The previous pages of this newsletter have presented the models of energetic planning that are developed on the territories of each Easy project partner. The last main step will be to find the moment of synthesis that will permit the definition of general overall model to be spread and applied in other urban areas and all over the Mediterranean territory.