The European Project MATEO
PTTRenEnergy: conclusions

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1. INTRODUCTION: What is the MATEO Project?

- **MATEO (Matching Technologies and Opportunities)** is a Regional Framework Operation (RFO) in the framework of the Interreg IIIC.

- **MATEO** is an European programme that addresses on an interregional level.

- **The main objective of MATEO** is to develop and execute collaborative subprojects that increase regional innovation in:
  - Catalonia (Spain);
  - Noord-Brabant (the Netherlands);
  - Lombardy (Italy);
  - South-West Bohemia (Czech Republic).
• MATEO is targeting 8 thematic areas:

4 key sectors:
- functional food
- pharma and medical technology
- aerospace
- renewable energy

4 key technologies:
- biotechnology
- advanced materials
- mechatronics
- process and production technologies

• The subprojects will involve relevant entities such as research centres, innovative SME’s, technostarters and incubators.
2. PRESENTATION:

2.1. What is the PTT-RenEnergy?

PTT-RenEnergy is the acronym of...

“European based Tech-Transfer Platform to impulse SMEs market opportunities to invest in energy generation and technology from renewable sources”

- The main aim of this project is to show how to facilitate the MATEO Project regions to define and develop new instruments that will enable renewable sources and sustainable exploitation.

- Another fundamental objective of PTTRenEnergy is to promote and facilitate the dissemination, transfer, exploitation and broad take-up of program results concerning renewable energy technologies to SMEs.
2. PRESENTATION:
   2.2. General Backgrounds and Motivation

- The energy consumption is growing up all over the world and all the sectors every day need more power, energy and quality supply.

- The main conventional energy sources are limited and it is essential to optimize all the available resources, both fossils and renewables.

- We also need to take into account the energy efficiency, in particular in the field of buildings, in which a common approach to disseminate and regulate the use of low energy consuming technologies in buildings and domotics cannot be delayed.
3. THE CONSORTIUM

3.1. Public Bodies

1. **Centre d’Innovació Tecnològica en Convertidors Estàtics i Accionaments (CITCEA-UPC):** it is specialized in renewable energies, management of power systems, alternative energy sources, energy efficiency studies, power quality, electrical and electronic engineering, control of electrical machines and mechatronical applications. (Catalonia)

2. **Società di Sviluppo Economico Vallecamonica e Sebino (SECAS):** development Agency between the provinces of Brescia and Bergamo. (Lombardy)

3. **Higher Professional School České Budějovice (VOS):** the present study programmes are organized in the field of Business Studies, Building and Construction and Electrotechnical Studies. (South-West Bohemia)
3. THE CONSORTIUM:

3.2. SMEs

- **Energy Recuperator Srl (ER):** design, supply of systems and non standard products in the field of thermal and electrical energy. (Lombardy)

- **Consorzio Innovazione Energetica Rinnovabile (CIER):** represents the aim of 24 SMEs to cooperate on RTD. (Lombardy)

- **MANE Holding, Inc.** (South-West Bohemia).

- **ENVI, Ltd.:** solar energy, wide range of products, services and consulting. (South-West Bohemia)

- **DIEMEN S.A.:** inductive components and high technology printed circuit boards. (Catalonia)

- **ECOTECNIA, s.coop.c.l.:** wind turbines, windfarms and solar energy installations. (Catalonia)
4. PTTRENERGY:
   4.1. Structure

PTT-RenEnergy Proposal considers the workpackages listed below in order to achieve the objectives:

- WP0: Project management;
- WP1: Defining goals: expertise map and analysis;
- WP2: Electrical generation from renewable energies;
- WP3: Thermal generation from renewable energies;
- WP4: Renewable energies in low energy buildings;
- WP5: Matching opportunities and support to SMEs;
- WP6: Dissemination of results;
- WP7: Assessment.
WP1 - Defining goals: expertise map and analysis

Deliverable 04: Expert/Case History Map

More than 300 entries of Research Centres, Enterprises and Public Bodies have been added to the [www.pttrenenergy.org](http://www.pttrenenergy.org)

These contacts are all operating in the field of the renewable energies.

The entries are sorted by country, sector and company type.
4. PTTRENEnergy:
  4.2. Activities

**WP1- Defining goals: expertise map and analysis**

Deliverable 05: State of the art analysis

Strengths, barriers and needs for renewable energies in the three regions.

The study has been divided into thermal generation and electrical generation. For each renewable source it has been studied the state of the art and the present situation in each region.

**Electrical Generation**
- Wind power
- Hydroelectric
- Sea Wave
- Biomass
- Hydrogen / Fuel cells
- Waste
- Solar
- Biogas

**Thermal Generation**
- Biomass
- Solar
- Biogas
- Heat pumps/ Geothermal
- Biofuel
4. PTTRENERGY:

4.2. Activities

WP2- Electrical Generation from Renewable Sources

Deliverable 06: State of the electrical energy from renewable sources

Methodology followed for the development of the document.

For each region has been performed an analysis of these three fields.

The result is a final document.

- Presents the background in which the research has been performed;
- Analyzes the European, National and Regional Policies;
- Analyzes the available technologies in the Mateo Regions.

The document can be found at: www.pttrenenergy.org
4. PTTRENEnergy:

4.2. Activities

WP2- Electrical Generation from Renewable Sources

Main conclusions that have been obtained for the three regions:

- Policies adopted by the regions and their national plans are following the European Directives for renewable energies use, however none of the regions reach a 10% share of renewable energies sources for the electrical generation;

- Even if all countries have developed energy efficiency tools for buildings, Spain first implemented the mandatory use of renewable sources for the electricity in buildings;

- All regions present financial plans that support the use of renewable energies sources.
4. PTTRENEnergy:
4.2. Activities

**WP3- Thermal Generation from Renewable Sources**

Deliverable 07: State of the art of thermal energy from renewable sources

This document deals with the generation of heat using renewable sources.

For each region it has been pointed out:

- Best Available Technology
- State of the art of Thermal Production
- Economical Aspects in Thermal use
- Legislation employed in the three regions
- Most Promising Technologies

The renewable sources considered are the following:

- Solar Thermal
- Biomass
- Geothermal
- Biofuel
- Biogas
4. PTTRENEnergy:

4.2. Activities

WP3- Thermal Generation from Renewable Sources

The main conclusions that can be observed from the study are the following:

- Lombardy is the region where geothermal for energy generation is most employed, while in Catalonia geothermal is not in force at all;

- Geothermal and Forestry Biomass represent the 35% of renewable sources employed in Lombardy;

- Technologies related to biomass are the most promising in the Czech Republic, due to their huge span of use;

- Growth of solar installations in the Czech solar market, even if not at the Spanish speed.
4. PTTRENEnergy:
   4.2. Activities

**WP4- Renewable Energies in low energy buildings**

Deliverable 08: Report on renewable energies in low energy buildings

The report has been obtained considering the employment of renewable energies sources in buildings.

More than 15 of examples of low energy houses is presented.

Both passive solar design and natural cooling have been also considered.
4. PTTRENERGY:
   4.2. Activities

WP4- Renewable Energies in low energy buildings

The main conclusions observed are the following:

- Spain has an effective legislation, the *Technical Code for Buildings*, that increased the share of renewable sources in buildings, both photovoltaics and solar thermal;

- Czech Republic presents a great number of examples as long as low energy houses are concerned;

- Natural Cooling is one of the most best promising design tool that could be employed in Spain;

- Italian government supports the use of renewable energies especially introducing financial incentives.
4. PTTRENERGY:

4.2. Activities

**WP4- Renewable Energies in low energy buildings**

**Deliverable 09: Methodology to obtain “Licence of Energy Efficiency”**

The European Directive 2002/91 for Buildings stated the mandatory use of a methodology for the energy performance in a building.

Members States must set minimum standards for the energy consumption and set a certification model.
4. PTTRENERGY:

4.2. Activities

WP4- Renewable Energies in low energy buildings

Conclusions from this document can be considered the following:

- Energy Certification is widespread among the MATEO Regions, all of them are on the way to fulfill the European Directive;
- Energy Savings in Buildings are those that present the best potential, due to the lack of a previous general;
- All three regions did not have a methodology in use before the European Directive;
- Certification is going (2009) to be a part of each new building.
4. PTTRENENERGY:

4.3. Overall Results

1. Analysis of the different renewable energy best available technologies for the electrical and thermal energy generation in all MATEO regions;

2. Study of the possibilities that renewable sources offer to improve the energy efficiency, particularly in the specific area of low energy consumption buildings;

3. Creation of an useful database/network of experts in the field of renewable energies and educational material, available at the www.pttrenergy.org;

4. Identification of common barriers in the regions co-operating in the framework of the MATEO Project.
ALL INFORMATIONS ABOUT THE PTTRenEnergy ARE AVAILABLE AT:

www.pttrenergy.org
THANK YOU FOR THE ATTENTION