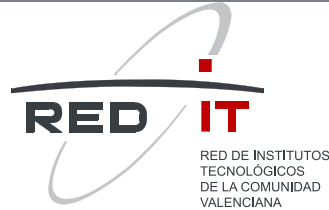




MINISTERIO
DE EDUCACIÓN
Y CIENCIA



RED DE INSTITUTOS
TECNOLÓGICOS
DE LA COMUNIDAD
VALENCIANA



Project ReEnergy: Renewable Energies on derelict lands for the development of Energy Parks. Identification of possible actions.

Valencia, 7 de septiembre de 2010

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ITE: About us

- ❑ Technological Institute of Energy, ITE, is a Technological Research Center which focuses its services, products and technology projects for companies and national and international public agencies in the sectors of energy, electric electronic and communications.
- ❑ It was founded in 1994 as Institute of Electrical Technology at the Polytechnic University of Valencia, part of IMPIVA. Since 2001, founding partner of REDIT (Network of Technological Institutes of the Valencian Community).
- ❑ Its objectives are:
 - promoting scientific research and technological development of the applied energy.
 - increasing production quality.
 - contribution to advancement of technology in sectors of energy, electrical and electronic.
 - development and application of Information Technologies and Communications, achieving optimal energy efficiency and ensuring the protection and conservation of the environment.



ITE: Structure

▣ I+D+i

- EEER
 - Energy efficiency
 - Renewable energies
 - Energy storage
 - Generation, distribution and electricity transmission
 - Electric vehicle
- Electronics and Automation
- Communications Technology
- Materials and Electric Shock
- Applied Chemistry



ITE: Structure

▣ Laboratories

- Electrical Safety
- Electromagnetic Compatibility
- High Voltage
- Power Electronics
- Electrical Calibration
- Legal Metrology
- Chemistry
- EMF Measurement
- Renewable energies
 - Solar Photovoltaic
 - Solar Thermal Energy
 - Pilot plant renewable integration
- Electronic Circuit Prototyping

▣ Training



CONTENTS

- Objectives
- Consortium
- Activities
- Case studies



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OBJECTIVES

- Exchange of experiences.
- Use of renewable energies on derelict lands.
- Analysis of derelict lands.
- Synergy effects.



CONSORTIUM

- Coordinator: Landkreis Merseburg-Querfurt- (Germany)
- ISW Institut für Strukturpolitik und Wirtschafts-förderung gemeinnützige Gesellschaft- (Germany)
- Bio-Technology Park Kht- (Hungary)
- AVEN - Valencian Agency of Energy- (Spain)
- ITE - Electrical Technology Institute- (Spain)
- Tiszater Association- (Hungary)



CONSORTIUM

Partners:

Saxony-Anhalt:

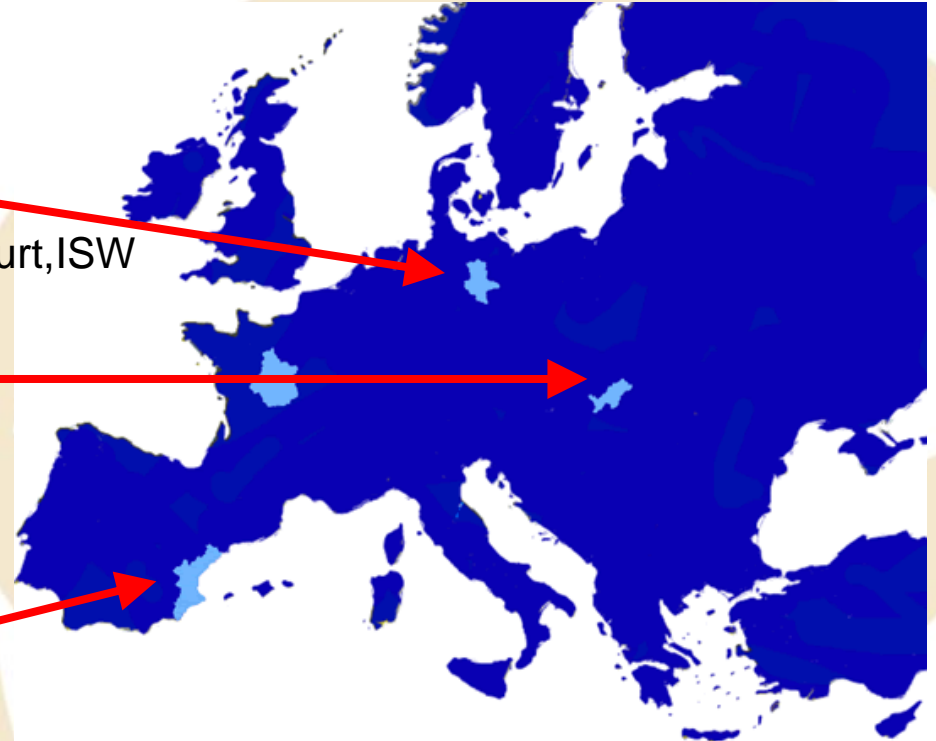
Landkreis Merseburg-Querfurt, ISW

North Great Plain:

Bio-technology Park ,
Tiszater Association

Valencia:

ITE, AVEN



ACTIVITIES

- **COMP 1 : Interregional Coordination**

Comp. Coordinator: Landkreis Merseburg-Querfurt

Objective: Financial management of the project.

- **COMP 2: Analysis and Case Studies**

Comp. Coordinator: AVEN / ITE.

Objective: Situation of renewable energies on derelict lands and the identification of best practices.



ACTIVITIES

- **COMP 3: Exchange of experience.**
Comp. Coordinator: Bio-Technology Park Kht
Objective: Transferring innovative and succesful solutions
- **COMP 4: Regional Networking**
Comp. Coordinator: ISW Institut gGmbH
Objective: Proposals for concrete cooperation.
- **COMP 5: Dissemination**
Comp. Coordinator: ISW Institut GmbH
Objective: Giving a clear picture about the added value of the project.

CASE STUDIES

Objectives:

- Analyse the situation of renewable energies (RE) on derelict lands in the 3 regions, the identification of best practice and future potential of RE.
- Identify examples of restructuring derelict lands to RE parks.
- Valencia Region team is focused in landfills for solid waste disposal.



CASE STUDIES

Case of study 1: Basseta Blanca (Valencia, Spain) landfill.

Initial situation

It has been filled with the solid urban waste and when the landfill was completed it was covered by several layers of silts the surface without being able to be used.



Improved situation: current

In front of the situation of impossibility to exercise any activity, the energy use of the gas to produce electricity was established.

CASE STUDIES

Case of study 1: Basseta Blanca (Ribaroja) landfill.

Improved situation: future

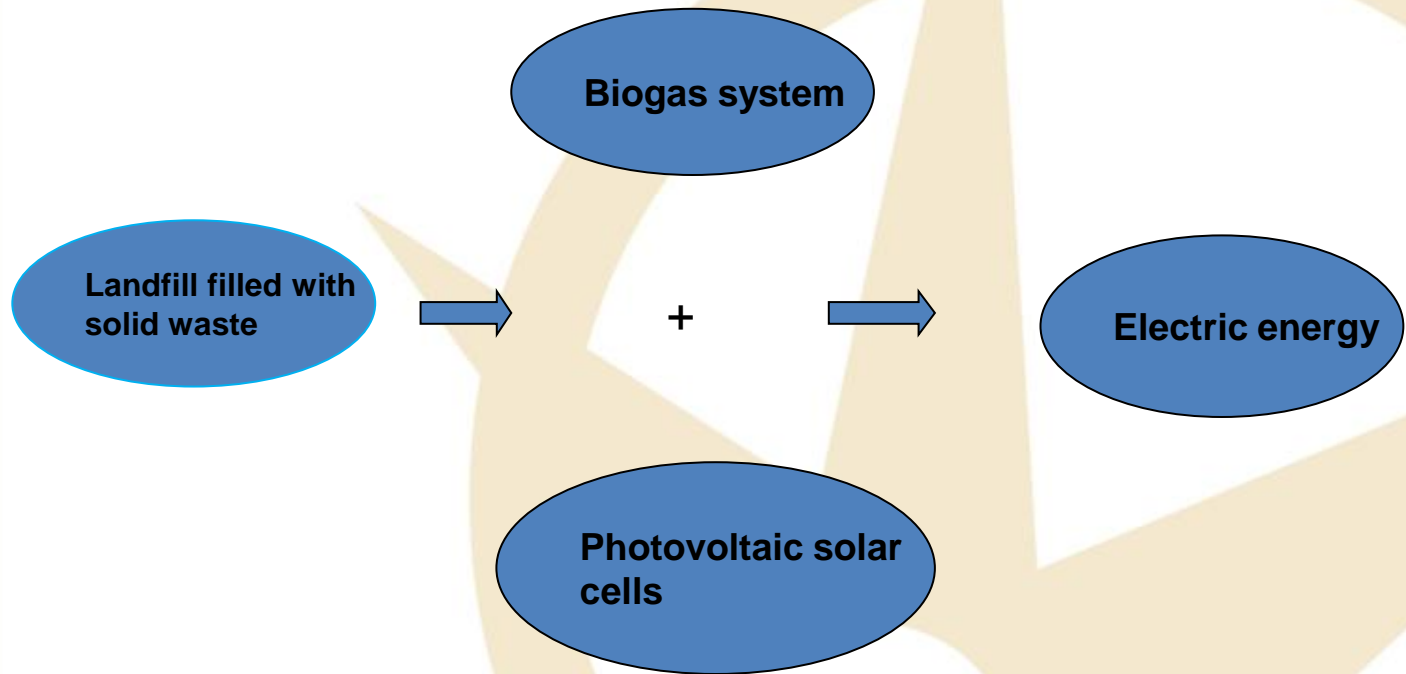
A study is carrying out to install a photovoltaic power station when gas exploitation ceases

Financing

The gas exploitation plant is made by the private company Invetem Mediterránea.



CASE STUDIES



CASE STUDIES

Case of study 2: Aznalcóllar (Sevilla, Spain).

Initial situation

In April 1998 a mine near the place of Aznalcóllar (Sevilla) wich contained toxic waste from a pyrite mine, exploded. The area was destroyed and unworkable due to the waste accumulated.



CASE STUDIES

Case of study 2: Aznalcóllar (Sevilla, Spain).

Improved situation: current

The most important photovoltaic park in Spain was started formed by 28000 photovoltaic modules generating a power of 3.55 MW. Nowadays there are 95000 m² full of modules.

Improved situation: future

Total power of 13.5 annual megawatts.

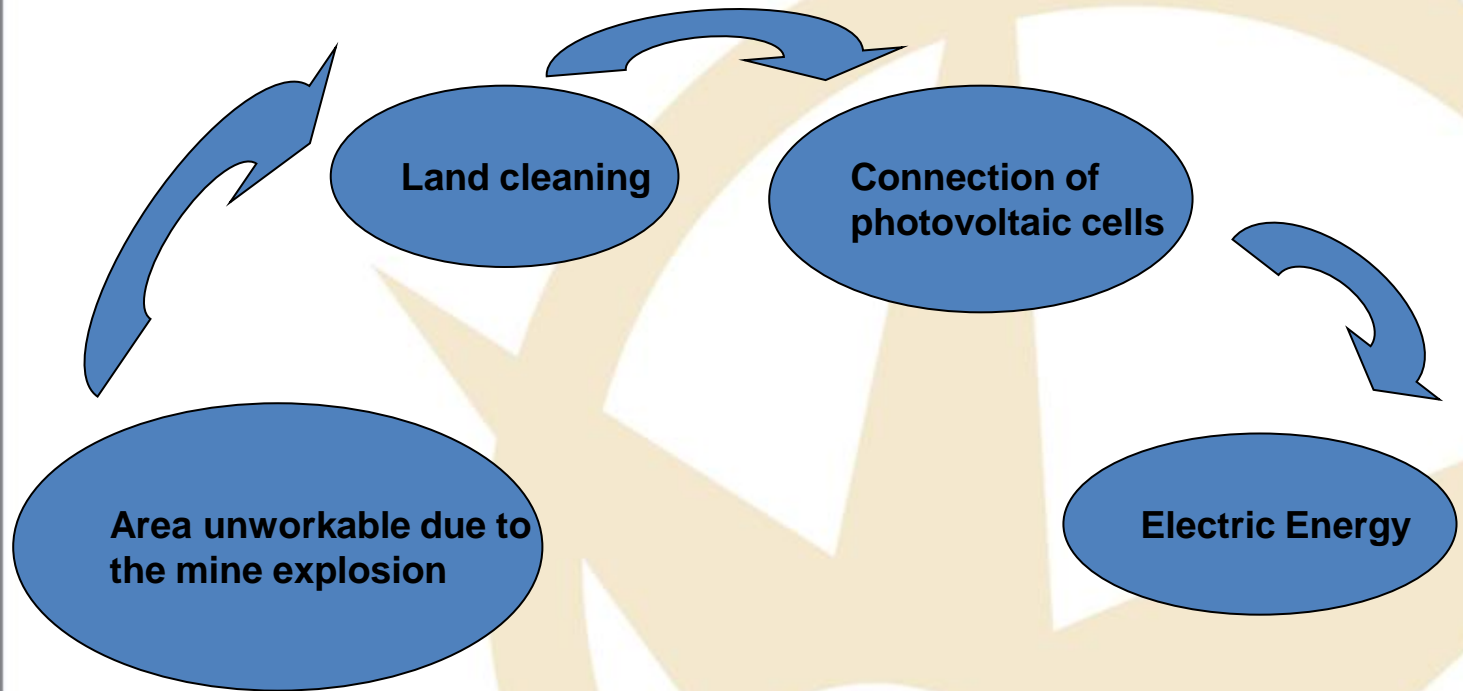


Financing:

Idesa and Gamesa Solar with the aim of La Junta de Andalucía by means of the program Prosol which treats to support the renewable energy plants in order to extend its use.



CASE STUDIES



CASE STUDIES

Case of study 3: Geiseltal (Germany).

Initial situation

Geiseltal is one of the largest mining coal fields en Germany.



Improved situation: future

- development of a power supply by using renewable energies like biofuel, solar photovoltaics and wind energy.
- cleaned biogas can be inducted in the natural gas net and transported economically to the customers.
- establishment of fat-growing tree plantations to produce biomass energy

CASE STUDIES

Case of study 3: Geiseltal (Germany).

Financing:

National support by the environmental innovation and energy saving program, and at European level, aim of the Interreg IVC.



CASE STUDIES

Case of study 4: Viznar Landfill (Granada, Spain).

Initial situation

Viznar landfill was closed and in 1994 and was covered with layers of soil.



Improved situation: current

A project based on energy recuperation was initiated in order to obtain the biogas produced inside the landfill.

Improved situation: future

Developing a photovoltaic plant when the biogas will be closed.



CASE STUDIES

Case of study 5: Cofrentes Nuclear Power Plant (Valencia, Spain).

Initial situation

The installation must delimit a safety perimeter of 1 km radius surrounding them.

Improved situation: future

Developing a photovoltaic plant in the restricted area.



CASE STUDIES

Case of study 6: Teeside (United Kingdom).

Initial situation

An industrial rubbish dump unable to be used because of heavy-metal pollution.

Improved situation: current

The goal of BioRegen project is the use of vegetable species in order to clean that industrial area.



Improved situation: future

Construction of a photovoltaic plant



CONCLUSIONS

- ReEnergy project studies different case studies of very damaged lands.
- In this extreme cases it is also possible the development of renewable energies in order to recover these unworkable lands.
- The availability of the use of Renewable Energies could be also possible in the cases of study related with project Bloom.
- The development of photovoltaics is depending on regulatory framework in each case.

Thanks for your attention

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