



REGIONE AUTONOMA  
FRIULI VENEZIA GIULIA

# CBC in the Field of Sustainable Energy in the Friuli Venezia Giulia Border Area

AEBR Forum «Cross Border Cooperation: Best Practice and  
Future Opportunities from across the European Union»

TRIM (Ireland), June 13, 2013

*Direzione centrale cultura, sport, relazioni internazionali e  
comunitarie*



Direzione centrale cultura, sport, relazioni internazionali e comunitarie



## CBC PROGRAMMES IN WHICH FVG PARTICIPATES

Friuli Venezia Giulia is involved in three CBC Programmes within the ETC Objective in the Programming Period 2007-2013:

- 1) CBC Programme Italy-Slovenia
- 2) Interreg IV Italy-Austria
- 3) IPA Adriatic Cross-Border Cooperation Programme 2007- 2013

In the next Programming Period 2014-2020 there will be one additional CBC Programme, Croatia – Italy, while IPA Adriatic CBC Programme will disappear



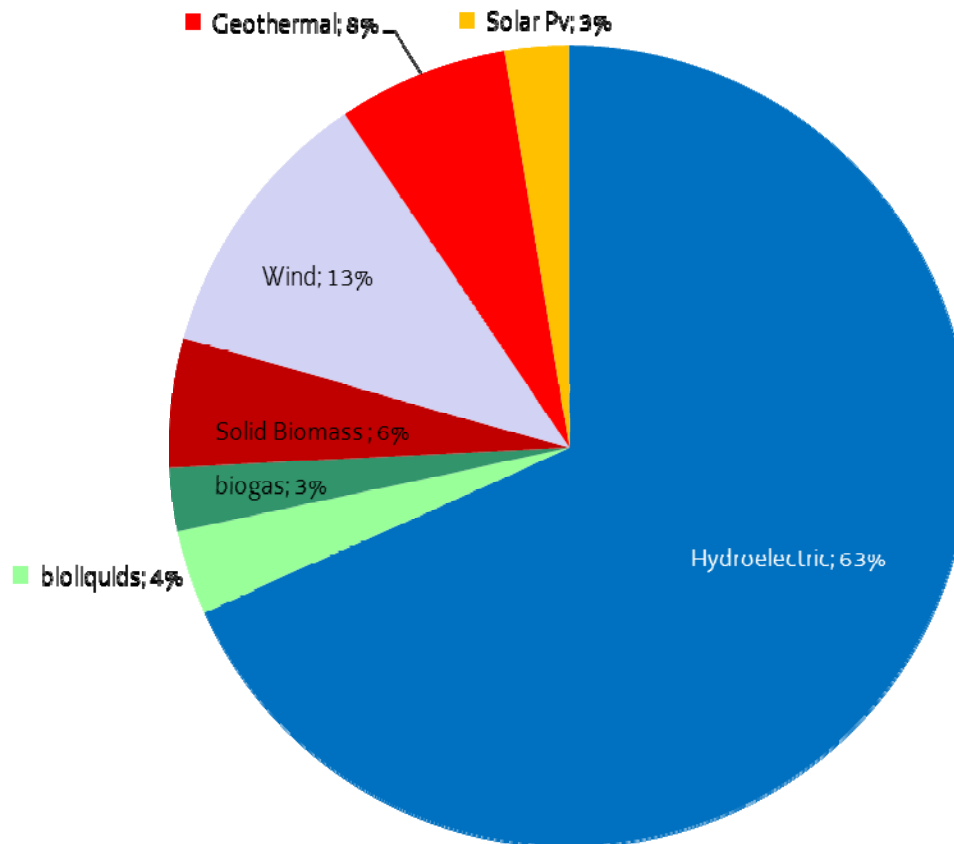
## Share of renewable energy sources in the gross final national consumption %

	2005 (reference year of Directive 2009/28/EC)	2009	2010	2020 (Directive targets)
ITALY	5,2	8,86	10,11	17
AUSTRIA	23,3	30,9	30,8	34
SLOVENIA	16,0	18,99	19,90	25

Source: National Progress Reports on Directive 2009/28/EC



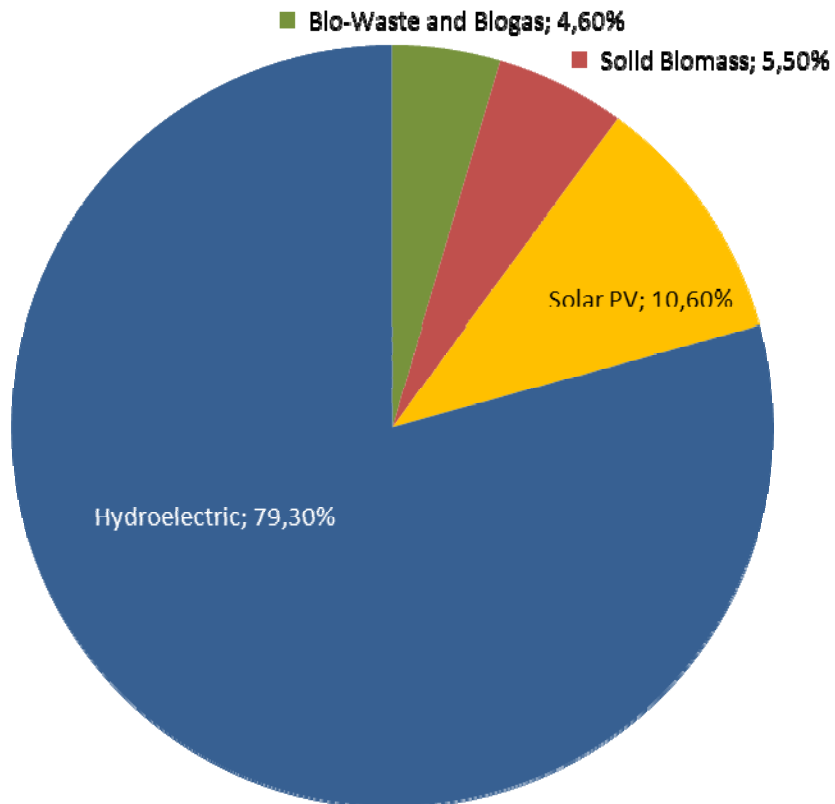
## Share of RES-E in Italy (Dec.2010)



Source: 1st Italian Progress Report on Directive 2009/28/EC and Friuli Venezia Giulia Region "Regional Energy Demand Report" CEP-REC Project (S.Stefanelli, P.Zuodar)



## Share of RES-E in Friuli Venezia Giulia (2011)



Source: GSE and TERN 2011 and Friuli Venezia Giulia Region "Regional Energy Demand Report"  
EP-REC Project (S.Stefanelli, P.Zuodar)



Projects in the field of Sustainable Energy during the Programming Period 2007 – 2013 within the Cross Border Cooperation Programme Italy-Slovenia

Priority 1. Environment, transport and sustainable territorial integration

-**FUTURELIGHTS** - Public Lights of the Future

-**EnergyViLLab** - Network of Virtuous Living Labs in Energy Saving and development of Renewable Sources

-**ENRI** - Renewable Energies and Energy Saving in the Third Sector



## FUTURELIGHTS – Public Lights of the Future

**Duration:** 36 months – from 02 November 2011 to 30 October 2014

**Budget:** 1.157.000 € of which 560.000 € for direct investments in street lighting to improve energy efficiency and reduce light pollution

**Objective:** create the conditions at cross-border level for sustainable street lighting planning and for reducing present light pollution, reducing energy consumption for public lighting and raising awareness about light pollution and the importance of a joint strategy. Public lighting in most cases is not in line with strict legislation on both sides, Slovenian and Italian.

**Partners:** LP Municipality of Šempeter Vrtojba (SLO)

P1 Municipality of Tolmin (SLO)

P2 Temno nebo Slovenije (SLO) – Dark Sky Association Slovenia

P3 APE – Energy Management Agency of Friuli Venezia Giulia (I)

P4 Province of Gorizia (I)

P5 Municipality of Doberdò del Lago (I)

P6 Municipality of Portomaggiore (I)







## Lighting results

Same power per meter but different luminaries





## EnergyViLLab – Energy Virtuous Living Labs

Duration: 31 months (from Nov. 2011 – May 2014)

Budget: 1.341.000,00 €

L.P. Unioncamere del Veneto,

Vast **partnership** including representatives from the business and crafts system (Venice Chamber of Commerce, ConCentro – Special Agency of Pordenone Chamber of Commerce, CRACA), local and municipal boards (Province of Treviso, Jesolo Council, Musile di Piave Council), local development agencies (PRC Development Centre for Valle dell'Isonzo), and is conducted under the scientific supervision of three leading universities (Padua, Lubjiana and the Littoral University). The initiative is also supported by a training institution (IAL FVG), an energy agency (GOLEA Nova Gorica) and a transport and logistics foundation (ITL Ravenna).





## EnergyViLLab – Energy Virtuous Living Labs

EnergyViLLab **aims at** contributing to achieve the targets set by the EC, raising the share of energy from renewable sources, increasing energy efficiency and reducing greenhouse gas by combining the Slovenian expertise in the production of energy from renewable sources and in the field of Living Lab, with the spirit of enterprise and innovation of the SME and productive clusters in Italian areas.

Specifically, the project intends to develop:

- Specific models for starting **pilot EnergyViLLab**: experiment innovative applications and solutions, based on using energy from renewable sources, energy saving and sustainable mobility methods (RES: Renewable Energy Sources, RUE: Rational Use of Energy, MOB: Sustainable Mobility System)
- A **network of Living Labs** to aid confrontation and exchange between professionals, company technicians, universities, centres and citizens in the cross-border area
- **Favourable conditions for introducing sustainable and shared energy policies**,
- **Important training and information initiatives** for potential participation in the **ENoLL** (European Network of Living Labs).





## EnergyViLLab – Energy Virtuous Living Labs

### 1) **FOR.A.L.L. – FORte Poerio Area Living Lab:** (Mira- Venice)

Replanning the use of an abandoned fort as passive house for the local community and rehabilitating the area and the park around the fort

### 2) **GEO ENLAB GEOthermalEnergyLivingLAB:** use of geothermal energy in the thermal area of Colli Euganei (Univ.PD + Municipality Teolo – Veneto Region)

### 3) **SEM Summer Energetic Management Living Lab:** (Municipality of Jesolo) (public administration + tourism operators): developing virtuous behaviours among Summer tourists (workshops, info, energy efficient tourism buildings)

### 4) **ENVICUT Energy ViLLab CUTlery Cluster:** (Maniago) (ARES + Industrial Development Agency of Cattelery Cluster Maniago) application of the Protocol VEA Energy and environmental quality assessment of buildings to industrial buildings

### 5) **MobiTo Sustainable mobility Living Lab in Tolmin:** sustainable transport (car-use reduction, optimizing bicycle infrastructure and encouraging bicycle use)





## EnergyViLLab – Energy Virtuous Living Labs

- 6) **SME VILLAB:** (University of Koper) promoting energy efficiency in private buildings
- 7) **GREEN SCHOOLS** (Province of Treviso): promoting energy efficiency in schools. Outsourced “Green facility management” (third generation facility management) of school buildings.
- 8) **VILAGO Virtual Laboratory for Efficient Energy in Public Buildings GOLEA** (Energy Agency of Nova Gorica)
- 9) **LOGNET.LL Logistic Network Living Lab** (Ravenna) transport planning. Define a sustainable transport model integrating logistic operators and industrial companies.
- 10) **ENERSAVED Energy Saver District (Musile del Piave)** Energy saving in urban districts (use of renewable energies, especially solar, rainwater use, etc..)

Replicability of Living Labs





## ENRI – Renewable Energies and Energy Saving in the Third Sector

**Duration:** 30 months; October 2012 March 2015

**Budget:** € 650.000,00

**LP:** Svet Slovenskih Organizacij - Federation of Slovenian associations

**Partners:** ARES – Regional Agency for Sustainable Construction,  
GOLEA – Local Energy Agency of Gorizia,  
Športni in Mladinski Center Piran,  
Središče Rotunda Koper  
Fogolar Furlan Monfalcone

**Starting point:** gap between present renewable energy share in gross final consumption and EC targets for 2020; lack of consumer awareness of energy consumption

The project **aims** at diminishing energy consumption, increasing the use of renewable energies through information on the benefits of a rational use of energy in order to improve a sustainable eco-mentality.

**Activities:** cross-border research activities on energy saving, seminars, questionnaires, conferences







Projects in the field of Sustainable Energy during the Programming Period 2007 – 2013 within the Cross Border Cooperation Programme **Interreg IV Italy-Austria**

Priority 1: Environment, Transport and Sustainable Territorial Integration

**-ALTERVIS – Autonomy Energy from Renewable Sources**

**-Mat4Cata**

**-Climate Neutrality in the “Dolomiti-Live” Region**

**-COME – The Way for Energy Efficiency in Municipalities**

**-Alpine – ECO – Companies and Building**

**-Smart Energy – Network of Excellence**

Directive 2009/28/CE, share of energy from renewable sources in gross final consumption of energy:

Italy 5,2% - Austria 23,3%

EC targets 2020: Italy 17% Austria 34%



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## ALTERVIS – Energetic Autonomy from Renewable Sources

**Duration:** 36 months 01.06.2010 – 31.05.2013

**Budget:** € 1.000.000,00

**LP** - Comunità montana del Torre, Natisone e Collio

**P1** - Gemeindeverband Karnische Region;

**P2** - Comunità montana del Friuli Occidentale

**P3** - Comunità montana della Carnia;

**P4** - Comunità montana del Gemonese, Canal del Ferro e Valcanale;

**P5** - University of Udine – Department for Agricultural and Environmental Sciences;

**AP6** - Consorzio boschi della Valle del Gail;

**AP7** - Association for Biomasses of Carinthia

**Main Objective:** Begin a process leading Carinthia and Friuli Venezia Giulia towards an eco compatible energetic autonomy







## ALTERVIS – Energetic Autonomy from Renewable Sources

Through:

- Realization of renewable energy sources
- Optimizing energetic potential in the border area
- Pilot projects for reduction of domestic energy use
- Know-how exchange in the border area in the field of energy saving

Renewable sources used:

- Biomasses for cogeneration
- Wind power
- Solar energy
- Water energy (also small hydro: use of waterfalls of small mountain streams, rehabilitation of old mills)
- Geothermal energy





## Mat4Cata - New Materials for Removing Pollutants from Exhaust Gases of Internal Combustion Engines

**Duration:** 36 months 01.06.2010 – 31.05.2013

**Budget:** € 1.600.000,00 (Research and innovation)

**LP:** Treibacher Industrie AG

**P1:** Università di Udine- Department of Chemistry, Physics and Environment

Experimentation of innovative and eco-compatible materials for a catalyst compatible with EURO 6 standards (Sept.2014) capable of eliminating pollutants from combustion engines (diesel), in particular nitrogen oxides (NOx)

The collaboration between a leading company in the production of materials and a group of university researchers with specific competences in the elimination of vehicle gas emissions has brought to the industrial scale validation of the laboratory results (developed and tested materials)

# Mat4Cata





## Mat4Cata - New Materials for Removing Pollutants from Exhaust Gases of Internal Combustion Engines

The University of Udine has a 20 years' research experience in developing materials based on rare earth metals (Cerium) in catalytic convertors for cars and trucks with petrol or diesel engines.

The collaboration with Treibacher Industrie AG started in 2002 and has brought to the development of a catalyst compatible with EURO 6 Standards with two international patents.

The catalyser was presented at international level at the World Congress 2011 of the Society of Automotive Engineers (SAE International) in Detroit (April 2011).

Reference person of the University of Udine is Prof. Alessandro Trovarelli.

Through the Mat4Cata project the catalyser will be further improved in order to perfect its capability of eliminating pollutants, making it even more eco-compatible.

# Mat4Cata





# Mat4Cata - New Materials for Removing Pollutants from Exhaust Gases of Internal Combustion Engines

## Main results or the Project

- Development of new products/materials/catalysts – environmentally friendly, compatible with Euro VI regulations.
- Formation of a pool of academic and industrial experts in our region (Carinthia-FVG) in the treatment of auto exhaust emission (materials, technologies, processes, regulations). This will start from the knowledge of the principles behind these applications (University driven) up to production and applied issues (Company driven).
- Creation and conservation of jobs in research and development and in production in the region Carinthia-FVG.
- Patents (Patent WO 2011127505 (A1), one in progress).
- Dissemination of results in the form of scientific publications and presentations at conferences.

**Mat4Cata**





The deNOx catalyst developed is covered by international patents



Mat4Cata



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## Mat4cata - New Materials for Removing Pollutants from Exhaust Gases of Internal Combustion Engines

The peculiarity of the new catalyst is represented by the material of which it is composed, based on iron and rare earth elements (cerium)

The two types of catalysts that already exist (by Mercedes and Audi) are based on zeolites, which cost a lot, and vanadium oxide.

However the new Italian/Austrian catalytic converter, based on iron and rare earths, highly efficient and cheaper, should have more chance of being used on trucks than on cars.

On the front of the truck it would be a great competitor.



Mat4Cata



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## Climate Neutrality in the “Dolomiti-Live” Region

**Duration:** 36 months 01.09.2010 – 31.08.2013

**Budget:** € 713.394,00

**LP:** Accademia dei Colloqui Dobbiaco (I) (Association supporting Projects in the field of Energy, Tourism and Agriculture)

P1: Province of Belluno (I)

P2: Consorzio MIB–Piave–Belluno (I) (Consortium of about 70 Municipalities in the Dolomiti area for economic development of the area)

P3: Planungsverband 35 Osttirol (A)

P4: Municipality of Zoppola (PN) (I)





## Climate Neutrality in the “Dolomiti-Live” Region

### Main objectives:

- Promoting the participation of the municipalities in the Convent of Mayors (voluntary commitment to meet and exceed the EU 20% CO2 reduction objective by 2020)
- Sustaining municipalities in efficient energy planning of their territories
- Realizing pilot projects of sustainable energy in various socio-economic sectors
- Information (website, conferences, etc.) about the subject of climate neutrality and sustainable energy







## Climate Neutrality in the “Dolomiti-Live” Region

### Activities

- Setting up energy budgets and complete emissions inventories of the municipalities in the project areas (with ECO Speed software promoted by Climate Alliance)
- Development of information instruments (guidelines and manuals) about how to build up a sustainable energy plan
- Realization of a website and instruments for counting emissions
- Realization of training courses for «energy experts»
- Realization of a forum on Energy both at local and cross-border level
- Participation of the municipalities in the Covenant of Mayors and help them prepare a sustainable energy-action plan
- Realization of climate-neutral cross-border ecotours and touristic packages





## COME - The Way for Energy Efficiency in Municipalities

**Duration:** 36 months 01.09.2011 – 31.08.2014

**Budget:** € 852.574,00

**LP:** Province of Udine

P1: APE (Energy Agency of Friuli Venezia Giulia)

P2: Land Carinthia (Department of Environment)

P3: Energie Tirol

P4: Ökoinstitut Südtirol – Alto-Adige

AP5: Province of Bozen

AP6: Autonomous Region Friuli Venezia Giulia

### Starting points:

- Municipalities have to become the main subjects of climate protection
- “Covenant of Mayors” launched in 2008 by the European Commission.
- Lack of a common, uniform and easily implementable method for municipalities to encourage them to commit themselves to energy efficiency.
- Pilot Project “A++Wir sind Energie Gemeinde” (Tirol) (2010)

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## COME – The Way towards Energy Efficiency in the Municipalities

### Objectives:

- Involve municipalities in the project
- Provide technical support to the municipalities providing intervention packets, suggesting sustainable activities in the sector of energy efficiency , connecting existing municipal structures (Board, technical offices and information desks for the citizens) and create Energy team for the transfer of know-how and methods
- Municipalities have direct contact with the citizens and will be able to encourage them towards virtuous energy-efficient behaviours
- Create a cross-border network of municipalities for best-practice exchange and develop a uniform, comparable long-term implementation plan for the different regions taking part in the project





## COME – The Way towards Energy Efficiency in the Municipalities

### Results:

- Elaboration and implementation of a methodology: Catalog of measures and instruments for the preparation of Action plans in the Municipalities
- Involvement of at least 60 municipalities (20 in each Region)
- At least 120 people (among which 1 mayor and 1 political decision-maker for each municipality) will have improved their knowledge about energy efficiency
- At least 300.000 inhabitants will be informed about the energy saving potentials of their municipalities (Through media, internet, local events, conferences etc..)
- Realization of a database of best practices, that can be used by municipalities participating in the project and also by others.





## Alpine – ECO – Companies and Building

**Duration:** 36 months 01.10.2011 – 30.09.2014

**Budget:** € 701.000,00

**LP:** Economic Chamber of Carinthia - Klagenfurt (A)

P1 – Province of Belluno, Department of Energy Planning and Management (I)

P2 – APE - Energy Agency of Friuli Venezia Giulia (I)

P3 - Accademia dei Colloqui di Dobbiaco, (Association supporting Projects in the field of Energy, Tourism and Agriculture)

**SME-targeted project** (architectural engineering, building companies)

### Starting point

Companies and professionals of the building sector are more and more obliged by strict EU and national laws to incorporate **green building** in their activities





## Alpine – ECO – Companies and Building

### Objectives

- Improving green building quality at a cross-border level through certification, thus enhancing also the companies' competitiveness
- Improving awareness of the client

### Results:

- Comparing existing quality certification methodologies in the building sector (Itaca, Klima:aktiv, TQB Total Quality Building, ÖGNI)
- Development of an Enterprise self-assessment tool for quality building
- Training modules to increase innovation of enterprises
- Initiatives to increase the client's awareness
- Development of a self-assessment tool for energy requalification measures
- Development of a self-assessment tool for energy consumption in homes
- Development of a set of criteria for quality control by the consumer
- Selection of best –practices





## Smart Energy – Network of Excellence

**Duration:** 24 months 01.01.2012 – 31.12.2014

**Budget:** € 983.420,00

**LP:** Lakeside Science & Technology Park GmbH (Klagenfurt)

**P1:** CETA, Centre for Theoretical and Applied Ecology (Gorizia)

**P2:** University of Udine

**Line:** Research and innovation

### Objective

Creation of a cross-border network of Universities, scientific institutions and enterprises, in order to identify and connect existing know-how (research, innovation, development) in the sector of renewable sources and energy efficiency.





## Smart Energy – Network of Excellence

### Results

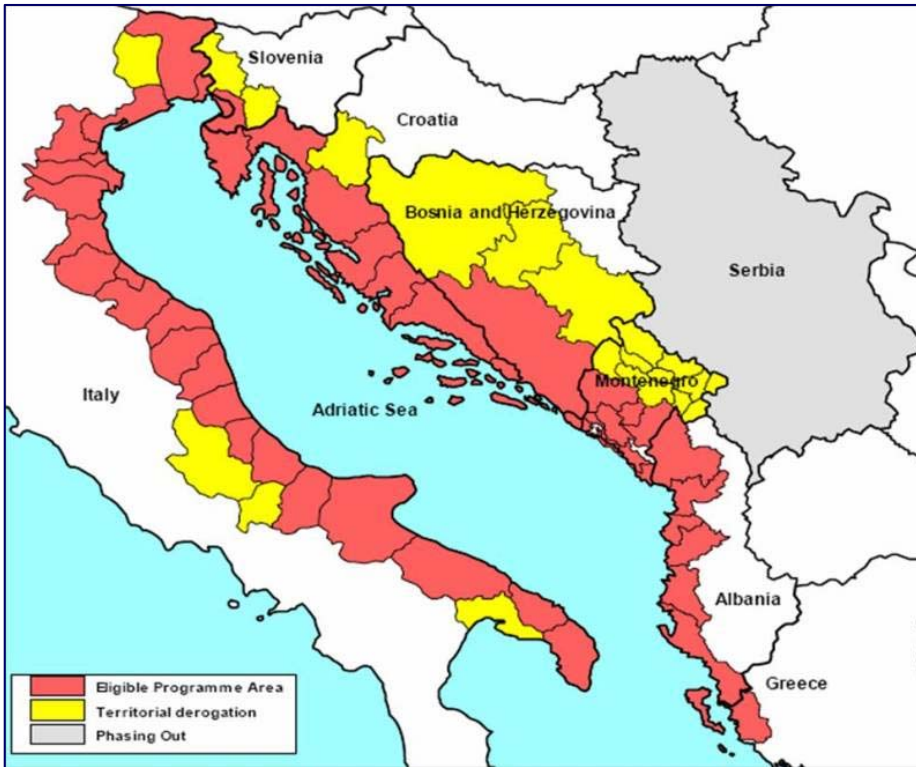
- Individuation of the key technologies for the sector of renewable energies and territorial mapping of existing know-how
- International benchmarking in research and cooperation potentials in the project area
- Definition of regional roadmaps of technologies through a bottom-up approach based on existing know-how and creation of an Advisory Board.
- Creation of a regional "Network of Excellence", integrated by an online community of scientific institutions and enterprises
- Realization of 3 Pilot projects
- Realization of a research branch on energy at the Lakeside Science & Technology Park
- Realization of an Observatory for Energy Efficiency (analysing energy problems in buildings, guidelines, estimation of the energy efficiency improvement potential, monitoring buildings) at the CETA
- Realization of an Observatory for Renewable Sources of Energy at the University of Udine







## ALTERENERGY



**Strategic Project within the  
IPA Adriatic Cross-border Programme**

**Budget: 12,5 Mio €**

**Duration: 4 years**

**Sept. 2011 – Aug. 2015**



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## ALTERENERGY - Partnership

### ITALY

- Apulia Region (lead partner)
- Molise Region
- Abruzzi Region
- Marche Region
- Emilia Romagna Region
- Veneto Agricoltura – Regional Agency for agriculture, forestry and agro-industry
- Friuli Venetia Giulia Region
- ENEL SPA – (associated partner)

### ALBANIA

- Ministry of Economy and Energy

### BOSNIA AND HERZEGOVINA

- Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina - Department for Secondary Energy and Projects

### CROATIA

- Istria County
- Primorsko Goranska County
- Split and Dalmatia County
- Dubrovnik and Neretva County

### GREECE

- Region of Epyrus
- CRES – national Centre of Renewable Energy Sources and Saving

### MONTENEGRO

- Kotor Municipality

### SERBIA

- Agency for Energy Efficiency of the Republic of Serbia

### SLOVENIA

- GOLEA Goriška local Energy Agency
- Ministry of the Economy Energy Directorate (ass.partner)





## ALTERENERGY

### General Objective

To contribute towards the European objectives for **2020** by promoting the development of an **Adriatic community** which would be **sustainable** from an energy point of view thanks to a wider use of **renewable energy sources** (RES) and of **energy saving interventions** (RUE).

### Specific Objective

To develop replicable models for the **sustainable management** of energy resources in **small Adriatic communities**, improving their capacity to plan and manage integrated actions dealing with energy saving and energy production from renewable sources, through a **participated approach** that involves the local stakeholders and the implementation of **pilot interventions**.





## ALTERENERGY

The Friuli Venezia Giulia Region, Energy Division completed the final shortlist of small communities with population within 10.000 inhabitants in the Provinces of Udine, Gorizia, Trieste that will be granted some services on the energy sector foreseen by the project. Services will support the lay out of sustainable energy management plans and activities within the framework of Alterenergy Strategic project.

The list of eligible and ineligible communities was published on the Official Journal of the Friuli Venezia Giulia Region n.20 of May 15th 2013.

**15 municipalities have been shortlisted** by the Project managers and will benefit from services foreseen in WP4 of the project to support energy sustainability.

Such services include:

1. Energy balance sheets also in compliance with the provisions Regional energy law n. 19 /2012
2. Integrated sustainable energy plans and feasibility studies to support renewable energy sources investments
3. Training and educational activities addressed to the internal staff of small communities administration. Activities are oriented to enhance skills and competences in the energy field, to strengthen internal capacity building and to set up long term energy management units.



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# Thank you for your attention!

**Gabriella Rigoni**

**Regione Autonoma Friuli Venezia Giulia**

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