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# PROMOTING THE USE OF GEO THERMAL ENERGY IN ROMANIA THROUGH THE REGEOCITIES PROJECT

Prof. Robert Gavriliuc, Ph.D. – President of the  
Romanian Geoexchange Society

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# "REGEOCITIES - Regulations of Geothermal HP systems at local and regional level in Europe"

New IEE 2012 project aiming to regulate the urban district heating and cooling systems by means of geothermal heat pumps

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## REGEOCITIES OVERVIEW - PARTNERS

Duration of the project – 36 months (May 1<sup>st</sup>, 2012 – April 30<sup>th</sup>, 2015)

13 partners from 11 countries

CO1 - **AIDICO** – Association de Industries de la Construcción – SPANIA

CB2 - **EGEC** – European Geothermal Energy Council – BELGIA

CB3 - **UPVLC** - Universidad Politecnica de Valencia – SPANIA

CB4 - **SRG** – Societatea Romana Geoexchange – ROMANIA

CB5 - **BRGM** – Bureau de Recherches Geologiques et Minieres – FRANTA

CB6 - **UBEG** – UbeG Dr. Erich Mands & Marc Sauer GbR – GERMANIA

CB7 - **CRES** – Centre for Renewable Energy Sources and Savings – GRECIA

CB8 - **SP** – SP Sveriges Tekniska Forskningsinstitut – SUEDIA

CB9 - **GEUS** – De National Geologiske Undersogelser - DANEMARCA

CB10 - **SLR** – SLR Environmental Consulting – IRLANDA

CB11 - **IF** – IF Technology B.V. – OLANDA

CB12 - **SSSPA** – Scuola Superiore di Studi e di Perfezionamento Sant'Anna – ITALIA

CB13 - **SPW** – Service Public de Wallonie Departament de l'Energie – BELGIA

# ROMANIAN INTERNATIONAL CONFERENCE ON ENERGY PERFORMANCE OF BUILDINGS

## ACTIVE SMART BUILDINGS: A NEW CHALLENGE FOR ENERGY AUDITORS

Bucharest, 5-6 June 2014

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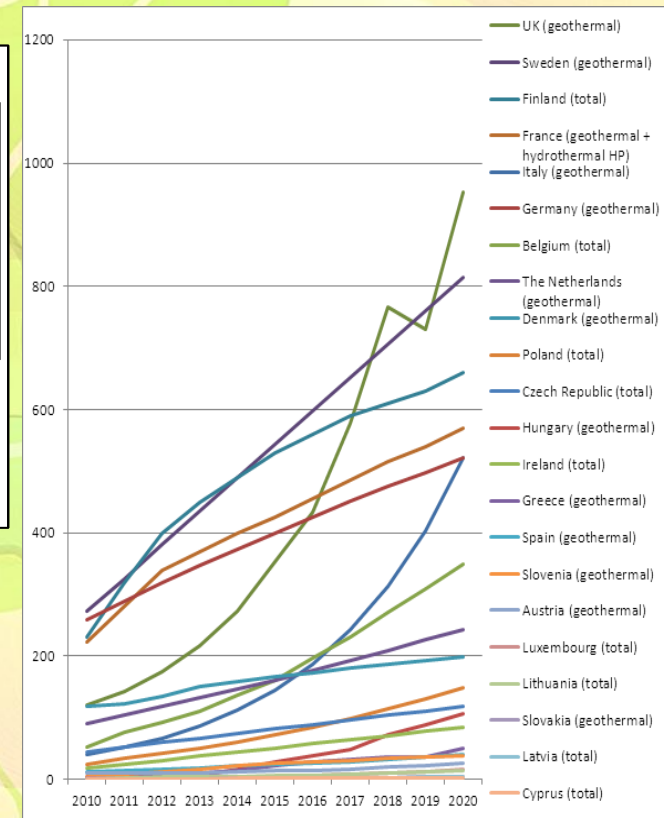
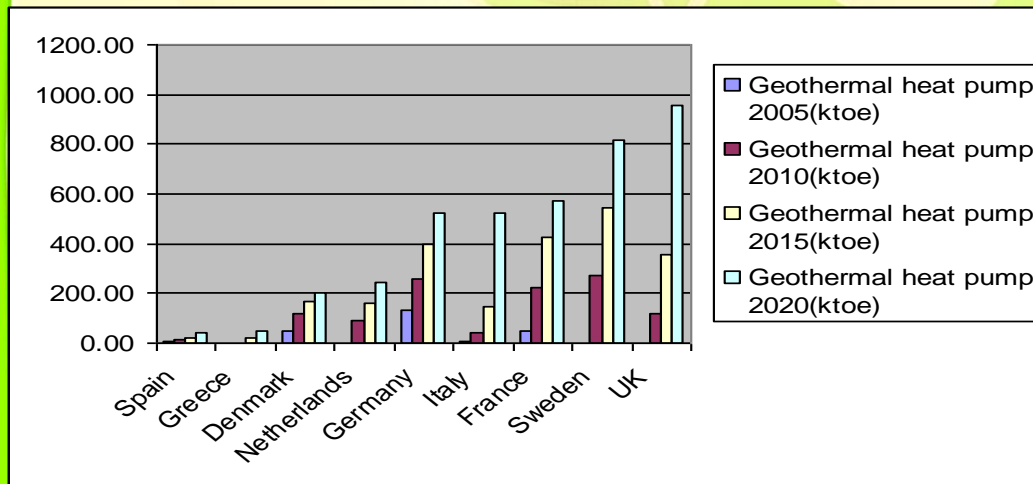
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### Why those partners? Rationale of the Consortium:

- Partners with large background in Shallow Geothermal System
- Partners with previous experiences in Collaborative projects and EACI projects
- Partners with capacity for tackling the expected tasks of the project
- Partners from those countries with a clear reference to GSHP in their NREAP documents



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## REGEOCITIES OVERVIEW—GENERAL OBJECTIVES

*The objective of the Regeocities project is **FIRST** to **convince** decision-makers about the need to simplify geothermal regulations in Europe, **THEN** to **stimulate** new shallow geothermal developments and local master plans, **FINALLY** to **attract** building sector to invest in geothermal systems.*

**Convince**



**Stimulate**



**Attract**

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## REGEOCITIES OVERVIEW – SPECIFIC OBJECTIVES

1. Overcome barriers referred to regulation of geothermal resources and administrative procedures.
2. Identification and transferring of best practices from mature to juvenile regions
3. Document with recommendations to develop a common pre-normative framework
4. Engagement of local administration for implementing project results
5. Development of a training program focused on the target groups (administrative personnel from the cities and regions)
6. Achievement of the smart-cities concept within shallow geothermal systems

The final goal of the project will be the implementation and adoption of the project recommendations by means of the endorsed cities and regions in order to promote the GSHP and help to achieve the objectives marked in the NREAP documents

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**GEO**TRAINET

Geo-Education for a sustainable geothermal heating and cooling market



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**REGEOCITIES project** will be built up on previous research projects related to the geothermal energy. Most of the partners have been already involved in those projects. Therefore, those partners will provide previous results to enhance and achieve the project objectives. Some of those projects are:



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**The endorsement of cities** and regions is crucial for the success of the project. In this way, different contacts with local administrations and regions from the participating countries have been already established to conform the core of the advisory committee. Cities and regions with predisposition for implementing the project results are:

Country and Partner	City or Region
Spain (AIDICO and UPV)	Region: Valencia region, Galician region City: Valencia, Poble de Vallbona, Eibar
Romania (RGS)	Bucharest (including letter of support); Oradea
Belgium (EGEC and SPW)	Region: Flanders Region City: Heerlen (letter of support)
Italy (SSSA)	Tuscany Regional administration and Cosvig (consortium of municipalities with strong experience in geothermal from the Tuscany region) Ferrara region
Germany (UBEG)	Regions: Brandenburg, Hessen Cities: Wetzlar, Hamburg, Bonn, Frankfurt/Main, Köln
Netherland (IF)	Regions: Utrecht and Drenthe Heerlen municipality
Sweden (SP)	Cities of Stockholm and Malmo
Denmark (GEUS)	Member organisation for the Danish Municipalities (including letter of support for the proposal), Odense Kommune, Skanderborg kommune
France (BRGM)	Region Centre (People are already concerned by GSHP development) City: Orleans
Greece (CRES)	Region: Attica City: Pefki
Ireland (SLR)	Cities: Dublin and Cork



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The project results are directed to the following stakeholders:

Target Group(s)	How will the target group(s) benefit from this action?
(EU)/national/Regional/Local decision-makers, Local authorities, cities, energy agencies: planners and energy specialists	<ul style="list-style-type: none"> <li>Clarification of the regulatory framework</li> <li>Facilitating the achievement of NREAP objectives related to GSHP</li> <li>Specific training programs for the key agents</li> <li>Guide of recommendations and installing of helpdesks</li> </ul>
Companies of the Shallow Geothermal Energy sector	Increment of the market for geothermal systems and facilitating the regulation of SGE systems to enhance the current situation of these systems
Property developers, construction companies, Designers	A common methodology to implement the SGE will facilitate the regulative process of buildings which will show an added value associated to this RES.
Energy services companies, consultancies and H&C companies	New market niches to exploit the services for this energy resource. Sale of geothermal energy instead of sale of the installation of the systems

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Key Actors	How will the key actor(s) contribute to this action?	Key task(s) number from your work programme	Name of organisation(s) providing a Letter of Support
<b>Industrial associations</b>	Coordinating the action, Analysing the regulative framework, transferring the questions and feed back from the industrial sectors and preparing the recommendations.	WP1, WP2, WP 3, WP5, WP6	<b>Geothermal association of professionals Consorzio per lo Sviluppo Geotermico Scrl Geothermal association of Ireland</b>
<b>Public Universities and entities (Geological surveys, Energy agencies)</b>	Preparing and performing the training program for the energy managers from public institutions, Dissemination of project activities and results	WP 2 and WP4, WP 6	<b>Danish energy agency Technical University for Construction Engineering Bucharest Consorzio per lo Sviluppo Geotermico Scrl Technical University of Crete Geological survey of Ireland Plataforma tecnológica de la construcción</b>
<b>Research centres</b>	Promoting the GSHP, identification key questions for the regularization, integrating the GSHP concept in cities.	WP 3, WP 5	<b>Geological surveys of Ireland,</b>
<b>Private companies (GSHP, H&amp;C and Eng. Consultancies)</b>	<b>This actor will supply experience from daily work. Transferring best practices and identifying cumbersome regulative steps</b>	<b>WP2, WP3 and WP 4</b>	<b>GEO ENERGY SERVICE Magma energy Italia GT Skills EcoCUTE EGEC MEMBERS</b>

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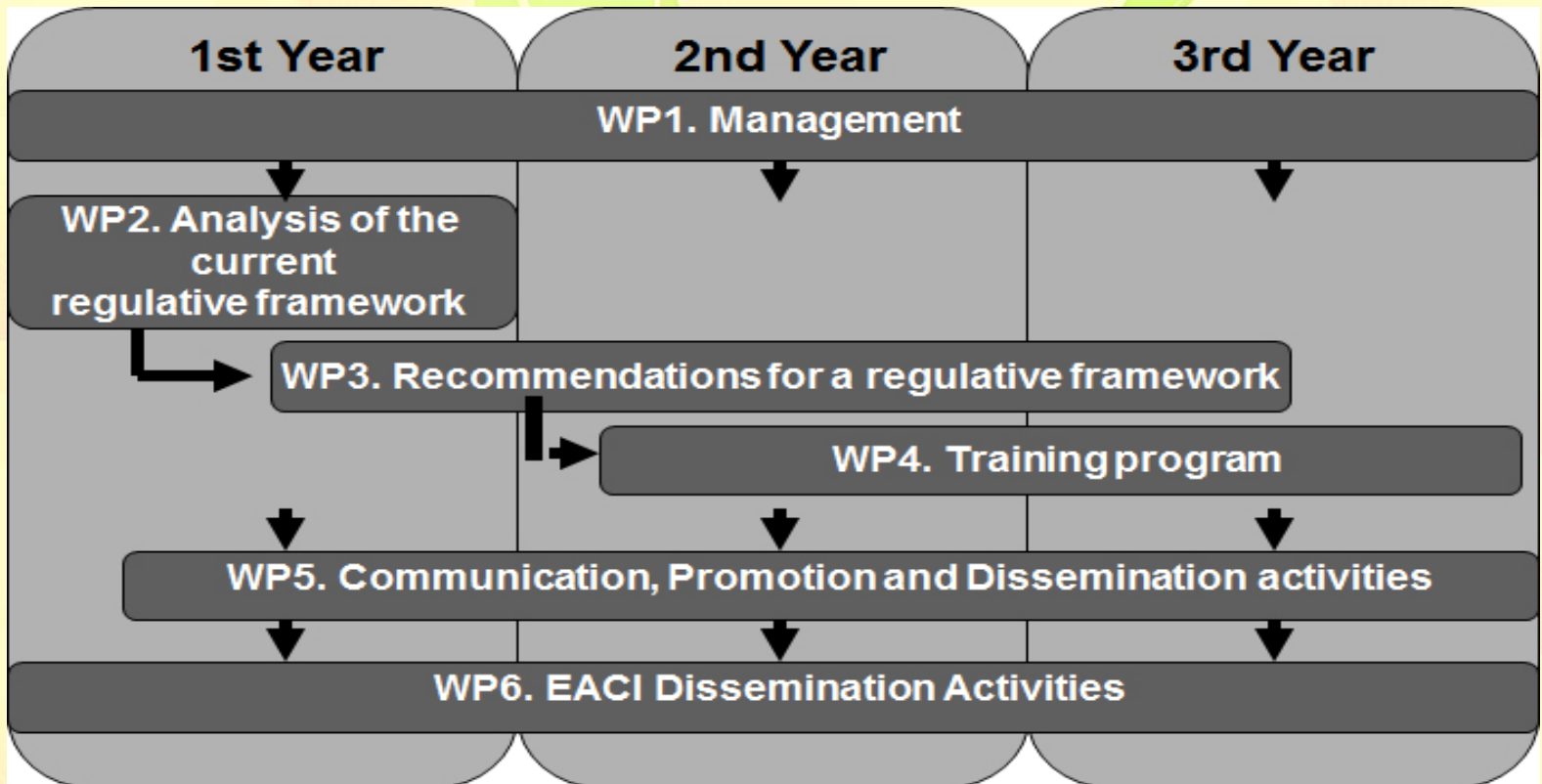


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# WORKING PROGRAM / WORK PACKAGES (WPs)



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## WP Leaders

**WP1** – Management – **AIDICO**

**WP2** – Analysis of the existing legislative framework – **BRGM**

**WP3** – Recommendations for a new regulatory framework – **SLR**

**WP4** – Training– **UPVLC & SRG**

4.1. Design of the training program – **UPVLC**

4.2. Achievement of the training program – **UPVLC & SRG**

4.3. Materials development for the HelpDesks – **UPVLC**

**WP5** –Communication, promotion and dissemination activities – **EGEC & SRG**

5.1. –Dissemination and communication plan – **EGEC**

5.2. – Website – **EGEC**

5.3. – Cooperation with the Covenant of Mayors for filling in the SEAP – **SRG**

5.4. – Dissemination of the project and of the key activities – **EGEC**

5.5. - Promotional campaign for GSHP – **EGEC**

**WP6** – Dissemination activities at IEE level – **AIDICO**

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## Actions in Romania in the frame of the REGEOCITIES Project:

- April 16, 2013 – Workshop in Bucharest
- March 21st, 2014 – Training course with local authorities in Timisoara
- May 29th, 2014 – Training course with local authorities in Ploiesti
- May 30th, 2014 – Training course with local authorities in Slobozia

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## Actions in Romania in the frame of the **REGEOCITIES Project:**

- March 21st, 2014 – Training course with local authorities in Timisoara



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# Actions in Romania in the frame of the REGEOCITIES Project:

□ May 29th, 2014 – Training course with  
local authorities in Ploiesti



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## Actions in Romania in the frame of the **REGEOCITIES Project:**

- May 30th, 2014 – Training course with local authorities in Slobozia





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## Actions in Romania in the frame of the REGEOCITIES Project:

Topics of the presentations:

- P<sub>1</sub> – The heating & cooling technology using geothermal heat pumps*
- P<sub>2</sub> – Limitations with regard to the implementation of the geothermal heat pumps systems for heating and cooling*
- P<sub>3</sub> – Heat pumps for the use of geothermal energy*
- P<sub>4</sub> – Potential of the shallow geothermal systems in reaching the EU 2020 goals*
- P<sub>5</sub> – Regulation and financing of the shallow geothermal energy projects*
- P<sub>6</sub> - Management of the GSHP applications at local administration level – the Stockholm model*
- P<sub>7</sub> – European Covenant of Mayors – The GSHP solution implemented into the NREAP*

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# “GOOD PRACTICE” – GSHPS IN ROMANIA MONITORED BY RGS

## ELI-NP – Magurele (Project in Execution)

Air conditioned area	: 21.000 m <sup>2</sup>
Total thermal output	: 5.03 MW
Type of the heat exchanger	: closed loop, vertical
Hydraulics	: variable flow rate
Number of BHE	: 1.024 buc
Total length of the BHE	: 122.900 m



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# Romanian Geoexchange Society

Romania – Bucharest – District 2  
66 Pache Protopopescu Blvd.

Website: [www.geoexchange.ro](http://www.geoexchange.ro)  
E-mail: [info@geoexchange.ro](mailto:info@geoexchange.ro)

Contact:

**Prof. Robert GAVRILIUC , Ph.D.** – President  
Phone / Fax 021 211 0890  
Email: [robertgavriliuc@yahoo.com](mailto:robertgavriliuc@yahoo.com)