



PUBLISHABLE EXECUTIVE SUMMARY
corresponding to 7th Periodic Activity Report
YEAR 7

CONCERTO INITIATIVE
RENAISSANCE

Renewable ENergy Acting In SuStainable And
Novel Community Enterprises

Instrument (e.g. Integrated Project)
Thematic Priority

Period covered – 7th Period

From 18/10/2011 to 17/10/2012

Start date of project: 18th October 2005

Author/ contact: Sylvain Koch-Mathian

Email: sylvain.koch-mathian@hespul.org

Tel: +33 04 37 47 80 90

Project coordinator: Sylvain Koch-Mathian
Hespul, énergies renouvelables & efficacité énergétique
114 bd du 11 novembre
F-69 100 Villeurbanne

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CONCERTO is co-funded by the European Commission and aims to create a more sustainable future for Europe's energy needs.



1 RENAISSANCE OBJECTIVES AND CHARACTERISTICS

RENAISSANCE aims to demonstrate that strong local political commitment to sustainable development, social involvement, and public-private partnership can lead to energy high performance and replicable urban regeneration projects in two large cities of contrasting character; Grand Lyon conurbation and Zaragoza. The Region of Lombardy is also participating, with the objectives to share the development of these innovative best practices on urban planning and on local renewable energy sources supplies.

RENAISSANCE involves 2 demonstration projects in Grand Lyon and Zaragoza that focus on achieving exceptional standards in rational use of energy (RUE) and use of renewable energy systems (RES) in an integrated way, across 2 of their urban regeneration programmes. These 2 urban projects aim to achieve drastic reductions in conventional energy consumption up to more than 70%, thanks to innovative eco-building design & architectural approaches and an important increase in the supply of integrated Renewable Energies. RENAISSANCE project objective is also to have reasonable costs and acceptable financial risks on energy saving investments, near to market proposals, to demonstrate its high potential of replication across the rest of Europe.

As showcases, RENAISSANCE includes a comprehensive programme of Research and Technical Development (RTD), coupled with active and widespread dissemination activities.

The integration of the research elements will produce hard data and new knowledge regarding public attitudes to new energy futures, planning policy development, building design, monitoring energy systems; commercial energy structures and local fuel supply chains. This information will be of significant value to the research community and to policy makers.

In total, there are 19 participants in this project, involving a large range of diverse stakeholders, from local authorities to technical & socio-economical experts, non-profit organisations, Universities and businesses.

2 PROJECT PARTNERS

N°	Name of Project coordinator	Coordination Contact person
16	Communauté urbaine du Grand-Lyon (Grand-Lyon) 20 rue du Lac ; F- 69 003 Lyon	Sylvain Koch-Mathian Sylvain.koch-mathian@hespul.org
18	Hespul, Energies renouvelables & efficacité énergétique 114 bd du 11 novembre; F-69 100 Villeurbanne	Tel: +33 (0)4 37 47 80 90

N°	Full Name	Acronym	Country
8	Zaragoza City Council, Environment Department	Ayto-Zaragoza	Spain
9	Sociedad Municipal de Rehabilitación Urbana y Promoción de la Edificación de Zaragoza, S.L. => Sociedad Municipal Zaragoza Vivienda, S.L.U (23/05/2008)	Ex-SMRUZ/SMZV	Spain
10	Fundación Ecología y Desarrollo- WITHDRAWN Mid-Year 3 (end of April 2008)	ECODES	Spain
11	Ecociudad Valdespartera Zaragoza	EVZ	Spain
12	Endesa Energía, S.A.	EDE	Spain
13	Centro Nacional de Energías Renovables	CENER	Spain
14	University of Zaragoza	UdZ	Spain
15	URBIC Engineering	URBIC	Spain
16	Communauté urbaine du Grand-Lyon	Grand-Lyon	France
17	SEM Lyon-Confluence => SPLA Lyon-Confluence (31/01/2008)	Lyon-Confluence	France
18	Hespul	HESPUL	France
19	Agence Locale de l'Energie de l'Agglomération Lyonnaise	ALE	France
20	Enertech	Enertech	France
21	INSA de Lyon (CETHIL)	INSA-CETHIL	France
22	SCI Lyon Confluence La Presqu'île (Lot A)	LOT A	France
23	SCI Lyon Islands (Lot B)	LOT B	France
24	La Confluence-Ilot C (Lot C)	LOT C	France
25	University of Barcelona WITHDRAWN END of Year 2	UB	Spain
26	Region of Lombardy	LOM	Italy
27	Endesa Cogeneración y Renovables S.A.	ECyR	Spain

3 WORK PERFORMED & RESULTS ACHIEVED TO DATE (OCT. 2012)

The Year 7 year is the last year of implementation of the RENAISSANCE project. All the efforts have been focused in finalising the last RTD activities such as socio-economic activities and the monitoring of the buildings and systems energy performance.

In addition, RENAISSANCE partners focused their efforts in capitalising all the results and lessons learnt of the project so as to widely disseminating them through conferences, guidebooks and trainings.

All key documents and final reports will be available on the project website (www.renaissance-project.eu).

Consortium Management










Beginning of Year 7 has been quite challenging to carry out the process of drafting and validating the request for Amdt 6, which mainly implies some changes in the Zaragoza Demonstrations activities affected by the economic crisis. Project coordinator strongly support Zaragoza partners in proposing a comprehensive alternative plan. The second challenge has been to solve the last issues related to external audits (since all RENAISSANCE partners went through an audit).

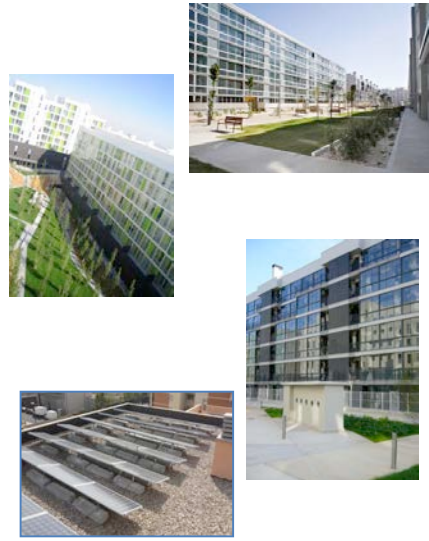











All along the year, project coordinator organised several meetings (physical and by phone) with technical, financial and audit EC officers. Amendment 6 has been very difficult and long but it has been signed in August 2012 thereby solving most of the pending issues.

On the other hand, since its arrival in July 2010, the project coordinator has been stressing the importance to focus not only on achieving the project objective but also in putting significant efforts in capitalizing, documenting, and sharing the results. This message has been fully understood by the project team. All of them agreed in engaging strong efforts so as to capitalize the lessons learnt and to produce recommendations for future project that lead to the production of several handbooks and guidelines along the Year 7. Last but not least, significant efforts have been spent on preparing the final report by preparing a common template as well as on ensuring that final reports will be delivered on time with the required quality.

3.1 Demonstration activities progress

All demonstration activities in Grand Lyon have been completed at the end of Year 5, buildings' inauguration has been held the 14th October 2010. In Zaragoza, most of the works have been achieved in Year 5. Refurbishment works planned for Year 6 have not been completed due to the financial crisis, the objective has been turned to PV systems as indicated in the amendment 6. During Year 7, the PV system of SMVZ have been completed as well as the up-scaling of the energy efficient gas heat pump for cooling and heating in Valdespartera with an ESCO model.

Eco-buildings (RUE & RES demonstration activities)					
GRAND LYON				State of progress	
				Building	RES
Lot A (Block A)	19.590 m ² built (100% achievement) All dwellings delivered to owners <u>Wood fuel boiler:</u> 540 kW <u>Photovoltaic panels:</u> 79 kWp installed.			100% 	100% 
Lot B (Block B)	527.481 m ² of news dwellings and 2.660 m ² of offices (100% achievement). <u>Photovoltaic panels:</u> 121,2 kWp (all arrays not commissioned yet, due to delays with grid-connection). <u>Solar collectors:</u> 239 m ² <u>Wood fuel boilers:</u> 2 wood fuel boilers, 540 kW each			100% 	100% 
Lot C (Block C)	12.594 m ² of news dwellings and 15.418 m ² of offices and retails <u>Photovoltaic panels:</u> 73,15 kWp <u>Solar collectors:</u> 250 m ² <u>Wood fuel boiler:</u> 540 kW			100% 	100% 

ZARAGOZA			State of progress	
			Building	RES
<p>Valdespartera Blocks 12,13, 17 & 18.</p> <ul style="list-style-type: none"> • Bioclimatic blocks n°12 (164 residential flats – 16.950m²; 165 m² solar thermal panels) • Bioclimatic block n°17 (164 residential flats - 16 892m²; 165 m² solar thermal panels) • Bioclimatic block n° 18 (144 residential flats- 15.525 m²; 144 m² solar thermal panels installed). • Bioclimatic block n° 13 (144 residential flats- 14.659,31 m²; 180 m² solar thermal panels installed). • 80kW of cooling by gas heat pump is completed with 75kW of heat recovery system to increase the overall efficiency. • In addition an evaporative cooling system has led to increased pump power of 25.8 kW heat in Plot 2. • 37kW of Photovoltaic systems. 		<p>100%</p> 	<p>100%</p> 	
<p>Valdespartera (CUS)</p>	<p>The Exhibition Centre, now named Centro de Urbanismo Sostenible (Sustainable urban planning Centre), CUS, (1.543 m². It is equipped with a wood fuel boiler (48,5 kW) and a geothermal reversible water-water heat pump (45 kW).</p>		<p>100%</p> 	<p>100%</p> 
<p>El Picarral – social housings</p>	<ul style="list-style-type: none"> ▪ Anzánigo 10-12 (30 flats) ▪ General Yagüe 2-4-6-8 (40 flats). ▪ In total 5,779 m² have been refurbished. 		<p>100%</p> 	<p>100%</p> 
<p>El Picarral - Public School Cándido Domingo</p>	<p>All works completed (6.000 m² and installation of 18 kWp roof mounted PV array).</p>		<p>100%</p> 	<p>100%</p> 

3.2 RTD/innovation, dissemination and training results

The main outputs from these activities are:

RTD

- Utilization of monitoring results in Zaragoza to impulse changes in local and national thermal regulations. Publication of an experience capitalisation document in Grand Lyon titled "Analysis of the set-up, progress and impact of the project on the development of energy policies". (WP1.1)
- Comparison of energy consumption of different operations, further development of URSUS software, and finalisation of the heat island study, in Zaragoza (WP 1.2);
- Publication of the wood fuel boilers guide and analysis of wood consumption data and maintenance contracts in Grand Lyon (WP1.3).
- Monitoring activities of the Brebemi highway plant and in the catchment of the biomass power plant in Cesano Boscone in Lombardy. (WP1.3);
- Analysis of heating and hot water consumption data and operation and maintenance contracts for wood fuel boilers in Lyon and draft of the wood heating plants guide (WP1.3);
- Comparison of a feasibility study of biomass power plant with real monitoring of a case study in Lombardy (WP1.4);
- Comparison of the effectiveness of different activities and strategies of interaction with users in Zaragoza. Training sessions for employees of the office building in Lyon and light monitoring of temperature, humidity and domestic electricity consumption in a few flats to raise awareness on energy savings (WP 1.5);

Monitoring

- Completion PV district scale monitoring and development of the software in Lyon. Completion of sensors installation in Zaragoza and software adaptation (WP2.1);
- Analysis of energy consumption in homes of Picarral and Valdespartera in Zaragoza. Analysis of monitoring data by Enertech in Lyon and PV data by Hespul. (WP 2.2);
- Synthesis of monitoring methodology, analysis of cross-ventilation measurements and attempt at using Zaragoza's monitoring devices in Lyon (WP 2.3);

Dissemination

- Presentations of RENAISSANCE's results in Zaragoza. Production of a film on La Confluence projects in Lyon. Dissemination of results at a conference in Lombardy (WP4.1);
- Publication of an experience capitalisation document, presentation of RENAISSANCE results in three international events and organisation of Zaragoza's final conference (WP4.2);

Training

- Integration of monitoring results in courses, courses in different masters, training sessions and visits to Valdespartera facilities, specifically on gas heat pump in Zaragoza. Publication of two manuals (one on design and construction and the other on operation and maintenance), one guidebook on operation and maintenance destined to technical professionals and one on early stages of a land planning project: "How to include energy performance issues in urban development project.", in Lyon. Training session on the new biomass power plant for district heating in Lombardy (WP5).

All Annual Reports are available at: <http://www.renaissance-project.eu>

4 EXPECTED END RESULTS AND INTENTIONS FOR USE AND IMPACT

The principal end result of RENAISSANCE has been to demonstrate that **high level of energy performance in new and refurbished buildings** can be achieved at reasonable costs, with existing technological solutions if applied appropriately.

The second expected and ambitious impact is **accelerated replication of this know-how**, by continuously influencing both **policy makers** (in their Energy & urban planning policy approaches at local, regional, national & European levels) and the **building sector** (including low-energy refurbishment, social housings and tertiary branches).

The third expected end result is to highlight **the importance of the appropriation process** of numerous changes resulting from ambitious energy performance for all stakeholders, including developers, architects, engineers, constructors, building operators and end users, and as a consequence the need of developing **appropriate information, training and technical supports**.

To widely disseminate the projects results and to foster the mainstreaming of **innovative buildings for low-energy cities**, a **sound experience capitalization** work was carried out to assess all lessons learnt from the project regarding each stage of the appropriation process. The results of these analysis lie in several handbooks that have been made available on the website and widely disseminate in hardcopies through conferences, workshops and trainings.

More details can be found on the project website:

<http://www.renaissance-project.eu>