

Local Newsletter

Residential Renovation towards nearly zero energy CITIES



About R2Cities

The R2CITIES project has entered its second year of four busy years aimed at enhancing and then demonstrating energy efficiency in residential districts.

This is the second Local R2CITIES Newsletter dedicated to the local communities at the demonstration sites. It is also relevant for local and regional public authorities involved in retrofitting and renovation of buildings and districts in their municipalities, or planning to get

The three demonstration sites are located in different climate regions and each has its set of challenges. There is one in the Italian city of Genoa, another in Turkey in Kartal a municipality of the City of Istanbul, and the third is part of Valladolid in Spain.

The purpose of this ambitious four-year FP7 project is to develop and demonstrate innovative, cost-effective and high performance retrofitting concepts and solutions to boost the quality of district renovation and enhance market uptake of low-energy building stock. Two parallel strands that underlie the project's rationale are pursued: the demonstration activities with three complete districts being renovated, and the development of an exhaustive methodology for energy efficient district renovation as a result of RTD endeavours. The results will open the way for new refurbishments on a European scale within the framework of new urban energy planning strategies.

If you are interested in staying informed about the development at the local level of R2CITIES and in sharing information and experience, you should subscribe to the Newsletter. It might also be relevant for you to join the My Smart City District discussion group to learn from experts and peers and to share with them your experience.

Enjoy reading!

In this issue

- p. 2 News from the demo sites
- p. 9 My Smart City District
- p. 10 Recommended events
- p. 12 Contacts

[Visit our website!](#)



This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement N° 608977



Register to get a free copy of the Newsletter by e-mail



Join My Smart City District LinkedIn discussion group!

NEWSLETTER

News from the demo sites



Local team contacts

Cartif

Rubén García Pajares,
R2CITIES project coordinator
Energy Division
rubgar@cartif.es

Sergio Sanz
Energy Division Deputy
Manager
sersan@cartif.es

Sociedad Municipal de Suelo y Vivienda de Valladolid (VIVA)

Carolina Fernández McGucken
carolina.fernandez@smviva.com

César Alonso Gonzalez
c.alonso@smviva.com

Flash News from Cuatro de Marzo District

The Cuatro de Marzo district in the Spanish city of Valladolid features 1941 dwelling built in the early sixties.

During the last months, all presidents of the Communities of owners and the residents were invited to more than 15 informative meetings. After this first round of informative meetings, more specific meetings were organised to clarify doubts to the residents. In total, more than 400

residents attended these meetings. The results show that there exists a difficulty in increasing the awareness of the residents about the benefits from changing the current individual heating systems to the biomass district heating. However, residents are quite open to the façade retrofitting option. VIVA and the rest of the consortium are nevertheless optimistic with the resolution of the public grant that will be released no later than mid-November 2014.





César Alonso, VIVA: third parties play a key role to making buildings energy efficient

In a strategic plan for the municipality, the town council of Valladolid, in Spain, has given top priority to the renovation of its heritage buildings to achieve nearly zero energy districts. In one of its neighbourhoods, called *Cuatro de Marzo*, such renovation has already started to happen. It has been pioneered by the company for land and housing, called VIVA—Sociedad Municipal de Suelo y Vivienda—and owned by the Valladolid municipality. It operates within the European project R2CITIES, whose aim is to develop and demonstrate strategies for designing and constructing nearly zero energy districts.

César Alonso manager at VIVA in Valladolid, speaks to youris.com about the importance of taking into account residents' opinion and of involving so-called Energy Service Companies in financing the process.

What are the advantages of building energy efficient buildings?

All regulations concerning incentives and initiatives to do with the renovation of buildings include the idea of energy efficiency. Both the Valladolid town council and VIVA want to be first in the queue to get European funding to implement these changes. These are not only beneficial to the residents, who are directly involved, but also to the city as a whole. The main priority of the project is energy efficiency. But we are also concerned with renovating the buildings in terms of access, as requested by residents. This is necessary because we are dealing with buildings from the 50s and 60s, which were built in a way which is now considered obsolete. We are also providing financial assistance to residents for such renovation.

What approach have you adopted?

The project has both a theoretical and a practical part. The main aim of the theoretical part involves developing a guidance document. It will be used as a tool to analyse the specific challenges and the different options available when renovating a neighbourhood to make it energy efficient. This document relies on examples of various cities characterised by diverse climates and specificities.

The practical part is the development of a series of implementation measures, based on all the different energy efficiency options. In the case of Valladolid, these choices are made by VIVA. The process starts by getting the main

beneficiaries involved —namely, these are the residents and owners of the buildings.

How do you involve the residents?

The direct participation of the residents is the most important part of the whole process. Prior to offering grants to the residents, we asked them about their three main concerns. The answers were: what do I have to do to become energy efficient? How much is it going to cost? And how much financial assistance will I get? Then, we had meetings with all the residents of the neighbourhood to explain the philosophy of the project and to try and get them involved.

They choose from between different renovation packages. The simplest involves the addition of a thermal insulation envelope around the whole building. The most comprehensive includes the same envelope combined with the replacement of individual gas boilers by a biomass boiler, which serves at least a hundred residences, as well as the installation of a lift.

What is the role of Energy Service Companies, or ESCOs, in the process?

The ESCOs play a vital role because they provide residents with a way of financing the initiative. This approach is particularly valuable in neighbourhoods, like *Cuatro de Marzo*, where it is actually the residents who make the decisions. The ESCOs give them the incentive and the assistance needed to transform the heating network and to make the change from individual boilers to collective biomass boilers. The ESCOs can finance this work in a way that the residents, who are making savings on their energy bills thanks to this work, can make comfortable repayments on these loans.

Do you think that the involvement of the ESCOs play a key role in this type of initiative?

It is not going to be an easy task. But if we manage to persuade the residents of 10 buildings to get rid of their individual boilers and install a biomass boiler, then the idea of this initiative will spread across the neighbourhood. We will be on the road to energy efficiency when residents, who have already made this change, explain to their neighbours that they are now paying much less in energy bills.

Marta Espar, youris.com





Local team contacts

Comune di Genova

Gloria Piaggio

gpiaggio@comune.genova.it

Università degli Studi di Genova

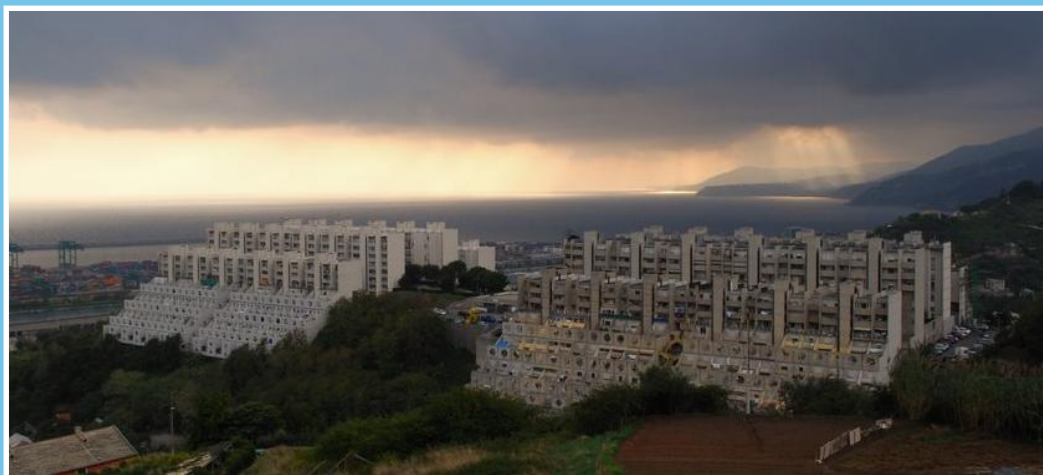
Renata Morbiducci

renata.morbiducci@unige.it

Flash News from Lavatrici District

In Genoa, the demonstration site is a district called Lavatrici, built between 1980 and 1990 with over 500 dwellings. Residents are generally senior citizens on low incomes. This site was the last one to be identified for demonstration in R2CITIES and so far a choice of demonstration elements has been made and some alternative energy efficiency solutions elaborated.

In September the two projects (windows substitution and thermal plant) were ready to be approved by the Municipality Council; their publication was established end of October. Unfortunately the priority of the municipality of Genova (tender publication office) is now focused on solving the flooding problem that damaged the city center, (flood 9-10 October 2014) creating a delay of approximately 1 month.





Gloria Piaggio: Genoa, a Smart City

New technologies and energy management could soon lead to sustainable cities

Cities substantially contribute to European air pollution as they are the source of about 36% of the total CO₂ emissions. Modern cities therefore raise sustainability concerns. Now R2CITIES aims to test solutions that should **cut energy consumption by about 50%**. The project will focus on the districts of three Mediterranean towns as case studies. Their current consumption will be recorded before testing possible solutions based on building renovation and changes in energy sources and distribution. The case studies include districts in Valladolid, Spain, in Genoa, Italy, and in Kartal near Istanbul, in Turkey. These will be refurbished and improved at a cost of €100 per square meter, as required by the EU commission, which supports the project.

Gloria Piaggio, director of the Smart City program at the Genoa municipality, connected to the project, talks about how architects, engineers, and technicians are planning to make a test case in an estate of about 160 council houses, spread over 18,000 square meters, to create an environmentally friendly district.

What did you call your project Smart City?

Cities are growing fast and there is a need to improve quality of life. The improvement is based on an economic development that must be sustainable, both economically and environmentally. Once seen as mere bureaucratic agencies, municipalities are now shifting towards acting as planning offices. In Genoa, we have created a Sustainable Energy Action Plan, where we set 80 actions towards a long term development. Few action examples are the energy efficiency improvement in public buildings, energy saving technology in street lighting, boosting of car-sharing, plans to convert house heating systems from oil to methane.

Is this plan achievable?

Yes, this is ambitious and the road to a Smart City is all but easy. However, as a municipality we could keep on dealing with growing towns and increasing economic and environmental pressures forcing us to be reactive in the face of emergencies. Alternatively, we can develop long term plans. Planning also

serves the purpose of guiding us towards economic benefits. For example, shifting to LED street lighting will lead up to 70% energy reduction. In two years, the investment will be paid back.

How will you handle the fact that long term planning and politics do not well mix together?

Because politicians often have a short term horizon, we want to promote a dialogue between institutions, academics, citizens, and the private sector. To do so, we have created the Genova Smart City Association (AGSC). It engages with citizens' associations and NGOs, as we need to dialogue with as many stakeholders as possible.

What is the novelty of this specific project?

The project is a strong co-operation between the Genoa municipality, which owns the Lavatrici social housing district, the university, and the private sector. Establishing a dialogue between these three actors is a major challenge. As most of European buildings erected after the Second World War, the building quality in the district is poor. However the householders have demonstrated that they care considerably about the buildings and they are keen to test new solutions.

We are experimenting with an ideal Smart dwelling in two flats, with new windows, energy saving refurbishing, temperature controllers, and more. They will be monitored for one year to measure changes in energy consumption. Once this has been completed, the plan is to refurbish and change the heating distribution systems while applying new controlling technologies in about 160 dwellings.

How would you rate householders' engagement in this project?

In social housing there is a disconnect between the owner, the municipalities and the users. In the Lavatrici district, inhabitants understand that householders will benefit from this program because the houses will undergo significant improvements. Their feedback is positive, they are engaged and eager to co-operate.

Marta Espar, youris.com



Local team contacts

Kartal Municipality

Ms. Gülnihal Altın Öztürk
r2cities@kartal.bel.tr

Istanbul Technical University

Hatice Sozer
sozerh@itu.edu.tr

Flash News from Yakacik District

The demonstration site is located in Yakacik district of Kartal, a municipality of the city of Istanbul in Turkey. This district is characterised by insufficient insulation, and low efficiency lighting systems and appliances. The area designated for retrofit covers 18,813 m².

The architectural tender is over and the design phase is ongoing. Preliminary results will be available in six weeks. After that, by the end 2014, the second phase will start. Currently the demo site team is working on

educational issues in preparation of the works at the demo site. Engineers and architects of the Municipality are about to be trained about BIM on November 17 .

The tender procedure of Renovation will be launched at the end of November. The Project Team visited the demo site at the beginning of November to control the current state of the art of the dismantling and cleaning process of the goods and other materials in the Nursing Home.



New partners joining the Turkish team

Kartal Municipality has become partner in The R2CITIES (Renovation of Residential Urban Spaces: Towards Nearly Zero Energy Cities) Project that is supported 7th frame program of EU.

TUBITAK (Turkey Scientific and Technologic Research Institution) is the national coordinator of the 7th frame program that has support the multi-national research and technologic projects in EU. The R2CITIES Project launched by a consortium of sixteen partners from six countries is the Turkey's biggest project under the 7th frame program in the meaning of budget and number of partners.

The R2CITIES Project started on 01.07.2013 and will be ended on 01.07.2017. It has been implemented also in Valladolid of Spain and Genoa of Italy beside Kartal. The Project is implemented under the partnership of [Kartal Municipality](#), [Istanbul Technical University](#), [MIR-Arge A.s](#), [Ekodenge Ltd. Sti.](#), [Reengen](#) and [Solitem Group](#).

Under the Project, improving energy efficiency in residential areas by using new insulation technics and alternative energy methods, also contributing expansion of the new model to national and international scale is aimed at. An energy efficiency pilot model will be created by working on the nursing home within in Kartal that's belongs to our municipality, and expansion of this model will be provided by promotion in national and international scale.

The Project for improving energy efficiency in a nursing home is first time ever and works related to the methods that will be applied under the project has been carried out for approximately one year.

In this context, Ruben Garcia PAJARES who is Project Coordinator of CARTIF from Spain and Miguel Angel GARCIA has visited our Municipality on 03.06.2014. A meeting has been held in attendance with Kartal Municipality's Mayor Op. Dr. Altınok ÖZ, Vice Mayor, Gülcemal FİDAN, Kartal Municipality Project Team, TUBITAK and representatives of our partners İstanbul Teknik Üniversitesi, Ekodenge, Mir Ar-Ge and Solitem. Presentations have been done throughout the day, and also Kartal demo-site has been examined by a technical visit onsite.



Kartal Municipality at the 8th International Municipality and Environment Expo

Kartal Municipality has attended Citytech 2014 8th International Municipality and Environment Exposition on 25 – 28 September 2014 in Ankara Atatürk Culture Centre.

The 8th Municipal and Environmental Expo was organised to highlight the role of local authorities in Earth's sustainability and protection of ecological balance, also to present the local authorities' projects and practices to save environment. Kartal Municipality has been represented with the many projects that are implemented and going on in this expo.

The R2CITIES (Renovation of Residential Urban Spaces: Towards Nearly Zero Energy Cities) Project that is supported 7th frame program of EU and in which Kartal Municipality is a partner, has been presented in the expo. R2CITIES Project is being implemented in Valladolid from Spain and Genoa from Italy as well as Kartal. Nearly 1.000 people were informed and brochures were supplied to visitor of our stand related to The R2CITIES Project.

The R2CITIES Project is aiming at increasing energy productivity in residential areas with new insulation and alternative energy production methods, and also contributing the expansion of new model in national and international aspect. The Project has attracted great interest from the participants.



My Smart City District: fifteen cities, one agenda



Join My Smart City District
LinkedIn discussion group!



My Smart City District

R2CITIES is coordinated by [Fundación CARTIF](#). The project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 314473. Cities involved: [Genova](#) (IT), [Valladolid](#) (ES), [Kartal/Istanbul](#) (TK).

Project website:
www.r2cities.eu

Contact R2CITIES D&C Secretariat:
secretariat@r2cities.eu

EU-GUGLE is coordinated by [CENER](#), Spain's National Centre for Renewable Energies. The project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 314632. Cities involved: Aachen (DE), Bratislava (SK), Gaziantep (TK), Gothenburg (SE), Milan (IT), Sestao (ES), Tampere (FI) and Vienna (AT).

Project website:
www.eu-gugle.eu



Contact Dissemination Leader, Guillaume Corradino:
Guillaume.Corradino@greenovate.eu


ZenN is coordinated by [Fundacion Tecnalia Research & Innovation](#). The project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 314363. Cities involved: Grenoble (F), Malmö (SE), Eibar (ES) and Oslo (NO).

Project website:
www.zenn-fp7.eu

Contact: Project Coordinator, Francisco Rodriguez
francisco.rodriguez@tecnalia.com

Recommended events

	Events	Description
	Smart City Expo World Congress 2014 18 - 20 November 2014 Barcelona, Spain	<p>The most innovative solutions and advanced research on Smart Cities will be presented at the Smart City Expo World Congress 2014, which will take place in Barcelona (Spain) from the 18th to the 20th of November. The event is addressed to cities, enterprises and entrepreneurs, research centres, universities and other public or non-governmental organizations or consortia (public-private) with ideas, research, insights and innovative solutions around the Smart City.</p> <p>The Genoa Smart City Association will participate in the Smart City Exhibition (EXPO 2015 stand).</p> <p><i>For further information:</i> Smart City Expo World Congress 2014</p>
	ASA - 48th International Conference of the Architectural Science Association 10-13 December 2014 Genova, Italy	<p>The 48th International Conference of the Architectural Science Association: "ACROSS: Architectural Research through to Practice", co-hosted by the Department of Architectural Science, Polytechnic School, University of Genoa & the Architectural Science Association (ASA), will present original research papers and posters on topics in architectural science, with focus on: architecture & environment, buildings & energy, BIM & city information modelling, Construction, material & technology, design education & design research, environmental & landscape architecture, generative, parametric & evolutionary architecture, interactive environments & collaboration, modes of production & mass customization, interface between research and industry, simulation, prediction, & evaluation, theory, philosophy & methodology in architectural science, thermal comfort, lighting & acoustics, architecture and social research, Façade Design</p> <p>The University of Genoa is co-organizer of the event.</p> <p><i>For further information:</i> ASA International Conference</p>

Events		Description
	SOLAREXPO 2015 8-10 April 2015 Milan, Italy	<p>The 2015 edition of SOLAREXPO THE INNOVATION CLOUD stems from the original core of solar technologies and anticipating the overcoming of business barriers between renewables and energy efficiency while leaning towards the hybridization of various innovative solutions. SOLAREXPO fully interprets the new paradigm shifts: generated distribution, flexible electricity markets, energy independence.</p> <p>The event covers the following technology sectors: renewable power, energy storage, smart buildings, smart grids, e-mobility, smart city technologies, smart domestic appliances, energy efficiency in industrial buildings.</p> <p>Officinae VERDI will participate in the SOLAREXPO exhibition.</p> <p>For further information: SOLAREXPO</p>

Contacts

More information on this Newsletter and related dissemination and communication activities of the project available at:

R2CITIES D&C Secretariat

e-mail:

secretariat@r2cities.eu

Project Coordinator

Centro Tecnológico CARTIF
Parque Tecnológico de Boecillo 205. C.P. 47151
Boecillo, Valladolid - España
Tel. 0034 983 54 65 04
Fax 0034 983 54 65 21

Coordinator

Rubén Garcia Pajares
Energy & ICT Divisions
Fundación CARTIF

e-mail:

contact@r2cities.eu

Register on <http://www.r2cities.eu> or get access with your LinkedIn, Facebook, Google or Twitter accounts to receive the R2CITIES newsletter via e-mail.



[Join our LinkedIn discussion group](#)

For the purposes of media law, editorial responsibility rests with the R2CITIES Communication Secretariat.

