

Objectives

As part of the ICT PSP programme of the European Commission Competitiveness and Innovation Programme the eSESH project aims to design, develop and pilot new solutions to enable sustained reductions in energy consumption across European social housing. This is to be accomplished by providing usable ICT-based services for Energy Management (EMS) and Energy Awareness (EAS) directly to tenants, by providing effective ICT monitoring and control of local generation of power and heat and by providing social housing providers, regional and national government with the data they need to optimise their energy-related policy and investment decisions at national, regional and organisational level. The project will help Europe meet emission targets by achieving a significant reduction of energy consumption in European social housing.

Services



eSESH Advanced Energy Awareness Services (EAS) provide direct, timely and comprehensible feedback on energy consumption, enabling tenants to adapt their energy consumption behaviour. An EAS will graphically visualise the energy (heating, electricity, water) consumptions which will enable tenants to easily grasp this information and evaluate it in terms of whether their consumption is to be judged as high or not and in comparison to other consumers and over longer periods of time. The tenants will get access to these services (EAS) through a web-based platform which will allow them to quickly

and easily obtain consumption information at monthly, daily or even shorter time-intervals and by comparing their consumption to those of other tenants or an 'average' tenant, energy consumption by square meter, comparisons of consumption in the past and present year and month etc. The information will be provided in a way showing the developments over the years and allow tenants to take appropriate action should they judge their consumption figures to be too high. Some of the EAS services to be implemented in pilot sites will also automatically and based on the observed consumption patterns and figures generate tips for tenants on how energy consumption and costs can be saved.

In addition, a comprehensive set of Energy Management Services (EMS) help reduce consumption peaks and optimise the timing of domestic consumption. Optimised timing of consumption can reduce generation capacity requirements and, with appropriate tariffs, tenant costs. EMS are also used to control delivery of locally generated, renewables-based heat and power.

Pilot Sites



These new ICT-based services for social housing tenants will be evaluated in 10 pilots in 6 countries across Europe as depicted in the

map. More than 5,000 social housing tenants are to be given access to eSESH Energy Awareness and/or Energy Management Services in the pilots, which are designed to evaluate the impact on overall residential energy consumption. In each pilot site an integrated approach is being followed involving a team of different partners with complementary skills and expertise working together to successfully implement and operate the different services. Typically a pilot site team includes a social housing provider, an IT service provider responsible for the development and implementation of the web-based services and in some cases also a utility and energy provider.

Activities

In the first year the project focussed on the analysis of service-related requirements and the definition of use cases in each pilot site which was followed by the definition of service process models. These were carried out in two iterations and have now reached the final stage.

Requirements, use cases and service process models are used for the technical service specification building the basis for service implementation followed by testing of the systems and services prior to the start of the pilots and service operation. Again, this took place in two iterations based on the results of a prototype testing in all pilot sites and to allow for successive improvements of the eSESH services and architecture specifications followed by final service development the latter of which will be carried out in the next reporting period.

Overview of work in the first year of eSESH:

- Requirements elicitation (including the development of use cases for each of the pilot sites),
- Creation of service process models for each pilot site,
- Development of service specifications at each pilot site

These have been carried in two iterations with the final versions now available.

- First system testing based on prototypes developed after completion of the first version of the requirements, use cases and service process models,
- Development of the evaluation framework,
- Dissemination preparation including project website, contributions to newsletters etc.
- Dissemination activities carried out by the partners at national and European level.

Planned Activities

In the coming reporting period all activities necessary for the second pilot tests at the pilot sites will be conducted and the tests themselves are carried out afterwards.

System and service operation in the pilot sites will be prepared in the coming months followed by service operation for a minimum of 12 months.

The same holds true for the evaluation which will start with a zero measurement which aims at the establishment of an evaluation baseline. The evaluation activities include the preparation and execution of tenant surveys and the analysis of energy consumption data. In the latter a comparison of the past and current energy consumption figures prior to service introduction and use with those after service use will be carried out.

Pilot site preparation activities will commence starting with user recruitment to participate in the pilot at each site and technical staff being empowered to carry out service provision operation. A wide spectrum of tenant recruitment activities has been agreed on in the different pilot sites. These range from information events, to brochures, articles in tenants newsletters for promoting the websites through which the services are to be offered.

Finally, the services will be set up in the coming reporting period at all pilot sites and access to the online services will be provided to the tenants in the different pilot sites towards the end of 2011.

Partners

The eSESH project is led by the relevant government authorities and social housing providers, and coordinated by empirica Communication and Technology Research, Bonn. Contributors include global players in electricity supply, smart metering and home / building automation and international players in building networks and tenant portals as well as local specialists, ensuring a high standard of technical work and the achievement of key project objectives at each pilot site.

For further information the interested reader is referred to the eSESH website (www.esesh.eu) where the public outputs and deliverables of the project can be obtained including the requirements specifications for eSESH services and systems.

Coordination partners



empirica is a research and consulting firm based in Bonn, Germany, with a focus on innovation and research on new applications of information and communication technologies (ICTs) and their social and economic impact. www.empirica.com



The *Union sociale pour l'Habitat* is a Federation of 790 social organisations with 4.200.000 rented housings. In collaboration with the French Ministry of Housing, it initiated many programmes of research. www.union-habitat.org



The *Institute for Housing and Environment* (Institut Wohnen und Umwelt GmbH) is a research institution founded by the State of Hesse and the City of Darmstadt. Task of the institute is to research forms of housing and living conditions. www.iwu.de



Habitat et Territoires Conseil was created in July 2003. Within HTC there are 45 energy specialists who advise social housing companies or carry out studies that are of interest for the members of Union sociale pour l'habitat. www.habitat-territoires.com

Pilot sites and partners

Angers (France)



Le Toit Angevin is a French social housing company based in Angers. It was created in 1949 by a group of employers for re-construction. www.letoitangevin.com



Effineo SA is a spin-off of the EDF (Electricité de France) Group, an operator of energy-efficiency services in Multi Dwelling Units, mostly in social housings. www.effineo.com



Voltalis SA is the leading European operator of demand-response power plants. www.voltalis.com

Catalonia (Spain)



The *Environment and Housing Department of the Generalitat of Catalonia* has the responsibility to prepare and execute environmental policies. www20.gencat.cat



The *International Center for Numerical Methods in Engineering (CIMNE)* is a cooperative undertaking of the Generalitat de Catalunya and the Universitat Politècnica de Catalunya. www.cimne.upc.es



Gasso Auditores SLP is one of the main national auditing and business consulting firms, established by professionals with extensive experience. www.gassorsm.com

Extremadura (Spain)



The *Extremadura Regional Government (Junta de Extremadura)* is the body that exercises the functions of governance of the region. www.juntaex.es



The regional *Ministry of Infrastructure*, housing and infrastructure and the regional *Ministry of Industry, Energy and Environment* of Extremadura participate in the project.



CIDE Sociedad Cooperativa is the main association of enterprises that distribute, commercialize and produce electric energy in Spain. www.cide.es

Frankfurt (Germany)



Nassauische Heimstätte/ Wohnstadt offers services for living, building and development. www.naheimst.de



DomData AG Sp. z o.o. has been engaged in activities connected with the benchmarking of running costs for housing companies. www.domdata.de



ista Deutschland GmbH is the world's leading company in metering and billing of energy, water and ancillary costs (entire process chain). www.ista.de

Karlsruhe (Germany)



Volkswohnung GmbH is a housing company of the municipality of Karlsruhe. www.volkswohnung.com



The key business of *Stadtwerke Karlsruhe GmbH* is the supply of energy and drinking water for the region of the City of Karlsruhe. www.stadtwerke-karlsruhe.de

Linz (Austria)



Gemeinnützige Wohnungsgesellschaft der Stadt Linz GmbH is a non-profit organisation providing public housing, owned by the City of Linz. www.gwg-linz.at

LINZ STROM GmbH, which is a subsidiary of LINZ AG, is active in the fields of energy production and distribution and telecommunications. www.linzag.at

Ubitronix System Solutions GmbH supports utilities in tackling the growing challenges of liberalized energy markets with its Unified IEM approach. www.ubitronix.com

Moulins (France)



Moulins Habitat is a public office of development and building in the town of Moulins. It is active in social housing and development. www.moulinshabitat.fr

Created in 1985, *Vizelia* is a major software company for maintenance and Real Estate Management using WEB 2.0 solutions. www.vizelia.com

Celium SAS Energy was founded as a successor of an installation company specialised in the area of environmental engineering. www.celium.fr

Real Project Partner Sarl was founded by two ex-Directors of major companies in telecom-munication. RPP is a key industry player for PowerLine Communication. www.rpp.fr

Solingen (Germany)



With a housing stock of approximately 7,300 housing units *Spar- und Bauverein Solingen eG* is one of the biggest Housing Cooperatives in Germany. www.sbv-solingen.de

The *envi-GmbH Engineer and Consulting Company GmbH* is an innovative engineering office from Witten, Germany. www.envi-gmbh.de

North Italy (Italy)



FINABITA SPA is Legacoop Abitanti's (National Association of Cooperatives of Inhabitants) national service agency. www.legacoopabitanti.coop

Coop Casa SC was founded in 1972 in Brescia as Social Housing Cooperative. www.coopcasa.coop

Piacenza74 is a housing cooperative established in 1974. www.piacenza74.it

Villaggio dell'Amicizia is a housing cooperative established in 1973. www.coopvillaggiodelamicizia.it

Greenergy SRL was established in 2008 and active in the field of energetic saving and efficiency to improve quality of the residences. www.greenergy.it

Westerlo (Belgium)



CV Zonnige Kempen is the youngest social housing company within VMSW. www.zonnigekempen.be

Information and contact

For more information visit the **eSESH** website at: www.esesh.eu

Or contact the project co-ordinator empirica GmbH

c/o Gregor Heilmann or Werner B. Korte
Oxfordstr. 2 – 53111 Bonn – Germany
FON: +49 228 98 53 00
FAX: +49 228 98 53 012
eMail: esesh@empirica.com



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