



Welcome

Welcome to the new edition of the **GreenBuilding^{Plus}** newsletter, which informs you about the recent developments of the European **GreenBuilding** Project.

About GreenBuilding

The **GreenBuilding** Programme – initiated by the European Commission - aims at improving the energy efficiency and expanding the integration of renewable energies in non-residential buildings in Europe on a voluntary basis. The GreenBuilding project supports the GreenBuilding Programme on the national level through so called “National Contact Points”. 13 countries are now participating in the GreenBuilding Programme. The latest National Contact Point was opened in Poland this summer.

The pilot phase of the supporting **GreenBuilding** Project (2005-2006) supported by the European Commission's **Intelligent Energy Europe Programme** started in ten European countries. By the end of the two year pilot phase, a large number of new partners and endorsers have joined GreenBuilding, among them well-known companies and communities from all over Europe. The 2nd phase has been running since 2007 and will end in May 2010.



Up-to-date information can be found on the central project website www.eu-greenbuilding.org. or on the programme website <http://re.jrc.ec.europa.eu/energyefficiency/> You can receive additional information in national languages by contacting the **National Contact Points** in Austria, Belgium, Croatia, Finland, France, Germany, Greece, Italy, Poland, Portugal, Slovenia, Spain and Sweden. [For more information click here](#)

New GreenBuilding Brochure

The 2nd edition of the project brochure “*GreenBuilding – enhanced energy efficiency for non-residential buildings*” is now available as a [download](#). The presented refurbished and new constructed buildings give an overview of the wide range possibilities for energy efficiency mea-

surements for different buildings types. Ten examples from nine countries – efficiency decides.

[Further Information](#)



Successful workshops in Greece and Spain

On 2nd of July the GreenBuilding national workshop “Improvement of Energy Performance of the building sector” took place in Athens.

The goals and achievements of the GreenBuilding Program were presented and accompanied by realized good practice examples from Greek Building Partners and Endorsers. Key introductory speakers included the Ministry of Development and representatives of the engineers who focus on energy savings in the building sector.



The main topics were:

- Legislative framework for harmonization of the European Directives in the field of energy savings
- The GreenBuilding Programme
- Energy savings in building sector

300 participants active in all aspects of energy efficiency in buildings - such as engineers, managers, decision makers - participated in the workshop. The GreenBuilding Workshop had been widely advertised by the Greek press and by the [National Contact Point CRES](#). Many companies expressed their interest to participate in the GreenBuilding programme.

The 2nd of July was popular date for workshops: The Group of Applied Thermal Engineering (CREVER-URV), as Spanish National Contact Point, organized a national GreenBuilding Workshop the 2nd of July 2009 in Tarragona. All Spanish GreenBuilding Partners and Endorsers - from the GB pilot phase until

now - were invited to the event, as well as all those organisations which had shown interest in joining the programme. Additionally, the workshop was opened to general actors of the building sector: architects, engineers, constructors, consultants, building owners, manufacturers etc. In total, 65 people active in all aspects of energy efficiency attended the event.

The workshop aimed at the dissemination of the results realized by the GreenBuilding project until now, in Spain as well as in Europe in general. On the other hand, the workshop also focused on aging the exchange of information and experiences among the participants.



Presentations were given about:

- Energy consumption control in the buildings of Catalanian Polytechnic University
- Introduction of sustainable concept in warehouses and distribution centres
- Sustainable energy management in hotels
- Main keys for energy efficiency in office buildings

An overview of technical approaches was also given by



two experts presented different tools (Bioclim, Design-BUILDER, Ecotect...) to foresee the behaviour of buildings through simulation. Finally, the Spanish National Contact Point took this opportunity to present the National and European GreenBuilding Awards to the audience, as well as to deliver the GreenBuilding Diplomas to current Spanish Partners and Endorsers.

As a result, the workshop encouraged new organisations to participate in the programme and gave public recognition to those organisations that had already been accepted as GreenBuilding Partners.

New Partner in Austria

The Provincial Government of Lower Austria is Austria's latest GreenBuilding partner. Their building "Centre of Commerce Lower Austria" easily fulfils the GreenBuilding criteria.

The Centre of Commerce was constructed between 2005 and 2007. During the planning phase the Provincial Government of Lower Austria decided to invest in a building that could become a role model for other office buildings in the province and that is characterized by its energy efficiency.



The building complex is located in the government district of St. Pölten providing working space for 220 employees. It comprises four parts, representing the four regions of the Province of Lower Austria. The building is well known for the angular external walls and the different materials (wood, stone, metal) used for the façade. However, the Centre of Commerce has more to offer than just an individual architecture. The building was planned according to the Passive House standard and the climate protection programme of the Provincial Government. It has a specific heating demand of 4.57 kWh/m²a, which is 66 % lower than required by the national regulation. The final energy demand is only 77 kWh/m²a. These values were possible because of a high quality building envelope with U-values of 0.15 W/m²K for the external walls or 0.11 W/m²K for the

ceiling, installation of passive house windows and by avoiding thermal bridges. The building is heated by a water/water heat pump that uses the nearby river Traisen as a heat source. The heat is distributed through activation of thermal masses, ventilation is designed to provide the fresh air needed but not for heating. Summer comfort is reached through moderate glazing areas, daylight control of the external window blinds and again activation of thermal masses supplied by free cooling. In areas with higher cooling demand (eg. because of servers or meeting rooms) cooling is provided by an efficient chiller. Moreover the building has an innovative lighting system with presence and daylight control and an energy monitoring.



Visit the Centre of Commerce Lower Austria!

On the 5th November 2009 the GreenBuilding certificate will be presented to the Provincial Government of Lower Austria within the framework of the Symposium "Sustainable Buildings". Interested people can take the opportunity to visit the Centre of Commerce within a study tour. More information on the Symposium and the study tour is available here:

<http://www.ibo.at/de/kongress/symposiumfrankenfels.htm>
<http://www.ibo.at/documents/EinladungSymposionNachhaltigeGebaude5u6Nov2009.pdf>

New Partner in Germany

Museums are very complex and demanding buildings. They have to serve the different requirements for different types of delicate art – they have to



provide an environment with the right amount of humidity and light as well as the correct temperature. That is why the energy demand of museums is usually quite high. But

the Wilhelm-Hack-Museum in the City of Ludwigshafen is a prove that even a museum can be a highly energy efficient building. The museum was constructed in 1976 in the typical building design of the 1970th with a fair-faced concrete façade. Before the refurbishment it showed with the typical problems of these buildings: extreme thermal bridges, high amount of daylight exposure, accumulation of condensation water, high demand of heating and cooling energy as well as high operational costs. Before renovation the annual **primary energy demand** Q_p : was **349 kWh/m²a** and the specific transmission losses H_T : **0,99 W/(m²K)**. The primary energy demand was reduced by 67% with the following energy efficiency measurements:

Heating: district heating and district cooling

Windows: double pane windows with insulated frames; $U_w = 1,1 \text{ W/m}^2\text{K}$, almost transparent gauze blind, light tight screens and venetian blinds controlled with light sensors

Ventilation: ventilation system with heat recovery $\geq 70\%$ and moisture exchange; evaporation humidifier with adiabatic cooling flow control valve

Lighting: unified lighting with mirror reflectors T5 fluorescent light bulbs with ballasts individually dimmable and daylight control.

Building envelope: thermal insulation composite system; 14-16 cm mineral wool; $U = 0,21 \text{ W/m}^2\text{K}$

Roof: North-East 20 cm thermal insulation composite system, light roof with gable modules, South-West photovoltaic modules translucent modules above sheds

After renovation the annual **primary energy demand** Q_p has been reduced to **117 kWh/m²a** and the specific transmission losses H_T to **0,38 W/(m²K)**. The City of Ludwigshafen is awarded as new GreenBuilding Partner at a GreenBuilding Workshop on 24th September in Ludwigshafen.



The National Contact Points

The organisations listed below represent the **GreenBuilding** Programme in 12 European Countries:

Austria	Austrian Energy Agency
Belgium	Cenergie
Croatia	EIHP
Finland	Motiva Oy
France	ADEME, in collaboration with ARMINES
Germany	Deutsche Energie-Agentur GmbH (dena) – German Energy Agency Berliner Energieagentur
Greece	CRES
Italy	eERG
Poland	Polish GreenBuilding Council
Portugal	ADENE
Slovenia	Jozef Stefan Institute
Spain	CREVER
Sweden	Swedish Property Federation
If there is no National Contact Point in your country, please contact the GreenBuilding Programme Management directly:	
Europe	European Commission, Joint Research Centre

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