



## Shining Examples for the Implementation of the Energy End-use Efficiency & Energy Services Directive



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# Newsletter No. 3, June 2011

### Live Energy Screen now in place in Dublin City Council

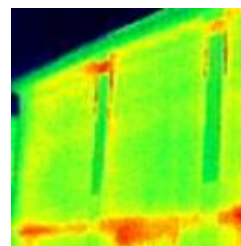


A live energy screen is now up in running in the Civic Offices of Dublin City Council as part of the “Switch Off campaign under the Minus 3% project. The screen shows the live energy consumption of the building using 3D graphics that react to real-time information. Codema hopes that the screen will help to develop a better understanding among staff as to how their individual energy use contributes to the overall energy demand of the building and that user behaviour can determine whether energy consumption rises or falls. To celebrate the launch of the energy screen, Codema hosted an Energy Day in Civic Offices. Staff members were able to have a go on Codema’s energy bike and see how much electricity they generated, depending on how fast or slow they pedalled! There was great interest among staff and lots of spot prizes were given away on the day.

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### Energy Management in Buildings

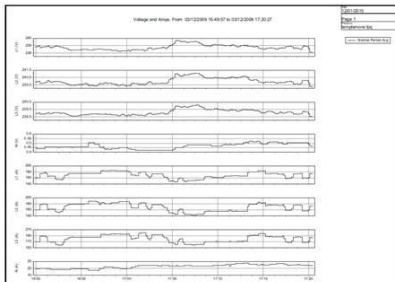
From the start of the Minus 3% project city of Malacky made a significant step forward towards energy efficiency - especially in the building sector which is the largest consumer. Energy audits and thermo vision analysis of municipal buildings were conducted during 2010 and 2011. These will result in a new action plan for buildings renovation and will be submitted to the city in July-August 2011. Since January 2011 a new on-line energy management tool E-manager is running. This tool enables logging into the system through internet access, data input, evaluation and control of energy consumption data of buildings and public lighting. The city is now able to control energy consumption regularly, compare the invoiced energy consumption and real consumption, identify failures/defects and black outs and identify potential energy savings/investments, etc. Experiences with implementing this E-manager in Czech Republic show, that without large investments, it is possible to achieve 10-30% savings.



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## Voltage Regulation in Leisure Centre Demonstrates an 8% Saving



Templemore Sports Complex is a three story building constructed in the middle seventies on a standard design used by a number of local authorities. The building is heated with two 500kw gas condensing boilers and has various pumping, heating and ventilation systems utilising electrically operated pumps, motor and fans. For this analysis and demonstration, an energy management unit (GatorboXx 400) was connected temporarily at the electricity source. We see from the power graphs that the reactive power was significantly reduced and hence the apparent power and active power were similar. On analysing the cumulative energy graphs, an active power saving of 8% was seen. This represents actual power saved during the time the GatorboXx was on. When average values of current, voltage and power factor were used to calculate the power savings, the results also showed significant savings. The two percentage values for savings will not be the same since some reactive energy is converted by the GatorboXx into active.

The direct savings demonstrated using the GatorboXx was 8% (ROI 60%) due to increasing motor running efficiency and power factor. A 63% reduction was also noted in reactive energy usage. The use of a second GatorboXx should increase the savings to between 12% and 16% (ROI 60-80%).

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## Codema Nominated for ManagEnergy Local Energy Action Award

Codema was delighted to have been nominated recently for the ManagEnergy Local Energy Action Award 2011 for their work on the Switch Off campaign in Dublin City Council. Codema was one of just six nominees shortlisted at the awards ceremony which took place in Brussels during EU Sustainable Energy Week. The nomination is a testament to the support and positive attitudes of staff towards reducing energy in the Council. The campaign – which was carried out as an action under the Minus 3% project - focussed on encouraging staff to switch off lights and office appliances when not in use. To date, Codema estimates (based on an observational survey) that a 23% reduction in energy use occurred of equipment powered on when not in use. .



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## The EEAP and the Energy Service Companies

The Energy Efficiency Action Plan of Teruel City has been produced during the last months (EEAP-I: 2014 horizon). It contains efficiency measures applicable to all final energy uses in the city.

Its objectives are aimed mainly at reducing public lighting consumption, which represents 55,75% of the electricity consumption; and supporting the development and participation of the Energy Service Companies (ESCO).

Among other actions planned, formalization of contracts with ESCO is foreseen for:

- Substituting and managing the public lighting of the city. It is foreseen to recover the 1.500.000 € invested in a 6 year period and to reach energy savings over 40%.
- Renewing and managing the heating system and SHW of the “Las Anejas” Public School, with a biomass boiler. A 10% energy consumption reduction and zero emissions are foreseen. The recovering of the 280.000 € investment in a 15 years term and the generation of positive net profitability’s during such term (depreciation included) have been estimated; as well as encouraging the SMEs participation in the ESCO market

All the above mentioned, with the final objective of reaching 30% energy consumption reduction in comparison with those registered in the Project “base line”.

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## Resolution on Energy Efficiency Action Plan in Graz

On April 14th 2011, the medium-term program for energy efficiency in municipal buildings and facilities was adopted in the City Council of Graz by consensus. It includes 15 measures in buildings, energy supply, electricity and public lighting and related to the City’s own fleet. Indicators for tracking and monitoring of the implementation were defined. The measures were jointly agreed upon with the stakeholders in a series of meetings.

This program is part of a broader energy program with the four pillars of 1) municipal buildings and facilities, 2) development of district heating and solar energy, 3) energy efficiency in households, residential buildings and companies and 4) e-mobility and energy efficiency in vehicles. It paves the way strategically for a number of other project implementations, based on the already successfully implemented projects during the last two years. In the lower post there is an excerpt found on major projects recently implemented in Graz.



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Switching the traffic light system to LED“, Graz



Kindergarden „Schönbrunnngasse“, Graz

## Successful Actions implemented in the City of Graz

Various energy efficiency actions have been implemented successfully in Graz during the last two years. Examples include (energy savings in [ ]):

- **Modernisation of street lighting** by means of an performance contracting model – Green Light Graz 2010 [- 24%]
- **Switching 190 traffic light systems to LED** and renewal of old control units, also by means of an EPC model [- 68%]
- **Kindergarden “Schönbrunnngasse”**: modernisation of existing building and new energy efficient annex (15 kWh/m<sup>2</sup>/a); [- 65%]
- **Child Care “Prohaskagasse”**: new building with low energy standard. Category A+ (15 kWh/m<sup>2</sup>/a); [- 65%]
- **Public Works department**: upgrade of the hot water supply using solar energy
- **Reducing Stand-By losses**: Shut down PCs during nights, software updates during days
- Energy Saving through **intelligent user behaviour** in the Environmental Department [- 25%]
- **28 gas driven vehicles** in various departments (mainly public works departments) and 1 transporter

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## City of Maribor signs up to the Covenant of Mayor

On Thursday 21<sup>st</sup> April 2011, the Mayor of Maribor Franc Kangler, signed a declaration to the Covenant of Mayor. The Covenant of Mayor is an agreement of participating cities, with which the cities are committed to improve energy efficiency and with use of production and cleaner energy use exceed the objectives of European Union energy policy to reduce CO<sub>2</sub> emissions. Cities are also committed to implement the tasks, devote adequate human resources, encourage civil society in their geographical areas to take part in implementing the action plan, including the organization of local energy days, and will be mutually connected with other cities.



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## FINAL CONFERENCE

»RATIONAL USE OF ENERGY IN PUBLIC BUILDINGS  
- FINANCING AND IMPLEMENTATION«

Wednesday, 21<sup>st</sup> of September 2011, 09.00 – 16.00 hours,  
Hotel Habakuk, Maribor, Slovenia

You are welcome to join this free of charge conference. For further information and instructions for registration please visit [www.minus3.org](http://www.minus3.org).



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