

EL-EFF Regions

**Boosting efficiency
in the electricity use
in 8 European regions**

A European project supported by the
Intelligent Energy Europe Programme

Electricity consumption is rising, in some areas with alarming speed. The reasons for the growth in electricity use are various and complex: changing life styles and work patterns leading to a proliferation of equipment and appliances and resulting also in a sharp increase in stand-by losses; increase of cooling in warmer, but also in colder climates; switch to electricity from other energy sources; increase in electricity-intensive processes in industry etc.

There is a strong risk that the increase in electricity consumption will overcompensate the growth in electricity production from renewable energy sources. A considerable lack of awareness about these increases and related efficiency measures exist, not only among the general public but also in SMEs, in public administrations and of political decision makers on regional and local levels. As the increases in electricity consumption are not limited to one specific area – they happen in domestic and non-domestic areas, in buildings as well as in industry – the project takes a cross-sectoral approach.

The project aims at increasing the efficiency in electricity use in 8 European regions: Oberösterreich (A), Ile-de-France (F), Pomerania (PL), South Bohemia (CZ), Västra Götaland (S), Madrid (E), Navarra (E), Saxony (D). 11 partners (partners from 8 regions as well as Fedarene, the European network of regional energy agencies, and the Wuppertal Institute as a research partner) co-operate by analysing and tackling areas with specific growth rates. Regional plans for increasing end-use efficiency of electricity are developed and promotional and dissemination activities are implemented in the regions. A trans-regional learning process between the project regions and a well-developed dissemination strategy towards regions outside the project ensure the added-value of this projects and its relevance for European policies.

The project regions

Project regions and partners				Electricity Consumption			
Region and partner	Capital	Inhabitants	GDP per capita	Total (GWh)	in private households (GWh)	private households per inhabitant (kWh)	per GDP (GWh/MEuro)
Ile-de-France (F) ARENE Ile-de-France	Paris	11.2 mio	43,026	65.9	23,654	2,110	0.14
Navarra (E) Gobierno de Navarra	Pamplona	0.6 mio	24,761	4.7	805	1,340	0.32
Madrid (E) ESCAN	Madrid	5.6 mio	20,897	24.6	8,220	1,470	0.21
Pomerania (PL) BAPE	Gdansk	2.2 mio	6,087	7.1	1,715	780	0.51
Saxony (D) LFUG & GERTEC	Dresden	4.3 mio	16,354	23.2	5,500	1,280	0.33
South Bohemia (CZ) Energy Centre České Budějovice	České Budějovice	0.6 mio	8,623	2.4	860	1,430	0.44
Upper Austria (A) O.Ö. Energiesparverband	Linz	1.4 mio	26,100	12.8	2,490	1,780	0.35
Västra Götaland (S) KanEnergie Sweden	Vänersborg	1.5 mio	29,390	20.2	5,452	3,635	0.45

The project regions

Ile-de-France

Ile-de-France with the capital Paris is the most populated and prosperous region of France with an increasing service sector and with the country's largest electricity consumption.

Madrid Region

Located in the central part of Spain, the region hosts the local, regional and national governments. The main economic sectors are the tertiary sector and tourism.

Navarra

Navarra in the North of Spain is highly industrialised. Green electricity technologies represent a very dynamic field of economy and have created more than 4,000 jobs in the region.

Pomerania

Pomerania is situated in the North of Poland. With 60% of the whole coastline of the country, the main industrial sectors are the fishing and the shipyard industry.

Västra Götaland

Västra Götaland is the third largest region in Sweden and has with Scandinavia's largest port in Gothenburg a long tradition in shipping and international trade.

Saxony

Saxony in Germany with borders to Bavaria, the Czech Republic and Poland is an industrial region with a focus on micro-electronics and electrical engineering.

South Bohemia

South Bohemia is a sparsely populated region in the Czech Republic with an increasing importance as a tourist destination, also due to its position at the borders to Austria and Germany.

Upper Austria

Upper Austria, bordering Bavaria and the Czech Republic, is a highly industrialised region leading in technology and export in Austria.

Elements of a regional action plan

In each region, a regional action plan for increasing the end-use efficiency of electricity is being developed. Each action plan will include electricity efficiency targets as well as region specific measures. The following are some examples for such measures:

Measures to increase end-use efficiency of electricity

in private households:

- information campaigns
- benchmarking programmes
- best practice case studies
- legal measures
- efficiency criteria in funding programmes
- subsidy programmes for efficient appliances
- advice programmes for homeowners

in public sector:

- electricity accounting and benchmarking programmes
- annual reduction targets
- efficiency criteria for public procurement
- training programmes for relevant staff in regional and local administrations
- best practice case studies

in industry:

- efficiency criteria for private procurement
- benchmarking programmes for different sectors
- training programmes for relevant staff
- best practice case studies for different sectors
- subsidy programmes for efficient appliances and equipment

Benchmarking tables

The comparison of the own specific electricity consumption to other similar users helps to trigger action for electricity efficiency. Therefore, within the EL-EFF project, benchmarking values (electricity performance indicators) for typical user groups are collected and disseminated to different user groups. The following are 2 examples:

1-person-households	low	average	high	2-person-households	low	average	high
Upper Austria	< 1,200 kWh	1,200 – 2,300 kWh	> 2,300 kWh	Upper Austria	< 2,100 kWh	2,100 – 3,500 kWh	> 3,500 kWh
Ile-de-France	< 1,000 kWh	1,000 – 2,000 kWh	> 2,000 kWh	Ile-de-France	< 2,000 kWh	2,000 – 2,500 kWh	> 2,500 kWh
Pomerania	< 800 kWh	800 – 1,600 kWh	> 1,600 kWh	Pomerania	< 1,100 kWh	1,100 – 1,700 kWh	> 1,700 kWh
South Bohemia	< 800 kWh	800 – 2,000 kWh	> 2,000 kWh	South Bohemia	< 1,000 kWh	1,000 – 3,000 kWh	> 3,000 kWh
Navarra	< 800 kWh	800 – 2,000 kWh	> 2,000 kWh	Navarra	< 1,000 kWh	1,000 – 2,500 kWh	> 2,500 kWh
Madrid Region	< 1,500 kWh	1,500 – 2,500 kWh	> 2,500 kWh	Madrid Region	< 2,200 kWh	2,200 – 3,400 kWh	> 3,500 kWh
Västra Götaland	< 2,000 kWh	2,000 – 3,000 kWh	> 3,000 kWh	Västra Götaland	< 2,500 kWh	2,500 – 3,500 kWh	> 3,500 kWh
Saxony	< 900 kWh	900 – 1,500 kWh	> 1,500 kWh	Saxony	< 1,400 kWh	1,400 – 1,900 kWh	> 1,900 kWh

Upper Austria

In the agricultural sector, specific electricity consumption and costs are increasing due to rising levels of technical equipment. In order to get a better understanding of the electricity consumption structure of the agricultural sector, a pilot project was started within the EL-EFF project in cooperation with the agricultural schools of Upper Austria.

A questionnaire was developed and disseminated to teachers and students. More than 300 questionnaires were completed and analysed. The results provided valuable input in the development of benchmarks for different farm categories. They are also included in the EL-EFF brochure „Efficient use of electricity on farms“.

Pomerania

The rural sector in Pomerania is characterised by numerous farms with only a small area of arable farm land. Electricity used for agricultural purposes is not measured separately. Therefore, awareness regarding electricity consumption and energy saving potentials in the agricultural sector is yet to be established in the region.

As part of the EL-EFF project in Pomerania, an introductory campaign in cooperation with rural communes was started, including the production of information brochures, stickers and an electronic tool to estimate the electricity consumption level. Furthermore, seminars for farmers are planned in 2008. They will be organized in cooperation with Agriculture Advisory Centres and focus on a more efficient electricity consumption.

Saxony

The costs for electricity are an increasing economic burden in the agricultural sector in Saxony which it was very often neglected in the past. In order to harness the electricity efficiency potential in this sector, a regional campaign was kicked-off. Starting with a round-table event for regional actors to prepare the campaign, a mix of measures is now being carried out. This includes, among others, the development of benchmarks for typical farm categories and as well as publications, one of them will be a calendar with electricity saving tips. The campaign puts the focus on electricity saving measures for and distinguishes between conventional and organic farming.

South Bohemia

One of the ECCB activities is a “wattmeter rental” service. A wattmeter is a small instrument for measuring the consumption of domestic electric appliances which helps the homeowners to assess the level of efficiency. Clients receive a sheet with explanations for the use of the wattmeter in combination with a benchmarking table of low and high electricity consumption figures for different appliances. Many homeowners were very surprised of the high electricity consumption of their appliances in the stand-by mode or by the fact that a PC consumes electricity even when it is switched off.

Navarra

The “Plan Renove” in Navarra for replacing appliances started in 2006. In 2007, it was very successful, resulting in the exchange of 11,000 appliances, with a financial support of the government of Navarra of 80 Euros per exchanged appliance. Over 3,000 MWh electricity savings were achieved and in total 1,477 tons of CO₂ emissions were avoided (2007).

Due to the good results these measures are expected to continue. In the frame of the EL-EFF project, the programme is combined with other activities like campaigns to inform the population about the efficient use of electricity: A brochure about the household electricity consumption was produced and is currently being distributed in Navarra.

Madrid

Social residences are in operation 365 days a year and 24 hours a day with a resulting very high electricity consumption. Due to its high potential for electricity savings, this sector was selected for a campaign. In cooperation with the Regional Government of Madrid, ESCAN developed a series of activities dedicated to increasing the efficiency of the electricity consumption in old people's homes.

The programme started with the evaluation of the electricity situation of two pilot buildings with very high electricity consumption, obtaining interesting results that will be used for other similar buildings.

Ile-de-France

Promotional actions with two different target groups are carried out within the EL-EFF project. Firstly, an information brochure for young people was produced which is distributed together with a CFL-bulb to students and other young people moving into their first apartments. Partners of this pilot action are a student housing institution and an electricity supplier. Secondly, training sessions for employees in social residences (homes of handicapped and old people's homes) will be organised. A study showed very high savings (especially in the field of lighting) which could be realised by the training and motivation of employees. A targeted brochure was produced and training sessions are implemented in the partner social residences.

Västra Götaland

Within the EL-EFF project, a campaign for increased awareness of the potential of saving energy in general and electricity on specific was recently initiated. A guide was produced and will be disseminated to industrial SMEs all over Västra Götaland. A range of seminars and presentations will be held at local level. Furthermore, a hotline is installed. So far around 20 industries and other organisations were reached. The objective is to reach 100 industries during 2008 and to achieve energy savings of at least 10%.





Project Overview

The project activities include among others:

Analysis & data collection

- Analysing the electricity consumption in each region & developing a better knowledge of the areas with the highest growth rates
- Carrying out a representative survey to the general public for a better understanding of the information levels and attitudes of the region's population

Regional "Action Plans"

- Developing – based on a stakeholder survey & dialogue – regional action plans for efficient electricity use which include lists of measures and quantitative targets
- Organising a European workshop for exchange of practical experience

Development of "action packages"

Developing 2 "action packages", one for private households, one for another selected target group (the agricultural sector for 4 regions, "social residences" for 3 regions). Each "action package" consists of printed/electronic information, benchmarking tables and other information material.

General awareness campaigns on efficient electricity use

Carrying out media and information campaigns to motivate electricity users to have a look at their electricity consumption, to compare it to similar users and to implement energy efficiency measures. The campaigns will target private households as well as the agricultural sector and social residences respectively.

Interregional co-operation & dissemination

Networking and dissemination between the project regions and beyond, using a project newsletter, an international conference, a project publication and a regional "dialogue platform".

Expected results

The project activities aim to make a contribution to achieving the 1 % efficiency target in the field of electricity by the following direct outcomes:

- developing 8 regional action plans to boost electricity efficiency
- reaching 8,000 decision makers in public administration and businesses
- reaching 3 % of the population in each region (more than 800,000 persons)
- motivating 560 households and 240 companies/institutions to participate in the campaign
- organising 18 events with over 1,000 participants
- producing 17 full-colour publications

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