

# EL-EFF REGION

## WP 3: List of regional measures

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## **Introduction**

The EI-Eff Regions project will boost efficiency in electricity use in 8 European regions including the Region of Västra Götaland. The project will analyse and tackle areas with specific growth rates by developing regional plans and implementing targeted promotion and dissemination activities.

Västra Götaland is the third largest region in Sweden with 1.5 million people representing 17 % of the Swedish population. Västra Götaland consists of 49 municipalities where Gothenburg is the largest city and the major centre of growth in the region. Västra Götaland is the most prominent industrial region in Sweden and the industry is also the main electricity using sector with more than 40%.

More detailed information about the electricity use, policies, developments etc can be read in the EI-Eff region WP2 regional summary report. A representative survey of the public perception and knowledge of electricity use has also been compiled. The reports can be downloaded at: [www.efficient-electricity.info](http://www.efficient-electricity.info).

The regional authority has a brief action plan for energy and environment for 2005-2007. However, there are no quantified targets set and the measures proposed are mainly supporting and promoting the development of renewable energy and energy efficiency. However, a lot of initiatives are taken in both their own organisation (hospitals etc) and at municipalities and commercial actors. The development is not lacking behind due to the missing of a dedicated regional strategy but the actions are not fully coordinated in between themselves.

During 2006 the Region Västra Götaland has initiated a strategy work in the field of energy beginning with a study of the potential, barriers and possibilities for the region to become a "low carbon society". The study, finalised in February 2007, were carried out by ECON Analyse AS and KanEnergi Sweden AB on behalf of the Regional Environmental Board.

During 2007 a stakeholder climate dialogue is initiated under the name "Smart Energy" and has six different focus groups. During, and as a result of, the dialogue a suggestion on regional strategy will be formed. The strategy shall incorporate how all together can speed up the phase out of fossil fuels from the regional economy.

Within the EI-Eff Region project interviews with the scope of electricity efficiency have been carried out, either by telephone or by personal meetings, with 18 stakeholders (see annex 1 for a stakeholder list). The interviews were carried out during September and October 2007.

A round table meeting was carried out November 6<sup>th</sup> 2007 for stakeholders by KanEnergi Sweden AB in cooperation with Region Västra Götaland and the "Smart Energy" focus group for efficient energy use in buildings.

The participants are listed in annex 2. The result of the interviews, the round table meeting and the work in WP2 in EL-EFF Regions is presented below as lists of barriers and possible measures for different stakeholders in Region Västra Götaland.

## **The regional stakeholder dialogue**

The regional stakeholder dialogue for increased electricity efficiency was based on two activities:

1. interviews with regional stakeholders
2. a round-table meeting with stakeholders and regional politicians

### Interviews with regional stakeholders

During the autumn 2007 a number of regional stakeholders were interviewed to identify key barriers and potential measures for improved electricity efficiency in different sectors. The organisations interviewed is summarised in annex 1.

The barriers identified are:

- To low cost for electricity
- Short planning times in the industry
- Limited willingness to use new technologies
- Weak incentives to design products to be energy efficient
- Weak incentives to build energy efficient houses/buildings
- Limited knowledge and capabilities within the real estate management and service sector
- Limited knowledge about the real energy situation in the real estate sector
- Lack of feedback coupling to the households about their energy use
- Difficult to choose the right product (from an electricity use view).

### Round table meeting

A half day round-table meeting was arranged for stakeholders, including electricity producers and suppliers, NGOs, energy agencies, real estate companies, energy intense industry, regional politicians, the regional administration and retailers. A list of participant is summarised in annex 2.

The aim of the meeting was to initiate a discussion on how different stakeholders in Region Västra Götaland can increase the efficiency of the electricity use, with focus on measures that the public bodies can implement.

The round-table meeting had both presentations regarding the findings in the interviews as well as the representative survey in WP2 as well as an overview of the current energy situation in the region.

The barriers identified were discussed in three different focus groups. Their mission was to identify measures targeting the barriers and key actors for each measure. After this there was a joint presentation and discussion about the results of the group discussions.

The results of the interviews and round table discussion are presented below.

## **Measure to increase end-use efficiency of electricity in private households**

### ***Main barriers to be overcome:***

- The cost of electricity is a small share of total expenditures for households, if the house does not have electricity heating.
- Electricity cost is included in the rent for some households,. This is however a small group.
- Many houses use electricity for heating, lacking the infrastructure for water distributed heat.
- There is a lack of feedback to households on electricity use. The electricity consumption is only measured once a year and the bills are based on preliminary assumptions of the electricity use. It can also be difficult for the households to understand their electricity use since the bills are considered to be complicated by some of the stakeholders. However, due to a new law, there will be monthly monitoring of the electricity use in households after mid 2009.
- The use of products in stand-by increases fast.
- There is a lack of information on electricity use of products in the stores.
- Difficult to make people understand the cost effectiveness in investing in more electricity effective products.

### ***Possible measures:***

1. Convert from electrical heating to use other sources of heating. Many of the interviewed electricity companies have however mentioned that heat pumps, especially air-air, are not ideal, since they increase the maximum capacity need. When there are really cold days the heat from the pump is not sufficient, but extra electrical heating is used creating a very high capacity demand these days.
2. Information campaigns. Might be done through supporting the energy advisers and utilising their local platform for information activities. Media and the internet are very important channels.
3. Best practice case studies. Own project or support to other relevant actors and projects. Highlighting the good examples in the household sector to other households should preferably be integrated in the information campaigns.
4. Training. Might be done by supporting and/or in collaboration with the energy advisers. For interested home owners or dedicated groups.
5. Media campaigns. Series of articles in local newspapers, cooperation with TV, Internet sites etc. As media is the main information channel for electricity using appliances this is highly relevant.
6. Promotion of labeling. Own project or support on and/or collaboration with other actors. In co-operation with distributors of electrical appliance or other products that can have energy labels (houses etc.).
7. Voluntary agreements of producers/distributors of electrical appliances. In combination with information campaigns.

## **Measure to increase end-use efficiency of electricity in public sector**

The official bodies at regional level are responsible of the healthcare and the hospitals as well as the regional public transport systems. As large real estate owners the region has many measures that can be made in their own organization. The public bodies can also influence the development of other actors.

### ***Main barriers to be overcome:***

Main barriers for the electricity efficiency in the own organization, mainly the electricity use in the buildings, are mostly the same as for other actors with similar activities, see industry and business sector.

### ***Possible measures:***

The measures to decrease the electricity use in the organization of the Region Västra Götaland are mainly discussed under “Industry and business”. However, a target for the electricity consumption in the organization can be effective according to several of the interviewed stakeholders.

Public bodies can influence the electricity use of other actors by several instruments. These are presented below.

1. The County Administrative Board can demand from industries that need permissions for operation to develop energy plans, including measures.
2. Public procurement can be used to increase the demand for electricity efficient equipment, buildings and services. This measure is considered as a powerful tool.
3. Initiation of benchmarking programmes. Target groups identified are different industry branches, commerce and actors involved in construction (from the landlord to the financiers).
4. Arrange competitions, for example for more energy efficient equipment.
5. Support case studies of good examples and spread information about them to other actors (considered important by many stakeholders).
6. Support of the introduction of LCC (Life Cycle Cost) calculations. Education and training. This tool is considered as a key to the development of energy efficient buildings.
7. Energy mapping/auditing and education for the industry (maintenance staff-lower level and administrators-higher level).
8. The municipal planning for exploiting new areas can be used as a tool to increase energy efficiency.
9. Beneficial loans for measures increasing energy efficiency.
10. Subsidies for converting from electricity heating. Most stakeholders think that this should be done at national level.
11. Collection and presentation of more recent statistics for the electricity use in buildings. This is recommended to be done as cooperation between the electricity suppliers (having the data) and public bodies.
12. Education. Main target groups identified are youths and property caretakers. The development of new, more complicated equipment, as the ventilation

- systems, increases the possibilities to optimize the energy use as well as it increases the demands on the people handling it. Education in schools can be combined with practical work for increased efficiency of the school buildings.
13. Education can also be given on new technology to make it easier to understand and adopt.
  14. Support for realizing measures listed by the energy declarations. In cooperation with financial institutions and/or entrepreneurs.
  15. The region can be a coordinator and initiator of cooperation (considered as important by many stakeholders).
  16. Subsidies to realize electricity efficient measures are mentioned by many of the stakeholders. This is however best done at a national level according to the majority. The importance of being consequent in the subsidies is mentioned by several stakeholders, meaning that no subsidies at all are better than uncertain or inconsequent subsidies.
  17. The importance of the energy advisor is mentioned by many of the stakeholders and several mention the possibility to increase the role of the energy advisor from only targeting households to include SME, especially small real estate companies as well.
  18. Media, both traditional (newspaper, TV, radio) as well as internet is mentioned as a very important channel for information.
  19. Energy/electricity accounting/benchmarking. In cooperation with the real estate companies.
  20. The region can work as an important platform for experience exchange on different levels (example the ongoing programme for energy efficient buildings).

## **Measure to increase end-use efficiency of electricity in industry and business?**

Industry use about 40 % of the electricity in the region and commercial services use about 20 %.

### ***Main barriers to be overcome:***

- The electricity cost is only a small share of the total costs for most companies and is therefore not prioritized.
- Many industries have a very short planning horizon, resulting in that measures with a relatively short pay-off time are not realized.
- Low incentives to produce electricity effective equipment.
- Low incentives to produce electricity effective buildings.
- Lack of recent statistics of energy use in buildings.
- The comfort cooling increases.
- The heat pumps increase the maximum effect demand.
- There is an apprehension that the measures of the coming energy declarations for buildings are not going to be realized.
- There is sometimes a lack of interest to adopt new technologies, especially in the construction field.
- Lack of knowledge in the management of buildings.
- Lack of awareness of energy issues in the construction process.

### ***Proposed measures:***

1. Many of the stakeholders mean that there is a large potential for more efficient electricity use in the industry. The measures vary however from industry to industry.
2. Electricity suppliers are proposed to work with differentiated tariffs according to the maximum effect need. To distribute the electricity more evenly, to minimize maximum effect need, stakeholders propose lower fares during night or higher fares during effect peaks.
3. The retailers of electrical equipment can use electricity demand as a sales argument.
4. The retailers can also require that a product have a certain level of electricity use from the producer.
5. The industry can include energy more in the environmental management systems.
6. Retailers or retailers' organizations can arrange or participate in competitions for more electricity efficient products.
7. By designing trendy low energy products the introduction will be facilitated.
8. Bonus can be given to the sellers selling most energy efficient products.
9. Internal education for sellers of electrical products.
10. If the life cycle cost is promoted at the selling occasion, the willingness to pay an additional cost for a more energy efficient product can increase.
11. Energy labelling system can be developed for more product categories. It already exists for products like freezers, refrigerators etc, and there is a new agreement to present the electricity demand for TVs.

12. Procurement requirements can be used more actively to stimulate the development of electricity efficient products, real estate companies are mentioned as a group where procurement could be used more actively.
13. Landlords have an important role to increase feedback on electricity use. Experiments are running where a “smart box” has been placed in the apartment showing the real time electricity use.
14. Real estate companies are recommended to do more monitoring, to increase understanding for electricity use and thereby the potential for more efficient use.
15. The energy declarations for buildings are mentioned by many stakeholders as an important measure.
16. Education for real estate companies. Today education is offered by SABO (organization for the municipal real estate companies) and by Fastighetsägarna (interest organisation for real estate companies and tenant-ownership organisations).
17. Information campaigns can be carried out in cooperation with electricity producers or suppliers as well as the municipal energy advisors.
18. Best practice case studies are increasing the transformation of the market to more efficient use of electricity.
19. Measures for efficient offices can be realized through support and information dedicated to companies and the real estate owners and landlords.

**Measure to increase end-use efficiency of electricity in "second focus sector"**

The second chosen sector to focus on is the industry sector, accounting for 41 percent of the total electricity use in the region (industry and building construction), see barriers and measures above.

### **Regional target**

To set a target for the electricity use for the operations of the public body Region Västra Götaland is considered as very positive by most of the stakeholder. Setting targets for the geographical region is however met by more mixed response. Some stakeholders consider this as very positive, since this can be used as a reference for setting targets in other organizations. Some stakeholders mention that it is only relevant if a target is stricter than the national target.

Other stakeholders do not consider it as relevant with regional targets since the administration of the region cannot control the electricity use.

Others mention that a target just for electricity is not relevant, but should be lifted to be set for energy use or for climate impact instead. Some stakeholders consider absolute targets to be industry hostile, and advocate efficiency targets instead (e.g. kWh/SEK).

## Suggestion for prioritized measures at a regional level

	<i>Measure</i>	<i>Target group</i>	<i>Comment</i>
1	Information campaign	Tenants and home owners	Own project or support to other actors, as the energy advisors. Support to information campaigns. Media and the internet are important channels.
2	Best practice case studies	Tenants and home owners	Own project or support to other actors, as the energy advisors.
3	Training	Home owners	Own project or support to other actors, as the energy advisors.
4	Promotion of labelling/voluntary agreements	Private households	In co-operation with the distributors of electrical appliances to phase out the least energy effective appliances and promote the best. In combination with awareness raising campaigns.
5	Procurement requirements	Product or service suppliers to Region Västra Götaland	By well designed requirements for public procurement the regional authorities can be a driving force for market transition.
6	Initiation of benchmarking programmes	Industry branches	Prioritized areas are SME, construction and real estate companies.
7	Initiation of benchmarking programmes	Commerce	Engaged sellers of electrical appliances are crucial. Can be arranged as competitions.
8	Training	Industry branches and commerce	Own project or support to other actors. Support to coordination of training. Prioritized groups are SME, property caretakers and sellers of electrical appliances. Large potential if combined with guidance to apply the knowledge. Another target group is all actors involved in construction work from the real estate company to the suppliers (training in LCC, low energy constructions).

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9	Information campaigns	Industry branches and commerce	Own project or support to other actors. In combination with other measures. Personal meetings and information designed for the specific target groups are crucial.
10	Best practice case studies	Industry branches	Own project or support to other actors. Important to facilitate market transformation. In combination with dissemination activities.
11	Best practice case studies	Municipalities	Own project or support to other actors. On for example tools for urban planning for increased efficiency. (E.g. through the centre for low energy buildings)
12	Energy education	School pupils	Own project or support to other actors. Best result when combined with practical energy measures at school buildings.
13	Energy audits	Industry	Own project or support to other actors. Extra effective if combined with training.
14	Exchange of experiences on different level	Industry branches and commerce, municipalities	As a neutral actor the Region has a great chance to create platforms for exchange of experience for different groups of actors and perhaps most important, between different groups of actors (e.g. private and public actors)
15	Measures for efficient offices	Offices	For example through <i>Miljödiplomer</i> (Environmental diploma)

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## Summary overview

Measures	Target groups						
	Households		Business			Public sector	
	Multi-family houses	Single family houses	Commercial service	Real estate owners and landlords	Industry	County	Municipality
Information and media campaigns	X	X	X		X		
Best practice case studies	X	X		X	X		X
Training		X			X		
Promotion of labelling/voluntary agreements	X	X					
Procurement requirements						X	X
Initiation of benchmarking programmes					X		
Energy education in schools						X	X
Exchange of experiences on different level			X	X	X	X	X
Measures for efficient offices				X	X	X	X
Support to individual projects and actors	X	X	X	X	X	X	X

## Annex 1. Interviewed stakeholders

Stakeholder	Contact person(s)	Description of stakeholder
Hyresgästföreningen	Patrik Hakenmyr	NGO (Swedish tenant association)
Villaägarna	Katarina Abrahamsson	NGO (swedish house owners association)
SIBA	Sara Widman	Retail, electric appliances
Electrolux	Annika Kühner	Producer of electric appliances
Energiråd Väst	Sanna Hambeson	Regional Energy Agency
Göteborgs Stad, Konsument	Annika Källvik	Energy Advisor, City consumers agency
Göteborg Energi	Lars Holmquist	Utility (electricity, district heating and cooling, gas), Energy efficiency services
Vattenfall	Per Sundell	Utility (electricity, district heating, gas)
Borås Energi och Miljö	Martin Dahl	Utility (electricity, district heating and cooling, gas), Energy efficiency services
Uddevalla Energi	Gunnar Johansson	Utility (electricity, district heating)
Wallenstam	Bo Strandberg	Large real estate owner and landlord
Älvstranden Utveckling AB	Helena Arnesten	Real estate owner and landlord
Bostads AB Poseidon	Tomas Lepik	Large real estate owner and landlord
Vargön Alloys AB	Mikael Norrman	Electricity intensive industry
NCC	Kristina Gabriell, Svante Wijk	Construction company (buildings etc.)
Trollhättan Energi	Mats Johansson	Utility (electricity, district heating)
Alingsås Energi	Jan Werner	Utility (electricity)
Mölnadal Energi	Bernt-Erik Radesjö	Utility (electricity, district heating)

## Annex 2. Participants at round table meeting November 6<sup>th</sup> 2007

Participant	Organization
Erik Andre	Energiråd Väst (regional energy agency)
Hans Sandqvist	Västfastigheter (County real estate organisation)
Helge Martander	Vargön Alloys AB (large electricity user)
Jan Morén	Göteborg Energi (utility)
Jonas Norrman	IVL Svenska Miljöinstitutet (institute)
Keijo Laine	Member Regional Environmental Council
Kerstin Brunnström	Member Regional Environmental Council
Kerstin Quentzer	Regional Environmental Secretariat
Martin Olausson	SIBA (large appliance retailer/franchise)
Mats Johansson	KanEnergi AB
Sara Borgström	KanEnergi AB
Sara Widman	SIBA (large appliance retailer/ franchise)
Stefan Stjernedal	Villaägarna, Region Väst (Association for house owners)
Tomas Lepik	Bostads AB Poseidon (real estate company)
Ulla Y Gustafsson	Ordf. Fokusgruppen Effektiv energianvändning i bostäder och lokaler.
Åsa Lindell	Regional Environmental Secretariat