EnercitEE

European networks, experience and recommendations helping cities and citizens to become Energy Efficient

Summary of EnercitEE's first interregional symposium (Component Seminar)

Växjö, Sweden

Date:

6-8 April 2011

Topic:

Energy Efficient heat/power generation & distribution

Background

During the first EnercitEE interregional symposium (Component Seminar) in Växjö in April 2011 the participants were discussing the topic of “Energy Efficient heat/power generation & distribution”. Furthermore, they tried to find ways how to approach the issue in each of EnercitEE’s regions.
The basis for the discussion were regional background papers on the current situation of energy supply, energy sources, where energy is used and finally the policy background. Each Regional Manager compiled the information. In such a way it was possible to compare and discuss the situation in the EnercitEE regions.

Goal

The main goal of EnercitEE’s first interregional symposium was to better understand the different points of departure for EnercitEE partners to move to more Energy Efficiency. The result of the discussion should also provide input for a future development of energy strategies regarding the increase of Combined Heat and Power (CHP) in the different regions.

Participants

- Members of EnercitEE’s Working and Steering Group
- Lead Sub-Project Participants of the 1st Call sub-projects

Participants of EnercitEE’s first interregional symposium

Workflow

On the basis of the background paper prepared by each region overviews were compiled summarising the energy situation. During the symposium big posters displayed these summaries and provided the main inputs for discussion (see annex 1).

On the poster for each region the following information is provided:

- figures for energy consumption and emission CO_2,
- energy profile and situation,
- energy goals and challenges and
- energy policies.

Anders Franzén from the city of Växjö moderated the symposium. He was supported by Christian Borchard, an external consultant from B&SU mbH. Mr Franzén started by giving an introduction into the topic and relevant background information from the city of Växjö (see annex 2). Subsequently each region was presented by the moderators and all participants invited to share their ideas and suggestions on how to change / improve the situation in the respective region with regard to Energy Efficiency.

The two moderators: Anders Franzén (left) and Christian Borchard

Main discussion points

The situation to get data for the energy situation: production, consumption, emissions of CO_2, share of RES, etc is very different in the various EnercitEE regions.
Nevertheless, a first overview could be produced by each region and gave an idea about the regional energy situation linked to strategies, renewable energy, CHP and future plans. One important figure that gives a hint on the regional situation is the CO_2 emissions per year per capita. It also shows the potential of reduction.

Saxony, Germany

- Strong link to lignite but RES is growing fast (now 14 % for electricity).
- CO_2 emissions are around 11 t/a/person.
- The target for 2020 is to decrease emissions by 23 % and to increase the share of RES to 24 % for electricity.
- In Saxony the Saxon Action Plan for Climate and Energy with over 300 measures has to be implemented. Furthermore, plans for development of RES are based on national targets, the climate protection plan and a directive.
- Challenge:
  - Reduce the share of electricity based on lignite
- Potentials:
  - Wind and biomass have the best potential to be developed.
  - Also CHP will be developed in general.

Smaland (Kalmar and Kronoberg)/ Blekinge, Sweden

- Figures are provided for the county of Kronoberg which has a primary energy consumption of 6.4 TWh/a (10 % of Emilia-Romagna).
- CO_2 emissions are very low with 3.3 t/a/person.
- The RES share is over 50 % - mainly biomass (for heat over 80 %). The figures are special in Europe and are based on a long strategic work. Electricity has also a big share of RES with 74 % but for transport the share is very low with just 5 %. CHP and district heatings have a strong position and are mainly based on biomass.
- There are regional strategies with high ambitions for all counties and most special is the county of Kalmar who has said to be fossil fuel free by 2030.
- Challenge:
  - The big challenges are in the transport sector and
  - EE in general since energy use in total is quite high per capita.
- Potentials:
  - Develop CHP for plants with heat power under 5-10 MW.

Emilia-Romagna, Italy

- The total energy consumption is 160 TWh/a which shows how big the region is: 94 % is fossil and 6 % RES with RES growing.
- The CO_2 emissions are around 9.2 t /a/person.
- Emilia-Romagna is on the way to develop a good infrastructure for electrical vehicles. Of RES today biomass is the big share. Natural (fossil) gas accounting for 62 % is well developed over the region.
- Emilia-Romagna has a strong energy framework law, a regional plan for energy and new objectives will be set up.
- Challenge:
  - Reduce CO_2 emissions via Energy Efficiency and RES

Haute-Savoie, France

- Most of the figures are only available for the region of Rhone-Alpes.
- CO_2 emissions are quite moderate with around 7 t/a/capita.
- Haute-Savoie has quite a big share (75 %) of nuclear energy and there is as well a big share (20 %) of hydro. RES share is around 20 % for electricity, 37 % for heat and very low for transport.
- Training and behaviour play an important role.
- There is a big interest to develop RES and also CHP but not in big scale.
- Haute-Savoie has a regional program, climate policy and an energy strategy based on Energy Efficiency and RES.
- Challenge:
  - It is difficult to implement sustainable public mobility due to the natural environment (mountain area).
- Potentials:
  - Increasing the share of RES by using more hydro, solar, wind and biomass.

Lower Silesia, Poland

- It is difficult to get specific figures for the region.
- CO_2 emissions are 10.3 t/a/capita (national figures).
- It is mainly traditional heat and electricity production (based on lignite) and 30 % is exported from the region. The target on national level is to reach 15 % RES till 2020.
- Lower Silesia has a regional development strategy as well as an energy strategy.
- Challenge:
  - Step by step decrease of the share of coal and introduce RES. There is a big interest but due to the coal price level implementation is currently difficult.
- Potential:
  - To mix coal and biomass in both heat and electricity production.
  - Wind energy seems to have a good potential.

Lessons learnt for the regions

- Each region has a different starting point. The ambitions are in general high on all levels but linked to traditions, energy sources, economy and incentives.
- From the example of Smaland (Kalmar and Kronoberg)/ Blekinge one can learn that long term thinking and actions are essential for step by step coming closer to a society based on low energy consumption using RES. The EnercitEE partners are working on this from different positions.
- The political will and decisions are also crucial to point out the direction and set binding targets. This concerns the EU, national, regional and local level.
- The energy providers are important stakeholders. All players in the whole energy chain need to get a better understanding of climate change and have to be involved into any efforts of tackling this issue.
- Since energy cost represent a big share of regional GDP (often between 8-15 %) it is important that a big part of the energy chain can be covered in the region, i.e. like RES or own fossil resources.
- Each region will continue planning new and more ambitious energy and climate strategies.

- CHP in general and especially based on biomass has still potential to be developed and overcome challenges in being understood by the stakeholders concerned.
- It is difficult for regions with an energy infrastructure based on fossil gas and/or lignite to make big changes in the short term. However, a step by step thinking and actions are necessary to move towards RES.

Study visit to a biomass fired CHP plant in Växjö

A study visit to the CHP plant in Växjö called Sandviksverket (VEAB) has been organised to complete EnercitEE's interregional symposium.
The visit was introduced by a key note speech from Henrik Johansson who is in charge of climate planning and documentation for the city of Växjö (see annex 3). Växjö has been acclaimed the "greenest city in Europe" by ICLEI and BBC and is now using this for promoting the work internally and externally.
VEAB is a biomass fired CHP plant with 75 MW for heat and 38 MW for electricity from the main boiler. A district cooling system has just been set up with now around 3 MW. It is still under development and will grow to 25 MW in two years. It is a combination of an absorption cooling machine using heat from the plant, cooling from lakes and traditional cooling machines with compressors mainly for top load and security.
An introduction into the performance and technical details of the plant was given by Lars Ehrlén (see annex 4).

Annexes:

1. Summary of regional baseline situations (1 poster per region)
2. Introduction into the EnercitEE interregional symposium, by Anders Franzén
3. Presentation of the approach of the city of Växjö, by Henrik Johansson
4. Presentation of VEAB, by Lars Ehrlén