RES-e Regions / WP3
First activity: Analysis of RES-e in municipalities

Introduction

The political context of the municipalities is introduced to give a background for understanding their involvement and activities in renewable energy.

Subsequently the results of the analysis of the positions, strategies, projects, and suggestions to promote renewable energy of the municipalities are presented.

The political context of the Danish municipalities

Danish energy policy

The frames and conditions of the development of the Danish energy sector is to a great extent laid down by the Danish parliament. Conditions for establishment of power plants, electricity settlement prices, and a lot of other energy related issues are determined centrally.

Energy strategies are traditionally drawn up by the national energy authority, and usually the strategies contain very few concrete and time scheduled targets for the development of infrastructure and plants. In June 2005 the latest national strategy entitled ”Energistrategi 2025” was issued. It describes perspectives towards year 2025 and suggests a plan of action for the future electrical infrastructure, from the viewpoint of the government. It is based on a number of more detailed strategies on different technologies, one of them PV, which are prepared by working groups made up of key persons from the different relevant business lines.

State of development of RES-e in view of the EU directive

The Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market has laid down concrete targets for the share of RES-e for each country in 2010. As one of the few countries – maybe even the only one – Denmark has for a long time been on the right course to reach the target, which is 29 %. A recent decision to build two more offshore windfarms with a total capacity of 400 MW is nearly a guarantee that the target will be reached. By far the majority of the electricity from renewable energy will come from wind power, waste incineration comes second, followed closely by straw and wood.

Structure and distribution of tasks in the public administration

There are 14 counties (regions) and 271 municipalities (Aug. 2005).

The areas of responsibility of the counties are hospitals, protection of nature, high schools, inspection of specially polluting companies, and other tasks that need a larger geographical area.

The municipalities are closer to the citizens than the counties, and they carry out tasks in the more local environment like kindergartens, elementary schools, libraries, social security, home help, and old people's home.

The regional and local public administration has, however, commenced on a complete transformation, that finalizes in 2007. The 14 counties are shut down and

replaced by 5 regions, which will be responsible only for the hospitals. The number of municipalities will be reduced from 271 to about 105, and many of the areas of responsibility of the counties will be transferred to the municipalities, among other protection of the environment.

Energy related activities of the counties and municipalities

In energy related matters the autonomy of the counties and municipalities is limited. They bear no direct responsibility for the achievement of reaching the target as set by the EU RES-e directive. The counties are responsible for pointing out suitable for wind turbines and biogas plants. The counties and municipalities are not obliged to establish renewable energy systems - nor, for that matter, to buy green electricity.

Many municipalities own combined heat and power plants (CHP) and district heating plants. During the last 10 years many of these have been directed by the state to change from oil or coal to natural gas, as well as many individual houses have changed from electricity heating to natural gas. Some CHP-plants are fired with waste. The typical goal for a municipality is to ensure the best and cheapest supply of heat with reasonable economics for the citizens with due consideration of the environment.

The entire Danish energy sector is under liberalization at a high speed resulting in a significant concentration of ownerships of power plants and infrastructure. Some recent amendments of legislation relating to ownerships have made it possible and attractive for many municipalities to realize their plants and supply systems, and many have already sold their possessions.

An act on energy and water saving directs the municipalities to carry out one annual inspection of the public buildings larger than 1500 m2. The state of each building and its installations is evaluated, and an energy plan with suggestions for relevant energy and water savings is made. Furthermore an energy label with the consumption of electricity, water, and heat in relation to impact on the environment and key figures for similar buildings is made. A new act on the promotion of energy savings in buildings entering into force 1. January 2006 demands that all new houses and houses that change hands also have to be energy labelled.

Pursuing an amendment to the Act of Planning the municipalities also have to draw up a so-called local Agenda-21 statement, which must include objectives regarding the future work to make an environmentally sustainable development of the local area with highest priority on the reduction of the impact on the environment and the promotion of a sustainable development. There is no obligation to focus directly on renewable energy.

Analysis of interviews with the municipalities

Background of the interviewees

The interviewees are mainly coming from the technical departments and have a background as engineer, architect or environmental technician.

Knowledge about renewable energy

Generally the interviewees have much knowledge about energy and technology, both regarding energy production plants and energy savings. They are aware about the different technologies, but of course not everyone have a detailed knowledge about all technologies.

However, they did not know much about the EU RES-e directive, probably because they bear no direct responsibility in achieving the targets for Denmark's share of green electricity in 2010.

Opinion on electricity production from renewable energy

A distinction is made between the interviewees and the municipalities.

The more technical knowledge and practical experience, the more positive is the attitude among the interviewees. Yet they are quite realistic about the potential of the individual technologies in a densely populated region. There is a consensus that new wind power preferably shall be installed in offshore parks due to the huge dimensions of the installations. Photovoltaic technology is generally considered very attractive due to the modular composition, the ability to fit it into the urban areas, and the pollution free operation.

The municipalities do not officially have an opinion on renewable energy, let alone specifically on green electricity. Renewable energy forms a (minor) element in a complete strategy for the environment, and other elements like energy savings, protection of drinking water resources, waste disposal etc. enjoy a higher priority.

Consumption of green electricity

None of the interviewed municipalities have considered to buy green electricity. The municipalities are economically pressed, and the interviewees expressed a doubt, that the politicians would give priority to purchase of green electricity at the expense of a better service for the citizens (schools, day-care, libraries, etc.).

Experience with RES-e plants

Only a few municipalities have been directly involved in the establishment of plants for production of electricity from renewable energy.

Copenhagen Municipality, which is by far the largest in GCR, is the most experienced. The Middelgrunden Offshore Windfarm (40 MW) is renowned. Half of the farm is owned by the municipality through the ownership of the electric utility, KE. KE also owns a number of small and large PV systems and has been entrepreneur on several other. Finally KE has established an exchange of PV-electricity on a fully commercial basis, where the citizens can buy a small or a larger amount of PV-electricity, which has a guarantee of origin.

Very few other municipalities own or have experience with renewable energy. Yet, Albertslund Municipality should be mentioned for their successful promotion of small do-it-yourself PV-systems.

Barriers

A number of barriers for the involvement of the municipalities in renewable energy were mentioned.

Due to a 'stop of taxes' imposed by the government the municipalities have to cut the budget heavily and put the tasks in order of priority. They are bound to carry out many of the tasks according to law, and other tasks are so big and urgent, that they cost a lot, e.g. integration of immigrants and fight against vandalism.

The municipalities of course care for their green image, but they are not bound to contribute to an increase of the share of green electricity.

As the municipalities have not been very full of enterprise in the field of renewable energy they have not much experience with procedures regarding access to the grid.

One of the more visionary municipalities mentioned one specific example of a barrier. They established a new water treatment works, which they wanted to be supplied with green electricity, in principle, by buying shares in a wind turbine association. But the law does not allow municipalities to buy such shares, because all privately owned wind turbines are organized as partnerships with joint and several liability.

A very concrete barrier towards a more active involvement in renewable energy is, however, the before mentioned transformation of the structure of the public administration, which started mid 2005 and will last until mid 2007. This process will be very costly, in money as well as in mental resources, thus hampering more visionary projects to be carried out.

Strategy for renewable energy for electricity production

None of the interviewed municipalities have a strategy with targets for the development of renewable energy capacity, neither for heat- nor for electricity production.

Only one municipality – the largest, Copenhagen Municipality – has decided to actively promote a renewable energy source: solar energy. First and foremost photovoltaic systems, because most of the municipality is supplied with district heat from the large CHP-stations leaving little room for solar thermal systems. The municipality has joined an international network by name, SolarCity, which works for a better urban environment by promoting solar energy, and has established a general office with a commission to carry out certain solar activities in the region.

The interviewees generally expressed their skepticism about their respective municipalities being motivated to prepare a strategy with targets specifically for green electricity. Investments in energy savings are much more interesting from an economical point of view. The municipalities are certainly interested in their 'green account' and image, and it is considered realistic that at least a small number of municipalities can be stimulated to prepare strategies for development of PV systems for schools and the like.

RES-e competition

The municipalities have at present a strong focus on the transformation of the structure of the public administration, which will bring along merging of several of them and new tasks to carry out. Energy related activities are concentrated on meeting the requirements in the act on energy savings.

It is therefore not to be expected that many of the municipalities, if any, will join a competition on promoting renewable energy for electricity production. Copenhagen Municipality might take a positive attitude, motivated by the membership of the international SolarCity-network.