

MEMO**Input for Newsletter****08.05.2008****Sointu Räisänen****Hillerød**

The aim of Ullerødbyen is to create a zero CO₂ emission community as concerns the building energy supply: the community demonstrates that local communities are the entities of choice in the implementation of sustainability. The community has imposed their energy standards themselves, standards which are much more ambitious than the national regulations, reaching about 20-25 % better results. In Hillerød, 50 new so called Class 1 Ecobuildings will be constructed, which only use 50% of the energy a standard Danish house uses and furthermore, more than 600 Class 2 Ecobuildings will be constructed (-25% reduction in energy use). The lowenergy Class 1 houses - the lowest energy standard except from zero energy houses - are only allowed to use $(35+1100/A)$ kWh/m² per year, whereas A indicates the number of m² heated. This is the maximum energy consumption for heating/cooling, ventilation and hot water.

A lowenergy class 1 house only use 50% of the energy a normal Danish house uses. Overall, this means that the fuel consumption of these communities will be about 60-80 % less than in regular housing development areas. One of the aims of the project was to develop an efficient procedure for the municipality in order to fulfil their obligations concerning the construction of Eco-buildings, in relation to the new Danish Building Regulation BR95.

The demonstration will include multiple solutions for local renewable solution for low energy consumption. The demonstrations are of individual production systems such as ground coupled heat pumps, PV, wind turbines, solar heating or air based heat pumps. A system for collection of energy data from each house will be developed, so that all data is collected in a computer at the energy central. Data can be used by the utility to follow the individual consumption of each household and hence target energy advice activities. Furthermore, the consumers will be able to monitor their own energy consumption, both heat and electricity, in an online updated graphical presentation on their TV-set, on through internet, or at an energy meter in the dwelling.

Hillerød first year highlights:

- ✚ Solar thermal plant is under construction, will be in operation in October 2008;
- ✚ Two stage gasifier is being tested at Weiss with great success;
- ✚ 6500 m² low energy building Class I is being built in Ullerødbyen;
- ✚ Investigations on low temperature district heating is half way.

One of the challenges has been the slow-down of the new build housing markets in Denmark; therefore new sites had to be identified as the North part of Ullerød is developing slowly. The very important lesson learnt is that the implementation and the speed of the project is very strongly determined by the market factors. Important factors are for example the local housing markets and the willingness of the local inhabitants to participate in the project. In order to avoid big surprises and delays, it is crucial to take the local market environment and national regulations into account, right from the beginning.



Mr. Jens Lunding (Hillerød Municipality) presents the lowenergy class 1 houses already built as part of the SORCER project in Hillerød, Denmark.

For more information please contact the SORCER project coordinator Mr. Rudy Rooth, rudy.rooth@kema.com.

Apeldoorn

Apeldoorn wants to be energy neutral community by 2050, but to achieve that for the entire municipality is quite difficult, and therefore the community decided to first create an example community within their own boundaries. This is how the community of Zuidbroek was created. Zuidbroek will see the building of 1,000 dwellings with a standard significantly exceeding new regulations and it will already achieve energy neutrality by 2020. The area of Zuidbroek is then used as a show case for the entire municipality. Apeldoorn has been a front runner in the Netherlands already for a long time: the municipality always keeps the energy and climate issues in mind when new planning takes place. Good planning, taking into account all key stakeholders, plays a central role in the development of a succesful, sustainable community. In Apeldoorn, the planning considered the construction of a biogas plant, its connections with the dwellings and with the neighbourhood, enabling the formulation of a district heating system with the green bio source. All important elements were planned well in advance prior to the start of the project.

Apeldoorn first year highlights:

- ✚ First 40 dwellings delivered;
- ✚ Positive decision on remote (smart) heat metering;
- ✚ DH boilerhouse ready;
- ✚ PV grant setup for developers and house owners almost complete;
- ✚ Clear vision on energy saving campaigns.



So far about 40 of the the total 1000 ecobuildings Zuidbroek have been realized