Hamburg Energie Energieverbunds Wilhelmsburg Mitte
Germany

Responsible partners

Solites

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06.12.2012

Model description

This model has not been implemented yet as the district heating is still under construction.
Hamburg Energie is the local utility supplying electricity and gas to its customers.
Hamburg Energie is going to operate a local district heating system currently under construction in the town district of Hamburg-Wilhelmsburg, with a total heat capacity of 5 MW in the first construction phase, 20 MW in total im Endausbau. Hamburg Energie's electric power comes entirely from renewable sources and its natural gas contains a certain share of biogas, which makes it consequently the next step in generating heat from renewable sources.
For this district, Hamburg Energie announced it will buy the surplus heat from its customers at a price of 0.045 €/kWh, when the heat is produced by solar, bio-energy or heat pumps.
There is no minimum capacity, but as the customer will have to pay the heat exchanger system for the feed-in, the solution remains out of the question for small solar systems of single homes.
The minimum temperature will be 75 °C on frost-free days and higher when frosty.
There are limitations: For example, customers who produce more heat than they need for themselves can feed the surplus into the net. But a customer will only be allowed to supply less than 20 % of his own heat demand to the grid. Furthermore, Hamburg Energie reserves the right to provide at least 90 % of the grid heat with its own facilities during the first construction phase. When the grid has been extended to the planned 20 MW, this figure will decrease to 75 %.
The model is targeted at housing enterprises.
Hamburg Energie initiated it and will most probably manage it.
By now, the company has had three customers who have shown interest in supplying renewable heat to its network (1).

Swot analysis

Strengths	• Offer already available for the customer at the construction of the net (and the renovation of the district?) • Allows the customers to design bigger solar plants, to cover more of their own heat needs, because there is no risk to produce too much heat as it can be fed-in the net.
Weaknesses	• The complexity of the limitations. But the three interested customers are far from being able to produce 10% of the heat supply, so the limit might not be a problem.
Opportunities	
Threats	
Improvements/recommendations/lessons learned	

Replication potential

It is a highly replicable model for every district heating, provided that specific conditions are fulfilled. The condition about the customer's maximum delivery heat might be really important for the stability of the net, especially for small district heating nets.

Links to web site and/or documents for more detailed information

(1) Solar Thermal World, Germany: District Heating Companies encourage Customers to feed in Solar Heat