



Bio mass local heating Ideas for organisation, optimisation

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Company structure nahwaerme.at, useful completion for...

- local operators, who need support
- projects, that are too little for an own operator company
- quick reaction, if windows are open for bio mass supply (new building projects, redevelopments,...)
- no interesting from the operator on-site (for example: cultivators just want to deliver fuel)

Ideas for the compression of the network

- value backup after the inflation rate, and in addition alternatively: the price for the heating is articulated to the oil price
- the connection fee is dependent on the age of the consisting heating
- e-heating/single stove: 50 % discount for the connection fee
- e-heating (high rate): saving contracting through the "WVU"
- time span until the heating: until 2 years
- leasing model for the connection fees
- in single cases: guarantee for the caloric consumption 10% calculated on (bowdlerized for heating-degree days, fill rate, previous consumption specification)
- Every customer (until 50 kW) can deliver hack manor from the own forest stands until the height of the heating

Optimisation of the network – raising of the efficiency

2.500 kW, biomass w50, condensation of the fuel gas	return 50 degrees	return 40 degrees
retrieval of the heat	12 %	21 %
achievement of the ventilator for anti-billow	13,5 kW	9,8 kW
source: calculations of the Scheuch company		
reduction of the pumping current requirements	--	20 %
reduction of the network costs	--	5 %
source: calculations of the Scheuch company		

Optimisation of the network – which possibilities?

New installations, operator takes over the costs for:

- bigger heating surfaces (70/40 instead of 70/50)
- bigger heating changer for the preparation of hot water
- bigger heating changer for the ventilation systems

Technical/economical result:

- return lowering for 10 % is realistic
- the costs turn out to be profitable within about 3 to 5 years
- no furtherance is necessary (if there is a condensation installation)

Old sites, operator takes over costs for:

- new radiator valves
- bigger heating changer for the ventilation systems
- new loading systems / return limitation systems for service water reservoir
- adaption to the hydraulic switching operations

Technical/economical result:

- return lowering for 5 % is realistic
- costs don't turn out to be profitable without a furtherance
- furtherance or contribution to the building costs for the customer is necessary (20 % – 30 %)

Innovation: peripheral puffer systems

System advantages

- reduction of the output peaks for 30 – 50 %
- higher inclination of the network with instantaneous water heater for the preparation of hot water
- as a result: the dimension of the network declines for 40-50 %
- use of flexible pipe systems is possible
- the puffer charge takes place every 1-2 days in summer
- savings with network-losses and pumping current
- solar installation can be factored into it at any time (the puffer is at place)

Operational areas

- terraced houses (only after the examination of the efficiency)
- new building settlements with low heat density (for example under 500 kWh per terraced metre)
- building development areas (constructions within the next 5-10 years, not realizable without peripheral puffer)
- secondary networks with plastic lines

Saving potentials

- investment costs of boiler and network and devolution: about 10 %
- loss of heat: (network losses: puffer: 15 %, conventional: 29 %)
- pumping current: about 50 %
- savings per sold MWh: 10,35 Euro (current, heating losses, capital costs, project with 80 objects)
- savings for the mending of the network: 1,20 Euro per MWh (basis: 1 % of the network costs per year)