The Littlecombe Development Wood Chip District Heating Scheme and Community Interest Company

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Village scale wood chip district heating, Gussing, Austria – 170 houses

Hjortshoj Eco Village Denmark.

Woodchip boiler linking 86 houses at Hjortshoj eco village through a district heating network.
The South West Regional Development Agency, owners of the Littlecombe site comprising 39 hectares of brownfield land near Dursley, Gloucestershire, tendered for developers for a mixed use redevelopment with overall site CO2 emissions reduction target 30% below 2006 building regulations.

St Modwen Developments won the SWRDA tender to develop the Littlecombe site and appointed Severn Wye Energy Agency as consultants to carry out an options appraisal into use of on-site renewable energy.

Working closely with Halcrow Yolles and architects Stephen George and Partners, wood chip district heating plus 200 PV installations were selected as the preferred renewable energy options, coupled with improved insulation levels and air tightness compared to 2006 Building Regulations.

Severn Wye Energy Agency assisted with the tendering and procurement of the wood chip district heating network and securing £1m financial support through the Low Carbon Buildings Programme Stream 2B.

Littlecombe project, Dursley, Gloucestershire

- 450 new dwellings supplied by woodchip district heating
- 200 dwellings to have 1.4 kW photovoltaic installations
- Possible heating link to Rednock School
- Total site CO2 emissions 55% below 2006 Building Regs

Littlecombe will have 3X 500kW modular wood chip boilers, a 2 MW back up gas boiler and approximately 4km of insulated underground district heating pipes.
Each house has a heat exchange unit mounted on the kitchen wall. It is housed in a white outer case and is almost identical in appearance to a gas combi boiler.

Each house has an ultrasonic heat meter. Householders are billed for the heat they use in the same way as they receive gas and electricity bills. The meters are read remotely via a radio module. Heat will be the same price as gas or slightly lower.

Issues for DH network - phased development over 5 years

Littlecombe Temp Boiler House

Lessons learned (to date) –
- Consider district heating at an early stage:
  - e.g. Density of properties
  - e.g. Phasing of development
- There is a lack of biomass DH technical knowledge and experience in the UK. Clients (developers, architects, building services engineers) need more experience and training.
- Complexity of biomass DH network ownership issues, ESCo’s Community Interest Companies, service and maintenance costs.
- Difficulty in persuading external existing heat users to connect to a new biomass DH network (they don’t have CO2 reduction targets + lack of familiarity and perceived risk)

Thank you for your attention

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