



Energy Efficiency Best Practice in Housing

Benefits of Best Practice: Community Heating



Advantages all-round. From a central source

Community heating delivers economical, effective heating and domestic hot water to more than one building or customer from a central source.

Heat sources can include conventional boilers, combined heat and power (CHP) plant and others (such as geothermal, biomass or industrial waste heat). The heat produced is delivered to consumers as hot water through a system of insulated pipes.

Schemes vary in size from networks connecting groups of dwellings (eg. a block of flats) to city-wide schemes connecting homes with public or commercial buildings.

Modern community heating systems give residents the same level of control over their heating as gas and other individual central heating systems.

Why community heating?

Community heating offers a number of short and long-term economic, environmental and social advantages, making a valuable contribution towards achieving sustainability strategies.

Incorporating community heating wherever appropriate (see *Community Heating – a guide for housing professionals [GPG240]*) can yield far-reaching benefits to your organisation, your tenants – and to the wider community.

Community heating can:

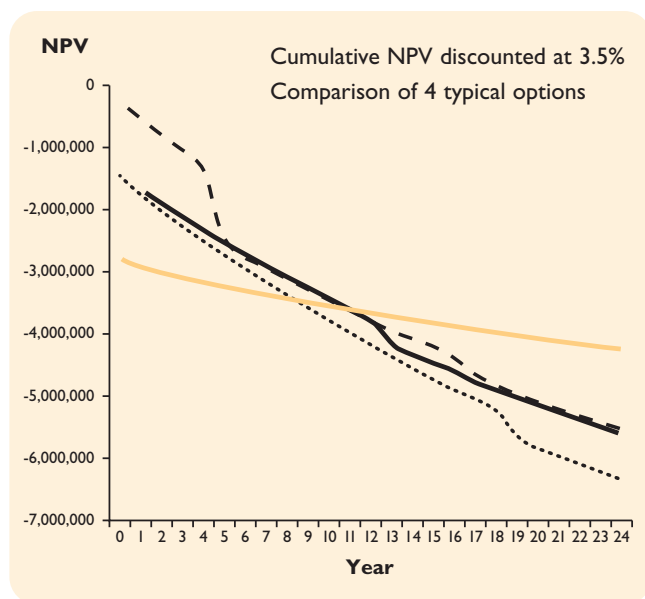
- deliver lowest life-cycle costs – significantly less than alternative heating systems
- improve the energy performance of your housing stock. Larger, centralised equipment can be run more efficiently than would be possible in most individual buildings
- reduce management costs arising from failed heating, thefts, vandalism, meter reconciliation and “fee for no access”. With the absence of individual boilers in each unit – operating, maintenance, replacement, administrative, repair and emergency expenses are greatly reduced
- provide a reliable service, where systems are operated by energy professionals who monitor the network 24 hours a day and provide back-up and top-up of supply

- eliminate the need to issue gas safety certificates and carry out safety checks and inspections for individual boilers
- ensure energy security through fuel flexibility. Community heating schemes can utilise a variety of fuels, including local energy sources and waste heat, and can enable use of the most cost-effective energy as fuel prices vary
- present revenue opportunities from selling electricity direct to tenants and commercial properties when using CHP
- increase your tenants' living space by replacing regular domestic boilers with much smaller heat exchange units. This also reduces vibration and noise problems sometimes associated with boilers
- tackle fuel poverty and damp or cold related illnesses by providing affordable heat
- improve tenants health and well being by reducing or eliminating mould problems and limit structural damage to the building fabric through condensation
- offer a highly effective way of reducing carbon emissions (particularly in the case of CHP and/or renewable energy) and make a substantial contribution to the achievement of HECA and national CO₂ targets
- enable compliance with EU Directive 19 for any new buildings over 1,000m². The technical, environmental and economic feasibility of systems like CHP and community heating should be assessed prior to commencing construction
- enable Climate Change Levy exemption for non-domestic energy use, when using good quality CHP or renewable heat sources
- meet local authority key Best Value performance measures



You can best assess the benefits of community heating by looking at costs over the lifetime of the heating system. This is known as Whole Life Costing and allows the evaluation of different options (gas boilers, electric heating) taking into account all capital costs, running costs, replacement costs and revenue streams. To get a proper picture of the costs over the lifetime of the asset, future costs and revenue streams are discounted back to current values. This is known as Net Present Value (NPV) and is based on UK Treasury Green Book Guidance, which uses a 25 year lifetime and a 3.5% discount rate. Making decisions based on the whole life costs, rather than the cheapest capital cost, is more consistent with delivering 'Best Value' and delivering savings under Resource Accounting frameworks.

The graph below illustrates the benefits of using a Whole Life Cost approach. Using an example for a scheme with 500 dwellings the initial capital costs of a community heating scheme are almost twice those of other options, at £3m, but when the net costs are calculated over 25 years the scheme costs are considerably less expensive than those for other options, at £4m rather than close to £6m for the other heating systems.



- Proposed CH/CHP - new scheme
- Alternative scheme - individual gas boiler
- Alternative scheme - electric storage heating
- - - Alternative scheme - do minimum

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What is current Best Practice and where can I find it?

Now that you've seen the economic, social and environmental benefits, here's how to find out more about Best Practice in community heating.

Energy Efficiency Best Practice in Housing

The following publications are available from the Energy Efficiency Best Practice in Housing helpline on 0845 120 7799 or by visiting the website at www.est.org/bestpractice

Community Heating – a guide for housing professionals (GPG240)

Action Energy

Web: www.actionenergy.org.uk

CHP opportunities for local authorities (GPG322)

The use of combined heat and power in community heating schemes – Four case studies (GPCS370)

Guide to community heating and CHP – Commercial, public and domestic applications (GPG234)

Energy services PPP/PFI projects for community heating: Rusholme and Newton Heath – Manchester, Barkantine Estate – Tower Hamlets (NPP123)

For grant funding for community heating schemes and Whole Life Costing

Web: www.est.org.uk/communityenergy

Web: www.hm-treasury.gov.uk/economic-data-and-tools

