



The Heat Network is a forum to discuss and share good practice about district and communal heating within social housing. We aim to bring together our own communal heat experiences and share the lessons we've learnt with colleagues across the sector. We also act as a conduit for social housing input into national heat network policy.

This document outlines what we believe to be the core principles that should be borne in mind when designing a district or communal heating system in social housing. It does not replace any professional or legal advice: we merely want to share the lessons we've learnt with colleagues across the sector, so the same mistakes are not repeated. Getting the design of district right in the first place can help avoid many operational problems further down the road.

**1. Comply with the CIBSE Heat Networks Code of Practice**

Invest the money in your own copy and take time to read the step by step guide so you understand what you should be asking of your heat network designers. You should also comply with the Heat Trust standards where you can, as well as the Heat Metering and Billing Regulations.

**2. Flow/Return 70:40**

The bigger the difference between your flow (water leaving the boiler plant) and return (water returning to the boiler plant) temperatures, the better. This is known as Delta-T ( $\Delta t$ ). Your design should be at least for a  $\Delta t$  of 30 (out at 70°C and back at 40°C).

**3. Minimise pipework: maximise insulation**

Minimising pipework, both in length and width, alongside maximising insulation, will help to reduce heat losses in places you don't it (eg corridors, cupboards, the plant room, etc). This will also mean the network runs more efficiently, saving your customers money. By designing for smaller pipes in the first place, this will save you capital expenditure too.

**4. Quality assurance**

When the network is being installed, get it checked against your design brief, and checked again. Make sure everything's running as it should, including the HIU. It's far easier to correct problems when the units are unoccupied.

**5. Data**

Data is king. It will help you understand the efficiency of your system, spot problems and set tariffs. Ideally, it's good to know the flow and return temperatures, the flow rates through the HIUs, meter readings at a building and dwelling level and actual energy source reads.

**6. Flexible meters**

If you can, specify heat meters that are open protocol so that more than one Metering and Billing Agent can operate them: this gives you flexibility in the market. You may also want to choose meters that can operate in both credit and PAYG mode.

**7. Maintenance access**

Make sure your heat networks are designed so they can be maintained: from the plant room to the pipes to the HIUs. For example, you may want to consider locating the HIUs external to the units (eg in the corridors) for ease of access for checks and repairs.