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Heat network compliance

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Welcome and introductions

Rachael Mills

Nicholas Doyle

Chirpy Heat

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- Borne from direct experience of working in the sector on heat networks
- Now worked with over 20 housing providers across UK.
- From plant room to board room

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Heat networks in social housing

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So what is a heat network?

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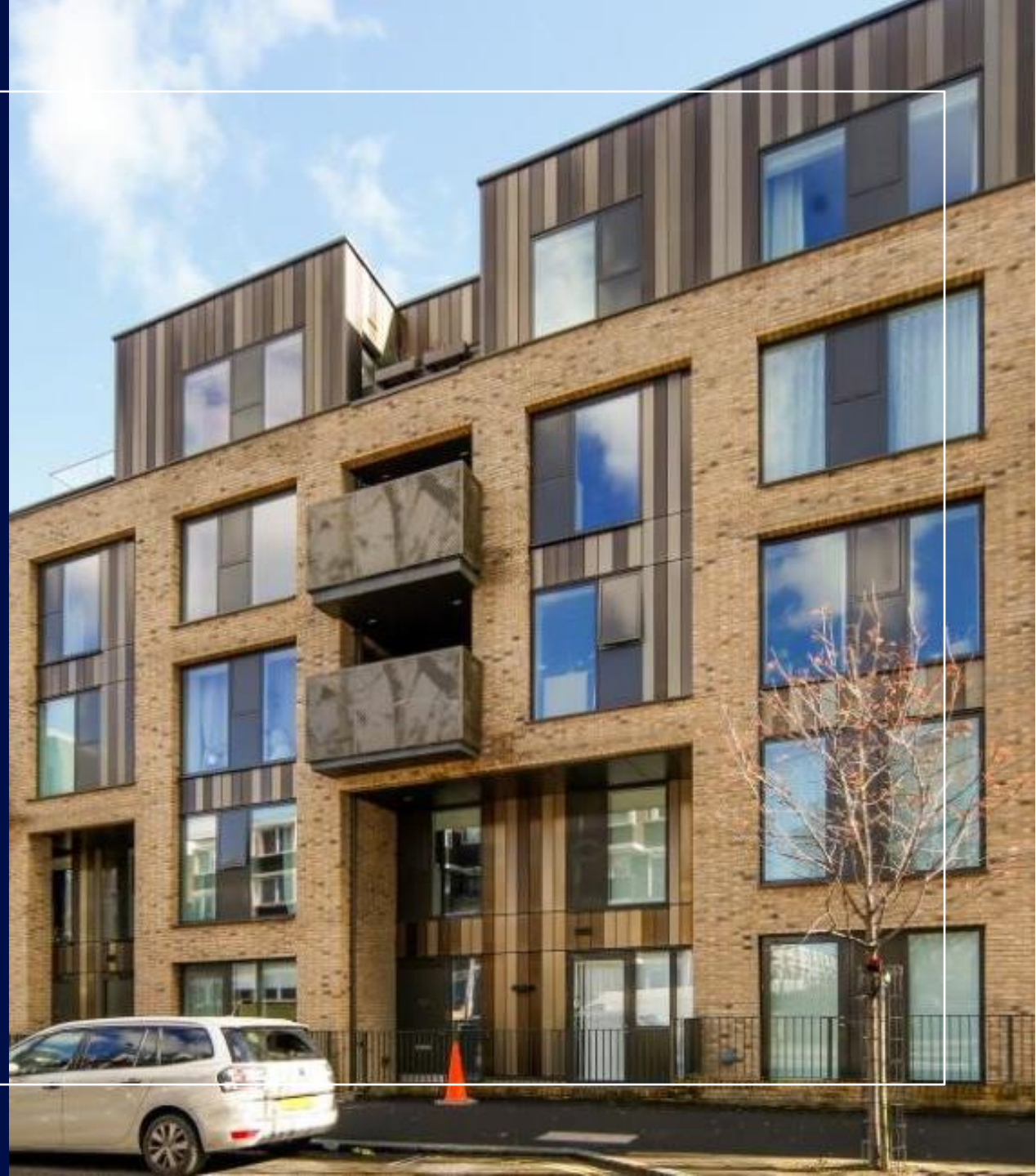

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Heat network elements

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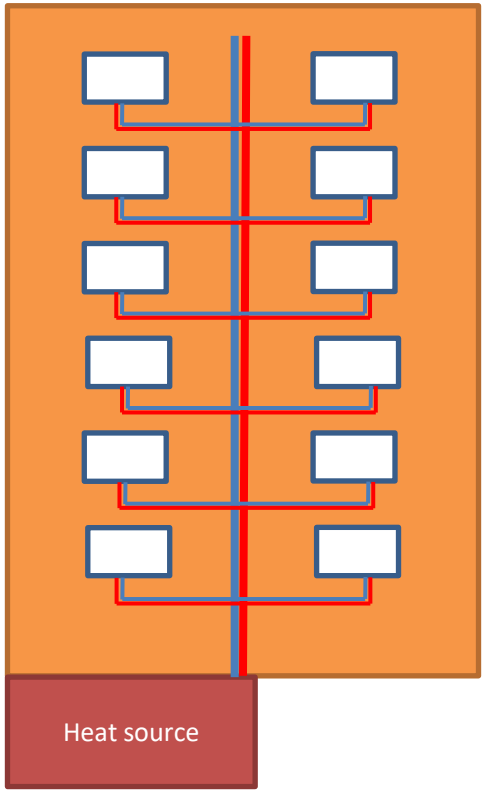
Heat Source – plant room or energy centre.

Distribution pipework
(or primary pipework)



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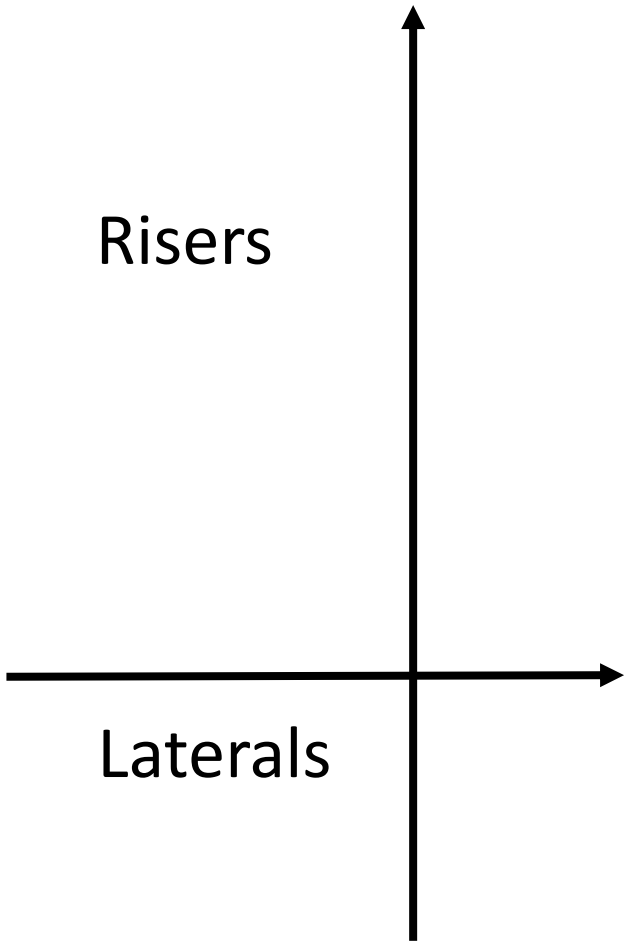
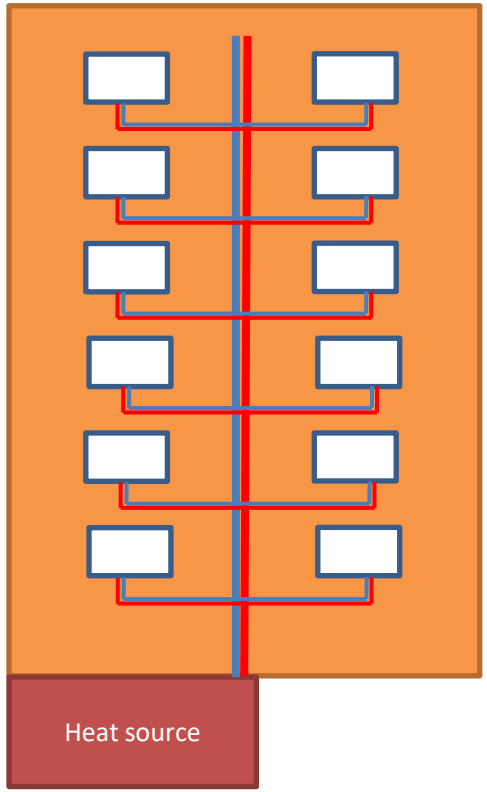
Heat Source – plant room or energy centre.



Distribution pipework
(or primary pipework)



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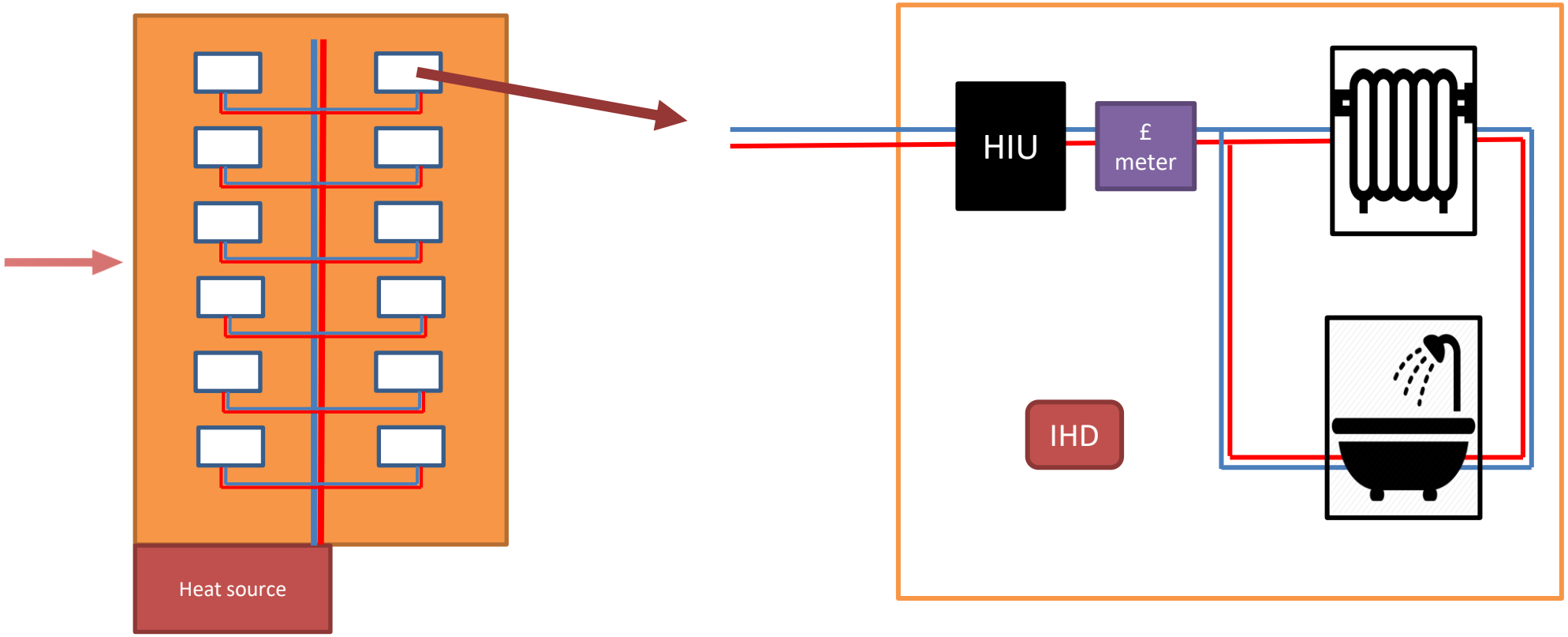
Distribution pipework
(or primary pipework)

Delivery pipework (or secondary pipework)

Heat Source – plant room or energy centre.



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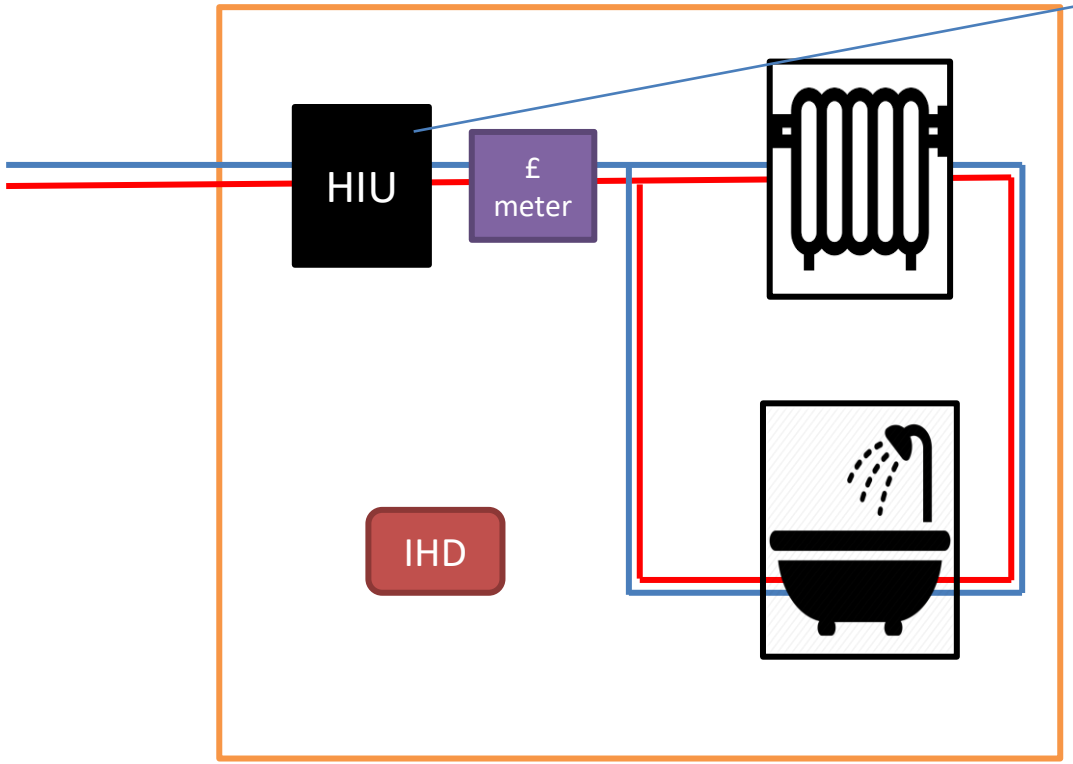
Delivery pipework (or secondary pipework)



HIU = Heat Interface Unit

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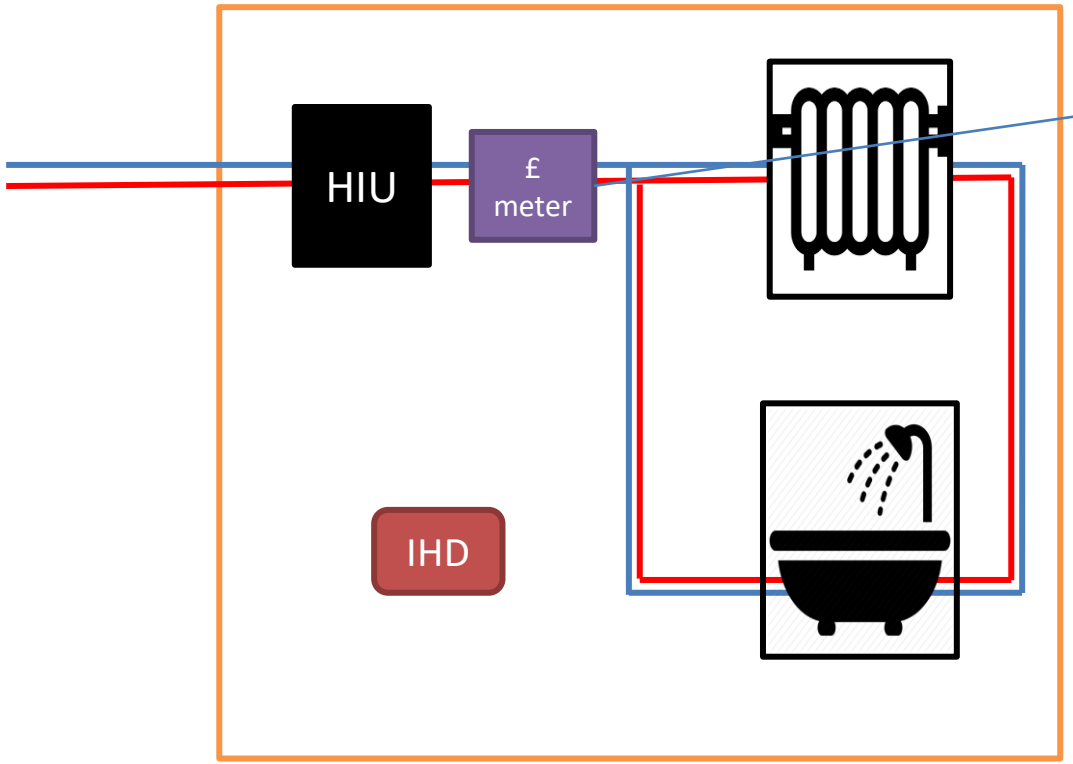
Delivery pipework (or secondary pipework)



Heat Meter

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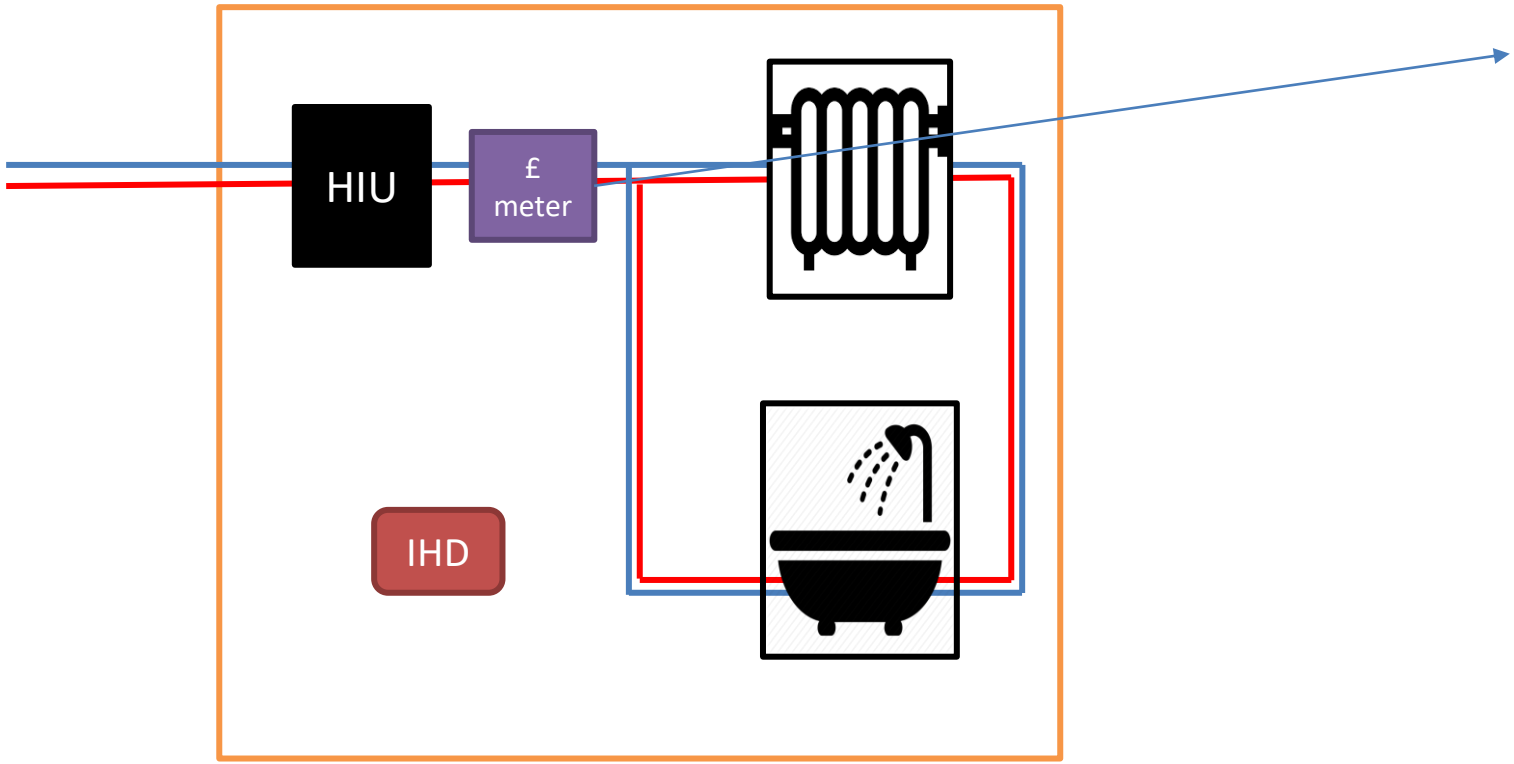
Delivery pipework (or secondary pipework)



Payment Meter

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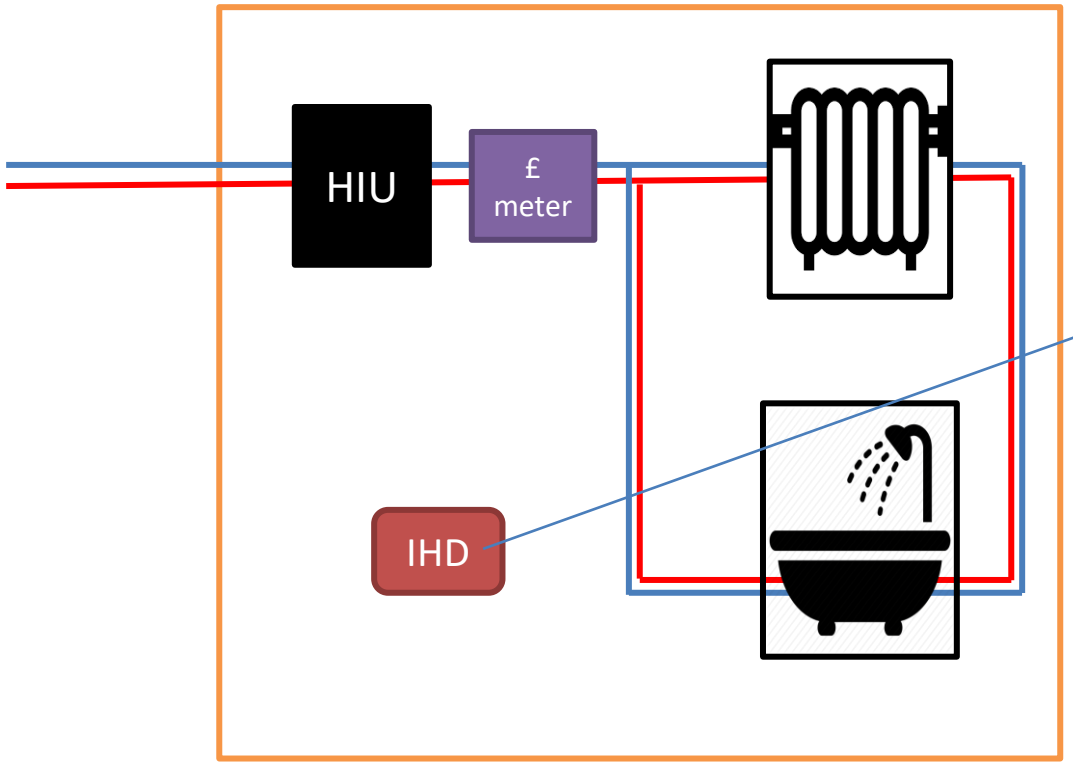
Delivery pipework (or secondary pipework)



In Home Display (IHD)

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Why are heat networks encouraged?

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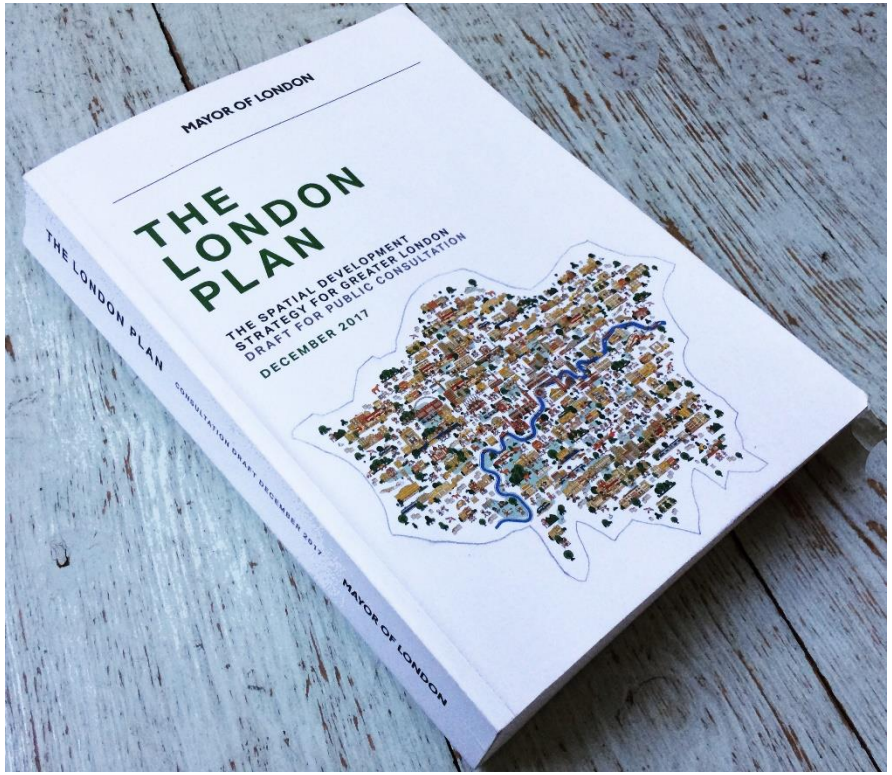
The promise of low carbon, low cost and low hassle.....

- **Low carbon**: flexible heat sources gas, biomass, geothermal, heat pump, energy from waste, waste heat
- **Low cost:** CMA report says heat networks cost less than gas/electricity on average.
  - Fair comparison???
    - New builds and full cost recovery?
- **Low hassle:** should be easier for landlords to manage
  - no gas safety checks
  - easier access (plant room, external HIU's)

Therefore policy has promoted heat networks since 2008

- Promoted via planning policy:
  - London Plan: have to justify why no heat network on new developments.
  - Other cities following suit (e.g. Bristol, Brighton, Leeds, Manchester)

- Clean Growth Strategy: 2% of UK buildings are currently on heat networks: needs to rise to 18% to meet UK carbon reduction targets



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The reality of heat network management

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Happened to sector….

- Housing Associations are big heat Network Operators
- ….but Heat Networks are a small part of what they do: **less than 10% of their stock**
- Become **‘accidental energy suppliers’** through introduction of individual metering and billing
- **Reactive approach** to heat network management and metering & billing:
  - **No strategic approach** or central point of responsibility
  - **Limited internal knowledge & experience**
  - Largely **taken what they’ve been given** by developers
  - **Pick & mix of technologies** and suppliers
  - **Losses and problems hidden** until they reach scale or importance

What happens in practice?

1. Badly designed
2. Poor commissioning and hand over
3. Badly managed
4. Poor performance: efficiency & reliability
5. High customer and landlord costs
6. Customer complaints
7. Management headache!

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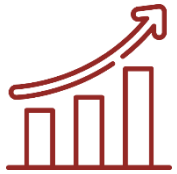
Why does it matter?



High cost to both landlord and tenant

- Capital Expenditure
- Tariffs
- Repairs & maintenance costs
- Management

Regulation & risk

- Debt risk
- Metering & Billing Regulation
- Consumer protection on it’s way

Poor customer service

- High levels of complaints

Management & responsibility

- Who's involved?
- Cuts across many teams
- Multiple contractors
- Duplication or missed tasks

Case study: design review of existing heat network to inform Employer's Requirements

Capital costs: £250k over-design:

- 200% capacity: boilers, pumps & distribution pipework
- Double controls strategy
- Over specified pipes-size

Revenue/operation costs: £45k/year additional running costs

- 25% higher repair & maintenance costs (more plant) = £5k/year
- 40% efficient: resident bills increased by 50% = £15k/year

(review increased efficiency to 50% - saving £8k and 35tnCO2e)

- Plant room – 2xrequired size. 50m2 let-able space = £25k/year

Other issues:

- Overheating in corridors – 35°C in summer
  - Resident complaints (staff time)
  - £50k spend in ventilation retrofit

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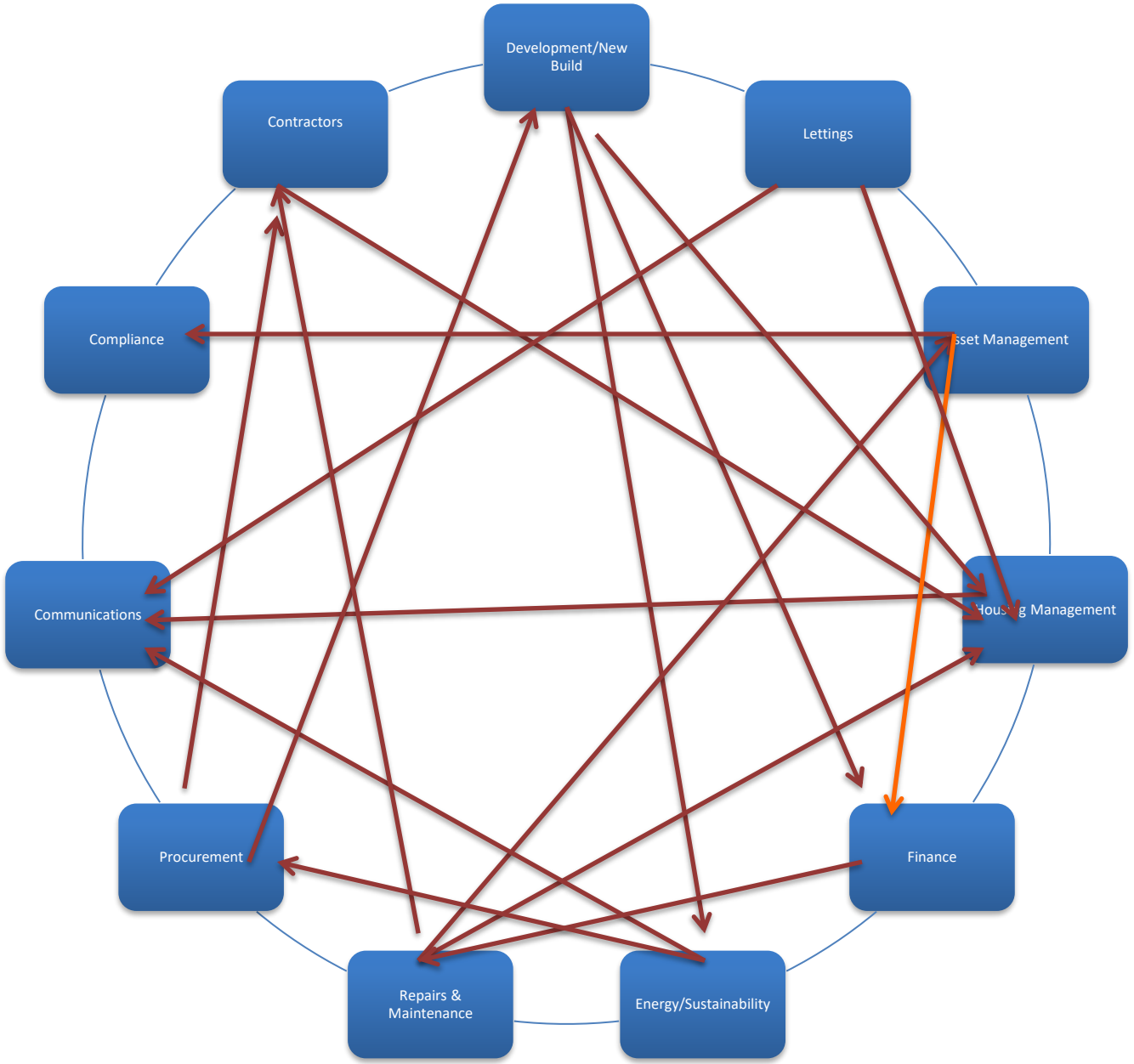
Case Study:

Heat network management process mapping



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A look ahead

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The future part 1: increased regulation

- 2023: Introduction of ‘Heat Network Market Framework’
- Full market regulation akin to gas and electricity (but a lot more complicated!)
- OFGEM likely to regulator
- Customer protection at heart: transparency, pricing, quality of service and technical standards

BEIS Consultation, Jan 2020

https://www.gov.uk/government/consultations/heat-networks-building-a-market-framework

Two main areas

- Legislative changes to give heat network developers equivalent statutory rights and undertakings to other utilities through a licencing arrangement, and
- Making sure market expansion is accompanied by consumer protections to ensure people receive good quality outcomes at a fair price.

Still awaiting BEIS' response

BUT…

- Stakeholder engagement work is ongoing and proposals are being developed further
- Expected to be included in the Queen's Speech in May 2021 and enacted by the end of 2022

Thoughts from THN

- **Customer protection is important** and needed: heat networks are a complex market.
- **We run our heat networks not-for-profit**. There is no surplus/profit margin in our operating models.
- **Heat networks are only a small part of what we do.** In many organisations, there is not a dedicated person/team managing them.
- **A larger proportion of our heat network customers are low income** compared to other heat networks. We are very focussed on ensuring heat tariffs and costs are kept as low as possible.

Thoughts from THN (2)

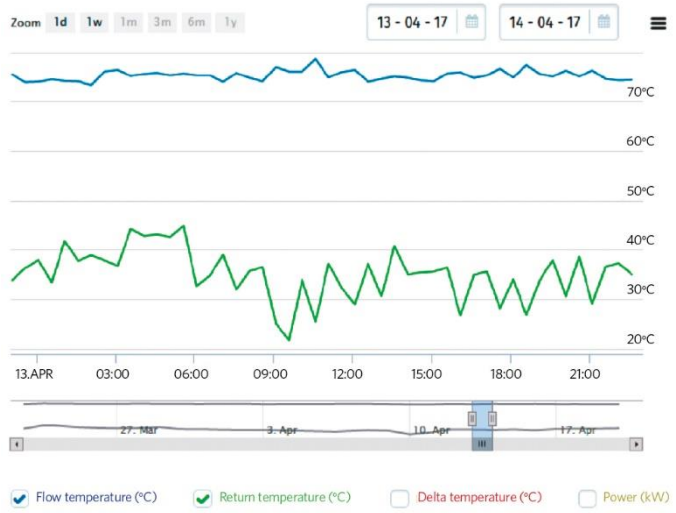
- **Cost of regulation must be kept low.** It needs to be as close to the cost of gas regulation as possible (£2/customer/year) – not the currently proposed £10. We will have to pass the entirety of this cost on to our customers.
- **Considering us at an entity level is not appropriate.** We could fall foul of a fee structure that apportions higher costs to larger heat network operators. We may also be unfairly penalised by fines.
- **We manage a lot of the 'long tail' of heat networks serving less than 100 units.** We need a regulatory transition period to help us deal with these.

Thoughts from THN (3)

- **We need to better understand how these regulations potentially conflict with the Landlord and Tenant Act.** There must be clarity and better coordination, including s106.
- **It's unclear how step-in arrangements would practically work in the social housing sector.** Who will take the assets on? Could this push costs to customers up? What happens in s106 schemes?
- **More needs to be done to help consumers understand heat networks.** We need centrally agreed, consistent key messages

The future part 2: Use of data

- Data will play a key role in all management options:
    - Efficiencies
    - Proactive repairs
    - Status of equipment – life cycle costing
    - Identifying and supporting vulnerable customers
    - Compliance



Three actions today

1. Ensure OPSS return completed.
2. Undertake review of all schemes using Cost Effectiveness Tool.
3. Carry out regulation readiness review.

nicholas.doyle@chirpy-heat.co.uk
rachael.mills@chirpy-heat.co.uk

Chirpy Heat

www.chirpy-heat.co.uk
•
Registered address: Kemp House,
152 City Road London EC1V 2NX

Company registration number: 9965009
VAT registration number: 359 3959 39