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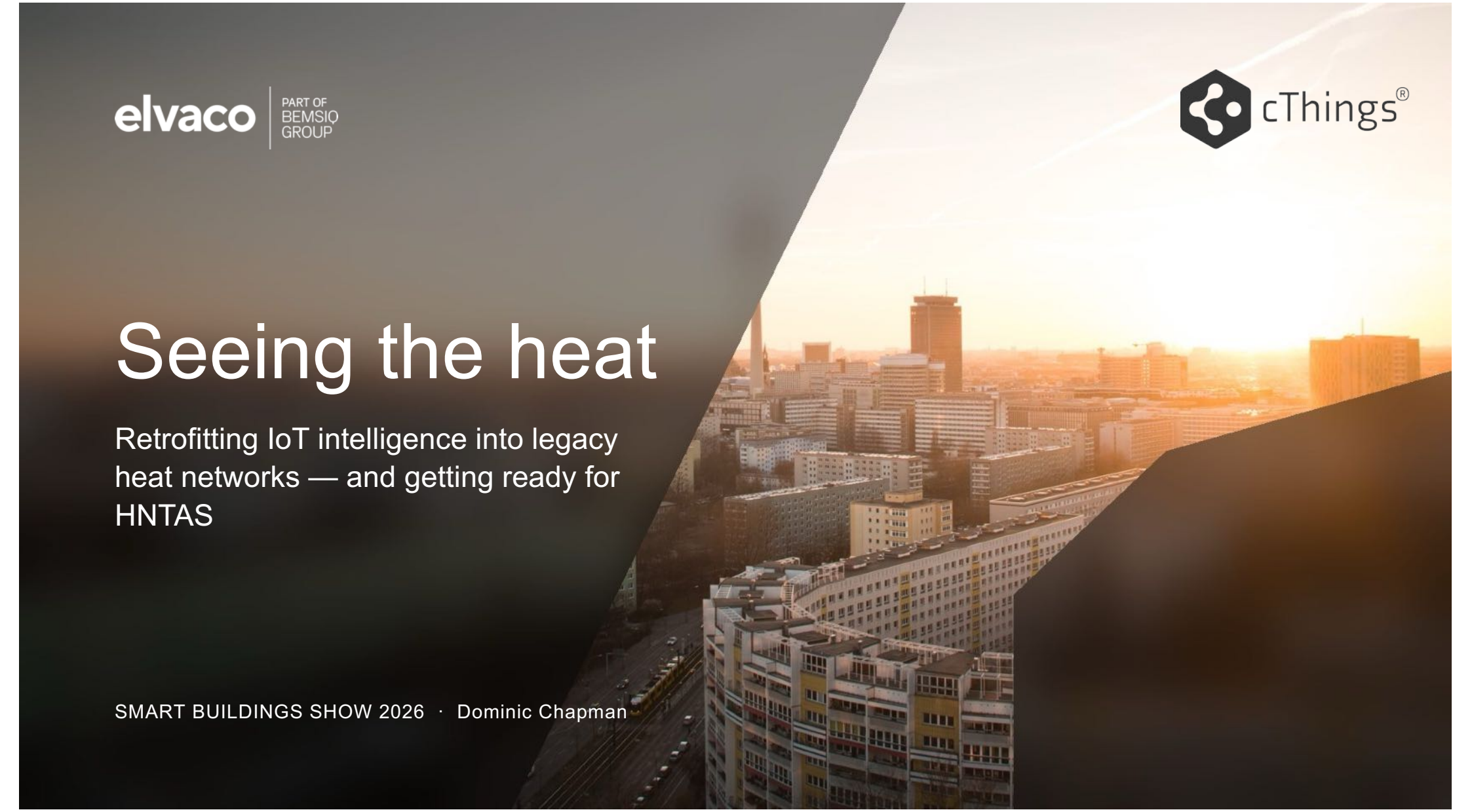
cThings®

Seeing the heat

Retrofitting IoT intelligence into legacy heat networks — and getting ready for HNTAS



SMART BUILDINGS SHOW 2026 · Dominic Chapman

A QUESTION TO START

32%

The efficiency of a 1,000-home district heat network, before anyone measured it.

Where did the other 68% go? We'll come back to that.

01

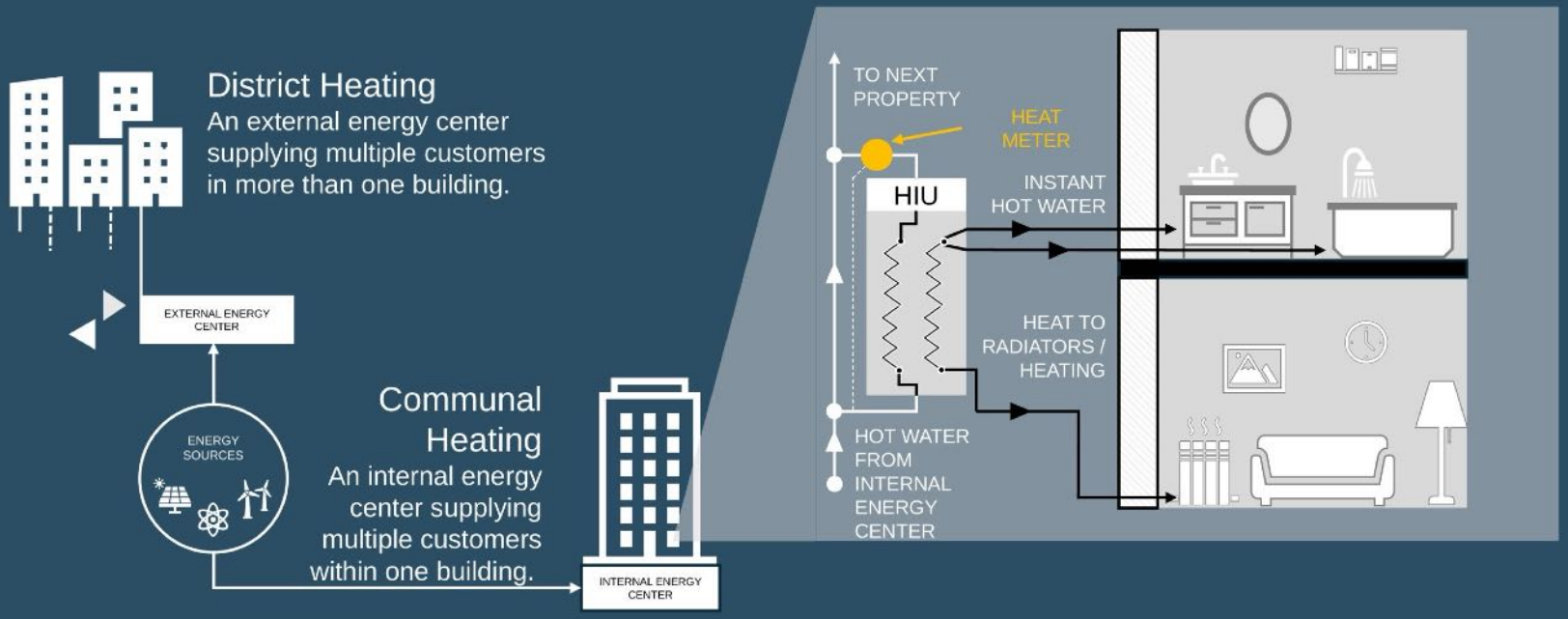
The problem

Can you see what your heat network is doing right now?

HEAT NETWORKS

What are heat networks?

Heat from a central source is distributed to multiple properties for heating, hot water or cooling.



WHY NOW

Heat is now a regulated utility

Jan 2026

Ofgem authorisation regime in force

Operators and suppliers regulated under the Heat Networks (Market Framework) Regulations 2025

Jan–Apr 2026

HNTAS consultation

Published with draft TS1 and a draft Metering & Monitoring Standard

Early 2027

Government response expected

Final code documents and standards to follow

2027

HNTAS regulatory launch

Phased in; mandatory technical standards with assessment and certification

The window between now and launch is the time to build the data foundation - not the time to discover you don't have one.

Sources: DESNZ HNTAS consultation (Jan 2026); gov.uk HNTAS guidance. Dates after Apr 2026 are planned.

WHY NOW

What HNTAS asks of operators

01 Codified standards

CP1 becomes mandatory: TS1 plus a Metering & Monitoring Standard

02 Broad scope

New and existing; district and communal networks

03 Performance-based

Each element assessed across its lifecycle

04 Ongoing evidence

Regular KPI data to an HNTAS digital portal

Source: gov.uk, Heat Network Technical Assurance Scheme (HNTAS)

You can't certify what you can't see.

HNTAS turns heat network performance into an evidence requirement - and evidence starts with data.

QUICK SHOW OF HANDS

Could you answer these today, with data?

? What is your network's return temperature right now?

? How many of your heat bills are based on actual reads?

? How much heat do you lose between plant and home?

Any “not sure”? Then HNTAS is a data problem before it's an engineering one.

WHY NOW

Five blind spots we find on day one

Efficiency

Losses nobody measures

Billing

Estimates and disputes

Compliance

No audit trail

Faults

Found by complaints

Carbon

No baseline

Each one is a cost today - and a compliance risk under HNTAS.

02

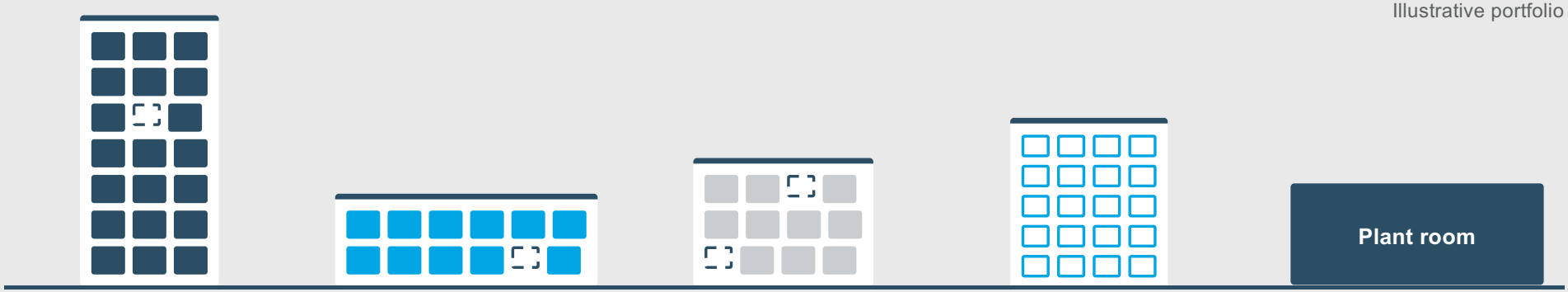
The approach

“Do we really have to rip it all out?”

RETROFITTING LEGACY ESTATES

One portfolio, five starting points

Illustrative portfolio



Riverside Tower
Tower · 120 flats
Communal heating
Wired M-Bus

Oak Court
Low-rise · 48 homes
District heat network
wM-Bus, unread

Elm House
Sheltered · 36 flats
Communal heating
Hand-read only

Harbour Quay
New build · 90 flats
Communal heating
wM-Bus, keys lost

Westfield Leisure
Pool and sports hall
Own plant room
BMS on Modbus

5
properties

294
homes on heat

5
different starting points

0
joined-up view

RETROFITTING LEGACY ESTATES

Retrofit, don't replace

01

Audit

Find every meter, controller and comms path

→

02

Connect in place

Reuse what's there; fill only the gaps

→

03

Normalise

One data model, one asset registry

→

04

Act

Alerts, bills, ESG reports, HNTAS evidence

Spend on the problems the data finds - not on replacing what works.

RETROFITTING LEGACY ESTATES

Easy to retrofit: four protocols, one toolkit

M-Bus

RETROFIT BY

Reading meters already cabled on the bus

BEST FOR

Plant rooms and pre-wired blocks

Elvaco: Elvaco Edge and CMe gateways

Wireless M-Bus

RETROFIT BY

Picking up radio many meters already send

BEST FOR

Apartment blocks - no new cabling

Elvaco: Elvaco Edge, 1,000+ meters each

LoRaWAN

RETROFIT BY

A module that fits inside the existing meter

BEST FOR

Spread-out sites and campuses

Elvaco: Meter modules support major meters

NB-IoT

RETROFIT BY

A module on the mobile network, no gateway

BEST FOR

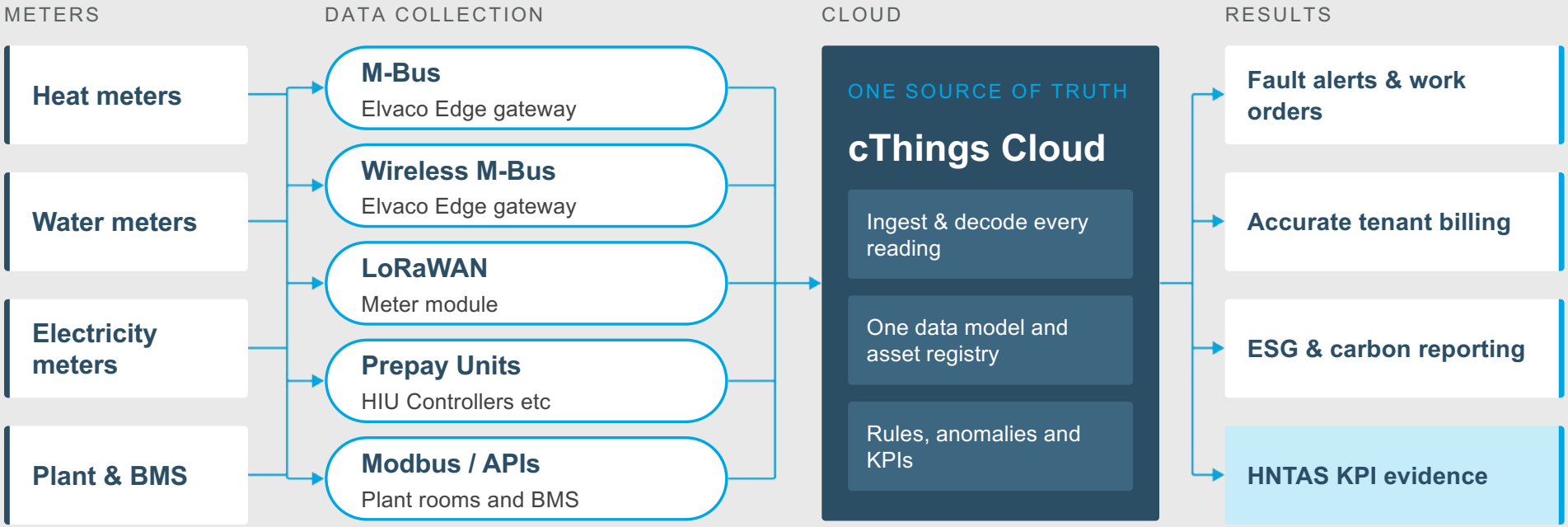
Isolated buildings and single assets

Elvaco: Meter modules support major meters

10M+ meters on Elvaco infrastructure. Every route lands in **cThings Cloud**: one platform for data, alarms and exports.

RETROFITTING LEGACY ESTATES

From meter to action



Any meter, any protocol - one cloud, one source of truth.

03

The payoff

“We have the data. Now what?”

RETROFITTING LEGACY ESTATES

Creating a connected heat network

A **connected heat network** adds smart, energy-efficient technology to traditional district and communal systems - enabling remote monitoring, control and optimisation across the whole network and in every individual property.



Smarter heating, less waste

Improved heat delivery

Every home metered exactly

Catch faults before failure

Lower energy, lower carbon

FROM DATA TO ACTION

Spot the fault

SIGNAL		LIKELY CAUSE		ACTION
High return temp, low ΔT	→	HIU faults or bypasses	→	**Targeted HIU visits**
Flow with no demand	→	Leaks or stuck valves	→	**Dispatch early**
Meter silent or frozen	→	Comms or battery failure	→	**Fix before billing**
Losses creeping up	→	Insulation or pumping	→	**Investigate losses**
Plant efficiency drifting	→	Degraded controls	→	**Re-tune the controls**

FROM DATA TO ACTION

Case study: heat networks in action

THE CHALLENGE

An operator supplying 1,000+ properties in a sustainable community couldn't see how efficient its network was. Goals: cut carbon, deliver quality heat and minimise residents' costs.

THE SOLUTION

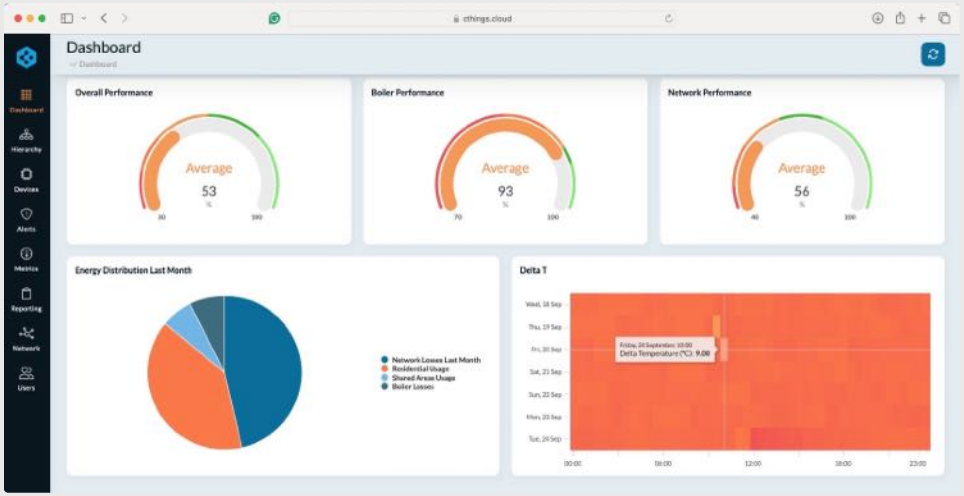
cThings collected data from the energy supplier, residential meters and the BMS - revealing network efficiency, setting performance targets and guiding BMS control and targeted maintenance.

THE RESULTS

Despite rising wholesale energy prices, residents saw no price increases thanks to the efficiency gains - contributing to a truly sustainable community.

32% → 65%+

Network efficiency, before and after



04

Getting ready

“Where do we start?”

FROM DATA TO ACTION

One dataset, three audiences

REGULATOR

Compliance evidence

HNTAS KPI submissions
Auditable metering data
Consumer protection

RESIDENTS

Billing transparency

Read-based bills
Usage visibility
Faster fixes

COMPLIANCE

ESG and decarbonisation

Carbon baseline
ESG reporting
Targeted capex

Collect once. Report many times.

LESSONS & NEXT STEPS

Six lessons from thousands of assets

1

Asset register before dashboard

2

Survey before you promise data

3

Decode once, centrally

4

Expect missing data

5

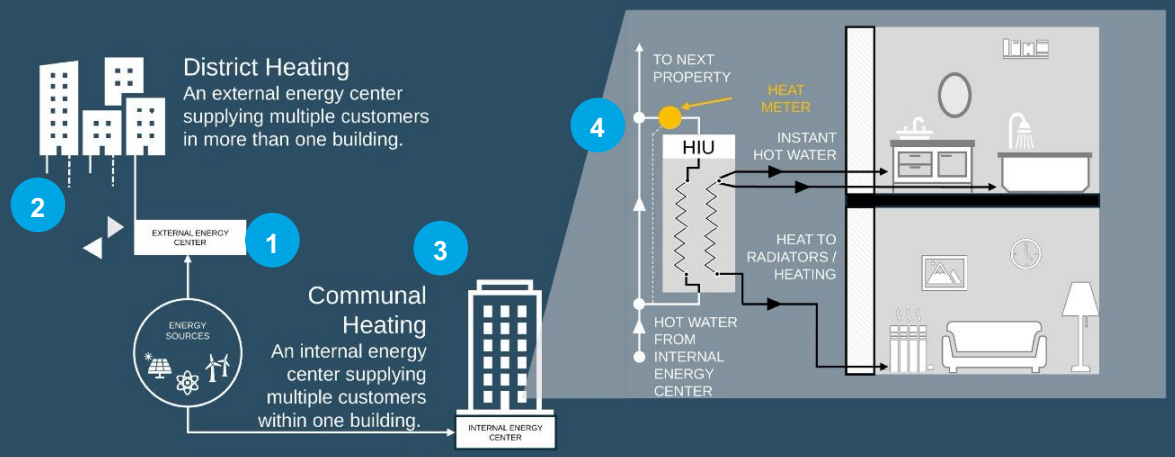
Every alert needs an owner

6

Commissioning never ends

HNTAS READINESS

Getting HNTAS-ready, element by element



1. **Energy centre**
   Meter heat generated; monitor plant efficiency and flow/return temperatures
2. **District network**
   Compare heat sent out with heat delivered to quantify losses
3. **Communal network**
   Building-level flow and return temperatures, riser losses, pumping
4. **Consumer**
   Read every dwelling meter; track HIU return temperatures and faults

Confirm scope → **audit metering** against the draft Metering & Monitoring Standard → **baseline now** → **one auditable dataset** for KPI submissions to the HNTAS digital portal

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YOUR NEXT STEP

Pick one network. Measure it. Before HNTAS asks you to.

32% became 65%+ once it could be seen.
Questions?

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