

CHANGEWORKS.

From Data to Decisions: Improving Tenant Comfort and Lowering Carbon

Changeworks Connects 30th October 2025

Changeworks Connects

- Launched 2024 with two events and a conference to date
 - *Retrofit of Edinburgh's iconic social housing buildings*
 - *Heat in Buildings Bill*
- Aims:
 - Connect key industry stakeholders,
 - Facilitate learning
 - Increase collaboration.
- Please share any thoughts on future in-person and online sessions.



Agenda

- **Welcome and introduction** – Ian Cochran
- **Connected Response: Introduction and overview** - Felix Wight
- **Switchee: Introduction and overview** - Simon Akufo-Tetteh and Vicky Lynch
- **Opportunities and value add of improved data collection** – Joanna Long
- **Q&A / Panel discussion**
- **Closing remarks** – Ian Cochran

CHANGeworks.



Welcome

Dr. Ian Cochran
Head of Consultancy

Changeworks Connects 30th October 2025

CHANGEWORKS.



OUR STRATEGY



**Changeworks' strategy to 2030 has one focus:
to decarbonise Scotland's homes.**

Our vision

For a world where everyone is able to live, work and enjoy life with a low carbon impact.

Our mission

To make low carbon life a positive reality for everyone.

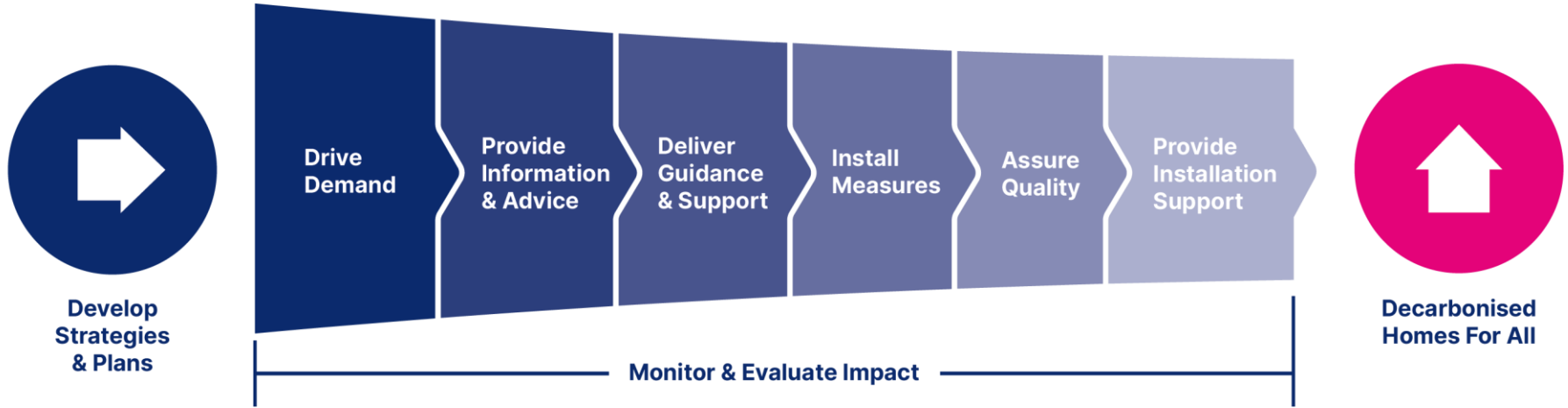
The challenge

Scotland has some of the least energy-efficient homes in Europe, leaving 34% of people in fuel poverty.

Housing providers are managing diverse stock and heating systems while navigating stock improvement choices and meeting tenant needs.



The Home Decarbonisation Journey



OUR IMPACT 2024-25



We provided advice to **47,193** householders through Changeworks' services including our delivery of **Home Energy Scotland** in the Highlands and Islands and Southeast.



We provided in-depth support to **4,491** households in fuel poverty.



Our carbon footprint per Full Time Employee decreased by **19%** from the previous year.



12,359 homes received support to install energy efficiency measures and renewables through Changeworks' services including those who were supported with loan and grant referrals for identified measures by our **Home Energy Scotland** teams in the Highlands and Islands and Southeast, as well as those supported in Scotland through our joint venture partnership **Warmworks**.



We saved **366,677** tonnes of carbon*. This is equivalent to the annual average carbon emissions via home electricity use of **655,809** households.

*Changeworks' carbon savings through our services (including Warmworks, our joint venture partnership with Sureserve and Energy Saving Trust)

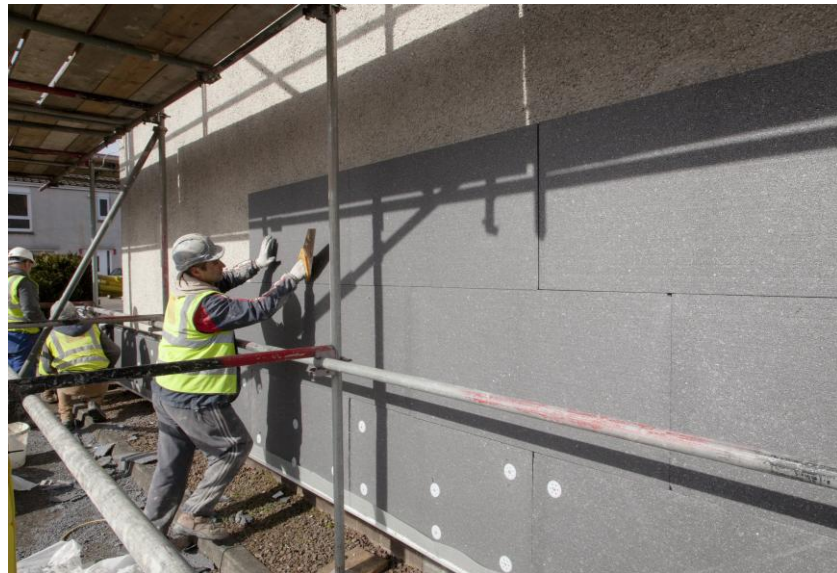
Today's opportunity: better data, better decisions

Aim:

- Meet energy efficiency and carbon emission targets, while at the same time improving the comfort and wellbeing of tenants.
- Share data and learnings to drive practical, impactful, and no-regret retrofit programmes.

Use innovative smart technologies to:

- Gain valuable insights into building performance and occupant behaviour.
- Make evidence-based decisions and plans for your housing stock and overall strategic plans.
- Help tenants to better manage their home energy use and identify support needs.



“Generating insights and income: How smart controls can unlock the potential of all-electric homes”

Presentation to Changeworks Connects 30/10/25

Felix Wight
Commercial Director



Background and current status

- Company established in 2019, background in **energy metering** and **smart heating** systems
- Mission to provide a **better heating experience** for the 1.5million UK properties with **electric storage heaters**
- Vision of **reduced fuel poverty** and **increased sustainability** through matching with **renewable generation**
- Purchased by **Warmworks** in 2021
- Currently installed in **c15,000 properties** with over **20 RSLs**
- In 2025 assessed by BRE as a measure within **SAP**



HeatSage smart switch

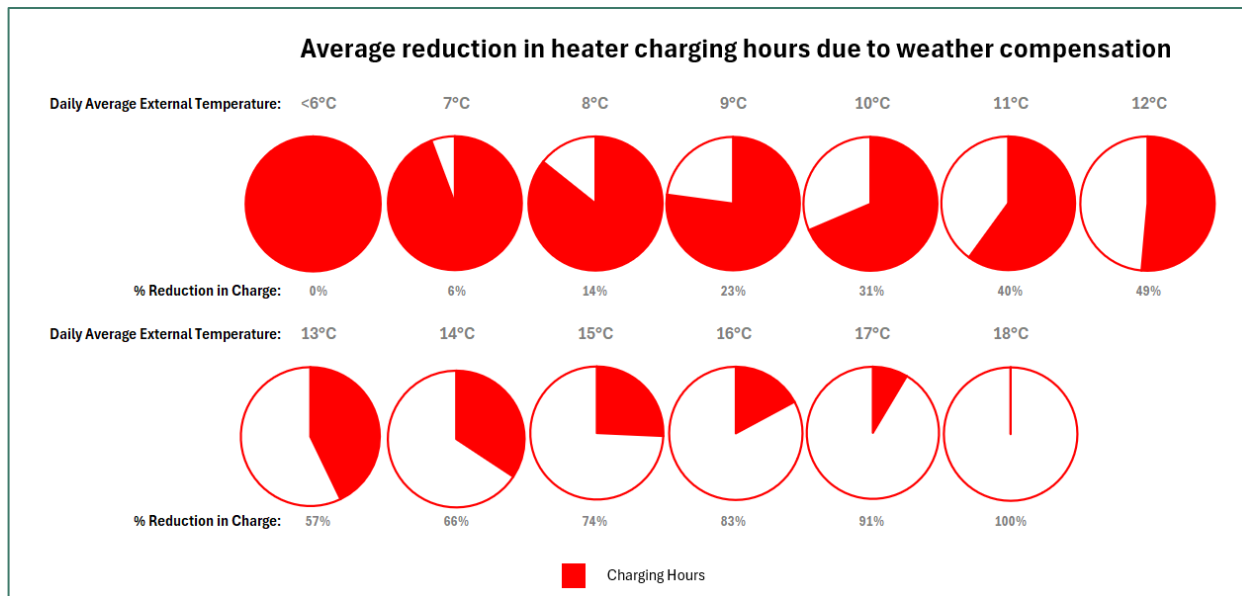


HeatSage temperature and humidity sensor

We use smart technology to give our customers better heating and hot water:

Increased **control**, improved **comfort**, reduced **cost**, lower **carbon**

How it works- weather compensation



HeatSage can see the future- so you don't have to

How it works- customisation

- **Heating and hot water settings can be adjusted** by the customer
- As part of our remote support, we provide a **freephone telephone number** for settings changes, as well as a multi-platform **app**
- Optional 'daily heating cap' to help **control costs**
- Focusing heat and hot water provision on when it is most needed helps **improve comfort and reduce running costs**

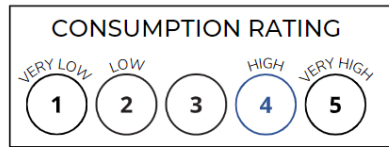
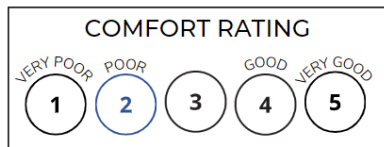
How it works- tariff alignment

- HeatSage is **compatible with any type of tariff**
- Customers with storage heaters have often struggled to change tariff
- This has become easier with the **wider availability of smart meters**
- Suppliers are offering **new tariffs** (e.g. Octopus Snug) with different off-peak times to traditional tariffs
- **Important that tariff times are updated** on heaters or heating controls- HeatSage can facilitate this

BEFORE

“By late morning, I was already needing to put my house-coat on and sometimes even wrap a blanket around me!”

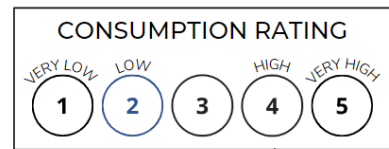
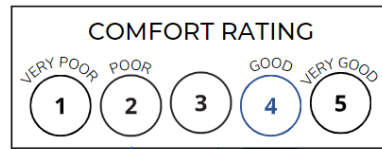
“It would get cold around mid-day and I would need to use additional heating in the afternoon – it was rubbish!”



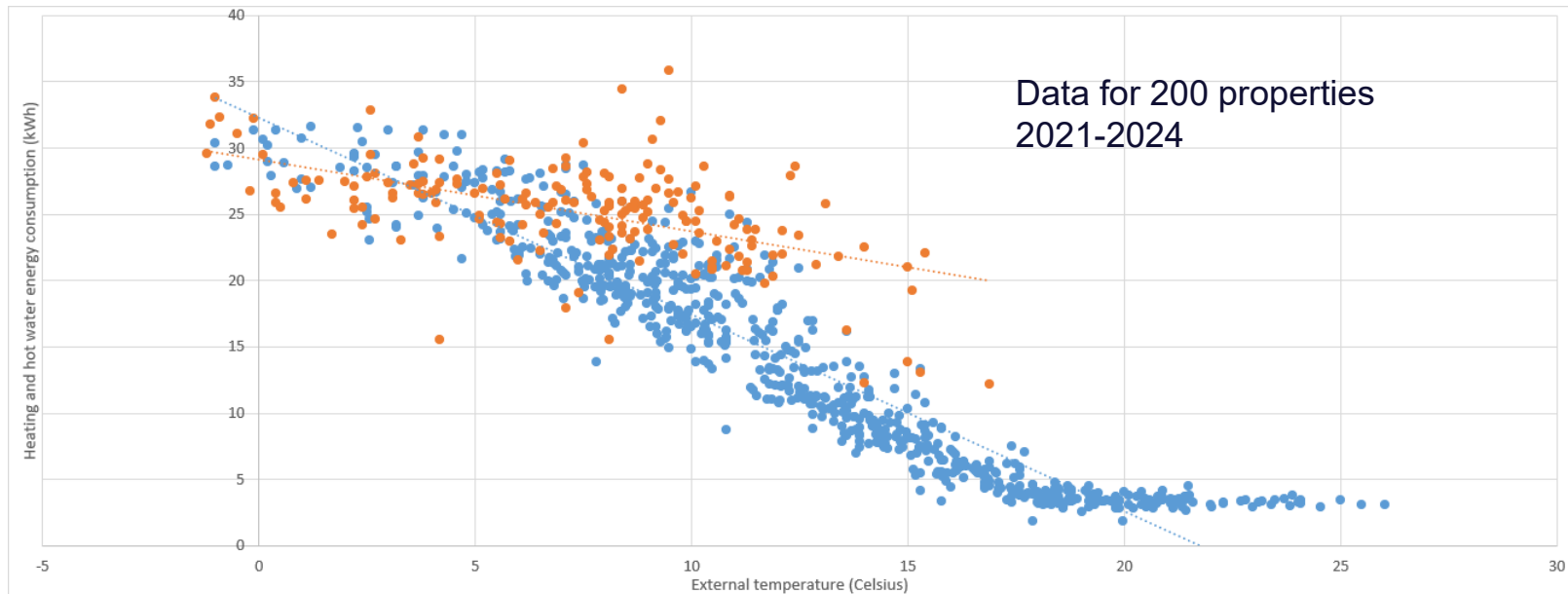
AFTER

“The controls have made a big difference – I had bought myself a new electric fire and fireplace during lockdown, but I’ve not had to switch it on for over two years.”

“It’s been great! My children are always playing between the rooms so it’s brilliant to have the entire flat warm throughout the whole day, regardless of how hot or cold it is outside.”

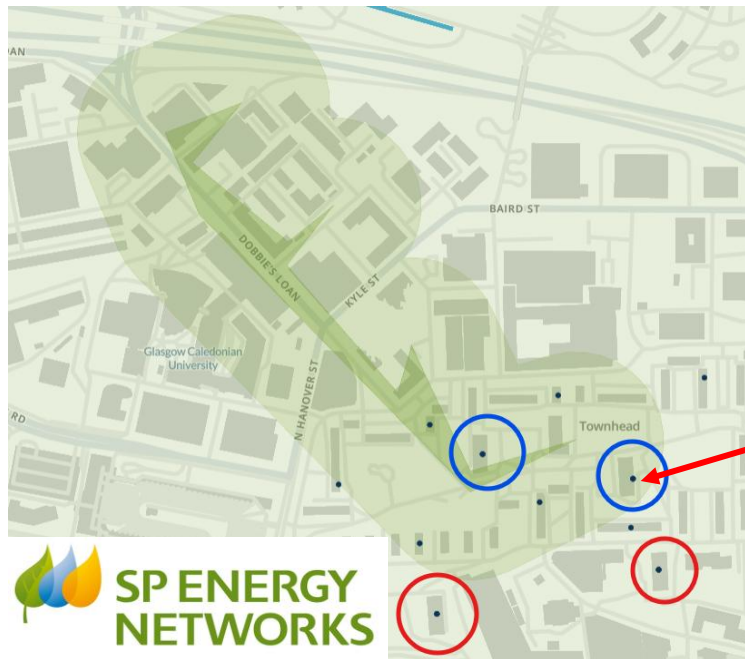


Seeing the value- energy savings



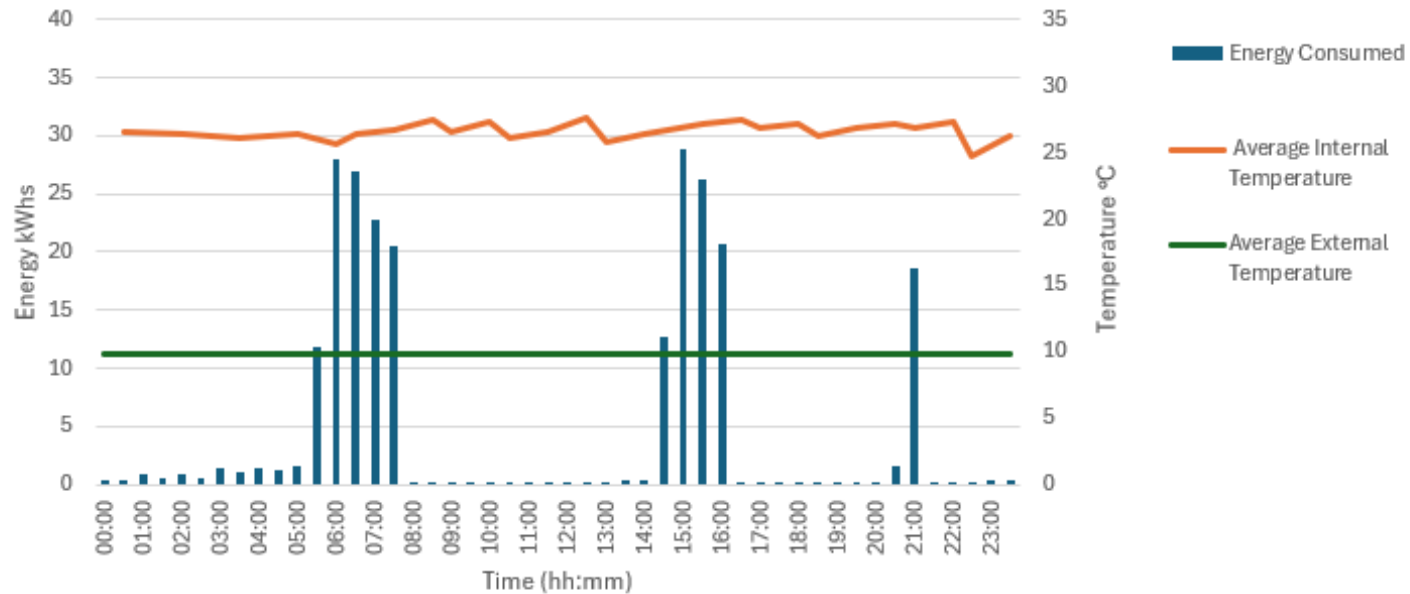
30% reduction in annual energy demand

Seeing the value- flexibility revenue



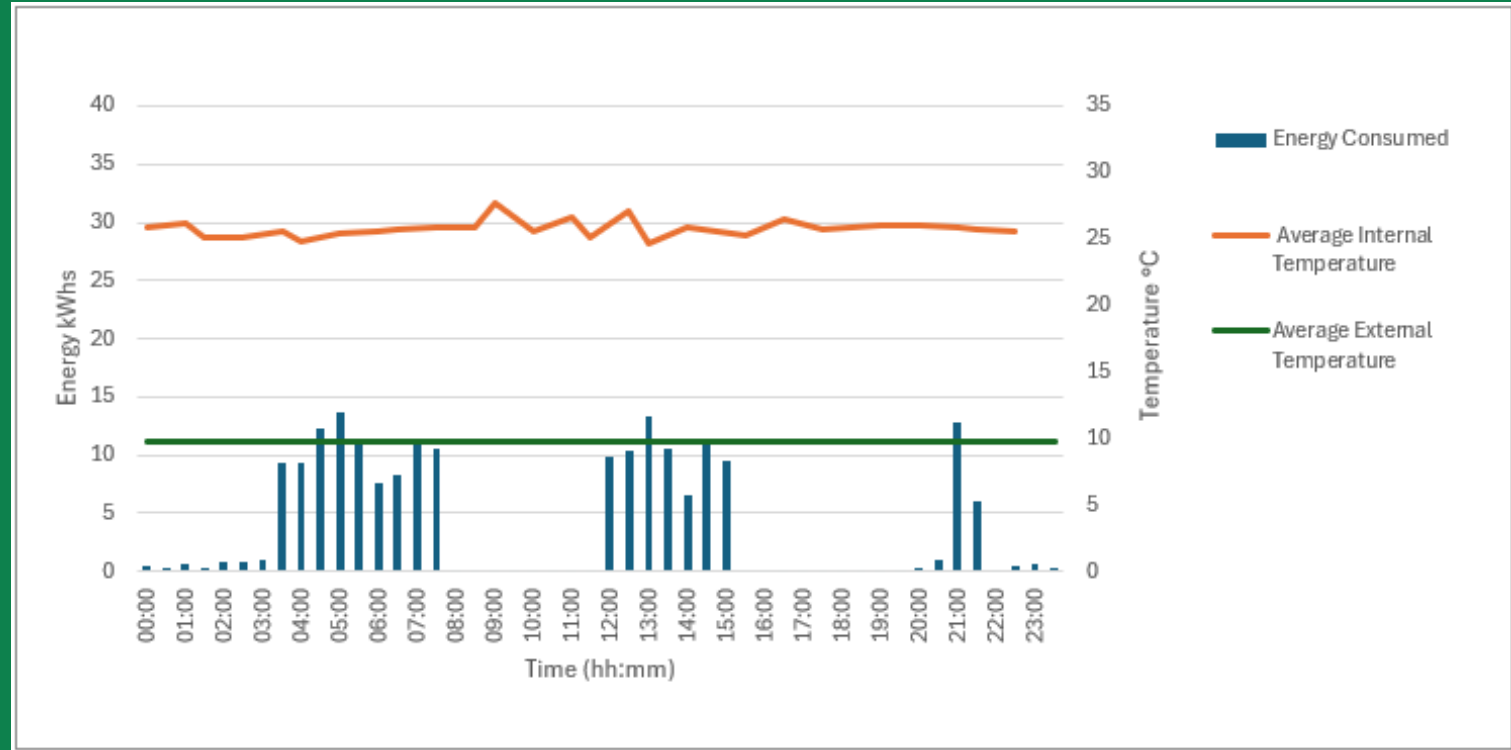
£100/property/year forecast revenue

21/02/2025 Baseline- No Flex

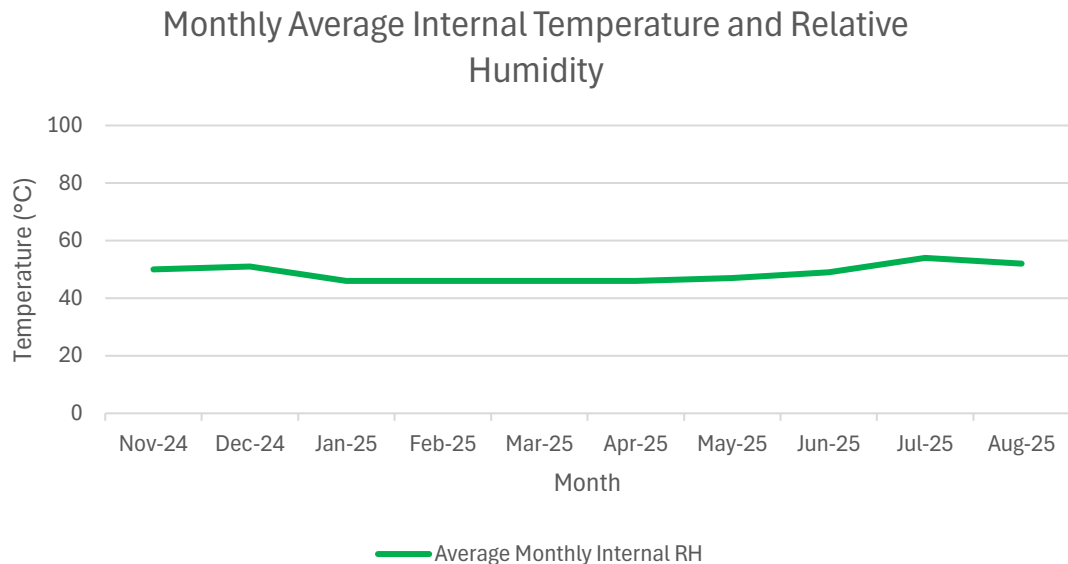


27/3/25 Flex enabled

No reduction in comfort, 52% reduction in peak



Seeing the value- mould risk reduction



49% average RH across 138 flats vs IAQM 40-60% recommended range

Seeing the value- cost savings

	Annual non heating consumption (kWh)	Annual heating and hot water consumption (kWh)	Total consumption (kWh)	Traditional E7 tariff including standing charge (p/kWh)		Smart tariff including standing charge (p/kWh)		Annual cost	Monthly cost	Annual saving
				Peak	Off-peak	Peak	Off-peak			
Electric storage heater	2000	4000	6000	33.05	18.91			£1,418	£118	£0
ESH with smart controls, smart meter and cheapest smart tariff	2000	3000	5000			32.48	12.97	£1,039	£87	£379

Less than three-year payback based on £1000 supplied and fitted

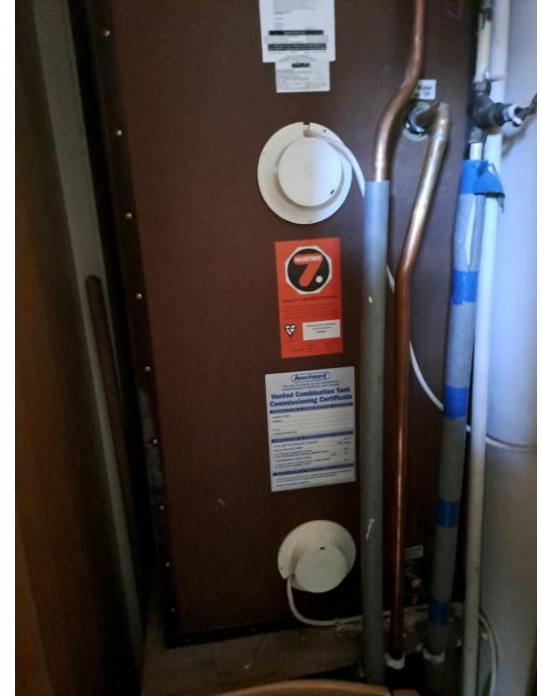
Simple installation process- less than 1h

- Smart Switch is fitted **alongside the electricity meter** and consumer units
- Depending on existing hot water configuration, **minor electrical works** may be required to enable control of off-peak immersion element
- Temperature and Humidity Sensor is **battery powered** and is usually fitted in the living room
- Installation can be undertaken by **any qualified electrician** if the property already has a main isolator fitted

Compatible with all storage heater types



Compatible with all electric immersion tanks



Additional services for social landlords

1. Resident engagement
2. Optimisation of on-site renewables
3. Energy procurement support
4. IoT comms infrastructure
5. Smart metering and submetering

Summary of key features

- A **proven option** for social for landlords to upgrade existing storage heating and hot water systems, at much **lower cost** than replacement
- **Doesn't require broadband** in tenant properties- uses Zigbee/GSM connectivity
- **Freephone telephone support** option for setting preferences- doesn't require any technical skills or smart devices
- **Improved comfort, increased control, reduced cost**



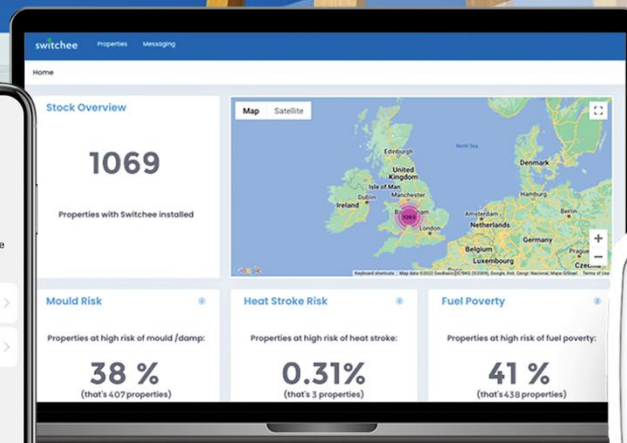
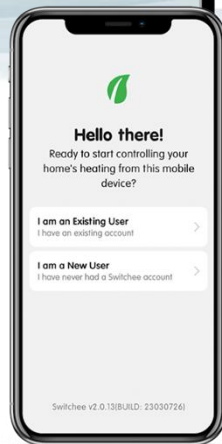
Felix Wight
Commercial Director

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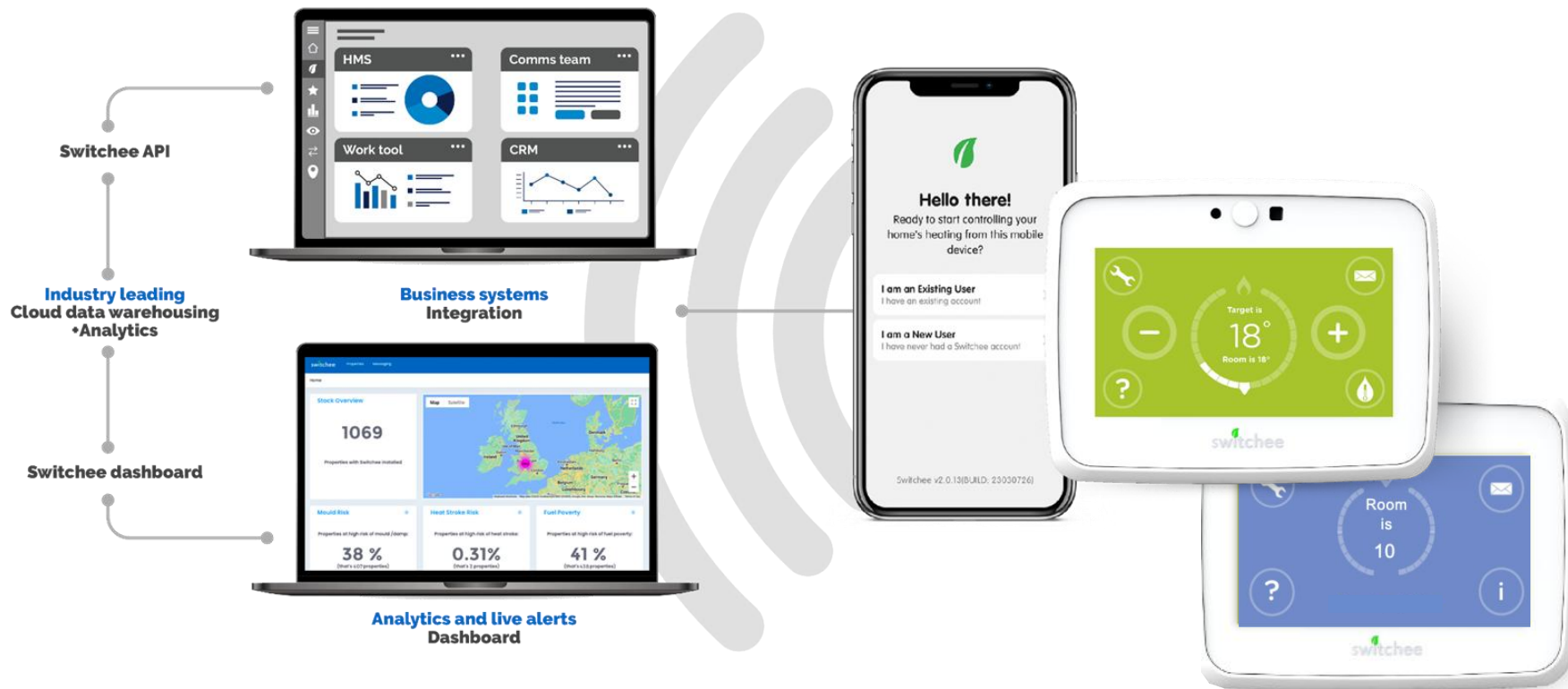


Switchchee

Introduction and overview



Our digital ecosystem



Challenges faced by you.



Cost of living crisis - fuel poverty

Identify and direct support for residents in fuel poverty



Damp and mould

Identify and address the causes of mould growth. Measure interventional impact.



Resident engagement and wellbeing.

Targeted communication and proactive support.



Preventative maintenance

Data-driven, proactive, targeted interventions and prioritised use of resources



Energy efficiency / Net Zero

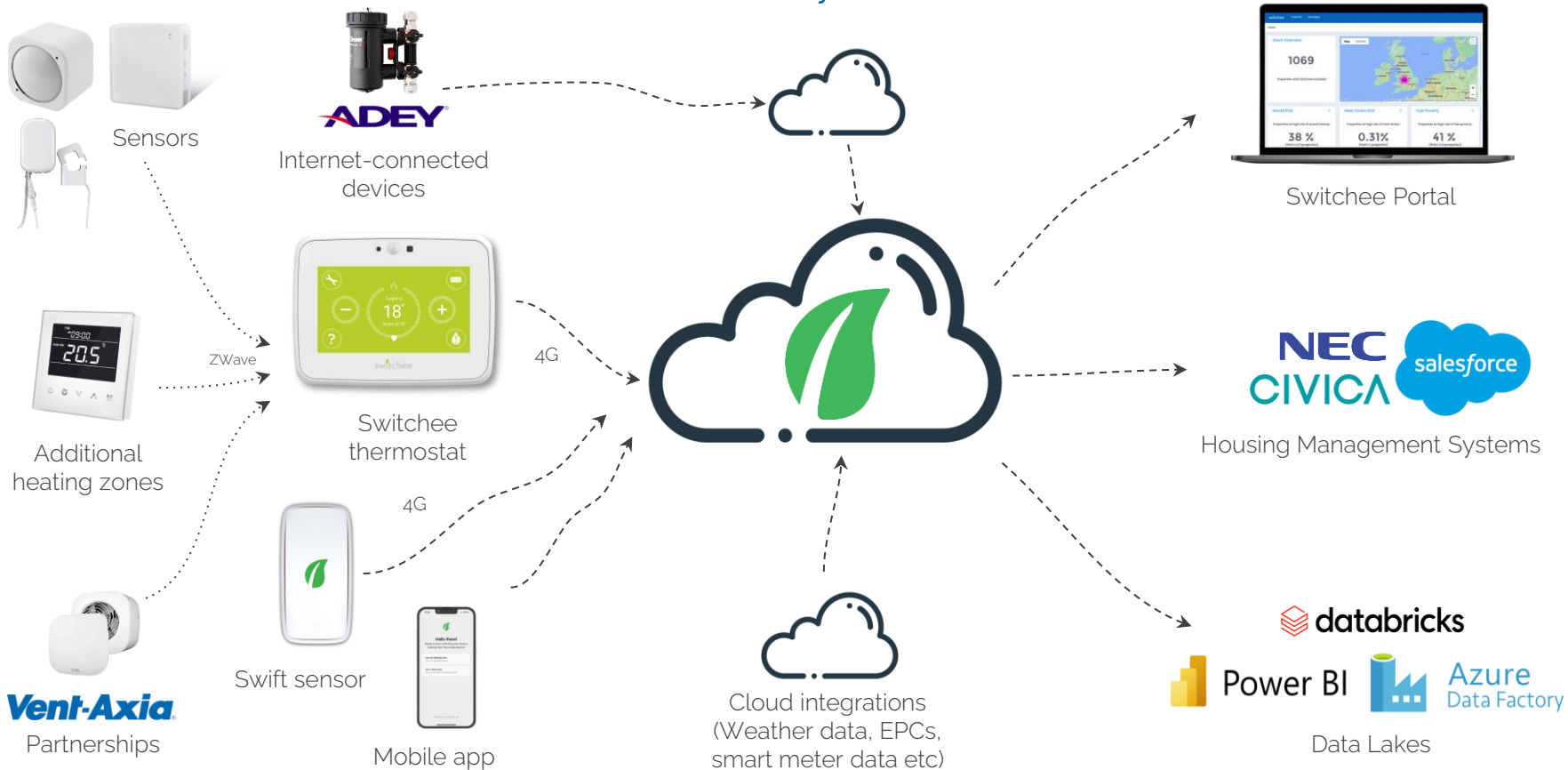
Retrofit validation and impact analysis



Strategic asset management

Data-driven mid and long-term decision-making

The Switchee IoT ecosystem





Mould risk



- Between January 2024 and July 2024 1,157 Switchee devices and 2,062 ventilation fans were installed into Citizen's properties, by the Switchee Trusted Installer Network (STIN).
- 89% of properties had a Switchee installed prior to ventilation works. Across these properties we analysed both the reduction in mould risk and resident satisfaction with the works.

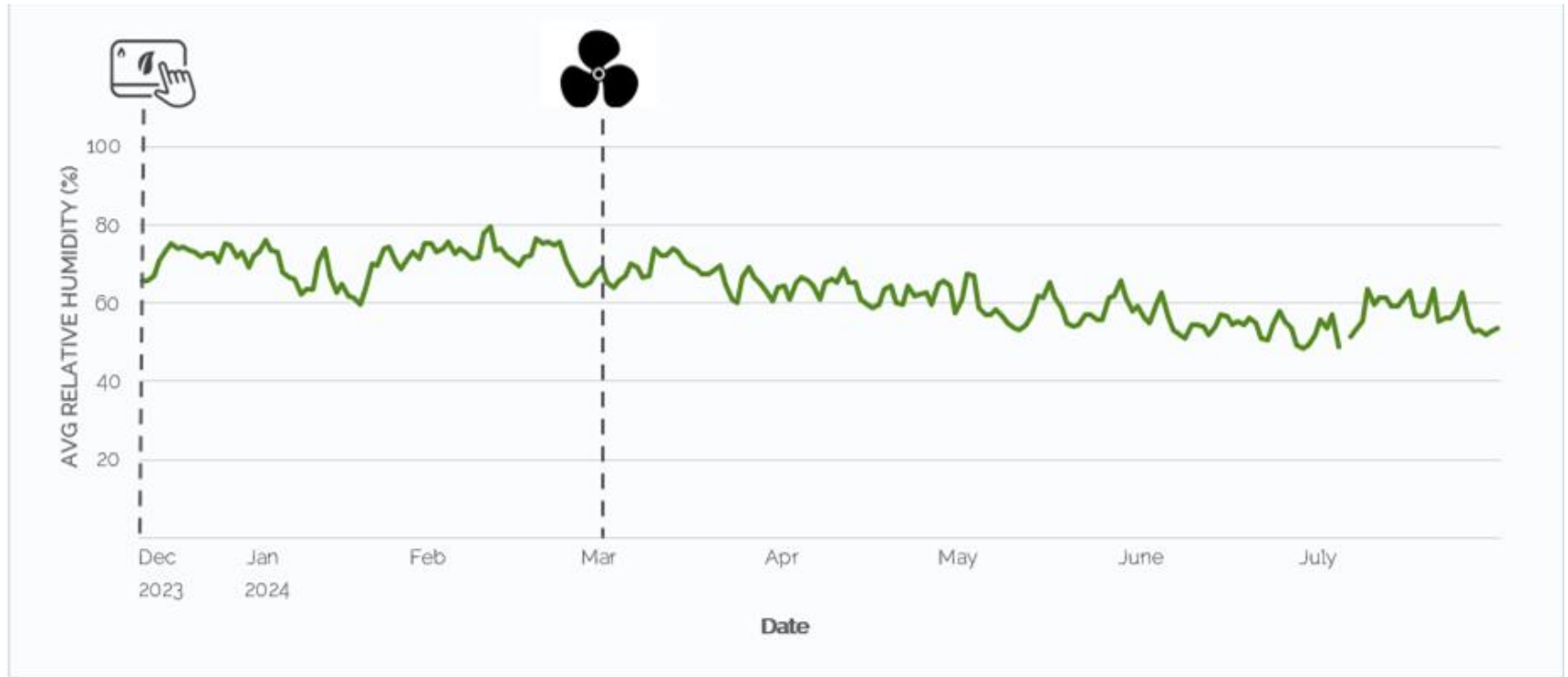
75%

of properties saw a decrease in their mould-inducing conditions.

61%

of residents were happy with the performance of their ventilation.

Property Example





Resident experience and as means for feedback



The key results were:

79%

of residents found their
Switchchee device easy to use.

79%

preferred Switchchee to their
previous thermostat.

- Via the Switchchee device we contacted 900 residents to understand the impact of the new ventilation and Switchchee device in their homes. We received a 87% response rate, with 77% in just 24 hours.

Switchee improves the quality of life for people living in rented homes.



Switchee is the UK's largest platform of internet connected devices that reduce fuel bills and provide a real-time data feed to and from the property.

16 Billion

housing data
points gathered
annually

176.5kg

of CO2 saved per
device each year

120

Enterprise
customers



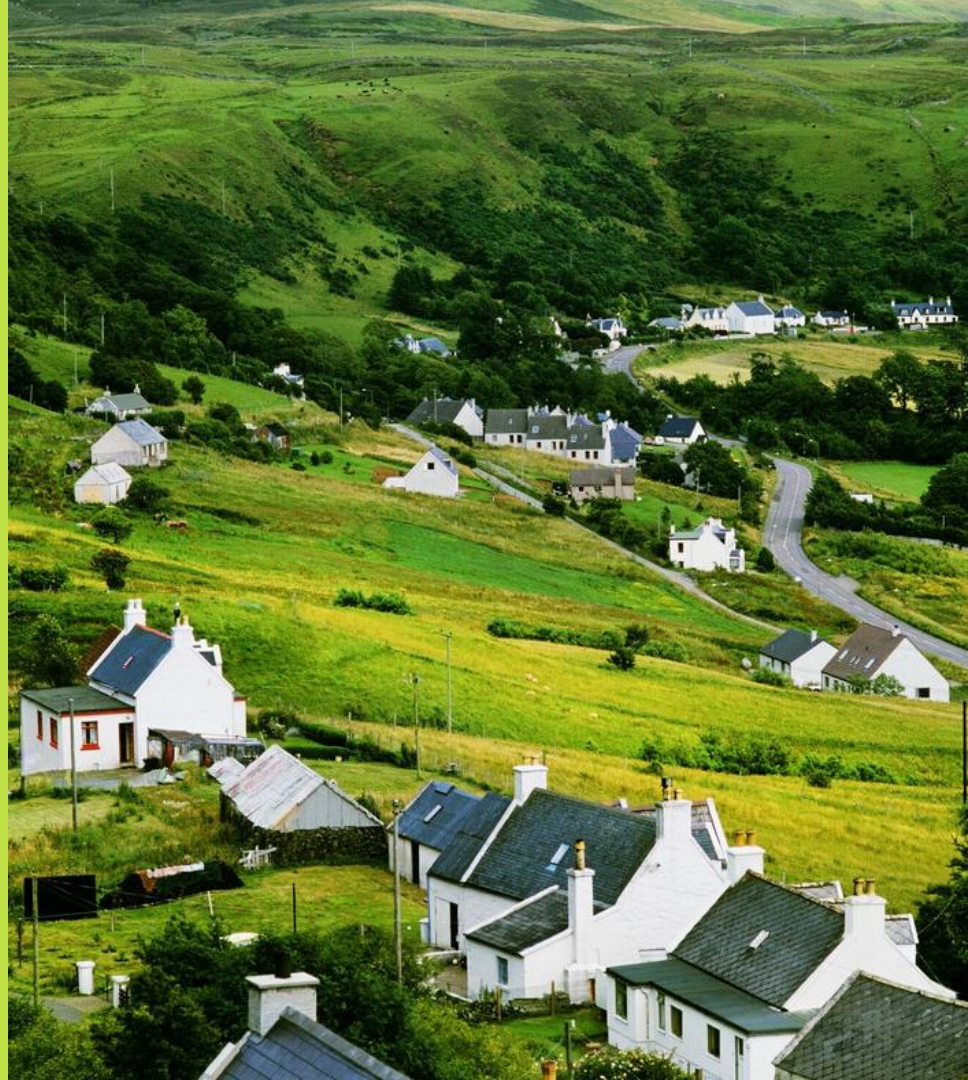
Basildon Council



Opportunities and value add of improved data collection

Joanna Long
Senior Impact Evaluation Consultant

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Quality data: challenges and opportunities



Quality	Needs	Challenges	Opportunities
Change over time	Before and after	Delivery timescales & installing standalone equipment	Equipment pre-installed
Volume	Ideally 12 months (full seasonal variation)		
Comparability & stability	Similar before/after volumes and seasons Exclude works period		
Continuity	No gaps	Standalone equipment can be lost/discarded/unplugged	Wired in, independent of retrofit project
Relevant	Evidence intended outcomes	Overly basic/detailed	Dashboards tailored to needs

Data to support 'learning by doing'

Data to better understand impacts on

- Household comfort
- Building performance
- Health and wellbeing outcomes

Impact Evaluation objectives:

- Identify all benefits
- Improve future projects
- Showcase and communicate outcomes



Questions for the panel

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Your route to low-carbon living.

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