

# Energy Innovation Summit

Tuesday 31<sup>st</sup> October

Innovative Collaboration – Working With Local Authorities

16:00-17:00

‘Futures Close’

# Futures Close



David Lynch (Strategy Manager) – Energy Systems Transition

# A reality check...

We need to decarbonise circa **25 million homes in England** to hit Net-Zero by 2050.

There are major challenges with domestic decarbonisation:

- The U.K. has the most **diverse housing stock** - 35% built before the end of WWII.
- A **‘whole house’ approach** is required - consideration must be given to building fabric and heating system.
- Fuel Poverty is at its highest level – how do we secure **equity for all** in low carbon transition.
- Intricacies of deployment and installation of **retrofit measures are complex**



# Futures Close – Archetypes

Formed around a set of domestic building archetypes that are considered representative of a large proportion of the UK domestic building stock, informed by analysis from BRE.



**Terrace**  
(period: late 19th/early 20th century)

**Single storey/bungalow for elderly resident**  
(period: late 19th/early 20th century)



**Detached family house**  
(period: 1990's)

**Low rise (2/3 storey) flats**  
(period: late 1960s/early 1970s – constructed prior to improvement in mid-70's building standards)



**Semi-detached**  
(period: 1930's)

# Futures Close - Opportunity

A representation of the 20+ million existing homes that require good decarbonisation solutions.

- Research
- Innovation
- Training
- Stakeholder



A research facility for a **whole system approach** and for decarbonisation solutions in the home



# Vision



# Futures Close - Today









# Instrumentation

Temperature sensor  
Item no.: 9070321



Temperature sensor RAMSES IP  
65  
Item no.: 9070459



KNX weather station Plus



IOTICS

Secure data ecosystem – room-by-room,  
live, historical data reports, sensor  
monitoring.



# Beating heart of Futures Close – DATA!

- A digital version of Futures Close
- Data streams and Archives discoverable and accessible by partners
- Share sensors / insights / historical data
- Access Building sensor data
- Retain control on data we share, with who and when, protecting IP.





# Anchor programme – Cross vector heating analysis

- Support from the Heating and Hot Water Industry Council (HHIC) to work with Vaillant Group, Groupe Atlantic, Worcester Bosch and Baxi.
- We aim to utilise Futures Close to install, commission, test and monitor a series of heating systems within the following properties on Futures Close.

Partner	Property*
Vaillant Group	1900s Terraces x3
Groupe Atlantic	1930s Semi-Detached/ 1970s Flats
Worcester Bosch	1990s Detached / 1950s Bungalow
Baxi	1930s Semi-Detached x2

- A series of test regimes will be conducted over a 2-year period commencing with Natural Gas Combi's / System Boilers.
- Post benchmarking, introduce modulating controls, different heating systems and re-evaluate

# Our North Star...

## Futures Close - Creates:

- A unique national net zero research and development asset
- a thriving research and development ecosystem.
- an environment to test, fail, refine before roll out on real homes.
- an open engagement space to improve understanding of the net zero transition.
- long-term partnerships with industry, academia and wider community.

## Futures Close - Generates:

- Open data and intelligence to inform future decarbonisation of UK housing stock.



# Thank you

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## Questions and discussion