

elmhurst

National conference

Introduction

Liz Male, Liz Male Consulting



General Information

- Refreshments provided in the Keith Weller Lounge – lunch will be served at 12:00
- Toilets located between the Walkers Hall and Keith Weller Lounge
- Fire exits doors clearly marked - no alarm scheduled today
- The presentations provided today will be sent to attendees via email after the conference, along with a link to download your CPD certificate on the **wk commencing 17th February**

Our Conference Sponsors

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DesignBuilder



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floor plans for everyone



ECOSURV

Ask your questions with Slido

slido

- Instructions available on your table and in the conference brochure
- Use your phone or laptop to submit questions that you would like to ask each Q&A panel
- Up vote/like questions – the most popular will be read to our panel
- We have 3 Q & A Sessions today

Conference Agenda – Session 1

10:30 - 10:40

Conference Opening

Liz Male (Liz Male Consulting)

10:40 - 11:00

EPC Update

Keeran Jugdoyal (MHCLG)

11:00 - 11:20

Domestic & Non-Domestic MEES

Corrine Brooke/Antoni Michael (DESNZ)

11:20 - 11:40

HEM and the Future Homes Standard

Jay Sajeev (DESNZ)

11:40 - 12:00

Session 1 Q&A

All Session 1 Speakers & an Elmhurst Representative

Conference Agenda – Session 2

12:00 - 12:55

Lunch

12:55 - 13:15

Latest Developments in Retrofit
Simon Flint (Elmhurst Energy)

13:15 - 13:35

Impact of Deep Retrofit in Practice
David Glew (Leeds Sustainability Institute)

13:35 - 14:00

Driving Energy Efficiency in the Non-Domestic Sector
Danny Pearson & Paul Holden (Elmhurst Energy)

14:00 - 14:20

Session 2 Q&A
All Session 2 Speakers

Conference Agenda – Session 3

14:20 - 14:35

Afternoon Break

14:35 - 14:55

The Lenders Perspective

Simon Jackson (SDL Surveying)

14:55 - 15:15

New: Heat Loss Assessor

Chris Ricketts (Elmhurst Energy)

15:15 - 15:35

Energy Assessors in the Public Eye

Liz Male (Liz Male Consulting)

15:35 - 15:55

Session 3 Q&A

All Session 3 Speakers

15:55 - 16:00

Conference Close

Stuart Fairlie (Elmhurst Energy)

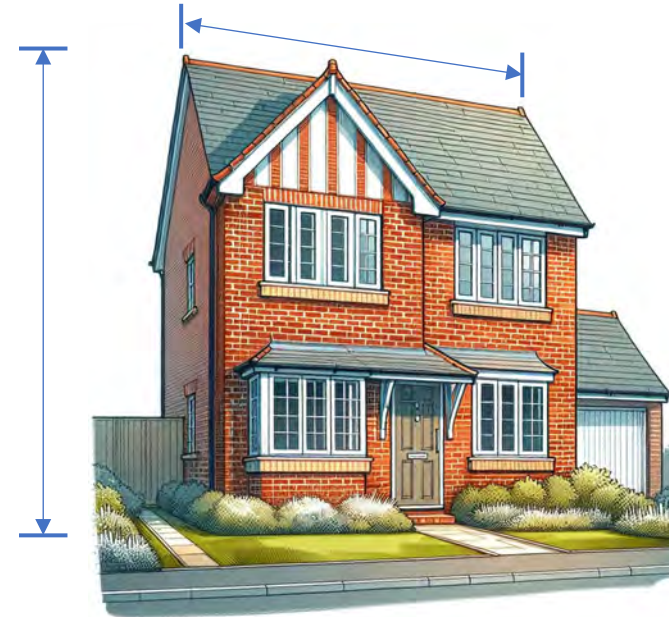
EPC Update

Keeran Jugdoyal, Ministry of Housing,
Communities and Local Government



Aims of EPC reforms?

- What is the purpose of the EPC in 2025?
- Does it meet the needs of the people who use it?
- Would a reformed EPC regime allow us to better understand, manage and improve our buildings?



Who are we creating EPCs for?



People making important buying and renting decisions



People looking to retrofit properties



People seeking to comply with regulations

People applying for funding



Organisations offering products and services

People seeking to understand the building stock



People measuring progress against targets

Energy Performance Platform

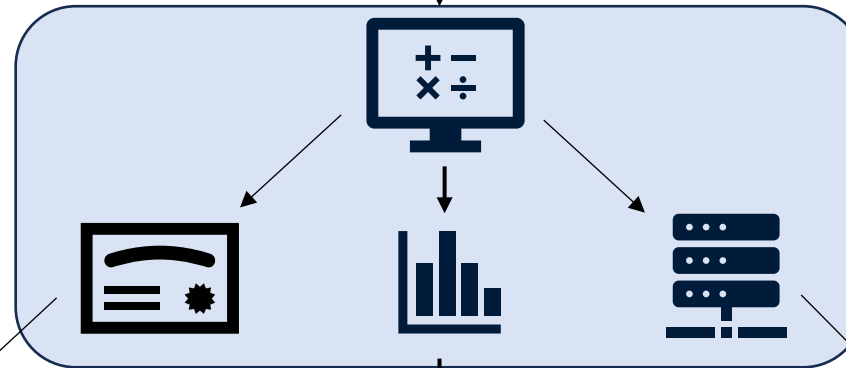
UK Building
Stock



Energy
assessors

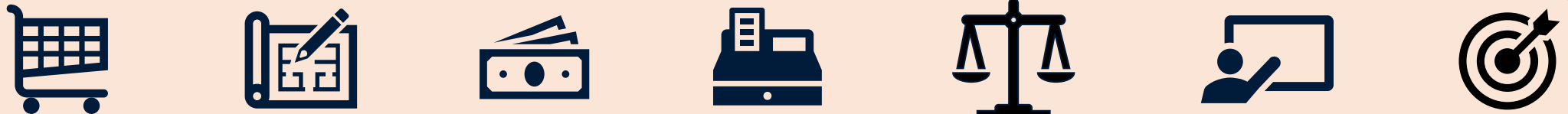


EPC register
platform

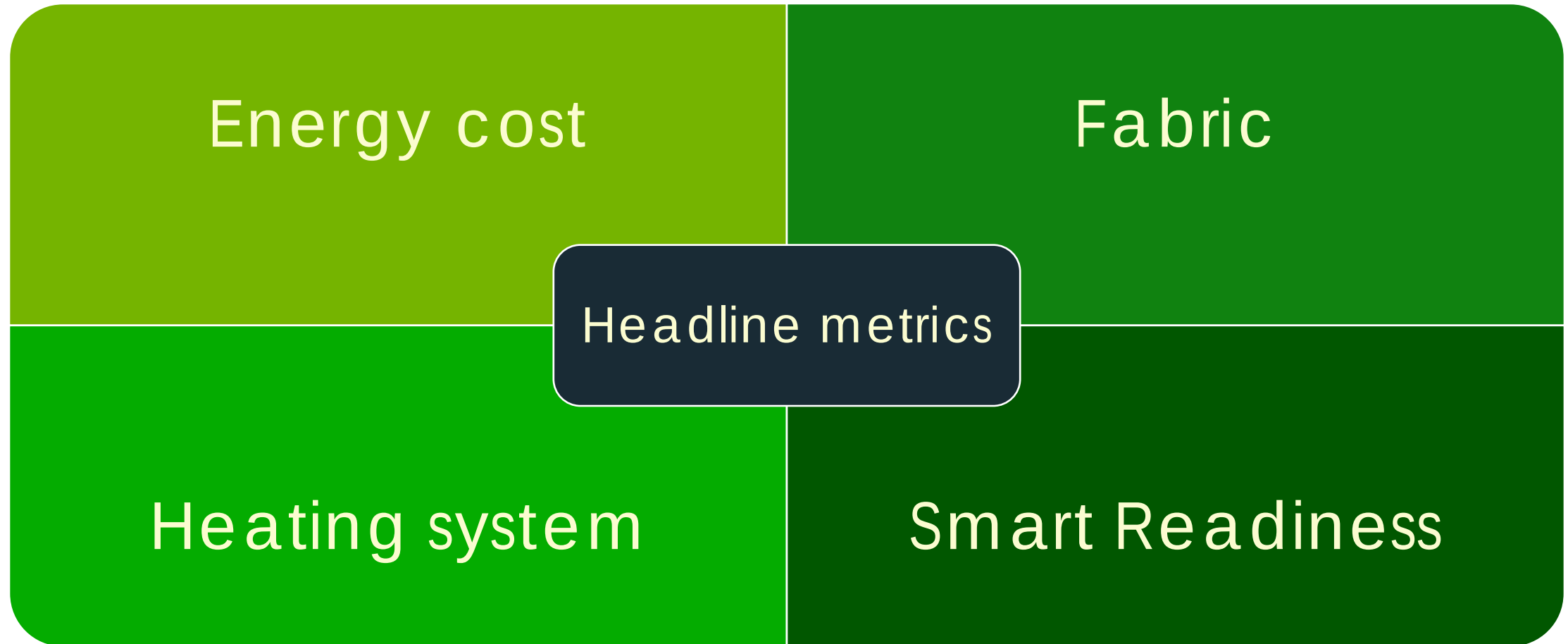


Building data can
be served in the
most suitable
format for the
user's needs

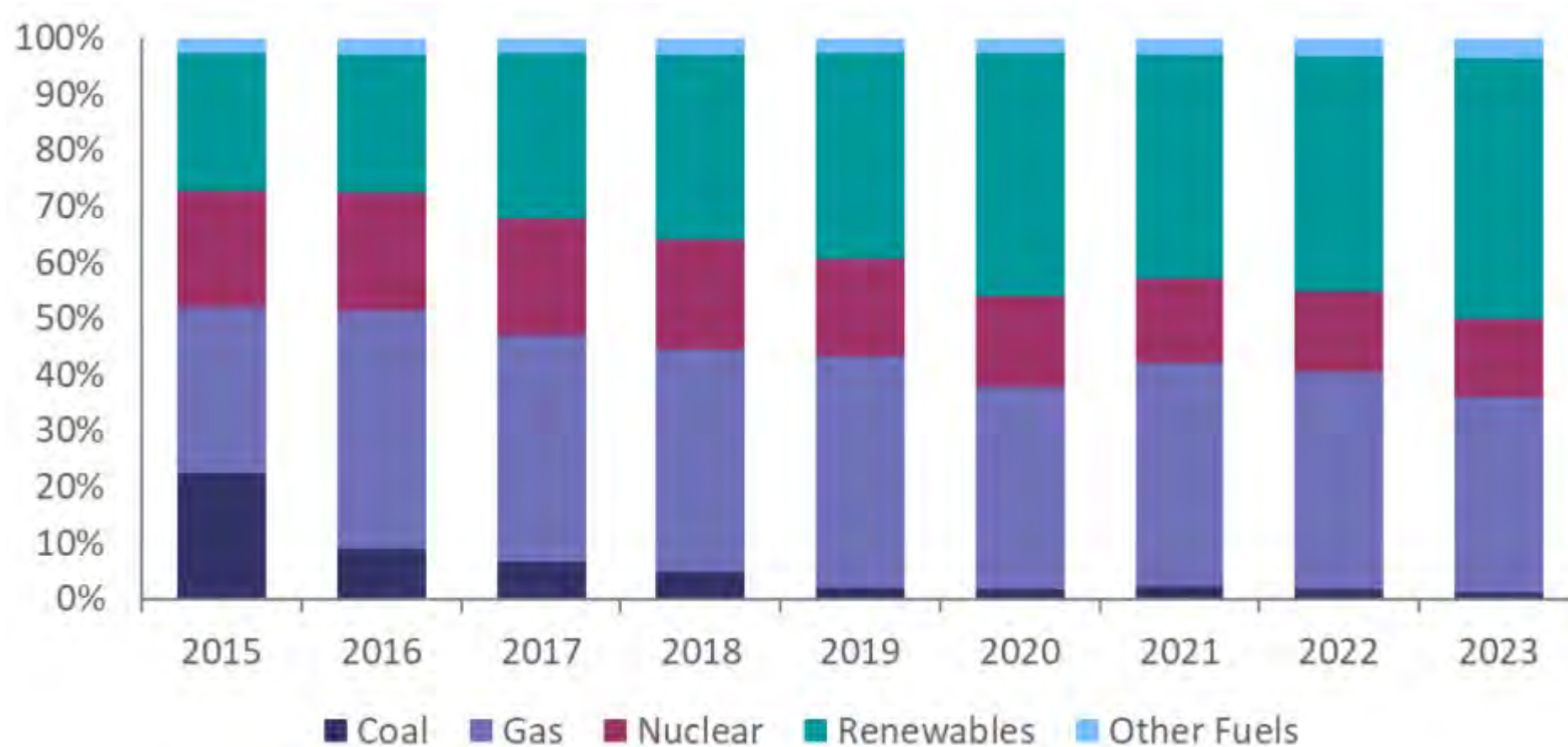
Users



Complementary metrics

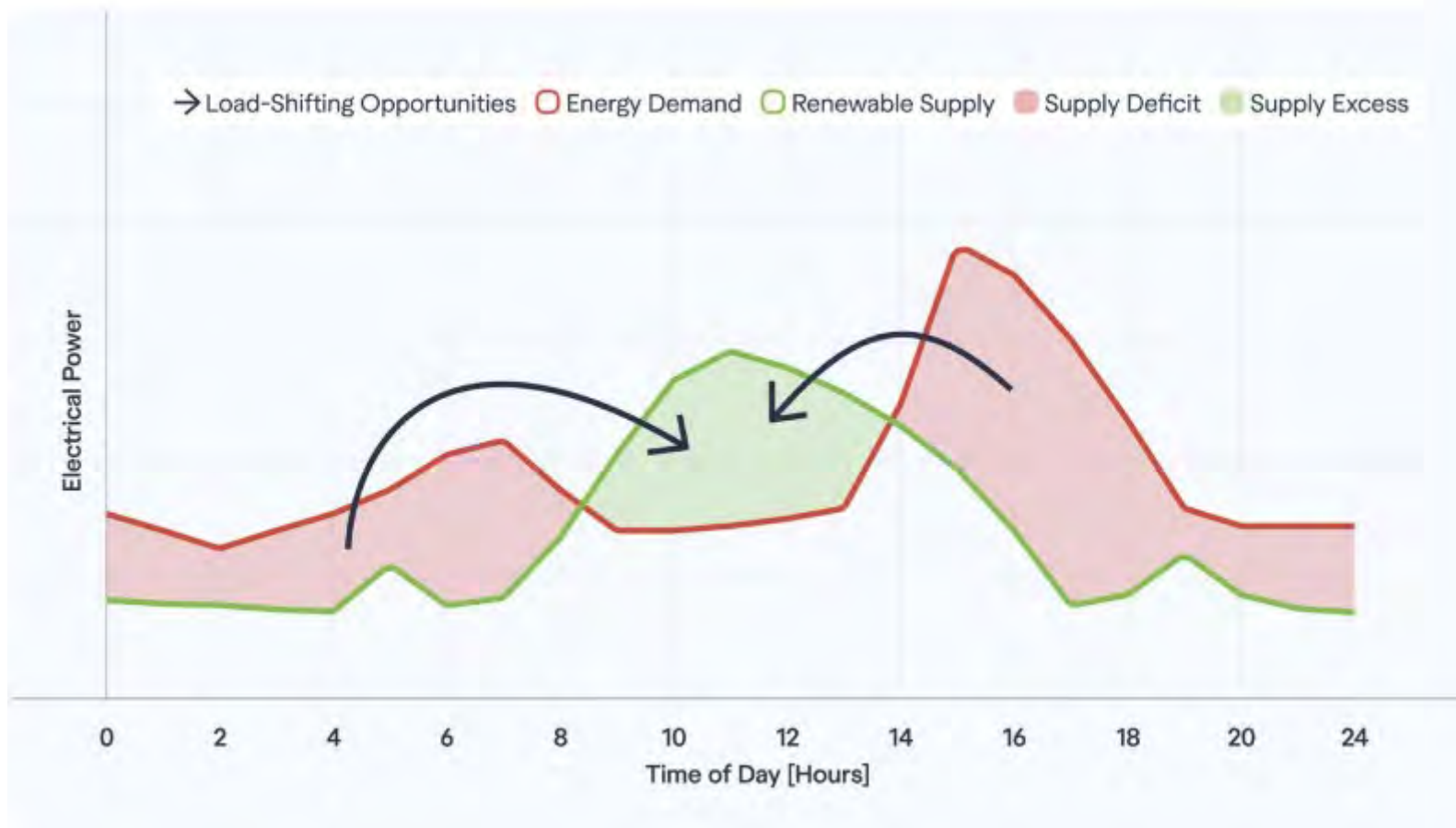


Why smart readiness?



Source: DESNZ Digest of UK Energy Statistics

Why smart readiness?



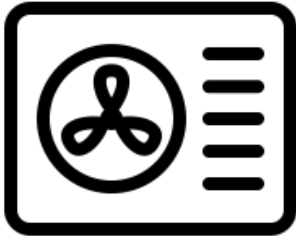
Source: Net Zero Buildings Metrics - Centre for Net Zero and Energy Systems Catapult

Why smart readiness

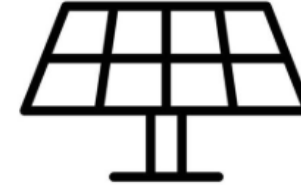
Smart
thermostat



Heat
pump



Standard
battery



Solar panels



Smart meter



Smart EV
charger

Why smart readiness

- Benefits to building owners and occupiers
 - Cheaper to run electrical heating when paired with appropriate tariff
 - Measures can be less invasive to install where fabric improvements are restricted
 - Greater benefits of storage technologies able to be quantified

Improved recommendations

The current system obscures the benefit of some retrofit, particularly heat pumps

Current EPC Rating

E

Upgrade Path

Insulation

LED Lighting

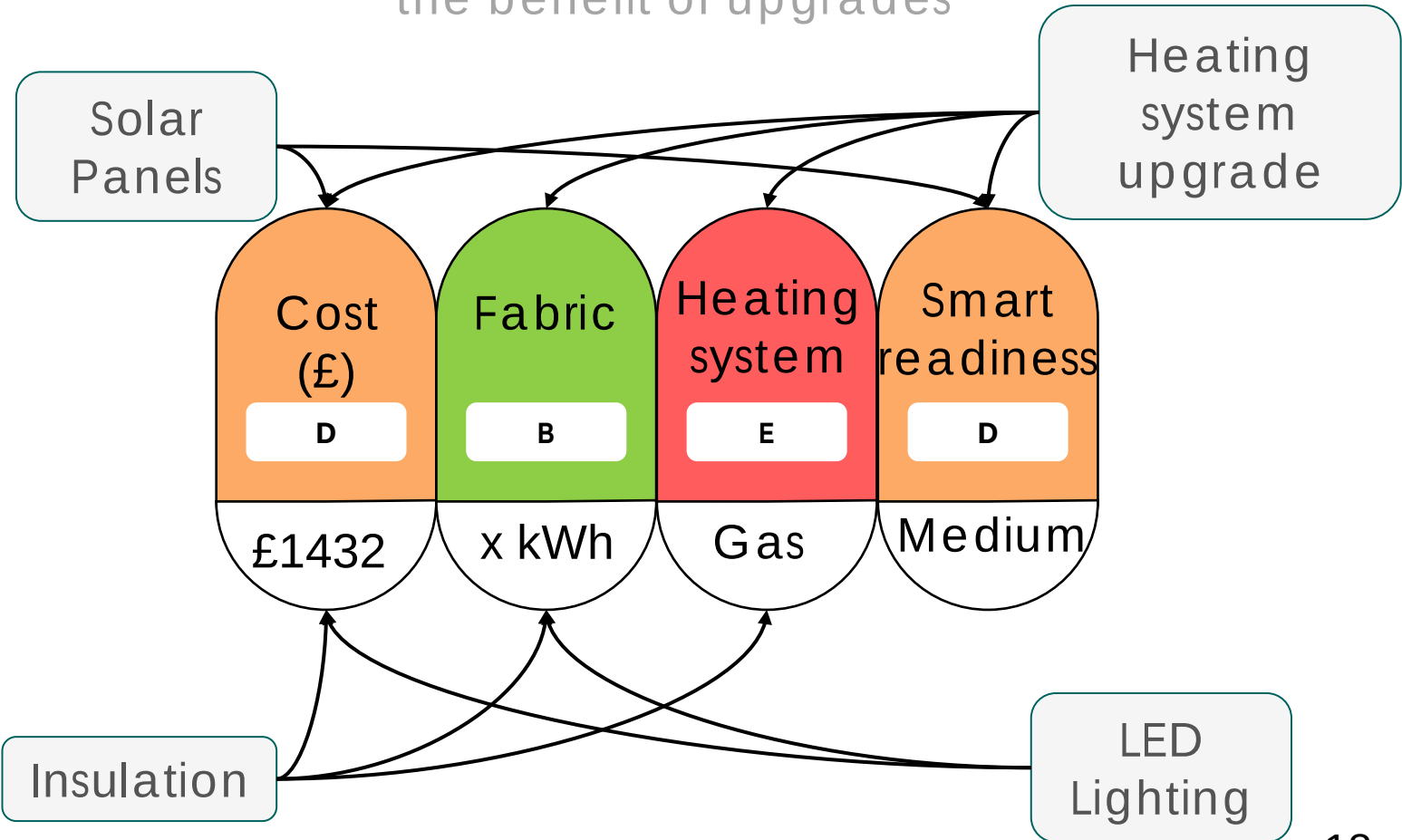
Boiler Upgrade

Solar

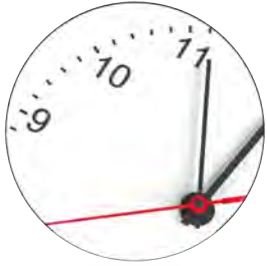
Potential EPC Rating

C

Additional metric can provide greater clarity on the benefit of upgrades

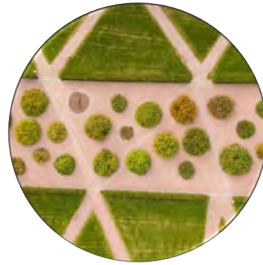


Other reforms proposed



Changes to when EPCs are required

Change validity period and including more types of property transactions to require an EPC.



Access to EPC data

How EPC data is accessed to support more decisions



Improving EPC assessment quality

Reviewing standards for training and enforcement.



Improvements to DEC and ACIRs

Changes around how DEC and ACIRs are implemented and enforced, and increase value

Timeline for reforms

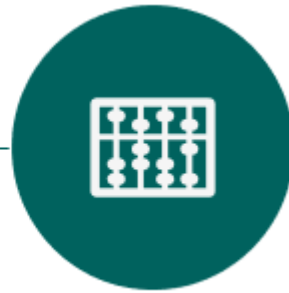
Consultation



**Now – 26 Feb
2025**

- Consultation on reforms is now open and we welcome all feedback.

Analysis



**Late Spring
2025**

New regulations



2026

New EPCs



2026

- Alongside these regulatory reforms we intend to implement a system of improvements on how EPCs are delivered to help drive up quality and compliance.

Domestic and Non-Domestic MEEs

Corrine Brooke & Antoni Michael, Department for Energy
Security and Net Zero (DESNZ)



Minimum energy standards (MEES) for non-domestic buildings

What existing non-dom Private Rented Sector (PRS) Regulations?



Landlords with properties below EPC Band E must undertake cost-effective energy efficiency improvements to either:

- improve their property to at least EPC band E, or
- improve the property to the highest EPC rating possible where the improvements are 'cost-effective' (pays back within 7 years)

This applies to new and extended leases.



Since 1
April 2018

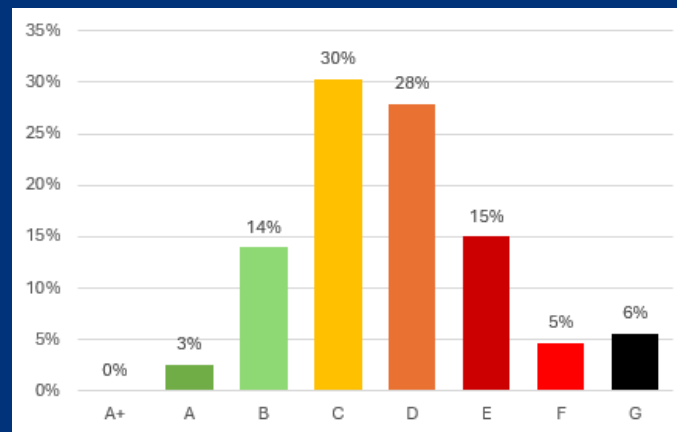
From 1
April 2023

The requirements above now apply to all privately rented non-domestic properties (even where there has been no change in tenancy).

New EPC B trajectory

- In 2019 we consulted on requiring all landlords of non-domestic rented buildings below EPC Band B to undertake cost-effective energy efficiency improvements by 2030, with an interim milestone of EPC C by 2027.
- Due to the delay between now and our original intention to publish the government response we are considering postponing the deadlines, for example, by 1 year.
- In this scenario we would be requiring all landlords of non-domestic rented buildings below EPC Band B to undertake cost-effective energy efficiency improvements by 2031.

We estimate that an EPC B target will capture up to 85% of the private rented non-domestic building stock, compared with 54% if the target was EPC C.



Energy assessments in MEEs

The role of energy
assessors under
MEEs

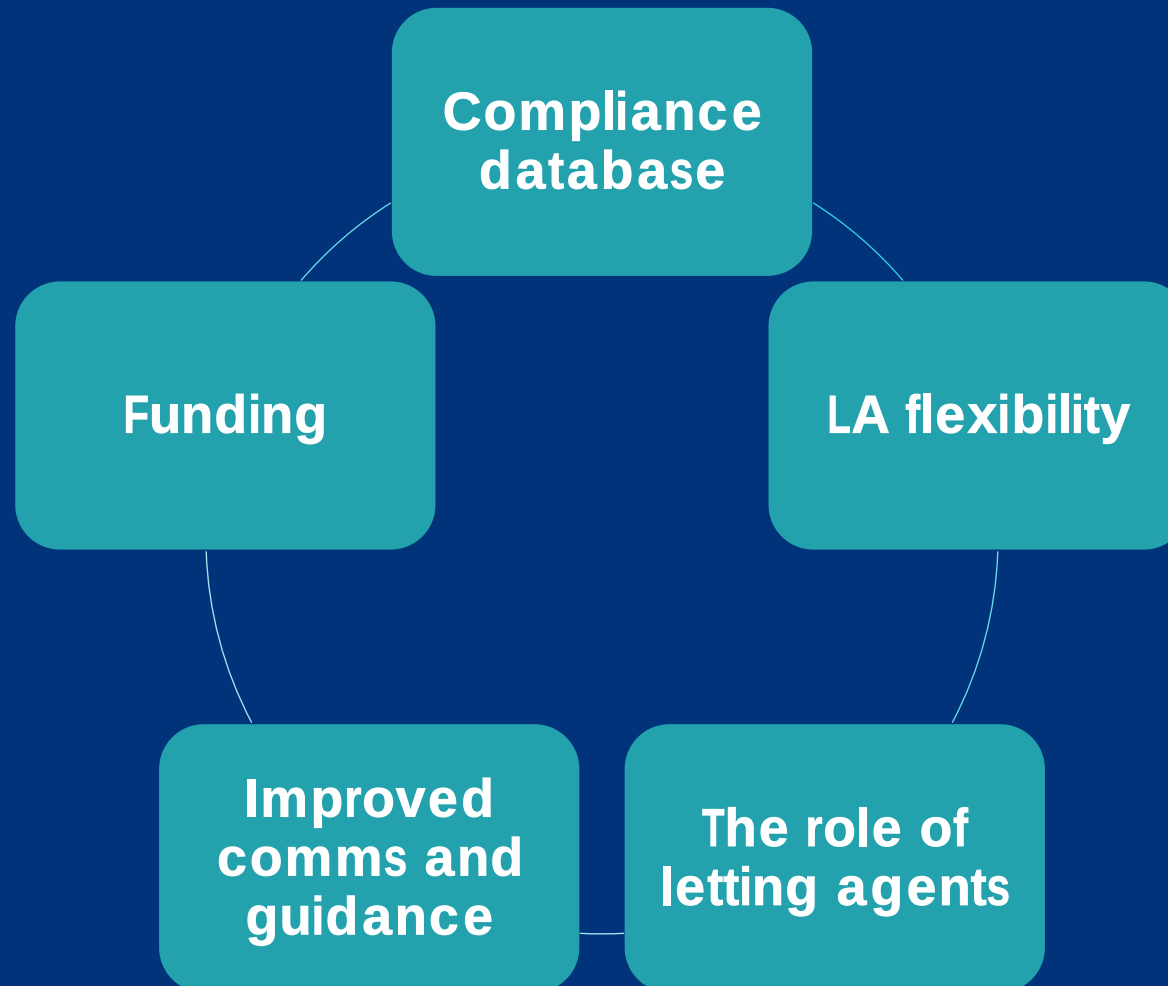
- Beyond the EPC - providing MEEs compliance advice
- Increased scrutiny on EPCs

Scaling up

- Building capacity within sector
- Scaling up without impacting quality of assessments

Enforcement

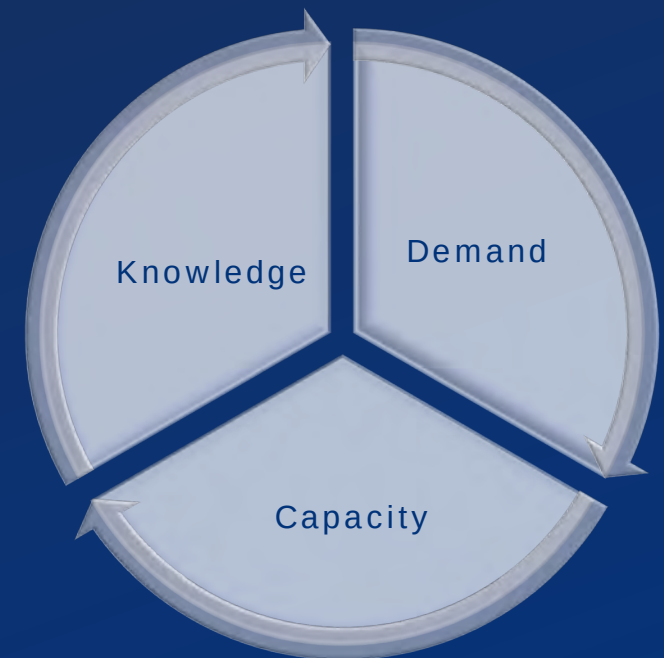
Over the last few years we sought views on a new implementation framework aimed at simplifying compliance and strengthening enforcement. Our initiatives include...



Skills & the Warm Homes Plan

Since 2021, through skills competitions and the Heat Training Grant, the Department has invested over £25 million to deliver around 33,000 training opportunities in retrofit, clean heat and energy efficiency roles. Further initiatives to support the training and upskilling of retrofit workers are being developed and will be announced as part of the Government's Warm Home Plan ambition.

The Government's new Skills England will identify current and future skills gaps and drive forward plans to enable young people and adults to develop the skilled workforce that local areas need.



Thank you

For additional comments and feedback, please contact:

Antoni Michael

Head of non-domestic Minimum Energy Efficiency
Standards

Antoni.Michael@energysecurity.gov.uk

HEM and the Future Homes Standard

Jay Sajeev, Department for Energy Security and Net Zero
(DESNZ)



February 2025

The Home Energy Model & RdSAP 10 Update

Jay Sajeev (SAP/HEM Policy Team Lead)

SAP and HEM

- Standard Assessment Procedure (SAP): national methodology used to assess the energy performance of a home.
- Originally designed to be completed using pen and paper. SAP struggles to model modern dwellings and technologies.
- We are developing a new methodology to increase its accuracy and ensure it is fit to support the transition to Net Zero.
- [Recommendations by the Climate Change Committee \(CCC\)](#), incl. ensuring SAP drives high real-world performance and that it values the benefits of low carbon technologies.
- [Scoping study](#) commissioned by the Department to consider how “SAP 11” could support transition to net zero. 25 recommendations across five categories.
- The Home Energy Model represents a complete overhaul compared with SAP 10.2 and previous versions of SAP.

Home Energy Model: Key Changes

Modular:

- 1 The model will have a core engine and policy-specific wrappers e.g. for building regulations compliance or EPCs

More transparent:

We have made the code publicly available

Increased time resolution from monthly to half-hourly:

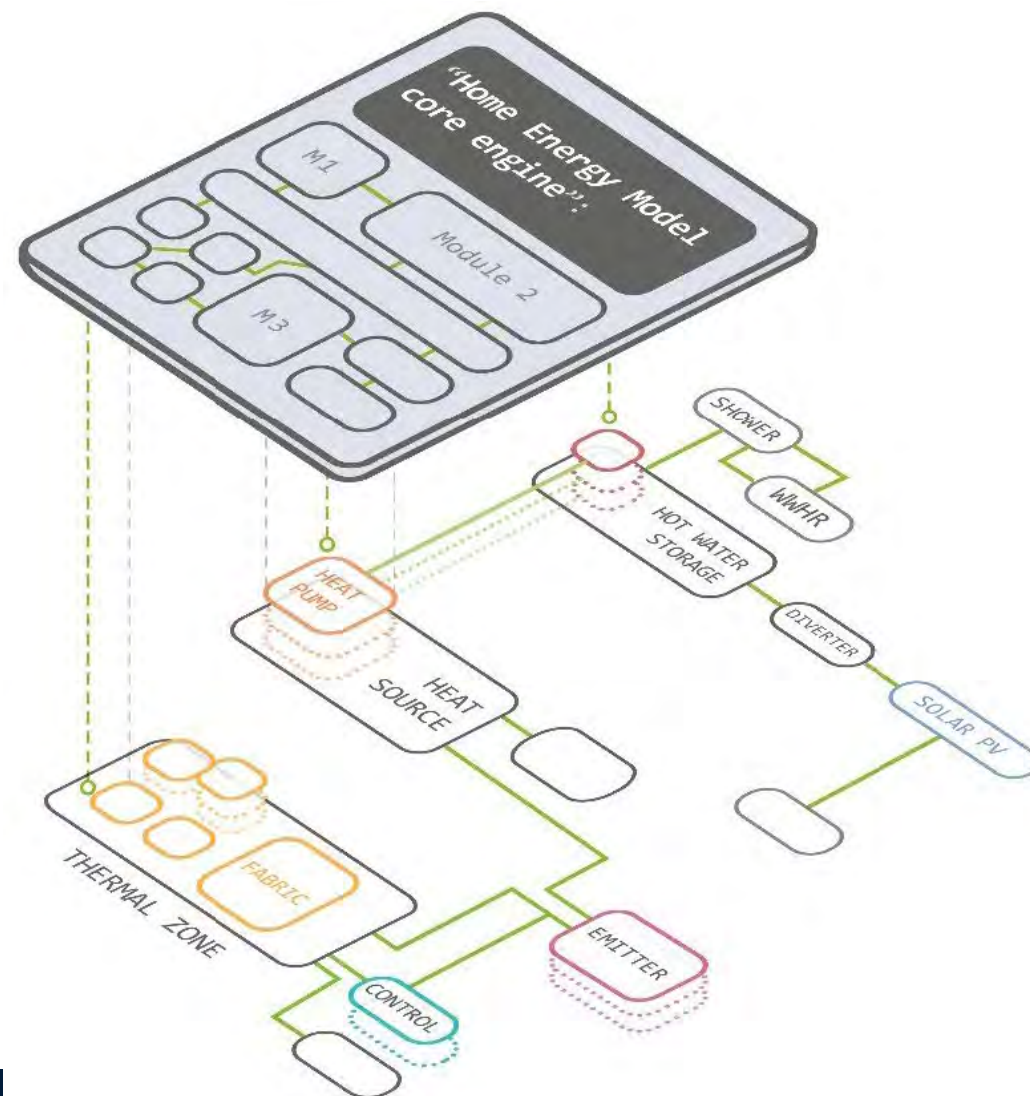
Better representation of smart technologies and systems

New delivery model:

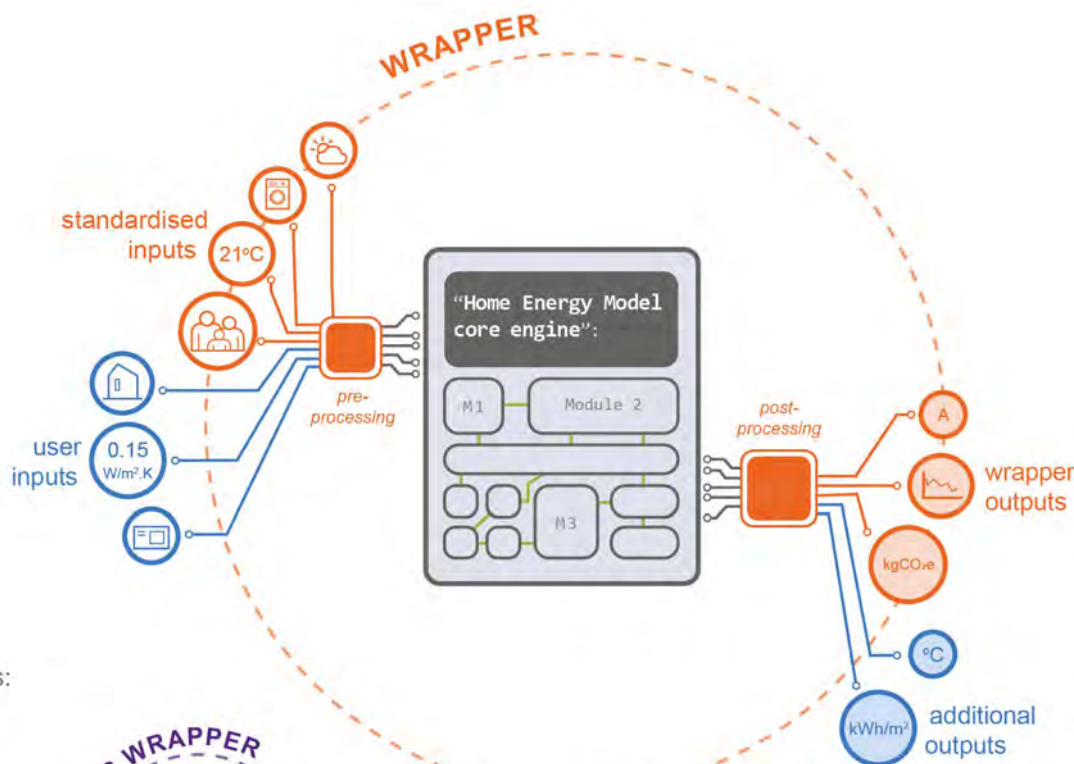
Changes to how software is provided to energy assessors

Product characteristics and new technologies:

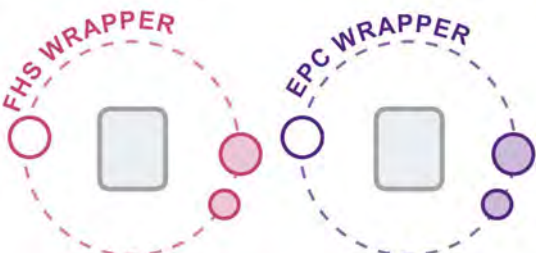
Revised database of product characteristics and process for recognising new technologies



Policy through modelling



Example wrappers:



HEM is general-purpose but initially needs to support **Part L assessments** and **EPCs**. HEM's quality directly impacts the UK's ability to meet our Net Zero and Fuel Poverty targets.

The wrapper standardises inputs relating to **occupancy and assumptions for energy demand** (e.g. setpoint temperatures), **weather data**

Standardisations have a huge impact on results, so it's critical that these are unbiased reflections of the best evidence.

Wrappers also define policy metrics – this means they define the policy itself.

(New) EPC metrics must articulate what the government wants to see in the housing stock. What does a Net Zero consistent stock look like?

The current **Fuel Poverty target** is expressed in terms of SAP ratings.

Changes to PCDB and Appendix Q

Home Energy Model consultation: Sections 3.3 and 3.4

Product Characteristics Database (PCDB):

- New database to be rebuilt from existing data with new product classes added
- Separate from core engine
- Hope to enable manufacturers to submit more detailed data in some instances

Appendix Q:

- Intention to integrate existing Appendix Q technologies into model + database
- Intention to reform process for incorporating new technologies
- Still at early development phase





Department for
Energy Security
& Net Zero

Workstreams

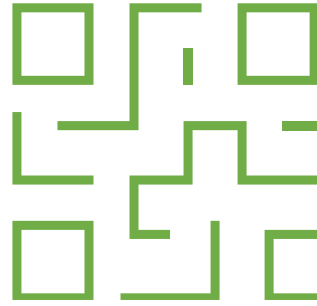
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National
conference
Leicester 12.02.25



Core HEM



FHS/HEM Policy
and Legislation



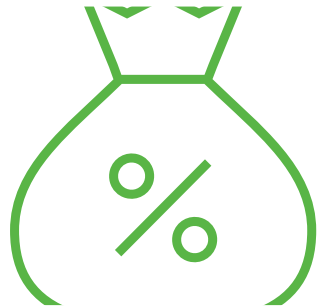
FHS Wrapper



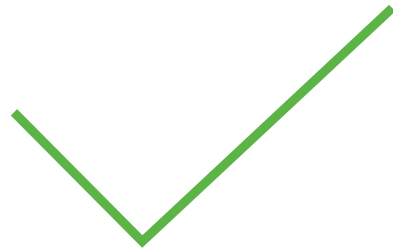
FHS:HEM Inputs
and Guidance



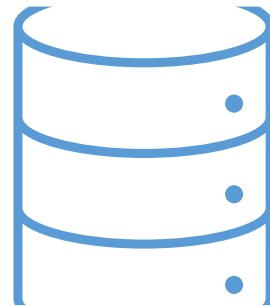
ECaaS Basic
Software



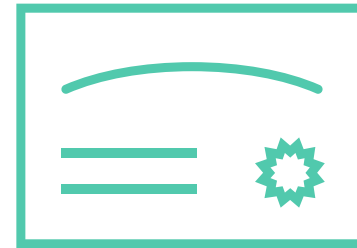
HEM Commercial
Software



Assessor
Competency



PCDB and AppQ



EPCs for New
Builds



RdHEM



February 2025

RdSAP 10

Biggest improvement to EPC model in 10 years

1. Ventilation parameters allow for:

- a) Details of heatloss via chimneys, flues, fans (in place of defaults);
- b) Pressure test can be used if available.

2. PV

- a) Calculation accounts for exported electricity;
- b) Solar PV battery and divertors introduced.

3. Roof insulation

- a) More details of insulation added

4. Wall area and insulation

- a) Rate of heatloss via walls was revised,
- b) Details updated for solid brick and stone walls
- c) Wall area is more accurate as a result of accurate measurement of windows



5. Approach to Room Roof revised

- a) Types of room in roof differentiated
- b) Allows actual details of room in roof walls and to account gable(s).

6. Windows

- a) All windows are measured;
- b) Table of windows expanded
- c) this allows accurate estimate of wall area and heatloss via walls.

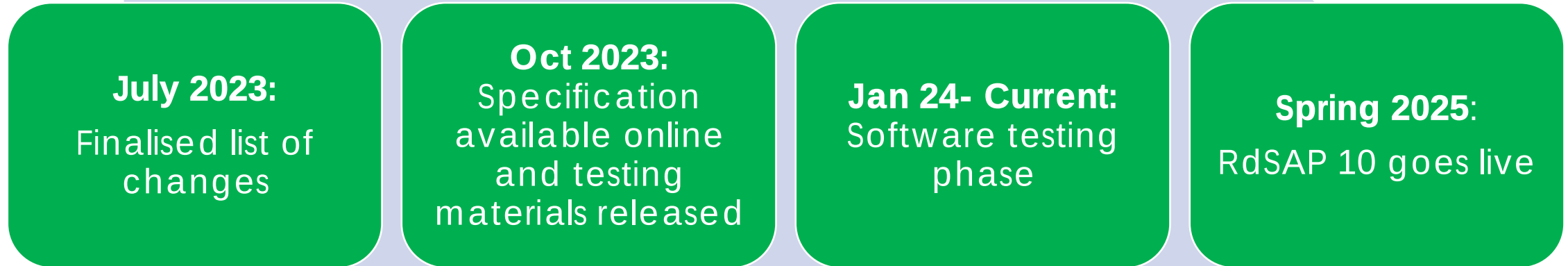
7. Window shutters introduced

- a) Uninsulated shutters
- b) Insulated shutters

8. Floor insulation and ventilation

- a) More options for insulation added

RdSAP10 Delivery Pathway



SAP/HEM Policy and Analysis Teams

Email: homeenergymodel@energysecurity.gov.uk

Q & A Session



Lunch Break

Our next speaker will be at: **12:55pm**

**The Elmhurst National Conference is proudly
sponsored by:**



Latest Developments in Retrofit

Simon Flint, Elmhurst Energy



Introduction

‘If you start with wobbly foundations you will end up with a wobbly house’



Introduction

- PAS 2035 (2023)
- BS 40104
- Current Funding Opportunities
- Retrofit Roles: Retrofit Assessor & Coordinator
- Retrofit Coordinator Training

PAS 2035 (2023)

- Currently we have two versions of PAS 2023 available
- Transition ends 29th March 2025
- From 30th March 2025 PAS 2035 (2023)
- All new projects will have to follow that new revised standard.
- A number of important changes that you must be aware of for both for Retrofit Assessors and more significantly for Retrofit Coordinators



PAS 2035 (2023)

Retrofit Assessor:

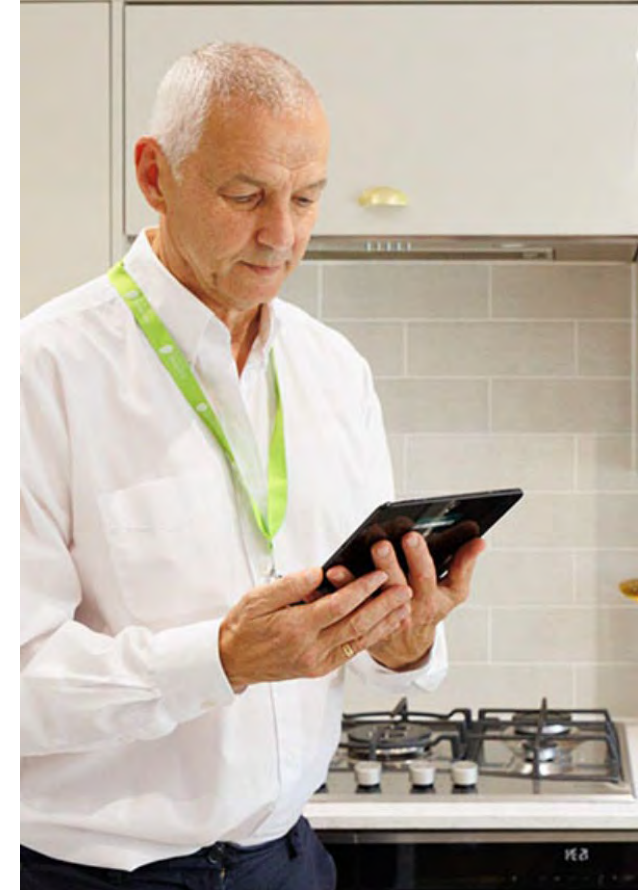
- Additional data collection particularly around existing ventilation.
- Not directly linked but RdSAP 10 will also change/increase the data collection.
- ABBE Level 3 Award in Energy Efficiency for Older and Traditional Buildings now required to assess all Traditional buildings.



PAS 2035 (2023)

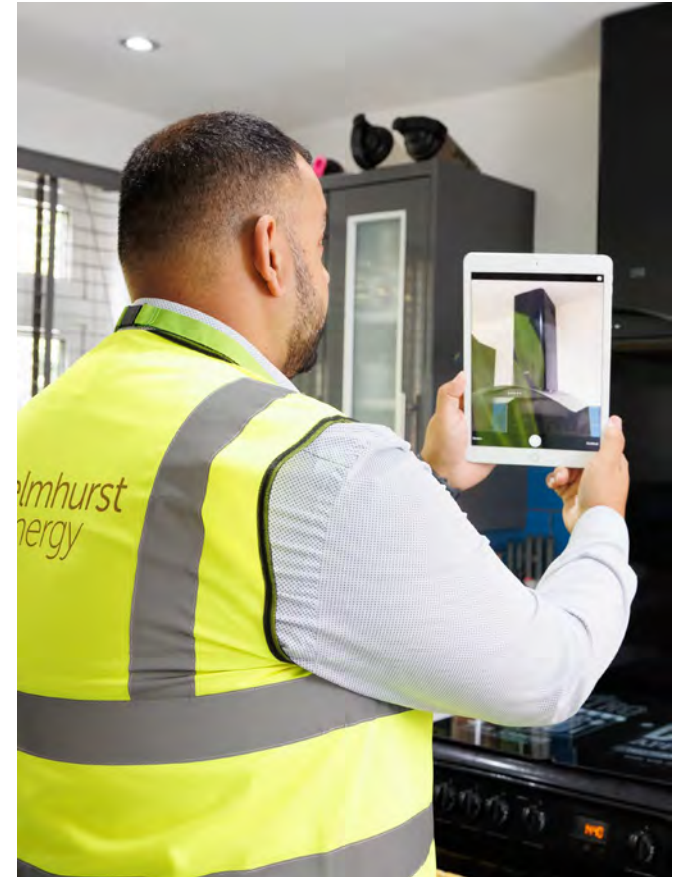
Retrofit Coordinator:

- Risk Paths removed
- I.O.E & Medium Term Plan for all projects
- ABBE Level 3 Award in Energy Efficiency for Older and Traditional Buildings
- Increased requirements for air testing/background ventilation
- Design role now requires additional qualifications
- Site visits requirements
- Increased emphasis on monitoring & evaluation



BS40104: Retrofit Assessor Standard

- The Retrofit Assessor Standard provides the processes and recommendations for retrofit assessments based on a whole-dwelling approach, covering context assessment, on-site assessment, reporting and lodgement and competencies.
- July 2024 published for consultation.
- September 2024 consultation closed.
- Over 400 responses were received.
- Publication of the finalised version likely later on this year with implementation & adoption timescales to be agreed after publication.



BS40104: Retrofit Assessor Standard

Elmhurst Response:

- As a standalone document, BS 40104 is a good standard and offers clear guidance on how to complete a thorough Retrofit Assessment for a property in readiness for whole house retrofit.
- Significant amount of additional competency training and skill development to cover many of the enhanced requirements in this standard.



BS40104: Retrofit Assessor Standard

Elmhurst Response:

- Concerns about its adoption and the potential impact on large-scale projects and widespread implementation. The standard could significantly hinder the progress of PAS 2035 and lead to substantial cost increases in delivering retrofit projects, potentially harming the industry.
- Our full response can be seen online [here >](#)



Current Funding Opportunities

- Manifesto for Labour Government committed to a Warm Homes Plan to upgrade five million homes over next five years with the aim of cut bills for families and deliver warmer homes and to slash fuel poverty.
- PAS 2035 must be used for publicly funded work delivered under government energy efficiency schemes. Currently these include:



Current Funding Opportunities

ECO4

- The ECO scheme supports energy efficiency measures in the homes of those considered to be in fuel poverty, low income or vulnerable households with the aim of reduced energy usage, by installing insulation or upgrading a heating system.
- Will run until March 2026 and by then will have been worth £4 billion
- Aim to install multiple measures per property (whole house approach)
- Target properties are in the lower EPC bands

Current Funding Opportunities

GBIS

- The scheme complements the Energy Company Obligation ECO4 scheme, yet unlike ECO4's 'whole house' approach, this scheme will mostly deliver single insulation measures.
- Scheme initially introduced in April 2023 will run till March 2026 and in total is worth £1 billion.
- As well as supporting low-income and vulnerable households, it is also available to those living in homes with an EPC rating of D-G, and within Council Tax bands A-D in England and A-E in Scotland and Wales.

Current Funding Opportunities

GBIS

- Very slow initial take up of the scheme but now an average of 7700 properties improved each month with CWI & loft insulation accounting for over 70%
- Recent consultation aimed at reducing cost of delivery for lower risk measures.

Current Funding Opportunities

Warm Homes SHF Wave 3: (Formerly SHDF)

- Provides funding to local authorities, social landlords and charities that own social housing. This funding must then be used by them to improve their housing stock to achieve EPC band C.
- Three earlier versions of similar funding
- Applicant organisations submit bids for funding and successful applicants will be notified early 2025.

Current Funding Opportunities

Warm Homes SHF Wave 3: (Formerly SHDF)

- Autumn budget confirmed £1.29 billion with that figure likely to be updated Spring 2025
- Average funding cost cap of £7500 per property
- Co-funding of improvements
- Funding must be spent by Sept 2028

Current Funding Opportunities

Warm Homes: Local Grant

- Launched in Sept 2024 this will provide funding to local authorities to be used to improve owner occupier or private rented properties who's occupants are in fuel poverty and will be delivered over the next 3 to 5 years with £500 million allocated so far.
- Available in England only and properties with EPC banding D to G with the aim of improving them to Band C within a cost cap of £15,000 per property.
- No contribution for occupier required.
- Objective of funding is to tackle fuel poverty and progressing towards the statutory net zero 2050 target through achieving carbon savings in the improved properties.

Current Funding Opportunities

B.U.S.

- Grant £7500 but in some cases up to £9000 towards the cost of installing a Heat Pump, EPC required but not PAS 2035 compliance.
- Recently extended the scope of this scheme. Currently available till 2026.

H.U.G.2

- Now closed and will scheme will end March 2025

Retrofit Roles

- **Retrofit Assessor**, current over 2000 accredited with Elmhurst but still fantastic opportunities as that is only one in four of our DEA accredited members.
- **Retrofit Coordinator**, now over 500 members and they are responsible for completing up to 8000 retrofit projects a month.
- Each one of those projects results in a warmer, more efficient, cheaper to run home for someone.



Retrofit Roles

- Over the last two years we have seen significant growth in both the number of members, the volume of work they are submitting and these opportunities are increasing all the time.
- I have already spoken about the current funding options that require PAS 2035 compliance.
- We are committed to not only providing support to our members but leading the way in developing innovative software and further training, for example:



Retrofit CPD & Training

- Retrofit Assessor Training
- Retrofit Assessor Virtual Walkthrough
- Energy Efficiency for Older & Traditional Buildings Level 3
- Retrofit Coordination in Practice
- Design SAP for Retrofit Coordinators
- U Value Competency
- Background Ventilation & L1 Airtightness Training



Retrofit Coordinator Training

Today we've announced the launch of Elmhurst's in house
Retrofit Coordinator Training Course

- Combines accessible on-demand, theory training allowing flexibility to learn at your own pace and a practical comprehensive 3-day classroom course that integrates theory with real case study work and hands-on software practice.
- ABBE Level 5 Diploma in Retrofit Coordination and Risk Management

Retrofit Coordinator Training

The course is developed based on insights from the last few years of support calls and auditing as an approved TrustMark Retrofit Coordinator PAS 2035 Scheme Provider.

- Industry Software Training
- Trustmark Portals & Compliance
- Focus on site based Retrofit Coordinator
- First year of accreditation following successful completion of our course for only £95 + vat (Saving £350)

Summary

- PAS 2035 (2023) standard.
- New government, investing heavily in funding schemes with the aim of reduce fuel poverty, carbon emissions and improve insulation and heating in thousands of homes every month.
- Massive opportunities for our members both current and those who are still to explore retrofit.
- Highlighted by the introduction of our Retrofit Coordination training course.
- Elmhurst will continue to lead the way in this exciting, developing and challenging area.

Demonstration of Energy Efficiency Potential (DEEP) retrofit research project

Prof David Glew, Leeds Beckett University



DEEP: Retrofitting solid wall homes

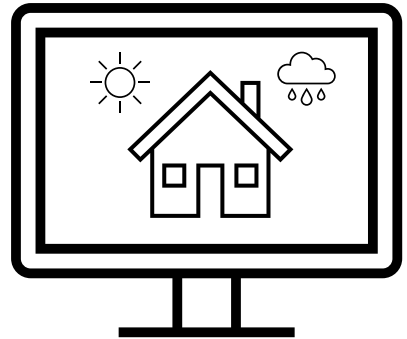
Why did DESNZ fund DEEP?

1. Which fabric* retrofits work? (air tightness vs SWI etc.)
2. How accurate are EPCs? (measurement vs models)
3. Does PAS2035 reduce risks? (whole house vs piecemeal)
4. What are the practicalities to consider when retrofitting?
5. How can you measure retrofit performance? (comparing BPE methods)

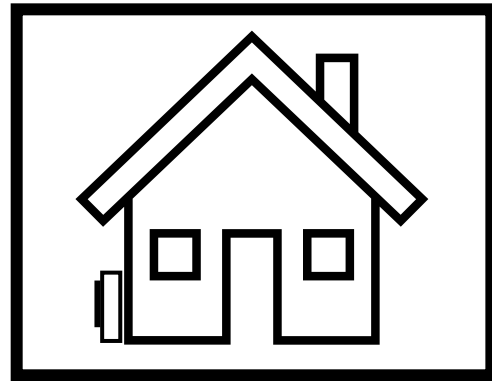
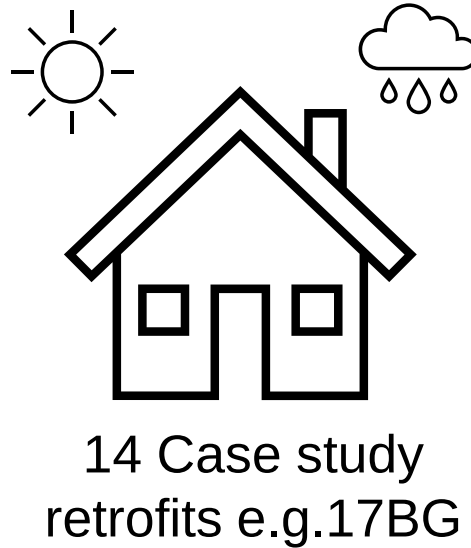
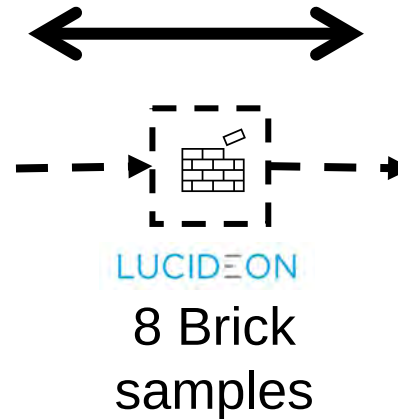
23 reports & multiple papers

Plain English video & dissemination events

DEEP research design

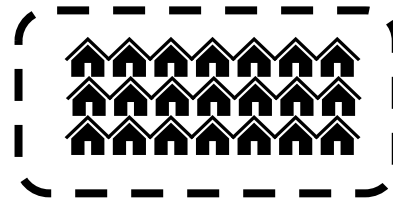


Energy & moisture simulations



1 Laboratory retrofit

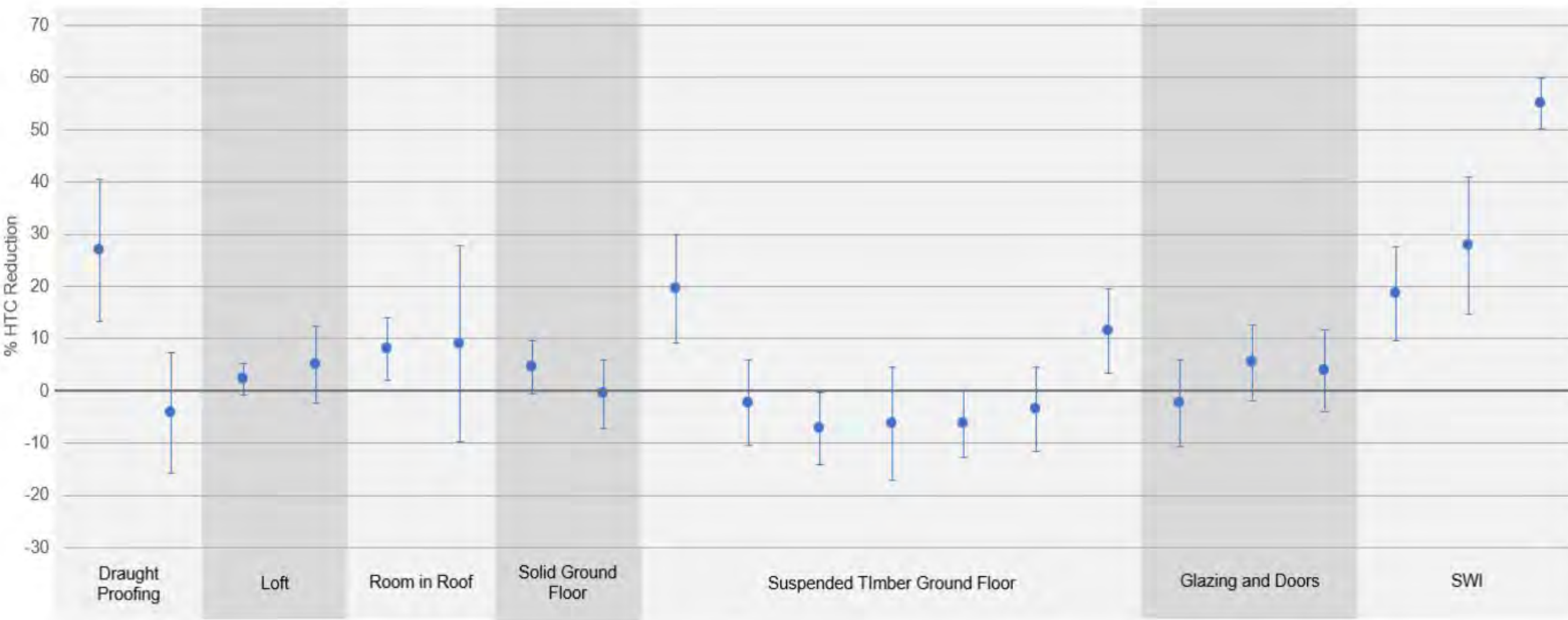
150 Energy efficiency surveys



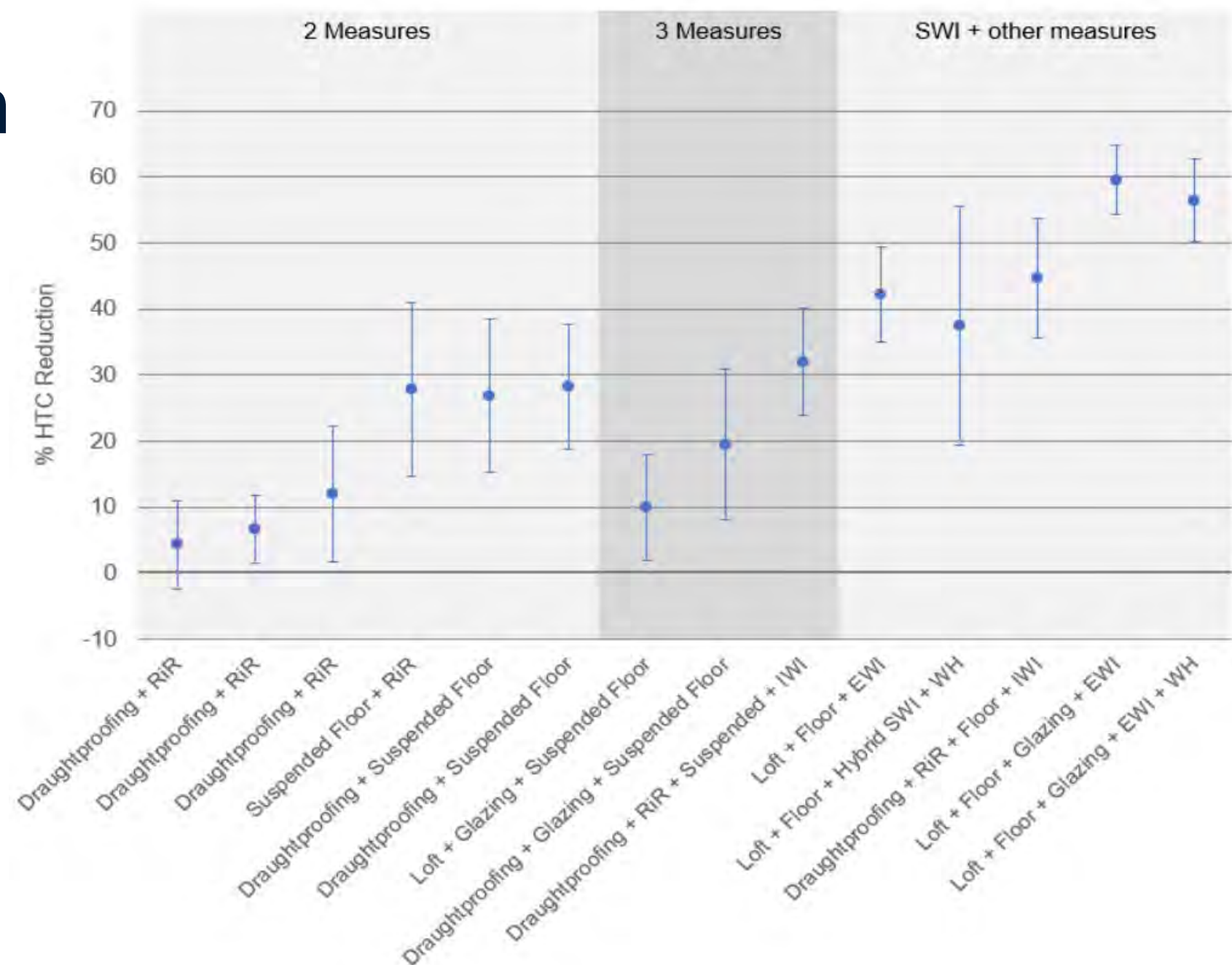
DEEP case study homes



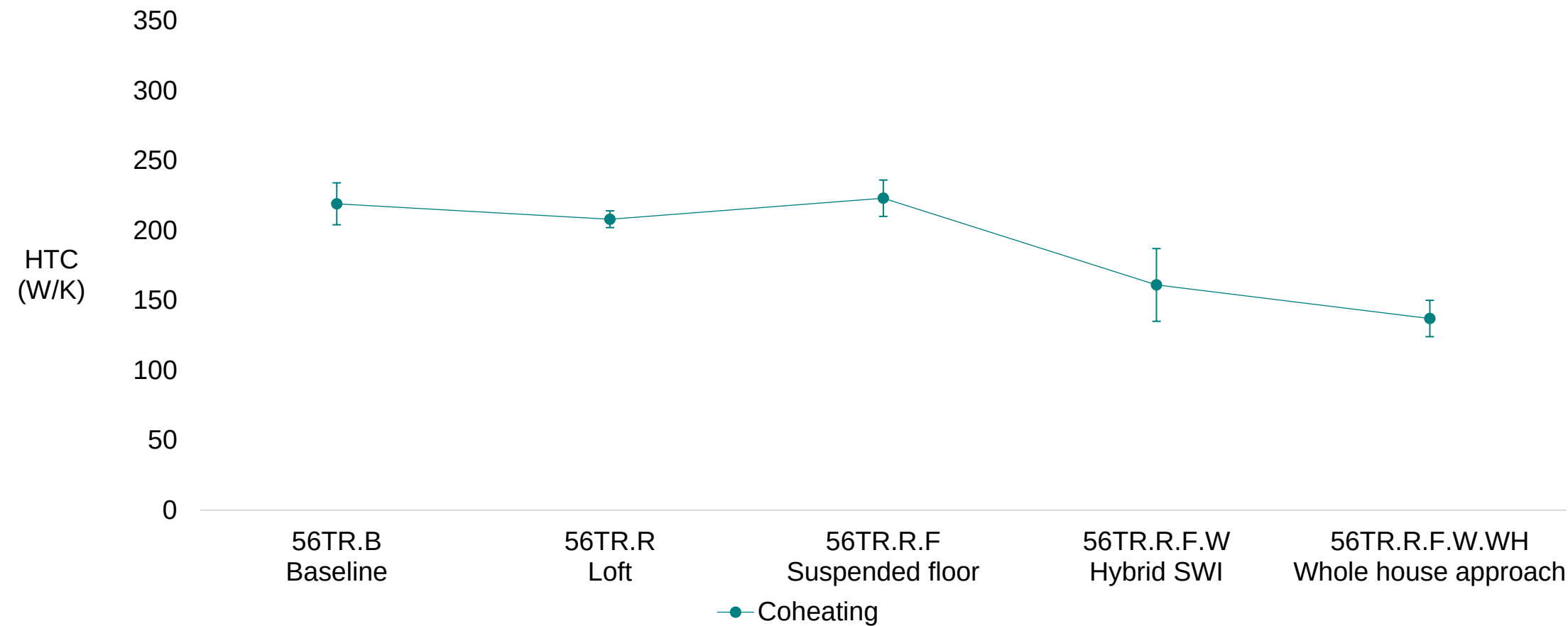
Savings from individual measures



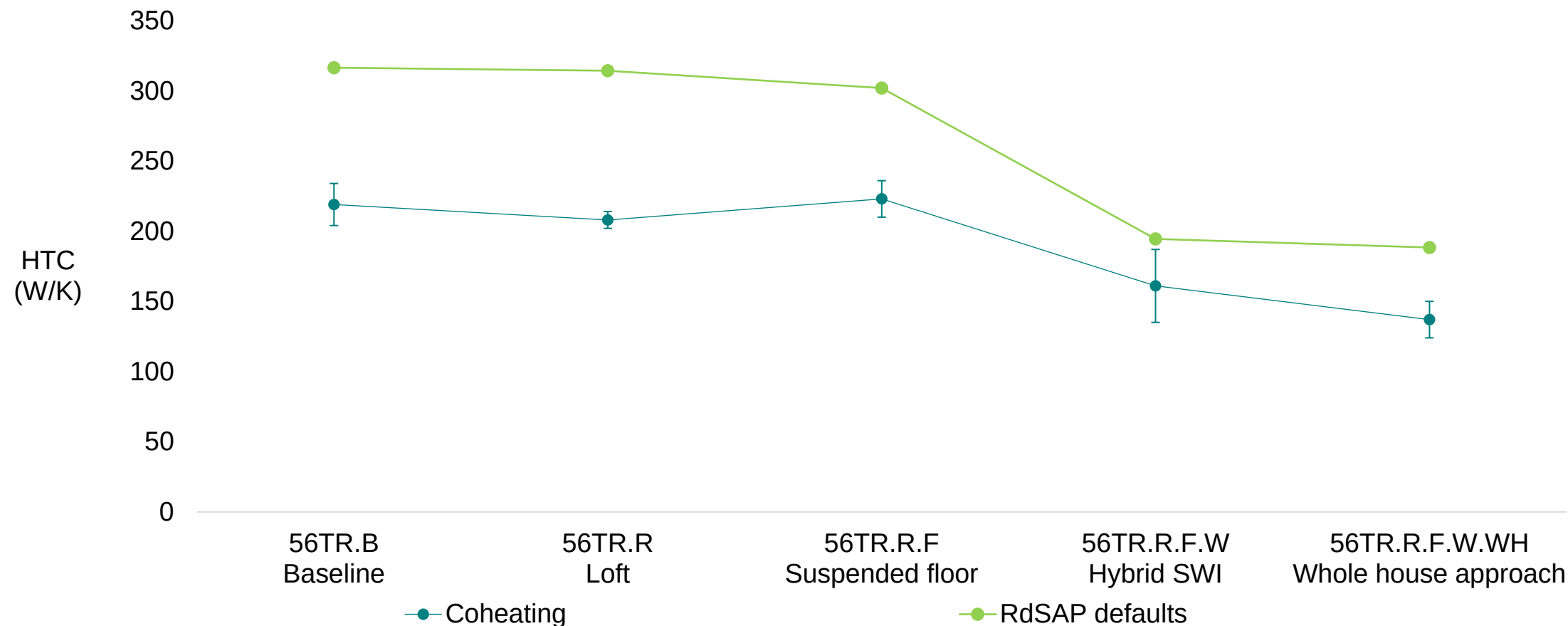
Savings from combining measures



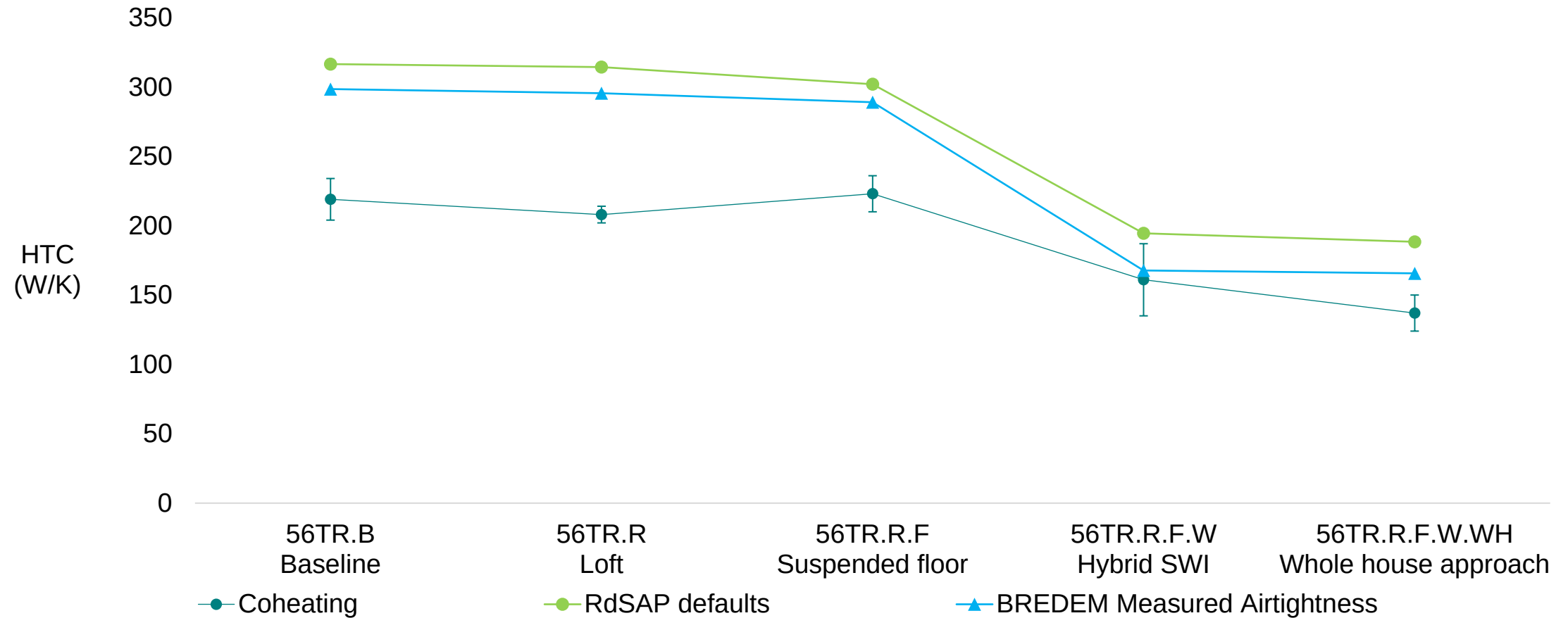
Measured heat loss after each retrofit



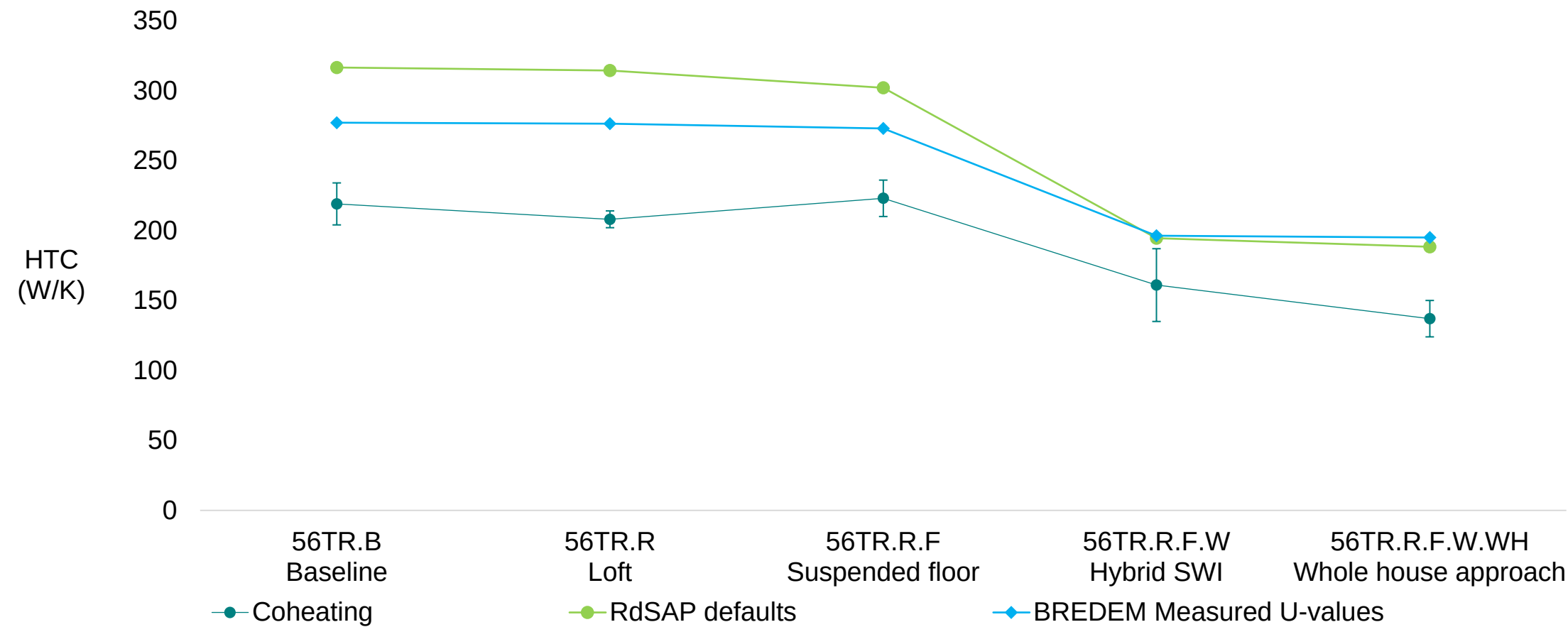
Measured vs EPC



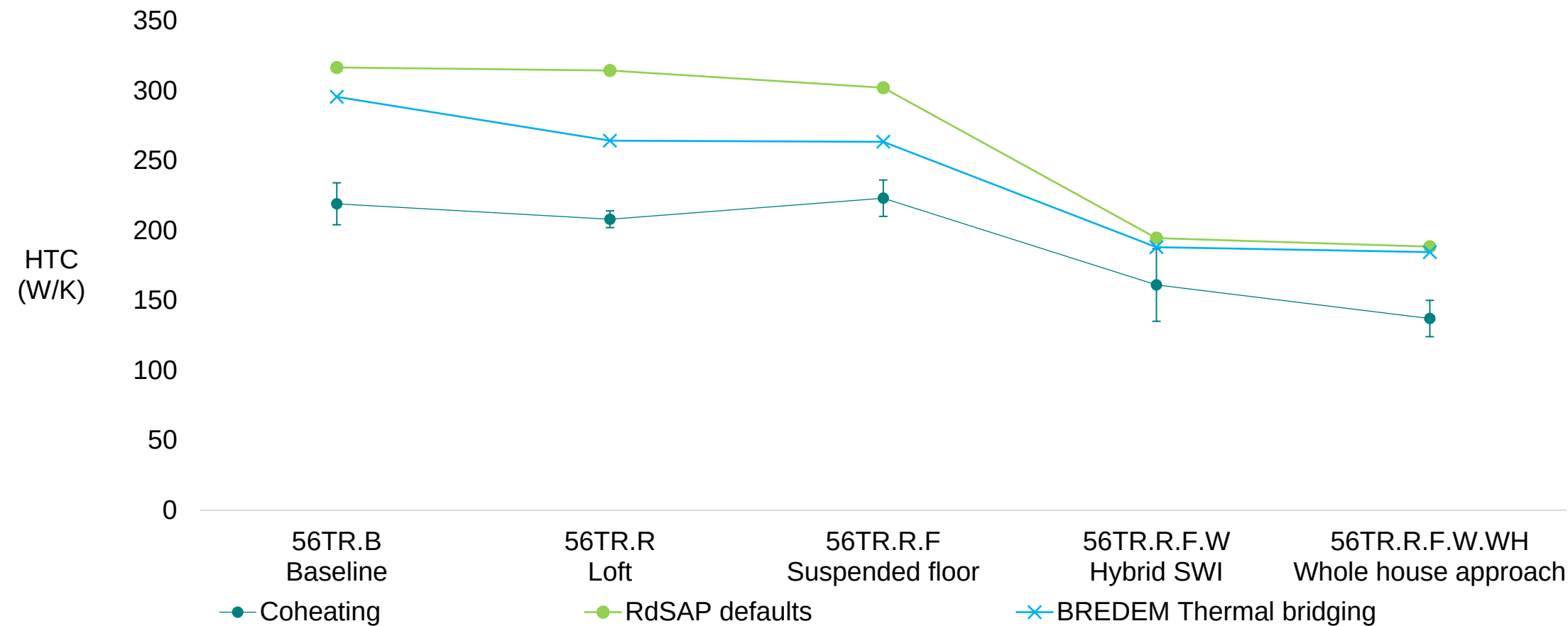
EPC with actual airtightness



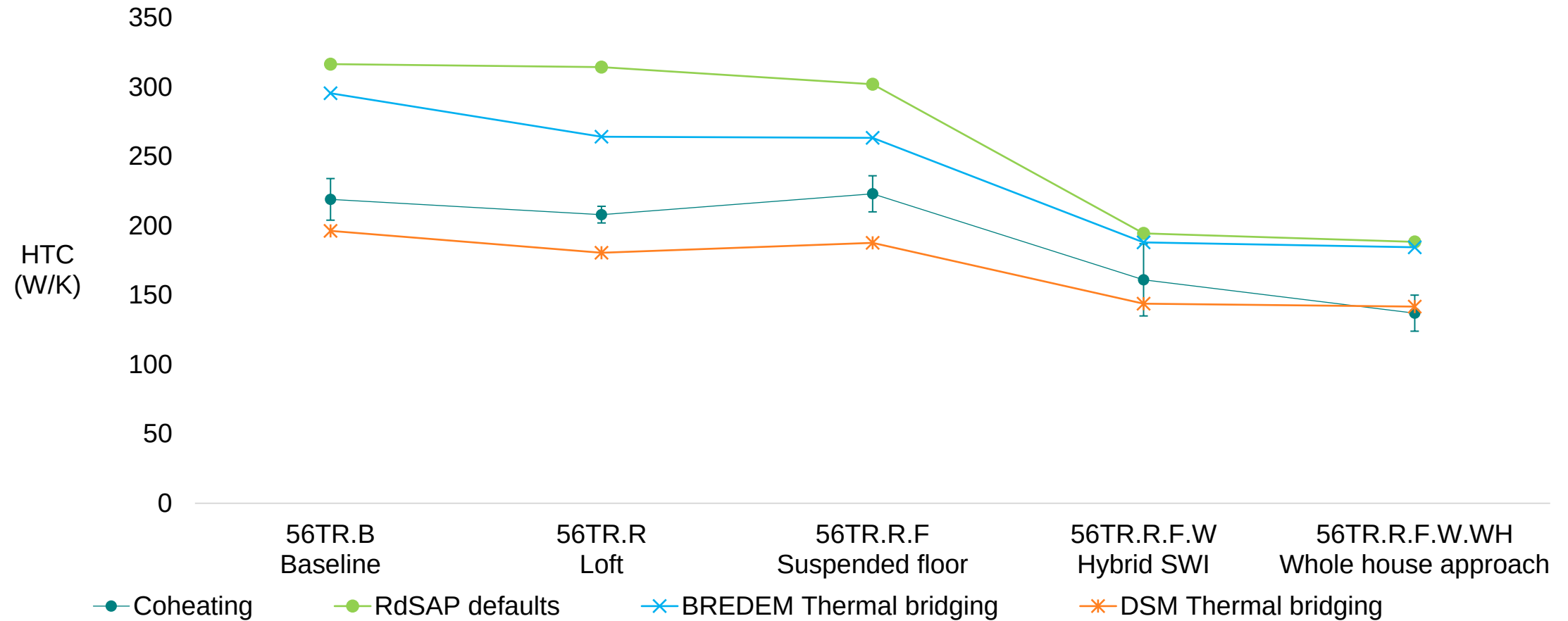
EPC with actual U-values



EPC with actual thermal bridging



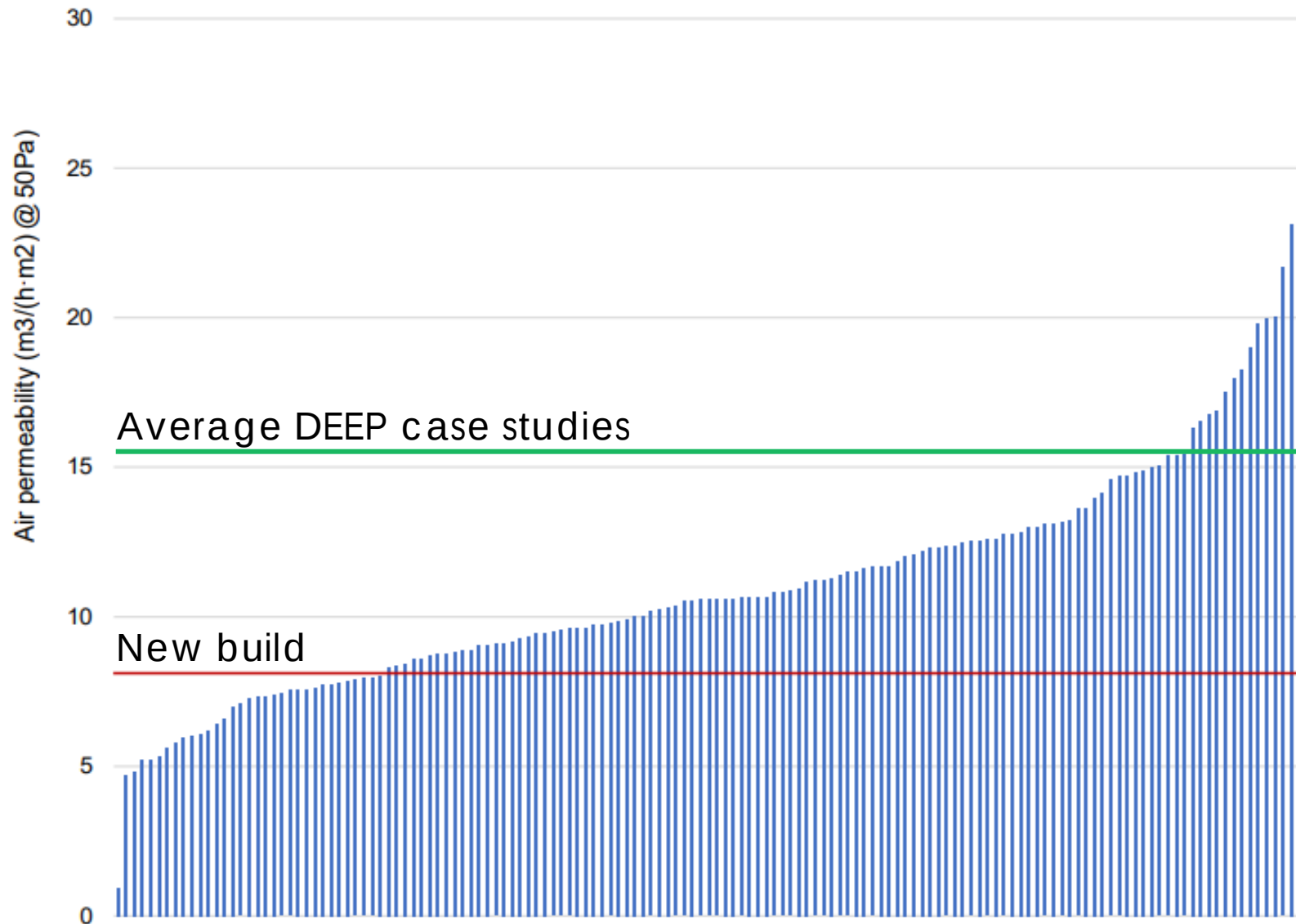
EPC vs DSM



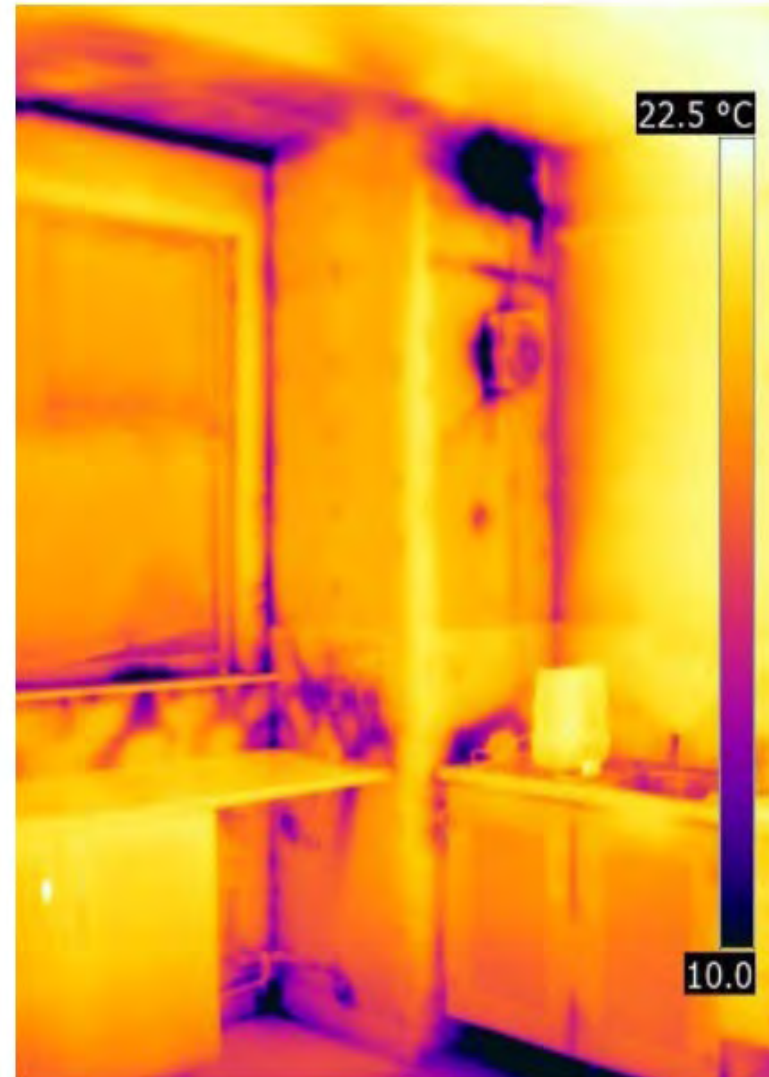
Improving EPCs

- RdSAP 42% mean overpredicted heat loss (-7 to >100%)
- Defaults are major cause of discrepancy (uninsulated):
 - Room-in-roof dimensions and U-values
 - Airtightness
 - Existing insulation (loft, room-in-roof & drylining)
- Replacing defaults **reduces overprediction** (27 to 17%)
- Dynamic model was **more accurate** (-5 to 13%)
- RdSAP 10 & HEM potentially more accurate

Airtightness of UK homes



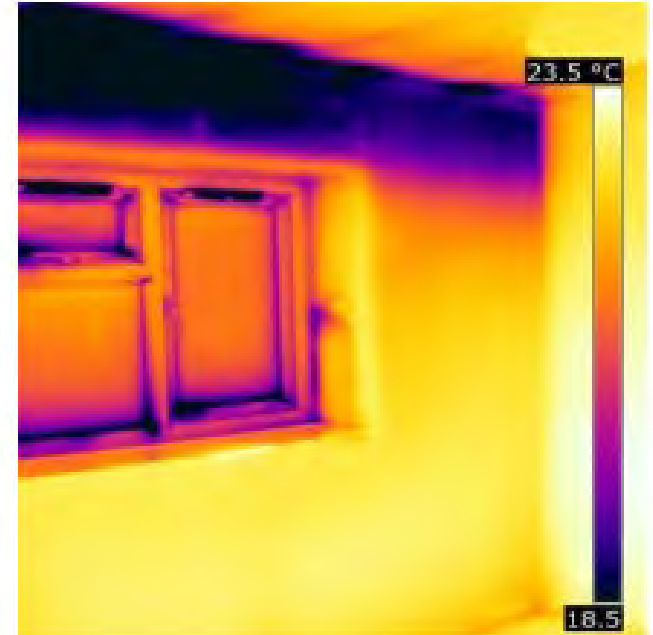
Potential airtightness improvements



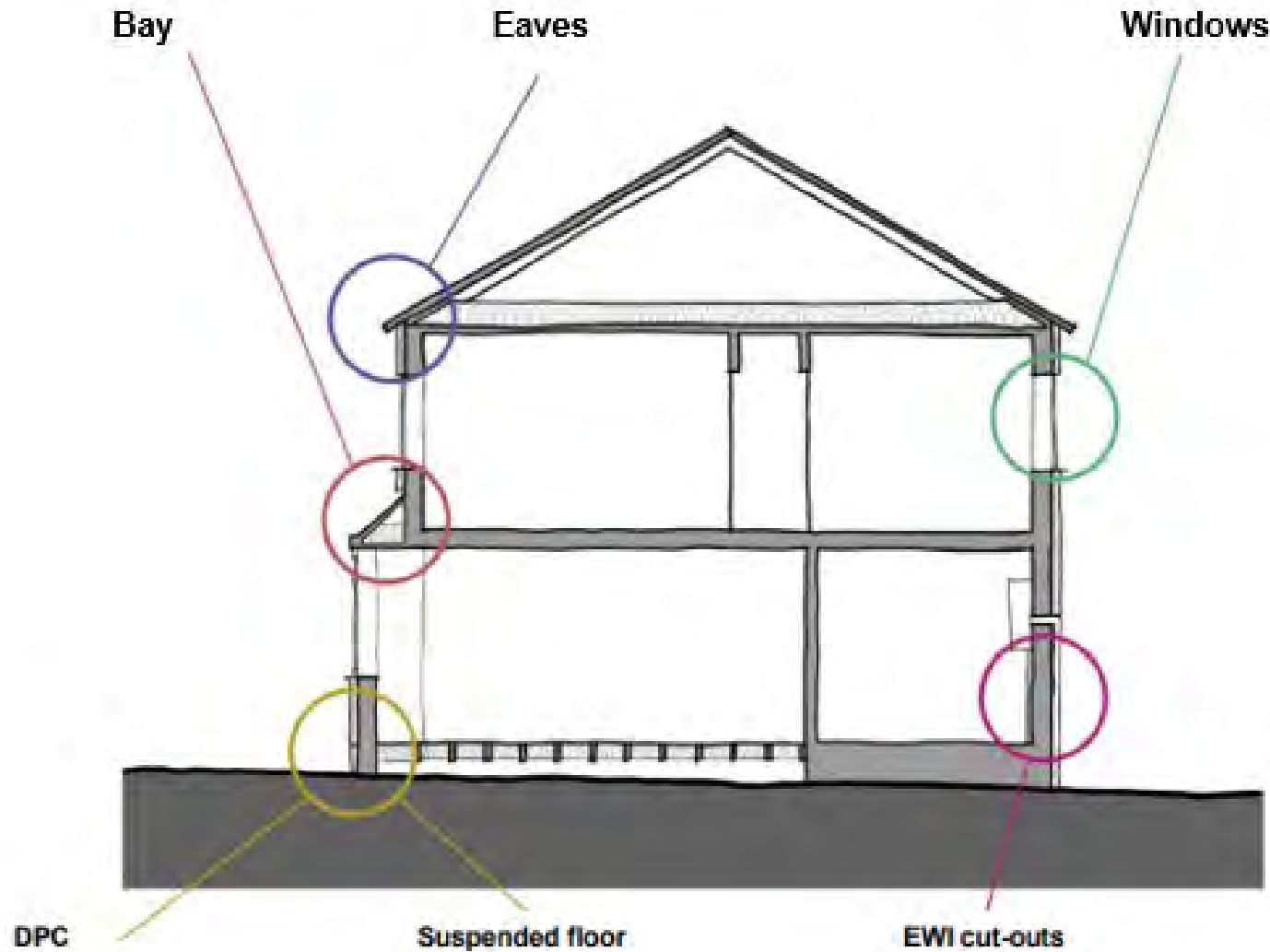
Airtightness findings

- Approx 17% (2 to 28%) of infiltration to neighbour
- Across 84 tests Pulse matched blower door result (did not always match in individual homes)
- Draughtproofing is unpredictable; 0 to 27% heat loss reductions
- Value in eliminating direct pathways (e.g., floor coverings & windows) but sealing (mastic) failed
- Unpredictable impact from other fabric retrofits

Thermal bridging



Junctions investigated



Thermal bridging findings

Uninsulated homes have high surface condensation risks

- Temperature factor <0.75 at 60% to 80% of junctions

Modelled risk assessments have high uncertainty

- Default material properties vs. core samples
- Indoor & external context not included
- Threshold values (pass / fail) are problematic

Main areas of more concern:

- EWI: eaves, bay windows, big “cut-outs”, and EWI & uninsulated solid floors

Areas of less concern:

- EWI: window placement, small “cut-outs”, and EWI & uninsulated suspended floors

DEEP further information

Watch video



Download reports



Driving Energy Efficiency in the Non-Domestic Sector

Daniel Pearson & Paul Holden, Elmhurst Energy



Non-Domestic Update

Daniel Pearson, Elmhurst Energy



Overview

Non-Domestic EPCs

- 🌱 Current Market
- 🌱 Consultations
- 🌱 MEES
- 🌱 Software

Display Energy Certificates

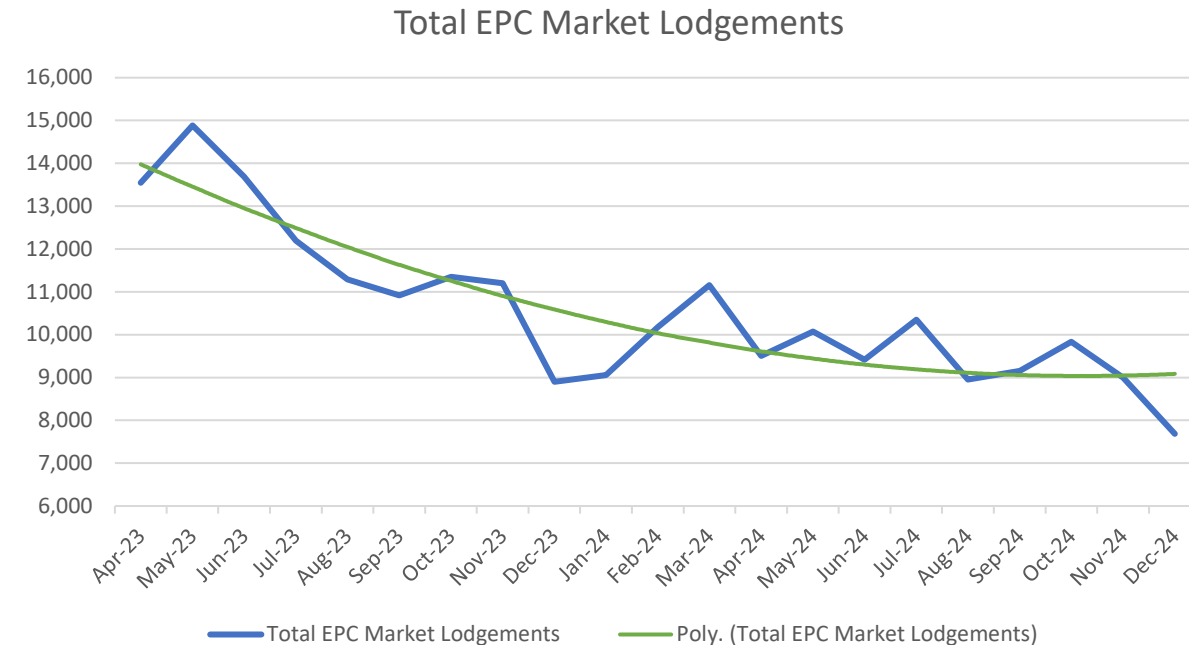
- 🌱 Current Market
- 🌱 Consultations

Air Con Inspection Reports

- 🌱 Current Market
- 🌱 Consultations

Current NDEA EPC Market

- Market has slowed:
 - The current baseline is around 9000 EPC lodgements per month
 - We feel that until a response to the MEES consultation is provided the market will continue to track between 8,000-10,000 lodgements per month



NDEA Current Consultations

Future Building Standard

- 🍃 Closed for responses - 27th March 2024
- 🍃 Awaiting Government response

EPC Reform

- 🍃 Closes for responses - 26th February 2025
 - 🍃 Metrics – carbon to be maintained as the single headline metric
 - 🍃 Validity Period – review of reducing EPC validity period and the requirement to obtain a new EPC when the current EPC expires.
 - 🍃 We feel a 3-year validity period would be most appropriate
 - 🍃 Training – review the provision of training to energy assessors and whether this should solely be the responsibility of Accreditation Schemes

MEES

- 🍃 Closed for responses - 9th June 2021
- 🍃 Awaiting Government response

NDEA MEES

What do we know?

- April 2018 – All new private rentals must be E or better
- April 2023 – All private rentals E or better
- **No other confirmed future changes! – awaiting response to consultation**

What's expected?

- A response to the consultation this year
- Stakeholder meetings have started at the latter end of 2024
- Elmhurst would like to see a phased introduction of interim milestones alongside additional EPC triggers

Recommendations

- Manage client expectations
- Encourage clients to be proactive
- Ensure that knowledge is continuously kept up to date.
- Be proactive regarding assessing stripped out buildings

NDEA Software

SBEM Online

- We are looking at making improvements as a result of feedback we have received
- Always looking to continually develop Elmhurst software

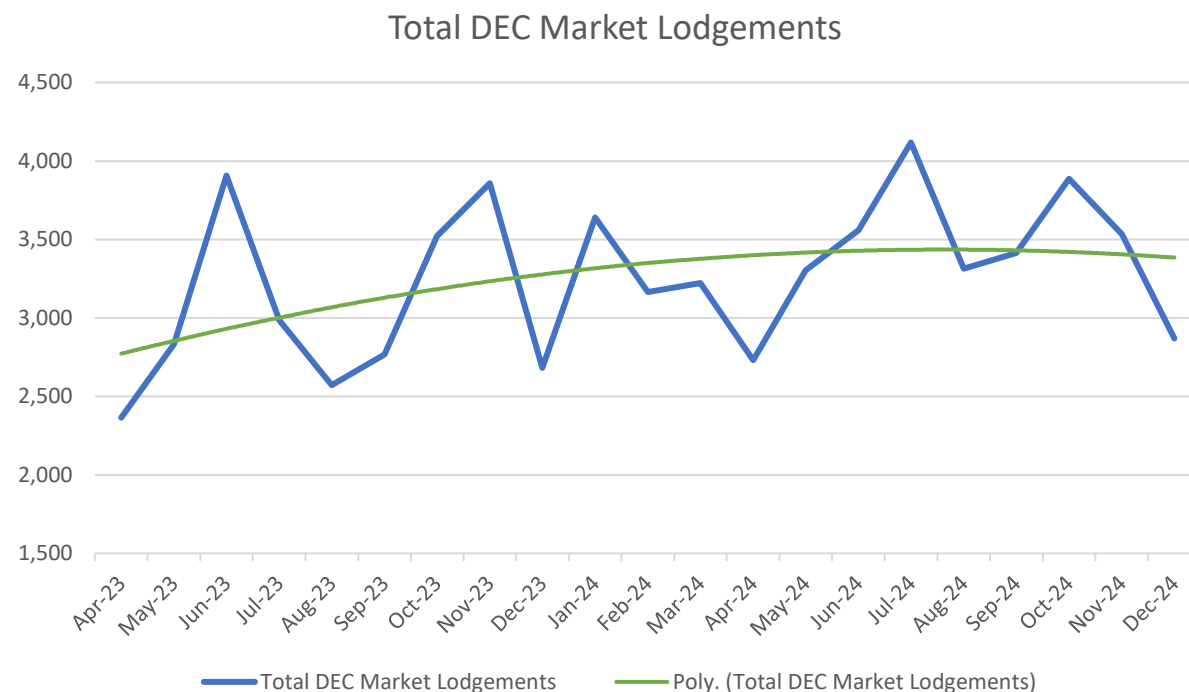


Market has increased overall

- Current baseline is around 3400 DEC lodgements per month
- Increase can be attributed to one main factor
 - The requirements for 10-year renewal DEC's for buildings under 1000m² based upon 2013 legislation regarding displaying a DEC

Considerations

- ESOS is currently in the final phase of allowing DEC's as a method of demonstrating compliance
- Changes to DEC policy in 2015 which expanded the scope of DEC's to include smaller buildings (250 m² and above) which now need renewal DEC's



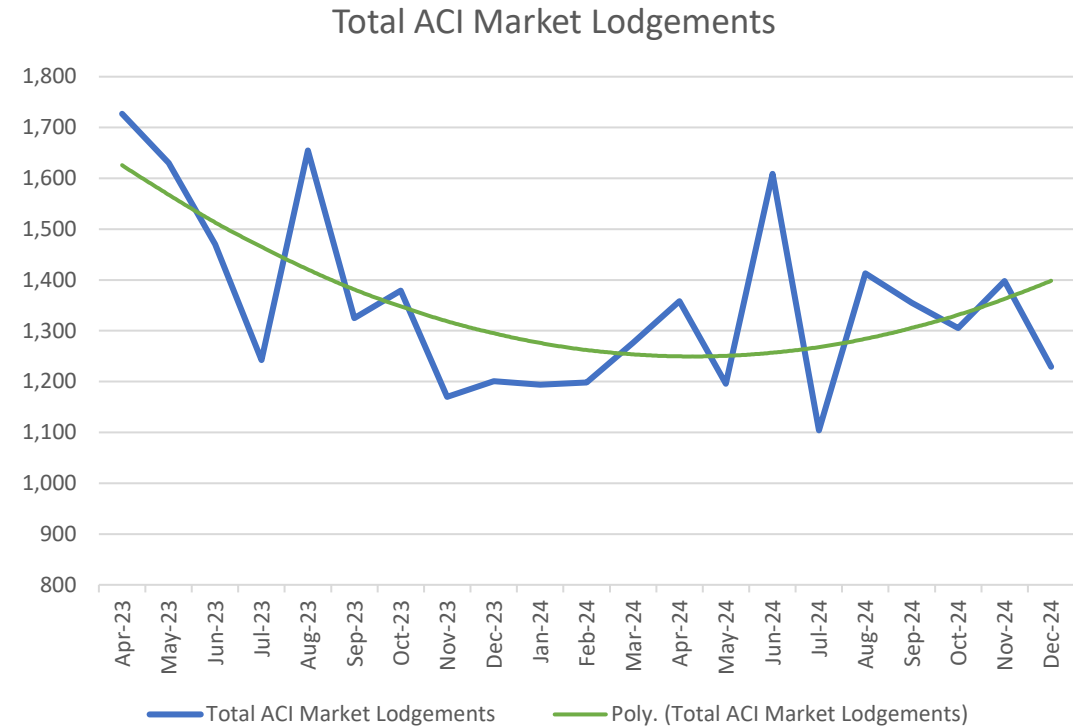
DEC Current Consultations

EPC Reform

- Closes for responses - 26th February 2025
 - Limitations – key limitation is a lack of enforcement
 - Validity Period – Elmhurst opinion on the reduction of validity period of DEC's and Advisory Reports are:
 - DEC 1000m² and under - 1 year
 - DEC recommendation report 1000m² and under - 3 years
 - DEC recommendation report over 1000m² - 3 years
 - Training - review the provision of training to energy assessors and whether this should solely be the responsibility of Accreditation Schemes

Air Con

- Market is beginning to increase
 - Current baseline is around 1400 ACIR lodgements per month
- Elmhurst seeking to increase market for ACIR by
 - Creating articles to increase awareness
 - Communicating with MHCLG
 - Collaborating with third parties
 - Seeking to address issues with non-compliance



Air Con Current Consultations

EPC Reform

- Elmhurst's Opinion is:
 - Metrics – we agree that an estimated cost savings metric should be developed.
 - Penalties – we agree that the penalties for non-compliance should be raised to £800 for not having a valid ACIR. We also feel focus needs to be on issuing enforcement for non-compliance
 - Design – we also agree that the ACIR should be simplified to make it more engaging to building owners

Future Opportunities

- Improve non-compliance within the industry
- Future CPD offerings
- Consultation responses generating interest in the industry

Commercial EPCs

Paul Holden – Director Carbon Profile

- Commercial market place
- A couple of examples of key projects completed
- Who do we see responding to commercial EPCs and how



Market Responsiveness

- Whilst the market has been up and down there is defiantly more focus in certain areas
- Institutional landlords tend to be the most focused – not without challenge
- Many smaller or mid sized property companies are a mix
- Biggest area of zero action is local landlords



There is a lot of hand holding is required

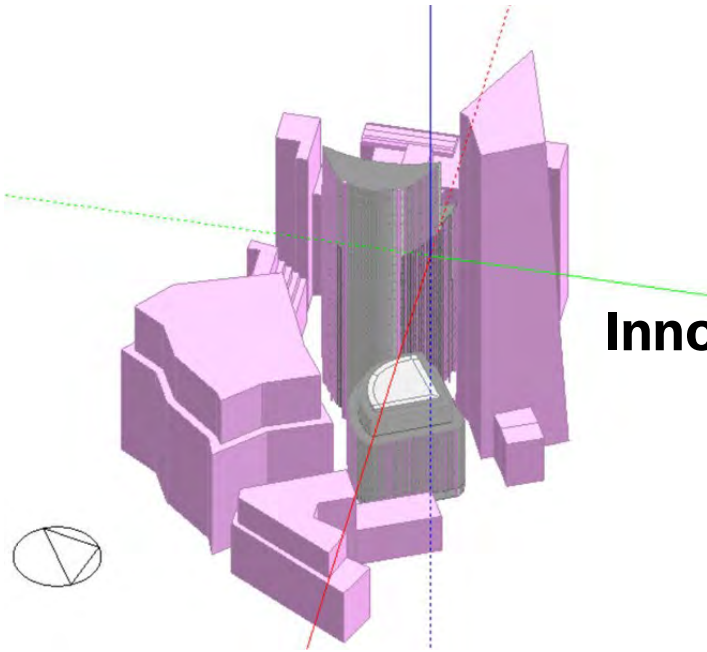
The challenge of the naysayer

- The M&E is still full of 'old school' mindset, ASHP's are not a solution, boilers are better...! Clinging to what they know – change is scary
- There isn't enough power to electrify buildings so it will never work
- The law is never going to come in
- The grid will never be decarbonised....! Knowing the stats can push this along average 25% wind power in last 12 months, often over 30%



There is a lot of hand holding is required

Thinking outside the box



Innovative approach to assessing – the double basement



The commercial world often needs a bit of creativity to find the best solution

Finding ways to drive decisions



Important to understand the, often complicated, UK real estate market to help them through – finding what speaks to the client help the conversation

Main responders

- Pension funds
- National retailers
- Property management companies
- Commercial agents
- Sales and acquisitions
- Local Authorities



Q & A Session



Afternoon Break

Our next speaker will be at: **2:35pm**

**The Elmhurst National Conference is proudly
sponsored by:**



EPCs from a Lender's Perspective

Simon Jackson, SDL Surveying



Who We Are

Not a lender but we work for Lenders

- SDL Surveying
- Established in 1989
- One of UK's largest independent providers of mortgage valuations
- The business works with most major lenders in the UK and manages well in excess of 250,000 instructions per year.
- In 2010, SDL were the first surveying firm to introduce iPad technology to drive productivity, manage risk and improve service delivery for clients.
- This innovation continued with the launch of its local desktop valuation product, which removes the need for the surveyor to visit the property and allows a mortgage lending decision to be made within an hour.
- 80% of all qualified surveyors in the business are now DEAs
- 35 Retrofit Assessors

Why Lenders Care

- 40% Homes in Mortgage
 - 65% of current transactions have a mortgage
- 60% have an EPC
 - 70—80% for lenders with high BTL and New Build
- Most Average a D rating
 - But trend higher for lenders with high BTL and New Build
- All lenders have published climate strategies and net zero transition plans and many have a climate board which reports directly into the main board
- Cost estimates vary but UK Finance estimates the cost to upgrade the entire UK housing stock to EPC Band C at approximately £249.5BN

What customers are looking for

- 43% on Rightmove have an EPC rating of C or above, +2 from 2023
- 55% on Rightmove for rent have an EPC rating of C or above, +2% from 2023
- 81% of Home Movers would make green improvements if they could save the money on energy bills
- 79% of home owners would make green improvements if they had access to government grants and incentives
- 72% of people would be willing to change how and when they use energy if it meant they could access cheaper energy rates at different time
- 50% of Landlords are concerned that the government will introduce costly charges for not meeting EPC requirements
- Since 2020 searches for:
 - Solar panels on Rightmove has increased from the top 500 to the top 100
 - Heat Pumps has risen from >1000th to the top 200

What is available in the market

Data from - Green Finance Institute

- Around 60 specific green mortgages available:
 - 59% offer a lower interest rate
 - 34% offer cashback under certain circumstances
 - 49% are for properties which are already A or B rated only
- Cost and access to finance are not the only issues:
 - 0% products and cashback funded schemes are available with small take up. Customer education is key to increasing take up

What Lenders are looking for

- Consistently accurate EPC reporting
- Greater access to energy usage data
- When launched EPCs were no envisaged to be a lending underwriting criteria, but that is how they are starting to be used
- EPCs are part of rather than the single data source to help lenders report on the transition to net zero
- Lenders are being asked to report on progress to net zero and improvements in EPC ratings
- Pressure is growing to create a two tier market

Conclusion

- Mortgage lenders are committed to decarbonising their portfolios and helping to finance the transition towards greener, lower carbon emitting homes
- But are looking to government for direction and support packages to galvanise action from property owners
- Property owners are getting more interested in the topic of energy efficiency but don't know how to pay for it
- Firms in the energy sector have a part to play in improving the education available to all stakeholders

Heat Loss Assessor: The importance of competency

Chris Ricketts, Elmhurst Energy



Policy Landscape

- Decarbonisation pathways to net zero by 2050
- Electrification of heat- decarbonised grid
- Ambition to install 600,000 heat pumps per year by 2028 to decarbonise the heat from buildings
- The Heat and Buildings Strategy makes significant funding commitments to support and upgrade the building stock
- Lower Flow temperature in heating systems design.

Projects and Research

- Accredited Domestic Energy Assessors have existing skills of RdSAP assessments and site surveys which we could build on.
- We developed with MCS and their installers a new heat load calculator and training to conduct space heating requirements to allow design and sizing of Low Carbon technology.

Understanding Heat Loss in Dwellings

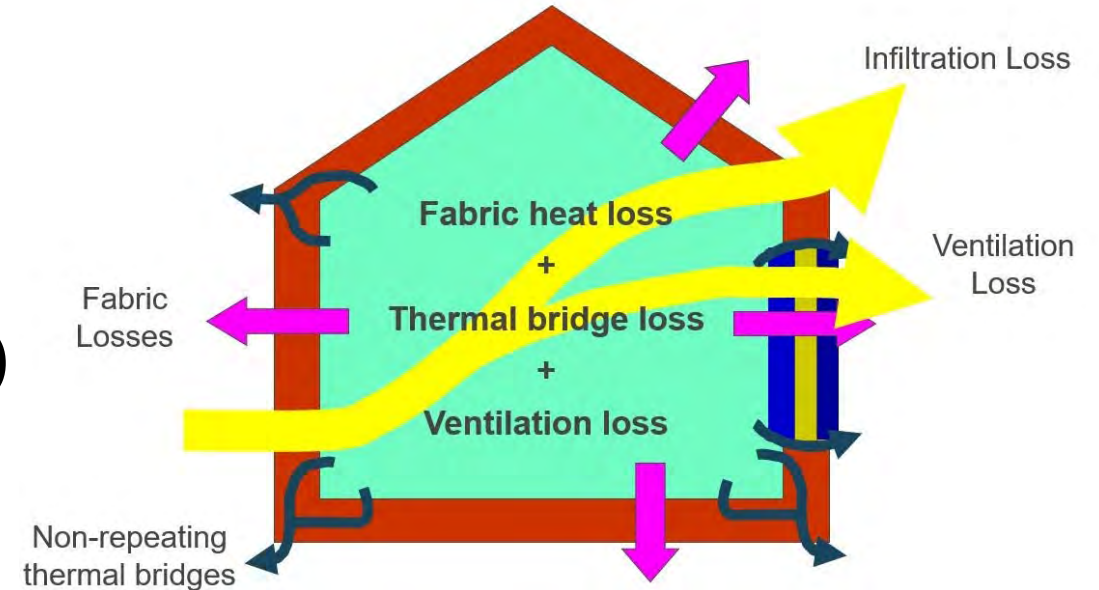
- It is essential that the heat load of a building is calculated correctly
- Heat loss calculations must be applied on a room by room basis
- Systems specified in this way will be cheaper to run, ensure the homeowner is comfortable and will be more energy efficient.



Understanding Heat Loss In Dwellings

The basics

- Building fabric – walls, floors, roof insulation, windows and doors
- Room size
- Air change rates
- Expected comfort temperatures
- Lowest temperature (on average) during winter

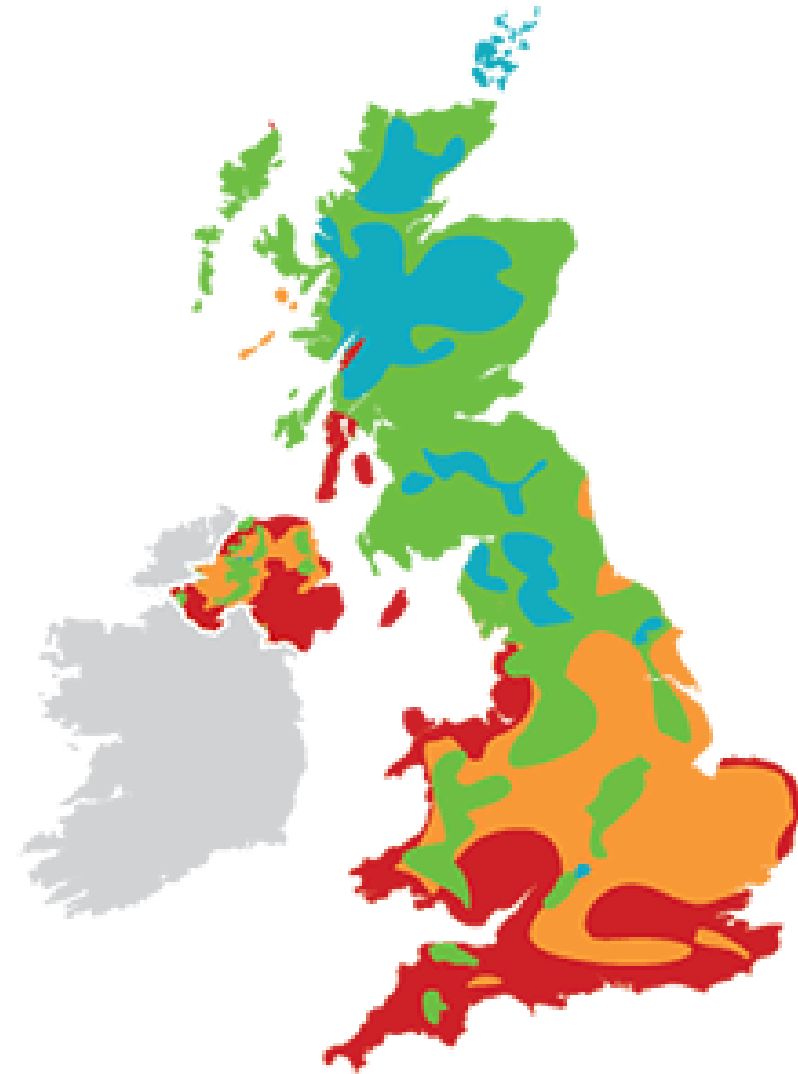


Modelling the impacts

Housing Type	Bedrooms	Floor Area (m ²)	Number of Storeys	Percentage of England Housing stock
Semi Detached	3	90	2	25.5%
Detached	4	154	2	17.1%
End Terrace	2-3	83	2	28 %
Mid Terrace	2-3	79	2	

Modelling the impacts

Age Band
A: Before 1900
C: 1930-1949
E: 1967-1975
G: 1983-1990
I: 1996-2002
J: 2003-2006
K: 2007-2011
L: 2012-2022
SAP 10



Modelling the impacts

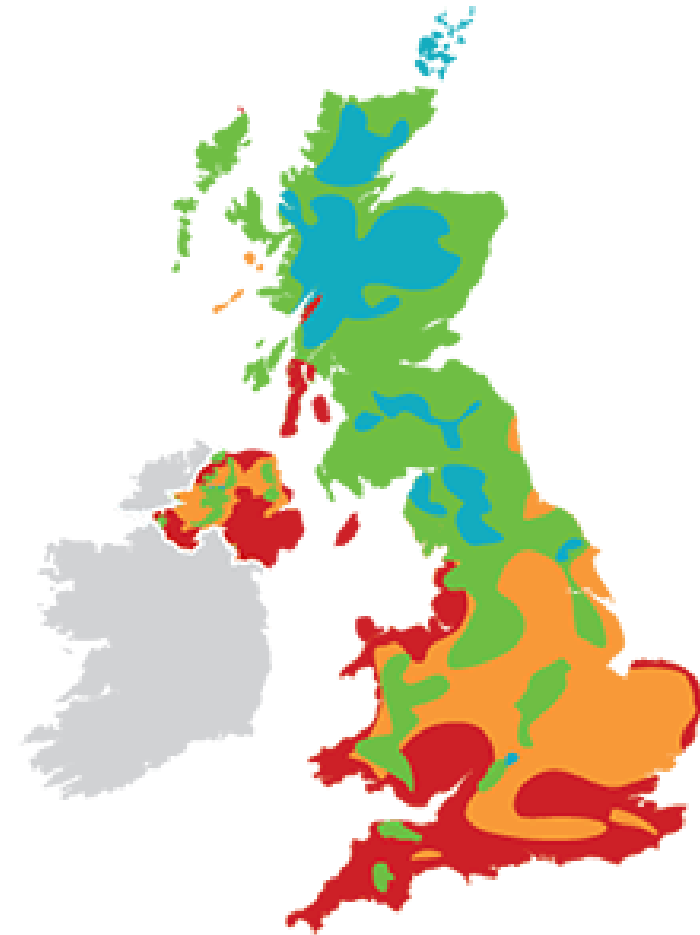
- Kept consistent Building fabric – walls, floors, roof insulation, windows and doors remained the same
- Kept the location the same, so same weather profile and hence Lowest temperature (on average) during winter constant
- Kept the expected comfort temperatures

Property attachment type has an impact

Impact on Baseline of 1	
Archetype	
Mid Terrace	1.00
End Terrace/ Semi	1.12
Extd End Terrace	1.26
Detached	1.51

Modelling the impacts

Location	Factor on average W/m ²
Aviemore PH22	1.21
Glasgow G1	1.20
Manchester M1	1.14
Peterborough PE2	1.15
Bristol BS1	1.08
Plymouth PL1	1.00



Modelling the impacts

Fabric Impact Wall		
Age Band	Assumed U-Value	Factor
A: Before 1900	1.7	1.69
C: 1930-1949	1.7	1.69
E: 1967-1975	1.7	1.69
G: 1983-1990	0.6	1.13
I: 1996-2002	0.45	1.05
J: 2003-2006	0.35	1.00
K: 2007-2011	0.3	1.00
L: 2012-2022	0.28	1.00
SAP 10	0.18	1.00

Fabric Impact Roof		
	Assumed U-Value	Factor
Pitch no insulation	2.3	1.50
100mm insulation	0.4	1.06
150mm Insulation	0.26	1.02
270mm Insulation	0.16	1.00
Notional Spec Part L	0.13	1.00
Notional Spec Part L	0.11	1.00

Elmhurst Heat Loss Calculator

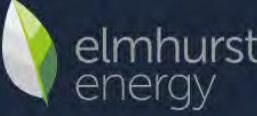
- All space heating systems should be correctly sized, following assessment - current standards (BS 12831:2017)
- Incorrectly sized systems will not work at the correct efficiency
- Will cost more to run if oversized or undersized



MCS compliant Results

- Following a correct set of data entry the Heat Loss Calculator Software will display a comprehensive result Calculation.
 - Dwelling Information
 - Space Heating Load
 - Design Conditions
 - Calculation Details
 - Heat Emitter Sizing By Room
 - Fabric Heat Loss By Adjacent Space
 - Ventilation Heat Loss By Zone

Software Screen Shots



Heat Loss Calculator

- Dwelling Information
- Ventilation
- Heated Rooms
- Building Elements
- Bedroom 3
- Sitting Room
- Kitchen/diner/living room
- Stairs
- Bedroom 1
- Bedroom 2
- Landing
- Bathroom
- Utility room
- Result Calculation**

Chris Ricketts
Logout

Result Calculation Today 12:06

Dwelling Information

Reference: 26 Lutterworth Road (Working Example - Complex)
Alex

Location: [LE17 4JU – England](#)

Total Floor Area: 86.2 m²

Dimension Specification: Net Internal

This calculation is MIS 3005-D compliant for designing heat pumps

The Heat Loss Calculator is designed as a helpful tool for estimating the heat load of domestic properties. However, no warranty or guarantee can be given as to the accuracy of any figures provided. We strongly recommend a property survey before finalising system design, suitability or any contractual relationships with a consumer.

Space Heating Load (Whole-House)

Peak Heat Load
6.4 kWp
The heating system size required to meet the space heating load based on the design conditions below.

Heat Load By Floor Area
74.2 W/m²
The space heating load normalised by floor area which can be used to compare different dwellings.

Annual Heating Energy Estimate
15,696 kWh/yr
The actual energy usage will depend on the efficiency of the heating system, i.e. heat pump SCOP or boiler efficiency.

Design Conditions

Average Internal Room Temperature
18.8 °C
The average room internal design temperature within the dwelling.

Mean Annual External Air Temperature
9.8 °C
The mean external air temperature over the entire year.

Design External Air Temperature
-5.1 °C
The design external air temperature based on CIBSE Column B (99.6% of hours).

Heating Degree Days
2,425
The annual degree days for the postcode based on a 15.5°C base temperature.

Calculation Details

Fabric Heat Loss
4,882 w

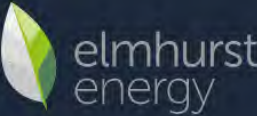
Ventilation Heat Loss
+ 1,510 w

Heating Up Power
+ 0 w

Heat Gains
- 0 w

Space Heating Load
= 6,393 w

Example – Space Heating Load



Heat Loss Calculator

- Dwelling Information
- Ventilation
- Heated Rooms
- Building Elements
- Bedroom 3
- Sitting Room
- Kitchen/diner/living room
- Stairs
- Bedroom 1
- Bedroom 2
- Landing
- Bathroom
- Utility room
- Result Calculation

Chris Ricketts
Logout

Space Heating Load By Room

Radiators (or other heat emitters) need to be appropriately sized to handle the peak heat load in each room. For wet systems, the heat output should correspond to the given figures at the intended flow temperature for optimum efficiency.

Room Name	Floor Area (m ²)	Design Temp (°C)	Peak Heat Load (W)	By Floor Area (W/m ²)	Annual Energy (kWh/yr)	
Bedroom 3	6.4	18.0	757	117.6	1,813	10%
Sitting Room	13.6	21.0	1,196	88.1	1,791	15%
Kitchen/diner/living room	27.0	18.0	2,182	80.7	4,024	28%
Stairs	3.3	18.0	-9	-2.6	96	0%
Bedroom 1	13.6	18.0	1,319	96.9	3,209	17%
Bedroom 2	8.4	18.0	663	78.8	1,357	8%
Landing	6.4	18.0	765	119.6	1,764	10%
Bathroom	3.4	22.0	678	198.0	1,022	9%
Utility room	3.9	18.0	352	89.5	621	4%

Fabric Heat Loss By Adjacent Space

Adjacent Space	Description	Adjacent Temp (°C)	Fabric Heat Loss (W)	
Exterior Air	Heat transfer through walls, roofs and suspended floors.	-5.1	3,137	64%

Competency & schemes

- Create consistency of approach and quality of output
 - Have good and open governance
 - Adhere to a code of conduct and a defined set of rules
 - Use approved software
 - Random audits to ensure standards and conventions followed

Opening up opportunities

- Provision of an intuitive industry compliant heat loss calculation tool for use by DEAs, RAs, Air Testers, Surveyors, Renewable Installers, Low Temp Heating Designers.
- Developing network of Renewable assessors servicing Retrofit Industries, Heat Pump Designers, Boiler Installers and Surveyors using these tools
- Measure peak heat demand to determine heat pump readiness and potential sizing using measured results

ALL Assessors In the Public Eye

Liz Male MBE
Liz Male Consulting



Elmhurst promoting you

elmhurst
National
conference
Leicester 12.02.25

- 95 pieces of media coverage last year alone
- 8 million views online
- 766,000 readers
- 111,000 social media shares

BBC
NEWS

The Daily Telegraph

**Property
Week**

yahoo!
news

i **News**

PROFESSIONAL
**HOUSEBUILDER
& PROPERTY DEVELOPER**





Assessor competency shortfalls undermine credibility

Call for improved training for Energy Performance Certificate assessors

Government suspends 39
installation businesses for
substandard solid wall
insulation work

The problem with Energy Performance Certificates

A Which? investigation has found that EPCs can be riddled with inaccuracies and unhelpful advice that could cost homeowners a fortune

18 Jul 2024



Which?

Money > Property

The energy ratings 'guesswork' corrupting Britain's house prices

As Labour scrambles to overhaul EPCs, The Telegraph can reveal:

- “Guesswork” by inspectors with just three days of training can knock thousands off a home’s value.
- Near-identical homes can receive wildly different ratings, yet potential errors are reviewed by staff working from home.
- The ratings system is being “gamed” to access government grants or manipulate property prices.



Anatomy of a crisis

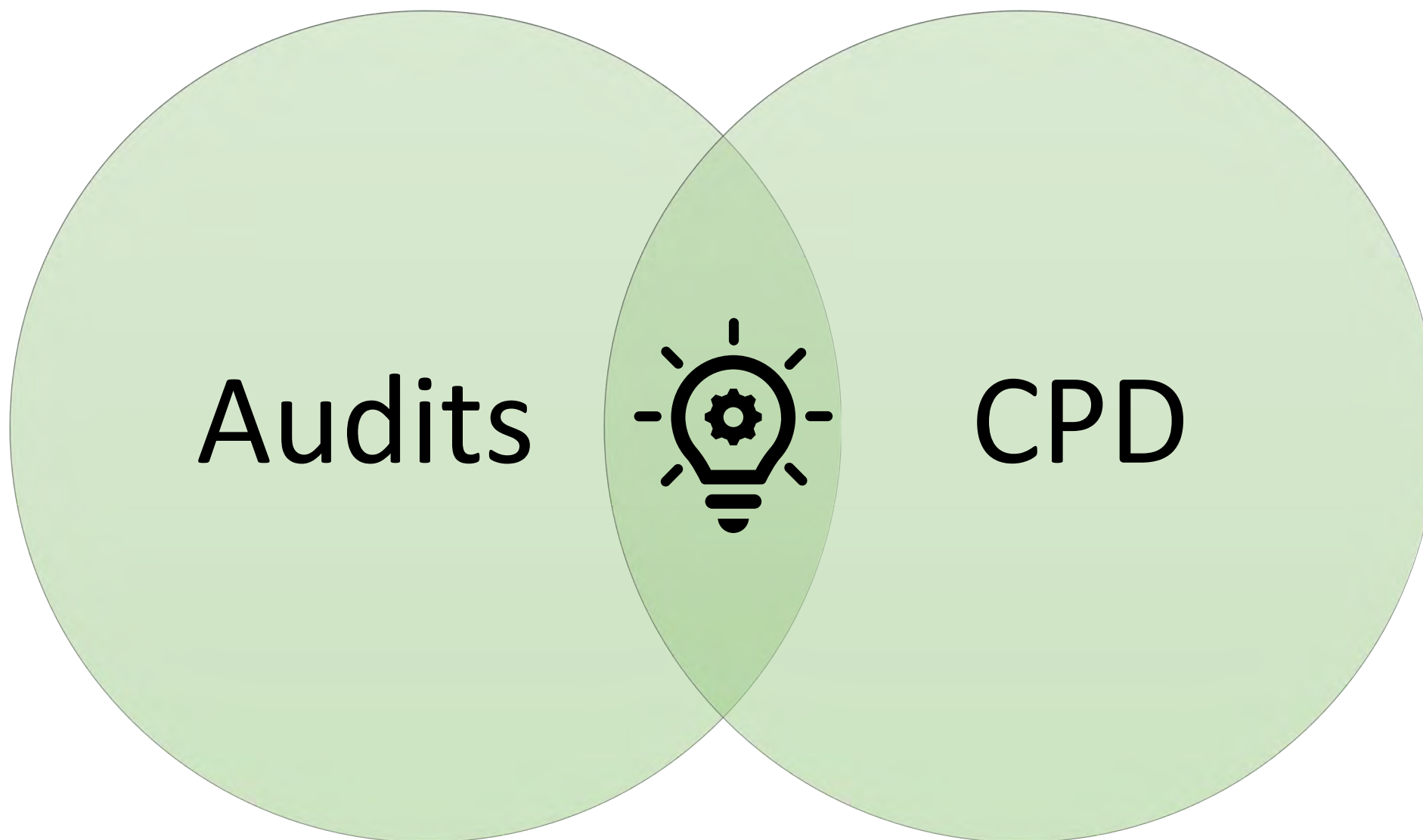
- **Media feeds on media...**
- Product doesn't work (anymore)
- Experts who are prepared to criticise the product
- Victims who relied on the product
- Collateral damage arising from the product
- People who sell the product

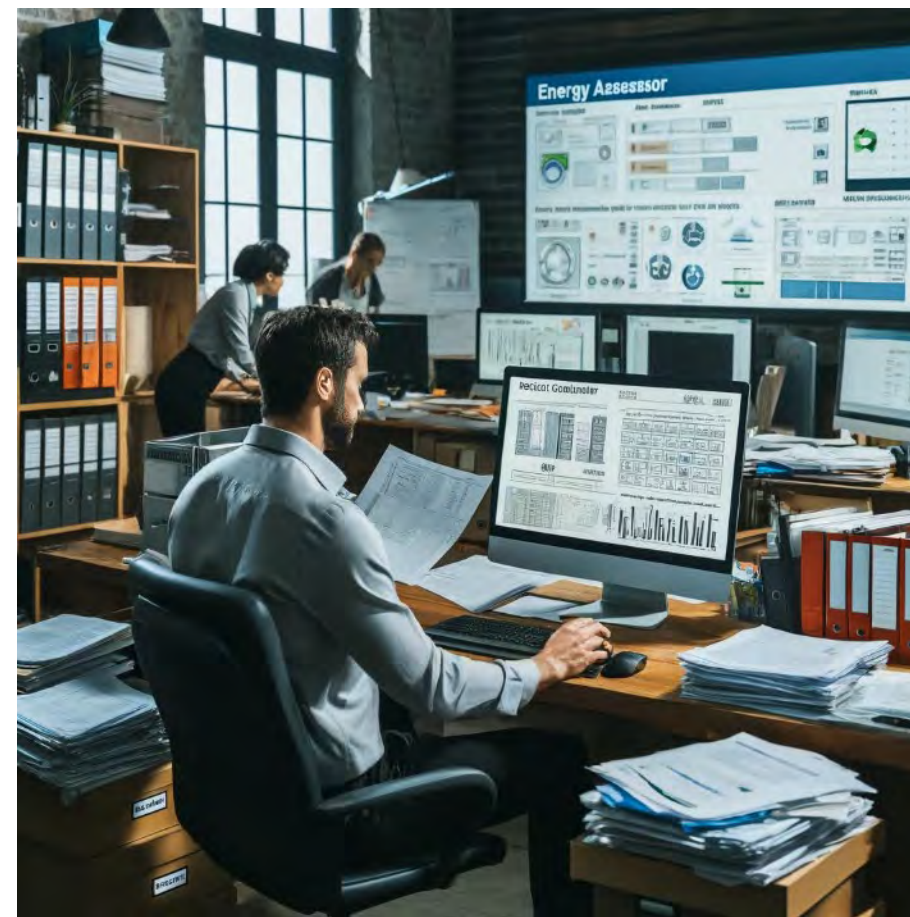
How to avoid the crisis

“Mistakes are costly and somebody must pay. The time to correct a mistake is before it is made.

The **causes of mistakes** are, first, I didn't know; second, I didn't think; third, I didn't care.”

Henry H. Buckley







How to deal with the crisis



1st Class = Victims

Pilot = Media

Business Class =
Top Tier Pundits

Economy =
Everyone & Their
Mother with a
point of view

Baggage
Hold = Us

If a complaint gets to the media

- Don't ignore it
- Ask lots of questions
- Know the media's deadline – and stick to it
- Get help from the Elmhurst team
- Never diss the customer
- Keep comment as simple as possible
- Put it in writing
- Review afterwards – what could have avoided this?

“To make no mistakes is not in the power of man. But from their errors and mistakes the **wise and good** learn wisdom for the future.”

Plutarch

Crisis comms preparedness, training and 24/7 support

liz@lizmale.co.uk



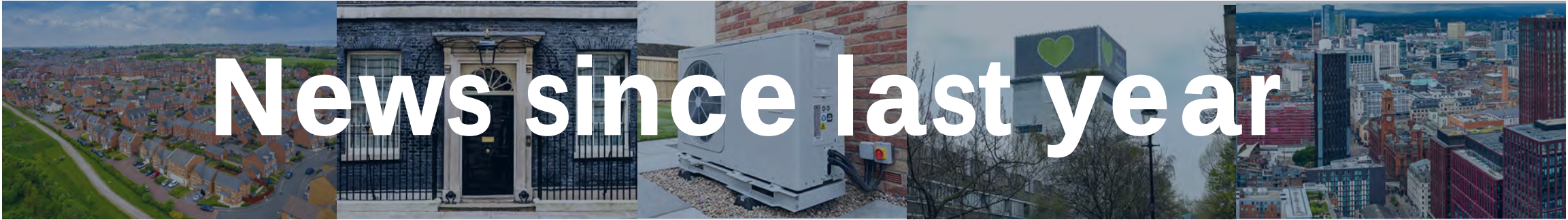
Q & A Session



Closing Remarks

Stuart Fairlie, Elmhurst Energy





News since last year

- Understanding the Home Energy Model
- NI Path to Net Zero
- ECO & Boiler Upgrade Scheme consultation outcomes
- EPC data sharing law change
- General Election
- Retrofit Assessor Standard
- Planning Reforms
- Scotland consult on Passivhaus equivalent standard
- Grenfell Report
- EPC Reform Consultation

2025 a big year (and beyond!)

- EPC reform (all regions)
- RdSAP10
- Retrofit Transitions and Standards changing
- Much more use of onsite measurements
 - e.g. Air Testing, HTC, Background Ventilation, Heat Loss Calculations...
- Future Homes Standard
- Transitions to clean energy e.g. Heat Pumps
- Lenders Perspective
- Public Awareness of this sector
- **Leadership and Quality**

Thank You



- Sponsors
- Speakers
- The venue team
- My marketing team for organising
- And most important you for coming
- Safe journey home



elmhurst

National conference