



**BUILDING SENSE**  
**RETROFIT SKILLS + TRAINING SUMMIT**  
Connexus Warmer Homes ERDF Project:  
creating the model for a 30 year investment  
plan



# INTRODUCTION

## PRESENTATION TOPIC

*How the Warmer Homes ERDF project has transformed properties in Herefordshire, its impact on Connexus zero carbon planning, and insights into the retrofit skills and PAS 2035 requirements for government grant-funded projects.*

- Context
- The project bid
- Learnings
- Transformations
- Commitment to the future



# CONTEXT

## What is the purpose of the Warmer Homes project?

Test a whole house approach to achieving deep energy savings and carbon reductions through a fabric first approach.

Inform 30 year business planning at Connexus by investigating the investment pathway for the whole stock to reach 2050 standards, including 5,000 homes needing significant investment.

Warmer Homes is part funded by the European Regional Development Fund (ERDF) and Warmer Homes is an innovation project. ERDF has a core objective of stimulating economic development – jobs and business growth.



## CONTEXT

# What are the intended outcomes from the Warmer Homes project?

1. Improve the condition of the houses in the project
2. Improve the appearance of homes
3. Help reduce tenants bills and give them more comfortable homes
4. Support national targets for reduction of greenhouse gas emissions
- 5. Provide business opportunities for the local supply chain**
6. Support development of a national model of financing refurbishment of the existing housing stock (see SHAP talk this afternoon)



# THE PROJECT BID

## developed in 2018 and nationally groundbreaking

132 homes comprising:

80 off gas, cavity wall traditional dwellings in Shropshire

52 on mains gas, solid wall traditional dwellings in Hereford

Retrofitted to Enerphit standard in Hereford and Shropshire  
with a contract for 383 tonnes of GHG saved





# THE BID INNOVATION

to determine the Connexus investment plan to improve properties on a pathway to net zero using EnerPHit modelling



These retrofits will be built to EnerPHit principles, the first stage will incorporate external wall insulation (EWI), space heating and adequate ventilation (not necessarily with heat recovery)



Warmer Homes Phase 1 & 2 → 2050 – EnerPHit & Zero Carbon

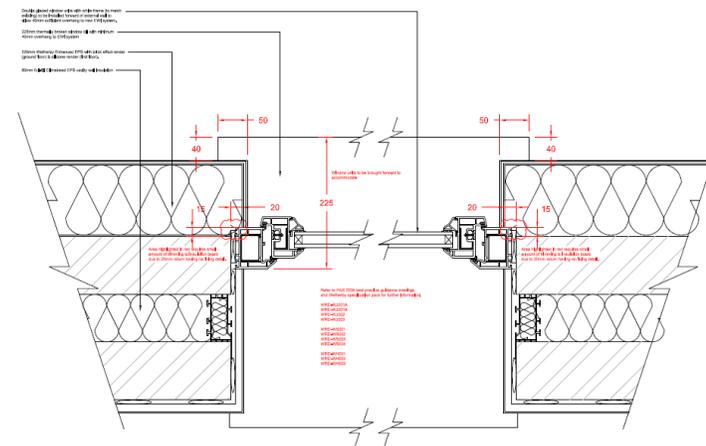
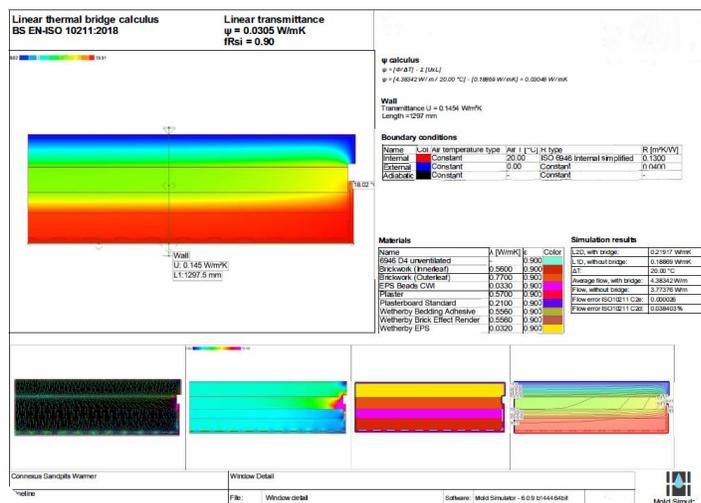


# LEARNINGS

As an example, Enerphit requires new approaches to airtightness and attention to cold bridging – new details, new skills

Window thermal bridge calculations

Moving window forward into insulation – workable detail





# MANAGING RISK AND CHANGE

For example cost changes – innovation learning, brexit, covid, post covid economic stimulus retrofit packages

Description	Expenditure	Capital	Revenue	ERDF Grant	ERDF Capital	ERDF Revenue
Contracted Budget as of Version 1	£2,639,229.00	£2,472,442.00	£166,787.00	£1,055,691.00	£988,976.00	£66,715.00
Current Contracted Budget	£5,756,832.00	£5,545,731.00	£211,101.00	£1,379,629.00	£1,295,188.00	£84,441.00

<b>SHDF (Demonstrator, Wave 1, Wave 2)</b>	<b>£3.8 billion over 10 years</b>
LAD	£500 million
HUGS	Up to £700 million to 2025
SUSTAINABLE WARMTH brings together LAD (low-income households heated by mains gas) and HUG (for low-income households with homes that are off the gas grid)	(LAD3): over £280 million available. Home Upgrade Grant Phase 1 (HUG1): over £218 million
PUBLIC SECTOR DECARBONISATION SCHEME	£1 billion 2020-2021 and 2021-2022 to support 30,000 green jobs, £1.425 billion 2022-2023 to 2024-2025
ECO4	£4 billion 2022 to 2026



# LOW CARBON JOBS AND SKILLS OPPORTUNITIES

Local green jobs - accelerating a sustainable economic recovery | Local Government Association

- Nearly 700,000 new green jobs could be created by 2030 if councils are given a greater role in local job creation, the Local Government Association sets out today.

Net Zero Review: UK could do more to reap economic benefits of green growth - GOV.UK ([www.gov.uk](http://www.gov.uk))

- Official statistics show there are already around 400,000 jobs in low carbon businesses and their supply chains across the UK, with turnover estimated at £41.2 billion in 2020. Both the [British Energy Security Strategy](#) and [Net Zero Strategy](#) aim to leverage an additional and unprecedented £100 billion of private investment, while supporting an additional 480,000 British jobs by 2030.



# RETROFIT SKILLS DEVELOPMENT

Government Funding requires delivery to PAS2030 and PAS2035 standards and development of new skills by the supply chain, construction professionals but also other stakeholders and decisionmakers.

## Retrofit Academy PAS 2035 flow chart

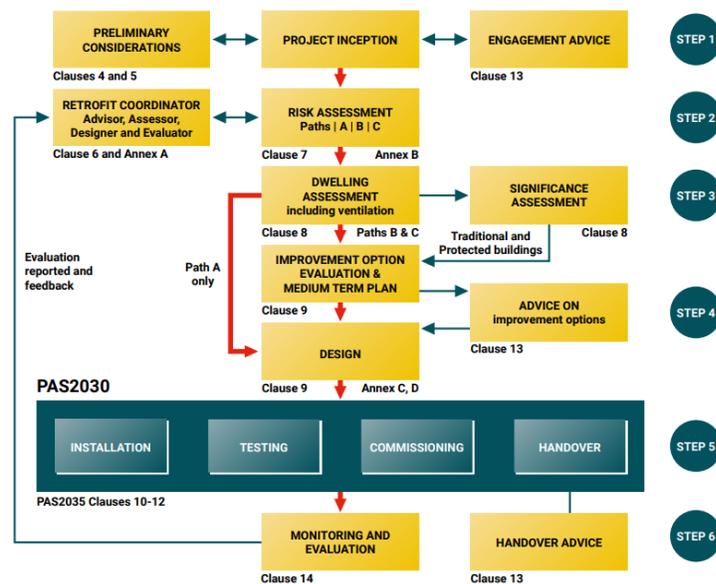


Figure 1 The PAS 2035 Retrofit Process showing the installation phase in the context of the wider project (courtesy of BSI)



# But look what can be achieved - before and after Hunderton Road, Hereford

photos and drone footage courtesy of the contractor SBS



<https://youtu.be/XYFODckfH9s>



# PLANNING FOR SCALING UP RETROFIT

## BUILDING PARTNERSHIPS AND WORKING AT SCALE

### Design Examples - Connexus Warmer Homes



Existing property - 3 Storey Cornish



Brick Effect Render - Gun Metal



Silicone<sup>ultra</sup> Render - Standard White

Post Installation Colour Palette -  
PermaRock Brick Effect Render -  
Gun Metal at ground floor,  
Silicone<sup>ultra</sup> 1.5mm Render -  
Standard White at first floor.  
Mansard roof - Terracotta  
Windows - Anthracite Grey



The Connexus Warmer Homes project is part-funded by the European Regional Development Fund



8<sup>th</sup> June 2021

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# THE FUTURE

## Looking Forward at Connexus

- Build detail into the Connexus net zero strategy
- Continue to develop the business case for energy efficiency investment
- Work with residents/wider stakeholders on energy management and planning for net zero living
- Replicate design solution to other similar blocks in Hereford
- Push ahead with design solutions for houses in Hereford and Shropshire
- Expand PAS 2035 training programme for colleagues to raise awareness and upskill for delivery
- Engage months ahead with utilities



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