

Your Ecofurb Plan

The Tiny House, North Hill, AB3 8YZ



Ecofurb reference number:

Survey date: 18/12/2023

Report date: 4/1/2024

60373406

Ecofurb Coordinator

hello@ecofurb.com

Table of Contents

Section 1: About your Ecofurb Plan	2
Introduction	2
Plan at a Glance	3
Current performance and potential improvement	3
Summary list of improvements	3
Your home and priorities	3
Section 2: Current performance	6
Summary	6
Comparing the fuels you use	6
How energy is used in your home	6
Where does heat leave your home?	7
Other energy uses (and gains)	7
Section 3: Potential improvements	9
Phases of improvements	9
Improvements per phase	9
Phases Cost Breakdown	10
Carbon impact of your Ecofurb Plan	11
How your home could perform	12
Retrofit Coordinator's technical insights	13
Section 4: What's next?	14
Book a follow-up call	14
Section 5: Resources and additional information	14
360° Tour of Your Home	14
Floor Plans, Elevations and Roof Condition	14
List of all suitable improvements considered	14
Glossary	14
Frequently Asked Questions	14

Section 1:

About your Ecofurb Plan

Introduction

Welcome to your Ecofurb Plan for **The Coach House, North Hill, FG25 0PN.**

This document looks into the energy performance of your home and lays out a clear guide to improve its efficiency, reduce energy bills and your carbon emissions. We have produced this plan following a home assessment carried out by a Retrofit Assessor and your completion of our online household questionnaire. The information collected is used to understand your home's current energy performance and to calculate options for improvement. This calculation incorporates your priorities and budget, to generate a range of appropriate improvements bespoke to your home.

The Summary overleaf may cover everything you need at this stage, but for reference the remainder of this Plan shows how those recommendations were reached.



How are the calculations made?

We have evaluated your current energy performance by looking at the existing thermal properties of your home, such as insulation, windows and draughts. We also assess the home's heating and lighting, and how you use your home.

Using our model, we then identified all the possible improvements that could reduce your energy bills and environmental impact. This gives us a long list of options.

How are the proposed improvements chosen?

To get to our short list of recommended measures, we test combinations of measures to find the best option for you. We chose improvements relevant to your budgets and priorities. We set out your options, packaged into phases, and included estimated costs and benefits of each stage.

What's next?

When you have read this plan, please follow the instructions that your Retrofit Coordinator has emailed you, to book your 30 minutes follow up consultation call. Your Retrofit Coordinator will talk you through the proposed improvements and answer any questions you might have.

Plan at a Glance

Before we get to the detail, here's a summary of our key findings and recommendations.

Current performance and potential improvement

A snapshot of your home's existing performance and a glimpse of what could be achieved.

Annual performance	Current energy performance	Improved energy performance	Change
Carbon Emissions	2.13 tonnes of CO ₂	0.11 tonnes	2.02 tonnes less
Energy Bills	£1,220	£670	£550 less
Energy	11,004 kWh	6,552 kWh	4,452kWh less
kWh/m²/year	94 kWh/m ²	5 kWh/m ²	89 kWh/m² less
Energy Rating	70 C	93 A	2 bands better

Summary list of improvements

Here are the improvements we've selected in your plan for a total estimated cost of **£28,790.00** before grants.

All prices are estimates and are not quotes. Estimates are calculated on the basis of the detailed measurements captured in our survey, and average market prices, which are subject to change.

- 3.5kWp PV array South West facing	£5,450
- Air Source Heat Pump	£12,420
- Medium Solar Thermal Panels	£5,300
- 10kWh Battery alongside a PV installation	£3,680
- 300mm loft insulation from 100mm	£1,270
- Full multi zone heating controls	£670

A grant of £7,500 is currently available to support the costs of installing an air source heat pump, under Government's Boiler Upgrade Scheme.

Your home and priorities

Home: Here are some of the key features, identified during the survey, and considered in our modelling for your home.

- Your home is within a conservation area. It is not listed.
- It is a two-storey detached house and was built pre-1900.
- The ground floors are solid and uninsulated - assumed.
- The walls are insulated solid brick and insulated – average 100mm thick.
- The loft is insulated with 100mm of rockwool at the joists.
- The windows were double glazed in 2015, and do not have trickle vents.
- The front door was installed in 2015, with a small double glazed window.
- There is one main heating system, a combi condensing gas boiler which is 86% efficient.
- The building was converted into a habitable dwelling around 1995
- There is a garage, it is separate and therefore not included in the modelling.
- There is a good size courtyard to the front of the property, not fronting the highway.

Priorities: These are the goals and areas of focus you identified in your online householder questionnaire.

- You are looking to reduce emissions from the energy used in the property.
- You are looking to ensure energy bills are affordable.
- You would like to increase your energy rating of the property.
- Your initial plan was to focus on the building fabric, but your plumber has advised the boiler is unlikely to pass its Gas Safety Check.



Figure 1: Current gas boiler in kitchen

Sample Ecofurb Plan – Not to be used as the basis for advice provision

© Parity Projects 2017-2023, all rights reserved



Figure 2: Image showing concrete screed in downstairs living area, and flagstones in kitchen, which are laid over original (1995) tiles.



Figure 3: Image showing good quality double glazed windows, installed in 2015 with original documentation supplied. Note lack of trickle vents and depth of dry lining.

Section 2:

Current performance

Let's start by looking at your home's current energy and environmental performance. This helps us focus on what can be improved.

Summary

We've looked at the annual CO₂ emissions, bills and energy use of your home – they are linked to each other but are affected differently by various improvements, so all three need to be taken into consideration.

	Current
Carbon Emissions	2.35 tonnes
Energy Bills*	£1,220
Energy	11,004 kWh
Energy Rating	70 C



Comparing the fuels you use

Here we've broken your energy usage down by the types of fuel used. You can see that the cost and environmental impact varies significantly between fuels.

	Energy use (kWh)	Tonnes CO ₂	CO ₂ Proportion	Energy Bills*	Energy Bills Proportion
Mains Gas	11,004	2.13	97%	£1,223	77%
Electricity	884	0.22	3%	£380	23%
Total	11,888	2.35		£1,603	

*includes any standing charges

How energy is used in your home

This table shows you where the above energy ends up being used in your home.

	Energy use (kWh)	Tonnes CO ₂	CO ₂ Proportion	Energy Bills*	Energy Bills Proportion
Heating losses (Broken out below)	7,352	1.3	71%	£778	67%
Heating system losses	1,000	0.27	8%	£106	6%
Hot water	2,202	0.66	18%	£255	15%
Lights and appliances	450	0.12	3%	£190	12%
Total	11,004	2.35		£1,223	

Sample Ecofurb Plan – Not to be used as the basis for advice provision

© Parity Projects 2017-2023, all rights reserved

Where does heat leave your home?

This table illustrates the relative heating losses of your home from physical things like walls and windows - it often contains some surprises.

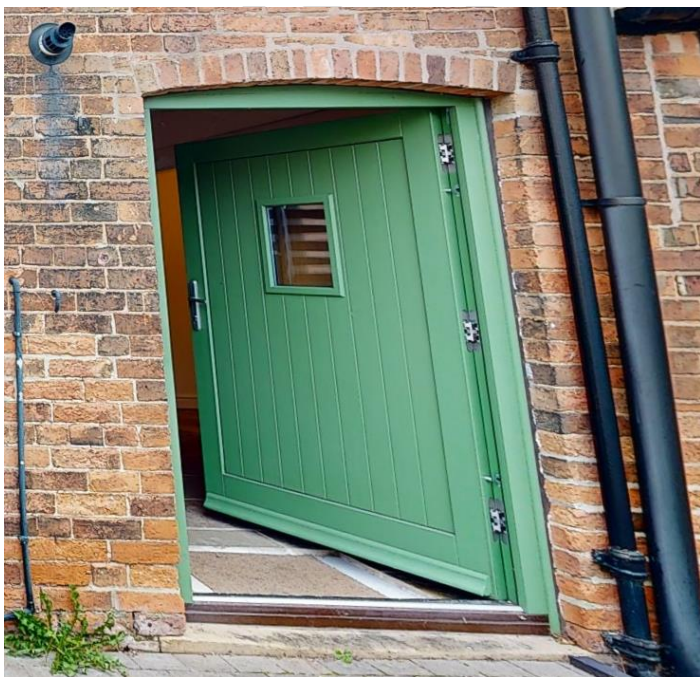
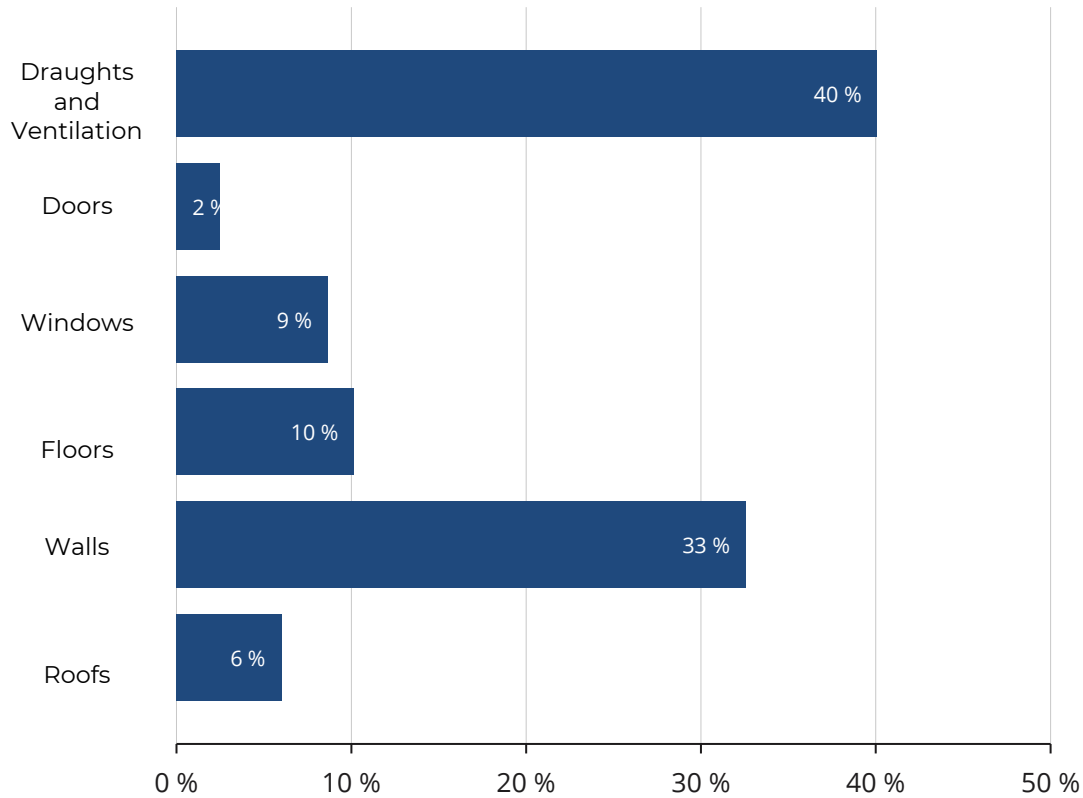


Figure 4: The front door, fitted in 2015, performs well

Other energy uses (and gains)

Below shows where other energy uses (and gains) occur. Heating system losses occur out the boiler flue.

Water heating is particularly sensitive to the number of residents and their habits.

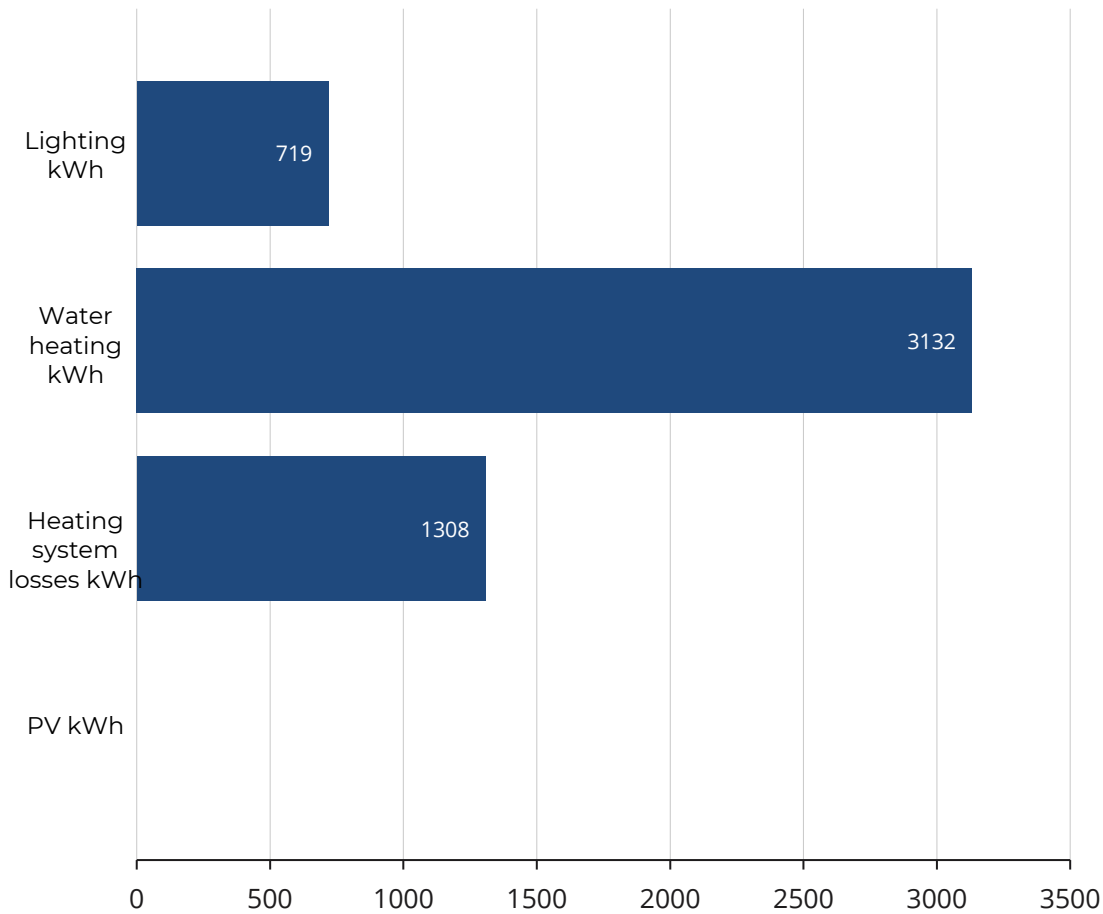


Figure 5: The home has one bathroom, with a bath and no shower

Section 3:

Potential improvements

Here are the improvements we've included in your plan for a total estimated cost of **£23,490**.

All prices are calculated estimates.

- 3.5kWp PV array west facing	£5,450
- Air Source Heat Pump	£12,420
- 10kWh Battery alongside a PV installation	£3,680
- Loft Insulation	£1,270
- Full multi zone controls	£670

Our [knowledge bank](#) has more information about typical improvements.

Phases of improvements

Home energy improvement is often a journey over time. We've structured the plan into manageable phases, ensuring a smooth and logical progression. It's usually sensible to make sure your home is well insulated before looking at the heating system.

We have estimated installation costs based on our experience with contractors for similar work. **They are not quotations.** Savings are based on typical energy prices at the time this report was made.

Improvements per phase

Before we get into more detail, here's a summary of how your home could perform following each phase of improvements.

	Energy Rating	Tonnes of CO ₂	Energy Bill Savings	Estimated Cost (before grants)
Current energy performance	70 C	2.35 tonnes	£1,223	-
Phase 1 improvements	76 C	0.42	£40	£14,351
Phase 2 improvements	93A	0.5	£672 (54% lower)	£9,125
Total cost and savings	93 A	0.92	£712	£23,490

Retrofit Coordinator Comments: [your Retrofit Coordinator will document the rationale for the phasing. This could relate to a range of factors such as your budget and other home improvement plans, to the cost-effectiveness of measures, or to take advantage of any available grant funding.]

Phases Cost Breakdown

Phase 1 improvements	Estimated Costs	Energy Rating
300mm Loft insulation	£1,266	71C
Full Multi zone Controls	£668	72C
ASHP (45 degree emitters) with enhanced existing radiator central heating and hot water, from A rated gas boiler	£12,417	76C
Phase 1 Cost, before grants	£14,351	
Boiler Upgrade Scheme (subject to Government policy change)	-£7,500	
Phase 1 Cost, after Boiler Upgrade Scheme grant	£6,851	76 C

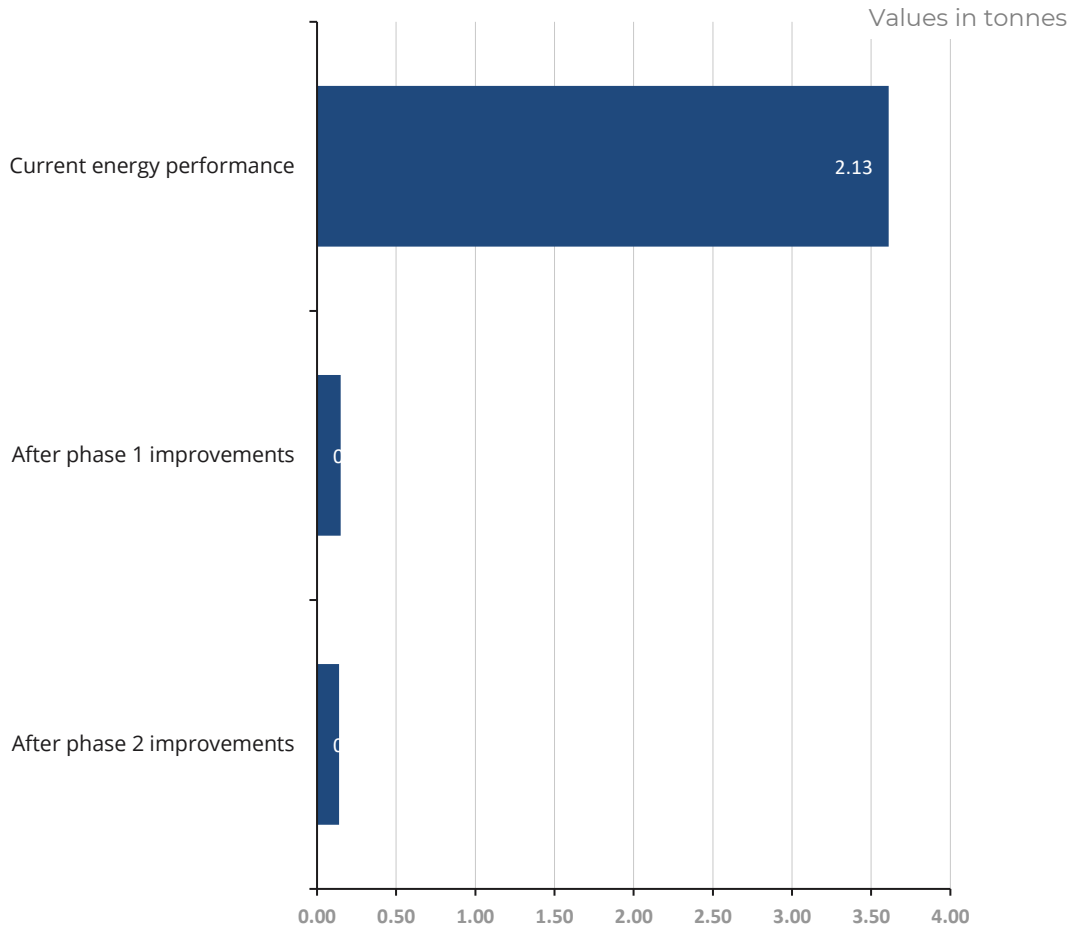
Retrofit Coordinator Comments: [your Retrofit Coordinator will explain the rationale for the measures and, where relevant the relationship between them and how they support you with your goals.]

Phase 2 improvements	Estimated Costs	Energy Rating
3.5kWp PV array south west and 30 degree pitch with moderate shading	£5,450	93 A
10kWh Battery alongside a PV installation	£3,675	93 A
Phase 2 Cost	£9,125	93 A

Retrofit Coordinator Comments: [your Retrofit Coordinator will explain the rationale for the measures and, where relevant the relationship between them and how they support you with your goals.]

Carbon impact of your Ecofurb Plan

This graph shows the impact of the improvements we've selected on your carbon footprint. As the electricity grid continues to decarbonise with more large-scale renewables the figures will keep improving.



How your home could perform

A closer look into what these improvements will mean across energy use, carbon emissions and your fuel bills:

	Energy use (kWh)	Tonnes CO ₂	CO ₂ Proportion	Energy Bills*	Energy Bills Proportion
Heating losses	8,784	1.61	91%	£841	91%
Heating system losses	0	0.00	0%	£0	0%
Hot water	533	0.07	4%	£166	4%
Lights and appliances	694	0.09	5%	£216	5%
Free heat from outside (heat pump magic!)	-9,024	-1.18	-67%	-£2,805	-
PV used at home	-1,561	-0.2	-11%	-£485	-
PV exported to the grid	-1,561	-0.2	-11%	-£83	-
Total	993	0.14		£712	
Your home's current performance	11,004	2.13		£1,223	

*does not include any historic Feed In Tariff revenue

Retrofit Coordinator's technical insights

General

[Your Retrofit Coordinator will give an overview of the technical challenges and opportunities]

Condition of Property

[The survey includes a condition report and your Coordinator will report back on implications for retrofit works].

Retrofit principles

[There is a lot of debate around what to prioritise in a retrofit project. This section will set out the principles applied in the preparation of these recommendations. This is a starting point as we also consider your priorities and how that affects delivery over time.]

Phasing

[The report can analyse the cost and benefit of work grouped by phase. For example you may have a budget to spend in the short-term, but want advice in context of a longer-term project; or you may want to divide out work relevant to a planned renovation.]

Measures

[The Retrofit Coordinator will provide explanatory text for measures included in the phasing. This can include explanations of grants, optimising performance (eg batteries and solar PV), and what is included (or excluded) in the estimated costs in this report.]

Section 4:

What's next?

Book a follow-up call

Next step is a 30-minute phone call with your Retrofit Coordinator to discuss this report and its findings. Please book your appointment by following the instructions in the email from your Coordinator. If you have not received a booking email, please contact your Retrofit Coordinator or email hello@ecofurb.com.



Section 5:

Resources and additional information

360° Tour of Your Home

Click the link below to have a virtual tour of your home.

Floor Plans, Elevations and Roof Condition

We've utilized advanced drone technology and cutting-edge Matterport software to meticulously capture the floor plans and elevations of your property and check roof condition.

Note: do not scale from these drawings. All dimensions to be checked on site.

List of all suitable improvements considered

Delve deeper with additional data, tables, and analyses tailored for those seeking comprehensive details.

Glossary

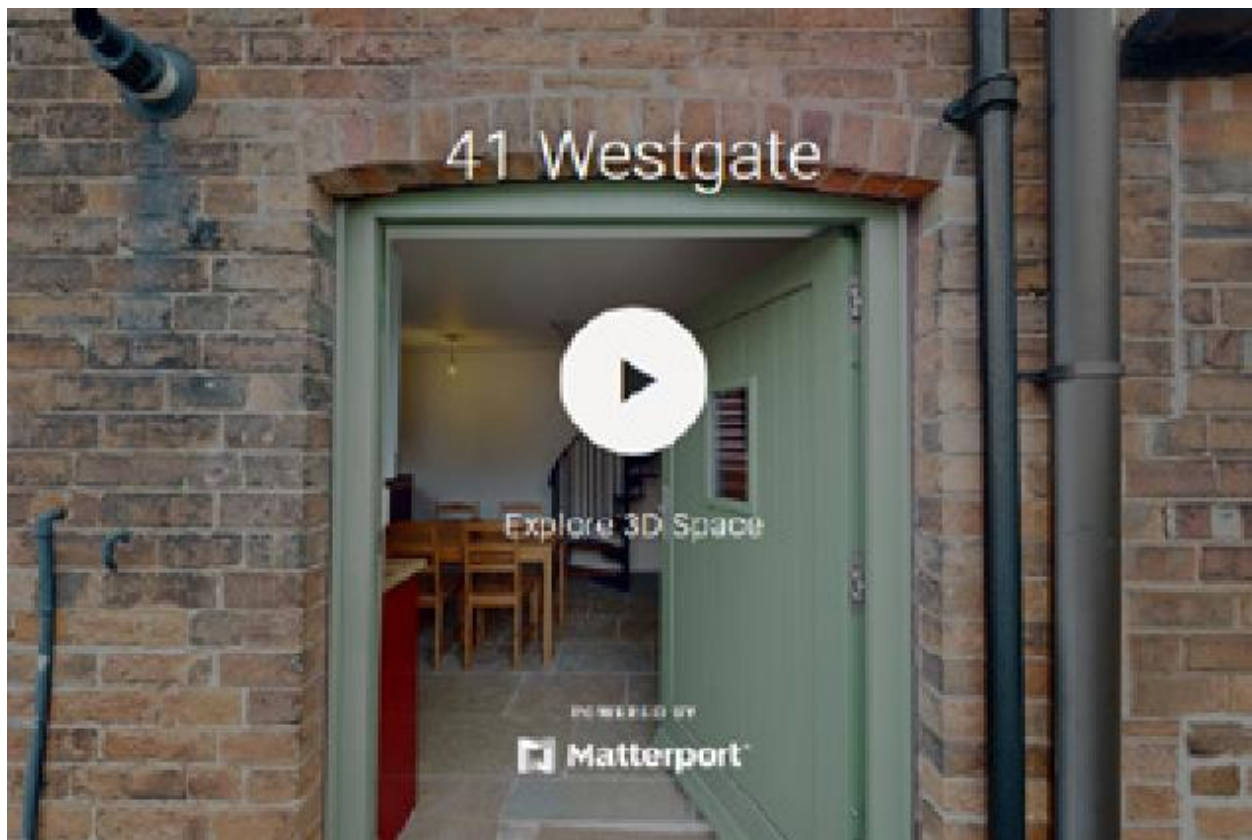
Demystifying technical jargon, the glossary offers clear explanations for terms used throughout the plan.

Frequently Asked Questions

A curated list of answers to common initial questions we have about our modelling and our Ecofurb Plans

360° Tour of Your Home

Click the link below to have a virtual tour of your home.

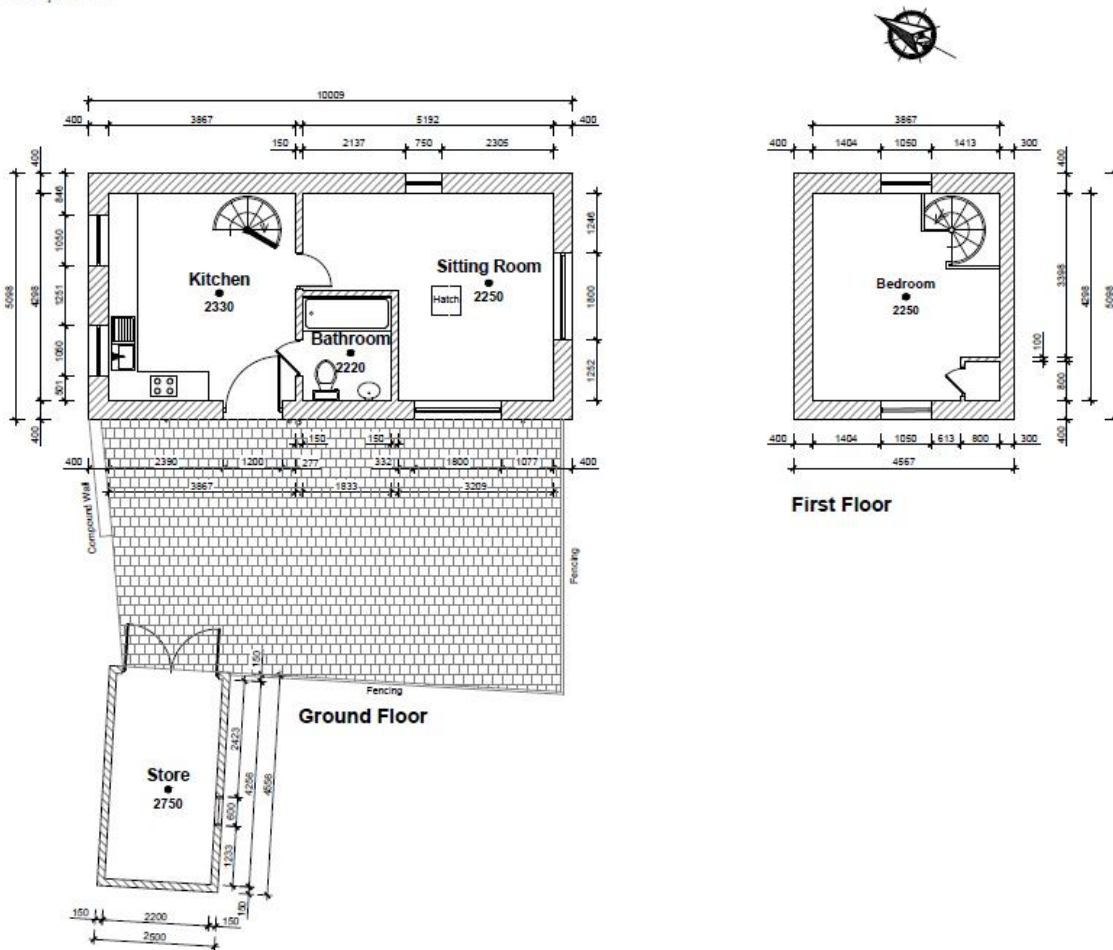


<https://vt.ehouse.co.uk/emtttqmGCXG>

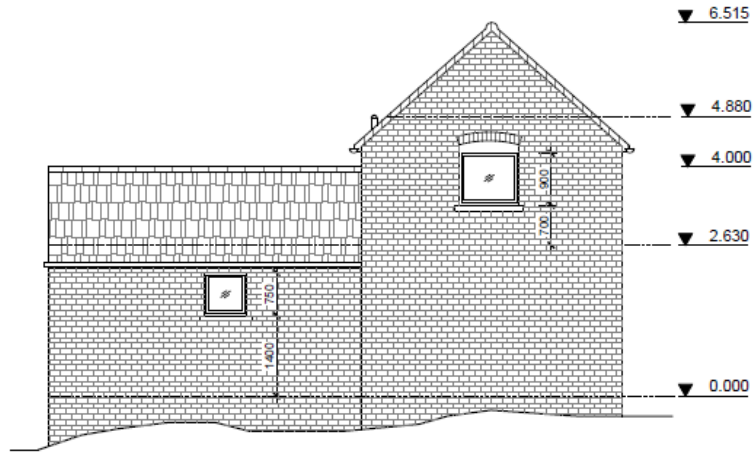
Floor Plans, Elevations and Roof Condition

We've utilized advanced drone technology and cutting-edge Matterport software to capture the floor plans and elevations of your property and check roof condition. Do not scale from these drawings. All dimensions to be checked on site.

Floorplans



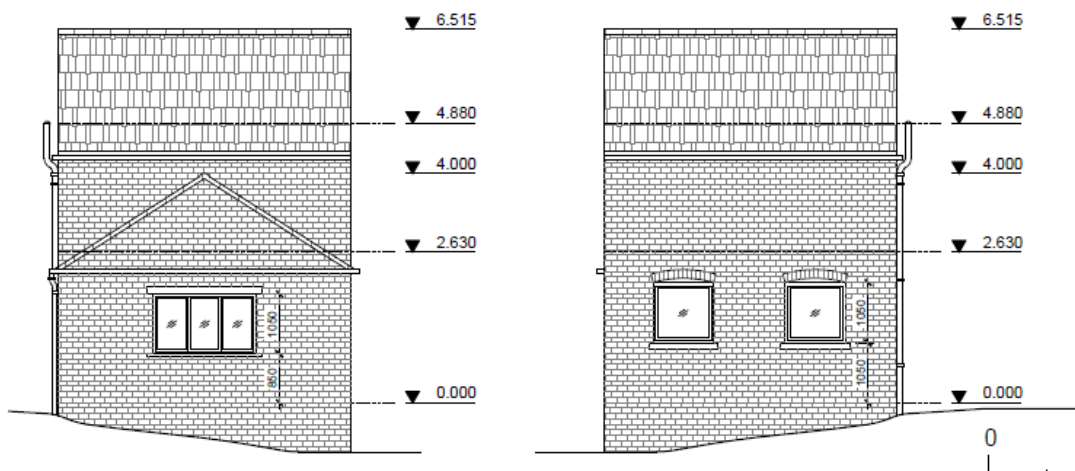
Elevations



Rear Elevation



Front Elevation



Do not scale from these drawings. All dimensions to be checked on site.

Roof Survey



Glossary, References & Useful links

Glossary

ASHP	Air source heat pump	kWh	Kilowatt hours
Cavity wall insulation	Insulation between the inner and outer bricks of a cavity wall	LPG	Liquid petroleum gas
COP / Coefficient of Performance	The notional efficiency of a heat pump	PV	Solar photovoltaic panels
EPC	Energy Performance Certificate	RHI	Renewable heat incentive
EWI	External wall insulation	Standing charge	The daily charge you pay to have an electricity or gas connection no matter how much you use
FGHRS	Flue gas heat recovery system	tCO₂	tonnes of carbon dioxide
Flue	The boiler pipe that goes through the wall or roof	tCO₂	tonnes of carbon dioxide
GSHP	Ground source heat pump	TRV	Thermostatic radiator valves
Infiltration	Uncontrolled air loss in a building i.e. draughts	Ventilation	Controlled air loss e.g. through an extractor
IWI	Internal wall insulation	WWHRS	Waste water heat recovery system

Useful Links

[Retrofit Coordinator](#)

[UKCMB - Ventilation](#)

[STBA - Solid Wall Insulation](#)

[Trustmark - PAS 2035](#)


[OFGEM - RHI](#)


[RHI calculator](#)


[CCC - Homes for the Future](#)

[SAP – Standard Assessment Procedure](#)

IECOFURB
The Low Carbon Home Service

 /ecofurbhomes

 @EcofurbHomes

 @ecofurbhomes