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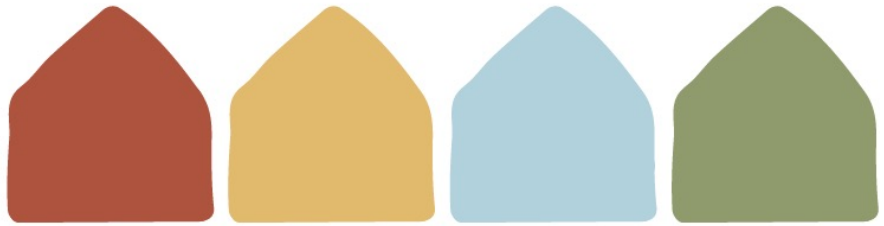
Meeting in Marston

Harry Bratt

Marketing Coordinator, Low Carbon Hub – 24th January 2022



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The challenge

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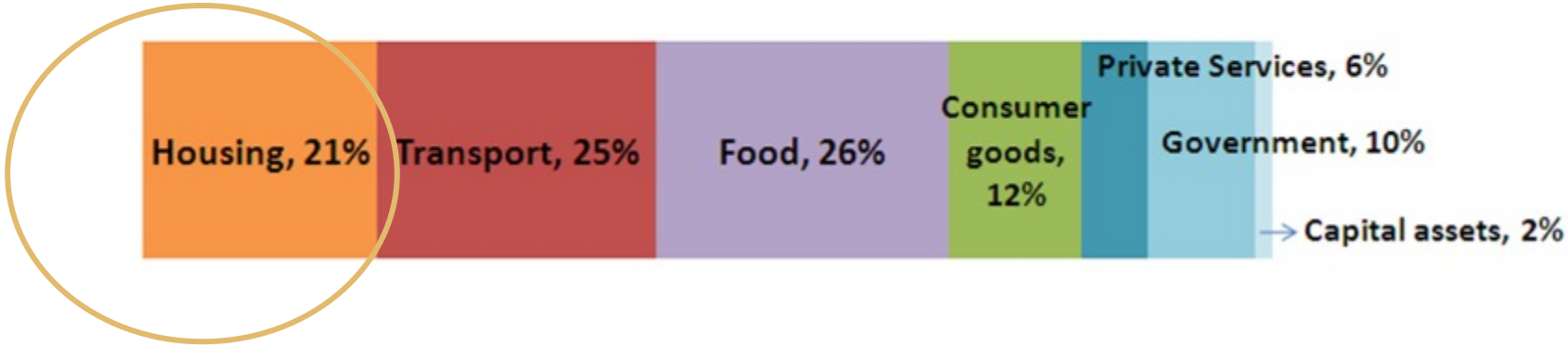
One planet living

If everyone lived like an average UK citizen we would need three planets to sustain ourselves..



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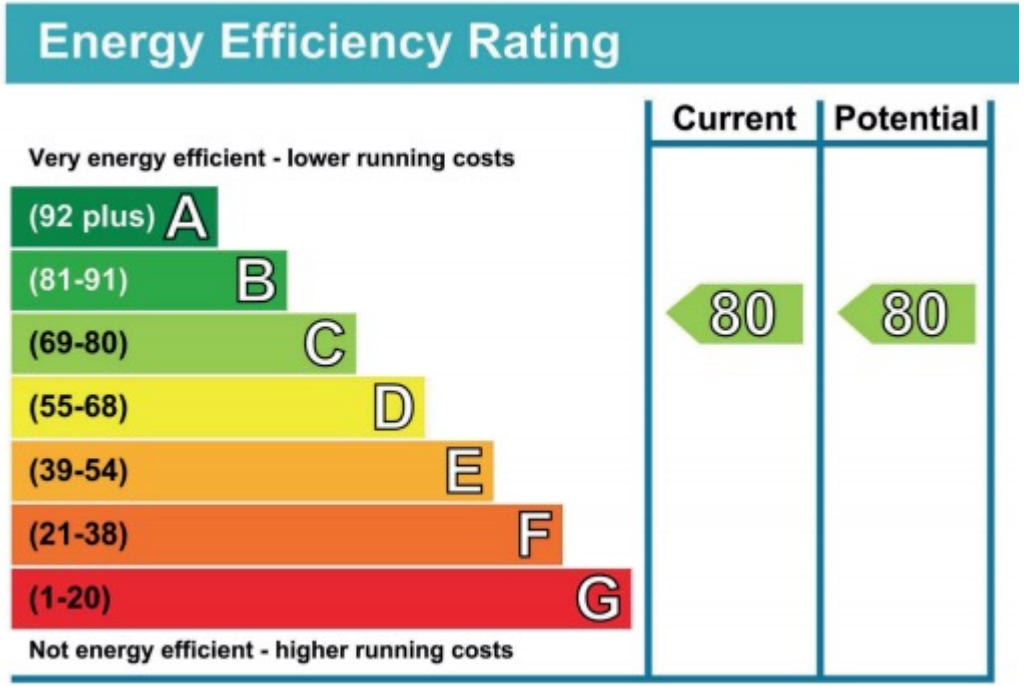
Energy efficiency rating for homes - EPC

Every home sold or rented now requires an EPC

EPC A ~ net zero carbon

~10,000 EPC A (English housing survey 2018)



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29 million UK homes by 2050

1.8 homes every minute

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Retrofit – a simple definition

- Adding or changing ‘something’ that your home did not have when first constructed
- Aimed to make it more energy efficient, comfortable to live and cheaper to run
- Can consists of building works to the exterior and interior and often new building services
- In general terms – more insulation, better windows, controlled ventilation and more efficient heating

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The Cosy Homes Oxfordshire Service

- Cosy Homes Oxfordshire is the result of a successful grant bid by three partners in Oxfordshire: Low Carbon Hub, National Energy Foundation, and RetrofitWorks.
- We received grant funding until 31 March 2021 to test and develop Cosy Homes Oxfordshire as a business model for delivering home retrofit.
- Since April 2021, the project has been continuing without BEIS funding, testing the model of whole house retrofit in Oxfordshire.

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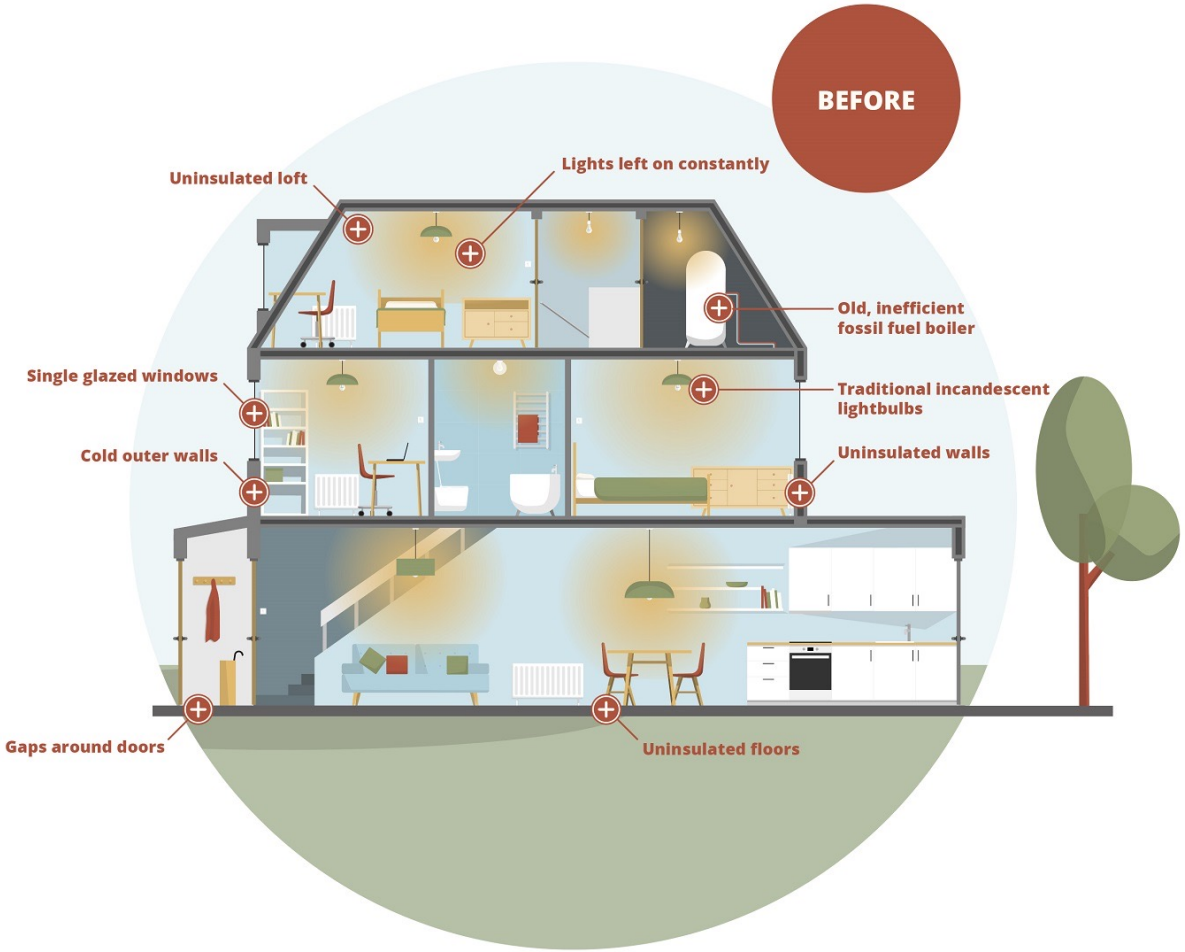

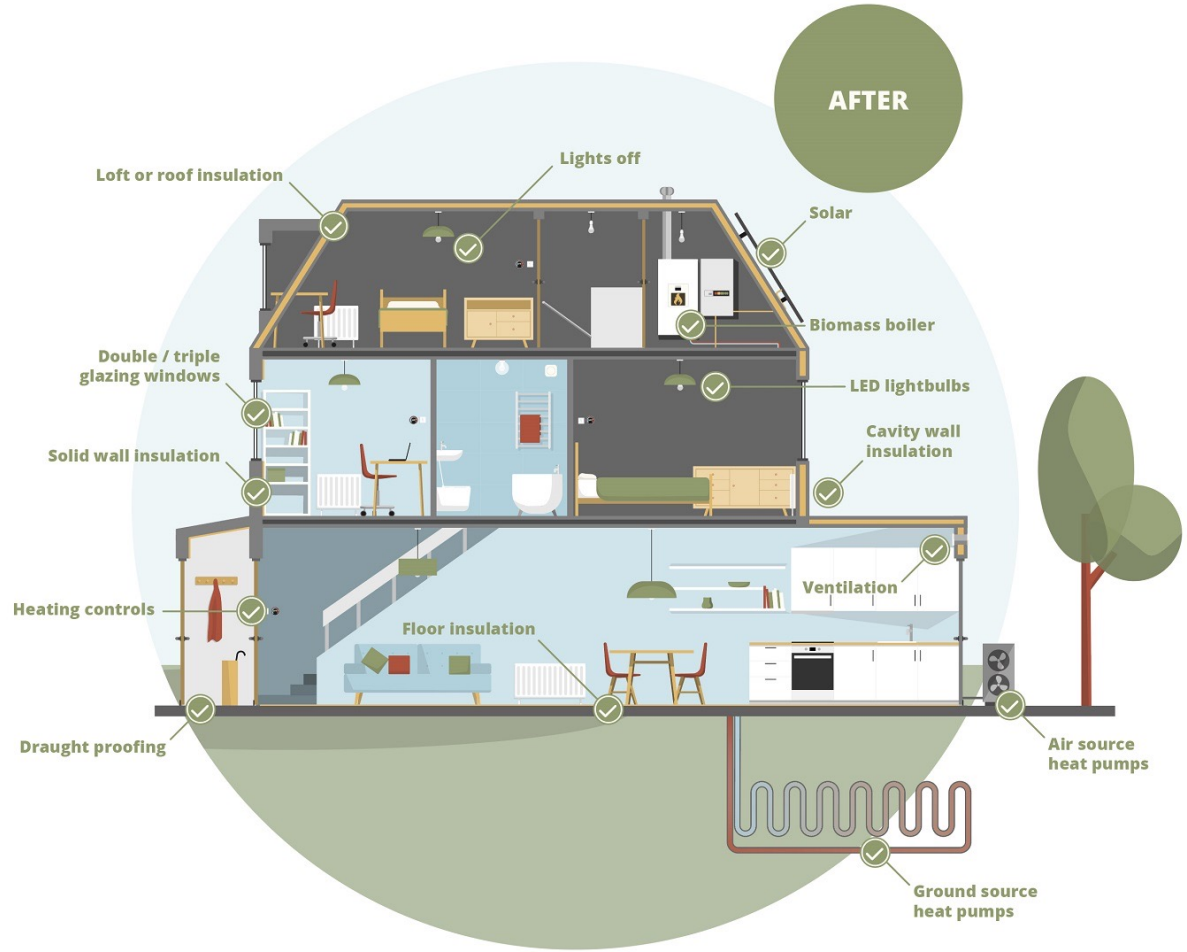

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“The Whole House Plan provided a holistic view of where we could make energy saving improvements. The written report is well structured as it gives a good overview summary and then goes into detail for lots of different options – including information about carbon footprint.”

Dr Heather Comina, Cosy Homes client

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The Cosy Homes Oxfordshire Service

A one-stop home retrofit service, making it simple to make energy efficiency improvements to homes in Oxfordshire

Home Assessment & Whole House Plan – visit to assess your whole house to find out everything we need to know about your existing energy usage and the building itself recommendations on the most cost-effective and impactful measures to take forward, and in which order (£250 to £300)

Client Service Agreement - outlines any additional costs before work can begin on your retrofit project. Brings together Building Performance Requirement, technical reports and architectural drawings. (£500-1500)

Project management – gathering quotes from a pool of approved contractors, Retrofit Coordinator checks on work and reports to resident, quality assessment is carried out to check the work is completed to specification (5% from overall project above £10,000 – with an average project typically around £25,000 - can be more)

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The Cosy Homes Oxfordshire Service

- Homeowners who vastly want to reduce carbon emissions
- Residents with older or complex homes who can receive the ‘Whole House Approach’ project management and expertise on a complex retrofit project
- Those in the ‘able to pay market’ who are ready to start installing multiple energy saving measures soon with an overall estimated cost above £20,000

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Retrofit Case Study:
Jan’s end-of-terrace family home in east Oxford

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“Reducing carbon emissions was our key driver for undertaking the home retrofit.”

Jan Rosenow, Cosy Homes Oxfordshire client

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What measures were installed?

- *Already had an air source heat pump (ASHP) in home, + floor and loft installation.

- Cosy Homes completed the measures to further boost insulation and create ait-tightness to enable to heat pump to work effectively.

- Internal Wall Insulation (IWI) for the front of the house which was previously completely uninsulated, including a bay window space. They chose wood fibre insulation as a natural, sustainable option.

- Replacing windows with triple glazed where needed, especially older sash windows.

- Replacing the old front door to reduce draughts.

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Impact

- All the measures combined reduced the family's heating bills by a up to 60%. (This is largely because the home is already well-insulated and retains heat all day long, meaning that they were able to move onto a flexible tariff with their energy provider, which is significantly cheaper.)
- They expect the heat pump will have fully paid for itself through these savings in 6 years time, so the long-term cost savings are clear.
- House has a more steady and comfortable temperature throughout.

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Impact

At a glance...

60%

estimated savings on energy bills after retrofit

2 tonnes

of CO2e emissions saved every year after retrofit - from 4.001t to 2.185t*

EPC C

the home went from EPC D to EPC C after retrofit*

**based on 2019 Whole House Plan estimates*

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Retrofit Case Study:

Heather and Paul's semi-detached house, Didcot

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- Both Heather and Paul are committed to reducing their environmental impact as much as possible.
- They already had 10 solar panels installed on their roof, as well as a Tesla charging point for their electric car.
- Retrofitting their home would help to further cut their carbon footprint.

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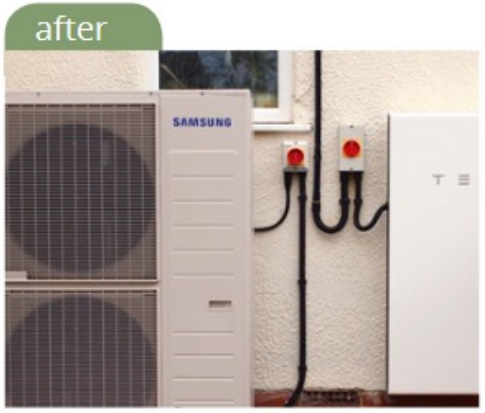
What measures were installed?

- Air Source Heat Pump
- Roof insulation
- Cavity wall insulation (CWI)



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Impact

At a glance...

27%
saving on energy bills, from £677 to £511 per year

41%
saving on carbon emissions

1.34 tonnes
of CO2e emissions saved every year after retrofit - from 3.32t to 1.98t*

**based on Whole House Plan estimates*

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Retrofit Case Study:

Cotswolds cottage, Hook Norton

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- A key motivation for the couple who own the cottage was their desire to get their property entirely off oil and do their bit to tackle the climate emergency.

- Comfort: Some rooms were very cold in the winter but way too hot in the summer – due to lack of insulation and single glazed windows.

What measures were installed?

- Completely change their heating system, removing their condensing oil-fired boiler and oil tank and replacing it with an Air Source Heat Pump (ASHP).
- Remove their old hot water tank and replace it with a new pressurised hot water system with feed in from their existing solar thermal panels and the new ASHP.
- Replace the kitchen, including levelling floors, and install underfloor heating.
- Take off the material at the outside rear of the house and replace with insulated material.
- Upgrade the insulation dating from 1996 from the main bedroom.
- Replace any single glazed or failing double glazed windows with triple glazed windows.

Oil boiler to Air Source Heat Pump

before

during

after

Replacing and insulating the back facade

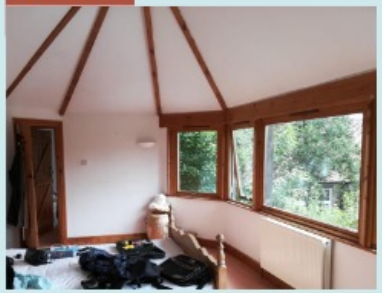
before

during

after

Insulation and window replacement in main bedroom

before



during

after

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Impact

At a glance...

EPC rating

the home began with a EPC rating D and is now an estimated B rating

Carbon emissions

the home was responsible for 5.363 tonnes of CO2 equivalent each year, now reduced to an estimated 2.149 tonnes.

**Estimates based on the Whole House Plan*

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Retrofit Case Study:

Retrofit for the environment at an East Oxford terrace

Lis and Sarah's home is a terrace in East Oxford built in the late 1800s with solid brick walls. The home was heated by a gas boiler and had a small wood stove in the downstairs living area as a means for providing warmth.

The house had little to no insulation and had trouble keeping a steady constant temperature, making it cold to live and work in.

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Lis and Sarah were very conscious of the environment, and cutting carbon emissions was the main aim of their retrofit.

The fact that Cosy Homes sourced all the contractors made the whole project possible from our point of view."
Lis, East Oxford

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What measures were installed?

- Solar PV array
- Traditional timber sash windows with enhanced glazing
- Air source heat pump
- Internal wall wood fibre insulation (IWI)
- Cavity Wall Insulation (CWI)
- Loft insulation on the main roof with a controlled ventilation system
- Flat roof insulation on the smaller backroom extension of the house
- Underfloor heating, and insulation

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Impact

"Working from home and being here most of the day, I'd got used to it being really cold, but now it's just constant pleasant temperature."

Lis, East Oxford

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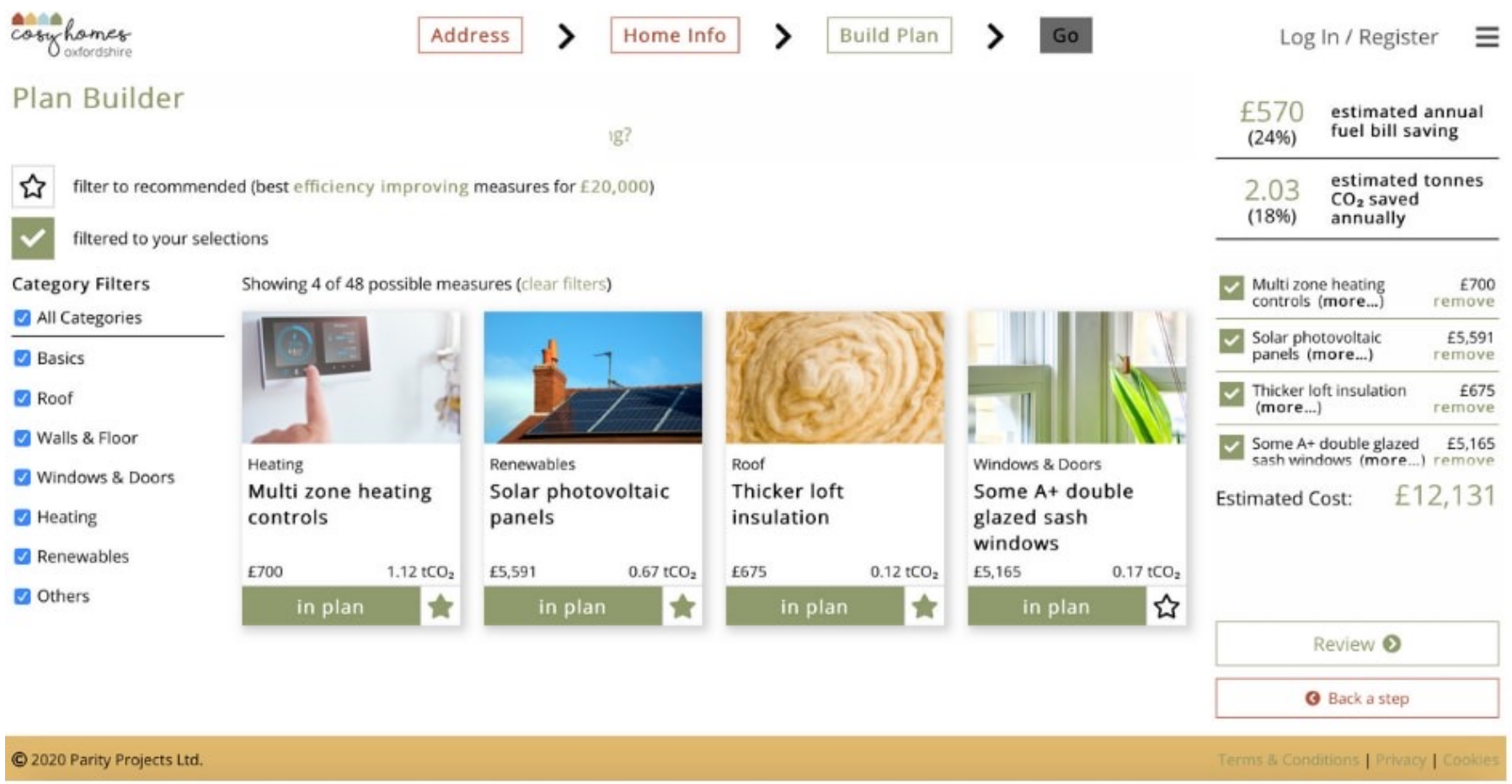
The Cosy Homes Plan Builder



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The Boiler Upgrade Scheme was announced in October 2021 when the Government published its Heat and Buildings Strategy.

The scheme will offer grants of £5,000 for air source heat pumps, and £6,000 for ground source heat pumps from March 2022, and this is to help cover the upfront costs of installation. For some homeowners, this will be useful in removing the barrier of upfront costs, enabling projects to happen.

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