



Margaret Biddle and John Hughes outside their home in North Wales

## MARGARET & JOHN

In 2017, Margaret Biddle, a retired midwife and her husband, John Hughes, a vicar, moved from Manchester to a 1970s bungalow near the North Wales coast.

They used their savings and money borrowed from family to deeply retrofit the entire property. This includes external wall, floor and loft insulation, airtightness measures, triple-glazing, ventilation, solar panels, underfloor heating, and an air source heat pump.

*Why did you retrofit your home?*

John's been a vicar for 20 years and during that time we've lived in several draughty rectories with high ceilings which were very expensive to heat, very wasteful of energy, and I was still cold. I used to walk around in a dressing gown with a hot water bottle strapped to me in one house.

I've always tried to be environmentally responsible - using public transport, being aware of food miles; John was part of a co-op that put solar panels on the roof of one church - but as tenants in a vicarage, you don't have that much control of your home.

In our case study series, we ask householders why they retrofitted their homes. Find out about the benefits of eco-renovations and how you, too, could 'green' your property.

**"I used to walk around...with a hot water bottle strapped to me in one house"**





Margaret and John in their kitchen from Sheffield Sustainable Kitchens

We're in a climate emergency, so when we bought this bungalow, we tried to do what we could. I also wanted it to be cosy - I've felt cold for a large part of my adult life. Our four children and grandkids visit a lot and I wanted it to be a warm, happy place to be.

Because our pensions are small, we were also keen to reduce our outgoings; we hoped that by retrofitting the bungalow we would have lower running costs.

### *What eco-renovations did you make?*

Our contractor, Clare & Jones who are based in Anglesey, started work just before Wales went into lockdown, so it's taken much longer than expected.

Our home is ten minutes' walk from the beach, and we have fierce coastal weather. Years ago the cavity walls were filled: a terrible idea in a location like this! The damp was driven through the walls into the insulation which had

soaked it up like a sponge and had to be removed - an unexpected cost.

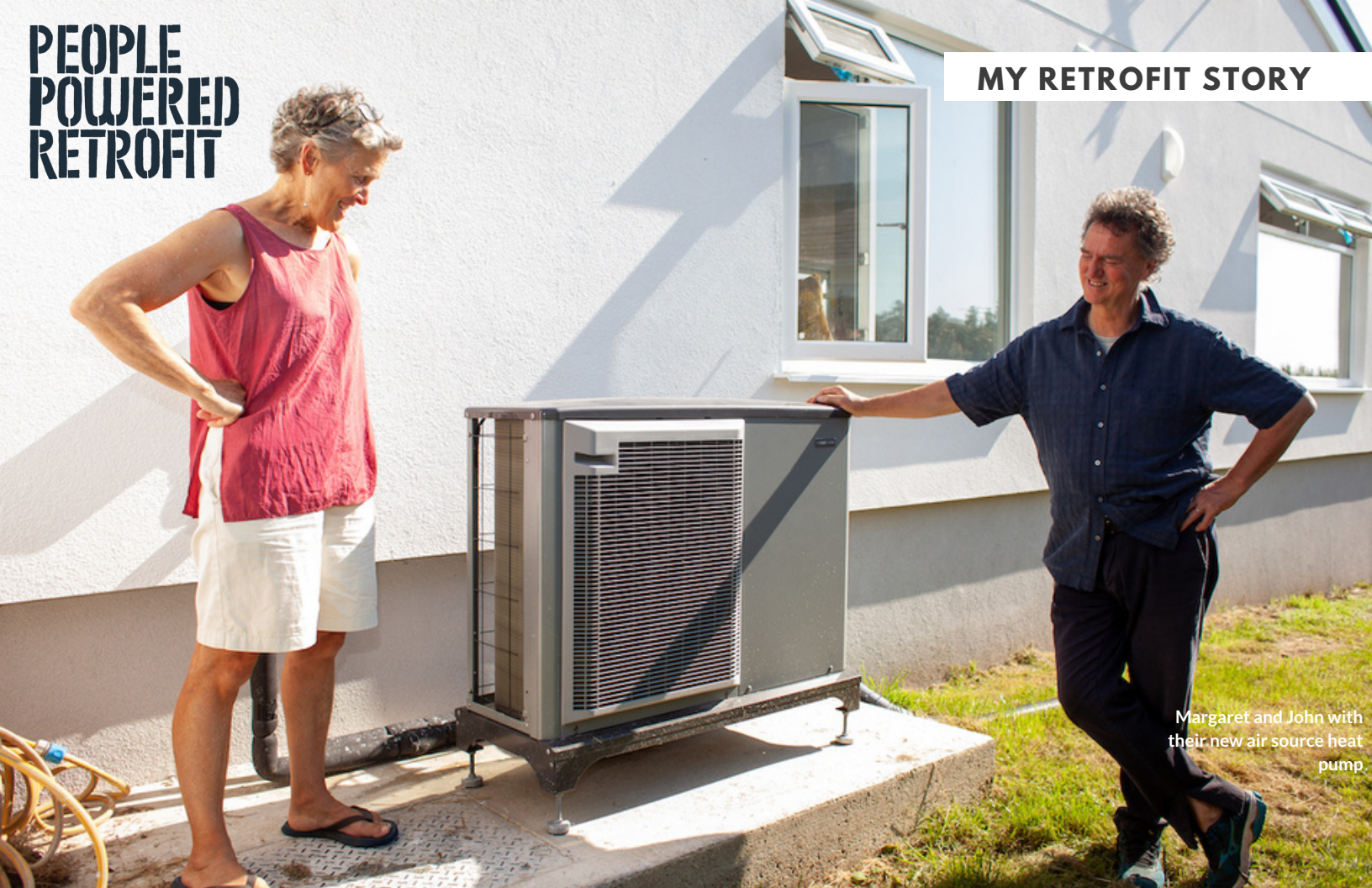
Now we have external wall insulation with back-filled cavities which we paid £16,000 for. Most houses 'leak' air and therefore heat, but we have created an insulated airtight box with controlled ventilation. We have vents in each room and humidistat extractor fans in the wet areas.

When we moved in, the bungalow was heated by oil: a non-starter because it's a fossil fuel. So we invested in an air source heat pump which cost £9,000. You need large radiators or underfloor heating with a heat pump. We went for underfloor heating as we were taking up the floors to insulate them. It cost around £10,000, before installation costs.

JW Jones & Sons, who installed the heat pump also fitted 24 solar panels to the roof. They cost £12,000, including installation fees. We also put in triple-glazed windows and exterior doors which cost £20,000.

**“We attended various People Powered Retrofit workshops and study days. What we learnt was extremely useful”**





Margaret and John with their new air source heat pump.

### ***What benefits have you seen?***

We've done something towards the net zero goal: the house is off oil and more energy efficient. We have a lovely, light, airy, comfy home - warm but not too warm, with no draughts, and no damp. I come through the front door and it's bliss.

We've not been here a year yet, but we expect to have halved our total energy running costs to around £1,200 a year - and when we have a solar battery that will fall further as even on an overcast day the panels can make a lot of the electricity we use.

My home now behaves in a way I feel comfortable with, that I can control. Our knowledge and expertise about the house has really increased - I like knowing how it works.

I also have peace of mind. We had an excellent architect, Paul Testa, and Simon

Phillips, a local clerk of works who built his own passive house. They both said the upgrades had been done to a very high standard. I'm confident we've done a good job, collectively as a team.

### ***How did People Powered Retrofit help?***

We attended various People Powered Retrofit workshops and study days. What we learnt was extremely useful: the principles involved in retrofit, for instance, and to think of each house as a system.

The networking opportunities helped us find both our architect, and also Urbed, the organisation that conducted our home energy assessment. It cost £500 but was crucial in helping us understand how we could best use what money we had to reduce emissions and energy use, and plan our retrofit.

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Find out how People Powered Retrofit can help you retrofit your home.

Visit [www.retrofit.coop](http://www.retrofit.coop)  
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