Heat Pumps – Fact or Fiction?

Handout

This handout is a comprehensive collection of sources of information.

The presentation slides from this community meeting will be available via the Tamar Energy Community website and presenters will post links elsewhere.

Tamar Energy Community

Thursday 6th February 1730–1900
The Old School, Stoke Climsland
Doors open 1700

DARTMOOR ENERGY
Renewable Energy & Retrofit Specialists

Stoke Climsland Parish Council

COMMUNITY ENERGY PLUS

UNIVERSITY OF PLYMOUTH
Sustainable Earth Institute

Heat Pumps – Fact or Fiction?

Open Meeting

All Welcome

Exhibition from 1700

- the 'science bit' – how heat pumps work and why they are so efficient
- facts will be presented, and common myths will be busted
- review of a local air source heat pump installation 18 month's on – how did it go?
- how to avoid a sub-standard installation
- tips on how to improve the efficiency of any heating system
- presenters advising and exhibiting from 1700 – presentations from 1730
- Q&A session with an expert panel

Icon made by *iconjam* from www.flaticon.com

FREE TO ATTEND but please book your place via TicketTailor by scanning the QR code, or using this link: https://buytickets.at/stokeclimslandcommunityproject/1461233

Any of this of interest to you, but not sure what to do next?

For impartial advice, contact

Tamar Energy Community in the first instance:

Tel: 0800 233 5414
https://tamarenergycommunity.com
hello@tamarenergycommunity.com

Also on Facebook and Linked In

Contact details ...

Presenters:

James Fortune, Renewables Director, Dartmoor Energy Ltd
01822 851729
www.dartmoorenergy.co.uk

Andy Nevill, Chartered Engineer
07799 848 084
andynevill@protonmail.com

Jennie Stopford, Cornwall County Council
housingdecarbonisation@cornwall.gov.uk

Kate Royston, Tamar Energy Community
0800 233 5414
https://tamarenergycommunity.com
hello@tamarenergycommunity.com

Panel, presenters plus:

Richard Davies, Stoke Climsland Parish Council
www.stokeclimslandparishcouncil.org

Clare Moody, Low Carbon Energy Adviser, Community Energy Plus
01872 245566
www.cep.org.uk
clare.moody@cep.org.uk

Nicole Solomons, Cornwall County Council
housingdecarbonisation@cornwall.gov.uk

Jack Morewood, Business Research Fellow (Built Environment), University of Plymouth
07881 104 700
www.plymouth.ac.uk/staff/jack-morewood
jack.morewood@plymouth.ac.uk

Rob Tapson, Eco Nrg Ltd
01548 831890
www.econrguk.com

PRESENTATIONS

Four presentations were delivered at this meeting - they are listed below and you can find them here

"The 'science bit' - how heat pumps work and why they are so efficient", **James Fortune**, Dartmoor Energy

"Review of a local air source heat pump installation – 18 months on", **Andy Nevill**, Chartered Engineer

"What's going on across Cornwall?", **Jennie Stopford**, Cornwall County Council

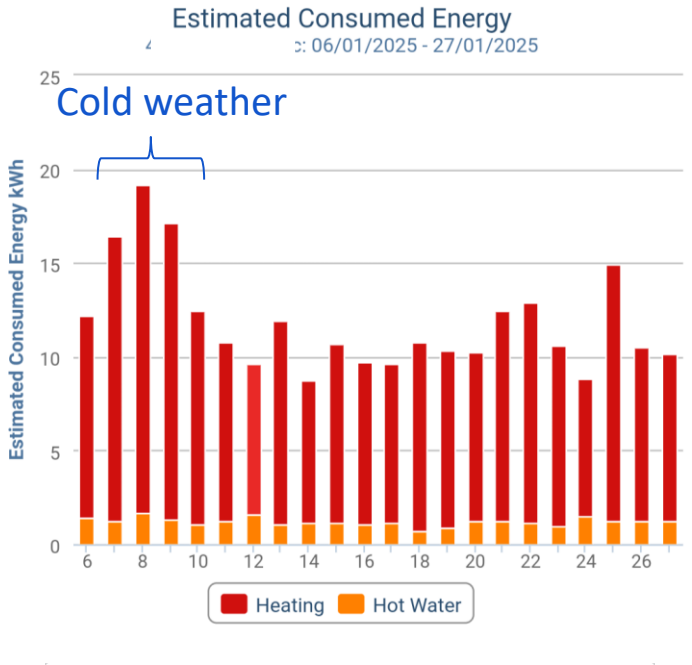
"Advice and support for residents", **Kate Royston**, Tamar Energy Community

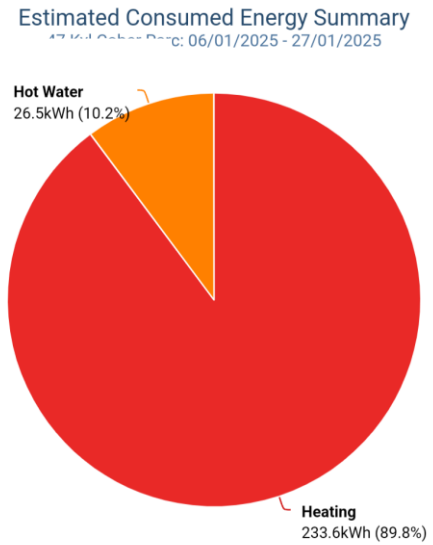
POSTERS

The following 3 slides are of the posters which were provided for this meeting.

They contain information from local households for 2 heat pump installations.

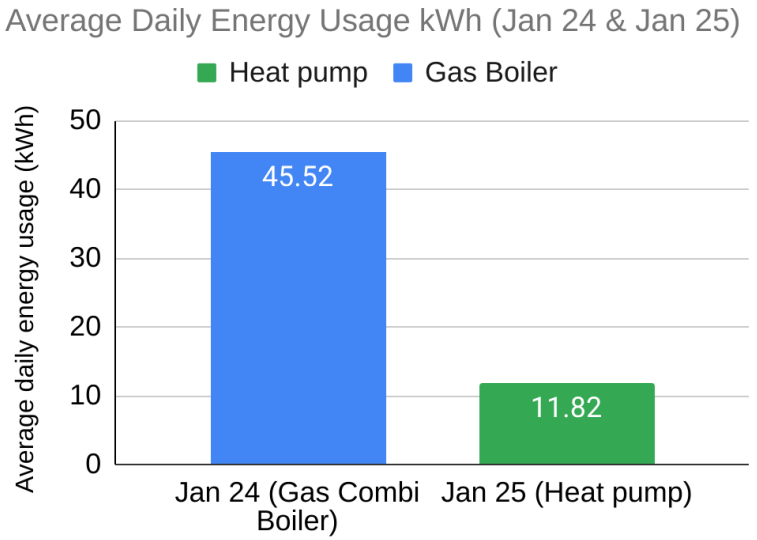
Heat pump energy usage:

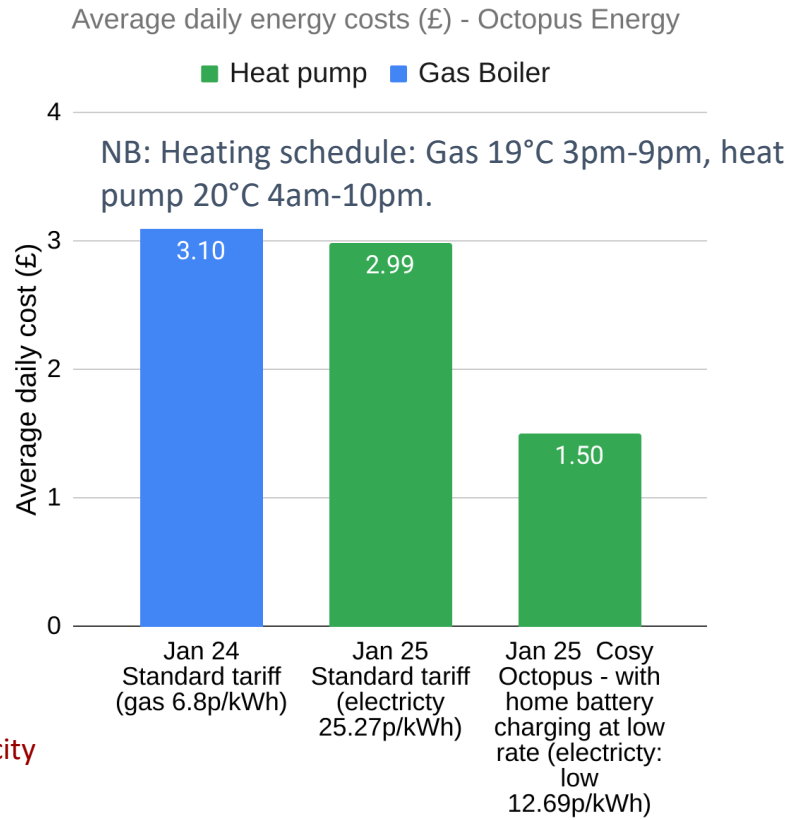




3 Bedroom Semi Detached House, Stoke Climsland
25 years old, 102 sqm
EPC = C (prior to heat pump/solar installation)

Average daily energy usage (January 2024 vs 2025):





Current system: Solar panels & heat pump installed Dec 2024. 12 panel array & Givenergy 9.5kWh battery. Mitsubishi Ecodan Heat pump

Current tariff: *Cosy Octopus* with solar/home battery enables 99% electricity purchased at 12.69p/kWh by charging battery at the "Low rate"

(excludes solar generation - average 4 kWh per day in January)

Heat Pump Pro's:

- Uses **75% less energy** than gas boiler (11.8kWh heat pump vs 45.5 kWh gas per day) but on a standard electricity tariff this equated to only 3.5% cheaper ***(however, our house is now comfortably heated to a constant 20°C 4am-10pm compared with previous gas heating (3pm-9pm @19°C).***

- When combined with **solar/home battery** heating costs are **51% cheaper on Cosy Octopus tariff (**heat pump daily costs average at £1.50 in January vs £3.10 using gas boiler in the previous January)**.** Cost savings may increase as summer solar export currently unknown)**.**
- **Performance: excellent** - home stays warm all day & tank provides enough hot water for family of 4.

Heat Pump Cons:

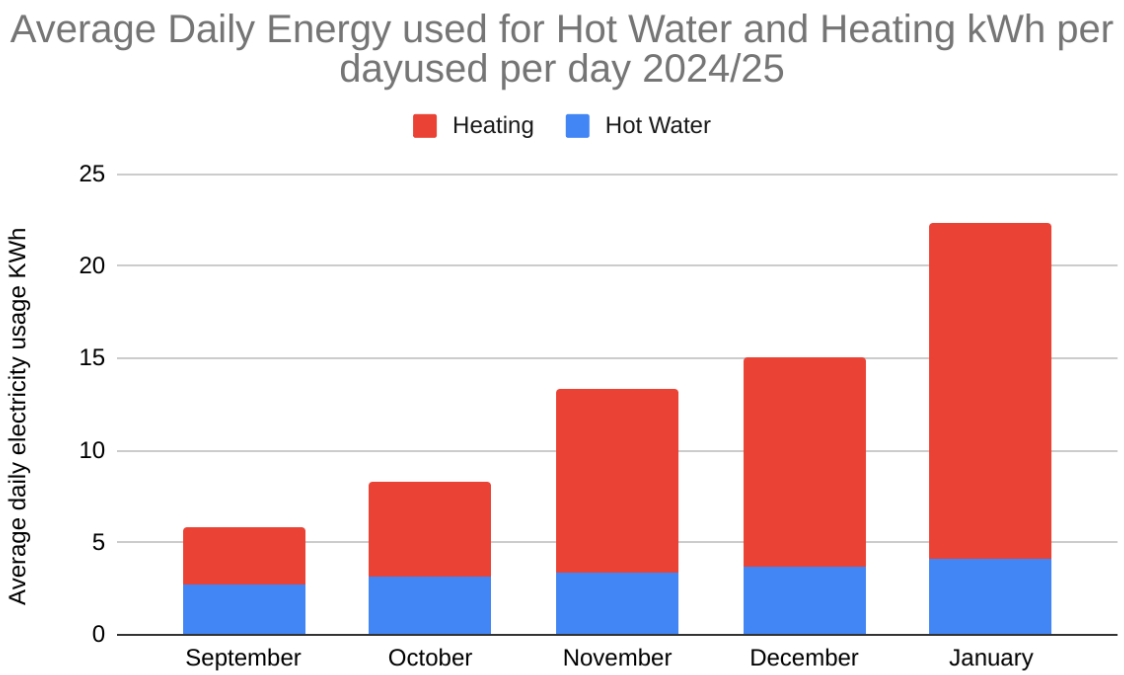
- **Disruptive to install (**floorboards taken up to install electricity cables to tank & heat pump & ¾ of radiators needed replacing).
- **High initial cost** (payback for heat pump & solar 13-15 years for this house).
- **Space needed** internally for tank and externally for heat pump unit.

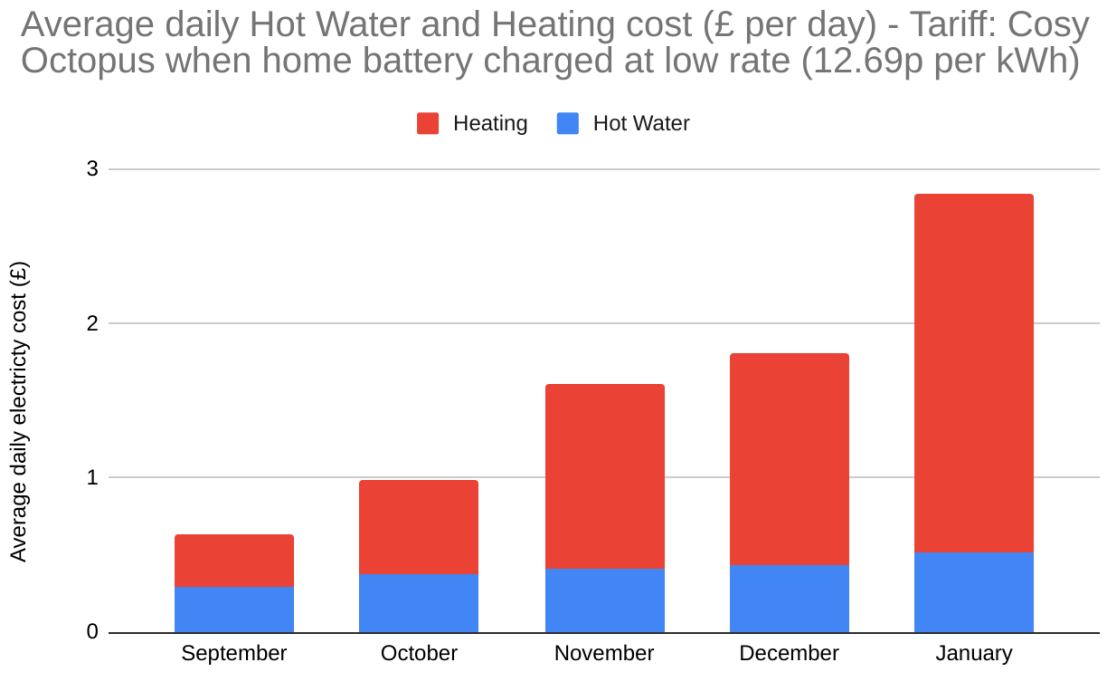
Opinion on noise level: the heat pump is generally quite and the noise is not noticeable from inside the house (ours is even installed under a window). Sometimes, the speed of the fan increases for 10-20mins and a hum can be heard but this is still quieter than our old gas boiler and quieter than a passing car). However, tolerance to noise levels may differ!

Summary: excellent performance, 75% less energy used and worthwhile if home battery already installed for maximum cost saving. However, current electricity prices mean that there is little cost saving when operating on a standard tariff but specialist heat pump tariffs are available. (Please note, running costs may differ for other homes).

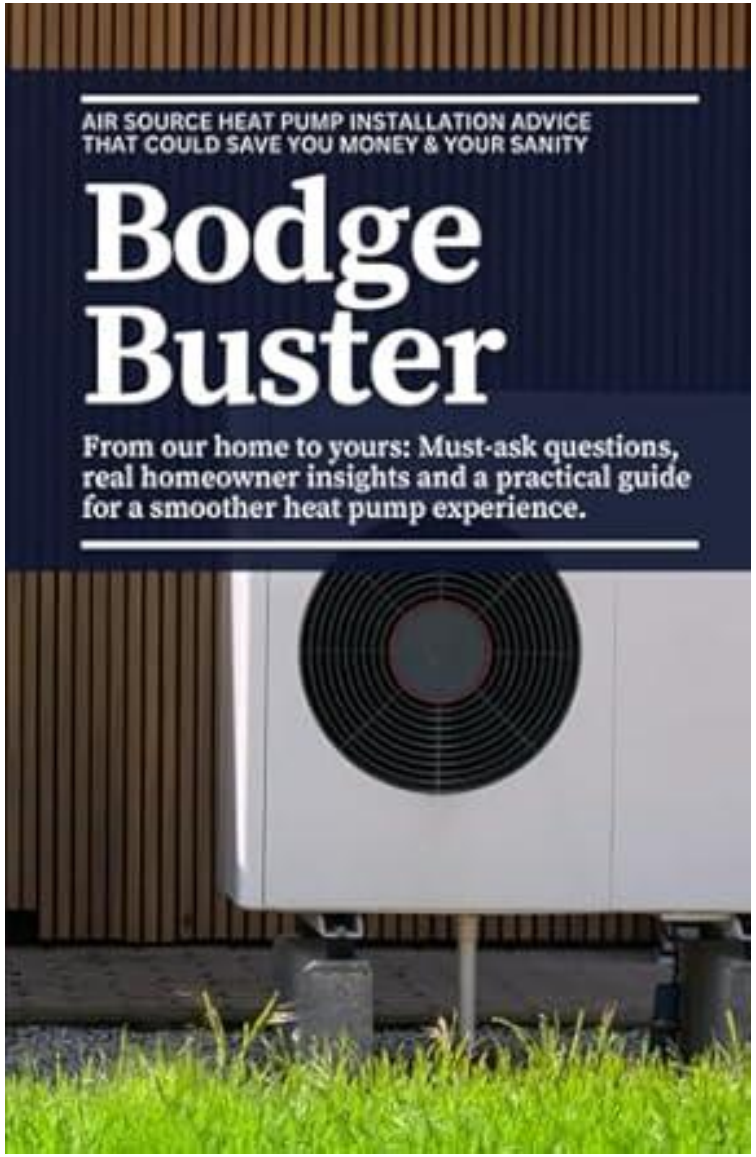
Average usage/running costs of Mitsubishi Ecodan heat pump installed in 4 bed stone barn conversion near South Hill. EPC before installation: E

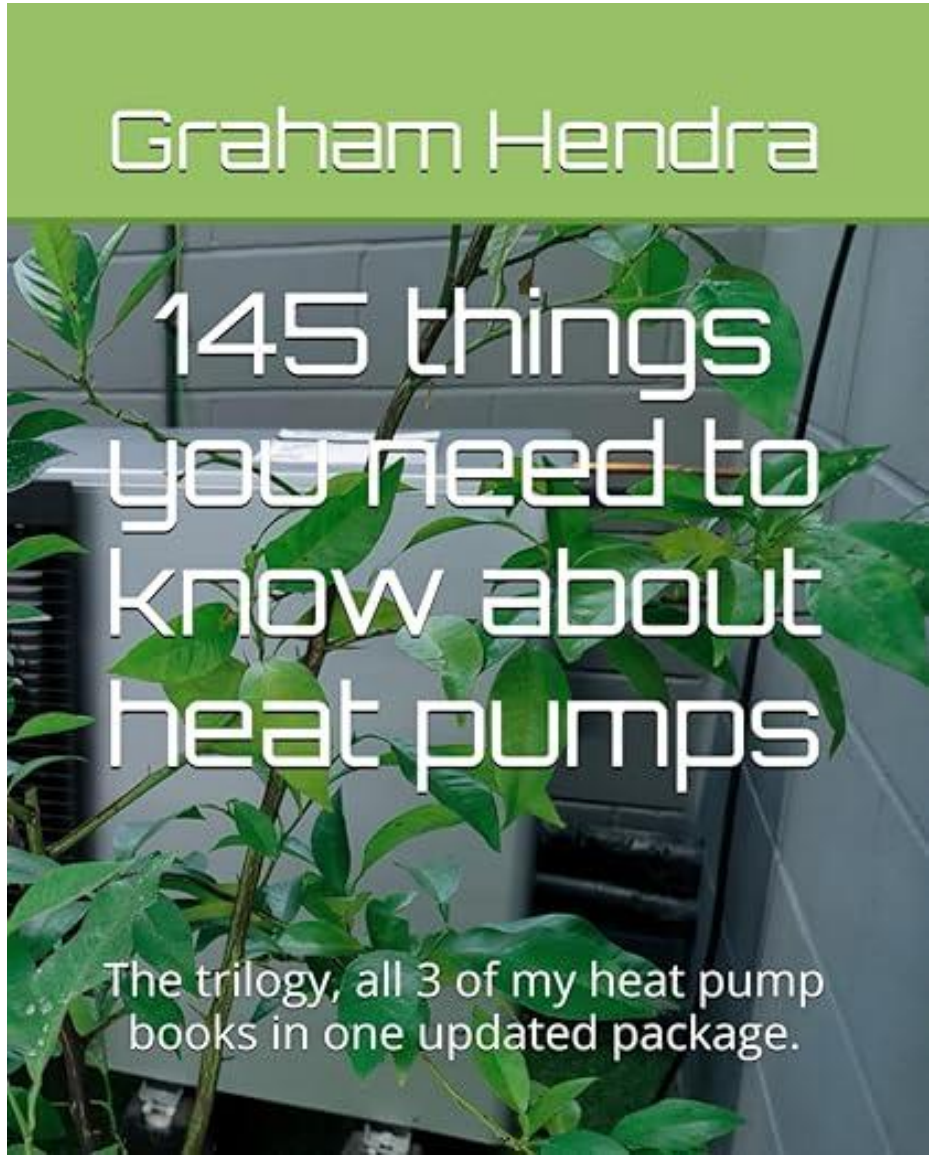
Previous running costs of oil fired boiler averaged between £5-7 per day in winter (thermostat set to 18°C during the day plus log burner in living room). Approximate winter heat pump energy savings: £3-4 per day





Books


AIR SOURCE HEAT PUMP INSTALLATION ADVICE
THAT COULD SAVE YOU MONEY & YOUR SANITY
Bodge Buster
From our home to yours: Must-ask questions, real homeowner insights and a practical guide for a smoother heat pump experience.


Graham Hendra
145 things you need to know about heat pumps
The trilogy, all 3 of my heat pump books in one updated package.

TV

https://www.channel4.com/programmes/how-to-heat-your-home-for-less-this-winter

Channel 5 look into the worth of 'Heat Pumps for the home'

By Neil Lang

Published on January 26, 2025

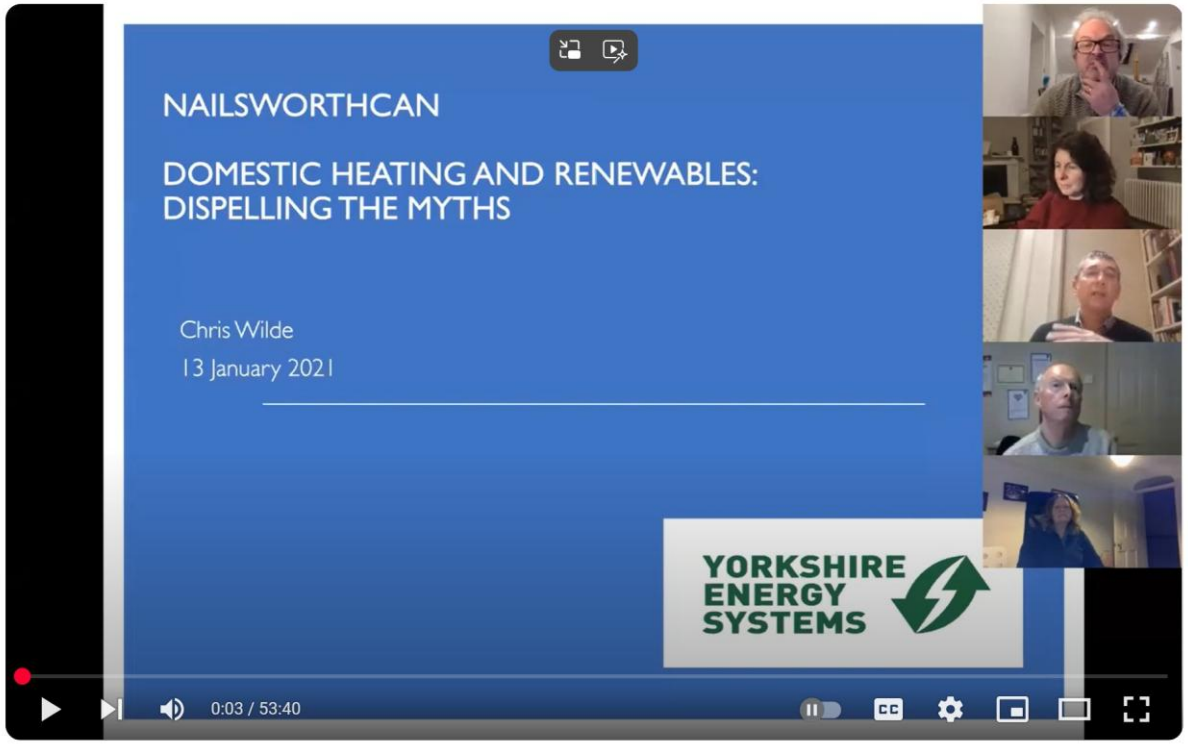
Channel 5 look into the worth of 'Heat Pumps for the home' Channel 5 look into the worth of 'Heat Pumps for the home' - ATV Today

A well written jargon-busting article

[The ABCs of ASHPs: A Jargon-Free Introduction to Heat Pump Basics - Renewable Heating Hub]

Things have moved on a bit since 2021 – but this is still an informative online talk …

Chris Wilde, Managing Director of Yorkshire Energy Systems, talks on the subject of: ‘Domestic Heating and Renewables: Dispelling the Myths’



Domestic Heating and Renewables, Dispelling the Myths: Chris Wilde and NailsworthCAN in conversation

Nailsworth CAN
15 subscribers
Subscribe
2
Share
Download

https://www.nailsworthcan.org/blog/what-if-we-could-all-heat-our-buildings-with-renewable-technologies

A website set up to support everyone to learn more about heat pumps

Visit a heat pump | Find a heat pump | For hosts | For installers | Sign in | Sign up

Visit a heat pump near you

Connect with heat pump hosts to ask questions or plan a visit.

E.g. London or EH6

Search your area

A single source of useful information on YouTube

https://www.youtube.com/@HeatGeek

Heat Geek

@HeatGeek · 64.5K subscribers · 141 videos

A network of the the most efficient heating installers in the world, with GUARANTEED heat pump installati ...more

upgrades.heatgeek.com and 4 more links

Subscribed

Home Videos Shorts Playlists Posts

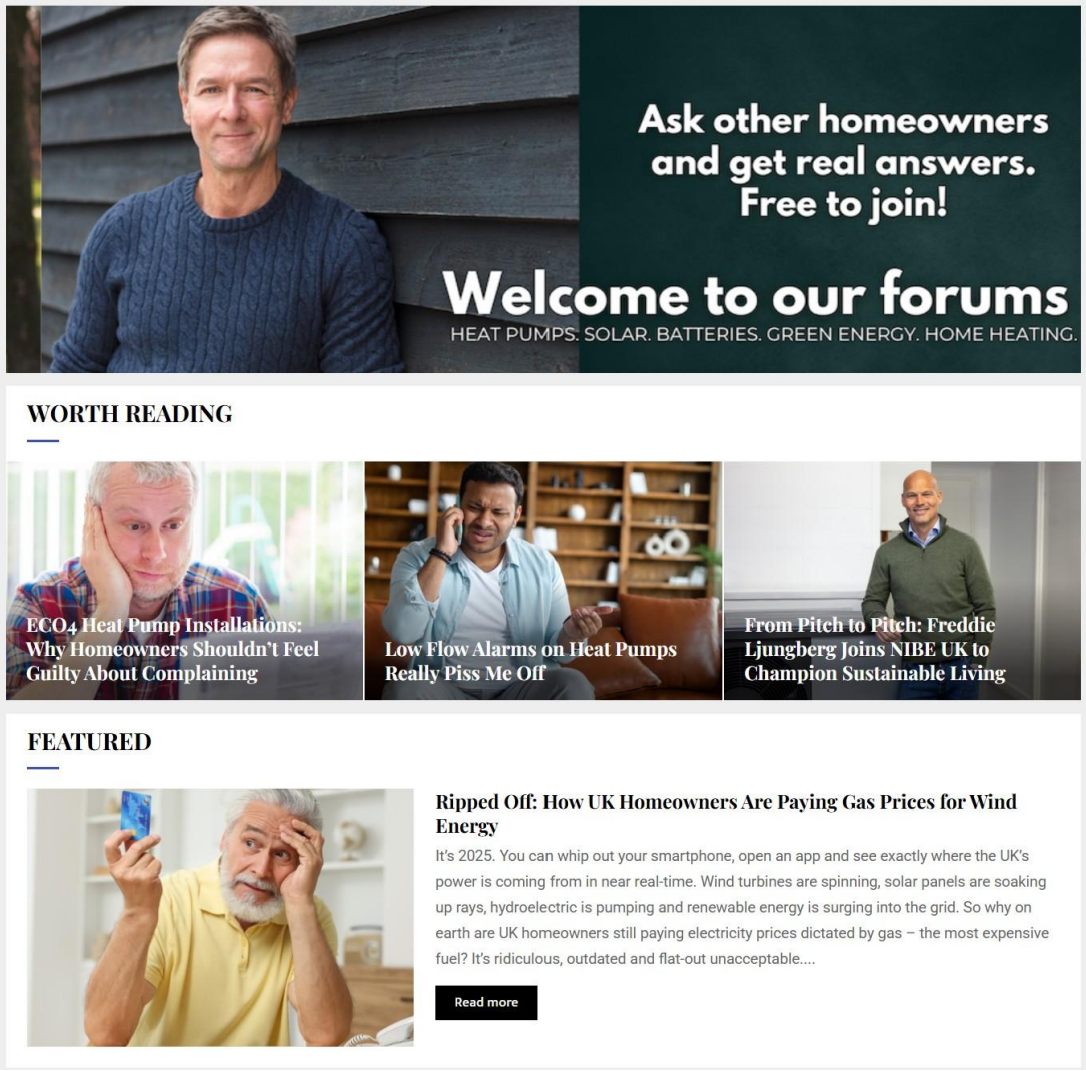
This is Heat Geek

Heat Geek • 4.9K views • 5 months ago

🏠 Upgrade your home with a Heat Pump today at https://upgrades.heatgeek.com/ - The largest Community of the most capable renewable installers - Award-winning Education platform to help...

An active online forum

Renewable Heating Hub



RENEWABLE HEATING HUB

Download a flyer on how to save money by reducing the flow temperature on your condensing combi boiler

www.theheatinghub.co.uk

Save up to 8 percent on your gas bills with a lower flow temperature.pdf

RETROFITTING

The remaining slides contain more general information on retrofitting and improving energy efficiency.

Typically, around 80% of domestic energy use will be for space heating and hot water. So having an efficient heating system can have a profoundly positive impact on reducing energy consumption.

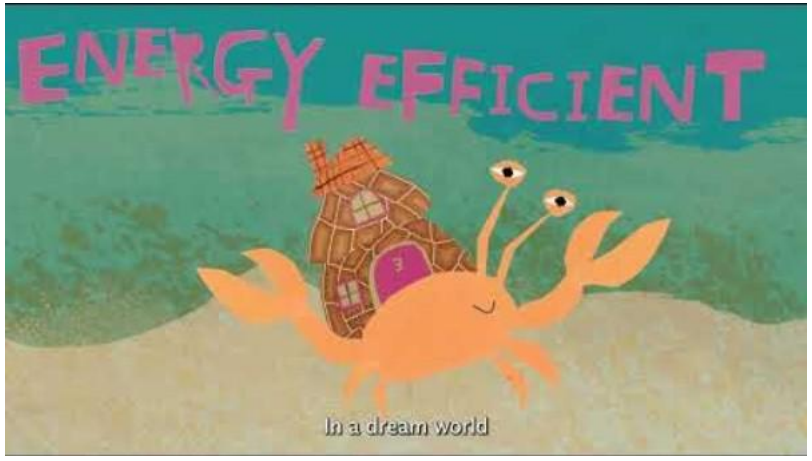
Stoke Climsland Carbon Zero Homes Project

Funded by UK Government

This project has supported parish residents to get to know their homes better so that they are better equipped to make meaningful energy efficiency improvements.

Having an efficient heating system can have a profoundly positive impact on reducing energy consumption.

https://www.stokeclimslandparishcouncil.org/carbon-zero-homes-project/



Reports available …

- **Main Project Report**
- **Retrofit Guidance for Heritage / Traditional Properties**

SCAN ME

Homewise Tool

To help you decide which energy efficiency measures and renewable technologies would suit you, your home and your lifestyle we have launched the [Homewise tool]

The Homewise tool is new, developed by the Energy Saving Trust

The tool offers free impartial energy saving advice to help boost the energy rating of your home and help you to save money on energy bills.

In three simple steps you can now create a report and download it for your home helping you to plan and budget for energy saving improvements.

Funded by UK Government

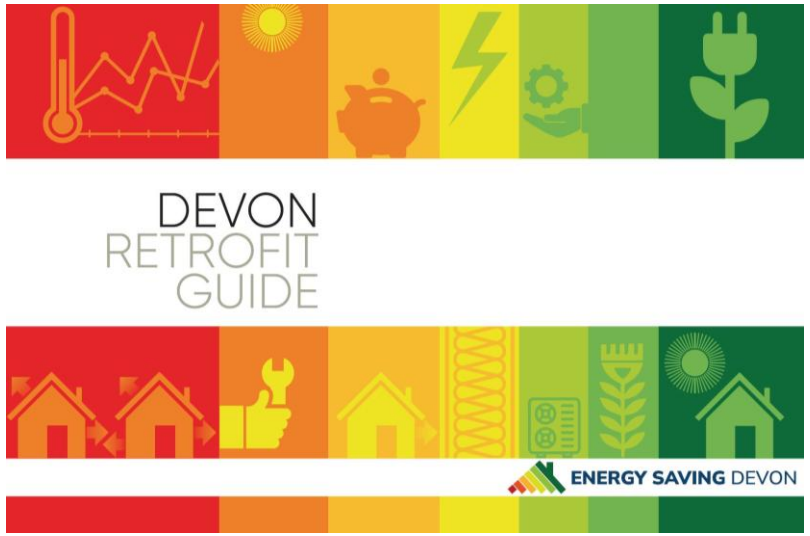
CORNWALL COUNCIL

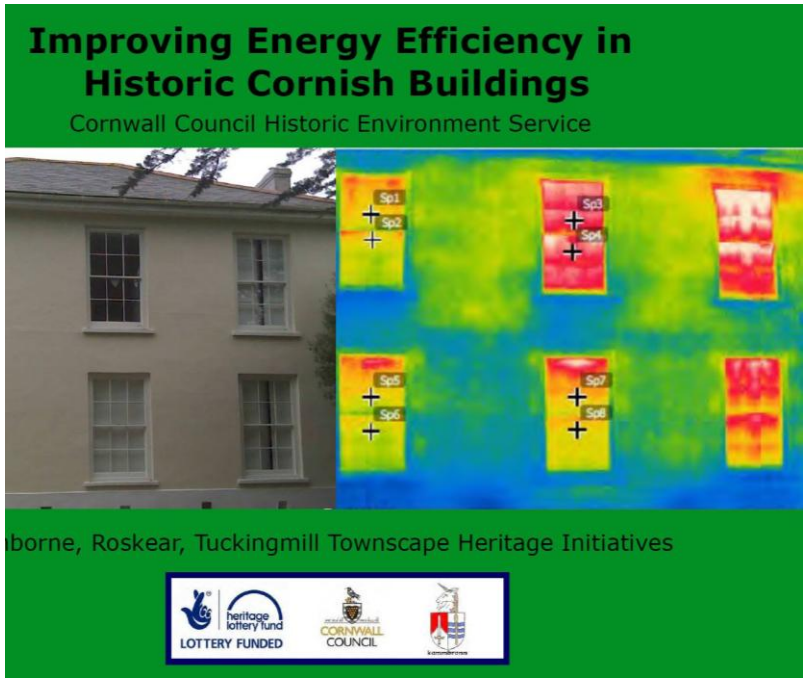
Council of the ISLES OF SCILLY

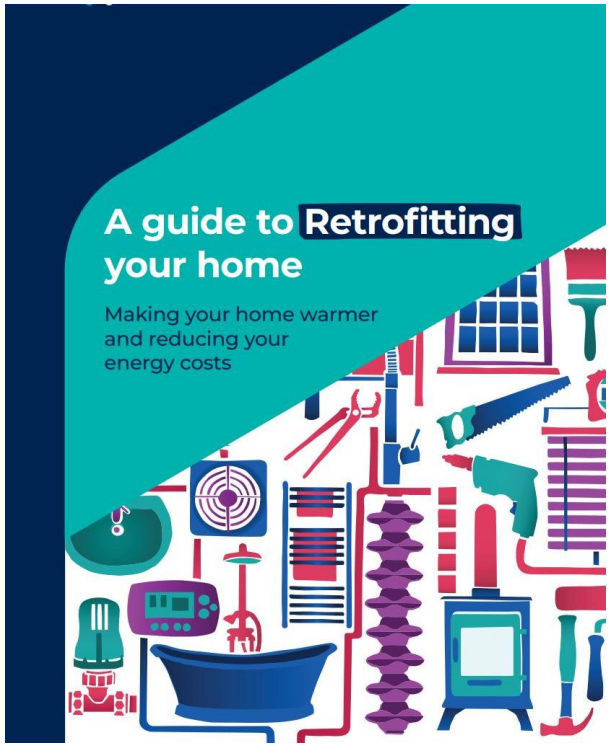
GOOD GROWTH
CORNWALL & ISLES OF SCILLY SHARED PROSPERITY FUND

RETROFITTING ESSENTIAL READING LIST

There are lots of sources of information on retrofitting [too many!]. The following 3 reports have been selected for this essential reading list for households.







RETROFITTING ESSENTIAL READING LIST

Energy Saving Devon. (2024, March 11). ***The Devon retrofit guide.*** Retrieved from Energy Saving Devon: https://www.energysavingdevon.org.uk/document/devon-retrofit-guide/

This is a comprehensive practical guide which was published in 2023 with input from a very wide range of knowledgeable organisations and individuals, including Tamar Energy Community. It targets a gap in the guidance available for the competent DIYer through to the trades and professional services, and the housing types featured are relevant for this parish.

Richards, A., & Smith, P. (2014). ***Improving Energy Efficiency in Historic Cornish Buildings.*** Truro: Cornwall Council. Retrieved from https://www.cornwall.gov.uk/media/bpedqi4m/improving-energy-efficiency-in-cornish-buildings.pdf

This report provides practical information on considerations for traditionally built and historic buildings, including information on the use of natural and sustainable materials and on permissions for buildings with restrictions. Although published 10 years ago, it is still relevant and is currently in the process of being updated. The lead author has provided the heritage property surveys for the Carbon Zero Homes Project.

TrustMark. (2024, March 11). ***A guide to retrofitting your home.*** Retrieved from TrustMark: https://www.trustmark.org.uk/homeowner/information-guidance/retrofit-your-home

This is a good general guide including information on the retrofitting process and how to find contractors and traders. TrustMark is the only UK government-endorsed quality scheme for work carried out in and around the home.