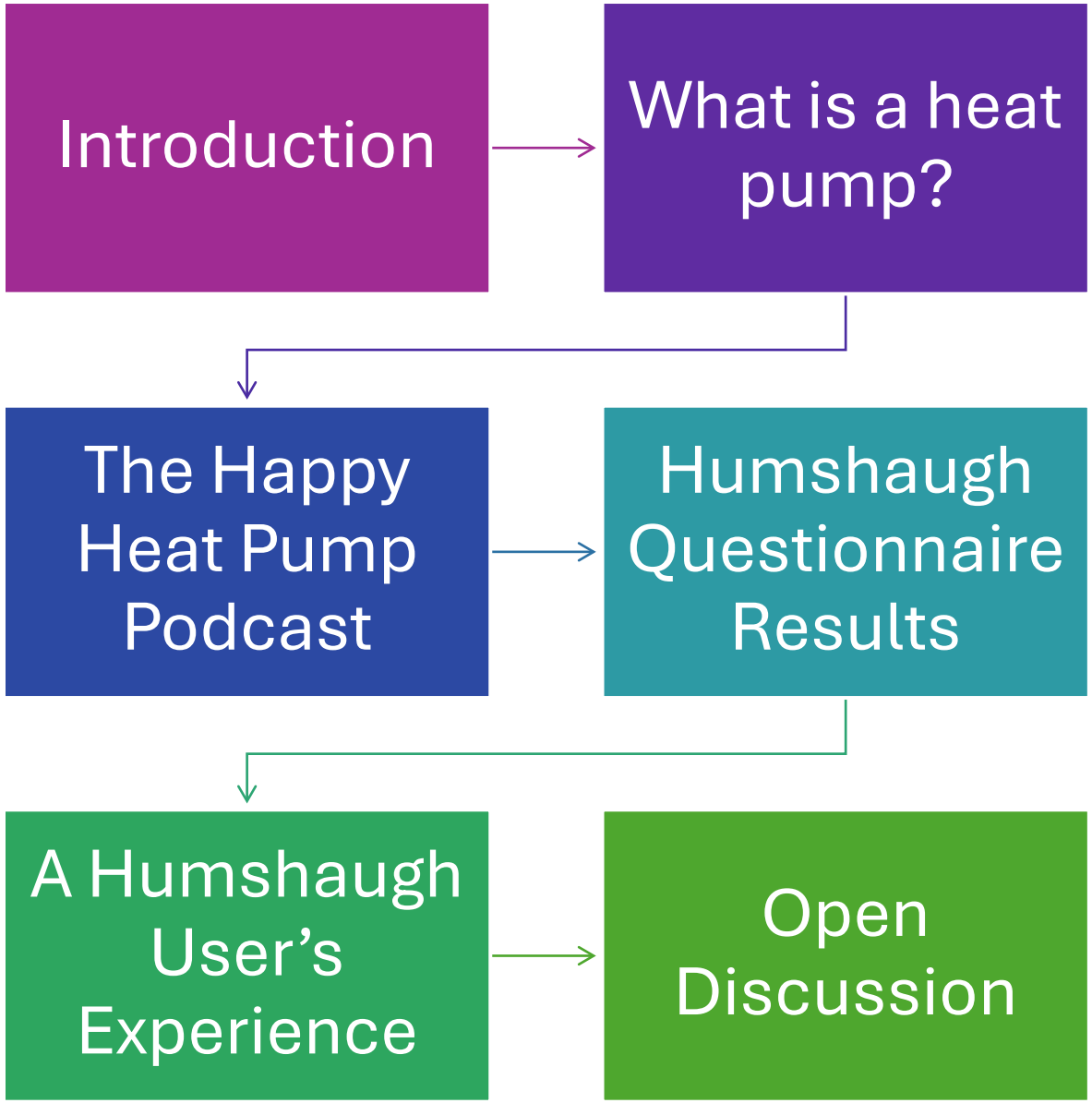
HNZ Heat Pumps March 2025

Running Order




Vaillant

The Happy Heat Pump Podcast

Happy Heat Pump Podcast

YouTube · Happy Heat Pump Podcast

520+ followers

Evan Davis & Bean Beanland talk about anything and everything to do with Heat Pumps

Humshaugh Heat Pump Questionnaire 1

1. Why did you decide to install a heat pump?
2. Approximately how old is your property?
3. Are the ground floor floors, exterior walls and/or loft insulated?
4. How disruptive was the installation of the heat pump itself (assuming you didn’t need to replace radiators)?
5. Did you have to replace your existing radiators or radiator pipework?

Humshaugh Heat Pump Questionnaire 2

6. Do you have other forms of heating you use to supplement heat from your heat pump?
7. Do you have an air or ground source heat pump ?
8. What temperature do you typically set your room thermostats to?
9. How easy have you found it to control the heat pump to give you the comfort level you want?
10. Has it kept you comfortable, especially in cold weather?

Humshaugh Heat Pump Questionnaire 3

11. Have the suggested running cost savings actually occurred?
12. Have there been any downsides?
13. What do you particularly like about having a heat pump?
14. Would you recommend installing a heat pump to a relative or friend?
15. Do you live in Humshaugh parish? (we are interested in your views even if you don't!)

Misinformation and fake news

1. Are heat pumps noisy?
2. Do heat pumps cost more to run than a gas boiler?
3. Do heat pumps work in below freezing temperatures?
4. Do I have to have new radiators for a heat pump?
5. Does my house need to be fully insulated before getting a heat pump?
6. Are heat pumps hard to fix?
7. Will the heat pump be enough to keep my house warm all year round?
8. Is a heat pump right for me?

1. Are heat pumps noisy?

Would you say that your fridge is noisy? Or your gas boiler? Heat pumps make about as much noise as these everyday appliances.

The typical range of a heat pump when it's on is between 40 and 60 decibels (dB). A group of acoustic experts investigated heat pump noise and found them to be about as noisy as a refrigerator.

Also, all heat pump installations need to comply with strict standards. For example, you can't normally install a heat pump unless the noise level is 42dB or less when stood one metre from a neighbouring window. Any louder than this and you need planning permission.

Heat pumps may make a bit more noise during cold snaps as they work harder during colder temperatures, but you can still have a normal conversation while standing right next to one.

In cases where heat pumps make more noise than expected, it's often because it needs a service, or it hasn't been levelled correctly. You can also get anti-vibration feet for heat pumps (similar to those available for washing machines).

2. Do heat pumps cost more to run than a gas boiler?

Heat pumps don't normally cost more to run than gas.

At current energy prices, running costs for heat pumps are around the same as for a new gas boiler.

But if you're replacing an older boiler, heat pumps are cheaper to run. And they beat any other kind of heating system for running costs.

If the heat pump is installed and used properly, it can run even more efficiently, lowering your heating bills further.

Heat pumps are generally around four times as efficient as a new gas boiler. This means they're better at keeping your home warm, and normally this would mean they're cheaper to run.

However, heat pumps use electricity. And electricity is currently four times as expensive than gas. What's more, the UK has the highest electricity costs in Europe.

When this imbalance in gas and electricity prices is addressed, heat pumps should quickly become the cheapest way to heat your home.

3. Do heat pumps work in below freezing temperatures?

Absolutely. Heat pumps work in below freezing temperatures, though their efficiency decreases as the temperature drops.

Most current models work fine down to about -25°C, while some advanced cold-climate heat pumps work in temperatures as low as -35°C.

They can take heat from cold outside air because even cold air contains some energy – it just takes more electricity to extract that energy. Also, many systems include backup electric resistance heating for extremely cold days.

If you need more proof, let's look at Norway. Famously a cold country, Norway's average temperature is almost -7°C. In any case, it generally stays below freezing throughout winter.

Despite this, around two-thirds of homes in Norway have a heat pump.

In fact, the top four European countries for heat pump ownership (Norway, Sweden, Finland and Estonia) are also among the coldest in Europe.

In contrast, the UK's average temperature in winter for 2024 was over 5°C. So the argument that heat pumps don't work in the British cold is false.

4. Do I have to have new radiators for a heat pump?

It’s not mandatory, but bigger radiators could hugely improve how well a heat pump can heat your home.

Bigger radiators can heat your home with lower-temperature water flowing through the pipes, keeping you cosy and using less energy.

This is especially useful for heat pumps. The lower the flow temperature, the more efficient the heat pump, and the cheaper it costs you to run.

It’s important to remember that ‘bigger’ doesn’t necessarily mean ‘takes up more wall space’. It means they have more surface area. This could mean using a double or triple panel radiator, for example.

According to Checkatrade, it costs around £200, on average, to replace a double panel radiator. When you get a quote for a heat pump installation, the installer should tell you if they recommend upgraded radiators. They’ll factor this into any quotes they give you.

5. Does my house need to be fully insulated before getting a heat pump?

Your house can use a heat pump without needing to fully insulate your house. Insulation reduces how much heat your home loses, which makes it cheaper to heat – whatever kind of heating you have.

It's true that part of the success of heat pumps in other European countries is because their houses are generally better insulated than British homes.

In fact, the UK is one of the worst countries in Europe for heat loss, where UK homes lose heat up to three times faster than their European neighbours.

But things are improving. According to a UK Government report, the number of homes in Great Britain that had cavity wall insulation increased by 25% (3 million homes) between 2013 and 2023. Also, loft insulation went up by 16% (2.4 million homes). And UK homes in general have become more energy efficient in that time.

When you get a quote for a heat pump, the installer will factor in what insulation you currently have. They'll then adjust your heat pump design to suit your setup.

If you live in a building where insulation is either impractical or impossible, you can still get a heat pump that works well for your needs. Just make sure the heat pump installer is aware of this and can factor it in.

If you’re able to and can afford to insulate your home first, we recommend doing that. Improved home insulation reduces heat loss, improves your comfort and lowers your energy bills. There are several government schemes to help make this more affordable.

But if you can’t get insulation, it shouldn’t stop you getting a heat pump. There are plenty of old, historic homes that have had heat pumps installed.

When looking at the overall cost to heat your home, it’s worth considering:

- The size of your radiators.
- The right flow temperature for the heat pump.
- How effective your heating controls are.

6. Are heat pumps hard to fix?

In general, heat pumps need about as much maintenance as a gas boiler. And, just like a gas boiler, you should have them serviced once a year, preferably before winter hits.

There's a shortage of qualified heat pump installers in the UK, so it may be more difficult finding someone to service the heat pump. This is why it's important to ask any installer about their post-installation support.

Common issues with heat pumps tend to be arise from an installation issue. If the system is set up correctly, you shouldn't have any real problems with it.

The best way to make sure you get a quality installation is to get quotes from competent, qualified installers.

Look for heat pump installers who are certified with the Microgeneration Certification Scheme (MCS). We always recommend getting quotes from at least three installers.

7. Will the heat pump be enough to keep my house warm all year round?

Yes – a well-designed heat pump system should provide a consistent temperature around your home throughout the year, even during the coldest days.

You shouldn't need to rely on additional heating to stay comfortable, either. Heat pumps have a 'heating boost' setting that can give them a little boost of energy when the temperature is particularly low. This uses a little more electricity, but this shouldn't add much to the heat pump's running costs.

There are several things you can do to optimise your heat pump's performance for all seasons. For more information, read our blog on the most efficient way to run your heat pump.

8. Is a heat pump right for me?

One way to counter misinformation around heat pumps is to speak to people who own one.

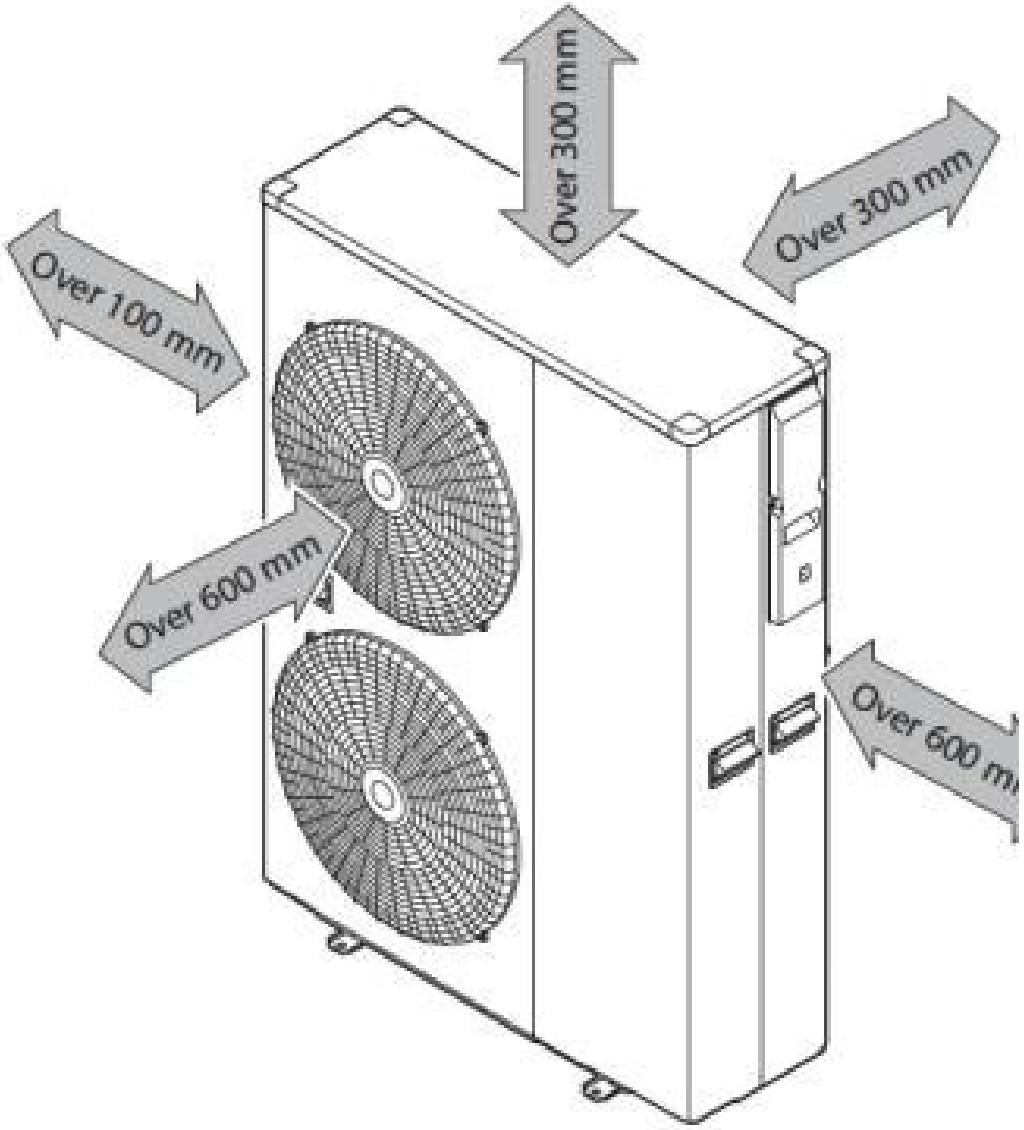
Air Source Heat Pump

experience so far

Goodbye!

Hello!


GRANT
AIR SOURCE HEAT
PUMP RANGE
GRANT AERONA³ INVERTER
DRIVEN AIR TO WATER
HEAT PUMP
HANDLE WITH CARE


Over 300 mm
Over 300 mm
Over 100 mm
Over 600 mm
Over 600 m

Our system

- 4 bed mid terrace property circa 1900
- air-to-water
- wall-mounted radiators, except one room with underfloor heating
- pre-existing wood-burning stove and an open hearth

Items required

- ASHP (Grant Aerona3 13 KW)
- hot water cylinder (250 ltr)
- heat pump controls

Additionally

- Changed 8 mm microbore pipework to 15 mm copper
- Replaced elderly radiators
- Chose anti-freeze valves instead of glycol
  - more efficient due to water's better fluidity compared to glycol fluids

The process

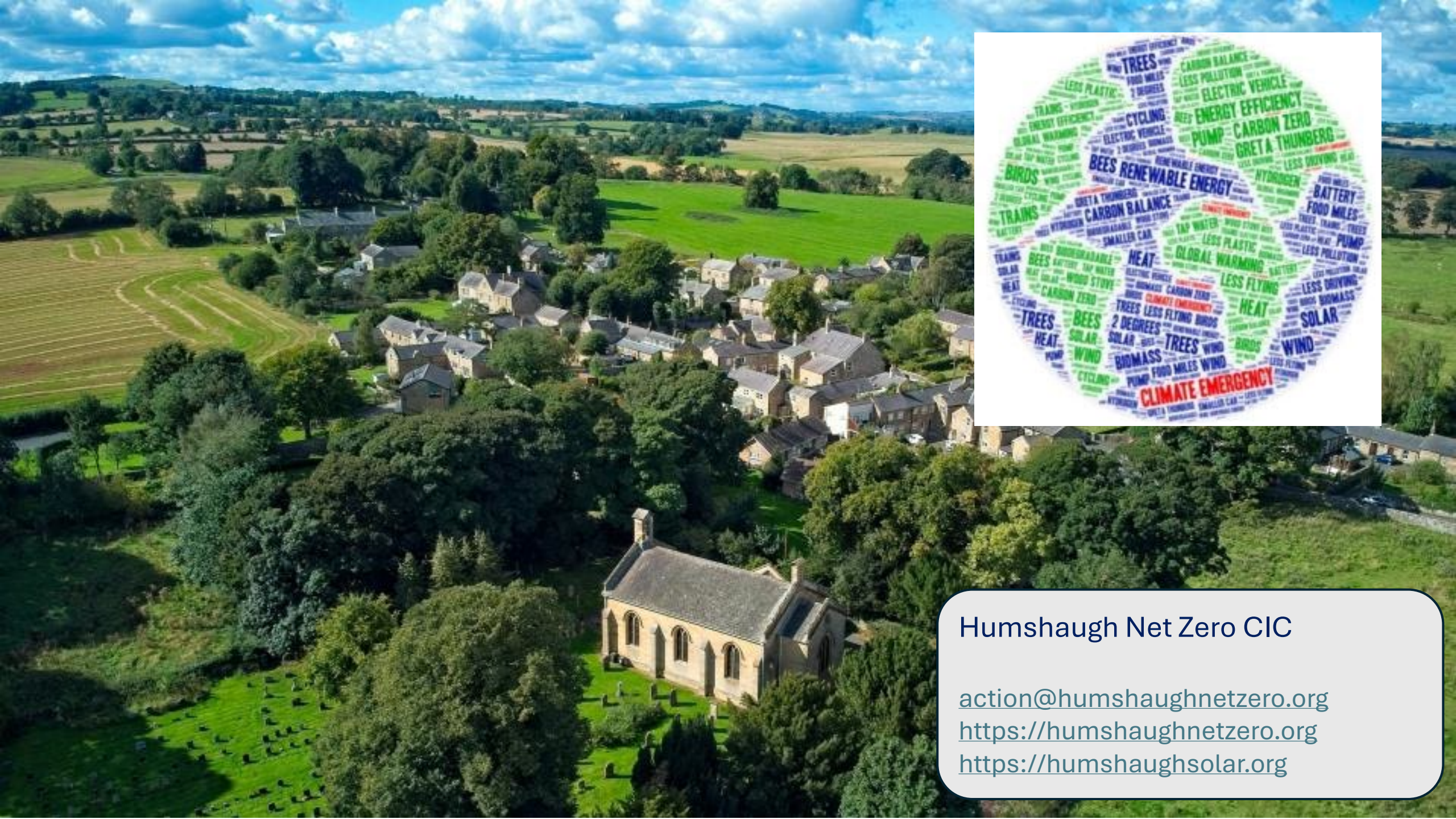
- Check whether ASHP is a permitted development
  - https://www.planningportal.co.uk/permission/common-projects/heat-pumps/planning-permission-air-source-heat-pump
- Energy survey
  - heat loss calculations and emmitter design
- Distribution Network Operator application for consent to connect to supply
- Installer must have a Microgeneration Certification Scheme certificate.

Renewable Heat Incentive

- Up to 31st March 2022
- Valid Energy Performance Certificate (within 2 years)
- Comply with minimum energy efficiency requirements
  - insulation exemption
- Amount paid based on a combination of the amount of heat the property uses and the efficiency of the system

Running costs

- **BEFORE**
  - oil £720 per year (54p/l) = 1333 litres
  - electricity £600 per year (14p/KWh)
  - Total £1320 per year (~£1800 today)
- **NOW**
  - electricity ~£2000 per year (22p/KWh)
  - but: bigger space to heat and we keep it warmer!
  - also installed solar panels



Humshaugh Net Zero CIC

action@humshaughnetzero.org
https://humshaughnetzero.org
https://humshaughsolar.org