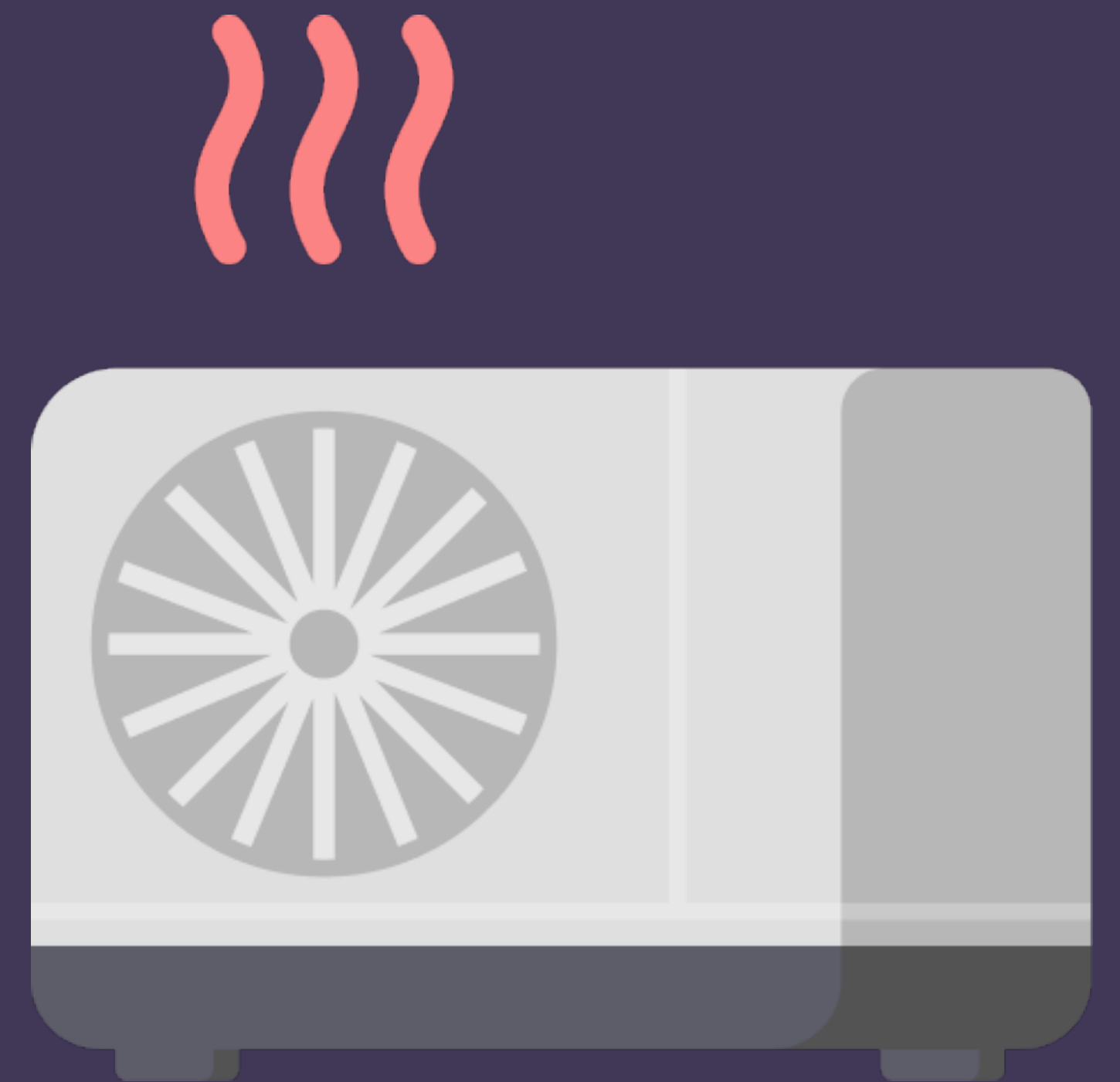


Heat pump Benefits and Myths debunked



Heat pump package benefits

✓ Proven technology

- everyone already has a heat pump in their fridges and freezers – the first heat pump was made in 1856 in Austria

✓ Reliable technology with fewer parts that can go wrong

- as long as you have it serviced, it can last for up to 20 years
- Samsung's heat pumps come with a 7 year warranty standard
- we also offer a “peace of mind” package including all all servicing and repairs



Heat pump package benefits

✓ More efficient than a gas boiler

- Because it pumps in heat from the outdoor air, it can be over 500% efficient when it's over 10 degrees outside and 200% when it's minus 20 degrees; compared to 75 to 92% for producing heat by burning gas in a gas boiler

✓ Lower carbon footprint vs gas boiler

- A heat pump is lower carbon than a gas boiler given (i) increased efficiency and (ii) renewables generates ~43% of our electricity (as of 2020)
- In 2020, ~88% (0.43/3.5) of the heat from a heat pump was renewable compared to 0 percent with a gas boiler



Heat pump package benefits

✓ Cheaper to run than a gas boiler

- Gas prices have increased more than electricity prices this year and this is expected to continue
- Also, there are currently green levies on electricity bills which the Government is planning to remove, which will further increase savings versus a boiler
- If you can switch to an electric hob (or if you already have one), you can cap off your gas and you'll stop paying standing charges for gas. Currently these are around £100 per year.



Heat pump package benefits

✓ Easy to use

- Maintaining a steady temperature 24/7 (or with slightly lower temp overnight and when everyone is at work) means you'll never have to adjust a thermostat – you can set and forget;

✓ Increases value of your home

- Getting a heat pump increases the value of your home (especially as boilers will be phased out by UK Government from 2035)



MYTH:

You **need** better insulation to get a heat pump



FACT:

If you have a poorly insulated house you need insulation and better glazing etc. full stop.

But given the current energy price of gas vs electricity, if you're wasting energy by heating the outside air or your neighbour's house through your poorly-insulated walls, it's cheaper and better for the planet to generate that wasted heat using a heat pump than it is a boiler. But it's much better to get some insulation and not waste the heat;

MYTH:

You need special radiators or underfloor heating to get a heat pump



FACT:

Many homes have radiators which are bigger than they need to be given the power of your boiler.

Either they were over-specified or the house has had improved insulation and glazing etc since the radiator layout was designed; But if you need more radiators that will be included in our fixed price

MYTH:

You won't have space for a heat pump in your home



FACT:

Because a heat pump pumps-in heat from outside, it takes longer to heat water than a combi-boiler. What heat pump systems do therefore is to store hot water in a tank (like you did pre-combi boilers). This can be done in the early hours (off peak) to minimise costs.

You can get something called a heat battery which, combined with a heatpump can provide instantaneous hot water, but these are more expensive than a tank.

MYTH:

Heat pumps are
noisy



FACT:

The outdoor unit makes noise when in operation. At its most noisy it will be like a microwave and a fan running together.

The new units have new fan technology that reduces this noise level; it still makes more noise than a boiler but it will be outside and obviously won't run in hot weather when everyone has their windows open;

MYTH:

Heat pumps
are unaffordable



FACT:

Heat pumps are more expensive than a gas boiler to buy and install. Because of this, the UK Government is subsidising the costs of having a heat pump installed.

In our project, you'll get a 40% discount;

A correctly sized and operated system will be cheaper to run than a gas boiler system. But it's different. The temperature of the radiators will be linked to the outdoor temperature and the set temperature indoors, 'long and low' to heat the home more efficiently.

MYTH:

Heat pumps take a long time to heat your water / home



FACT:

The most efficient way to run a heatpump system is lower radiator temperature for longer. Therefore it will be running most of the day and night; and the radiators will never be boiling hot to touch;

Energy Costs

Your heating bill depends on how much heat you need, which depends on:

- how big your house is
- how much heat is lost due to poor insulation or building fabric

We've given an example on the next slide. During the project, we will give you an estimate based on your home, which will be a true estimate of what you will pay.



Example house

OX4 4TZ: 1950-1966 – Semi-detached

Average gas usage for postcode = 15,666 kWh (assume
466kWh on gas hob)

Assumed Heat and hot water = $15,200 \times 0.825 = 12,540$ kWh

Heating and hot water cost

Given October price cap prices (gas 14.9p/kWh; elec 51.5p):

Cost with existing gas boiler (82.5% efficient) = £2267pa

Cost with a new gas boiler (90% efficient) = £2079pa

Cost with Air Source Heat pump (350% efficient) = £1945pa



Example house

OX4 4TZ: 1950-1966 – Semi-detached

ASHP Savings

ASHP Savings vs existing gas = £320 per year (plus additional £100 if can remove gas meter entirely)

ASHP Savings vs new 90% efficient gas boiler = £130 per year (plus additional £100 if can remove gas meter entirely)



Video - electricity pricing

<https://energyinschools.co.uk/>

(See bottom of the page)

Smart thermostats

A smart thermostat takes into account varying electricity prices for the coming 24hrs and works to ensure that your heat pump operates during the cheapest periods as much as possible, whilst still making sure your home is heated how you like it.

This is possible because electricity markets can have very different prices every 30 minutes. So the heat pump can work slightly harder in one half-hour and then slightly less hard in the next one.

This may mean that the temperature varies a bit from your set-point at certain times, but this shouldn't be noticeable.

This would lead to additional savings over the £320/£130 per year on previous slide

OFFER 1

Price cap tariff (SVT) 1

- New price set every 3 months by Ofgem (the regulator)

OFFER 2

Fixed tariff for heating season

- Price will be fixed every September for 1 year to give price certainty
- Fixed price may be slightly lower or higher than the SVT (as depends on future wholesale price expectations)

OFFER 3

“Time-of-use” tariff + smart thermostat

- The smart thermostat will gently adjust the way the heatpumps heats your home to reduce costs based on electricity pricing
- Save up to 20% over SVT tariff
- All of your electricity usage will be charged based on the time-of-use tariff

OFFER 4

Flexibility discount + smart thermostat

- Instead of having a time-of-use tariff, your energy supplier will work with the smart thermostat provider to gently adjust the way the heat pump heats your home to reduce costs based on what’s happening in electricity markets and on the grid
- In return for flexibility you’ll get a cheaper fixed unit price for your electricity
- Save up to 20% over SVT tariff

OFFER 5

“Time-of-use” tariff + smart thermostat + solar

- In addition to Offer 3/4 we will install Solar panels on your roof.

Option 1: Pay full cost (£6k) and get free electricity from your roof (3000kWh per year);

Option 2: “rent your roof” and buy the electricity for 30p/kWh on a 20 year contract increasing by CPI + 2% per year;

Option 3: “rent your roof” and buy the electricity at a rate guaranteed to be 20% under the yearly average electricity supply price (per kWh);

OFFER 6

Renewables matching tariff

- Based on your expected usage profile we will match you with a wind farm and a solar field
- Energy that comes from your matched generation sites will be charged at a cheaper rate and unmatched electricity will be charged at the price cap rate

Heat pump package payment options



OFFER 1

Your fixed price including installation

~~£12,000~~ / £7,000

Estimated payback period: 20.4 years

(Compared to new Gas Boiler at £2,300; No new radiators; Gas meter removed; savings £230 per year)

What's included?

- All new radiators
- Removal of old boiler
- System flush
- New thermostat
- 7 year warranty

If no new radiators, price will be £6,000

Does not include yearly service (est. cost £200)

OFFER 2

Pay over 24 months interest free

£600 upfront, £267 monthly

Estimated payback period: 20.4 years

(Compared to new Gas Boiler at £2,300; No new radiators; Gas meter removed; savings £230 per year)

**Samsung
Finance**

What's included?

- All radiators (if needed)
- Removal of old boiler
- System flush
- New thermostat
- 7 year warranty

If no new radiators, monthly cost £225

Does not include yearly service (est. cost £200)

OFFER 3

Pay in installments over 7 years (10% APR)

£1,000 deposit, £99 per month

Estimated payback period: 30 years

(Compared to new Gas Boiler at £2,300; No new radiators; Gas meter removed; savings £230 per year)

What's included?

- All new radiators
- Removal of old boiler
- System flush
- New thermostat
- 7 year warranty

Does not include yearly service (est. cost £200)

OFFER 4

Peace of mind deal

Up to 15 years, £65 per month

If new radiators needed then £75 per month.

The heatpump is owned by the leasing company; depending on the model there may or may not be a buy-out available at the end of the lease;

Alternatively at the end of the lease you could sign a new lease deal including a new generation heatpump;

What's included?

Covers all costs included in other offers, **and no hidden charges for the full term (10-15 years)**. Yearly servicing, repair and replacement should it be required during the term.