



Heat pumps on the Suburb myths and reality

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Imagine scientists invented a machine that could generate renewable energy from nothing more than air. Imagine it could provide hot water and central heating for a whole house – and it was no larger than a garden barbeque. Imagine no more.

That invention is the heat pump and houses across the Suburb are installing them, making a massive cut to their CO2 emissions. The Trust is seeing a sharp rise in applications to install one, and they are getting approved.

The gas boilers that heat most homes in the Suburb are on their way out. Government policy will see them banned for sale in 2035. And quite right too. They're a 20th-century solution to our heating problems, belching out greenhouse gases, their emissions made worse by the poor insulation of many Suburb homes.

Using energy data for two archetypal Suburb properties – a modest cottage in Oakwood Road and a larger home in Litchfield Way – we analyse that both have energy use around twice the size of comparable homes elsewhere in the UK.

That's twice the cost, of course. And also, twice the carbon emissions. In HGS, we burn approximately 160,000,000 kilowatt hours of gas yearly to

heat our homes. That is 30,000 tonnes of carbon dioxide added to our atmosphere and way above the average UK home per square foot. Indeed, we live in HGGG – the High Greenhouse Gas Suburb.

We must bring those figures down and eliminate them – get them to zero! The UK government wants to do that by 2050; we at HGS REACH think the Suburb should aim for 2040.

After all, we don't want to regularly bake as we did this summer (triggering further subsidence problems as our clay dries); we also don't want to repeat the flooding of Summer 2021. We also don't want Vladimir Putin to have the power to raise our household energy bills, like the 54% coming in October.

Heat pumps work because, even on the coldest days, there is still plenty of thermal energy in the air or ground. They function like a reverse fridge, pumping this heat (hence the name) into the home to run central heating or provide hot water.

You've probably read about them in the papers, some of which delight in running articles labelling them as useless, unreliable, noisy, or expensive. We'll examine each of these in turn:

Useless? They heat more than half the houses in Sweden. If they can heat homes in Sweden, they can heat homes in London. A handful of Suburb homes are using them,

kept toasty warm on cold January nights. This myth is busted. **Unreliable?** Early heat pumps had problems, yes. But so did the first combi boilers. A new, well-maintained unit should be very reliable. Would the Swedes risk freezing to death by installing tech that would break down in their near-arctic winters? No. Another myth busted.

Noisy? The noise issue requires more careful attention. Their fans hum, so to avoid problems with neighbours, they should be sited away from a boundary, as noted in the Trust's guidelines. The noise, such as it is, is most noticeable when they are running hard, heating a home on a cold winter's night. It's unlikely your neighbours will be enjoying dinner in their garden at that time. If you're concerned about noise, contact us below, you can visit a house with heat pumps and test if you can hear a few metres away. **Expensive?** The picture here is more complex and changing. Cost depends on the house size, which affects the unit size. (Here, for simplicity, we will talk only about heat pumps that collect heat from the air, which are the cheapest and most common). Installing your first heat pump may cost two or even three times a new combi boiler. One reason is that they are mechanically more complex than a combi boiler – that is slowly improving. The other is a shortage of qualified fitters, keeping fitting costs high. The government is attempting to fix this by offering grants that cut the price of new installations of air source heat pumps by £5,000 to stimulate increased demand and training. (Search 'boiler upgrade scheme' online for more info.) With this grant, the cost of an air source heat pump will be close to that of a new combi boiler.

But there is another issue very relevant to HGS: the heat output is different. Combi boilers pump water at up to 75 degrees C. Heat pumps are more efficient at 45 or 55 degrees – still hot enough for a shower but potentially not enough to fully heat a badly insulated house with small or inefficient radiators. Unfortunately, many of the Suburb's 5,000 homes fit that description.

We at HGS REACH don't have firm data but reckon most Suburb homes may need an insulation upgrade if they get a heat pump – maybe reducing heat loss from windows and improving loft insulation. They're a good idea anyhow. But it does underline that installing a heat pump for the first time isn't just a straight swap for a combi boiler. The engineer needs to assess heat loss in the home and find an appropriate place for the external unit which extracts the heat from the air. Small cottages in HGS may struggle to find a good place to house the external heat exchange unit; a few houses may need some rework to their heating pipework.

It's important to note that heat pumps require electric power. So, your gas bill for heating and hot water will drop to zero, but your electric bill will rise. However, by 2021 UK's electric power supply was already 50% carbon-free, and by 2035 the target is 100%.

And change is going to come. The government has banned gas boilers from new houses from 2025, and existing gas boilers cannot be replaced after 2035. No technology can take their place at present other than heat pumps.

If you're installing a new gas boiler before the winter, it's likely to be your last. Better yet, start fact-finding on heat pumps. Nothing can slash your carbon footprint as effectively. This applies even more if you plan a

substantial refurb – adding a heat pump at this stage is more straightforward and will ensure that your beautiful refurbished home is truly future-proof.

The Trust's guidelines (on their website) may appear daunting. But the reality is that applications are not only rising fast – but the Trust is also taking a constructive approach, and they are being overwhelmingly approved.

Want to know more? Email reach@hgsra.org. We can connect you to people in the Suburb with a heat pump (and nice warm houses). We are also looking at ways to drive down the costs by using our collective buying power – remember, all 5,000 homes in the Suburb will need a heat pump by 2035. We are looking at street-level schemes so installers can create standard installations for similar houses to drive down costs further. Stay tuned for this.

If you've got a heat pump, we'd also like to hear from you. We'd like to know which firms are doing a good job so we can help others to a trouble-free installation.

We will also help people improve their energy efficiency by loaning a thermal camera that helps identify draughts, poor insulation, and other ways heat (and your money!) is escaping your home. The RA has generously funded the purchase of this technology, and it will be free for HGSRA members. Stay tuned for this also.

HGS REACH HACKATHON*

HGS REACH would like to get residents started on their own heat pump journey! We will be running a hackathon this winter to gather as much information as we can about HGS homes – so that we can all start to think about replacing our gas boilers with a clean heat pump.

We will send out more info by email - please get in touch with us at reach@hgsra.uk – and we will share with you some simple steps to get heat-pumping! Also, keep an eye on the RA website...

The REACH team

* Hackathon: a usually competitive event in which people work in groups on software or hardware projects, with the goal of creating a functioning product by the end of the event.

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Call for Residents Association Trees & Open Spaces volunteers

MARIA SCHLATTER

Who among our residents has not been persuaded to live in Hampstead Garden Suburb, rather than any other London suburb, because of its life-enhancing green spaces? We are privileged to live in an area that, through a combination of design and commitment, preserves its beautiful public and private gardens, street trees, Hampstead Heath and Bigwood and Littlewood, not to mention Northway Gardens tended by local volunteers. They are an everyday delight to both HGS residents and visitors drawn to our restorative open spaces.

Given the diminishing access to nature in the built environment, we cannot take these green spaces for granted, and Hampstead Garden Suburb has active organisations that work to make them better for everyone to enjoy. They include the HGS Horticultural Society, Allotment Group, Northway Gardens Organisation, Friends of Bigwood, Henrietta Community Orchard, and of course the long-standing Residents Association's Trees & Open Spaces Committee, which is now in need of new members and volunteers.

Do you have an interest in nature, especially trees, and do you have some time available to

help us? We need more residents to support the work of the RA's Trees & Open Spaces Committee and are calling for both practical volunteers and potential committee members to help ensure that our magnificent public green spaces and our existing stock of street trees and iconic veteran trees are monitored and enhanced. We need volunteers to help with our annual tree survey, assisting in watering street trees, and helping to undertake a local hedgehog count.

If you would like to find out more about what we do, and make new friends in the process, please email us at: trees@hgsra.uk.