Your plan

You have added 1 recommendation to your plan. You'll find all the steps and things you need to consider to implement this measure.

TOTAL INVESTMENT REQUIRED **£8500**

Green Homes Grant

To continue, print your plan. Contact installers and get quotes for your selected measures. Keep a record of these quotes - you will need them for the voucher application process.

Air source heat pump

Takes heat from the outside air and upgrades it to a higher temperature so it can be used to heat your home.

INVESTMENT REQUIRED **£6000 - £11000**

YOUR QUOTE

See all available installers on the Trustmark website https://www.trustmark.org.uk/find-a-tradesman?postCode=KT1%203JA&tradeCode=116

GHG ELIGIBLE (PRIMARY)

STEP 01 What is it?

An air source heat pump is a low carbon heating system and works differently to a boiler. Rather than burning a fuel like gas or oil, it uses electricity to transfer heat from one place to another. In this case, from the outside air to your home to provide space heating and hot water.
Left to its own devices, heat will normally flow from a hot place to anywhere that is colder. A heat pump makes heat flow in the opposite direction – it “pumps” the heat from a cold place to somewhere that is warmer.

An air source heat pump takes heat from the outside air and transfers it to a working fluid. It can do this even when the air is well below freezing. The heat pump then uses a compressor to change the pressure and temperature of the fluid until it's warm enough to provide heating for your home.

The heat pump uses electricity, so it is not free to use and it is not yet zero carbon. But provided that the heat pump is properly installed in a suitable building, it will produce more energy as heat than it uses as electricity. If it runs efficiently it can be cheap to use and will be a low carbon heating option for your home.

Heat pumps are more efficient when they give out heat at a relatively low temperature. They're often used with underfloor heating, as this can operate successfully at low temperatures, but they can be also be used with conventional radiators.

Air source heat pumps can also provide direct air heating, but please note that these systems are not eligible for either Green Homes Grant or domestic Renewable Heat Incentive (RHI) payments.

Alternatively, you may wish to consider a hybrid heating system, where more than one heating technology is used within the same heating system. There is significant variation in the types of hybrid systems and appliances available today, but hybrid heating often refers to the combination of an air-source heat pump and a fossil fuel boiler. This could be either as a single appliance which combines these technologies, or as a separate heat pump and boiler operating within the same system.

For further information on these types of system we recommend you seek expert advice from an MCS (Microgeneration Certification Scheme) accredited installer or trade association.

STEP 02 Is it right for me?

Air source heat pumps are most likely to be attractive in homes that are well insulated, and where other heating options like gas are not available. They may also be worth thinking about for homes that don’t have the space for a ground source heat pump. Heat pumps are more efficient when they do not have to raise the temperature of the heat they extract too much. This means they are more efficient when they can run the home's heating at a lower temperature. If your home is well-insulated, then it needs less heat to keep it warm. Where possible, it is recommended that you have a minimum level of insulation in your home, such as loft and cavity wall insulation, before you consider installing a heat pump. You can then run your radiators or underfloor heating at a lower temperature and still keep your home at the temperature you want. It is a requirement (with limited exemptions) for the domestic RHI that if possible, your home has loft and cavity wall insulation.

If you live in a fairly new house, or if you already have underfloor heating, then a heat pump may well be suitable. If not, you may want to look at increasing your insulation levels or changing your radiators to make your home more heat pump friendly.

If you live somewhere where electric heating is the only option, then a heat pump could be cheaper to run than other systems.

If your house is suited to a heat pump and you have plenty of space outside, then you might want to consider a ground source heat pump instead. This is likely to cost more to install, but will generally be even more efficient and cheaper to operate.

Hybrid systems combining an air source heat pump and fossil fuel boiler may be suitable for a wide range of homes, although you will need to consider whether your home is insulated enough for the heat pump to run efficiently. This is so that the system can run mostly on low carbon heat, keeping your home warm without much input from the boiler.

The Green Homes Grant has a recommendation that the heat pump element of any hybrid system should be capable of providing the vast majority of the space heating demand for the property. This is to limit the system's use of fossil fuels.

As the government develops policy to phase out fossil fuel heating, people using a hybrid system may later need to make changes to their boiler or their home's insulation, to make sure their next heating system can be fully low carbon. You will need to consider whether this would suit your needs, or whether you would prefer to install insulation and/or a low carbon technology such as an air source heat pump (without a boiler) straight away.

All heat pump and hybrid systems need to be designed and installed by qualified experts, who will also be able to advise on the impact an installation may have on your bills. If possible, you should obtain independent expert advice from an MCS-certified installer about whether a heat pump or a hybrid system is the right technology for you and your home.

If your home is well-insulated and you are using your heat pump efficiently, you may see your bills decrease when you switch to using a heat pump or hybrid system. However, some consumers may find their energy bills increase slightly. Whether you make a saving on bills will be dependent on things such as:

1. the price of the fuel your boiler used in comparison to the price of electricity;

2. the efficiency and heating demand of your home; and

3. the efficiency of the heat pump.

See the **Using it** section for more information on how to get the most from your heat pump or hybrid system.

If you are thinking about participating in both the Green Homes Grant scheme and the domestic Renewable Heat Incentive (RHI), you should be aware that they have different eligibility criteria, so qualifying for one scheme does not automatically mean that you qualify for both.

Ofgem are the scheme administrator for the domestic RHI and produce guidance about the scheme which can be found using the button above. Guidance on the Green Homes Grant is available on GOV.UK at the link above.

Information about RHI https://www.ofgem.gov.uk/environmental-programmes/domestic-rhi

Guidance on the Green Homes Grant https://www.gov.uk/guidance/apply-for-the-green-homes-grant-scheme

STEP 03 How to get it

Heat pumps require technical knowledge to install properly, and should be carried out by a qualified installer.
The Microgeneration Certification Scheme (MCS) is currently the standards and quality assurance organisation for renewable heat technologies. It is a requirement of both the domestic RHI and the Green Homes Grant schemes that the installer is MCS certified, the heat pump/hybrid is listed in the MCS product directory, and that the installation is carried out in compliance with the relevant installation standard. To be eligible for the Green Homes Grant scheme, the installer must also be registered with TrustMark.

Visit MCS website https://mcscertified.com/

Find installers https://www.simpleenergyadvice.org.uk/installer-search/Z1

STEP 04 Financial help

You can get the Green Homes Grant or the RHI. See below for more details.

STEP 05 Green Homes Grant scheme

Homeowners and landlords in England can apply for a Green Homes Grant voucher towards the cost of installing energy efficient and low-carbon heating improvements to homes, which could help save up to £600 a year on energy bills.

The government will provide a voucher that covers up to two thirds of the cost of qualifying improvements to your home. The maximum value of the voucher is £5,000. If you are a homeowner and either you or a member of your household receives one of the qualifying benefits, then you may be able to receive a higher level of subsidy that covers 100% of the cost of the improvements. The maximum value of this is £10,000. Landlords cannot apply for the low-income part of the scheme.

Eligible measures for the GHG https://www.simpleenergyadvice.org.uk/pages/green-homes-grant

STEP 06 Domestic Renewable Heat Incentive (RHI)

If you install an eligible air source heat pump you may be able to claim payments from the domestic Renewable Heat Incentive (RHI).

The domestic Renewable Heat Incentive (RHI) provides financial support to householders who install certain renewable heating systems in their home. If eligible, you could receive quarterly payments for a period of seven years, based on the amount of renewable heat you are expected to use.

Air source heat pumps can be eligible if:

- They provide space heating and/or domestic hot water heating. Space heating must be through a wet heating system i.e. radiators or underfloor heating. Direct air heating is not eligible.
- They're installed in an existing house or a self-build
- The heat pump is an approved model
- The installer is a member of and certified by with the Microgeneration Certification Scheme (MCS)

- The system is designed to operate efficiently (with a Seasonal Performance Factor of at least 2.5)

Hybrid systems are eligible for the domestic RHI, but you will need to have a heat meter installed to take into account the non-renewable portion of the heat generated.

You will need to install your heat pump before you apply for the RHI, but you should check the eligibility criteria first to see if you are likely to qualify for help.

Eligibility criteria for RHI https://www.ofgem.gov.uk/environmental-programmes/domestic-rhi

STEP 07 Can households claim both RHI and the Green Homes Grant?

Households who want to claim both the domestic Renewable Heat Incentive (RHI) and the GHG for their renewable heat installation will need to claim the GHG first and notify Ofgem of the GHG for that installation when they apply for accreditation to the domestic RHI. The GHG amount will then be deducted from their domestic RHI payments.

Eligibility for the GHG does not automatically confer eligibility for the domestic RHI and it is important that households and installers understand the eligibility requirements of both schemes.

Households are able to claim the GHG for energy efficiency measures both before and after accreditation to the domestic RHI. However, it is not possible to claim a Green Homes Grant voucher for your renewable heating system if you have already applied to the domestic RHI or are receiving domestic RHI payments.

To be eligible for the domestic Renewable Heat Incentive, you must have made some financial contribution towards the cost of purchasing or installing your heating system. This means that where a GHG covers the full cost of a heat measure and no household contribution is made, the installation would not be eligible for domestic RHI.

STEP 08 Do I need permission?

Air source heat pumps can often be installed without planning permission, but you should check with your local planning authority before going ahead.

STEP 09 Using it

A heat pump can keep your home comfortable and your water hot, while keeping your bills and carbon emissions down, but you'll need to use the system in the recommended way to make the most of these benefits.
If you have gas central heating, then you probably set it to come on about half an hour before you get up in the morning. The boiler will run at full blast for that half an hour to make sure your home is warm when you get out of bed. This works well because a gas boiler can provide a lot of heat very quickly.

Heat pumps are at their most efficient when running steadily and producing heat at low temperature. To make the most of your heat pump you may need to programme it so that it can run for longer than a gas boiler, but at lower output. This may mean you leave the heating on for periods when you would turn it off if you had gas heating. So for example, it may take longer to heat up your home from cold than with a boiler.

Hybrid systems include controls to optimise how the fossil fuel boiler and air source heat pump interact. These controls will determine whether the boiler or the heat pump should be working to heat your home, so that switching is automatic.

Your installer will advise you on how to set your heating controls. You should follow this advice to avoid getting unnecessarily high heating bills.