

ECO ENERGY

Air Source Heat Pumps | Solar Photovoltaic
Underfloor Heating



Timber & Builders Merchants

coversmerchants.co.uk

Welcome

We offer a range of eco technologies and products, many of which you can see at our Eco Centre in Chichester. We will give you up-to-date information to help you choose which is most appropriate to your circumstances.

We have continued to develop this specialist area at Covers' to provide our customers with a comprehensive selection of eco products and providing you with advice on the ranges available. Whilst discussing plans at an early stage is ideal for many options, you can add any of our eco products during the build process or retrofitting to existing buildings. For new build projects, some eco technology is becoming a requirement. Whatever your project we will guide you on the possibilities that may suit you.

Your ambitions to make your building more sustainable are not a one-off sales opportunity for us.



Air Source Heat Pumps

An air source heat pump transfers some of this energy as heat from one place to another, for example between the outside and inside of a building.



Solar Photovoltaic

Solar panel electricity systems, also known as photovoltaics (PV), capture the sun's energy using photovoltaic cells. These cells do not need direct sunlight to work, they can still generate some electricity on a cloudy day.



Sustainable Insulation

Insulation is a key component of sustainable building design. A well insulated home reduces energy bills by keeping warm in the winter and cool in the summer.



Underfloor Heating

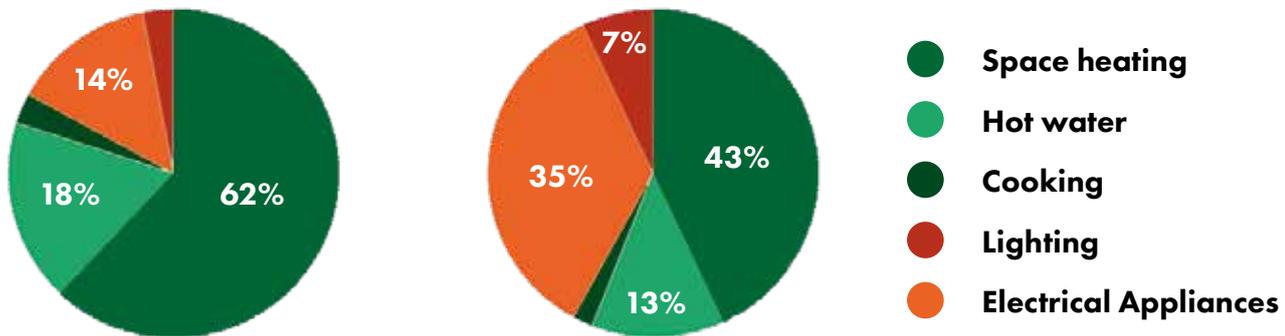
Installing underfloor heating systems in your home is a great heating choice and is widely acknowledged as being efficient and value for money, as well as adding a touch of luxury.

Why Choose Eco Energy Products?

- Reduce energy and water usage
- Use lower cost or “free” fuels such as sunlight and biofuels instead of coal, gas or oil
- Achieve requirements for sustainable development from Building Regulations and Planning Conditions
- Energy costs are almost certain to increase faster than inflation making many eco projects an excellent long term investment
- Use heat already available, but more efficiently
- Improve your living environment and reduce your carbon footprint

Energy use in your home

It is important to get overall household energy use into perspective to understand where to cut costs and when to invest in new equipment.



The first pie chart shows the major components of energy use in the average UK house and the second chart shows the relative costs. The conclusions are apparent; to really save some money where you live the first focus should be on heating, hot water and insulating against heat loss.*

*www.confusedaboutenergy.co.uk 21st April 2021

Don't forget to visit our Covers Eco Energy Centre

In our Home Ideas depot in Chichester, you will find our Eco Energy Centre with working and static displays that include:

- Solar Thermal
- Biomass
- Solar Photovoltaic
- Heat Recovery
- Air Source Heat Pumps
- Water Softening
- Underfloor Heating
- Rainwater Harvesting
- Infrared Heating
- Electric Car Chargers
- Sunlight Tunnels
- Sheeps Wool & Hemp Insulation
- Recycled Newspaper and Plastic Insulation
- Ground Source Heat Pumps



FREE ENERGY SURVEY

Covers Eco Energy Centre offers a Free energy survey for your home. For more information on how we can help you with your energy saving products, please contact **01243 785141**

Air Source Heat Pumps

Air source heat pumps can be an efficient way to reduce fossil fuel consumption heating, particularly in conjunction with underfloor heating. They work by extracting heat from the air to heat water.

The heat generated is approximately 3 times the energy used by the compressor and the fan. If specified correctly there is no requirement for supplementary heating, an air source heat pump can provide both heating and hot water in most domestic dwellings.

High temperature heat pumps can also heat radiator circuits in certain circumstances. By installing an air source heat pump in a new build project, the criteria for energy efficiency of sustainable homes would be met in most cases.

Advantages: Environmentally friendly, low running costs, low maintenance

Disadvantages: Higher installation cost, outdoor unit unsightly if not disguised

Renewable Heat Incentive: Yes, however not for new builds to sell (Government backed incentive scheme)

Midea 16kW heat pump



Hitachi 8kW heat pump



Exhaust Air Heat Pumps

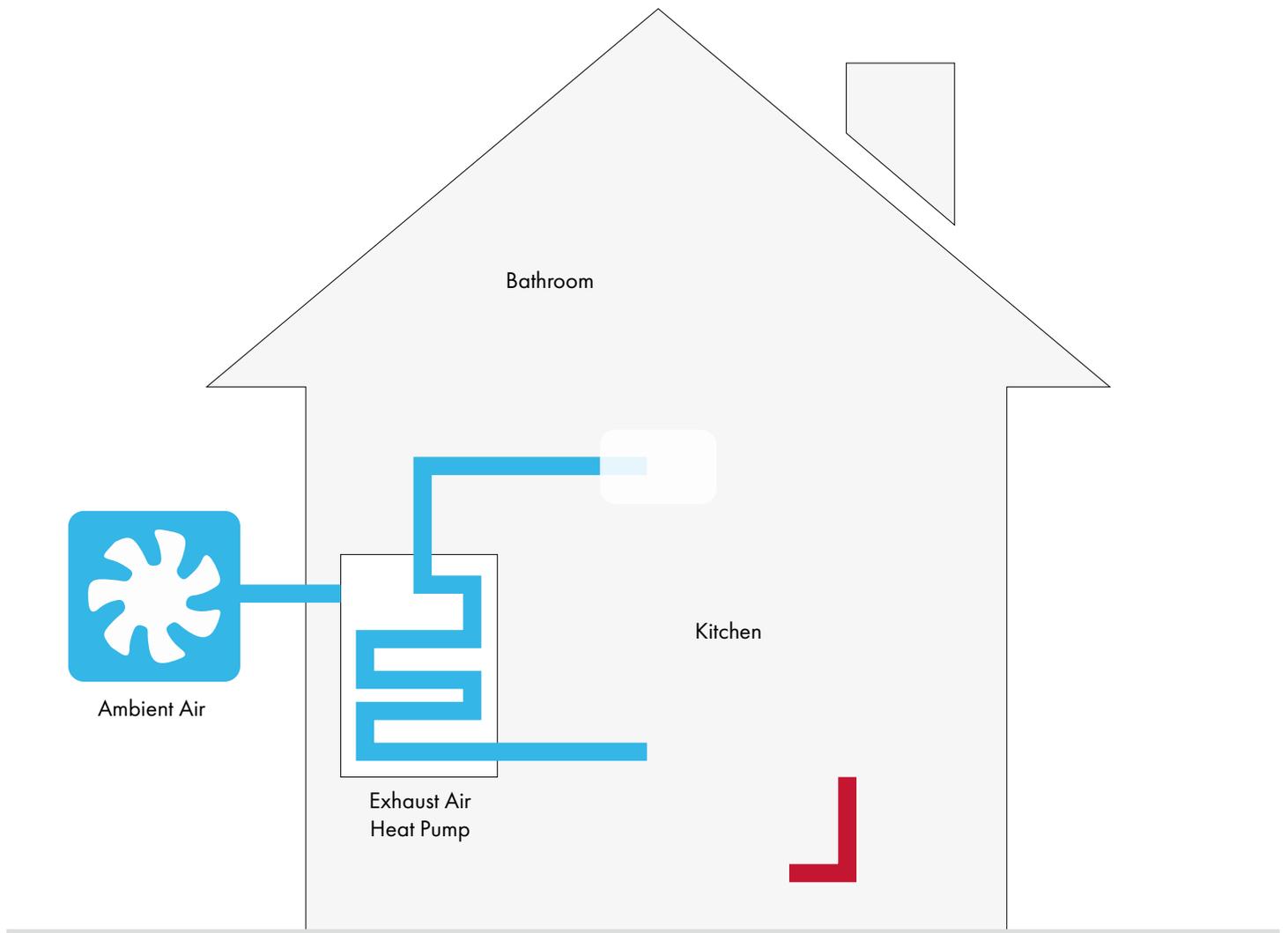
By using warm air that would normally be exhausted out of the property by extractor fans or by general leakage, an exhaust air heat pump will extract the heat before it leaves the building.

This makes the unit very efficient and economical to run. Primarily used for domestic hot water, a unit will provide all the domestic hot water all year round with no connection to a boiler or other heat source.

Advantages: Environmentally friendly, low running cost, low installation cost

Disadvantages: Unit is larger than most hot water cylinders

Renewable Heat Incentive: No



Ground Source Heat Pumps

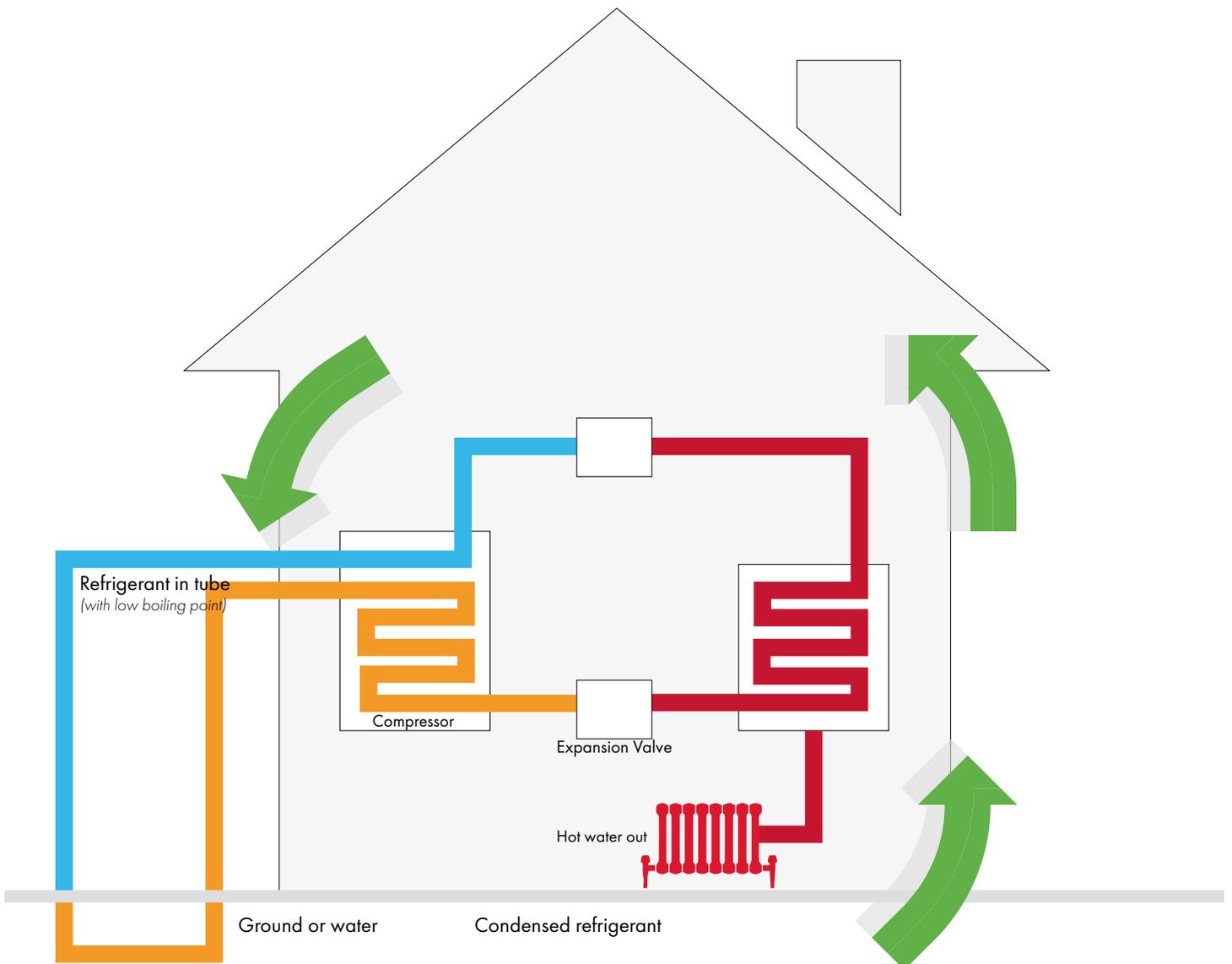
Extracting heat from the ground has long been the alternative heating for homes without a main-line gas supply. Either with hundreds of meters of pipe one meter deep or by boreholes eighty meters deep, the temperature is constant irrespective of weather conditions.

Installation is costly and the internal equipment is bulky compared to air source heat pumps and gas boilers. Efficiency is good in new build houses but traditionally built properties would need upgrading to suit.

Advantages: Environmentally friendly, medium to low running costs

Disadvantages: Very high installation cost, bulky indoor equipment, high servicing costs

Renewable Heat Incentive: Yes



Biomass Pellet Boilers

Biomass is the only fuel deemed to be carbon neutral. Modern pellet boilers offer excellent controllability and efficiency. Biomass boilers are very powerful and can usually replace a gas or oil boiler with no modification to the heating system required. Can be installed outdoor or indoor with no odour.

The fuel is readily available from British and foreign manufacturers. Installation costs are higher than other types of boiler however they can be as economical to run as main-line gas boilers and air source heat pumps. Some biomass boilers need a small amount of weekly maintenance to ensure efficiency.

Advantages: Carbon neutral

Disadvantages: More expensive to install, usually higher regular maintenance, fuel deliveries, space requirement

Renewable Heat Incentive: Yes



BioWIN 2 Touch Highly Efficient Compact Pellet Boiler

Solar Thermal

Heating your domestic hot water from sunlight has been a popular technology for many years. Once installed the running costs are very low, however, without strong sunlight, the benefits are negligible.

Either by installing flat panels or evacuated tubes on a south-facing roof, all of your domestic hot water requirements can be met for most of the summer, much of the spring and autumn, and on occasional days of sunny weather at other times of the year.

Advantages: Very low running costs, environmentally friendly

Disadvantages: Benefits are extremely seasonal, high installation cost and panels can look unsightly

Renewable Heat Incentive: Yes

Solar Thermal Panels

Solar thermal panels are robust and flexible in installation. A range of fixing brackets allows for the panels to be installed on all types of roof tiles including concrete, slate and clay peg.



Underfloor Heating Wet System

Installing pipes designed to carry warm water under the floor will lead to a more even room heat at a lower flow temperature.

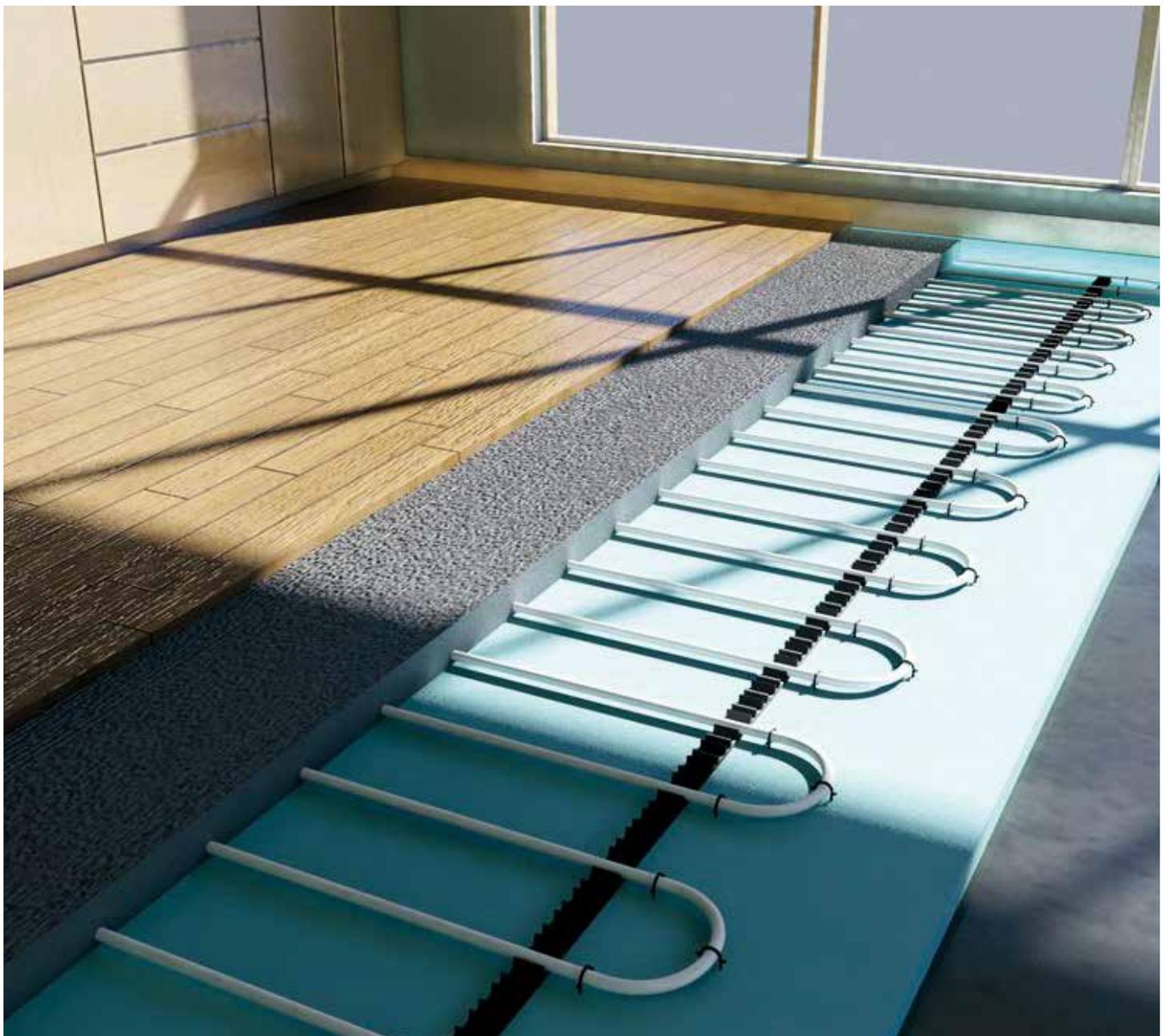
Underfloor heating delivers heat where needed (the bottom 2m of the room) whereas a lot of radiator heat ends up near the ceiling. Room layouts are much more flexible too.

Underfloor heating can be installed below any floor type and can be fed by any heat source.

Advantages: Environmentally friendly, reduces energy bills, provides even heat

Disadvantages: Installation costs are somewhat higher than radiators for new build, can be expensive to retrofit.

Renewable Heat Incentive: No



Sustainable Insulation

There are four types of sustainable insulation all of which have a similar thermal performance.

Sheeps Wool

This is a “non-itch” product made from sheep’s wool and other sustainable fibres which enhance the performance and workability of the product. Unlike other insulations, natural wool will control moisture to a degree which can assist where there are condensation issues and high humidity levels.

Hemp

A “non-itch” product which is denser than other forms of insulation making it a better acoustic insulator with comparable thermal performance. Because hemp insulation is more rigid it is often specified for wall applications.

Recycled Plastic Bottles

The most inexpensive of the sustainable insulations recycled plastic bottle insulation is easy to work with and “non-itch”. It is easy to tear this insulation both ways making it especially good for intricate and abnormal sized spaces.

Cellulose (Recycled Newspaper)

A loose fill product which is particularly good for underfloor and between joist applications. This product is very lightweight and so needs to be installed in areas with no draughts.



Solar Photovoltaic

Generating electricity from sunlight offers reduced electricity bills and generous financial incentives from your energy company.

Can be fitted to South, East or West facing roofs, panels can also be fitted on flat roofs or they can be ground mounted.

Advancing technology has led to panels and inverters producing more electricity for less capital investment.

Batteries are often fitted to store the free electricity for use in the evening and at night time. In some cases a property can be "off grid" for much of the year.

Advantages: Export tariff available, minimum maintenance, environmentally friendly

Disadvantages: (Some say) unsightly, the initial investment

Renewable Heat Incentive: None. However export tariff is available from your energy provider.



Electric Heating

Modern electric radiators are more efficient and controllable than night storage heaters and oil filled electric radiators. Installation requires no plumbing or another heat source.

When plumbing is complicated or when a room only needs heating periodically an electric radiator can be the most economical option. Modern designs offer a stylish solution and instant heat.

Advantages: Easy installation, full controllability

Disadvantages: Higher running costs, if used for long periods

Renewable Heat Incentive: No

Latest technology night storage heaters are more efficient and more controllable than traditional night storage.



Airtightness

Primarily in high specification new buildings, airtightness eliminates heat loss through the fabric of the house.

By installing water-permeable membranes, acrylic tapes and sealing every single hole, the heating requirements for a domestic house are reduced dramatically. If levels of airtightness are high, a mechanical ventilation and heat recovery system would have to be fitted to keep the air fresh and healthy.

Advantages: Environmentally friendly, reduce energy bills

Disadvantages: Needs to be installed with MVHR

Renewable Heat Incentive: No



Mechanical Ventilation & Heat Recovery

To keep the air fresh and healthy and avoid condensation and damp in an airtight dwelling, an MVHR system needs to be fitted.

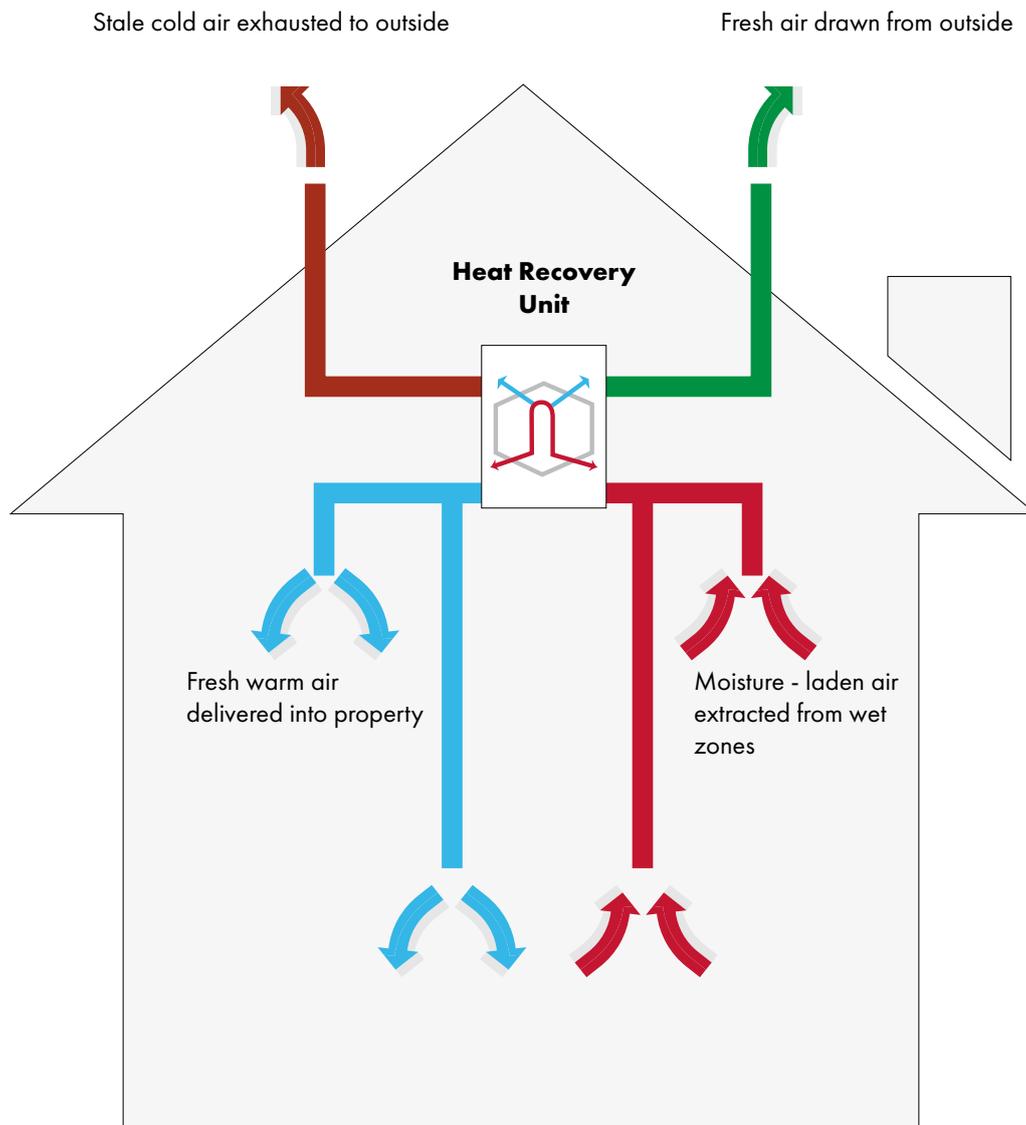
By extracting warm air from the kitchen and bathrooms and retaining the heat to distribute around the property, heating costs are reduced and a more healthy air quality is achieved.

The vents are connected to a central fan unit with a heat exchanger and is usually only fitted to new build properties although it is possible to retro fit in some circumstances.

Advantages: Reduces fuel bills, improves air quality

Disadvantages: Complicated to fit

Renewable Heat Incentive: No



Gas & Oil Boilers

All gas boilers supplied are "A" rated for efficiency, however, the fuel itself is a fossil fuel and therefore less environmentally friendly. Gas boilers are available as "heat only", "system" and "combi" style.

System boilers are the most economical and generally have a lower running cost if specified correctly. The normal installation of a system boiler will require a hot water cylinder as well as a heating circuit. Combi boilers are a space-saving option as no hot water cylinder is required however use more fuel due to the nature of the operation.

In properties without mains gas supply, an LPG version can be used, however, fuel costs of LPG can be as much as 3 times more than natural gas.

Advantages: Cheaper to install, space-saving

Disadvantages: Fossil fuel

Renewable Heat Incentive: No

Traditionally oil boilers are the most popular option in properties without mains gas. Can be installed outdoors or indoors. Comparatively inexpensive to install however fuel is not environmentally friendly and an unsightly oil storage tank is required. Fuel price fluctuates more than any other fuel and running costs are frequently double the price of a mains gas boiler or an air source heat pump.

Modern boilers are relatively efficient but there can be a smell of fuel in the vicinity of the boiler or oil tank.

Advantages: Powerful, lower capital cost than a heat pump or biomass boiler

Disadvantages: Fluctuating fuel costs, fossil fuel, servicing costs, fuel deliveries

Renewable Heat Incentive: No



Water Softeners & Rainwater Harvesting

Particularly beneficial in hard water areas, a water softener removes the calcium in tap water which stops lime-scale build up. It prevents bath and shower screens being stained as well as reducing the number of detergents and shampoos required.

By preventing scale build up in electrical appliances a water softener will also reduce your fuel bills and increase the life of electrical appliances. In some cases, a water softener can improve dry skin conditions.

Advantages: Reduced fuel bills and system problems and less staining on glass screens

Disadvantages: The unit will need filling with salt pebbles occasionally



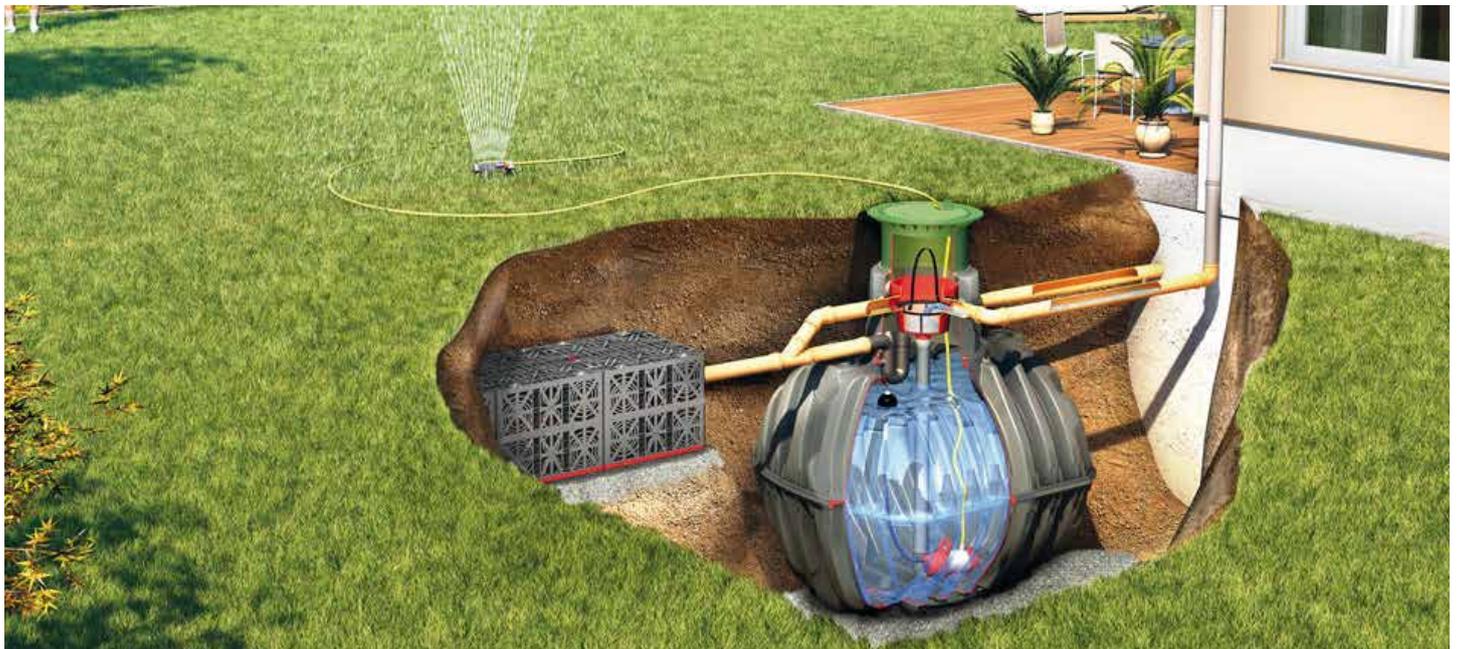
Rainwater Harvesting

By collecting rainfall from the roof and storing in an underground tank, it is possible to halve your water usage. Untreated rainwater can be used to flush toilets and feed your washing machine. An outside tap is usually connected also.

On average, toilets use 33% and washing machines use 17% of a domestic home. You can also fit a rainwater harvesting system to use purely for garden usage only. Usually only fitted in new build homes due to the size of the underground tank and the need for dual plumbing.

Advantages: Reduced water bills

Disadvantages: Large underground tank and dual source plumbing system is difficult to install in existing dwellings



Sewage Treatment

In areas where connection to mains sewage systems is not possible, there are several alternatives.

The most popular system, a sewage treatment plant, uses an air pump to oxygenate the waste and break down solids. The water leaving the tank is safe to go into a soakaway or watercourse.

The tank will need emptying between every 18 months to 24 months.

Septic tanks and other more basic systems are available but rarely specified.



Green Roofs

There are many benefits of green roofs including added insulation to a flat roof and creating an acoustic barrier. Green roofs are installed using cassettes of small plant pots which clip together. The planting can be assorted however the standard plant used is sedum. This needs little to no maintenance once installed and can change appearance depending on the season. Sedum can be mixed with wild flowers to give a more colourful display.

Green walls are also possible.

Advantages: Enhanced insulation and an attractive finish

Disadvantages: Relatively high installation costs



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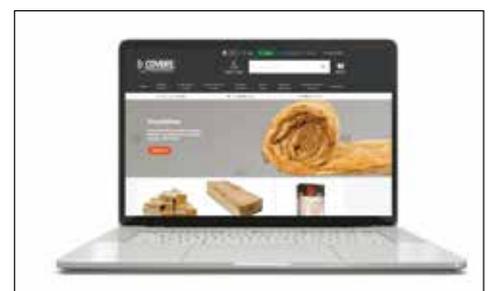


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