



## Glossary

A brief guide to some of the technologies you can expect to come across in an Open Homes visit. Each home has a list of the main 'eco' features on its page.

**Aerating taps** – Aeration in itself is the procedure by which oxygen is circulated through or mixed with water. By slowing the flow of water, the taps instantly become more energy efficient. The slowing of the water is of course, caused by mixing the water with air as it leaves the tap (aeration). This does not compromise the water pressure, but simply reduces the volume of water passing through the outlet. The reduce in the flow helps to reduce the environmental impact of the household and by installing aerated taps you can save a substantial amount of money on your utility bills every year.

**Air source heat pump** – absorb heat from the outside air. This heat can then be used to heat radiators, underfloor heating systems, or warm air convectors and hot water in your home.

**Airtight construction** – lots of heat is lost through drafts so this is a priority for saving money.

**Biomass** – any type of grown plant matter, ranging from logs, wood pellets and wood chip through to elephant grass and other materials. It can be combusted to produce heat or power.

**Biomass systems** (see wood fuelled heating)

**Cavity wall** – Cavity wall insulation is used to reduce heat loss through a cavity wall by filling the air space with material that inhibits heat transfer. This immobilizes the air within the cavity (air is still the actual insulator), preventing convection, and can substantially reduce space heating costs.

**Condensing boiler** – a type of boiler that captures much more usable heat from its fuel than a non-condensing boiler. Its high operating efficiency is made possible by the design of the condensing boiler's larger – or sometimes dual – heat exchanger.

**Energy controls** – heating systems with simple easy controls in an accessible place can be more efficient as people use them more effectively.

**Green roof** – a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.

**Grey water recycling** – collecting waste water from sinks, showers and baths and reusing it for toilet flushing or watering the garden. Grey water is waste water that has not been mixed with sewage.

**Ground-source heat pump** – use pipes which are buried in the garden to extract heat from the ground. This heat can then be used to heat radiators, underfloor or warm air heating systems and hot water in your home.

**High performance glazing** – windows that are designed to minimise heat loss, for example through an insulated frame, a low E coating, an inert gas filled cavity, triple glazing, or any combination of these.

**Insulation** – a lightweight material that reduces heat flow. The better insulated a house is the cheaper it will be to run and it will be warmer in winter. All external elements of a building can be treated, including the ground floor, the walls and loft.

**LED lighting** – a very low energy form of lighting (light-emitting diode) which uses significantly less energy, is long-lasting and cheap to run.

**Low energy appliances** – all appliances are rated from A to G, with appliances rated A and A++ for refrigeration using the least energy.

**Low water use toilets and shower** – taps, showers or toilets that are designed to use less water than typical plumbing fittings.

**Natural materials** – any product that comes from plants or animals, including sheep's wool insulation, sweet chestnut cladding, sustainably sourced timber paints and clay plaster.

**Passive solar design** – uses less mains energy by taking advantage of the sun's energy – carefully using building orientation, solar gain, super insulation, thermal mass and passive ventilation to provide heating and cooling.

**Rainwater harvesting** – collecting water that falls on a roof and using it at home for washing clothes, flushing a toilet or watering the garden.

**Solar photovoltaic (PV) panels** – solar panel electricity systems, also known as solar photovoltaics (PV), capture the sun's energy using photovoltaic cells. These cells don't need direct sunlight to work – they can still generate some electricity on a cloudy day. The cells convert the sunlight into electricity, which can be used to run household appliances and lighting.

**Solar water heating systems** – use free heat from the sun to warm domestic hot water. A conventional boiler or immersion heater can be used to make the water hotter, or to provide hot water when solar energy is unavailable. Can be a flat plate system or evacuated tube system.

**Terracotta evaporation fridge** – Often used in African countries it is a refrigeration device which keeps food cool without electricity by using evaporative cooling. A porous outer earthenware pot, lined with wet sand, contains an inner pot (which can be glazed to prevent penetration by the liquid) within which the food is placed – the evaporation of the outer liquid draws heat from the inner pot. The device can be used to cool any substances such as water, foods or temperature sensitive drugs.

**Trickle vents** – A very small opening in a window or other building envelope to allow small amounts of ventilation in spaces naturally intended to be ventilated when major elements of the design (windows, doors etc) are closed.

**Under floor heating** – Modern underfloor heating systems use either electrical resistance elements or fluid flowing in pipes to heat the floor. Either type can be installed as the primary, whole-building heating system or as localized floor heating for thermal comfort.

**Ventilation system with heat recovery** – system that provides fresh air with a heat exchanger that takes the heat from the air leaving the building to warm the incoming air.

**Wood-fuelled heating systems** (also called biomass systems) – burn

wood pellets, chips or logs to provide warmth in a single room or to power central heating and hot water boilers.

- As energy bills continue to soar, a **wood burning stove** offers more than a beautiful feature – it can bring down your energy bills and help contribute to a greener environment. A stove burns logs or pellets to heat a single room – and may be fitted with a back boiler to provide water heating as well.
- A **boiler** burns logs, pellets or chips, and is connected to a central heating and hot water system. A wood-fuelled boiler could save you nearly £600 a year compared to electric heating.

**Zoned heating system** – It involves multiple thermostats that are wired to a control panel, which operates dampers within the ductwork of your forced-air system. The thermostats constantly read the temperature of their specific zone, then open or close the dampers within the ductwork according to the thermostat's settings. If used properly, system zoning can help you save money on your energy bills.