

Go green: choose an eco-friendly makeover

THE GUIDE

From the cleanest wood-burner to rainwater harvesters, **Jayne Dowle** list this year's top eco-conscious home improvements

The Duke and Duchess of Sussex may have raised eyebrows by installing a £50,000 green boiler at Frogmore Cottage in Windsor, but fashionable eco-features are by no means a royal preserve. "Over the past five years we've had a significant increase in inquiries about eco-homes," says Julie Firth, the new homes director at the estate agency Mishon Mackay in Brighton. "Buyers here tend to be more environmentally conscious than in other parts of the UK." In the new homes market, features such as solar panels can make or break a sale, Mackay says.

Yet laying claim to the eco-crown is the family-friendly suburb of Chorlton in



Light up a room with an Ecodesign Ready Morso 3340 stove, £1,900

Manchester, with the first Passive House Enerphit Plus homes in Europe. Passive house, or PassivHaus (passivhaustrust.org.uk) is the rigorous, voluntary standard for energy efficiency in a building. The five-bedroom Victorian semis, launched this week, meet the standards of the highest eco standards set by the the German Passive House Institute.

After an ambitious retro-fit, they have no central heating, generate more power than they use and could save their owners an estimated £50,000 in energy bills and maintenance over a decade. One is on sale for £925,000 through the Jordan Fishwick estate agency.

If you want to start living green, these are the must-haves.

Wood-fired hot tub

They're the perfect accessory for romantic outdoorsy types and their environmental impact is negligible because they don't use electricity or chemicals. "Digital technology has found its way into almost every part of our lives, so people are looking for ways to disconnect and spend quality time with the ones they love," says Fredrik Hofgaard, the founder of the Swedish company Skargards Hot Tubs. "They also desire to live more sustainably."

Triple-glazed windows

Double-glazing is so 20th century. Extreme weather is persuading people to pay for triple-glazing, which gives more protection against the sun and keeps warmth in during winter. Kevin Sanderson, the head of innovation at Pilkington, a glass manufacturer, says that triple-glazing products that combine solar control and low emissivity are in demand and popular for large glazed areas and bifold doors.

A living roof of moss and sedum

This ups your green credentials by supporting birds, wildlife and

insects, and reducing your home's environmental impact — and it looks pretty. Sean Robinson, the business development director at Polypipe Civils, a water management specialist, says: "It can help to reduce a property's carbon emissions, offset climate change, regulate temperatures inside a home and mitigate flooding." A living roof is often installed alongside a rainwater harvester.

Rainwater harvesting

This can be as simple as a water butt under your guttering or a complex system of underground tanks, filters and pumps that provide recycled rainwater for your garden, loos, washing machines and even showers and baths. Rainwater is generally chemical-free and has a balanced pH level, so organic veggies love it. Anyone on a water meter is almost guaranteed to save money. Find out more from your regional water provider or at energysavingtrust.co.uk.

Smart heating controls

What's not to like about taking heating into your own hands? A

Wood-burners

The government's Clean Air Strategy to tackle pollution was set out this week by Michael Gove, the environment secretary. It pledges to reduce exposure to particulate matter, and take tough action against pollutant wood-burning stoves, which will affect an estimated 2.5 million households with a solid-fuel fire or stove from 2022.

Wood-burning stoves and open fires have surged in popularity, as homeowners use flickering flames to create a feeling of hygge. Yet the burning of solid fuel is damaging our health and the environment.

"Keeping a blazing stove in the house is equivalent to six HGVs driving up and down your street," says Gary Fuller, an air pollution scientist at King's College London.

Andrea Lee, a senior campaigner at Client Earth, an environmental law charity, says: "The smoke from wood-burning stoves contains particulates which can get deep into the lungs and into the bloodstream, making them

hazardous to health."

If you have already installed a stove, there are ways to minimise pollutants. Ensure you use only seasoned wood which is sufficiently dried (cheaper, unseasoned, "wet" wood produces more smoke when burnt), consider installing an electrostatic filter and sweep your chimney regularly.

Some companies have designed "Ecodesign Ready" stoves that comply with the government's plan. Morley Sage, the chairman of the Stove Industry Alliance, says: "Choosing an Ecodesign Ready stove will produce 90 per cent fewer emissions than an open fire and 80 per cent fewer emissions than a stove manufactured ten years ago."

Hetas is the official body recognised by government to approve biomass and solid fuel domestic heating appliances, fuels and services. Check its website (hetas.co.uk) for a list of Ecodesign Ready stoves.

Victoria Brzezinski

smart heating system such as Nest, Hive or Wiser allows you to switch things on and off with your smartphone and keeps bills — and your carbon footprint — under control. Some systems even learn how your home reacts to changing weather conditions and programmes your heating accordingly.

Recycled garden landscaping

A clever way to create a beautiful garden without damaging the environment is to use artificial turf or wood-grain composite decking made from recycled plastics. Composite Prime, for example, uses more than 280 plastic milk bottles per square metre to create natural-looking decking boards.

Electric car-charging points

Ever the eco-warrior, Prince Charles has already taken delivery of the royal family's first all-electric car, a Jaguar I-Pace, so he's going to need somewhere to plug it in when he comes for tea. Soon it will become mandatory for all new homes to have built-in charging points. "We predict that we will start to see EV chargers become standard requirements when



On the boil(er)

Harry and Meghan's green boiler variously reported as "low carbon energy" and capable of supplying "heat, hot water and electricity", is likely to be one of the following:

CHP (combined heat and power) unit

A domestic micro-CHP unit runs on gas and replaces a standard gas boiler, to create heat, hot water and electricity. Usually it is the same shape and size and can be freestanding or wall-hung. Although the unit runs on gas, it is considered "low carbon" because it can be more efficient than burning a fossil fuel or getting electricity from the national grid.
Cost to install between £5,000 and £7,000

Air-source heat pump A unit that turns air into a fluid is fitted to the side of a house.

people are looking at buying homes," says Steve Springett, the product director at Tonik Energy, a renewable energy supplier.

The liquid passes through a compressor that heats it up before it is transferred to heating and hot water circuits. It's most efficient with underfloor heating systems and larger radiators, because it operates at lower temperatures than standard systems. It is especially suitable for replacing oil, liquid gas and electric heating systems.

Cost from £7,000

Ground-source heat pump

Works in a similar way to an air-source heat pump, but pipes are buried to harness heat from the ground. This energy powers radiators and underfloor heating. It lowers your carbon footprint because it uses a natural, renewable source of energy — the earth.

Cost from £23,000

Source: Energy Saving Trust, *The Green Age*

Non-toxic paint

No self-respecting renovator uses anything but non-toxic paint, certified free from VOCs (volatile organic compounds), which can be harmful to health



This one-bedroom eco-home in Southampton, Hampshire, is on sale for £700,000 through Strutt & Parker

and are believed to worsen some skin problems and breathing difficulties. This is especially important in the nursery, says Cathryn Helsby, the marketing manager of Earthborn Paints. "Finding a paint that is safe to use during and post-pregnancy is essential."

Underfloor heating

It's cosy on the toes, but underfloor heating is also good for those who want to make their home more eco-friendly,

says Rachel Smith, the general manager at Polypipe Underfloor Heating. Most high-quality systems work at less than half the water temperatures of standard radiators, she says. "Underfloor heating can comfortably heat a room by circulating water at temperatures as low as 30C to 35C, whereas radiators typically operate at 70C to 80C." Lower temperatures mean a lower carbon footprint and cheaper energy bills. ■

