

Taking climate change action

Taking actions to reduce your impact
on the environment

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AECOM's Green Teams

UK wide Green Teams

- AECOM has a Green Team in each office in the UK and Ireland, which is set to grow to all offices in Europe.
- Overseen by AECOM's sustainability team.
- Green Teams consist of AECOM employees that volunteer their time to undertake activities, events and drive change at their offices.
- The Green Teams are fairly autonomous which allows each office to undertake activities that are specific to their location and setting.
- Green Team initiatives include, local litter picks, cycle/ walk to work days, awareness drives, driving change in offices – such as installation of low energy lighting, obtaining quotes for electric vehicle charging, providing recycling bins (food, paper, metals etc).

AECOM UK and Ireland's – Net Zero Commitment with the World Green Building Council

What is the WGBC Net Zero Carbon Buildings Commitment?

- The commitment challenges business, organisations, cities, states and regions to reach net zero carbon in operation for all assets under their direct control by 2030, and to advocate for all buildings to be net zero carbon in operation by 2050.

The commitment?

- Commit – All buildings within direct control of the organisation to operate at net zero carbon by 2030, and all buildings by 2050
- Disclose – Measure, disclose and assess annual asset and portfolio energy demand and carbon emissions
- Action – Develop and implement a decarbonisation roadmap outlining key actions and milestones
- Verification – Demonstrate enhanced energy performance, reduced carbon emissions and progress towards net zero carbon assets and portfolio
- Advocate – Demonstrate leadership to support the wider transition towards net zero carbon building

AECOM UK&I a signatory since September 2020

Reducing your carbon footprint at home

SWITCHING TO A RENEWABLE ENERGY PROVIDER

The cost of renewable energy has fallen dramatically in recent years. Electricity generated from wind and solar is 30 to 50 per cent cheaper than gas-fired electricity, according to a report published recently by the UK government².

Green energy companies, which use renewable energy from wind, solar and other sources, offer competitive deals and many mainstream companies now offer green tariffs.

A family in a semi-detached home could save £289 a year with green energy company Octopus, or £282 per year with green energy company Pure Planet, compared to a standard variable tariff with a 'Big Six' energy company.

Switching is simple, especially if you use a platform such as uswitch.com (see right for instructions).

30-50%

UK government says wind and solar are cheaper than gas-fired electricity by 30-50 per cent

² www.carbonbrief.org/wind-and-solar-are-30-50-cheaper-than-thought-admits-uk-government



SWAP

Dual-fuel standard variable tariff with Big Six energy supplier: annual energy cost around £1,367.



REPLACE WITH

Dual-fuel deal with renewable tariff or green energy supplier: annual energy cost around £1,078.



Yearly saving on energy bills

How to switch to a 100 per cent renewable energy and gas tariff

1. Go to www.uswitch.com/.
2. Click 'Start my energy comparison'.
3. Follow the instructions — enter your postcode and email address (optional).
4. Select your address from the options presented.
5. Answer the 'yes' or 'no' questions that follow.
6. Continue answering the questions that follow, including choosing your current gas and electricity provider, payment frequency, your plan name (it's okay if you don't know this) and property size.
7. Once you've completed the questions, uswitch will present various plans available to you.
8. Make sure to filter for 'Green plans'.
9. Have a browse and choose a 100 per cent renewable plan that works for you.
10. Follow the instructions for filling in your contact information, payment details, etc.
11. Sit back and await to be switched!

Source:

www.thisismoney.co.uk/money/news/article-6962181/Save-planet-cash-20-little-changes-2-500-extra-year.html
www.uswitch.com

INSULATE YOUR LOFT

Loft insulation helps to keep our homes warm by stopping heat from escaping through the roof. The Energy Savings Trust estimates that a quarter of heat generated in our homes can be lost if there's no insulation³.

Installing insulation is an effective way of cutting down on energy use and carbon emissions. For example, insulating a detached house to a recommended depth of 270mm

saves 990kg of carbon dioxide per year — roughly the equivalent of a return flight from London to New York. In a semi-detached or terraced house, carbon dioxide savings could total 580kg per year.

Installation costs vary but subsequent savings to bills can be significant — up to £395 per year in a detached house. Loft insulation should last for decades and will pay for itself many times over.



990KG

CO₂ saving per year by insulating a detached house to 270mm



+580KG

CO₂ saving per year by insulating a semi-detached or terraced house to 270mm



SWAP

Uninsulated roof/loft space.



REPLACE WITH

DIY option: Rolls of insulation typically cost around £15–25 (depth 200mm and with coverage of 5.5m²). Professional option: Installation typically costs around £300 for a semi-detached house.



£230+ SAVING

Yearly saving on energy bills

³ <https://energysavingtrust.org.uk/home-insulation/roof-and-loft>



320KG

CO₂ saving per year by turning down your thermostat by just one degree

TURN DOWN THE ROOM THERMOSTAT

Simply turning your room thermostat down by as little as one degree can have an impact on carbon emissions and heating bills.

Doing this can save £75 and 320kg of carbon dioxide a year for an average three-bedroom semi-detached home, according to the Energy Saving Trust.

The Trust also recommends setting your thermostat temperature to the lowest comfortable temperature, typically between 18°C and 21°C.

If you are going away, activate 'holiday mode' (if your boiler has one) to make sure that your heating stays off while you are out of the house.

Source: <https://energysavingtrust.org.uk/home-energy-efficiency/thermostats-and-controls>



SWAP

Heating your home at 20°C.



REPLACE WITH

Setting the thermostat to 19°C.



Yearly saving on energy bills

CHANGE HOT WATER TANK TIMER SETTINGS

If you have a hot water tank a timer may allow you to set specific 'on' or 'off' periods for hot water production and maintaining the hot water temperature. It is worth checking as the timer may be set to constant, in which case it can be adjusted to save energy and lower heating bills.

Source: www.networx.com/article/waterheater-timers-are-they-worth-it



SWAP

Hot water tank timer set to constant.



REPLACE WITH

Adjusted settings that are short enough to provide enough hot water for household needs (e.g. 30–60 minutes in morning and evening). It's best to avoid peak time of 7–9am if possible.



Yearly saving — reduction to energy bills from lower storage heat loss dependent on tank size and timer settings used



CHOOSE LEDs

Typically, lighting accounts for around 15 per cent of a household's electricity bill so is an area where savings can easily be made.

There are two main types of energy-efficient lightbulbs in the UK — Compact Fluorescent Lamps (CFL) and Light Emitting Diodes (LED), which are the more efficient.

Switching to LED lightbulbs from traditional filament types reduces energy use and saves money. Although they are more expensive, they last two to three times longer.

15%

Lighting accounts for around 15 per cent of a household's electricity bill



SWAP

Old filament light bulbs.



REPLACE WITH

7W LED bulbs which emit the same light as a 60W traditional bulb, for around £3 each.



Yearly saving (based on replacing ten light bulbs)

Source: www.thisismoney.co.uk/money/news/article-6952181/Save-planet-cash-20-little-changes-2-500-extra-year.html

DRAUGHT-PROOF YOUR HOME

Banish draughts and stop the heat escaping by sealing windows, putting up curtains or placing draught excluders across the bottom of doors. Even a letter box flap or brush on external doors will help.

The Energy Saving Trust estimates draught-proofing could save £20 a year from heating bills in the average semi-detached home.

Source: www.thisismoney.co.uk/money/news/article-6952181/Save-planet-cash-20-little-changes-2-500-extra-year.html



SWAP

No draught proofing.



REPLACE WITH

Draught-proof foam, metal or plastic sealing strips for windows. Curtains or draught excluders. If you have sash windows, filling the gaps with Exiseal — a plastic tape costing from £1.50 per metre, which can be cut to size to fit between the sashes — can help seal windows to keep heat in over the winter months.



Yearly saving on average on energy bills

Eco Cycle

11  Cottons

12  Synthetics

13  Fast Wash

USE THE ECO CYCLE OPTION

Washing machines that run on the 'eco' cycle will use lower wash and rinse temperatures, so less energy is required for heating. Generally speaking, the eco mode has been finely tuned to work as effectively as possible with that particular device so can be used as the default setting for normal loads.

You may even find that clothes wash just as well in a cold wash, reducing energy use still further. However, it's wise to run a hot wash occasionally to kill bacteria that may be building up within the machine.

According to green energy supplier OVO, washing at 20°C or 30°C can save around £10 per year.

For further savings, use the eco cycle on dishwashers too.



SWAP

Washing at 40°C.



REPLACE WITH

Use the eco cycle.



Yearly savings on energy bills

Source: www.thisismoney.co.uk/money/news/article-6952181/Save-planet-cash-20-little-changes-2-500-extra-year.html

PROLONG THE LIFE OF YOUR BOILER

Newer gas condensing boilers are extremely efficient because they reclaim heat that would otherwise have been lost out of the flue. In order to do this efficiently however, the tap water and heating controls need to be set at the right temperatures.

Boilers are designed to be run at lower heating temperatures to allow flue gases to condense before being exhausted to the atmosphere and energy to be recovered — this cannot occur at higher temperatures.

Check to see if your boiler's temperature settings are too high. Lowering the temperatures to around 70°C for heating and 60°C will help your boiler work more efficiently and prolong its life.

Source: www.trustedreviews.com/news/whats-best-temperature-condensing-boiler-set-3649148

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Running a boiler at lower temperatures means the boiler will have to be replaced less frequently.



SWAP

The existing settings may be pre set to maximum temperature.



REPLACE WITH

The radiator control can be reduced to a setting lower than maximum in the winter and a further drop in spring and autumn when the weather is warmer.



Running the boiler at lower temperatures means the boiler will have to be replaced less frequently and will also reduce annual energy costs. (Replacement boiler costs £500–£1,000)

ONLY USE RADIATORS YOU NEED

Radiators require energy to heat your home when in use.



SWAP

Having all radiators in the house on all the time.



REPLACE WITH

Turn thermostatic radiator valves down to the frost protection level in any rooms which are not being used. Also some rooms may still be comfortable at a lower temperature than the rest of the house so here you could apply a lower valve setting.



Yearly saving — reduction to energy bills dependent on property size

SAVE WATER IN THE SHOWER



A water-efficient showerhead reduces water consumption by up to half while maintaining the same pressure.

Water-efficient showerheads are designed to produce water flows that feel far higher than they actually are. When fitted to a mains water or power shower they can help save water, energy and money.

Water-efficient showerheads typically cost around £20–£30. However, the Energy Saving Trust estimates that a family of four can save approximately £70 a year on energy, plus £115 per year on water bills, more than making up for the initial outlay.

Some water companies offer water saving devices such as showerheads to customers for free, so check this with your provider.

Do take care before fitting one to an electric shower as it could cause the unit to overheat. Check the manual first.

Source: www.thisismoney.co.uk/money/news/article-6952181/Save-planet-cash-20-little-changes-2-500-extra-year.html



SWAP
Normal showerhead.



REPLACE WITH
Water-efficient showerhead.



Yearly saving on energy and water bills

ONLY USE THE HOT TAP WHEN NECESSARY

Every time the hot water tap is turned on, the boiler uses energy to heat the water up. Ask yourself, do I really need hot water for this task? Or, will cold water work just as well?

For example, many people automatically turn on the hot tap when washing their hands. In practice however, they will have turned the tap off before the water has had time to properly warm up.

Organisations such as the NHS and the Centers for Disease Control and Prevention in the US both advise washing hands with soap in either cold or warm water for around 30 seconds to protect against coronavirus.



SWAP

Always using the hot tap.

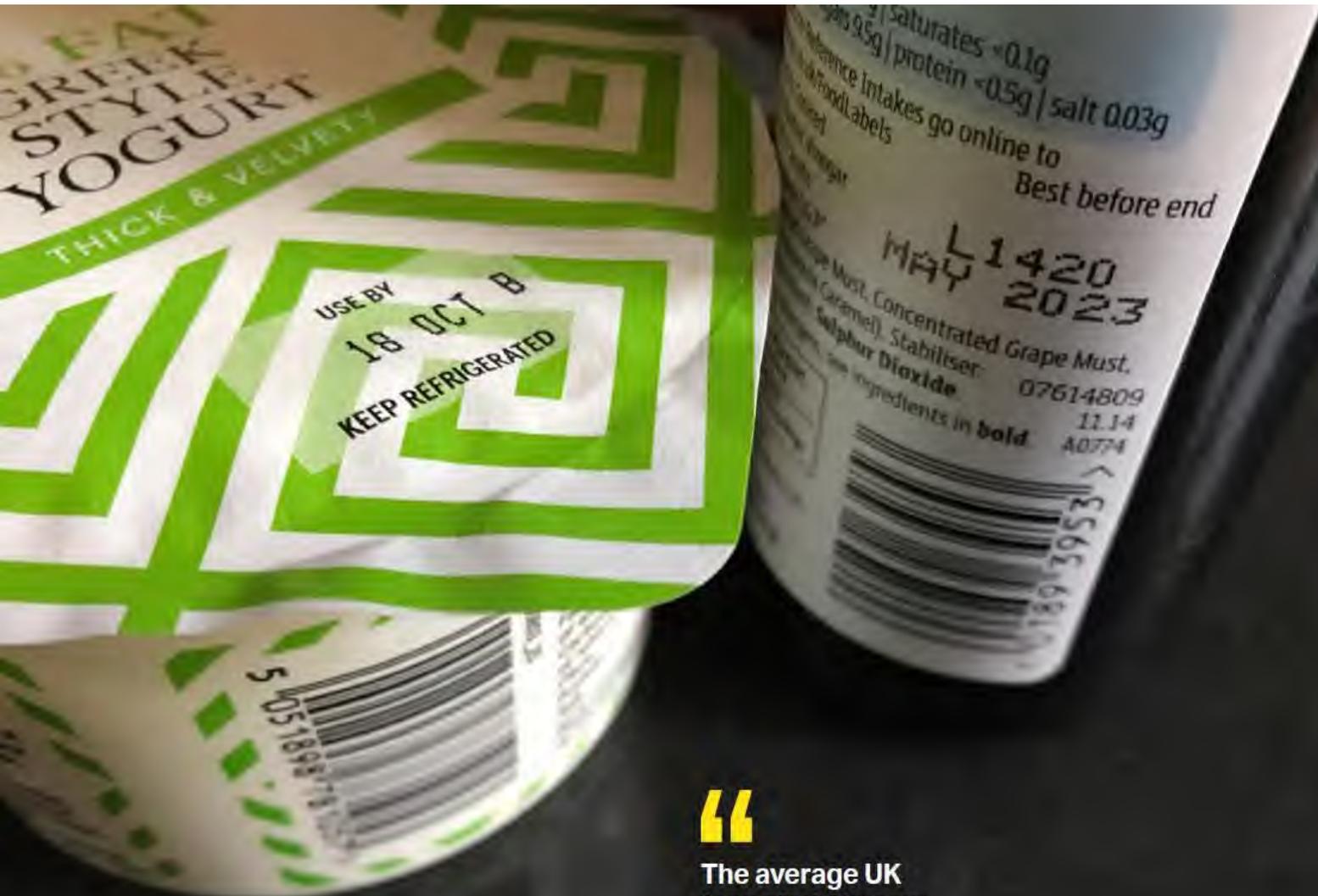


REPLACE WITH

Using the cold tap and soap for hand washing unless you are willing to wait more than 15 seconds for the water to warm up. This has the added benefit of not wasting water in the wait for the hot tap to warm up.



Yearly saving on energy and water bills



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The average UK household throws away around £700 of food every year.

KNOW THE DIFFERENCE BETWEEN 'USE BY' AND 'BEST BEFORE' DATES

According to campaign group Love Food, Hate Waste, UK households waste 4.5 million tonnes of edible food every year, enough to fill 38 million wheelie bins. The group also estimates that the average UK household throws away about £700 of food every year, equivalent to £15 a week.

A lot of food gets binned because we don't use it in time, which is why knowing the difference between 'best before end' and 'use by' dates can help reduce waste.

'Best before' dates tells when food is at its optimal quality. Once the date is passed, it is still safe to eat but may not be at its best. Experts recommend doing a simple taste test to see whether it is good enough to eat.

On the other hand, we should adhere to 'use by' dates on food such as dairy, meat and fish for safety reasons even if the food smells and looks OK.



Yearly saving

Source: www.lovefoodhatewaste.com/article/use-or-not-use-question

BUY FRUIT AND VEGETABLES FROM A LOCAL MARKET OR GREENGROCER

Fruit and vegetables bought from a local market or greengrocer can often be cheaper than the supermarket equivalents. This is especially true of seasonal produce as a plentiful supply means prices go down. Ask your greengrocer for help on what's best to buy, as well as what items will keep well in the fridge and which ones should be eaten straight away.

It's also easier to specify quantities so you only buy what you need, cutting down on packaging and food waste. By shopping local, you are also supporting small businesses.

To find your local market, go to: <https://farmretail.co.uk/find-a-farm-retailer>

Source: www.thisismoney.co.uk/money/news/article-6952181/Save-planet-cash-20-little-changes-2-500-extra-year.html



SWAP

Supermarket-bought fruit and vegetables costing around £8.50 per week.



REPLACE WITH

Local market-bought produce costing around £5.80 per week.



**£140
SAVING**

Yearly saving

EAT MORE VEGGIE MEALS

The benefits to the environment and to health of eating less meat have become widely known in recent years. This is in thanks in part to efforts of groups such as Meat Free Monday, a campaign that encourages people to eat more healthily and save natural resources by sticking to vegetarian food one day a week, as well as Veganuary — where people go vegan for the month of January.

Simply choosing one vegetarian meal per week can save you money on your weekly shop. Figures from Office for National Statistics show that meat costs families an average of £12.80 per week, while vegetables cost £4.30.

Source: www.thisismoney.co.uk/money/news/article-6952181/Save-planet-cash-20-little-changes-2-500-extra-year.html



SWAP

One meat-based meal per week, around £1.83.



REPLACE WITH

One vegetable-based meal per week, around 61p.



Yearly saving (more vegetarian meals means more savings)

GROW YOUR OWN HERBS AND SALAD

Reduce your reliance on shop-bought bags of plastic-wrapped herbs by growing your own — the same goes for salad leaves as well.

Starter kits cost between £10–£20 and are a great introduction as they come with pots, compost and a range of seeds. Otherwise, just buy a packet of seeds and grow!



SWAP

Shop-bought cut herbs (£1.50 for 100g).



REPLACE WITH

Herb starter kits (£10–£20).



Yearly saving (based on buying cut herbs once a week)



UP TO £1,100 FOOD AND DRINK RELATED ANNUAL SAVINGS

BUY SECOND HAND WHENEVER POSSIBLE

Almost anything can be purchased second hand from clothes to household electrical items. Huge cost savings can be made, and valuable resources reused and saved from going into landfill.

As well as charity shops, check sites such as Ebay, Gumtree, Depop, Freecycle or buy and sell groups (including marketplace) on Facebook. Some items may even be unused and sold at a fraction of the retail price, or free of charge on Freecycle.

It pays to be patient, especially if you are looking for something in particular. Put a message out on local groups too in case someone in your neighbourhood is giving away something you need.



DESIGNER
SECOND
HAND
STORE



SWAP

Automatically buying new clothes and products.



REPLACE WITH

Checking first for second hand bargains.



Savings (often half price or better)

**Case study from an AECOM
employee - 1960's semi-detached
dormer bungalow.**

Insulate, Insulate, Insulate... then tape!



- Pitched roof rigid insulation
- Minimum air gap of 25mm between membrane and insulation to maintain adequate ventilation.
- 50mm insulation installed between rafters



- 75mm insulated plasterboard installed underneath the rafters.
- In addition the gable wall and chimneys in the loft space were insulated to prevent heat loss directly into the insulation.



- Over boarding of flat roofs with weatherproof membrane and rigid insulation.
- Need to be careful about the details to prevent condensation problems!



- 90mm rigid insulation installed between the suspended timber floor joists.
- Insulation joints should always be properly taped to ensure air tightness.
- Air bricks to ensure adequate ventilation underneath floor.

Saving heat energy



- Triple glazed windows
- Timber UK made windows (Howdens)
- Next to a double-glazed window (2000 vintage), the surface temperature is around 11°C.
- Next to a modern, energy-efficient double-glazed window, the surface temperature is 16°C.



- After making the house as air tight as practicable, installed a heat recovery system.
- This naturally ventilates the house by extracting warm air and passing it over filtered cold air from outside, which is then heated thus reducing the heat loss from the building.

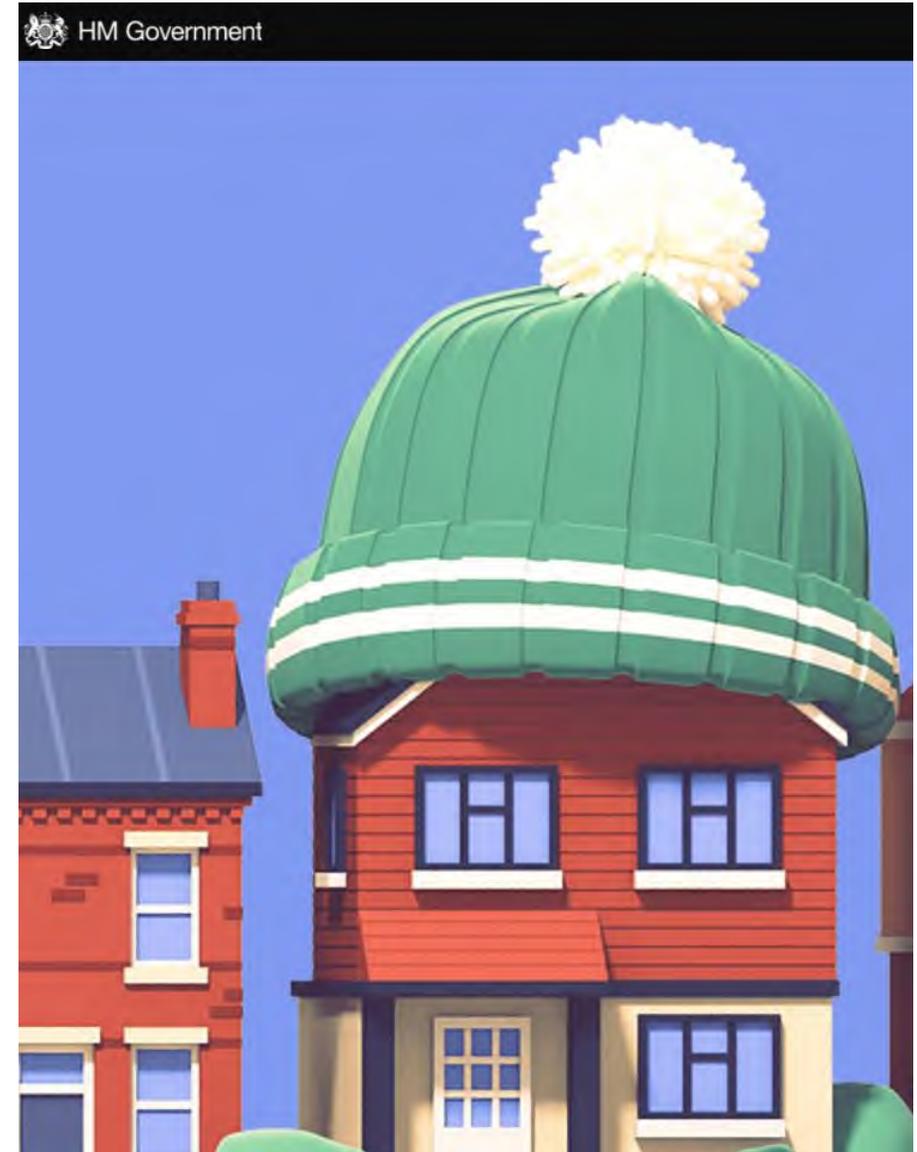


- Switched gas boiler for a second hand electric boiler.
- Smaller. Safer. Less to go wrong.
- The 100% renewable smart tariff with super cheap electricity for 5p/kWh between 00:30 - 04:30 every night.
- Heat water at night, preheat the house, and charge the cars.
- Proud to be Fossil fuel free!
- Individual room thermostats and SMART tech.

Help in making it happen

Green Homes Grant: make energy improvements to your home

- If you're a homeowner or residential landlord you can apply [here](#) for a Green Homes Grant voucher towards the cost of installing energy efficient improvements to your home
- Improvements could include some of those discussed today.
- 600,000 households could save up to £600 a year on energy bills by applying
- Vouchers will cover two-thirds of the cost of eligible improvements, up to a maximum government contribution of £5,000
- You must redeem the voucher and ensure improvements are completed by 31 March 2022



Carbon reductions – project case study

MHA Carbon Management Toolkit - Purpose

- There is strong evidence that a persistent change in the state of the climate is caused by anthropogenic activities, highlighting the need to **reduce carbon emissions in order mitigate further climate change.**
- Increased pressure on organisations such as MHA to reduce carbon impact and meet the requirements of national and international policies, legislation and standards (**Paris Agreement, PAS 2080, UK Net Zero 2050**),
- The project sought to enable MHA authorities to **manage the carbon impacts of their highway design, maintenance and operational activities** in a strategic, comprehensive, holistic and most importantly, sustainable manner and facilitate multiple, wider benefits



PAS 2080
Carbon Management in
Infrastructure Verification

MHA Carbon Management Toolkit - Outputs

Sustainable Procurement

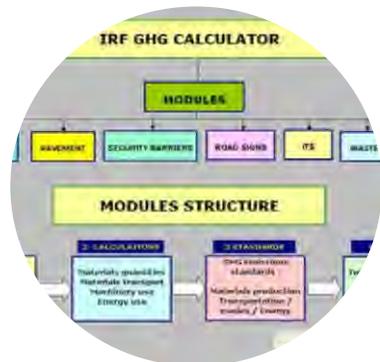
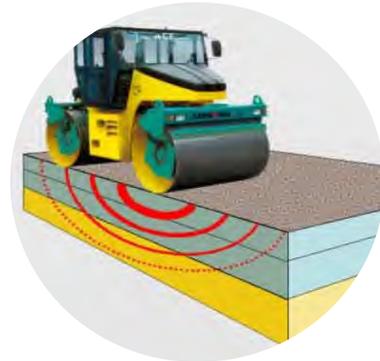
- **Embedding sustainable procurement** practices and policies across MHA authorities by amending the procurement questionnaire quality statement and assessment criteria to increase sustainability and consolidate carbon and waste management

Case study material

- **Alternative materials** to bitumen (crude oil) and aggregates (stone, sand and gravel), such as low temp asphalt and asphalt recycling,
- **Techniques and technologies** including heavy duty pavers and compaction technology to support in laying low temperature asphalt,
- **Street lighting, signalling, signage**, switching to LED or using innovative reflective sheeting on signage to reduce lighting requirements,
- **Operational delivery**; carbon foot-printing and calculating

Business Case Guidance

- Guidelines for MHA authorities to develop a **business case for carbon management**, supported with a **sustainable supply change protocol**. Content included explaining ISO 20400 - Sustainable procurement, ISO 14001 - Environmental Management Systems, and Life Cycle analysis



Biodiversity net gain – in your garden

Biodiversity Net Gain – in our gardens

“Biodiversity Net Gain”: “Development that leaves biodiversity in a better state than before”

But what about in our back garden...

- Plant up a patch of flowering plants and shrubs.

These are source of nectar rich food for insects, as well as seeds, berries and cover for birds and small mammals

Plant wildflowers or beebombs – native wildflowers provide habitat for bees

- Create a pond for wildlife.
- Plant hedges for shelter.
- Keep your natural grass, rather than artificial grass.
- Buy a bird table and provide bird feed – especially through winter months.
- Does your garden have room for another tree?
- Leave some deadwood in place, rather than recycling it



Biodiversity net gain and ecosystem services at AECOM

Biodiversity Net Gain and Ecosystem services at AECOM

- At AECOM we have a team of specialists that can advise on Biodiversity Net Gain, Green Infrastructure and Ecosystem Services.
- Our services cover all aspects of the Biodiversity Net Gain process; from optioneering, impact assessment, net gain calculations, design mitigation, offsetting, stakeholder engagement.
- We also offer Ecosystem services assessment and expertise on Nature-based solutions, such as SuDS, living walls and green roofs.



Any questions?