

# A changing climate

Climate change adaptation is the **changes** that people, plants and animals make to **reduce** the consequences, or to **exploit** the opportunities, of a changing climate. Weather patterns are changing and we must allow for this in daily life by **adapting** our homes, communities, organisations and services to ensure they are **resilient** to this changing climate.

## What can we expect in our changing climate in Hampshire?

- **More frequent extremes** of flooding, heat-waves and drought;
- A **reduction** in frost days and snow cover;
- Milder, wetter winters, where the rain falls in **very heavy showers**;
- Hotter, drier summers putting **more pressure** on public water supply;
- Greater average warming in the South, may lead to **health problems** including sun stroke, heat exhaustion and tropical insect bites and diseases;
- Sea level **rise** in coastal areas, more flooding and coastal erosion.



# What are the local authorities doing?

Across Hampshire, local authorities and other public services organisations, have been working together to create a county wide Adaptation Action Plan. We aim to raise public awareness and enable communities (including businesses) to adapt their buildings and lives to the impacts of climate change.

- **advice and help** on preparing the public for severe weather events, including how to access services during emergencies
- promote the **efficient use** of treated drinking water to reduce consumption and therefore conserve water.
- **influence improved resilience** of water infrastructure (pipes, water treatment works etc) owned and managed by the water companies and others to avoid contamination of treated drinking water.
- to **promote a natural environment** that can flourish and support people to manage the effects of climate change
- ensure that land use plans pay **proper regard** to sustainability and climate change.

Planning for the impacts of a changing climate will help us minimise disruption and target economic investment for the maximum effect.



# Heating your home with electricity

Many UK homes are heated with **electric storage heaters**. They are designed to heat up over night and release the heat **gradually** during the day.

- Keep the grills on your storage heater **closed** at night to keep in as much heat as possible.
- When you want to release more heat, **open the grills** and **adjust** them to get the units working as you want them.
- If you have a water tank, make sure it is **well insulated** to avoid the need to top up your hot water with your immersion heater.
- Ensure your home is **well insulated** and **draught proofed**, no need to lose heat unnecessarily.
- Consider **upgrading** your old electric storage heater to a more modern slimline or fan storage heater would save you around **£120 to £180 per year**.



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# Electricity

Even the small things add up, by making lots of small changes you could shave **hundreds of pounds** off your electricity bills. Just to light a home in the UK costs an average of **£85** per year.

- By line drying in the summer months rather than using a tumble dryer, you could save **£17 on electricity** and **65kg CO<sub>2</sub>** – if everyone in the UK did this it would be equivalent to taking around **270,000 cars** off the road.
- Leaving your computer monitor on when not in use could cost **£35 a year** and generate **120kg of CO<sub>2</sub>**.
- Replacing a 50W halogen down lighter with a 6W LED bulb, will save **£4 per bulb**. Many kitchens have between 8 and 10 down lighters!
- Use the right light for the job. If you are watching television you probably only want **low level background lighting**, if you're reading a book you may want something **bright but near by**.
- If you still have traditional light bulbs in your home, remember, replacing them will save you on average **£3 per year per bulb**, sometimes more.
- Turning appliances **off** at the wall rather than using standby, could save you **£35 a year**
- **Put a lid on it!** When cooking, you won't need to turn the temperature up on your hob if you put a lid on the pot.
- Invest in an **energy monitor**. This will help you see the cost of using all the different electrical appliances in your home.



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# Feeling the Heat

Understanding how your home is heated will help you **reduce** the amount of energy you use in your home.

- Take time to **understand** how your heating system works and how to get the most out of the controls. Get the system to work with your lifestyle patterns, there is no need to heat an empty home for long periods of time or to heat empty rooms to the same temperature as those you live in.
- Having controls on your radiators (TRV's) enables you to **control the temperature by room**, and can save around £10 a year.
- Warm air in a room cools quickly when it hits cold walls or windows, wall insulation (cavity or solid wall) and draught proofing are great ways to **save money on your heating bills!**
- Bleed your radiators **regularly** to ensure they are working as well as **efficiently** as they can.
- To ensure it is working to its full potential, keep your boiler in **tip top condition** with **regular servicing**.
- **Don't** dry clothes on radiators, this reduces the temperature of the room and means your boiler has to work harder to get your house back up to temperature, **costing you more money** (it also causes issues with condensation).
- Foil radiator panels or sheets of tin foil behind your radiators can **reduce** heat lost through the walls behind them.
- Replacing an older F or G rated boiler with an A rated one can save you around **£300 per year**.
- In the winter months, **close your curtains** before it gets dark and the temperature drops.
- Set the room thermostat between **18°C** (for the more active of you) and **21°C** (for the more sedentary of you).



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# A Bit of Hot Water

Heating the hot water in your home will, on average, account for **23%** of your heating bill – **around £160 a year**.

- If every home in the UK reduced their hot water use by **5%** it would be equivalent to taking **340,000 cars** off the road.
- The immersion switch gives you instant hot water when you need it. Check you are **not leaving it on** constantly!
- Savings could be made in the **depth** and **frequency** of baths.
- Use a **basin** rather than cleaning dishes under a running tap.
- If you have a hot water tank with a thermostat, try turning it down to **55°C**.
- Changing your shower head to a more water efficient one could save you **£50 a year** on heating the water.
- Rinse vegetables using the **cold** tap, and **save** the water and use it to **water your plants**.
- Washing your clothes at **30°C** instead of higher temperatures can save **£12 a year**.
- When you are running your hot tap to get it to temperature, **save** the water and use it to **water your plants**.
- If every person in the UK only boiled as much water as they needed in their kettles (which could save you **£7 per year**), we could save enough electricity to power the UK's street lighting for **2 months**.



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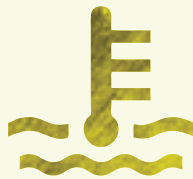
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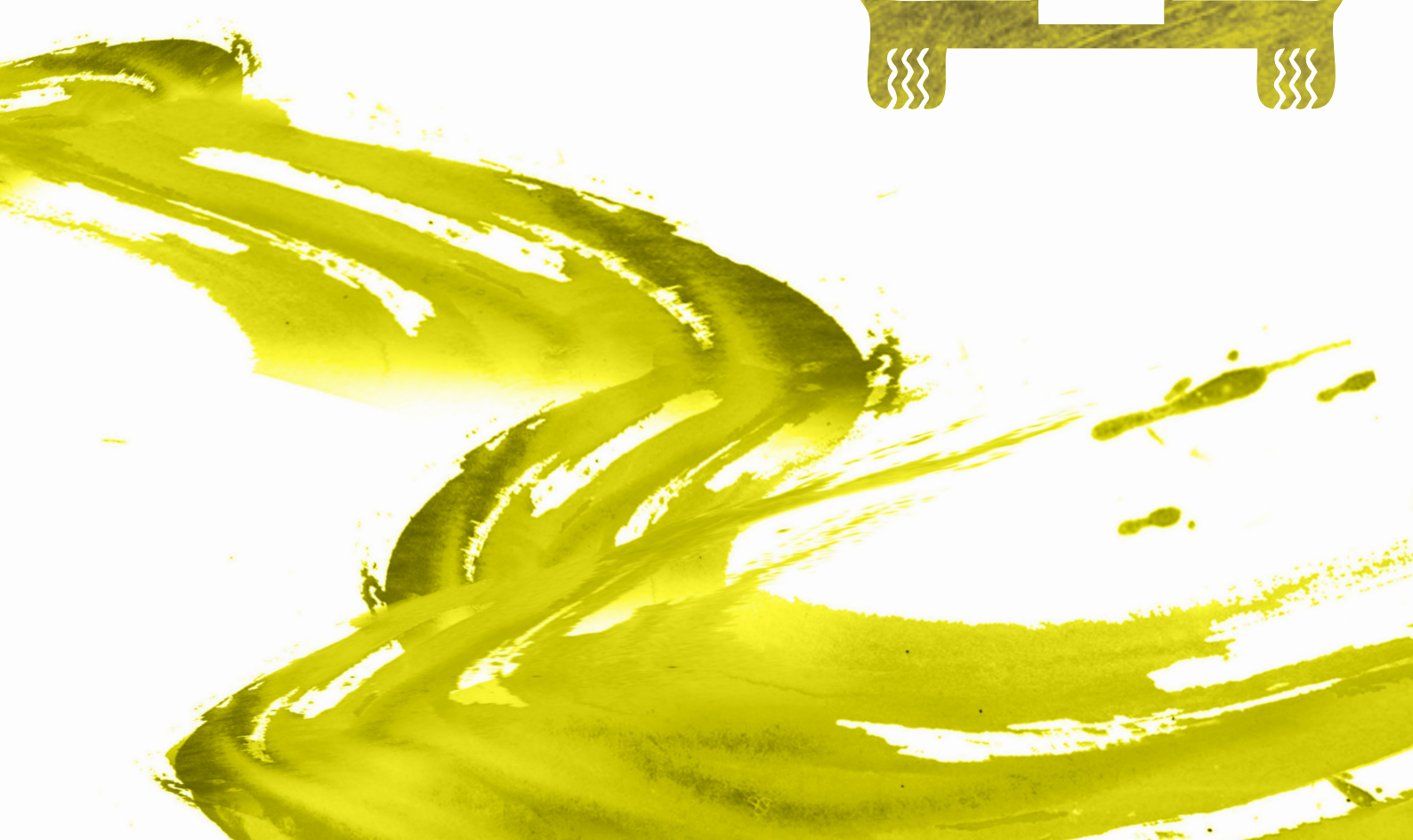
Use a basin rather than cleaning dishes under a running tap



If you have a thermostat, turn it down to 55°C

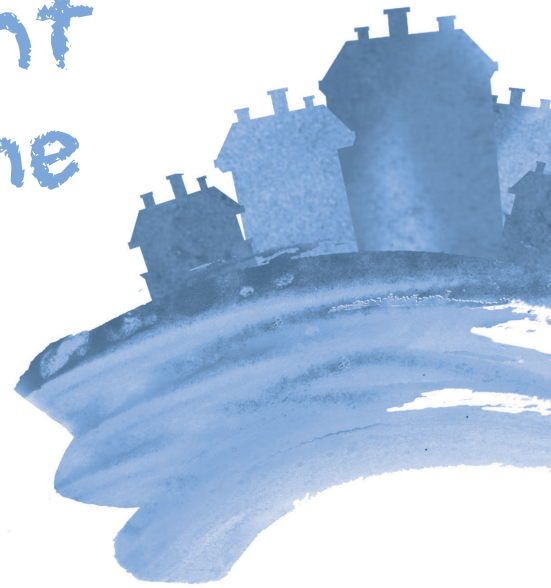


If every home in the UK reduced their hot water use by 5% it would be equivalent to taking 340,000 cars off the road



# Insulation & Draught Proofing Your Home

Warm air in a room **cools quickly** when it hits cold walls or windows. Insulation and draught proofing are great ways to save money on your heating bills!



- A draughty house not only **loses heat** more easily, it **feels colder** than a non-draughty one at the same temperature. Deal with yours draughts and you will find it easier to turn your thermostat down a degree or two. You should consider draught proofing:
  - around your **windows** and **door frames**
  - around **letter boxes** and **key holes**
  - **gaps** around the floor and skirting board
  - the **edges of the loft hatch**
- Don't heat the sky! Think about **loft insulation** – a good amount to have is **300mm**, so pop your head in your loft and see if you need a top up.
- **Cavity wall insulation**, if suitable for your home, can save you **£135 a year**
- If you can't have cavity wall insulation, consider **external or internal insulation solutions**. You could save around **£450 a year**.
- **Floor insulation** is a good solution for many homes, saving around **£60 a year**.
- **Double glazing** can save **£160 a year**.
- If you have a chimney, a **chimney balloon** can save around **£40 a year**.
- Use **curtains** to keep the heat in, opt for **heavier** curtains in the winter months and draw them at **dusk**.



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# Renewable Energy Choices for the Home

Reducing your **dependency** on fossil fuels in your home is **good** for the environment and **saves** you money. Here are some of the options available to you.



- **Solar photovoltaic (PV) panels**
  - Generates some of the electricity requirements for your home, how much will depend on system size and available roof space.
- **Solar thermal panels**
  - Produce around 60% of your home's hot water requirements
- **Air source heat pumps & Ground source heat pumps**
  - Take care of all your heating and hot water requirements. They do use electricity to top up the temperature, so make sure your home is well insulated before installing them.
- **Wind**
  - Where suitable, this can generate some of your homes electricity
- **Biomass boilers**
  - Can provide some or all of your home's hot water and heating requirements depending on what you put in place. The fuel you use in them should be from a sustainable source, making this a carbon neutral heating choice (although you must take into consideration the creation and transport of the fuel).
- **Micro CHP (combined heat and power)**
  - A high efficiency gas (or LPG) boiler that generates electricity while the boiler is on.



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Wind can generate some of your homes electricity



Solar thermal panels produce around 60% of your homes hot water requirements

Biomass boilers can provide some or all of your homes heating

Solar PV panels generate some of the electricity requirements for your home



# Top Tips

The average UK home could save **£280** and **1.1 tonnes of CO<sub>2</sub>** by being more energy efficient. Everyone has their favourite top tip for making savings, here are some of ours...

- Use a **tiered steamer** for cooking vegetables as just one ring can cook several vegetable varieties at the same time.
- If you have a **fan oven**, turn it off **5 to 10 minutes early** as the oven will maintain its temperature and continue cooking for this time.
- Use your oven to its **full potential** (e.g. bake a cake when cooking your roast or put in a casserole when baking a pie)
- A room decorated with **pale colours** needs less light than darkly coloured rooms.
- Defrost your fridge **regularly** - the more ice the more electricity it uses.
- Dry washing **outside** when you can, a tumble dryer will cost about **£17** over the summer months.
- Don't dry washing **directly** on radiators, this cools the room and makes your boiler work harder, it also causes condensation issues.
- Wait for a **full load** in dishwashers and washing machines, to cut down on 'wasted' electricity. And remember, washing at **30°C** uses **1/3 less** electricity than washing at **40°C**.
- Check to see that windows and doors are **closed** when heating or cooling your home.
- Use your curtains and blinds to help **regulate** the temperature in your home. Closing curtains **earlier** in the evening in the winter months keep heat in and keeping blinds **closed** in the bedroom will keep it **cooler** in the summer.
- Once a week take a **shower instead of a bath** and save **£18** in energy bills per year.
- Your roof collects enough water to fill **450** water butts per year. You could even use this water to wash your car.



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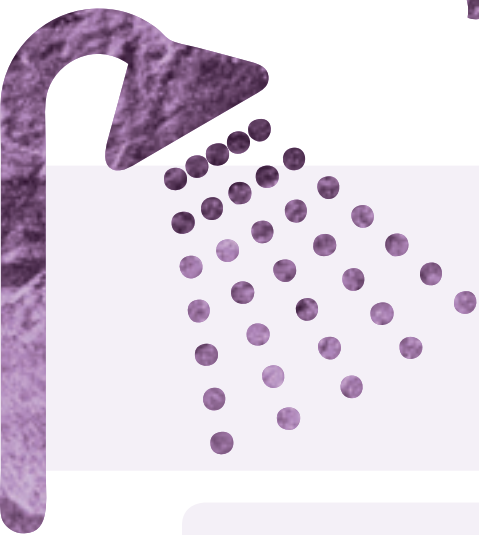
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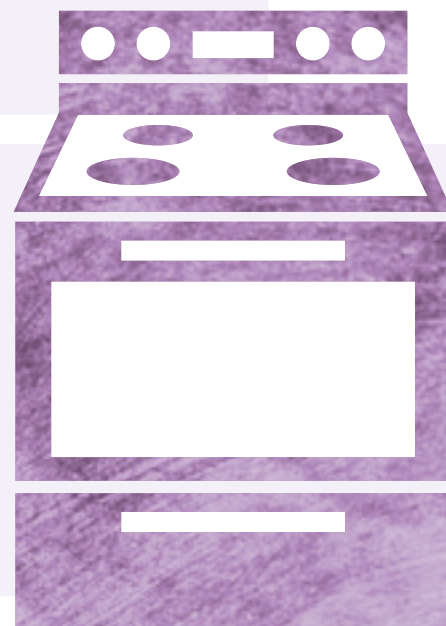
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# Transport and Travel

Reducing your weekly car mileage by **5 miles a week** could save you **£40 and 85kg CO<sub>2</sub>** per year. If everyone in the UK did this, we would save **£1.1 billion** and **3 million tonnes of CO<sub>2</sub>**.

- Smarter driving, by driving more slowly and using your gears correctly, could save you around **15%** on your petrol spend **each month**.
- Sharp acceleration and heavy breaking uses fuel **unnecessarily**.
- **Half** of all UK car journeys are for fewer than **five miles**. Short hops like this can be **expensive**, because cars can use **twice as much** fuel when engines are warming up.
- The average UK commuter would save around **£220** and **470kg CO<sub>2</sub>** by sharing their commute with two other drivers.
- If everyone in England who takes **three** or more flights to Europe per year, reduced the number of flights by **one**, it would be the same as taking **200,000 cars** off the road.
- **Remove** roof racks from cars when not in use and **avoid** driving around with **unnecessary** loads in the boot as this increases fuel consumption.
- Tyres that are **under inflated** are not only **dangerous**, they also use **more fuel** when driving.
- **New cars** do not need to be left to warm up before driving.
- Air conditioning **drains fuel**, but at high speeds it is **better** than having the windows open as this creates drag.



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If everyone in England who takes three or more flights to Europe per year, reduced the number of flights by one, it would be the same as taking 200,000 cars off the road

Smarter driving, could save you around 15% on your petrol spend each month



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# Water, water everywhere? Not so much.

Each Briton uses about **150 litres** of tap water a day, but if you include the amount of water embedded within products, our water consumption increases to about **3400 litres a day**.

- A dripping tap wastes at least **5,500 litres** of water a year: that's enough water **wasted** to fill a paddling pool every week for the whole summer.
- Water plants only **once or twice a week** in the summer, unless showing signs of distress. This way they will root **deeper** looking for their own moisture.
- The energy used to process water in the UK accounts for **3%** of electricity use in the UK.
- A dripping tap can fill a bath in **a day or so**.
- Bottled water has carbon footprint **1000 times higher** than tap water – don't be afraid to ask for tap water, even in very posh restaurants.
- **No need** to water your lawn, it will revive at the end of the dry period.
- Use **bath** and **dish** water to water your plants.
- When running your tap to get it hot, **save the water** and use it to water your plants.
- Bury a **lemonade bottle** or similar neck down into the soil at base of plants/flowers and fill with water – this takes the water down to the root and means less evaporation.
- Turn off taps **properly**. If the entire adult population of England and Wales remembered to turn off the tap when they were brushing their teeth, we could save **180 mega litres** a day-enough to supply nearly **500,000 homes** and fill **180** Olympic swimming pools.



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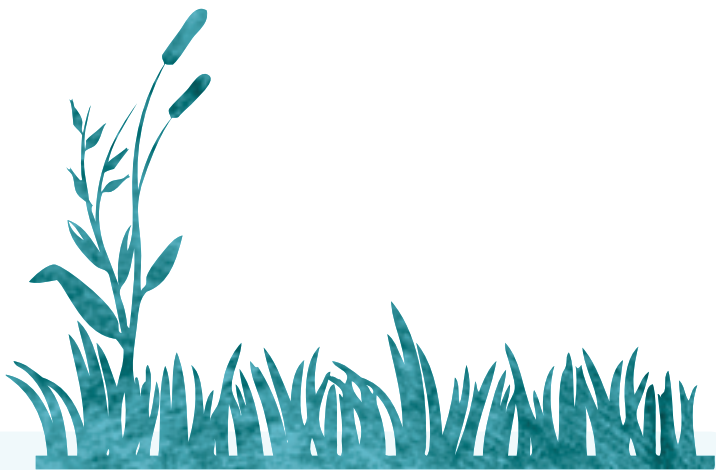
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