

# Overheating Adaptation Guide for Homes

Written by Shade the UK  
Commissioned by the British Red Cross



# About

## Authors

Shade the UK

[info@shadetheuk.co.uk](mailto:info@shadetheuk.co.uk)

Polly Turton

Shreya Kapur

Andy Love

Maryam Syed

## Illustrations

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## Collaborators

**British Red Cross**

[UKClimateAdaptation@redcross.org.uk](mailto:UKClimateAdaptation@redcross.org.uk)

Ellie Murtagh

Katie Andrews

As temperatures soared to a record breaking 40.3°C in July 2022, we bore witness to the immense heat-related challenges facing the UK, including the burden on essential services and the disproportionate impacts on vulnerable people.

This guidance document has been prepared by Shade the UK, in collaboration with the British Red Cross. Both organisations strive towards a common goal of adapting the UK to prepare for future temperature increases

and building resilience within vulnerable communities who are more likely affected by extreme weather.

The Overheating Adaptation Guide for Homes works as a tool for residents of flats and houses, both owners and renters, to understand the various overheating mitigation measures available. Our aim is to enable them to protect themselves, their neighbours, and loved ones from the worst impacts of heat.



Shade the UK is a Community Interest Company, based in Islington, London, aiming to adapt the built environment and public spaces to protect vulnerable populations against a changing climate.

The increasing frequency and intensity of heatwaves in the UK means more vulnerable people are dying due to the poor performance of our existing buildings and public spaces keeping people safe under extreme heat.

Shade the UK's mission is to reach zero deaths from overheating in the UK and to ensure the health and wellbeing of vulnerable people is safeguarded during hot weather.



The British Red Cross exists to support those in crisis. The Crisis and Emergency Response service of the British Red Cross works to ensure that people are able to prepare for events, like heatwaves, as well as survive and recover when disaster strikes.

Through decades of experience in disaster response within communities, the British Red Cross can support vulnerable people adjust and prepare for climate change and its impacts.

The British Red Cross are committed to understand the risks of climate change and opportunities to act, ensure communities are better prepared for and recover from climate-related emergencies, and reduce vulnerability to climate change stresses.

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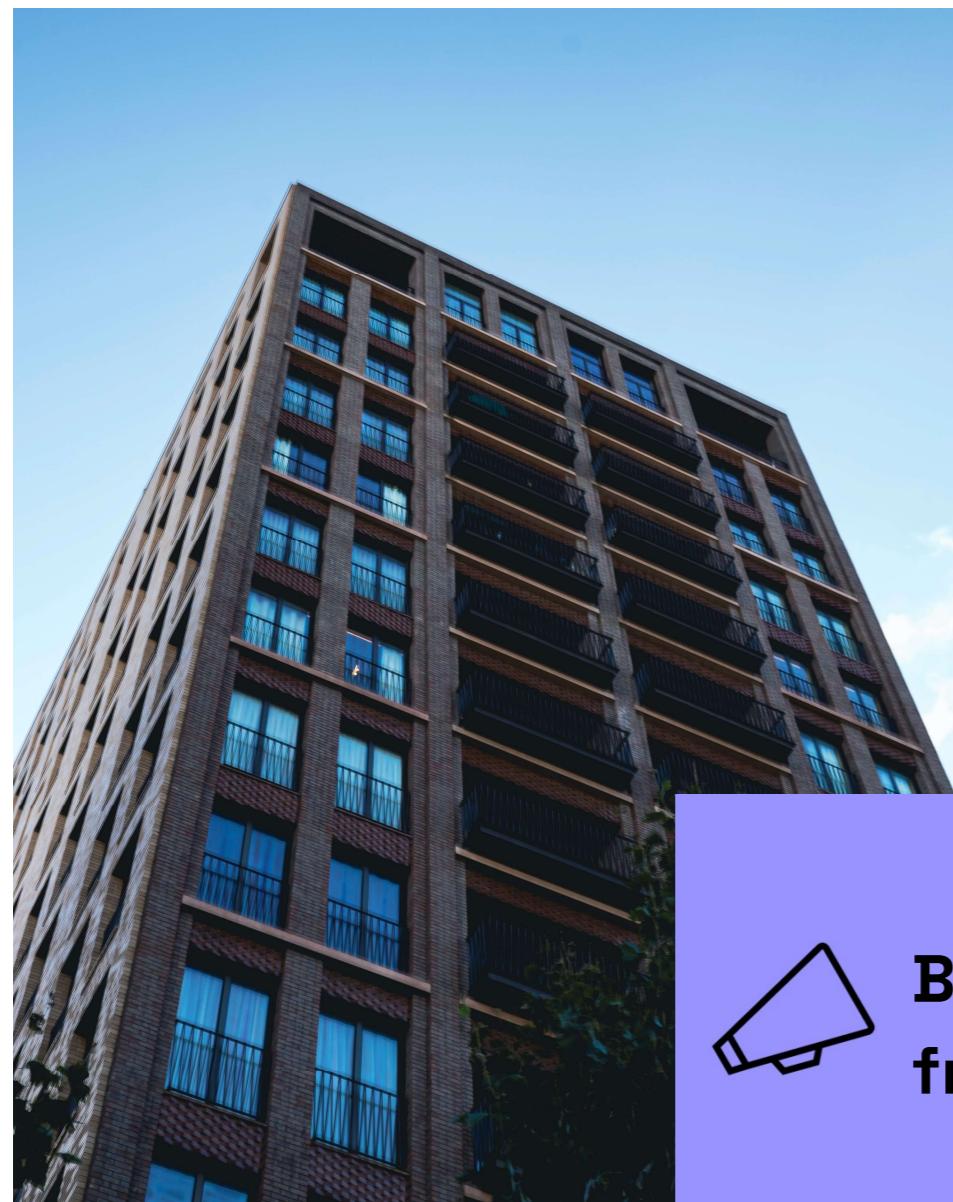
Temperatures are rising in the UK. Our homes are not currently built to withstand hot weather, resulting in over half of UK homes dangerously overheating; this is only expected to worsen due to our changing climate.

The aim of this guide is to provide homeowners and renters with a range of measures they can consider for their homes to mitigate against overheating. The intention is that suitable measures can be found for both flats and houses, and for all locations, building-types, and budgets.

# Introduction

## Overheating in our homes

As a result of climate change, Europe is heating up faster than any other continent<sup>1</sup>, making the UK underprepared for rising temperatures. UK buildings have historically been constructed to favour heat retention and energy conservation.



It is estimated that over half of homes in the UK suffer from overheating risk. With the current projected climate change scenarios, 90% of UK buildings are expected to suffer from overheating in the future<sup>2</sup>. As we experience hotter summers, our homes will need to adapt in order to prevent overheating and its subsequent impacts.

## Key contributing factors to overheating within homes

### Floor-to-ceiling glazing

Excess glazing in homes leads to high 'solar gains', which is where sunlight passes through a window and warms up the interior environment. Floor-to-ceiling glazing has often been favoured within architectural design due to aesthetic reasons and to maximise internal daylight. Designing homes with an appropriate glazing area avoids excessive heat build up within rooms, improving thermal comfort for residents.

### Poor ventilation

Homes where there are a lack of openable windows, due to either design or safety issues, allow heat to build up inside a room which cannot escape. Cross-ventilation allows continuous fresh air to enter a home and remove warm, stale air. However, this is only effective when there are openable windows on opposite sides of a room or home. Therefore, flats are generally more prone to overheating because cross ventilation can be more difficult to achieve.

### Window orientation

Homes with south and west-facing glazing are more likely to overheat because they receive more direct sunshine. West facing glazing is particularly problematic for bedrooms as the sun directly hits the room during the latter part of the day, causing heat to build up in rooms where people will sleep.

### Lack of external shade

External shade plays a key role in improving thermal comfort and reducing overheating risk as it stops the heat from entering your home. These include awnings, solar screens, blinds, louvres, shutters, green roofs, planters and more. External shade has historically been neglected when designing homes in the UK as the focus has been on keeping the heat in rather than preventing the heat from entering.

### Low ceilings

Heat naturally rises in a room, creating what is called a 'stratification' effect where warmer air is found near the ceiling and cooler air remains closer to the floor. In a room with high ceilings, this allows some separation between warm and cool air layers. However, in a room with low ceilings, there's not enough space for stratification to occur, leading to a warmer feeling in the room. Therefore, flats are less likely to have stratification as they're constructed more densely compared to houses.

### Equipment

All electrical equipment within your home radiates heat, including your TV, light bulbs, oven, computer etc. Upgrading any equipment to low energy/thermally efficient equipment, where possible, contributes to lower indoor temperatures.



Shade the UK © Image from Shade the UK's 40°C Stories campaign

### Impacts of overheating

Overheating can lead to a multitude of serious health-related issues, especially amongst the most vulnerable people, such as those with underlying chronic health conditions, the elderly, pregnant people, and young children.

Continuous exposure to heat can lead to heat cramps, heat exhaustion, and heat stress, which can increase hospitalisations and become fatal. In the July 2022 heatwave, over 3,000 heat-related deaths were estimated and is predicted to triple to around 7,000 in the next 30 years<sup>3</sup>.

In addition to physical effects, extreme heat is also associated with increased

incidences of mental health issues and is linked to rates of violence, anxiety, and depression<sup>4</sup>.

Those over the age of 65 also face significant risk during hot weather. The elderly are more likely to spend extended periods of time indoors<sup>5</sup>. Social isolation and increased risks of dehydration also increase the likelihood for harmful and sometimes fatal consequences.

To hear real experiences of how overheating impacts people, Shade the UK's 40°C Stories campaign aims to get behind the headlines and statistics of the July 2022 heatwave to understand how people are uniquely affected by hot weather, especially those most vulnerable.

### Overheating Adaptation Guide

The aim of this guide is to provide homeowners and renters with a range of measures they can install in their homes to mitigate against overheating. The intention is that suitable measures can be found for both flats and houses, and for all locations, building-types and budgets

The measures in this guide include external shade, internal shade, passive cooling, ventilation, and reducing internal heat gains. Furthermore, each measure is categorised by the following:

#### Temporary measure

Can be installed and removed easily without causing damage and are relatively low cost. They are typically suitable for renters but may appeal to homeowners too.

#### Permanent measure

Long-term measures which are typically difficult and costly to reverse or change as they are integral to the structure or major systems of the home. Thus, they are more suitable for homeowners.

#### Semi-permanent measure

While more durable than temporary measures, semi-permanent changes can often be adapted, reversed, or updated with moderate effort and cost, and can be suitable for both renters and homeowners.

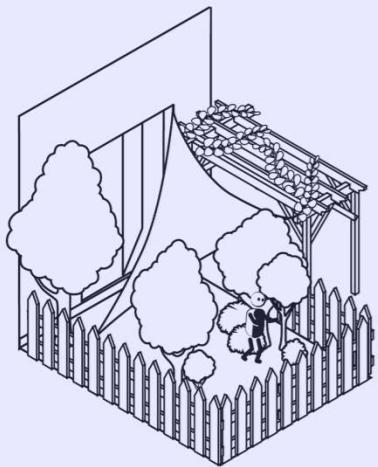
#### Estimated cost

- Low cost: £0-£100 (£)
- Medium cost: £100-£1,000 (££)
- High cost: Greater than £1,000 (£££)

# External Shade

External shading refers to structures, either natural or human-made, placed outside a home to block or reduce the amount of direct sunlight entering through windows or other openings. The most common types of external shade include awnings, solar screens, blinds, louvres, shutters, brise soleil, trees, and planters; a lot of which you would normally find in Mediterranean countries but are not commonplace within the UK.

## 1 Plant trees and tall shrubs in external areas



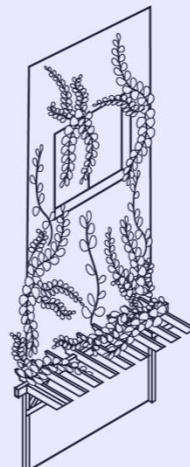
Trees and shrubs provide natural shade by blocking direct sunlight. This helps keep the area around your house cooler and can significantly lower internal temperatures. Plus, as they grow, they release moisture into the air, which naturally cools down the surroundings – just like your own mini-forest that cools your home.

Appropriate for: **Homeowners**

Why? It requires space, time for the plants to grow, and likely long-term care.

Cost: **£-££**

## 2 Plant fast-growing climbing plants around doors and windows



Climbing plants, like honeysuckle or jasmine, can quickly cover walls, doors, and windows. They act as a green curtain, blocking sunlight from heating up these surfaces. This not only cools your home but also adds a touch of nature. They're also good in pots if you don't have a garden.

Appropriate for: **Homeowners and renters**

Why? Using pots makes it easy to remove or relocate these plants, making it suitable for renters who might need to move.

Cost: **£-££**

## 3 Plant tall, fast-growing plants close to walls and windows



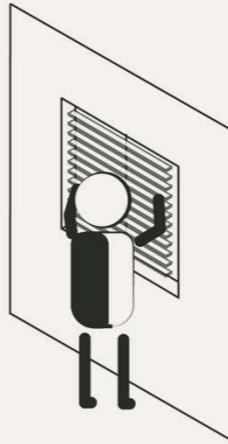
Tall plants near your walls and windows can act like a natural sunscreen. They create shade and cool the air around them, which means less heat gets into your home. Whether in the ground or in pots, these plants can be a great way to stay cool.

Appropriate for: **Homeowners and renters**

Why? Planting in pots makes it a flexible option for renters, as these can be moved if needed.

Cost: **£-££**

## 4 Install external openable shutters on windows and doors



External shutters can be opened and closed depending on the weather. On hot, sunny days, you can close them to block out the sun, keeping your home cool inside. Then, when it cools down, you can open them up to let in the fresh air.

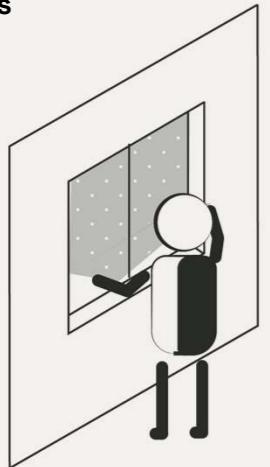
Appropriate for: **Homeowners**

Why? Installing shutters is a structural change that's usually more suitable for homeowners who can make permanent modifications to their home.

Cost: **££**

5

### Install moveable/removable shading above, around, or on windows and doors



Shading options like awnings or detachable blinds can be adjusted to block the sun during a heatwave. These can be put up when you need them and removed when you don't, helping you control the heat entering your home without making big changes.

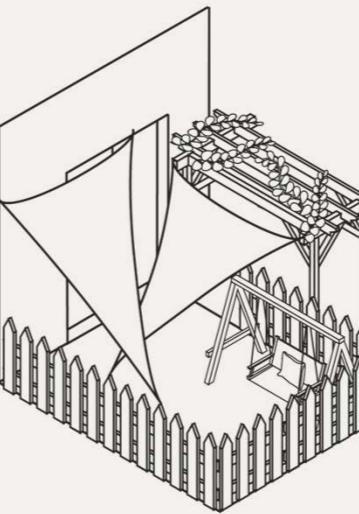
Appropriate for: **Homeowners and renters**

Why? Because these are temporary and adjustable, they're a good option for renters as well as homeowners.

Cost: **£-££**

6

### Put up a shade sail/shade canopy



Shade sails or canopies are large pieces of fabric stretched out over areas exposed to the sun. They're great for creating shaded spaces over windows, patios, or balconies, which keeps both the inside and outside of your home cooler. Try a bedsheet for a low-cost option!

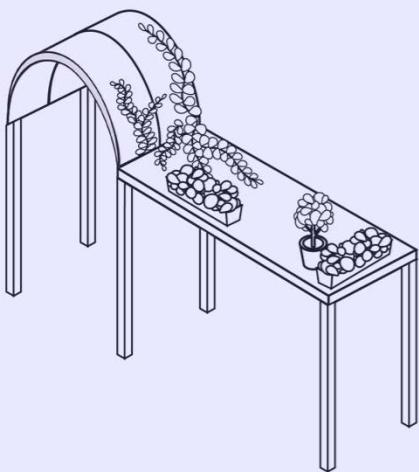
Appropriate for: **Homeowners and renters**

Why? Easy to install and take down, so they're perfect for renters who need flexible solutions.

Cost: **£-££**

7

### Install a veranda with an opaque light-coloured roof



A veranda is like an outdoor room attached to your house. If it has a light-colored roof, it can reflect sunlight away, stopping your home from heating up. It's a stylish and practical way to keep the sun off your windows and doors.

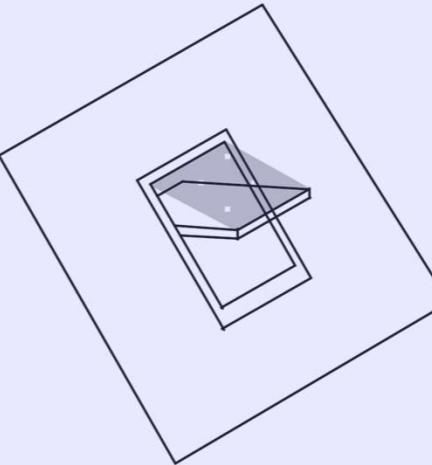
Appropriate for: **Homeowners**

Why? This is a permanent structure that requires building work, so it's better suited for homeowners.

Cost: **£££**

8

### Install Velux Anti-Heat Awning Blinds on Velux windows



Rooms in roofs can often overheat as the sun may be hitting the roof throughout the day, plus heat can rise from the rooms below. These special blinds are made for Velux windows and are designed to block the heat before it gets inside your home to help keep your attic or top floor rooms cool.

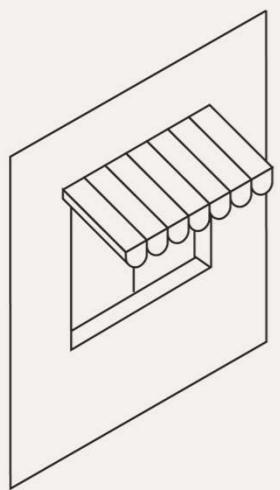
Appropriate for: **Homeowners and renters**

Why? This is semi-permanent measure that durable but may be removed if installed using a non-permanent fixture, like a hook.

Cost: **££**

9

### Install fixed shading above, around, or on windows and doors



Fixed shading, like permanent awnings or overhangs, provides constant protection from the sun. This shading blocks direct sunlight, so your home doesn't heat up as much during the day.

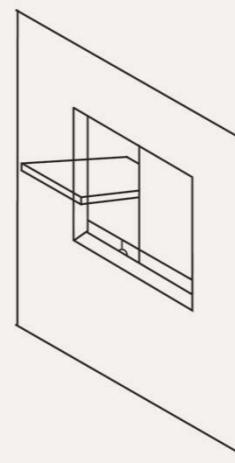
Appropriate for: **Homeowners**

Why? Since it's a permanent addition to the house, it's more suitable for homeowners.

Cost: **££**

10

### Install windows that open outwards, acting as shade when combined with internal blinds



Windows that open outward can block the sun's rays, especially when used with internal blinds. This combination helps reduce heat from the sun while still allowing ventilation.

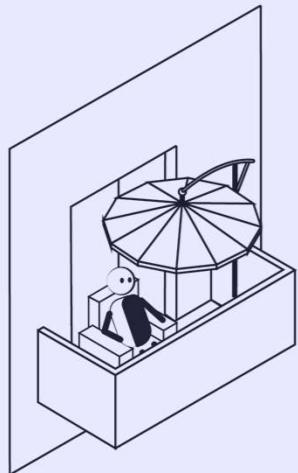
Appropriate for: **Homeowners**

Why? This requires replacing your current windows, which is a permanent change.

Cost: **£££**

11

### Buy a shade umbrella or gazebo for external spaces



Shade umbrellas and gazebos are portable covers that you can set up outside to block the sun from hitting your windows or outdoor areas. They create shaded, cooler spots that help keep the inside of your home from heating up too.

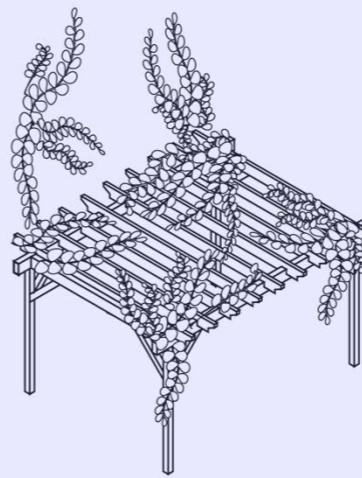
Appropriate for: **Homeowners and renters**

Why? These are portable and easy to set up, making them ideal for both renters and homeowners.

Cost: **£-££**

12

### Install a pergola close to or up against walls, windows, and doors



A pergola is a garden structure that can be placed near your home to provide partial shade. By letting climbing plants grow on it, it becomes a green, cooling barrier that keeps the sun off your walls and windows.

Appropriate for: **Homeowners**

Why? Since it's a more permanent garden feature, it's better suited for homeowners.

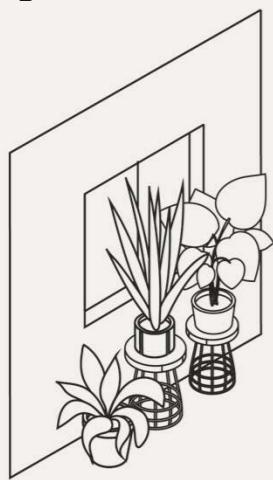
Cost: **££**

# Internal Shade

Internal shading refers to structures placed inside the home to block or reduce the amount of sunlight diffusing through a room. The most common types of internal shade include blinds and curtains. Internal shade can help control internal temperatures by lowering the amount of heat absorbed by interior surfaces (like floors, walls, and furniture). However, it is less effective than external shading which can block the sun's energy from directly hitting the window completely.

13

## Place leafy green indoor plants by windows exposed to direct sunlight



Indoor plants can act as a natural filter for sunlight. When placed near windows, they help absorb some of the sun's heat and release moisture, which cools the air inside your home.

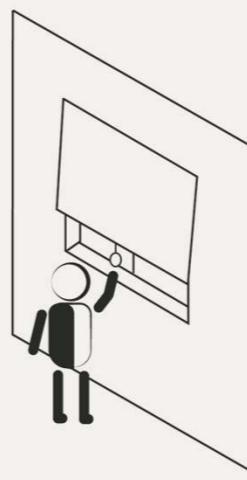
Appropriate for: **Homeowners and renters**

Why? Potted plants are semi-permanent solutions that are simple and non-invasive, making it a perfect option for anyone, including renters.

Cost: £

14

## Fabric blackout blinds



Blackout blinds are made from thick fabric that blocks the majority of sunlight. Putting them up in the warmer months and taking them down when it's cooler helps you manage the temperature inside your home more effectively. Try using a blanket as a low-cost option!

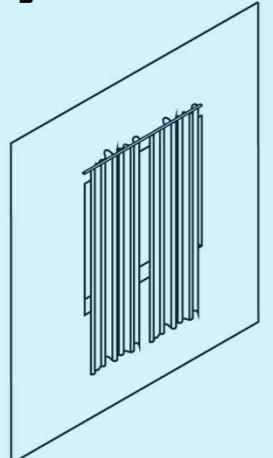
Appropriate for: **Homeowners and renters**

Why? They're semi-permanent solutions that are easy to install and remove, making them a renter-friendly option.

Cost: £-££

15

## Hang thermally lined curtains on windows exposed to direct sunlight



Thermally lined curtains have a special backing that not only blocks sunlight but also insulates against heat. This keeps your rooms cooler during the day by preventing heat from entering through the windows.

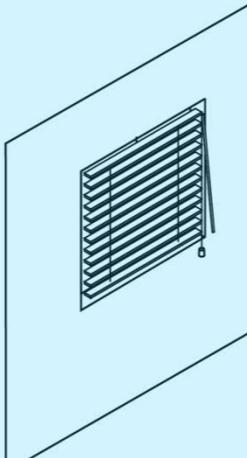
Appropriate for: **Homeowners and renters**

Why? Requires no structural changes and is easy to implement which is suitable for both renters and homeowners.

Cost: £-££

16

## Install blinds on windows exposed to direct sunlight



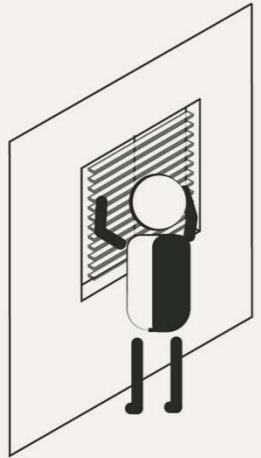
Blinds allow you to control how much sunlight enters your home. By closing them during the hottest parts of the day, you can block the sun and keep your rooms cooler. They're a simple yet effective way to manage indoor temperatures.

Appropriate for: **Homeowners and renters**

Why? Blinds are easy to install and adjust, making them semi-permanent solutions suitable for renters as well.

Cost: £-££

### Install internal shutters on windows exposed to direct sunlight



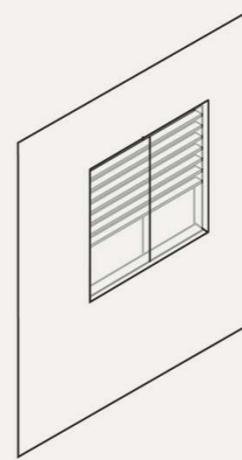
Internal shutters work like a barrier between your window and the inside of your home. They block sunlight and keep your rooms cooler by preventing heat from getting in. Plus, they add a charming, decorative touch to your home. Try using cardboard as a low-cost option!

Appropriate for: **Homeowners and renters**

Why? These can be installed without major changes to the structure, so they're renter-friendly.

Cost: **£-££**

### Replace window panes with integrated blinds and shade



Windows with built-in shade inside the glass allow you to control sunlight without needing external blinds or curtains. They are more effective than internal blinds as they stop the sun from entering the room in the first place. This sleek solution helps keep your home cool and looks modern and tidy.

Appropriate for: **Homeowners**

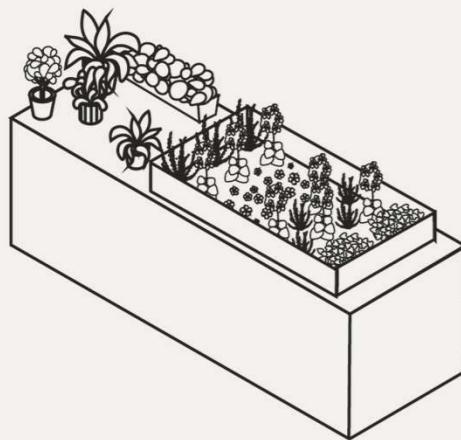
Why? It involves replacing your windows, which is a significant and permanent change.

Cost: **£££**

# Passive Cooling

Passive cooling refers to design strategies and techniques used to cool buildings naturally, without relying on mechanical systems, like air conditioning, which are energy intensive. Although external and internal shade are forms of passive cooling, the following recommendations are more associated with reflecting direct sunlight in or around homes and the use of 'cooling' materials.

## 19 Plant low-growing vegetation on flat roofs or gently sloping roofs



Covering your roof with low-growing plants acts like a green blanket that absorbs sunlight and keeps your home cooler. These plants also help insulate your roof, reducing the amount of heat that gets inside.

Appropriate for: **Homeowners**

Why? Requires professional installation and may need structural support, making it a better option for homeowners.

Cost: **£££**

## 20 Put green and leafy pot plants and shrubs on flat roofs, balconies, or gently sloping roofs



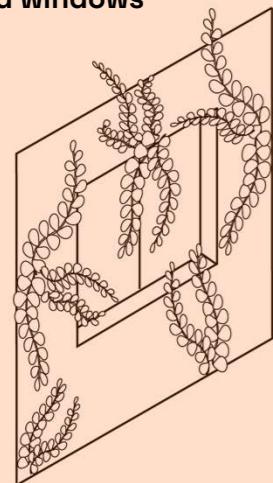
Potted plants on your roof or balcony create a green space that helps cool the air around your home. They're a flexible option because you can move the pots around to where they're most needed.

Appropriate for: **Homeowners and renter**

Why? A semi-permanent solution that is portable and easy to remove, making them suitable for renters.

Cost: **££**

## 21 Plant fast-growing climbing plants on trellises on walls around doors and windows



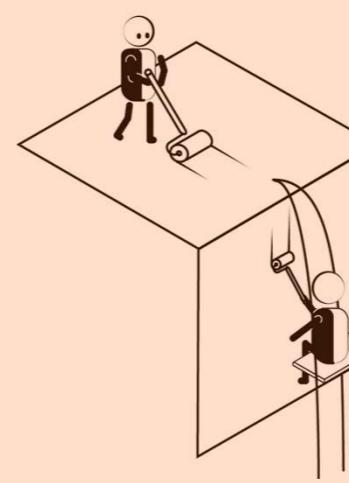
Climbing plants on trellises create a living wall that blocks sunlight and cools the air as it passes through the leaves. It's like having natural air conditioning on the outside of your home.

Appropriate for: **Homeowners and renters**

Why? Trellises can be set up temporarily and removed easily, making them renter-friendly.

Cost: **££**

## 22 Paint dark-coloured roofs/external walls with white solar reflective paint



Dark colours absorb more heat, so painting your roof or walls with white or reflective paint helps reflect sunlight instead. This reduces the amount of heat your home absorbs, keeping it cooler inside.

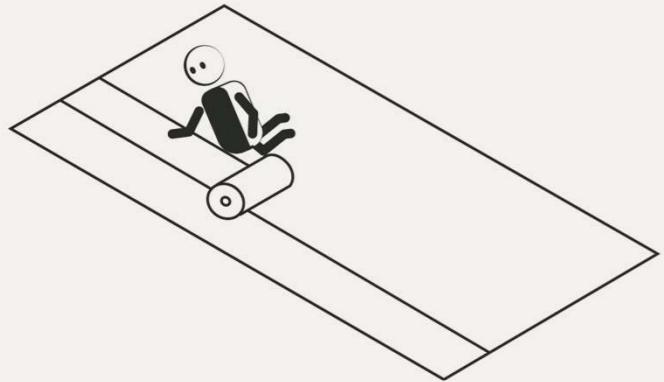
Appropriate for: **Homeowners**

Why? It's a permanent change to the exterior, making it more practical for homeowners.

Cost: **£££**

**23**

### Add a solar reflective surface material on roofs and external walls



Adding reflective materials to your roof or walls bounces sunlight away from your home, similar to wearing light-coloured clothing on a hot day. This helps keep the temperature down inside.

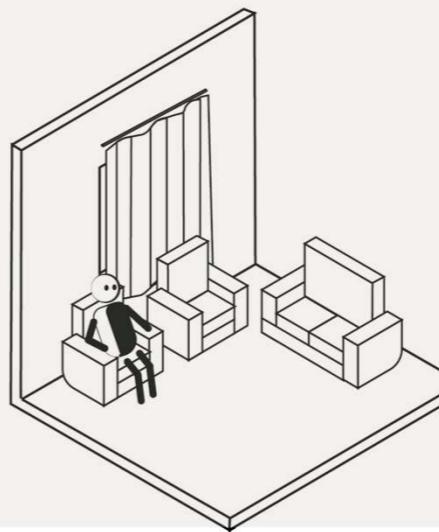
Appropriate for: **Homeowners**

Why? Requires permanent installation, making it more suitable for homeowners.

Cost: **£££**

**24**

### Opt for light/neutral coloured furniture and finishes



Light-coloured furniture and decorations don't absorb as much heat as dark colours do. This means your rooms stay cooler and more comfortable, even on hot days.

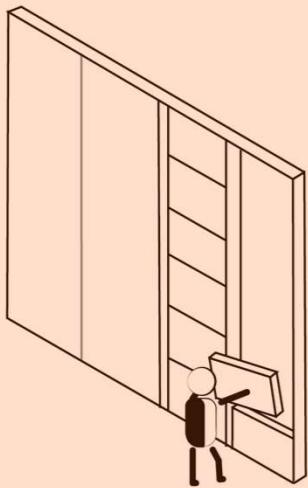
Appropriate for: **Homeowners and renters**

Why? Simple to implement and doesn't require structural changes, suitable for anyone. However, the cost can differentiate depending on how much furniture is replaced.

Cost: **£-£££**

**25**

### Add internal insulation to roofs/walls



Insulating your home's roof and walls helps keep the heat out in summer and the warmth in during winter. This makes your home more comfortable year-round and can save on energy bills.

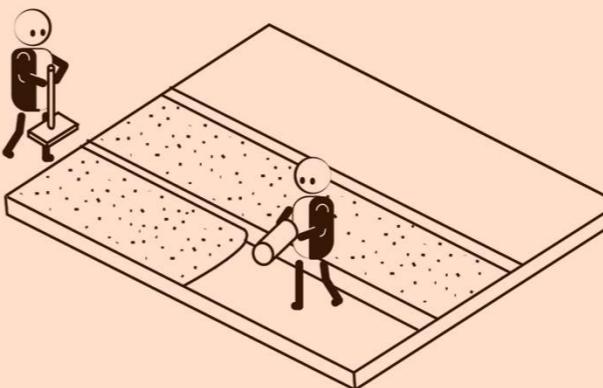
Appropriate for: **Homeowners**

Why? It's a major, permanent upgrade to your home, which is typically something homeowners would undertake.

Cost: **£££**

**26**

### Increase thermal mass of roofs and walls



Materials like hempcrete naturally store heat during the day and release it slowly at night. This helps regulate your home's temperature throughout the year.

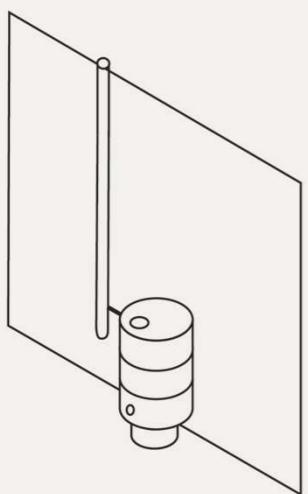
Appropriate for: **Homeowners**

Why? Involves structural changes, making it more suitable for homeowners.

Cost: **£££**

**27**

### Install a water butt next to downpipes to collect rainwater



A water butt collects rainwater that you can use to water plants during dry periods. Keeping plants healthy and hydrated helps them cool the air in and around your home.

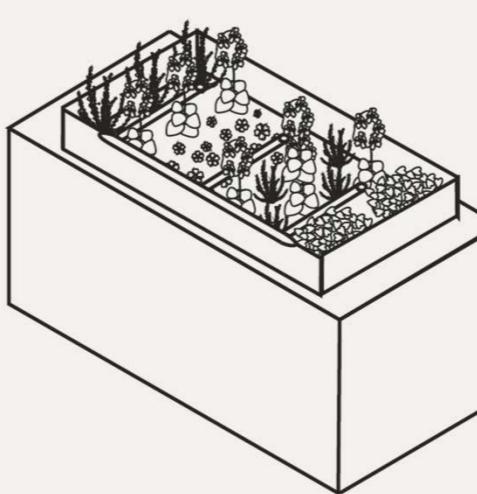
Appropriate for: **Homeowners and renters**

Why? A temporary solution that is simple to set up and remove, making it renter-friendly.

Cost: **£**

**28**

### Set up an irrigation system for trees/shrubs during hot, dry weather



An irrigation system automatically waters your plants, keeping them healthy and helping them cool the air around your home. This is especially useful during hot and dry periods.

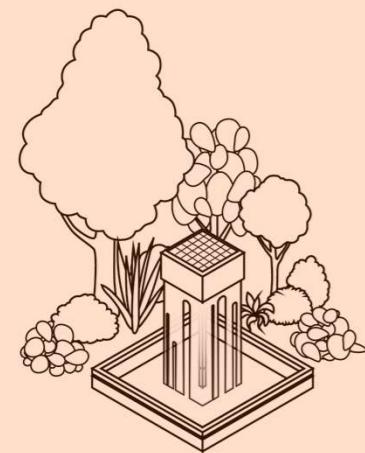
Appropriate for: **Homeowners and renters**

Why? Depending on the system, it can be set up temporarily, making it suitable for renters.

Cost: **££**

29

**Consider adding a small solar-powered, water-efficient water feature**



A water feature cools the air as the water evaporates, creating a more comfortable outdoor environment while adding a peaceful ambiance to your space. Additionally, solar power means it's renewable and energy-efficient.

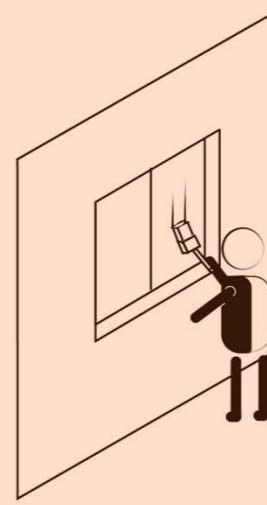
Appropriate for: **Homeowners and renters**

Why? Portable water features can be placed on balconies or gardens within rented properties.

Cost: **££**

30

**Paint the outside of window panes exposed to direct sunlight white**



Painting window panes with a washable white paint, such as greenhouse shading paint, reflects sunlight, reducing the amount of heat entering your home. It's a simple but effective way to keep your home cooler.

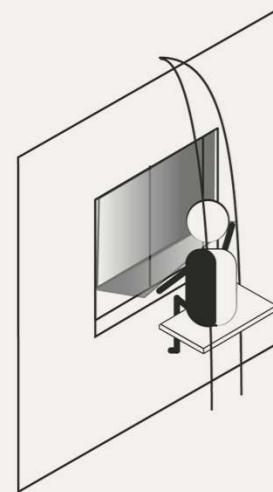
Appropriate for: **Homeowners and renters**

Why? The paint can be easily washed away when the weather starts to get cooler, making it suitable for renters.

Cost: **£**

31

**Add a solar reflective film or material to the outside of window panes**



Solar reflective film blocks a significant amount of heat by reflecting sunlight away before it can enter your home. It's a great way to keep rooms cool without changing the appearance of your windows.

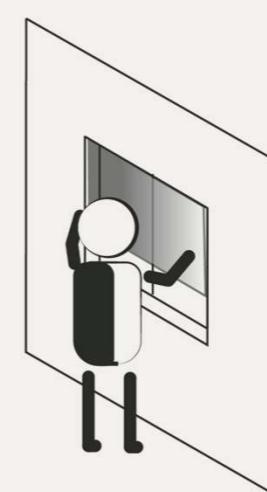
Appropriate for: **Homeowners and renters**

Why? It can be applied to be semi-permanent, making it suitable for renters with their landlord permission.

Cost: **££**

32

**Add a solar reflective film or material to the inside of window panes**



Installing reflective film on the inside of windows reduces heat gain without altering the building's exterior. This is a simple, renter-friendly way to keep your home cooler. Try putting up aluminum for a low-cost option.

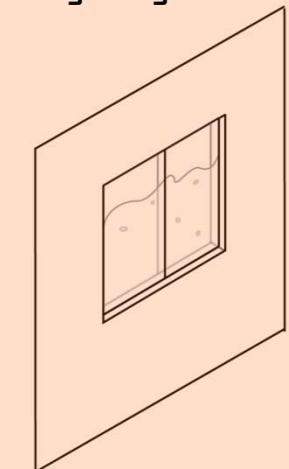
Appropriate for: **Homeowners and renters**

Why? Easy to apply and remove, making it renter-friendly.

Cost: **££**

33

**Install water-filled glass window panels in rooms with large areas of clear glazing**



Water-filled glass panels have a cooling effect as sunlight passes through them, which can help reduce indoor temperatures in rooms with large windows. It's like having built-in air conditioning without the energy use.

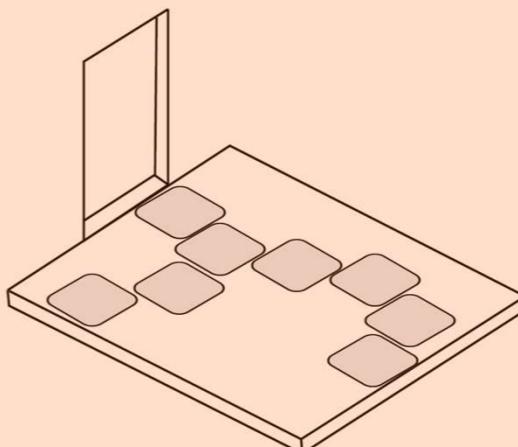
Appropriate for: **Homeowners**

Why? Requires specialised installation and is a permanent change.

Cost: **£££**

34

**Opt for internal floor and wall surfaces like ceramic tiles, stone, or exposed brickwork**



Materials like ceramic tiles, stone, and exposed brickwork add thermal mass to your home. These surfaces absorb heat during the day and release it slowly, which helps keep the building cooler in the summer and warmer in the winter.

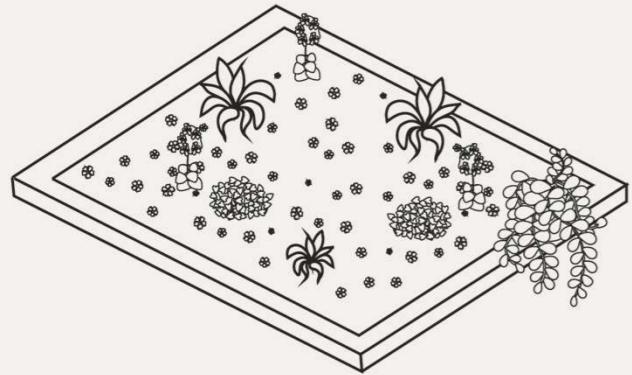
Appropriate for: **Homeowners**

Why? Requires replacing existing floors or walls which is a significant modification.

Cost: **£££**

**35**

**Opt for external surfaces like long grass, light-coloured stone/gravel, or wildflowers**



Light-coloured or natural ground coverings reflect heat and cool the air around your home, reducing heat gain indoors. These materials are like nature's air conditioner for your outdoor spaces.

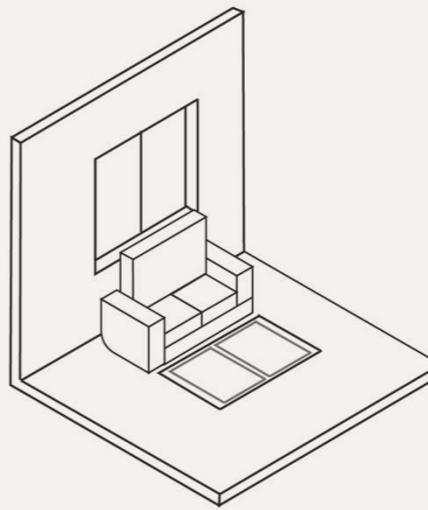
Appropriate for: **Homeowners**

Why? A permanent solution that involves altering the landscaping, which is usually more feasible for homeowners.

Cost: **££-£££**

**36**

**Buy a 'cool mat' for extreme heat situations**



Cool mats use special materials to absorb body heat, providing relief during extreme heatwaves by creating a cooler surface to lie on. It's like having a portable, personal cooling system.

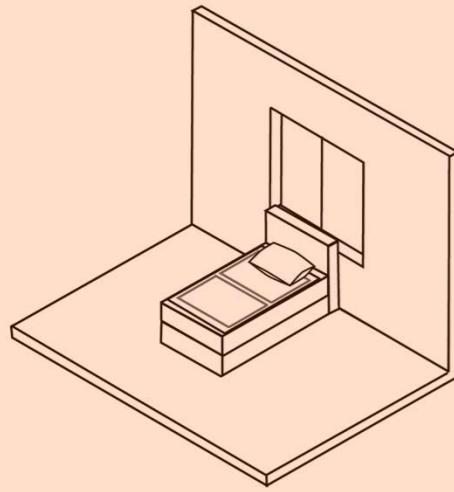
Appropriate for: **Homeowners and renters**

Why? Portable and requires no installation, making it suitable for both renters and homeowners as it's a temporary measure.

Cost: **£**

**37**

**Buy a cooling gel mattress for your bed**



Cooling gel mattresses help regulate your body temperature at night, providing a cooler and more comfortable sleep during hot weather.

Appropriate for: **Homeowners and renters**

Why? It's a personal purchase with no structural changes needed.

Cost: **££**

**38**

**Designate a room in your home as a 'cool room' during extreme hot weather**



Using a naturally cooler room in your home as a refuge during extreme heat helps you stay comfortable without overloading cooling systems. This strategy helps you create a safe haven from the heat.

Appropriate for: **Homeowners and renters**

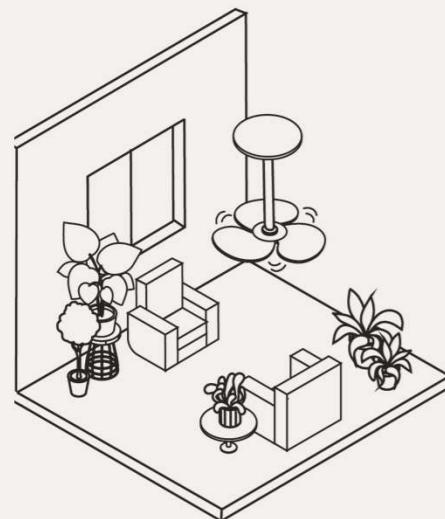
Why? Involves using an existing space, so it's feasible for anyone.

Cost: **£-£££**

# Ventilation

Ventilation is the movement of air within a home to cool the indoor environment. Effective ventilation replaces warm, stale air with cool fresh air, thereby helping to maintain comfortable indoor temperatures. It is facilitated using openable windows and the air can be distributed further by utilising mechanical fans.

## 39 Install a ceiling fan for room cooling and ventilation



Ceiling fans circulate air and make the air feel cooler as it evaporates sweat from your skin. They're a cost-effective way to keep the air moving and reduce heat buildup.

Appropriate for: **Homeowners**

Why? Requires electrical installation, which may not be allowed in rental properties.

Cost: **££**

## 40 Buy a standing fan or table fan for localised cooling



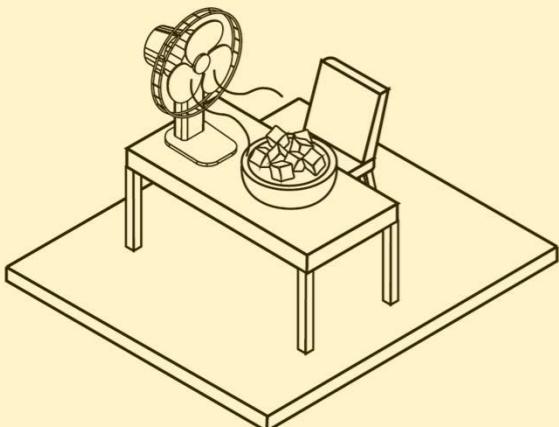
Portable fans help circulate air in specific areas, providing a cooling effect where you need it most. They're great for cooling down a room quickly or focusing on one spot, like your workspace or bed.

Appropriate for: **Homeowners and renters**

Why? A portable and temporary solution that requires no installation, making it renter-friendly.

Cost: **£**

## 41 Increase cooling effect of fans by placing bowls of iced water in front of them



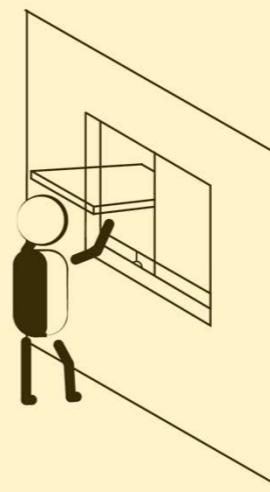
Placing ice in front of a fan cools the air it circulates, making the room feel cooler without the need for air conditioning. This is a simple trick to boost the cooling power of your fan.

Appropriate for: **Homeowners and renters**

Why? A simple and temporary solution that is suitable for anyone.

Cost: **£**

## 42 Install windows that can be easily opened and closed in a secure way



Windows that open easily allow you to ventilate your home, letting in cool air at night and keeping out heat during the day. This ensures good air circulation while keeping your home secure.

Appropriate for: **Homeowners**

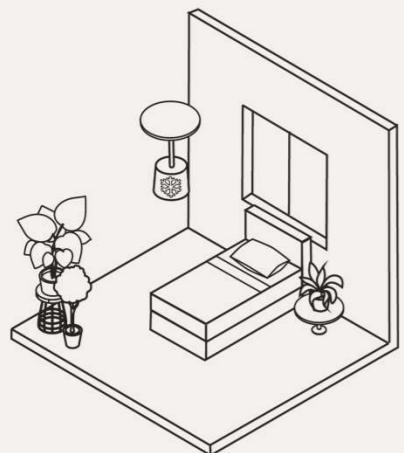
Why? Involves replacing or modifying existing windows, which is a permanent change.

Cost: **£££**

# Minimising Internal Heat Gains

Internal heat gains are generated by various sources within a home, such as people, electrical appliances (TVs, laptops, ovens), lighting, and other equipment that produce heat when present or switched on. Internal heat gains can contribute significantly to the indoor temperature of our homes, especially in well-insulated spaces where heat is retained.

## 43 Buy and install energy/thermally efficient light bulbs, electrical appliances, and household goods



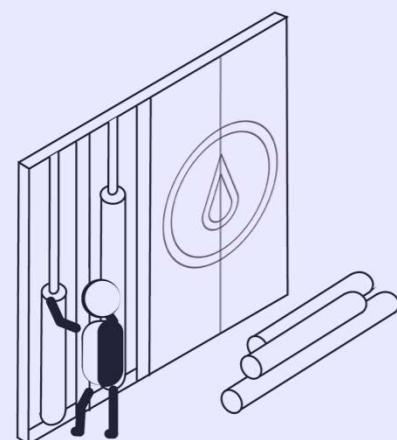
Energy-efficient appliances and light bulbs produce less heat, helping to keep your home cooler. They also use less energy, which is good for the environment and your electricity bills.

Appropriate for: **Homeowners and renters**

Why? Easy to purchase and install without altering the property, making it suitable for renters.

Cost: £-££

## 44 Insulate hot water pipes and, if possible, any floors or walls they go under or behind

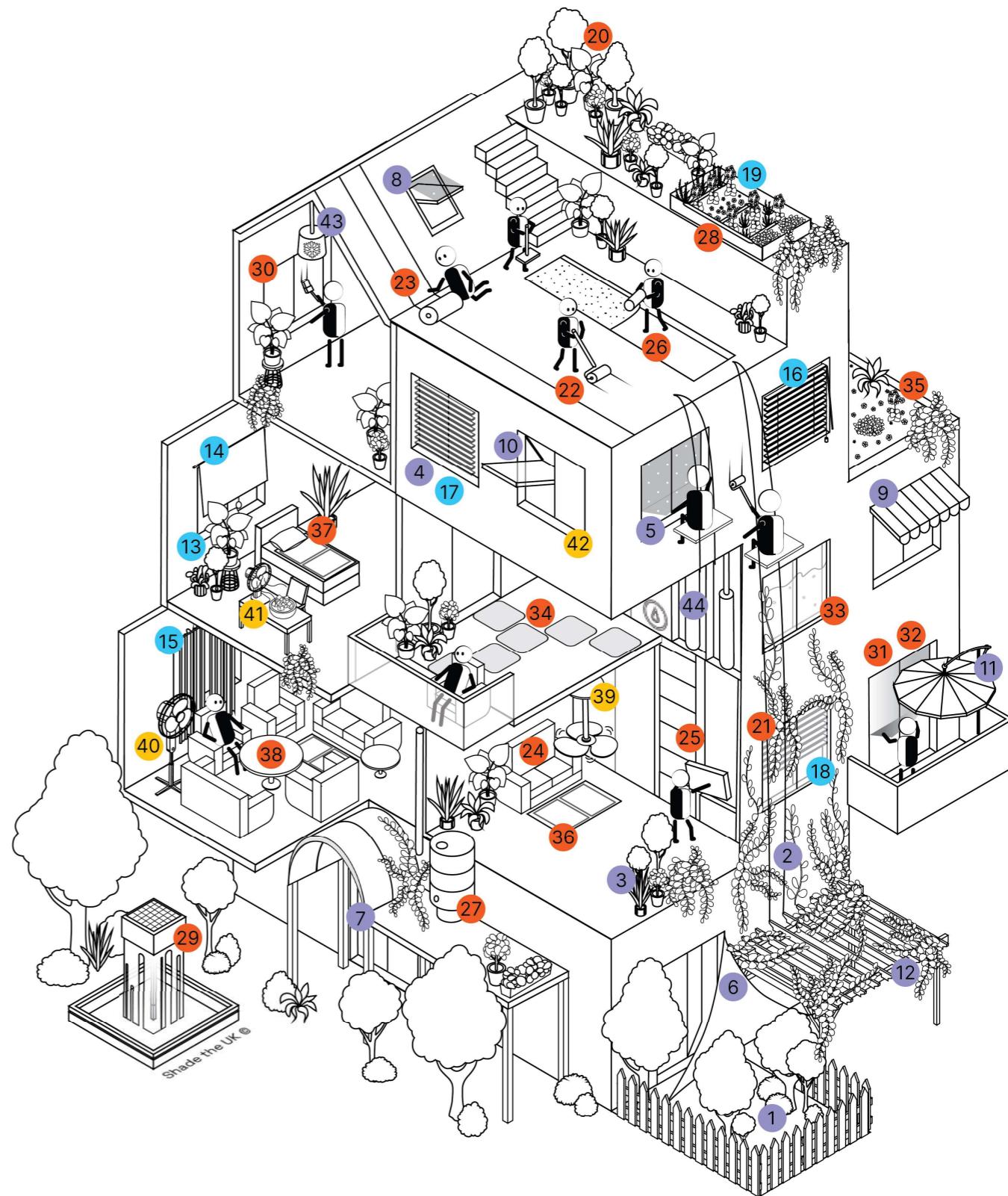


Insulating hot water pipes prevents them from heating the surrounding areas, which helps keep your home cooler. It's a simple way to reduce unwanted heat during the warmer months.

Appropriate for: **Homeowners**

Why? A permanent measure that involves accessing and modifying parts of the building's infrastructure, which is better suited to homeowners.

Cost: £££



## Further Resources

For further information on heatwave advice and support:

### Shade the UK

#### Taking Care in the Heat

Personalised overheating guidance for your home.

#### 40° Stories

Contact: info@shadetheuk.co.uk

### British Red Cross

#### Heatwaves in the UK | Support and advice | British Red Cross

#### Access heat wave advice in different languages

#### First aid advice for heatstroke and heat exhaustion

Contact: UKClimateAdaptation@redcross.org.uk

### Heatwave Alerts

Sign up for heat-health alerts by the Met Office to receive notifications of an upcoming heatwave.

## References

1. London Climate Resilience Review Interim Report
2. Addressing overheating risk in existing UK homes
3. Heat mortality monitoring report: 2022
4. Associations between high ambient temperatures and heat waves with mental health outcomes: a systematic review
5. Heat stress vulnerability and critical environmental limits for older adults

The measures within this guidance document have been curated by Shade the UK from a number of existing sources. Some of the most notable ones include:

Tom Greenhill's 'Heatwave Toolkit'

Better Renting 'Coping Cookbook'

Good Homes Alliance 'Shading for housing design guide'

Green Alliance 'Climate adaptation in UK homes'

Royal Horticultural Society 'Gardening in a changing climate'

New Scientist 'How can we keep homes cool in extreme heat without air conditioning?'

Rajat Gupta, RIBA Journal 'How to retrofit houses to reduce overheating'

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