Greener Living Guide

Live Green
Love Your
Borough

THE ROYAL BOROUGH OF
KENSINGTON
AND CHELSEA

Printed using vegetable based inks on FSC accredited paper

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FOREWORD

Today, more than 85 per cent of the UK population live and work in cities. Urban areas, including the Royal Borough, are responsible for consuming a greater proportion of energy, food and resources than are produced in cities. The carbon emitted has an impact both on the Borough and our wider environment.

Cities across the UK have experienced extreme weather conditions in recent years. Homes and businesses across the Borough experienced severe flooding in 2007, and vulnerable residents have suffered the effects of extreme temperatures during the last few years.

The Government and Council are working to reduce our carbon emissions, and plan for the future. This guide has been developed to help residents within the Royal Borough to do the same, by providing practical advice and guidance to assist with reducing energy, water and resource consumption within your home. Examples around the country have also demonstrated that by making your home greener, you are very likely to save money on your energy and utilities bills. In the current financial climate this can't be ignored.

This guide offers something for all residents who want to become a bit greener – whether deciding to review how your home is insulated, save water throughout your home, or investigate how to generate your own energy.

In the last few years I have myself taken steps to reduce carbon emissions in my own home by improving my home insulation and installing draught proofing, which I have found to be one the cheapest and most efficient ways to save energy and money. I've also noticed in this guide a few tips that I will seriously consider implementing myself in the near future. I hope you will be inspired by this guide to make your home greener, and help to make the Royal Borough a better place to live.

Cllr Tim Ahern
Cabinet Member for Environment

INTRODUCTION

The Royal Borough of Kensington and Chelsea is working to reduce its own emissions 40 per cent by 2020, and hopes this guide can assist residents in taking action to reduce their own carbon footprints and live more sustainably. Whatever type of homes we live in, we can all take actions to make them greener, healthier and more comfortable places to live. We can then see benefits to our health and well-being as living in cold, damp homes can worsen certain conditions, such as heart disease and respiratory disease.

This guide will provide you with no-cost and low-cost measures to:

- Save energy and water, and reduce your bills
- Learn about energy efficiency and renewable energy options for your home
- Choose environmentally sound materials
- Reduce your household waste
- Improve your garden and enhance biodiversity
- Improve your health as unhealthy activities are often carbon intensive

Thank You

This document is based on the London Borough of Haringey's 'Greening Your Home Guide 2010'. We thank the London Borough Haringey for the use of images, information and support in the creation of this guide. We also thank the Energy Saving Trust for the information provided and the use of their images.

SUSTAINABILITY, PUBLIC HEALTH AND CLIMATE CHANGE

With increased demands on resources and a changing climate, it's important that we all do what we can to reduce energy use, minimise waste, and live more sustainably. Climate change is caused by an increase in greenhouse gas emissions that trap the Earth's heat. Over the last 200 hundred years, the burning of fossil fuels – coal, gas, oil and petrol – has increased the concentration of the greenhouse gases such as carbon dioxide (CO_2) by one third.

The current prediction is that by 2080, temperatures in London could rise by up to 6°C, with on average drier summers and wetter winters. The result could be both water shortages and an increased risk of flooding. Climate change also affects the social and environmental determinants of health such as clean air, safe drinking water, sufficient food and secure shelter.

The energy we use to heat, light and power our homes produces about 30 per cent of the UK's CO_2 emissions.[1] We can all do our bit to help reduce energy use, and this guide will help you know where to start.

BY 2080 TEMPERATURES IN LONDON COULD RISE BY 6°C

TOP TIPS FOR SUSTAINABLE LIVING

Low and No-Cost Opportunities to Save Energy and Money

Whether you own or rent, these tips are simple and accessible to everyone, and you will see the benefits on your energy bills immediately! You may also see benefits to your health and well-being.

TURN IT DOWN

Turn your thermostat down or adjust the temperature in rooms that you are not using whenever possible. Every degree could save £65 annually in energy costs.[2]

FILL IT UP

When using dishwashers and washing machines, make sure you have a full load. Two half loads will use more energy than one full load.

TURN IT OFF

Turn off any appliances, lighting, and chargers when not in use. Additionally, most devices continue to use a small amount of electricity when in the off position, so turn them off at the plug to minimise electricity use.

HANG IT UP

Air-dry clothes instead of using a tumble dryer.

UPGRADE

Changing all of your light bulbs to low-energy LEDs or CFLs will pay for itself in only a couple of years, and these bulbs are now available for nearly all types of fixtures.

DRAUGHT PROOF

Head to your local DIY store for draught-proofing supplies for your windows and doors. Put aluminium foil behind radiators to reflect heat back into the room. Heavy curtains can also decrease draughts significantly and keep heat in your home. Besides saving money, you will feel much more comfortable through the winter.

Minimise Water Heating:

Heating water is a major energy user.

Wash clothes in cold water when possible, and at 30 degrees Celsius for high temperature loads.

Kettles use a lot of electricity, so only boil what you need.

Turn down your water heater to 60 degrees Celsius. This is hot enough to kill any bacteria. Higher settings don't make water heat faster.

Ensure you have a well-fitting hot water tank insulating jacket and well insulated pipes to retain hot water for longer. If your tank has less than 75mm of insulation, you will save energy if you fit another jacket over the existing one.

WATCH WHAT YOU EAT

Eating locally produced and organic foods cuts down significantly on your environmental impact. There are farmers markets near South Kensington and Notting Hill that provide fresh, local and affordable products with minimum environmental impact. Eating less red meat and processed food, and drinking tap water rather than bottled water will also reduce your environmental impact.

TRAVEL WISELY

Take advantage of public transport and stay fit by walking and biking. If you drive, combine trips to minimise miles driven. To reduce air travel, think about taking fewer long holidays rather than many short ones.

For many more ideas, visit http://www.energysavingtrust.org.uk.

SAVING ENERGY AT HOME

DESIGN AND FABRIC OF YOUR HOME

Improving the design and fabric of your home could save you money on your energy bills:

- **UP TO £140** per year through installing cavity wall insulation
- **UP TO £60** per year through insulating under your floorboards at ground level
- **UP TO £170** per year through replacing single-glazed windows with effective double glazing

INSULATION

Insulating your home is one of the most important energy-saving measures you can take. Heat is lost in buildings through the roof, walls, floor and windows, but it can also be lost from hot water storage tanks and hot water pipes. As more heat escapes from a building, more energy and money is needed to keep it warm.

If you are carrying out certain types of building work, the Building Regulations may require you to insulate or upgrade your existing levels of insulation. Bear in mind that altering 'thermal elements', such as floors, roofs and walls, may require a building control application. If you decide to improve the insulation in your home, RBKC Building Control can provide advice on the best way to proceed. Please refer to the Building Control section on page 22.

DID YOU KNOW...

AROUND ONE-THIRD OF ALL HEAT LOST IN AN UNINSULATED HOME ESCAPES THROUGH THE WALLS

MINIMUM INSULATION REQUIREMENTS FOR RENOVATION UNDER BUILDING REGULATIONS

U-values are a measure of how much heat is lost through a given thickness of any specific material. Better insulators are therefore required in smaller quantities than poor insulators. The U values shown here are the minimum levels of insulation Building Control will require if you are renovating a roof, wall or floor, but you can always add more.

Pitched Roof Insulation

Minimum U-value 0.16 between rafters - 0.18 at roof slope (so for example 200mm recycled cellulose or 250mm mineral wool would be required to achieve these U-values)

Cavity Masonry Walls

Minimum U-value 0.30 (could be achieved with 70/80mm recycled cellulose or 75mm mineral wool)

Ground Floor Insulation

Minimum U-value 0.25 (could be achieved with 100mm recycled cellulose or 150mm mineral wool)

You Can Do More!

Choosing the correct material to insulate your home is a complex issue. You may wish to consider natural and recycled products which allow the structure to 'breathe', for example hemp, cork and sheepswool based products. Where space may be a constraint, non-breathable polyurethane and polyisocyanurate boards and batts can offer high performance relative to thickness. Some insulation materials are more suited to new builds than retrofit, some may need to be fully supported (e.g. mineral wool), others may not be suitable for damp conditions (for example under, a suspended timber ground floor). More specific information about the range and performance of insulation materials can be found in the Insulation Materials Chart from the Energy Saving Trust.

Wall Insulation

How you insulate your walls depends on the type of walls your property has – most have either cavity walls or solid walls.

Cavity wall means the wall is made of an inner and outer layers separated by an air gap. You can fill this gap with insulation to reduce heat loss and save up to £140 per year on your heating bills.[3] Prior to insulating, the installer should carry out a survey to check the condition of the wall, the condition of the wall ties, and assess the walls suitability for this type of insulation. Cavity wall insulation is covered by the Building Regulations.

Solid wall's are generally found in older properties of 'traditional' construction, and are usually built in 9" or 18" thick solid brickwork. Insulation is more complicated and expensive, and can be achieved through internal or external wall insulation. Before considering internal or external wall insulation, a full assessment of the walls should be carried out to assess their suitability for insulation. Any evident defects such as cracking, dampness, etc should be remedied before undertaking this work.

External wall insulation consists of insulation and weatherproof render or cladding. Works should be done by a qualified energy efficiency installer, and external works may require planning permission.

Internal wall insulation can be applied over bare brick or existing plaster, either as a rigid board or as mineral wool within an internal 'studwork' frame. This can be undertaken by a competent builder or a qualified energy efficiency installer

Further advice can be found at;

http://www.english-heritage.org.uk/publications/eehb-insulating-solid-walls/

Roof and Loft Insulation

Your home may already have some loft insulation, but if the material is thin it will not be saving as much energy and money as it could. Fitting proper loft insulation is the most cost-effective way to save energy. New insulation can be added over any existing insulation, laying each layer at right angles to the one beneath. Take care not to block any eaves ventilation, and do not bury electrical wiring in insulation as this may cause overheating. If everyone installed 27cm-deep loft insulation we could save the same amount of carbon dioxide as taking 100,00 cars off the road.[4]

Floor Insulation

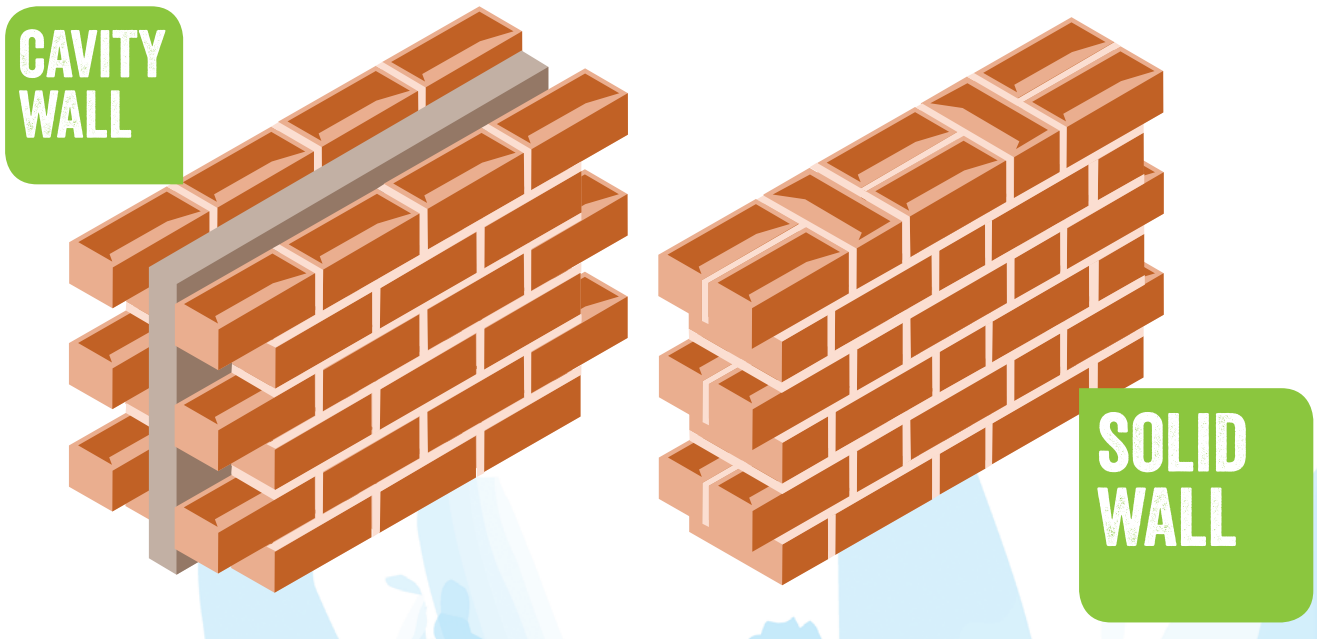
If you have any gaps between your floorboards and skirting boards, you can reduce heat loss by sealing them with the application of a regular tube sealant, like the silicon sealant used around baths. It is also worth insulating underneath the floorboards at ground-floor level as you could save around £60 per year. Smaller jobs can be performed using materials from your local DIY store; however, some jobs may require professional help. For more information see http://www.energysavingtrust.org.uk/Insulation/Floor-insulation

Ventilation

Do not forget about ventilation when insulating your home – it is needed to help prevent condensation and for cooling your home during hot spells. Using 'passive' ventilation is the best way of ventilating a building, as it does not require the use of energy. Examples of passive ventilation include anything from simply opening a window to installing trickle vents in your window heads.

A trickle ventilation slot built into a window head provides a controllable means of providing background ventilation for bedrooms, kitchens and living rooms without the need to open a window. Some fireplaces will require their own ventilation.

For kitchens and bathrooms, warm air, steam and pollution from indoor cooking processes can be effectively removed by efficient mechanical ventilation which is ducted to the outside air. Work solely consisting of the installation of a mechanical ventilator (fan) does not require a Building Control application.



WINDOWS

Windows control how much heat and light enter your home, but they can also let a lot of heat out when temperatures are colder outside than inside. The orientation, size and type of window can all affect the level of comfort in your home.

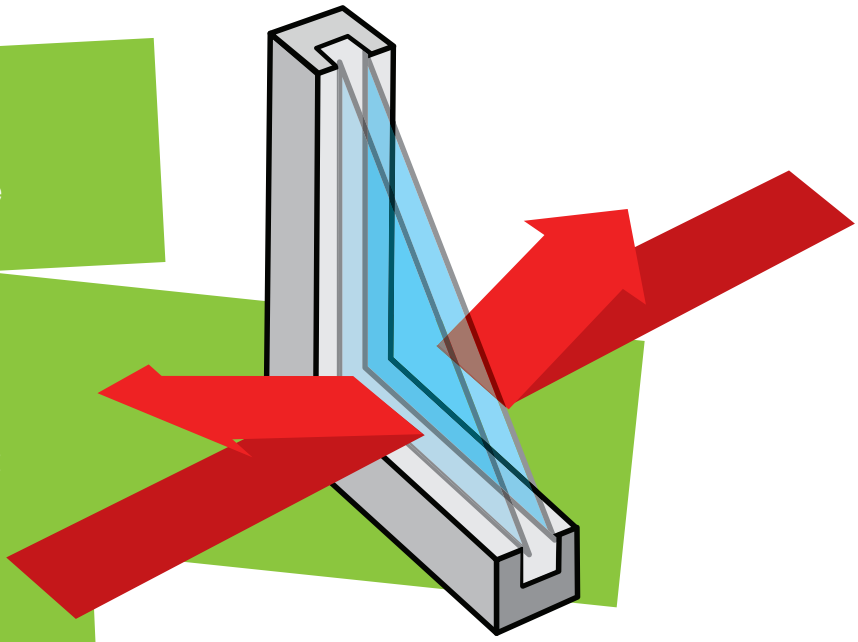
If you are replacing windows or building an extension, it is beneficial to maximise the size of the windows in the southern parts of your home in order to make better use of the sun's energy. To use windows to assist in heating your home in the winter, ensure they are well insulated to prevent heat loss, and that they can be shaded in the summer to prevent overheating. Windows on northern parts of your home should be smaller and well insulated unless they are required for cooling purposes.

Choosing effective double or even triple glazing will ensure that both heat and light are let into the building, but that the loss of heat is reduced. Replacing all single-glazed windows with B-rated double glazing could save you around £170 per year on your energy bills.[5] Installation of high-performance glazing can also cut down on noise and condensation.

You require approval under Building Regulations to replace windows and doors. Windows should be installed either by a contractor approved under the Fenestration Self-Assessment scheme (www.fensa.co.uk Tel: 020 7645 3700) or following approval by the Council's Building Control department

LOW-E (EMISSIVITY) GLASS

This is a special type of double glazing with a transparent coating fused to the inner side of the pane, which reflects heat back into the room. This material acts as a thermal mirror. Low-E glass keeps warmth inside during the winter and keeps heat outside during the summer. It also screens out the sun's ultraviolet rays, which helps to reduce fading of carpets and curtains. Low-E glass can significantly reduce heat loss, giving an effect similar to triple glazing for less cost.Optimum efficiency can be achieved by using Low-E glass in conjunction with an inert gas, such as argon or krypton injected, into the gap between the two layers of glass.



What you can do next…

- Check whether your home has loft insulation. If so, can additional loft insulation be added?
- If you have cavity walls, check whether they are fully insulated.
- If you are replacing windows, check the performance and rating of the replacement glazing to see if this could help reduce heat loss over their lifetime.
- If you are carrying out building work, check whether the Building Regulations require you to upgrade existing insulation.
- Does the work you are carrying out require significant architectural or structural change? If so, seek advice from RBKC's Building Control, builders and neighbours!

MAKING THE MOST OF SUNLIGHT: PASSIVE SOLAR ENERGY

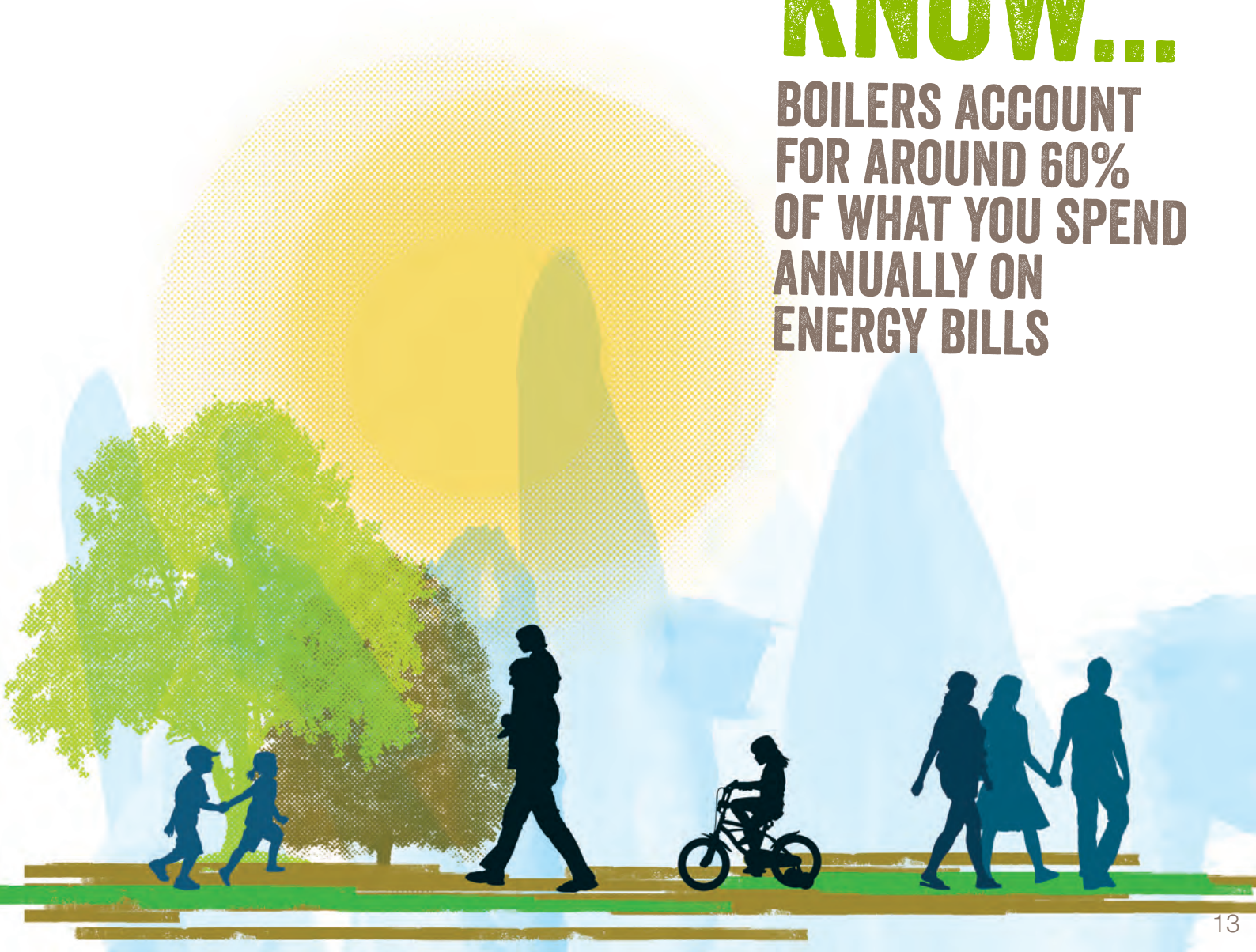
The sun is the source of nearly all energy on Earth. We use this energy all the time as it enters through the windows and warms the fabric of our homes. This is known as passive solar energy. If you are considering building an extension to your home, or converting your loft, they can both be designed to make the most of the sun's energy. The sun's energy is free to use!

Skylights and windows on the south-facing sides of buildings bring more free warmth from the sun into your home – especially in the winter. It is also important to consider including some shading, such as eaves and blinds, so that the rooms do not overheat in midsummer.

Thermal massing (providing structural elements with a high mass) helps to maximise the benefits of passive solar gain and helps to reduce temperature fluctuations within the building. These elements will absorb heat during the day and release it slowly during the night, when it is cooler.

DID YOU KNOW...

BOILERS ACCOUNT FOR AROUND 60% OF WHAT YOU SPEND ANNUALLY ON ENERGY BILLS



USE OF ENERGY-EFFICIENT SYSTEMS

Using devices and systems that are more energy-efficient is a simple and very effective way of reducing energy consumption in your home. Below are examples of easy changes you can make to save money and energy.

Condensing Boilers

Using a high efficiency condensing boiler with heating controls to provide domestic heating and hot water could significantly cut your home's CO_2 emissions.[6]

An energy efficient condensing boiler converts more than 88 per cent of its fuel into heat, compared with 'standard' boilers that can convert less than 70 per cent.[7] The current lifespan of a boiler is 12 years, so replacing an older boiler with a condensing boiler by a condensing boiler would make a huge difference to your heating bills over time.[8] If everyone with gas central heating installed a new condensing boiler, £1.3 billion could be saved annually on energy bills.[9]

Using a low or ultra low NOx boiler will produce less pollution and is better for local air quality. When installing a new condensing boiler, ask your supplier if a ultra low NOx model is available.

All installations must be fitted by a Gas Safe Registered engineer who will issue you with a Building Regulations Compliance Certificate.

Heating Controls

You can install heating controls that allow you to control the temperature in different parts of your home. These can be included as an electronic timer control for your boiler, room thermostats for your main living area and thermostatic valves on all your radiators.

Lighting

It is easy to cut wastage by simply turning off lights, adjusting blinds and curtains to let in more natural light, and using energy-saving light bulbs.[10] There is now a wide range of fittings available that emulate the 'twinkle' and colour temperature of traditional bulbs and downlighters. Many homes in the Borough have more light fittings than is necessary so it is also worth considering if all the light fittings in your home are required. Make sure you choose a good-quality energy efficient bulb or light fitting by looking for the Energy Efficiency Recommended Logo.

Appliances

Modern appliances are generally more efficient than older models. They use less energy and therefore cost less to run. 'A'-rated models are the most efficient, and 'G' rated the least, and although more efficient models can be more expensive, they will save their extra purchase price over their lifetime. Look out for the Energy Efficiency Recommended Logo and the EU energy label – both will advise you of the energy efficiency of an appliance.[11]

What you can do next...

- Check the age and type of your current boiler. You could save money in the long run through replacing it with a high-efficiency condensing boiler.
- Do you need to heat all parts of your home to the same temperature? Installing heating controls could reduce unnecessary energy use across your household.
- When purchasing new appliances, a higher rated model could help reduce energy usage over their lifetime.

GENERATING YOUR OWN ENERGY: RENEWABLE ENERGY

The source of energy used in buildings is a very important factor when trying to reduce the amount of CO_2 emissions from a building. Electricity that is produced by gas or coal-fuelled power stations has a high level of CO_2 emissions associated with it, whereas a renewable energy source results in little or no CO_2 emissions.

Using renewable energy systems for generating heat and light reduces our reliance on energy sources that contribute to climate change, such as fossil fuels. The energy is also local and inexhaustible. Financial incentives are also available for many systems and are discussed at the end of this section. As a homeowner, you can consider the installation of a variety of renewable energy sources, be it a solar hot water heating system, photovoltaic panels, a ground source heat pump (GSHP) or a micro-CHP unit. Renewable energy is as reliable as energy from more traditional sources and using it does not mean that you have to change your lifestyle or your appliances.

The installation of micro generation or renewable energy systems is covered by the Building Regulations. The installer should be certified to carry out all the adaptation work necessary to your property. For example, where solar or PV panels are added to a roof, a structural assessment should be undertaken to ensure that the roof can carry the additional loading.

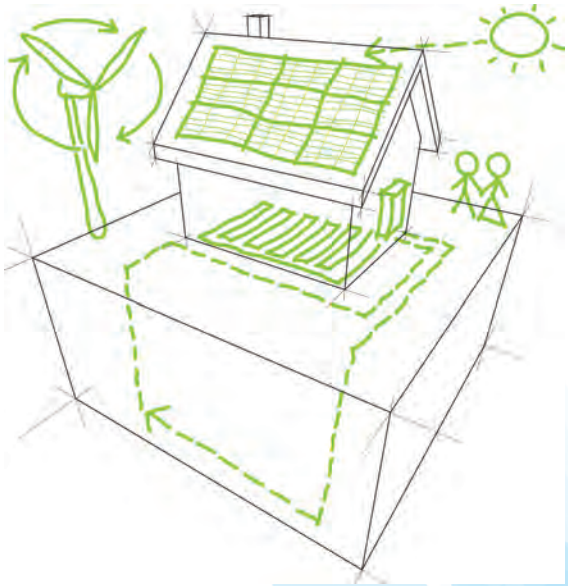
For advice and information about Competent Persons Schemes, please contact RBKC Building Control.

Solar Energy Systems

There are two main types of system available to harness the sun's resource:

- Solar panel systems for heating water
- Photovoltaic (PV) cells that convert sunlight to electricity.

In many cases, fixing solar panels to the roof of a single dwelling house is likely to be considered 'permitted development' under planning law with no need to apply for planning permission. Exceptions include conservation areas and listed buildings. Panels should not be installed above the ridgeline and should project no more than 200mm from the roof or wall surface. In any case, it is recommended to check first with the Council's Planning Department (Tel: 020 7361 3012).



DID YOU KNOW...

LIGHTING ACCOUNTS FOR 8% OF A TYPICAL HOUSEHOLD'S ENERGY BILL

Solar Water Heating Systems

Solar hot water systems work by using the sun's energy to preheat water entering a conventional hot water system. To maximise solar exposure, solar panels should ideally be installed on south-facing roofs, or be able to be angled to face due south.

Though more expensive than traditional systems, a solar system can preheat water entering a conventional system and cut fuel bills considerably. They are particularly appropriate in large family homes that use large quantities of hot water.
A carefully designed system can provide roughly half of your hot water requirements throughout the year and nearly all of your requirements during the summer.[12] Current costs for installation are in the region of £4,800 per system.[13] A grant of £600 is available through the Renewable Heat Incentive Premium Payment and carbon savings are between 230kg and 510kg of CO_2 per year.[14]

What is meant by 'the public realm'?

The public realm means outdoor areas that have unrestricted public access. When considering impact of renewable energy installations on the appearance of conservation areas and listed buildings, references to the public realm are concerned with the front aspects of a house which face a public road or path.

Photovoltaic Cells

Photovoltaic (PV) cells are made of layers of semiconductors, often silicon, which use sunlight to create electricity. Solar PV systems operate most efficiently on a south-facing roof with minimal shading. A PV installer could help determine if installing solar PV on your roof would be an appropriate investment.

In addition to the traditional dark blue panels, PV cells now come in a variety of shapes and colours, ranging from grey 'solar tiles' which can be fitted to replace roof slates, to panels and transparent cells that you can use on conservatories and glass to provide shading, while generating electricity. Photovoltaic 'tiles' can be designed to blend in with existing roof tiles, and may therefore provide an ideal solution to home owners wishing to install renewable energy systems in historic homes and conservation areas.

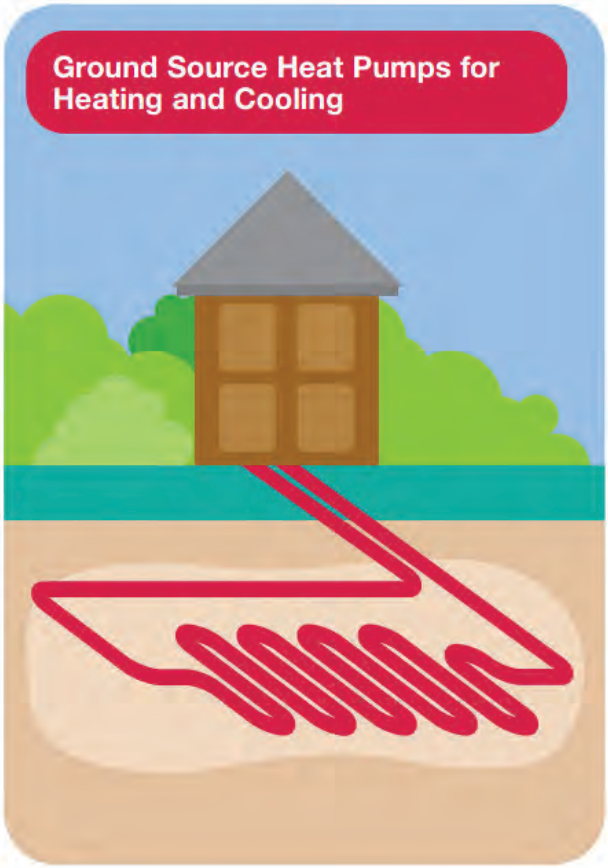
Current costs are in the region of £7,000 for a roof panel system. Government grants may be available for the cost of installation under the Green Deal (please see the please see the energy saving grants and funding section belowfor further information).[15]

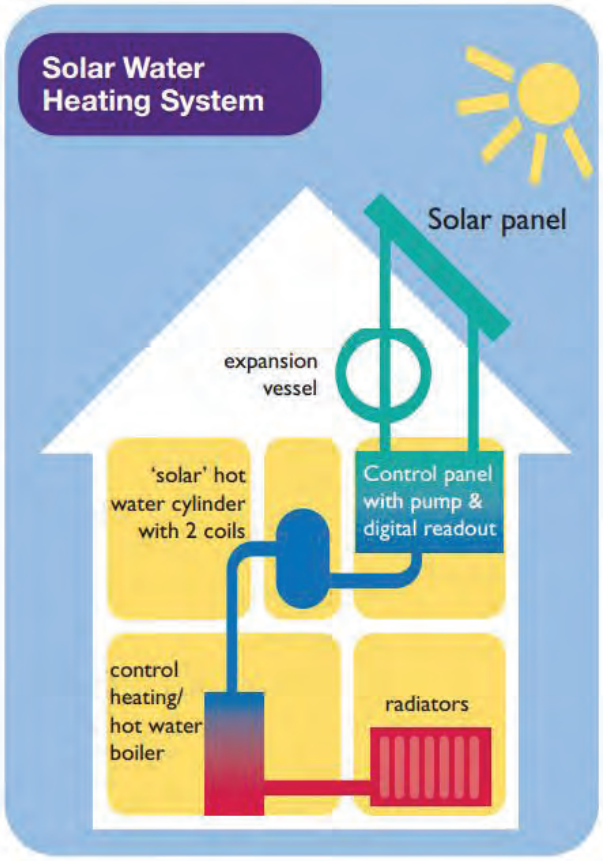
Heat Pumps

An air source heat pump extracts heat from the outside air in the same way that a fridge extracts heat from its inside. Even when temperatures are quite cold it is still possible to extract heat from the air, which can be used to heat radiators, underfloor heating systems, warm air convectors and hot water. Heat pumps have some impact on the environment as they need electricity to run, but the heat they extract from the ground, air or water is constantly being renewed naturally. For every unit of electricity a heat pump uses, it creates 2-3 units of heat.

Ground source heat pumps work similarly by extracting heat from the ground. Because the ground stays warmer than the air in the winter, a carefully designed ground source heat pump is typically more efficient. GSHP systems require ground space around a property to bury the pipe network, which can be laid horizontally, where space permits, or installed vertically into boreholes. When installed, the systems are invisible and have minimal maintenance requirements.

Both types can commonly be reversed to provide cooling in the summer.





Biomass

Although biomass burning can be a carbon-neutral process, the Royal Borough discourages its use because biomass emissions add to the existing air pollution problem. These systems are more suitable in rural locations with a local supply of fuel.

If you are interested in pursuing biomass in your home, please contact the Council's Environmental Health Department to discuss potential air quality implications (Tel: 020 7361 3002).

Funding Renewable Energy

When you generate your own energy, you don't just save money by not having to buy that energy – you can also get paid for the energy you produce. Often the capital cost of the system can be repaid via the following financial incentives.

The Central Government offers Feed-in Tariffs (FIT) for solar PV installations. FITs deliver payments for each unit of energy produced, plus more if you produce more than you use. Since summer 2013, the Renewable Heat Incentive (RHI) provides similar benefits for solar water heating, and air and ground source heat pumps.

Incentive amounts are reviewed every three months, but the table below shows average installation costs and incentive rates as of March 2013. For more current information visit energysavingstrust.org or ofgem.gov.uk

	Solar PV	Solar Water Heating	Air Source Heat Pump	Ground Source Heat Pump
Typical System Cost	£5.5 – 9.5k	£4.8k	£6 – 10k	£9 – 17k
Incentive	6.85 – 15.44 p/kWh	19.2 p/kWh	7.3 p/kWh	18.8 p/kWh

DID YOU KNOW...

REPLACING AN OLD BOILER WITH A HIGH-EFFICIENCY CONDENSING BOILER COULD SAVE YOU UP TO

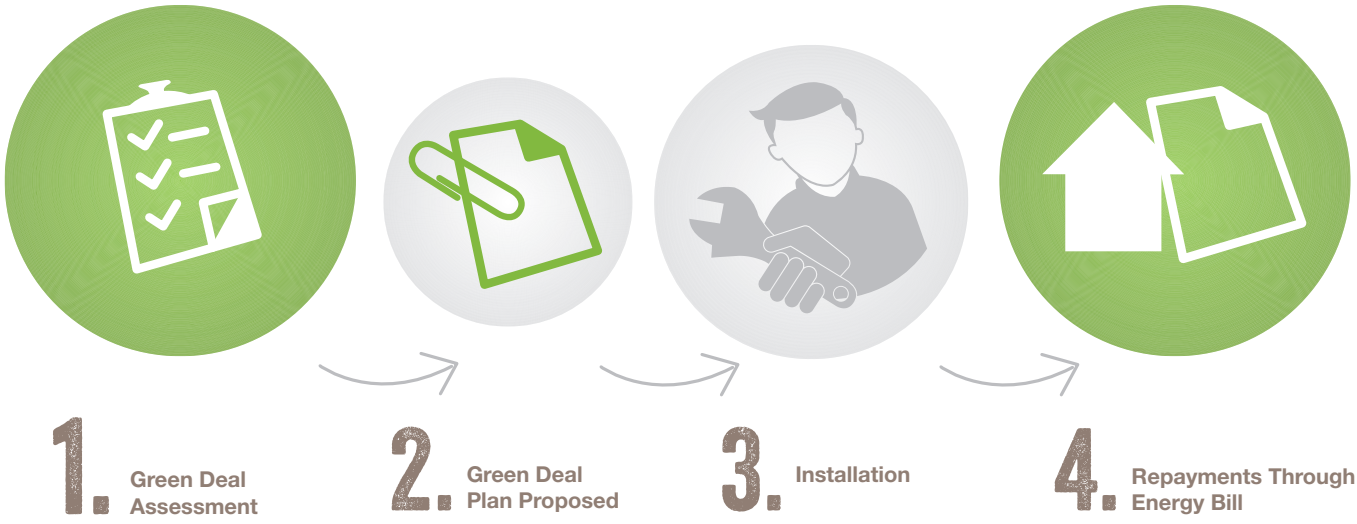
£310

PER YEAR ON YOUR ENERGY BILL

ENERGY-SAVING GRANTS AND FUNDING

The Green Deal

Introduced in early 2013, the Green Deal is a way for people to pay for energy-efficient improvements to their homes at no upfront cost; the cost of the improvements is repaid via the property's energy bill. To fulfil what is termed the 'Golden Rule,' the measures must save at least as much energy as the loan payment costs, so that residents' energy bills will be the same or less than they would have been without a Green Deal. In addition to the Green Deal, the Energy Companies Obligation (ECO) is grant money available to pay for energy efficiency measures in hard-to-treat properties and for low-income and vulnerable populations. In some instances the Green Deal and ECO may be combined.



Further information is available at:

http://www.energysavingtrust.org.uk/Take-action/Find-a-grant/Green-Deal-and-ECO

https://www.gov.uk/green-deal-energy-saving-measures/how-the-green-deal-works

There may be other programmes and grants available to provide assistance with energy-saving measures and renewable energy devices. The Energy Saving Trust Grant/Funding Database can provide information about funding.
You can find this at http://www.energysavingtrust.org.uk/funding/search.

PLANNING PERMISSION

If you are carrying out development works, such as adding insulation or a conservatory, converting your loft, replacing your windows or installing a renewable energy measure such as a solar panel, you may need to obtain planning permission from the Council. Planning policy guidance and the criteria against which these types of development will be assessed may be obtained from the Planning Portal website (www.planningportal.gov.uk), from the Council's Planning Department website at www.rbkc.gov.uk/advice or through Planningline (tel: 020 7361 3012).

In some cases, small domestic extensions and loft conversions to houses (but not flats, maisonettes or flat conversions) do not require formal planning permission provided they meet specific criteria, which are called permitted development rights. Permitted development rights are dependent on a number of issues including their volume and position of the development, and also the type and size of your house (for example, a detached, semi-detached or terraced house). Development rights may also be affected if your property is located in a conservation area. Further information on permitted development rights and the requirement for planning permission can be obtained from the Planning Portal website (www.planningportal.gov.uk).

Conservation Areas and Listed Buildings

The Borough has inherited a remarkable historic townscape and a large number of historic buildings. The exceptional quality of the built environment underpins the Borough's success as a highly desirable place in which to live, work and invest. Over 4,000 buildings are 'listed' and there are over 100 garden squares. Conservation areas cover more than 70 per cent of the Borough. The historic environment is central to the character of the Borough and the Council has a duty to pay special attention to the desirability of preserving or enhancing the character or appearance of conservation areas. The Council is committed to conserving the borough's historic environment, preserving and enhancing the character and appearance of its conservation areas and the special historic and architectural interest of its listed buildings.

Listed Buildings are protected by law. As such, a listed building may not be extended or altered, internally or externally, in any way which may affect its special character, without listed building consent being approved by the local planning authority. This is a separate process to obtaining planning permission. This would include works such as refacing external walls, replacing windows and installing external boiler flues.

English Heritage has produced a range of leaflets called 'Framing Opinions', which include advice on draught proofing traditional windows (please call English Heritage on 0870 333 1181 to order a copy).

Please use the planning department's planning advice service, for further advice on carrying out such works to listed buildings or within conservation areas.

Planning Permission and Listed Building Consent

If you wish to install insulation, ventilation, or any other energy saving measures in your property which require planning permission and/or listed building consent you will need to consider the following:

- Has it been designed specifically and sensitively to the building?
- Will it harm the historic integrity and/or fabric of the building?
- Will it cause demonstrable harm to the character or appearance of the building or conservation area?
- Will it be visible from the public realm?
- Is the building structurally capable of withstanding the imposed and dynamic loads?

Any application for renewable energy within a conservation area should ensure that the installation:

- Does not project above the main roof line;
- Does not impact upon the appearance of the property when viewed from the public realm.

Building Control

Whether or not you require planning permission for your work, you will usually need to obtain Building Regulation approval. In addition to energy efficiency measures, RBKC Building Control deals with matters such as fire safety, structural work, building accessibility for people with disabilities, sound insulation, ventilation, sanitary & drainage provision, and safety around guarding & stairways. Further advice can be obtained from RBKC Building Control; contact Tel: 0207 361 3838, email: building control@rbkc.gov.uk, website: www.rbkc.gov.uk/buildingcontrol

Case study – 100 Princedale Road

Octavia Housing coordinated an innovative experiment to retrofit a three-storey Victorian terraced house on Princedale Road, reducing carbon emissions by 80 per cent. The project was performed in line with the Passivhaus philosophy, which applies meticulous attention to detail and a quality assurance process to ensure energy efficiency and reduced carbon emissions.

In the project: “standard building techniques and accessible materials were adapted to produce innovative solutions throughout the building. The floors were rehung on steel beams which rest in insulated pockets within the party walls, eliminating problems of airtightness, thermal bridging and condensation. Triple-glazed sash imitation windows were developed for the project. A labyrinthine underground heat exchanger was created. Insulation was applied internally in two layers and most of the hot water is now provided by a high-efficiency solar thermal system”!

In the case study box the last sentence stops midway through. It should be “The project has resulted in the home producing 83% less CO2 emissions, it uses 94% less energy and saves the tenants in excess of £900 a year on fuel bills!

FURTHER INFORMATION

Centre for Alternative Technology www.cat.org.uk (Tel: 01654 705950)
The centre provides a free Information Service on a range of topics including solar water heating, photovoltaic electricity and energy conservation.

Energy Saving Trust www.energysavingtrust.org.uk (Tel: 0800 512 012)
A not-for-profit- organisation providing advice and comprehensive information for a range of topics including insulation, heating controls, renewable energy generation and energy saving grants.

English Heritage www.climatechangeandyourhome.org.uk
Information about ways to save energy if you own or manage an older home.

The Green Register of Construction Professionals www.greenregister.org.uk
Listing of architects, engineers and trades people who have demonstrated a commitment to sustainable building practices.

National Insulation Association www.nationalinsulationassociation.org.uk (Tel: 01525 383313)
The National Insulation Association. For information on insulation and installers.

RBKC Building Control www.rbkc.gov.uk/buildingcontrol (Tel: 0207 361 3838)

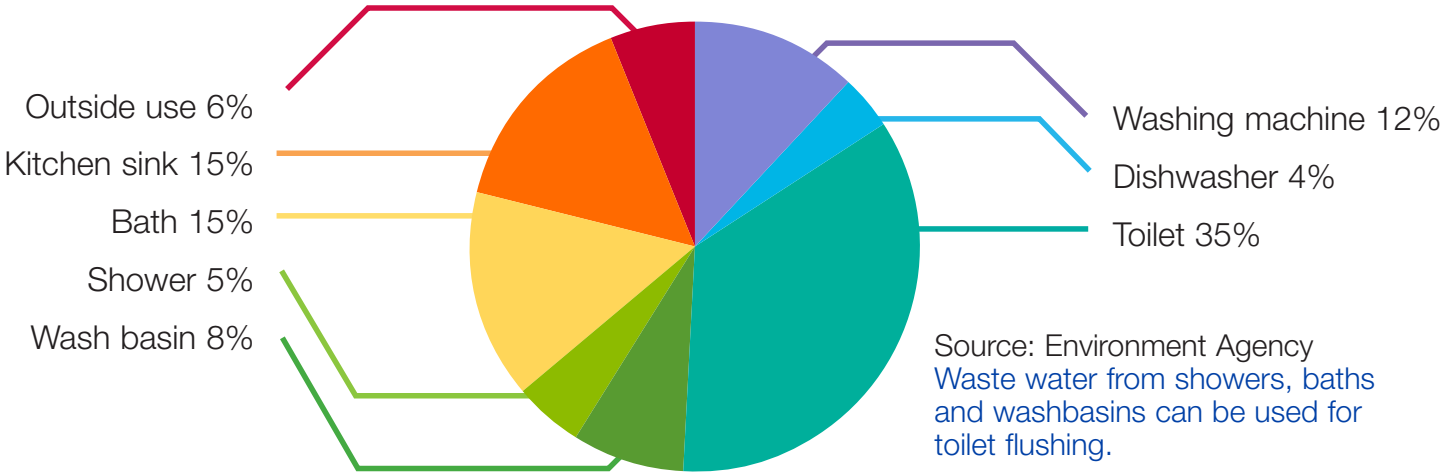
Planning Portal www.planningportal.gov.uk

SAVING WATER

Introduction

Water is an essential resource. Although the supply of fresh water in the UK appears to be plentiful, there are issues that affect us all. There is increasing contamination of groundwater, lakes and oceans and there is the over-use of water. Households are the biggest users of water (52 per cent of all water used in the UK) and use an average of 150 litres of water per person per day, of which 30 per cent is flushed down the toilet.[16][17][18]

Average Household Water Use



Source: Environment Agency
Waste water from showers, baths and washbasins can be used for toilet flushing.

MINIMISING WATER USE

Showers and Taps

A dripping tap could waste as much as 5500 litres a year.[19] When installing or replacing water fittings such as showers and taps, choose models that have water saving features. These can save up to 80 per cent of the water used in 'ordinary' taps.[20] And remember, a quick shower uses a third of the water of a bath.

WCs

WC cistern dams reduce the amount of water required to fill a toilet after each flush. This is done either by reducing the total volume of a cistern by placing a suitable object in it or by placing a container in a cistern that retains some of the water, preventing a full volume flush. You can also replace your existing toilet with either a dual or low flush toilet. Dual flush toilets use either 3 or 6 litres per flush, low flush toilets use 2 to 4 litres, compared with old style cisterns that use 10 litres per flush.[21]

New sanitary fittings which are connected to existing drainage do not require Building Control approval. Approval is only required for new bathrooms connecting to new drainage.

Harvesting Rainwater

Rainwater can be collected and used to water the garden and wash the car. Rainwater collection systems can be simple or complex depending on your needs, but in domestic cases a simple water butt connected to the rainwater drains that collect water from your roof will be all that you need. Please be advised that rainwater butts can fill very quickly, even if connected to the outflow from a small roof. An over-flow bypass valve should be fitted to allow any excess water to be discharged into the rainwater drainage system.

DID YOU KNOW...

A DRIPPING TAP COULD WASTE AS MUCH AS **5,500 LITRES** PER YEAR

Greywater Recycling

Greywater, the waste water from baths, showers and washbasins (but not WCs), can be collected in a household-scale reuse system and treated to a standard suitable for WC flushing. Based on the average household water use figures (see pie chart), greywater recycling could give potential savings of around a third of daily household water demand.

Greywater is usually clean enough for flushing the toilet with only basic disinfectant or microbiological treatment. Untreated greywater can also be used for garden watering if used immediately after it is produced. Whilst it is never appropriate to dispose of chemicals or wash out painting equipment in domestic basins or baths, particular care is needed when water is to be recycled through a greywater system. Further advice on such systems can be obtained from the Water Regulations Advisory Scheme (www.wras.co.uk Tel: 01495 248454), and the Environment Agency (www.environment-agency.gov.uk Tel: 08708 506506).

Any new drainage, or extension of your existing drainage requires Building Regulations approval.

Controlling Rainwater Run-off

It is important to think about where the rainwater goes that falls on our properties. If there are a lot of paved or hard surfaces on and around your home, the water will run off these rather than being absorbed into the ground, placing additional strain on existing storm-water drainage systems.

Rain can pick up contaminants off the paved surfaces such as car oil, litter and heavy metals from cars. As run-off generally drains into rivers and streams, these contaminants affect water quality and wildlife in our waterways.

Permeable surfaces, which allow rainwater to drain freely into the ground, are the best option for paved areas. In addition to wood chippings and grass, you can use brick pavers or recycled permeable concrete that allows water to flow through them. The use of gravel is not recommended for semi-hard paths since the sourcing of gravel can have adverse impacts on natural habitats and landforms.

HOUSEHOLDS ARE THE BIGGEST USERS OF WATER.
WE USE AN AVERAGE OF
150 LITRES
OF WATER PER PERSON PER DAY.

30%
OF THIS IS FLUSHED DOWN THE TOILET.

SUSTAINABLE URBAN DRAINAGE SYSTEMS (SUDS)

Sustainable urban drainage systems seek to control rainwater and surface water run-off, as well as potential pollution, as close to its origin as possible before it is discharged to a watercourse in the ground.

Traditional urban drainage systems consist of underground pipes, which are designed to drain as much water away from sites as quickly as possible. SUDS seek to provide an alternative to traditional drainage systems and can address environmental issues by replicating natural drainage systems. At a very simple level, SUDS can include using rain water butts in your garden or using permeable material for hard surfacing around your home. For larger development proposals, it is possible to develop complex systems that collect and store rainwater to allow gradual infiltration or controlled release. Techniques involve creating swales, balance ponds, permeable surfaces, filter drains and soakaways.

The benefits of SUDS can include:

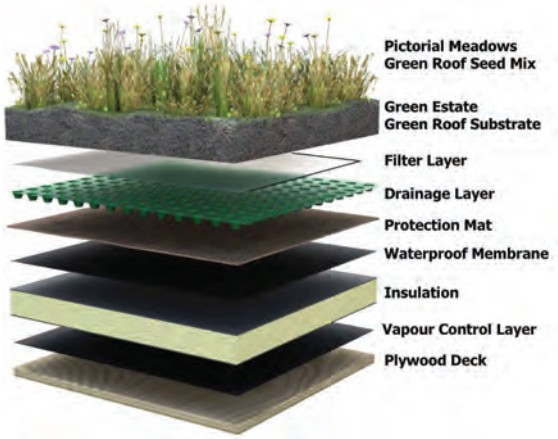
- Reduction of flooding,
- Protection or enhancement of water quality,
- Recharging of groundwater as well as,
- Provision of a habitat for wildlife in urban areas.

The Council has produced a tool that calculates the amount of SuDS required for small development. This tool can be accessed at http://www.rbkc.gov.uk/planningandconservation/planningpolicy/sudstool-smalldevelopment.aspx

Further information on SUDS can be found at http://www.susdrain.org/ (Tel: 020 7549 3300).

GREEN ROOFS

Green roofs are purposefully designed roofs that incorporate a vegetative element ranging from low growing mosses and lichens to more intensive plants such as shrubs and even trees! Green roofs help regulate water flow from a roof by slowing down the flow rates. They also provide a valuable wildlife resource and even help regulate the temperature of the building beneath. The advantages of a green roof are wide and varied, and include the following:



- Low maintenance is required with little or no artificial irrigation.
- Improved rainwater management: volume and rate of rainwater run off from the roof is reduced dramatically.
- Reduction in sound transmission through the roof.
- Improvement of air quality by removal of carbon dioxide, by release of oxygen and water vapour, and absorption of pollutants.
- Provision of a habitat for wildlife.

Further details on benefits can be found at www.livingroofs.org.

Please note that some green roofs may not be allowed in conservation areas and listed buildings. The replacement of a roof covering requires Building Regulations approval;

WATER POLLUTION – WHERE DOES WASTE WATER GO?

Any substance entering surface water drains is likely to end up in streams and rivers. Washing your car outside your house, or connecting your washing machine to the wrong drainage system leads to water pollution. You can do your bit to make sure that your day-to-day activities do not add pollution to our streams and rivers.

In your house, it's possible that some drains may be misconnected and wrongly discharging into the surface water drainage system rather than foul waste water drainage system (although many properties in the Royal Borough do have combined systems). When connecting a washing machine, dishwasher, hand wash basin, bath, sink or toilet, make sure that it goes to into the foul waste water system. Never connect pipes from these appliances into the rain water roof pipes or gullies.

You can check where the water goes by lifting a manhole (if present) in your garden and then run taps, operate a washing machine or flush a toilet. If the water is not entering the foul wastewater sewer system, an appropriate connection to the foul drainage should be made to ensure that the waste water does not find its way into the borough's streams and brooks. If you do have a combined drainage system then it is important that all connections are well maintained, as ineffective systems will lead to the release of noxious fumes to the environment.

SuDS systems should remain separate from existing systems as run off will return to the ground, rather than being treated.

More information on drains and drain layouts can be obtained from Thames Water at http://www.thameswater.co.uk/help-and-advice/12954.htm

In your garden, excess fertilisers and pesticides applied to gardens and lawns wash off and pollute our streams and rivers. So use pesticides and fertilisers sparingly. Better still, try organic gardening.

Washing your car on your street will send detergents, grease and oil down the drains all the way to borough's streams and brooks. Use a commercial car wash, especially the ones with facilities to treat and recycle its wastewater. Never dump engine oil or other fluids down the drains.

What you can do next…

- If you are replacing taps or shower heads, choose models that have water saving features
- If you have an old style cistern, you could consider installing a simple WC cistern dam
- Replacing an old style cistern with a dual flush, or low flush toilet will significantly reduce the volume of water used
- If you have an outside space, are you able to install a rainwater collection system

FURTHER INFORMATION

Environment Agency www.environment-agency.gov.uk (Tel: 08708 506506).

Living Roofs www.livingroofs.org

A UK resource for green roof information and research.

SuDS for Small Development Tool www.rbkc.gov.uk/planningandconservation/planningpolicy/sudstool-smalldevelopment.aspx

Online tool that calculates the increase of surface water run-off as a result of new impermeable surfaces associated with the development, and different options of SuDS which can be implemented.

Susdrain www.susdrain.org

Resources for those involved in delivering sustainable drainage systems.

Thames Water www.thameswater.co.uk

Provides water-saving advice for the home.

Water Regulations Advisory Scheme (WRAS) www.wras.co.uk (Tel: 01495 248454).

EFFICIENT USE OF RESOURCES

Introduction

A lot of the materials used in our homes have environmentally harmful production methods. Where possible we should seek to use materials that are independently certified as being less harmful to the environment, and natural products for flooring and paints.

The waste generated from our homes can have a significant impact on the environment. Currently a large proportion of domestic waste is used in 'energy from waste' facilities. This can be reduced by carefully looking at the amount of materials we order when carrying out building and improvement works, how much packaging products come in, and identifying those materials that can be reused or recycled where possible.

Sustainable Materials

Where possible, obtain recycled materials including bricks, roof tiles and slates, and crushed concrete, as well as using materials from within your home. Local salvage yards or demolition sites can be a source of ready materials. Check with the Architectural Salvage Index (01483 203221) and also the Salvo Network (www.salvo.co.uk) to ensure that salvage has been obtained ethically.

Use local materials from local suppliers and use products made from recycled materials. 'Local' has been defined by the National Association of Farmer's Markets as an area within 50 miles of a major urban centre. However, take care when securing a locally sourced product as it may lead to a compromise in the environmental quality of the product – a balance needs to be sought. Also ask suppliers whether they will take back any unused or waste materials.

The Building Research Establishment (BRE) has published a 'Green Guide to Housing Specification'. The guide contains typical wall, roof, floor and other construction materials listed against a simple environmental performance rating scale running from 'A' (good) to 'C' (poor). This can be viewed online at www.thegreenguide.org.uk. You must register to access the guide, but it is free of charge. A hard copy can also be ordered at www.brebookshop.com.

Paints and Finishes

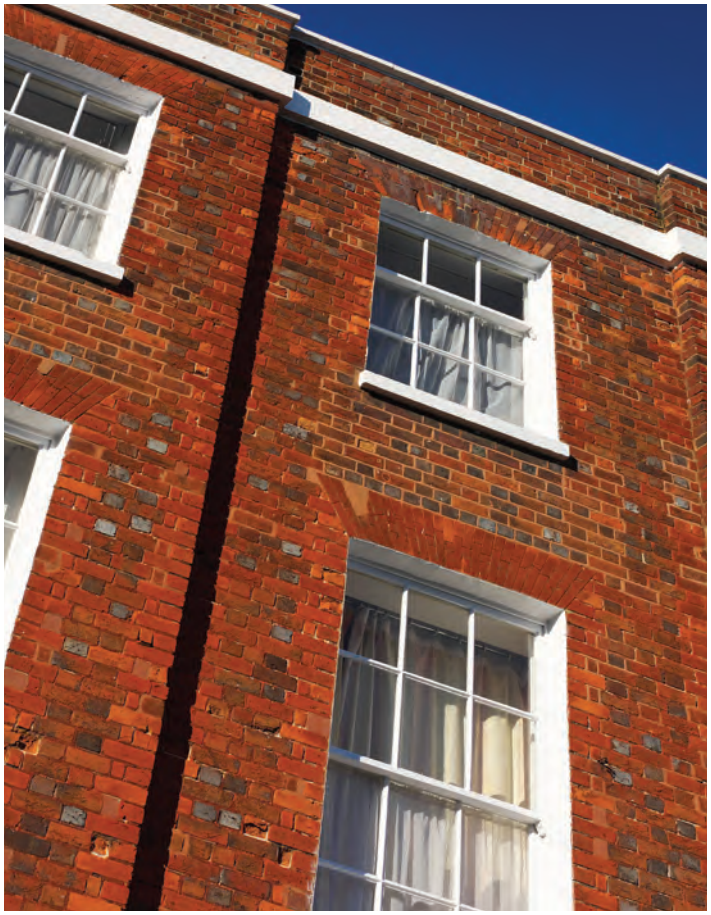
Use paints that are water or vegetable oil based since these have lower health and environmental impacts than oil-based paints and varnishes, which give off volatile organic compounds. Reclaimed paint may be available from a member of the Community RePaint network (www.communityrepaint.org.uk).

If you must dispose of your old paint you can contact the Corporation of London on 020 7332 3433 to arrange a free collection. Alternatively you can complete an online form. You are entitled to 3 collections of 50L of containers per rolling year. Please do not pour the paint down the drain or throw it in your waste bin.

Wood

Avoid tropical hard woods (including plywood) unless they are clearly labelled as being wood from a well-managed source. Make sure that all wood is from an independently certified source such as the Forest Stewardship Council (please see www.fsc-uk.org for further information). Softwood in the UK is likely to be treated with preservatives. However, it is possible to find European non-treated softwoods – such as pine and birch plywood. Semi-durable wood such as larch from certified sources is another alternative.

Wood can be used that is unfinished (not painted or varnished) and can then be treated using natural oil and wax, that allows the wood to breathe, which helps stabilise relative humidity in the home.



Windows

Use timber windows and doors as they are considered to have less environmental impact than other options. WWF-UK have collated research on the costs and benefits of wooden and u-PVC windows called 'Window of Opportunity', which is available from their website http://www.wwf.org.uk/filelibrary/pdf/windows_0305.pdf or via telephone (Tel: 01483 426444).

Insulation

There are numerous ecological concerns associated with conventional insulation materials (such as glass wool, mineral/rock wool, polystyrene, rigid urethane foams, vermiculite and wood wool) from their manufacture through to their disposal.

Alternatives to conventional insulation materials include sheep wool and cellulose. These are effective insulators, more suitable for traditional buildings and are great for DIY enthusiasts, as they are more appealing to handle than rock wool or mineral wool. Other natural materials include cork board, recycled newspaper and flax.

Flooring

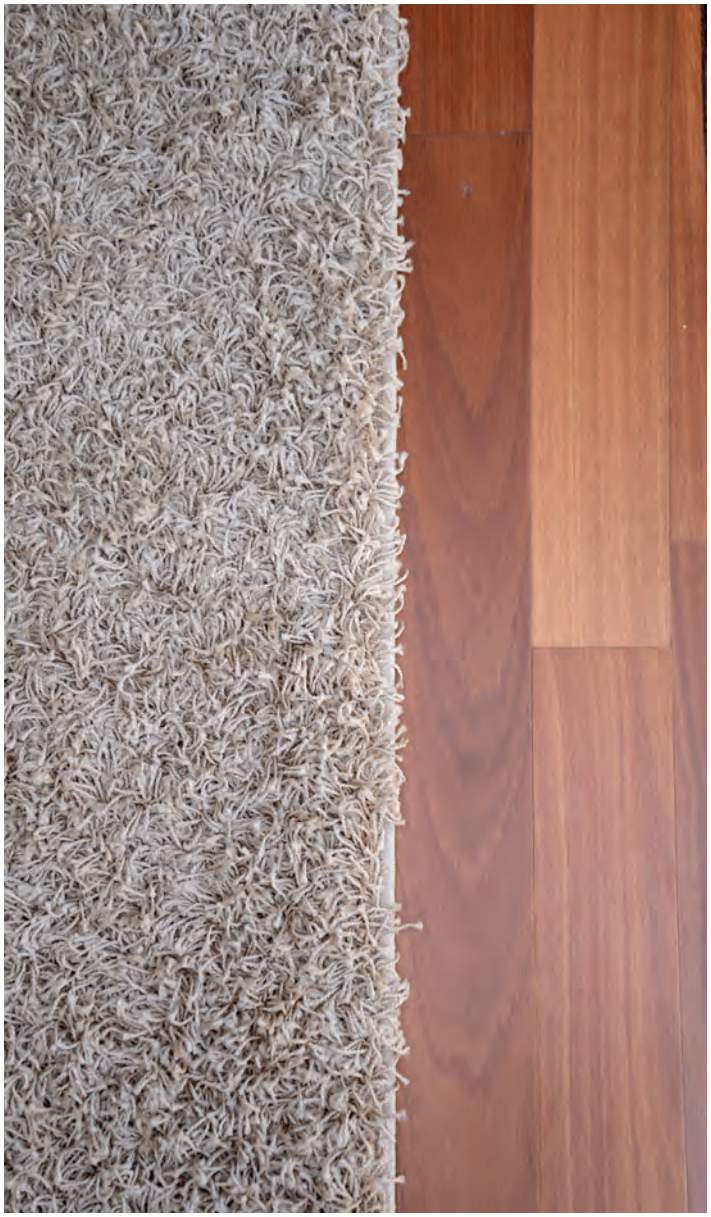
Most woollen and synthetic carpets are dyed with synthetic dyes, made from a range of chemicals. Consider using linoleum, cork, grasses, bamboo, straw and sisal as alternatives, or ensure you are selecting a 100 per cent natural carpet.

For underlay, you can use underlay boards manufactured from compressed wood fibres.

Household Waste and Recycling

In 2009/10 the Royal Borough of Kensington and Chelsea produced 79,000 tonnes of waste, of which household waste accounted for around 71 per cent (56,668 tonnes).[22] The Western Riverside Waste Authority (which manages waste for the Royal Borough, Hammersmith & Fulham, Lambeth and Wandsworth) sent around 77 per cent to landfill (down from 84 per cent in 2005/06) whilst 22 per cent was recycled or composted (up from 16 per cent in 2005/06). In 2011 the Royal Borough stopped sending waste to landfill, switching to an 'energy from waste' facility (also called incinerator). You can contribute to reducing the amount of waste sent to the 'energy from waste' facilities by reusing and recycling as much as possible.

When carrying out home improvements or undertaking building works, the amount of waste going to 'energy from waste' facilities can be reduced by looking carefully at the quantity of materials ordered and the options for reusing or recycling them later on. There are facilities at Smugglers Way (Wandsworth, SW18 1JS) to recycle rubble, metal and untreated wood. Many other items may be of value to someone else so consider advertising them online or in newspapers/ magazines.



RECYCLING HOUSEHOLD WASTE IN RBKC

Domestic waste (recycling and rubbish) is collected twice each week in Kensington and Chelsea. The Council collect domestic waste as normal on Easter Monday, May and Spring Bank Holidays (special arrangements for the remaining Bank Holiday periods are publicised in the local press and information offices).

To make recycling as easy and as convenient as possible for all residents, there are two schemes in place for the collection of recyclable materials:

- Clear bag recycling for residents living in street level properties
- Mixed bank recycling for residents living in mansion blocks, flats and estates

All the following materials are accepted for recycling:

- paper (not shredded), newspapers, magazines, junk mail, telephone directories, envelopes
- cardboard
- glass bottles and jars (no lids)
- tins and cans (please rinse)
- plastic bottles, pots, tubs and trays
- food and drink cartons (please rinse and flatten)

Contamination

Contaminated recycling has been increasing in the borough. Main contaminants include food and garden waste, unwanted plastics such as such as toys and polystyrene, clothing and textiles, shredded paper, electrical items and nappies. As much as £400,000 per year is wasted dealing with contamination and if contamination levels are too high the whole load is rejected, sending otherwise perfectly recyclable waste to the energy-from-waste plant.

Mini-recycling centres

There are 26 mini-recycling centres located around the borough, each having up to five mixed recycling banks on site. You can recycle the same items as listed above. In addition, most mini-recycling centres offer separate facilities to recycle textiles, shoes, books and toner cartridges.

Recycling and refuse amenity sites (public tips)

Kensington and Chelsea has no Recycling and Refuse site. Royal Borough residents can take their unwanted household items, free of charge, to the following Recycling and Refuse Amenity Sites situated in Wandsworth and Battersea:

Western Riverside Reuse and Recycling Centre
Smugglers Way, Wandsworth, SW18 1JS
Monday to Friday, 9am to 4pm; Saturday 8am to 6pm; Sunday 8am to 5pm
tel: 020 8871 2788

Cringle Dock
Cringle Street, Battersea, SW8 5BX
24 hours a day, seven days a week

'Too Big for the Bin' collection service

Bulky items, such as furniture, can be booked for a special collection. Collections can only take place from residential property within the Royal Borough and exclude commercial customers or businesses; including property managing agents, commercial and private landlords (for collections of this nature please use commercial waste services).

Further Information

http://www.rbkc.gov.uk/environmentandtransport/domesticrecyclingandrubbish/recycling.aspx or call at Streetline on 020 7361 3001.

FURTHER INFORMATION

Green Building Store http://www.greenbuildingstore.co.uk/
Specialises in environmentally sensitive building products.

London Reuse Network http://www.londonreuse.org/buy/
Charities, social enterprises and other not-for-profit organisation providing reused and reclaimed items, including paint, building materials and upcycled furniture.

Recycle for London www.recycleforlondon.com (Tel: 0845 3313131).
Provides information on how to reduce, reuse and recycle waste in the home, and identify your nearest recycling facilities.

Recycling in RB Kensington & Chelsea http://www.rbkc.gov.uk/environmentandtransport/domesticrecyclingandrubbish/recycling.aspx
How to recycle at home in the borough, and links to home composting tips.

Salvo http://www.salvo.co.uk/

CREATING YOUR GREEN SPACES

Introduction

There are many demands on the space at the front of your home: it must provide safe access and a sense of security and privacy – as well as space for rubbish bins and recycling bags. As a result, many of our front gardens end up looking sad and neglected. However, just a few simple adjustments to the smallest paved or concreted front yard can make room for colourful plants and create habitats for insects, birds and butterflies. By keeping our front gardens green we can also reduce the risk of flooding, lower levels of pollution, muffle traffic noise and discourage antisocial behaviour. Even a few plants in a windowbox can make a difference.

Type of Spaces

The more space that can be used for plants, and not hard, impermeable surfacing, the better. Any planting and porous surfacing that water can drain through, rather than run off, will help to prevent flooding. If your garden is paved over, lift a few small areas of paving and develop planting pockets by improving the soil underneath with peat-free compost. Some residents also create a simple structure with wooden trellis and climbing plants to create a green screen where they can hide rubbish bins and make the space more attractive.

Balconies, Roof Terraces and Window Boxes

However small your space is for gardening you can still follow many of the tips. Use potted plants and window boxes, and try composting or using a wormery if you can. You will need to protect plants from wind and dehydration on balconies – group pots together to cut down on water loss in the summer. If you are in a block of flats, try to persuade your neighbours to green their balconies at the same time to provide a more worthwhile resource for blackbirds, bumble bees and butterflies.

For colourful container displays all year around, replace the compost from time to time and water regularly (daily in summer) and replant in early spring and late summer. Plants suitable during winter and spring are ivies, miniature conifers, Pansies, periwinkle (Vinca minor) polyanthus, crocuses, forget-me-nots, narcissi, daffodils and cyclamen. Plants suitable during summer and autumn are busy lizzies, campanula, dianthus, lobelia, marguerites, nasturtiums rain daisies, petunias, begonias, geraniums and salvia.

Front Gardens and Off Street Parking

There is an increasing trend of people paving over front gardens to allow for off street parking, but the following should be considered when making this decision.

- Planning permission is needed to pave your front garden with impermeable surfaces. Lay permeable hard surfaces only where needed. In most cases all that is needed are paved tracks for the car wheels.
- Lay permeable hard surfaces on a gradient to allow surface water to run onto soft landscape areas.
- A cut off drainage channel should be incorporated into the design to stop surface water from discharging across the public footway.
- Planting areas should be laid out round the parking space. Some types of shrub are particularly suitable for front gardens. If your front garden gets little sunlight, look for plants that thrive in shade such as Ferns, Hostas, Busy Lizzies, Pansies, Fuschias, Ivies, Fatsia Japonica, Periwinkle, Butcher's broom. If it's going to be difficult to water a sunny garden, choose plants that need less moisture, such as Lavender, Rosemary, Sage, Thyme, Bamboo, Grasses, Geraniums, Santolina, Ladies mantle, Cordyline, Agave and Iris.

Further details and an application form for vehicle crossovers can be obtained by calling the Council's Highways team on 020 7361 3001. Please note that you will need planning permission to pave more than 5m2 of your front garden with non permeable materials. In addition to the 5m2 rule, there are other circumstances that require planning permission. Please contact the Planning Department by calling 020 7361 3012.

BIODIVERSITY

Biodiversity is the amazing range of life on earth, including all species of plants and animals and the variety of habitats in which they live. There is a wealth of insects and animals that live in gardens, which can be encouraged by creating a pleasant environment for them. Maximising the amount and variety of plants in your garden can help to encourage wildlife, as does minimising the amount of hard paved surfaces. Hedges and trees can be very important, but any planting will create habitat and shelter.

Promoting Wildlife

- Try to include some native wildflowers, such as primroses, cornflowers or foxgloves for nectar for insects and butterflies.
- Attract birds into your garden by putting out bird food and a saucer full of water on a bird table, and put up nesting boxes in safe spots.
- Plant berry and seed producing plants such as pyracantha and sunflowers to feed birds.
- Leave some of your tidying up until the spring. Birds can eat the seeds of some flowers over winter and ladybirds like to shelter in dead flower stalks.
- Plant a hedge – a mixed hedge can provide colour and interest, plus food and shelter for wildlife.
- Consider planting a tree if you don't already have one. Trees filter air pollution, shelter birds and act as air conditioners, keeping areas shaded and cool.
- Consider adding a pond to your garden – it will attract frogs, toads, dragonflies and sometimes even more exotic wildlife like newts.

Be sure to carefully consider what shrub or tree you plant. Some species could adversely affect the structure of your or your neighbour's house with subsidence. Please contact Building Control for advice on this matter (Tel: 020 7361 3838, email: building.control@rbkc.gov.uk).

Organic Gardening

- The best way to control pests in the garden is not by using pesticides; it is by encouraging their natural enemies. For example, birds, frogs and hedgehogs eat slugs and snails, and ladybirds and hoverfly eat greenfly and their eggs.
- Avoid using products such as slug pellets and chemical pesticides that can harm wildlife and pets.
- Grow disease-resistant varieties of roses and other plants to reduce pesticide use.
- Grow your own fruit and vegetables. You might be surprised at how much you can grow in a small space. If you do grow vegetables, plant some flowers amongst them. Plants like marigolds and poached eggplants attract ladybirds and hoverfly, which eat greenfly and other pests.
- If there are a lot of trees near your garden, use the leaves in autumn to make your own leaf mould.
- Mulch your garden plants with grass clippings. This keeps down weeds, improves your soil and saves water by preventing the ground from drying out so fast.

Peat is a finite resource. Many wildlife habitats are now threatened by peat extraction. There are many alternatives to peat. Some of these, like garden compost and leaf mould, you can make yourself. Others, like mushroom compost, are widely available and often cost less than peat.

WATER USE IN YOUR GARDEN

- Consider installing a water butt or using greywater to collect water from your roof to water your garden.
- Try not to use sprinklers. If you must water your garden, remember infrequent watering is better than regular sprinkling as it encourages the roots to search for water.
- From June onwards, let your grass grow a bit longer. It will stay greener for longer without needing to be watered.
- Choose plants for their drought tolerance, for their compatibility with your soil and their intended position. You can ask your local garden centre or plant shop for advice.

COMPOSTING

Composting is an inexpensive, natural process that transforms your uncooked fruit, vegetable and garden waste into valuable food for your garden by returning important nutrients and minerals to your soil. Finished compost is great for using on flowerbeds, vegetable plots, and mixing into planters, and can really make your garden bloom. If used as mulch, it can also help suppress weeds, and retain moisture in the soil. You can install a compost bin in your garden and recycle your garden and organic kitchen waste – and even your neighbours' garden waste if they do not want it. Throwing it away or burning it is simply a waste of a useful resource. By composting at home you also reduce the amount of rubbish you put out for collection.

If you do not have enough garden compost to fill a compost bin, then you can use a worm bin to make small quantities of good compost.

For more information please visit www.recyclenow.com/compost or telephone 0845 077 0757.

Residents on many roads can also put grass, leaves, twigs, cuttings, small branches and other green garden waste out for a regular collection by the council. To find out if this service is available to you then please visit http://www.rbkc.gov.uk/pdf/garden_waste_calendar_26.04.13.pdf or telephone 020 7361 3001.

FURTHER INFORMATION

The London Wildlife Trust www.wildlondon.org.uk (Tel: 020 261 0447).
Produce a Wildlife Gardening Pack

The Royal Horticultural Society http://www.rhs.org.uk
Produced advice on parking in front gardens

FURTHER INFORMATION

The Sustainable Building Association publishes directories of practitioners and suppliers.
Tel: **0845 4569773**
www.aecb.net

Green Book Live provides a free online database of products and services that can help reduce your impact on the environment.
Tel: **01923 664 100**
www.greenbooklive.com

The Green Register of Construction Professionals is the first of its kind and is a listing of architects, engineers and trades people who have demonstrated a commitment to sustainable building practices.
The CREATE Centre
Smeaton Road
Bristol
BS1 6XN, UK
Tel: **0117 377 3490**
Email: **mail@greenregister.org.uk**
www.greenregister.org.uk

The Royal Institute of British Architects (RIBA)
Client Services holds a database of architectural practices that includes environmental expertise, ecological architecture and sustainable design. They can identify practices with these skills and can provide free advice.
66 Portland Place
London
W1B 1AD
Email: **cs@inst.riba.org**
Tel: **020 73073700**
www.architecture.com

For further information about this guide, please contact:
Climate Change Team
Royal Borough of Kensington and Chelsea
Council Offices
37 Pembroke Road
London
W8 6PW
Tel: **020 7341 5293**

Other publications

For more information on Greener Living and the Royal Borough's Climate Change Strategy visit, visit **www.rbkc.gov.uk**

The London Biodiversity Partnership for it's Private Gardens Habitat Action Plan
Tel: **020 7932 2241**
www.lbp.org.uk

The London Wildlife Trust for it's Wildlife Gardening Pack
Tel: **020 261 0447**
www.wildlondon.org.uk

London Ecology Unit Handbook: *Building Green* by Jacklyn Johnston and John Newton provides much detailed advice on using plants on roofs, walls and balconies and paved areas.
www.london.gov.uk/mayor/strategies/biodiversity

How to Make a Wildlife Garden by Chris Baines (Frances Lincoln), a book on gardening and wildlife.

Wildlife Gardening: A Practical Handbook by Fran Hill (Derbyshire Wildlife Trust).

The Royal Horticultural Society has produced advice on parking in front gardens, which is available at www.rhs.org.uk/learning/research/gardeningmatters.

Low Impact Living Initiative (LILI) provides factsheets on organic gardening and composting.
www.lowimpact.org

Guidance on permeable surfacing of front gardens, published by Communities and Local Government, outlines national policy on paving front gardens. This can be downloaded from their website:
www.communities.gov.uk/publications/planningandbuilding/pavingfrontgardens.

SOURCES

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