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Introduction

Following the record high temperatures the UK and the rest of the world has been wilting under, surely nobody can now deny the Earth is warming up. The causes are many, but one of the main culprits is the urbanisation of the planet – the concreting over of large surface areas, reflecting heat back into the atmosphere and preventing rainwater from filtering back into the Earth.

But what can we, as individuals or businesses, possibly do to help?

Probably more than you realise.

Because if you're reading this, you're most likely to be a professional landscaper, gardener, garden designer or builder. Couple that with the fact that almost a third of the UK's urban surface area is taken up by residential gardens*, and it becomes clear that the design decisions you make about paving, planting, and importantly, drainage, are now more critical than ever before.

Fortunately, there is hope. By looking at the trends in garden design both in the UK and abroad it's clear that for the world's amateurs and professionals alike, when you're considering changes to even the smallest patch of garden, you should consider the changes happening to the entire planet.

*Source – Ordnance Survey.



1. COP26 and a pledge from the powerful

Warmth translates into water – a hotter atmosphere becomes a wetter atmosphere. Warmer air holds more water and that delivers more intense rainfall, more powerful storms, more frequent hurricanes – all resulting in more homes (and therefore more people) overwhelmed by rushing water, flash floods and freak tides. What's also concerning is that fact that our architecture and infrastructure, from our guttering to our ageing sewer systems, is all designed to cope with the climate of old, not the climate to come.

So in Glasgow, back in October '21, some of the world's leading scientists and politicians put their heads together at the United Nations Climate Change Conference (commonly called COP26) to try and limit global warming to 1.5 degrees Celsius. But even if they succeed, what does that mean for us?

Here in the UK, a one and a half degree rise would mean a few less days of frost in winter. While that might be good news for gardeners, on the darker side, more people could be dying from heat stress in summer. Economic losses due to river flooding will vastly increase – as will sleepless nights due to 'tropical' temperatures.

But out there in the rest of the world, the stats get scarier. More frequent marine heatwaves could cause coral reefs to decline by 80%. Fiercer wildfires could cover 41% more ground. Hunger could spread further too, as crop yields of maize drop 6%; wheat harvests, 5%.

A rise of 2 degrees or more, and the possibilities get too frightening for this particular forum, so let's not go there. Instead, while we acknowledge the increasing challenge that Britain and the rest of the world faces to keep global temperatures from rising out of control, this book will explore how industry and individuals across the planet are creating solutions – through landscaping, planting appropriately, encouraging more biodiversity and other sustainable practices. We'll study the stats, get into the global design trends being driven by climate change, look into newly available technology, and hopefully feel encouraged at the innovative thinking happening here in the UK and across the world in the effort to control climate change.

We'll dig down into the current move towards sustainable drainage solutions (SuDS) and how we can manage rainwater better in garden design projects. We'll investigate what other natural resources are at our disposal. We will also look at how the gardening and building industry, local authorities and governments are either following or leading the new thinking.







2. Trends in UK garden design

The days of planting a few begonias around a square of lawn are long behind us. Today, most of the UK's homeowners are savvy enough to realise a well-designed and landscaped space can add thousands to the value of their property. Fortunately, many are also realising that these spaces are invaluable to the environment too.

According to House and Garden magazine, one trend to look out for is a move to wildlife-friendly, plant-led gardens. They believe the thinking now is biodiversity first — aesthetics last. Forget borders strimmed to within an inch (or centimetre) of their lives, natural, rough-round-the-edges design is perfectly acceptable. Not just acceptable, it's to be celebrated.

This thinking was already in evidence at the big gardening design shows. 2021 was a landmark year for eco-friendly gardening with an organic garden winning Gold at the RHS Chelsea Flower Show. Designed by garden designer and landscaper Tom Massey, this was the first ever organic show garden at the event. Tom was determined to create a space without chemical pesticides or fertilisers and using peat-free soil. While non-chemical pesticides can leave plants at risk from slugs, this can be compensated by things like planting a small pond to encourage toads – whose favourite delicacy is (you've guessed it) slugs. You can find out more about Tom and his approach to gardening **here**.

Getting drastic on plastic

While the Chelsea show raised its enthusiasm for all things organic, it very much reduced its use of certain plastics. The RHS has now banned floral foam from all its garden and horticultural shows. And rightly so. The green foam, familiar to flower arrangers across the land, contains microplastics and is completely non-recyclable (fragments can actually contaminate compost).

This reduction in the use of single-use or non-recyclable plastic is very much a trend in gardening circles. More and more garden centres are encouraging the reuse of pots and seed trays that are already in the system – and not restocking with new ones. With garden-related spending up 77% (April to June 2021) compared to the previous quarter**, this can only be a good thing.

As the use of plastics comes down, so it would appear does the age of the average green-fingered individual. Country Life magazine cites a rise in gardeners under the age of 45 – and most of them climate-conscious and ready to try new ideas and techniques. One of these is exploring the idea of drought-tolerant planting. Thanks to more prolonged periods without rain due to climate change, Mediterranean-influenced gardening design is becoming more widespread in countries like the UK.

Plants such as rosemary, lavender and olive trees all originated in countries with minimum rainfall. It's now also becoming more common to see South African plants such as red hot pokers popping up above the copings of British garden walls.

**Source – Nationwide

en trends and solutions



Mimicking mother nature

A more holistic approach is the trend for Biophilic Design - an attempt to mimic and replicate nature, often in cities and urban areas. Some describe it as breaking down the barrier between inside and outside. It's a concept used within the building industry to increase the connectivity between the building occupant and the natural environment, through the use of natural lighting, ventilation and landscape features. One of the most eye-catching of these is the addition of trees and plants into walls and interiors. Biophilic Design considers and incorporates such things as light, air, water, plants, animals and natural landscapes into urban environments to enhance human well-being. Whilst the first two relate to the building itself, the remainder can all be applied to the design of the exterior surroundings. By considering every detail – using natural colours and earth tones, for example, or weathered materials – the concept has been found to radically improve mental health. Also, by adding plants and trees and incorporating other ideas like green/blue roofs, the built environment is better able to manage rainwater runoff as it means fewer hard, impermeable surfaces.

However, if replicating nature on a smaller scale is what you're trying to achieve, you can always investigate the trend for planning and designing a rain garden. Rain gardens are a relatively new idea. First developed in the United States in the 1990s, these features, also known as bioretention facilities, are not only an environmentally friendly way to deal with heavy rain and stormwater – reducing flow rate, total quantity and pollutant loads – they can add both beauty and biodiversity to outdoor spaces.

We'll go into more detail about rain gardens in Chapter 4, where we'll also cover the trend for more meaningful management of rainwater, and designing SuDS (sustainable drainage systems) into landscaping projects. With climate change seemingly creating more and more of a feast or famine supply of rainwater, British gardeners can no longer rely on the Nation's unique geographical location, traditionally giving them conditions gardeners around the world could only dream of.

In truth, if things continue the way they are going, we may need to look increasingly afar for solutions. The next chapter may be a good place to start...



3. A world problem mitigated by global trends

On a cold rainy day in Britain, we can only dream of the hot, dry climate of Australia. Of exchanging the brolly for the 'barbie'. But this is an instance where the grass isn't always greener on the other side.

As we've seen in the news, over in Oz they're having some real issues with climate change. Bushfires have been particularly fierce in areas around Canberra, Melbourne and Sydney in recent years. One reason Aussie landscapers and garden designers are getting requests for more water-sensitive gardens. Here, rainwater runoff from roofs is directed into planted swales or ponds within the property. This slows down the flow of water to a more natural level and can also provide a valuable source of water for animals.

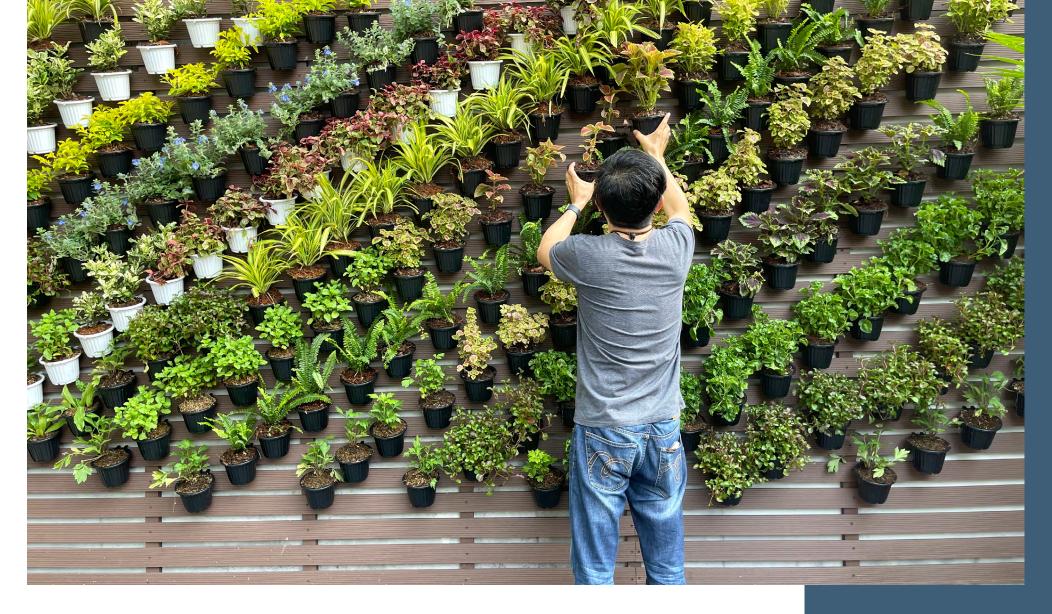
Emmaline Bowman, a landscape architect based in Melbourne, also reports that more people want their outdoor spaces to be productive, with areas for herbs and vegetables becoming increasingly popular. There are other benefits too; espaliered fruit trees hide ugly walls and fences, and planted herbs release aromatic scents when you brush against them.

The heat is also creating a demand for water-efficient plants. Whereas big, colourful, flowering plants can require hard work and more water, succulents don't. One reason they're growing in popularity as well as free-draining soil.

Vertically verdant

Meanwhile, in neighbouring South East Asia, vertical gardens are beginning to decorate empty walls. With this technique, plants are grown on a vertically suspended panel. To ensure they are getting the same nutrients they'd get from the soil, hydroponics (water-based mineral nutrient solutions in aqueous solvents) are used. The reason this idea could become more widespread is through its ability to prevent an age-old problem – masonry walls absorbing heat during the day and releasing it at night, something that makes for uncomfortably hot nights and contributes to climate change. Instead, a vertical garden actually helps to cool the air through evapotranspiration, where moisture from the plants goes back into the atmosphere, effectively reducing the temperature. For a less costly alternative try wall-climbing plants **rhs.org**. uk/plants/types/climbers but either solution would be both gentle on the planet and very easy on the eye.

In Scandinavia, the problem isn't hot nights, but long nights. With a growing season of only 60 days a year in the north, and daylight precious, you'd be forgiven for thinking Scandinavians weren't particularly fussed about garden trends. Not so. As passionate about preventing climate change as they are deftly-designed outdoor spaces, the trend here is to follow the mantra; recycle, reclaim, reuse. So it's old metal bins for planters, salvaged timber for building summer houses, and if



you're looking for a garden bench, park your posterior on the weathered wood of an old seat rather than buy new (which would obviously involve cutting down a tree).

In the Middle East, an important date in the calendar is the annual Middle East Smart Landscape Summit. This includes everything from new irrigation techniques that are transforming traditional agricultural practices in the region, to improving the living environment through green walls (as previously mentioned) and green roofs. This latter idea is something most of us think of as a recent trend via cutting edge property programmes on TV. The truth is, in countries like Germany, thanks to improvements in roofing technology, they've been a feature since the 1960's, favoured for their ability to insulate the home, boost biodiversity and – most importantly for climate change – absorb rainwater. Since then, blue roofs and blue/green roofs have taken this idea further, so that as well as draining significantly slower than standard flat roofs, they provide amenity space for rainwater that may even be harvested, later.

"It is imperative that every garden designer should consider the adoption of nature-based solutions as a minimum baseline to address future climate change. While colour and material trends come and go, the must-haves we really need are flourishing ecosystems, healthy people and a resilient planet."

Edward Freeman, ReardonSmith Landscape

Turning cities into sponges

That last point brings us to the final destination in our world trends tour; China. Here, in the country's densely-populated and concrete-covered cities, rainwater absorption is a big issue. Let's just reiterate why that's a problem. For evapotranspiration and the natural cycle of water to occur, rainwater needs to be absorbed into the ground. This allows it to filter slowly into the earth as groundwater which then feeds back into rivers and seas, cleanly and naturally, before it is taken back up into the atmosphere through evaporation to fall as rain. In cities, we can also draw this soil-filtered water by drilling wells and collecting and treating it before it reaches the tap. With the concrete buildings and tarmac surfaces of the urban environment, however, the rainwater simply runs off into sewers where it mixes with wastewater from homes and businesses before being dumped into seas and rivers as polluted water. This also means it can't be drawn up through wells, either.

A Sponge City does what it says in the description – it acts like a sponge, absorbing water that then filters into the ground, then into aquifers (layers of permeable rock) where it can easily be drawn by urban or peri-urban wells and easily treated. How? By designing the buildings and infrastructure to do some of the absorbing. This is done in a number of ways; through porous roads and pavements. Through the recycling of grey water. Via green roofs that slow

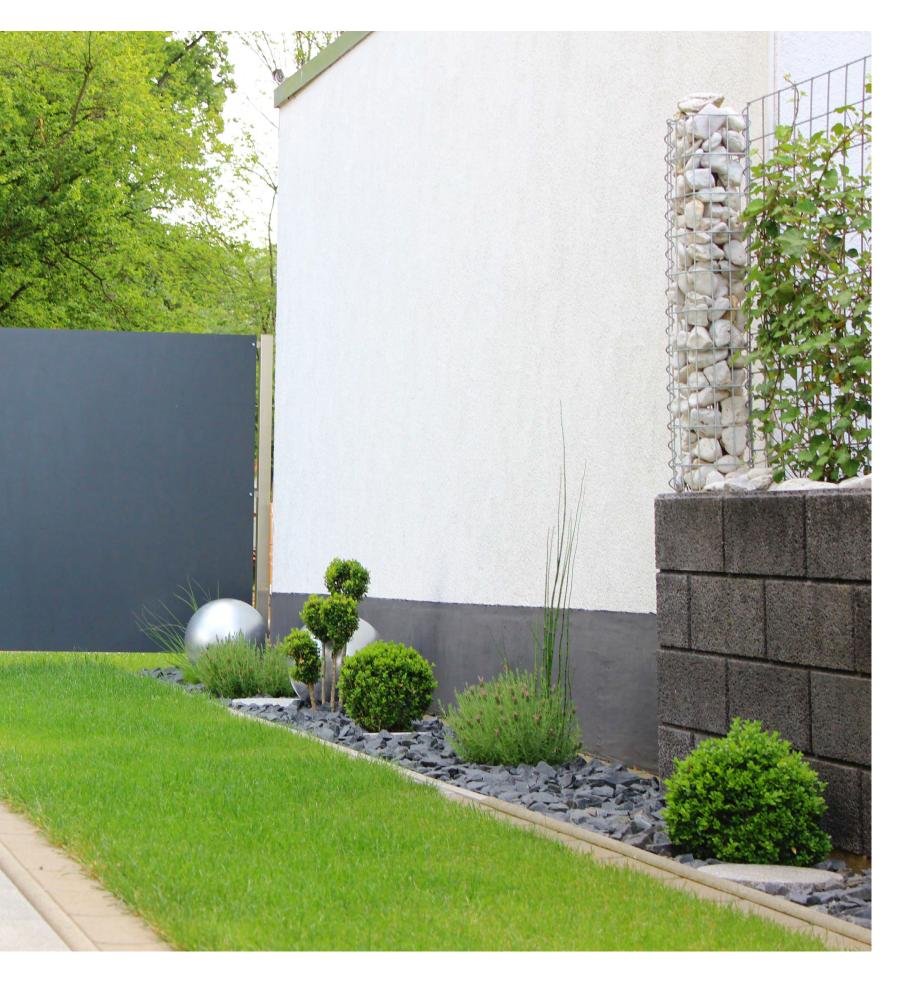
down and naturally filter water before it's released into the ground. Through more open, green spaces with interconnected waterways that can detain and filter water – these run across neighbourhoods and add to opportunities for recreation by residents. And finally, via the construction of urban bio-swales and bio-retention systems that gather runoff water and let it filter slowly into the ground – all while providing moisture for surrounding plants and vegetation that, in turn, encourage wildlife.

The result; cleaner water, reduced flood risk, less overwhelming of local sewers and, of course, massively more enjoyable green spaces and a healthier environment for the city's inhabitants. And with all that extra greenery comes less hard surfaces to reflect heat back up into the atmosphere. No wonder China has already chosen 16 cities for pilot schemes that will hopefully see them become true Sponge Cities.

This is one trend the rest of the world would do well to follow if we're to keep to that 1.5 degree rise. Best of all, the thinking behind it doesn't even need to apply only to large urban areas. The principle of slowing down and managing rainwater runoff is something any landscaper or gardener can do in any outdoor space.

So let's roll our sleeves up and delve deeper into rainwater and its management.





4. Managing surface water

"Every house and garden across the UK represents an opportunity to help address climate change. By adopting sustainable approaches, everyone can make a difference to the earth below, the air above, and all that inhabit those spaces. The key is understanding what is possible and how it will help."

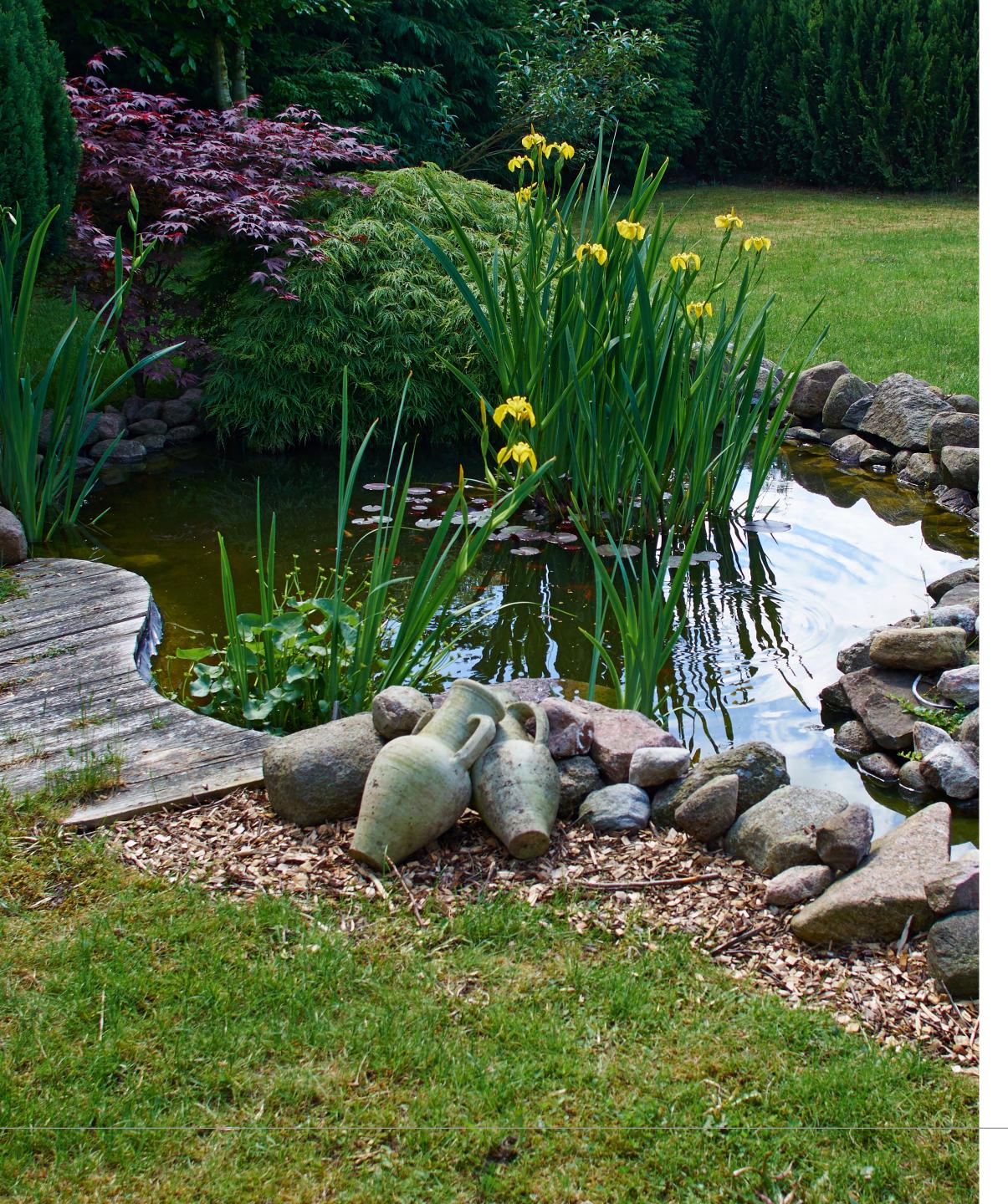
Peter Ridgway, ACO Technologies plc

Meeting global garden design trends will mean managing more rainwater – whenever we get it. With climate change leaving us with prolonged periods of no rain, it's no exaggeration to say, slowing down the rainwater's return into the ground – or holding onto it for later use – is more important than it's ever been in the history of the planet. And it's something most of us can achieve in a number of ways.

The way to approach rainwater management is to think in terms of creating a complete system, no matter how big or small. Whether you're a garden designer or the government,

in the UK the trend is towards employing a SuDS (sustainable drainage system). The SuDS earns its name by preventing runoff water from overwhelming sewers, mixing with whatever's down there, then finally being released into rivers as dirty water. The philosophy behind it is built on four key pillars; Quantity, Quality, Amenity and Biodiversity. Water Quantity is about controlling the amount of runoff to help manage flood risk, thus maintaining and protecting the natural water cycle. SuDS is also about managing the Quality of rainwater runoff, to prevent pollution. Amenity refers to using that water to create and sustain a better environment for people, while Biodiversity is about creating and sustaining better places for wildlife.

A good example of a natural SuDs is a rain garden, something we outlined back in Chapter 2. This feature is simply a shallow area of ground or garden that runoff water from roofs or paved surfaces can, well, run off into. Plants that can stand up to two days of waterlogging are used at the centre, with more drought-friendly flowers and shrubs around the edge. The main idea is that stormwater or other heavy rainfall can fill the depression without harming the plants, and then slowly filter back into the ground, rather than running straight off the roof, paving or driveway and overwhelming the nearest sewer.



When planning a rain garden, choose an area more than 5m from building foundations. It can be closer if the feature is appropriately lined – but either way, the local buildings control department will be able to advise. You can use **channel drainage** to get the water from the downpipe to the chosen spot. If there's no shallow area or natural depression nearby, dig out a suitable expanse of ground. If you measure the surface area of the roof that will be providing the rainwater, the rain garden would ideally be 20% of that area. If you're using the water from ground surface runoff – a driveway, patio or similar impermeable surface — you should plan in a sump unit between the channel and the rain garden itself, that way the water entering the feature will be cleaner.

Rain gardens are unlikely to be damp all year round, so you'll need plants that are happy in wet as well as dry soil at the edges of the feature. Elders such as the species Sambucus nigra offer attractive purplish-black foliage – and berries may also be an extra bonus. Rosa rugosa or Roseraie de l'Hay brings fragrance with its purplish-crimson flowers, seen through summer and autumn.

Since their introduction around three decades ago, rain gardens have been growing in popularity. With their ability to combine beautiful design with sustainability, this a trend that's likely to continue for some time to come. Find out more here.

An even simpler SuDS design is a garden pond. This will not only hold rainwater, it will be a big draw for wildlife. Flying animals and insects look for the light or sound reflected off a body of water, others sniff it out, finding water even in darkness. So once you've created your pond, you don't even need to stock it with wildlife. Nature will populate a new pond surprisingly quickly – pond skaters and diving beetles can arrive within days, and damselflies and amphibians could be seen within the first year. From then on, keep an eye out for everything from boldly-coloured dragonflies to shy and elusive grass snakes — skilled swimmers that often hunt in small garden ponds. You can find out more here.

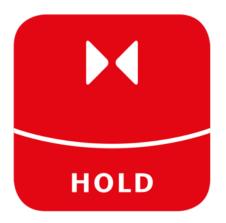
At ACO we've developed our own unique model that mirrors SuDS thinking – Collect, Clean, Hold and Release. Our model embraces the entire surface water management cycle, from the point where rain lands, right through to where it re-enters the natural water environment.



Managing rainwater at source is an important aspect of SuDS. That why we've developed a wide range of channels, all designed to collect and convey water efficiently. Of course, selecting exactly the right channel drainage depends upon expected water volumes, aesthetics and the type of traffic that will run over it (whether that's a few people or a load of lorries). You can find out more here.



Preventing surface water run-off from picking up particulates and the like is crucial. Stormwater surges can dislodge and carry pollutants from, say, car parks. Even in a small garden, channel drainage requires the odd inspection point or sump unit to clear leaves and other debris. For heavier duties and larger projects, ACO's **Combipoint** is a sediment removal system able to be used in conjunction with SuDS components. However the ACO clean range including the **ACO Q-Ceptor** is designed to cope with tougher jobs like oil or heavy metal contamination from car parks or roads.



From a major stormwater attenuation system to harvesting water for use at home, it all contributes to preventing floods above ground or overwhelming sewers below. ACO's solutions for holding rainwater include the ACO Rain4me range. We've also developed the **StormBrixx** soakaway kit. This returns water to the natural water course slowly, as groundwater, instead of it running into sewers as surface runoff. The system is flexible enough to be used for a single home or an entire housing development.



When rainwater can flow into rivers – and eventually the sea – via natural infiltration of the soil, it helps arrest flooding and assists in the management of pollutants. ACO systems such as **GroundGuard** and **GravelGuard** can aid the process. When a particular environment prevents this, water can be conveyed via ACO Channels to where it can be managed more easily – assisted by products like the **StormBrixx** for infiltration and attenuation systems, and ACO Swale Inlets for controlled out-letting of water into natural environments.

All these systems ensure the release of rainwater is controlled so as to follow rather than upset the natural cycle. If we're serious about keeping global temperatures down, we'll need to get smarter about rainwater collection and redistribution. But there's a lot we can learn from the natural world. All too often in garden design, nature is the mother of invention.

5. Managing other natural assets

Obviously, looking after our rainwater won't solve the planet's problems alone. But there are many other natural weapons in the war against climate change. The most obvious big guns to bring in here are trees and planting.

Trees are hardly a trend in themselves, but the idea of urban forests is a welcome design aspect of any new town and city planning. (Central Park, New York is often referred to as "the lungs of the city", and for good reason.) An urban forest is defined as a system of trees and other plants that grow individually, in small groups, or under forest conditions on public and private lands in cities, suburbs and towns. The shade provide by trees keeps paved urban surfaces cooler. So more trees together can provide a canopy that can significantly reduce Urban Heat Island (UHI) effect, where a metropolitan area is significantly warmer than its rural surroundings. While there are other contributors to UHI, namely waste heat generated by energy and heat absorbed by walls by day and released at night, dark surfaces like asphalt and concrete absorb significant amounts of solar radiation. Couple this with a lack of trees (and therefore a lack of evapotranspiration) and you have a recipe for climate cooking.

Proof of the benefits of urban forest can be seen in the decline of tree canopy in Atlanta in the US. Often called the "city in a forest" Atlanta's tree cover declined by 10% between 1974 and 1996 according to a 2001 study. This resulted in a 33% increase in stormwater runoff going into sewers and gathering pollutants. Fortunately, the loss of trees is being addressed. Among those helping to reverse the decline is Trees Atlanta, a non-profit organisation that is planting trees around the city most weekends. Atlanta's own city government has also awarded grants to neighbourhood groups to do the same.

Reversing a trend

You don't, however, need to be a city planner to be a climate change champion. When it comes to keeping the temperature rise to 1.5°C, it's individual garden designers and homeowners who are paving the way. By de-paving the way.

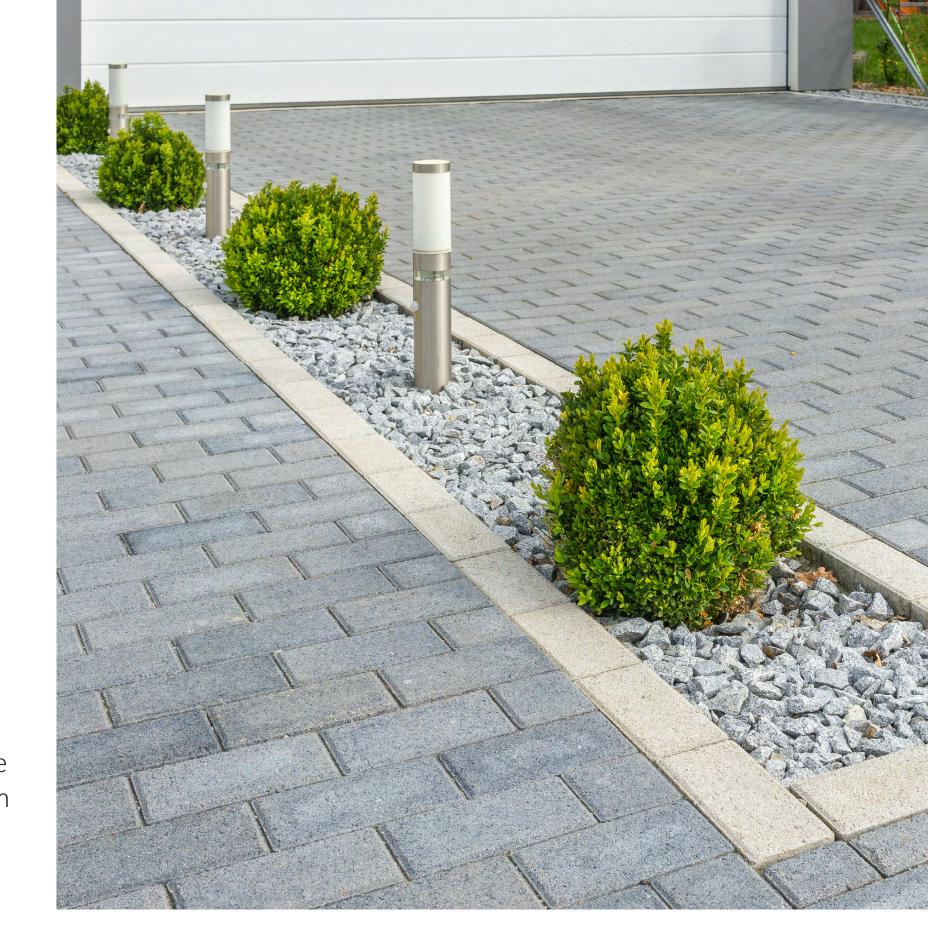
Over the last few decades, as the popularity of the motor car refuses to dwindle, many have chosen to concrete over their front garden to accommodate it – or simply for the convenience of a low maintenance outdoor space. While we don't expect there to be a huge trend for pneumatic drill hire to break up concrete and regreen whole front gardens (after all, where will you park the electric car?) landscapers are moving towards using more permeable surfaces front-of-house, thus allowing surface run-off water back into the ground slowly instead of straight into the sewer.

Extra planting can play the same role for front gardens or driveways as those urban forests – just on a smaller scale. Plants slow down rainwater, intercepting rainfall and delaying the moment it hits the ground. Plants also take pressure off public drains and take up water from the soil, returning it to the atmosphere as evapotranspiration. Plants not only allow the soil to absorb more rainfall, there are added benefits like the encouragement of biodiversity. And if you've room to plant a hedge or a small tree or two, you get a bit more privacy and a bit less traffic noise all thrown in for free.

Some UK local authorities have now stipulated that if you're turning more than 5m² of your front garden from a permeable to a non-permeable surface, it may be time to get the planners in[†]. And now, in France, there's a move to make all flat roofs green roofs. It's all part of a wider move towards solutions such as Urban Greening. This is a policy becoming popular both nationally and internationally, and where ACO UK have been leading the discussion with webinars and research into how cities can become more sustainable, from blue/green roofs all the way down to SuDS solutions on the ground. If you'd like to know more, checkout our webinar feedback publication.

But it's not just in urban areas where a difference can be made. In the countryside, the trend for asking nature to help us solve the problem is manifesting itself in another interesting way – through the reestablishment of beaver dams in England, Scotland and Wales.

A beaver dam on a river or stream slows down water velocity, preventing overwhelming quantities of water from causing damage downstream. It filters out certain nitrates and phosphates, improving water quality. Beavers use the dam as a home, an amenity for storing food. And all of this activity creates a knock-on effect, benefitting other natural systems by increasing the surrounding water surface area. In fact, it's the perfect representation of the four principles of a SuDS we talked about in the previous chapter – Quantity, Quality, Amenity and (heaps of) Biodiversity.



In England, the River Otter Beaver Trial (ROBT) is a licensed population of free-living beavers. Led by the Devon Wildlife Trust the beavers have been part of a five-year study. This is just one example of how local authorities, governments and community groups are demonstrating forward thinking on climate change by going back to nature. In the final chapter, we'll investigate more.

†Source: planningportal.co.uk

6. Industry and local council initiatives leading the way

While landscapers, gardeners and garden designers are generally motivated by a passion for both the aesthetics and benefits of plants, many less-than-green-fingered individuals are indifferent to the natural world around them. That's why we sometimes need governments, local authorities and industry to intervene, and either gently nudge those less passionate about the planet into changing their ways, or use more forceful persuasion – in other words hit them with a planning regulation.

Here's how the office of the Mayor of London/London Assembly is making a difference with their Policy 5.11 – green roofs and development site environs:

Major development proposals should be designed to include roof, wall and site planting, especially green roofs and walls where feasible, to deliver as many of the following objectives as possible:

- a) adaptation to climate change (i.e. aiding cooling)
- b) sustainable urban drainage
- c) mitigation of climate change (i.e. aiding energy efficiency)
- d) enhancement of biodiversity
- e) accessible roof space
- f) improvements to appearance and resilience of the building
- g) growing food.





Meanwhile the Department for Environment, Food and Rural Affairs (DEFRA) has recommended updates to the non-statutory technical standards for SuDS[‡]. DEFRA now has six key standards to consider when designing water management systems:

Standard 1: Runoff destinations Standard 2: Everyday rainfall Standard 3: Extreme rainfall Standard 4: Water quality

Standard 5: Amenity Standard 6: Biodiversity

While there's no current move to make them statutory, the updates provide clarification for responsible developers wanting to meet other policy requirements for things like green infrastructure and biodiversity.

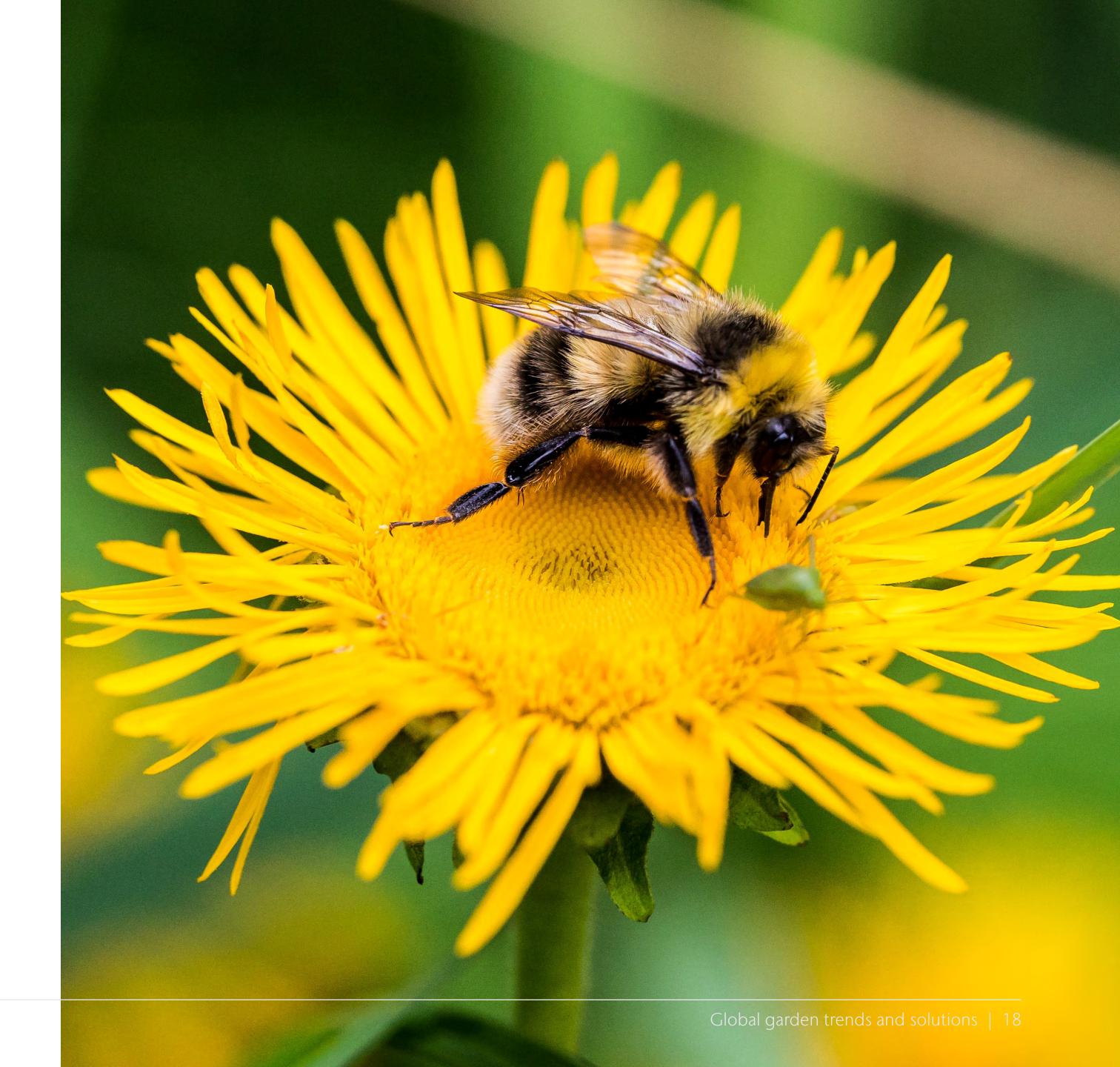
[‡]DEFRA Recommendations to Update Non-Statutory Technical Standards for Sustainable Drainage Systems (SuDS) Final Report, February 2021

Across Britain, local authorities and specific industries are also keen to go beyond simply managing water, to attracting wildlife in the push for more biodiversity. Some authorities have already adopted new policies to reduce the loss of wildlife habitat. Brighton & Hove Council even have a new planning law, stipulating that any new building over five metres tall must include bird nesting boxes suitable for swifts. Following in the footsteps of councils in both Cornwall and Dorset, they're now also insisting on bee bricks being incorporated into walls. These are specially-designed bricks with holes bees can hide in and inhabit

Industry too, is taking steps conserve more wildlife. Initiatives like ACO's own Habitat Matters programme is not only supported by wildlife organisations, but by architects and the building industry itself. You can find out more here: habitat-matters.com

While we all understand the need for more homes and the subsequent increase in urbanisation, we also believe that with careful planning, design, construction and management of the urban environment, wildlife and humans can live side by side for our collective prosperity.

ACO's own Habitat Matters programme is not only supported by wildlife organisations, but by architects and the building industry itself.





Royal intervention

It's heartening to see that many of the trends for garden design across the globe are taking into account both biodiversity and the need to mitigate climate change. But let's leave the last word to those with a passion not just for garden design, but for gardens themselves, the Royal Horticultural Society (RHS).

With their Your Climate Needs You campaign, the ambition of the RHS is to mobilise 30 million gardeners as part of a sustainability strategy. Think WWII Dig-For-Victory-style language when you're embracing their efforts to empower the general public to make a real difference to climate change targets, including the limit to 1.5 degrees. As ever, it's about many small actions delivering one big, meaningful result. RHS research shows that if every UK gardener planted a medium-sized tree, by the time it matured they would have stored the carbon equivalent of driving 11 million times around the planet.

In another initiative, Mains to Rains the RHS are asking gardeners to sign an actual pledge for 'Watering the way nature intended' and,

among other things, to harvest rainwater for watering and choose permeable instead of hard paving. You can find more details here.

And if you want to pledge allegiance, you can see a few of the products that could help you keep your promises here.

We firmly believe the RHS has a point. At the beginning of this eBook, we reported that nearly a third of the UK's urban areas are gardens – that's an area of around 1.3 million acres – so it's easy to see why the right garden design choices could realistically help in keeping climate change under control.

In the world of film and television, those who save the Earth wear masks, capes and, occasionally, their underwear on the outside. The real saviours of the planet, however, could end up being ordinary gardeners, innovative landscapers or simply the builders who look at the bigger picture rather than just the job in hand.

The gardener as a superhero. Who'd have thought it?

Provided here is a list of links to key organisations and useful resources:

Royal Horticultural Society

Information on trees, shrubs and plants that thrive in prolonged wet and dry periods, plus all you need to know about planetfriendly gardening.

www.rhs.org.uk

Royal Botanic Garden Edinburgh (RBGE)

Information about the design and creation of the raingarden for nature-based surface water management including the amended soil, planting, biodiversity, and main design features. www.rbge.org.uk/collections/living-collection/sustainability-atthe-gardens/the-rain-garden

Department for Environment, Food & Rural Affairs (DEFRA)

Invaluable information on everything – from flood risk reports to ways for local authorities to tackle climate change. www.gov.uk/government/organisations/department-for-

environment-food-rural-affairs

Paving Expert

For any project involving paving, hard-landscaping or specialist drainage, this is the go-to site. Content is compiled by an excontractor and includes useful online tools.

www.pavingexpert.com

#askACO

Tap in to ACO's 70+ years of experience in drainage and water management to find the right product for your project, or for advice on planning whole drainage systems.

www.aco.co.uk/askaco

ACO Habitat Matters

Urbanisation has had a damaging effect on Britain's wildlife. ACO's ambitious campaign, Habitat Matters, aims to counter this, by working together with industry partners to promote better planning, design, construction and management of the urban built environment to protect ecosystems and habitats. https://www.habitat-matters.com/

ACO Visualiser Tool

Sometimes there's no substitute for seeing things in situ. This simpleto-use online tool helps you and your customer visualise how ACO products will look with your chosen paving or driveway materials. www.aco.co.uk/building-landscape-visualiser

ACO QuAD Software

Use this link to access our unique QuAD Hydraulic Design 2.0 cloud-based software. It'll help you factor in things like attenuation and rainfall intensity into your design. Better still, it's free to use. www.aco.co.uk/garden-and-landscape

ACO Design Solutions

Managing surface water isn't always a straightforward task – especially with planning regs on top. ACO's Design Solutions Team can work with you, to show you how different drainage elements and products best work together.

www.aco.co.uk/drainage-design

ACO Academy

We know professional development is important to you. The ACO Academy allows you to take water management knowledge to the next level, either online or in-person. And make the learning curve as steep or gentle as you like. www.aco.co.uk/aco-academy

British Association of Landscape Industries (BALI)

From finding suppliers to just helping your business prosper, the BALI website has everything you need to know. You can also join here and be part of a network of over 900 accredited members. www.bali.org.uk/home

Association of Professional Landscapers (APL)

Visit this sight to join the only landscaping scheme operator of the government-endorsed TrustMark – or just to browse the APL's showcase of outstanding garden design. www.landscaper.org.uk

The Horticultural Trades Association (HTA)

Representing the UK's garden industry for over a century, the HTA offers both business support and development initiatives. As well as landscapers, its 1,400-strong membership includes garden retailers, growers and manufacturers. hta.org.uk

The Government's Water Strategy for England

Published in 2008, but looking ahead to 2030, this incredibly thorough government report looks at the water cycle as a whole. Of particular interest is Chapter 5, the section on surface water drainage. <u>assets.publishing.service.gov.uk/government/uploads/</u> system/uploads/attachment_data/file/69346/pb13562-futurewater-080204.pdf



For landscaping tips and inspiration visit

www.aco.co.uk/garden-and-landscape