



How the Ornamental Horticulture and Landscaping industry underwrites the 25 Year Environment Plan



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Boyd Douglas-Davies, President & James Barnes, Chairman, HTA

We’re a nation of tens of millions of gardeners and our parks and gardens play a huge part in making the UK a green and pleasant land. A flourishing green environment is essential to our daily lives, and enriches the nation socially, culturally and economically. However climate change, air and noise pollution, and devastating biodiversity loss have negative effects on our health and our environment.

The UK government’s 25 Year Environment Plan is a bold vision for addressing these challenges. It emphasises the need to decarbonise the economy, protect and enhance our natural green spaces, and engage people of all ages and backgrounds with the natural world. The goals of the plan are wide-reaching, and the ornamental horticulture and landscaping industry is uniquely placed to underwrite half of the plan’s goals.

We provide the tools, the plants, the know-how and expertise that support the creation, maintenance, and engagement with our network of gardens and green spaces. We should be proud (and not a little awe-struck) that the gardens we support cover an area three times that of Greater London. We should be proud of the research and science we deliver as an industry to enable these spaces to flourish. And we should be proud that for every child that grows a seed, we’re sowing wonder and enthusiasm for plants and the environment in the next generation.

As an industry, we want to work with government and like-minded organisations, to continue to tackle the challenges we face through horticulture. This white paper shows how our industry is already contributing, and gives a flavour for how much more value could be achieved. We’re looking forward to the association playing our part in making the planet a better place for everyone.



Boyd Douglas-Davies
President, HTA



James Barnes
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Introduction: the role of gardens and green spaces in supporting the 25 Year Environment Plan

As a planet we're facing a climate emergency. Our world is warming, and our biodiversity is under threat. We welcome the government's 25 Year Environment Plan and its goals to put the UK at the forefront of tackling the emergency.

The root of some solutions may lie in mankind's deepest instincts and from the earliest human settlements. Since the ancient world, gardens have been at the heart of our settlements. Indeed, the legendary hanging gardens of Babylon were a wonder of the ancient world.

Now, in Great Britain, gardening is a hobby enjoyed by millions. Nine in ten of us have access to a garden or green space at home. Greenery is returning to our towns and cities in the form of parks, gardens, and 're-wilded' areas. These developments and our instinct towards greenery will help tackle the challenges.

Air pollution is a threat to the health of the population. However, urban woodland and green spaces provide a great service. They can save healthcare costs of over £160 million a year by filtering out pollutants.

There is a pressing need to increase the amount of quality habitat throughout the UK and the creation and upkeep of these quality habitats relies on a flourishing ornamental horticulture industry. By supplying plants, trees and food for wildlife we help to maintain UK biodiversity. This story continues through both school and public engagement. When nature and wildlife is visible, we can engage with it, and we develop a lifetime passion for protecting it.

This passion shows in the way the country has responded to the climate crisis. Our green spaces support the mitigation of climate change and help prepare for its effects. To protect our native wildlife, we can embed biosecurity into the ornamental horticulture industry. Therefore, the health and well-being of the country can be protected for future generations.

This white paper sets out how the ornamental horticulture industry can play its part in these efforts.

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How horticulture supports the goal of clean air

Air quality is the largest risk to urban health in Europe, with between 87-93% of people exposed to unacceptably high annual PM2.5 concentrations (particulate matter with a diameter of less than 2.5 micrometres)¹. In the UK, over 80% of us live in urban areas² and this will increase to over 90% in 2050³. This puts nine in ten of us at risk should air pollution go unmitigated. Design and supply of urban planting and green spaces by the ornamental horticulture industry leads mitigation efforts.

Studies have shown that trees can remove some harmful air pollution, such as Nitrogen Dioxide (NO₂), along roadsides which also add value to the land⁴. In 2017, the value of avoided health costs, hospital admissions and deaths from air pollutants removed by vegetation was estimated to be over £162 million. 70% of this total value was due to the removal of PM2.5 by vegetation, mostly urban woodland⁵.

There is also evidence that leaves can act like a filter, where air pollution can collect in layers on the leaf surface, meaning it can reduce the amount of pollution near the ground⁶. However, while trees and other vegetation helps to alleviate the problem, it is not a whole solution for pollution at a greater scale. Trees and other vegetation planted must be part of a wider plan to both recapture emissions, and to reduce them in the first place.

“Green spaces and the plants found in them form a network of habitats and wildlife corridors.”



How horticulture can support thriving plants and wildlife

29.5% of the UK's urban areas are domestic gardens⁷. This is equivalent to over 3 times the area of Greater London⁸. These green spaces, and the plants found within them, form a network of habitats and wildlife corridors for biodiversity. Most of the plants and products found and used in people's gardens are bought from the UK's garden retailers, start life on UK plant nurseries or from UK packet seeds and provide habitat and food for native animals and insects.

The UK's domestic gardens and public green spaces play a huge part in helping create and restore and maintain wildlife-rich habitat in rural and urban areas. This includes native UK-grown trees and plants that provide habitat and forage for pollinators. For instance, research has shown that there is a much greater range of bee species in urban areas and also much less flies when compared with rural farming locations⁹. The benefits of gardens and green spaces are increasingly recognised by local authorities. Examples of the incorporation of greening in urban planning can be seen in many city planning strategies such as London¹⁰ and Bristol¹¹.



Enhanced beauty, heritage, and engagement with the natural environment

Green infrastructure is a network of high-quality green spaces such as gardens and parks which provide many ecosystem benefits. Ornamental horticulture underpins this green infrastructure through the supply of plants to local authorities, landscapers, and the general public. Further, the industry's designers, arboriculturists and landscapers provide the services needed to design and maintain them. Together the ornamental horticulture industry supplies a high-quality green network, which people want to spend time in.

Spending time in gardens or green spaces has many health and social benefits. For example, gardening eases stress and improves mental health and wellbeing, and many studies show significant reductions in symptoms associated with depression¹².

And it's worth remembering that the UK's gardens and green spaces come in all shapes and sizes. Balconies and window sills are frequently used by city dwellers for greenery and bringing a touch of nature to the home, and the UK's allotments cover 8,000 hectares -

if you put them all together they'd cover an area roughly a quarter that of Dublin.

Results from a 2012 study found that in the UK, inactivity cost the NHS £1.1 billion, with further costs to society bringing the total to £8.2 billion¹³. Gardening is a low cost and accessible form of exercise; many older adults garden in order to stay fit and healthy¹⁴. In the UK active visits to green spaces were estimated to provide a societal gain worth around £4.4 billion in 2015, attributable to the improvements in health and wellbeing that such active visits delivered.

Gardening is also beneficial for children, increasing the level of engagement a child has with the natural world. Children gain skills of patience and problem solving and are better equipped to deal with challenges in life through gardening such as being dealt responsibility to handle tools and maintain a watering schedule. Children with access to good quality green space are 24% more likely to be physically active¹⁵, helping tackle childhood obesity.



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Mitigating and adapting to climate change

On 1st May 2019, the UK became the first country to declare an “Environment and Climate Emergency”¹⁶ leading to a carbon net zero target by 2050¹⁷. The ornamental horticulture industry is uniquely positioned to help the UK achieve this goal of mitigating the effects of climate change through the supply of trees, plants and landscape design services for the UK’s towns and cities.

Urban woodland plays a key role in combatting climate change. Urban woodland makes up around 7.5% of total UK woodland and sequesters around 1.3 million tonnes of CO₂⁵. Carbon removed by woodland in UK Urban areas is estimated to be worth £89 million as of 2017⁵, with further urban tree planting and greening set to increase this value.

Urban green and blue spaces also help to cool towns and cities; this in turn reduces the need for energy intensive systems like air conditioning. In 2017, urban cooling from the shade provided by plants led to an estimated saving in £244 million in such avoided costs⁵. The cooling effect of the UK’s urban green and blue space varies between 0.63 and 0.88 degrees Celsius.⁵

Vegetation and green spaces also support flood alleviation. In 2003, a study on soils at Pontbren Project in Powys, Wales found that an area of fenced-off woodland could absorb water 60 times faster than on a pasture nearby¹⁸. This is one of the main principles of Sustainable Urban Drainage Systems (SUDS). Professionally engineered landscaping elements such as bioretention areas filter out pollutants from surface water runoff while allowing for better absorption and reduction of flash flooding. These features also give aesthetic and ecological value and can be retrofitted into built up areas prone to flash flooding¹⁹.



Enhancing biosecurity

Plant life in the UK is at risk from pests and diseases which can destroy important native species. This risk increases the more we import plants. For example, 38% of European tree species are under threat from invasive species, and 42% of all European species are at a substantial risk of extinction²⁰. The sourcing of plants from the UK and the biosecurity best practices developed by the ornamental horticulture industry help to mitigate this threat.

While UK nurseries can supply most of the plants suited for the UK’s gardens and green spaces, some imports will always be needed. The UK ornamental horticulture industry has been central to the development of the UK biosecurity alliance. This group works to develop policy and best practice in pest and disease management for imports as well as domestic production. Its work informs the development of plant production standards such as OHAS that are adopted by ornamentals growers across the UK.

In summary...

The ornamental horticulture industry substantially underwrites 5 of the 10 key goals of the 25 Year Environment Plan. We’re what sits behind our nation’s green and pleasant land. Few of us go a day without seeing, feeling, or smelling UK-grown plants, or enjoying a garden, park, or tree-lined street. You may not know either that the UK horticulture and landscaping industry contributes around £24 billion to the UK’s GDP, and supports over half a million jobs. We hope this white paper has given you a flavour of how our industry contributes to important parts of our national life. We hope you’ll feel inspired to get involved with the industry whether that’s from enjoying some time in your garden or local park, or finding out more about one of the UK economy’s most environmentally beneficial sectors.

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Active visits to green spaces . . . provide a societal gain worth around £4.4 billion



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