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Climate Change and Renewables Network

'A Focus on Local Authority Greenspace' - Thursday 21 August 10.30-11.30

Starts: 10.30

Agenda for today *10.30 – 11.30*

- **Opening Remarks**: *Councillor Freddie Bailey, Cabinet Member for Environment and Community Safety at Preston City Council (Chair);*
- **APSE Update** – *Matt Ellis, APSE Principal Advisor;*
- **Adapting our urban parks and greenspace to meet the challenges of climate change –** *Wayne Priestley, APSE Associate*

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Upcoming meetings

REWILDING BRITAIN

The Wildlife Trust for Lancashire Manchester & North Merseyside

Environment Agency


apse
Annual seminar and service awards 2025
10-11 September 2025, Glasgow
Bookings now open at apse.org.uk/events
Two complimentary places per member council!

Association for Public Service Excellence

APSE Waste and Recycling Seminar 2025

Thursday 23 October 2025
Nottingham Belfry Hotel, Mellors Way, Off Woodhouse Way, Nottingham, Nottinghamshire, NG8 6PY.

Programme Coming Soon

Confirmed speakers include:

- **Mary Creagh CBE MP**, Minister of State for Nature and Circular Economy, **Defra**
- **Dr Andy Rees OBE**, Head of Waste Strategy, **Welsh Government**
- **Kevin Lane**, Principal Technical Officer, **Environment Agency**
- **Mike Gardner**, Local Authority Technical Consultant, **WRAP**
- **Paul Morgan**, Head of Commercial Services, **Greater Manchester Combined Authority**
- **Gareth Moreton**, Discovery Manager, **EcoSurety** and **FlexCollect**
- **Tim Walker,** Former President of **CIWM** and Chief Executive of **Arc21** Northern Ireland
- **Anna Smith**, Assistant Director Waste and Environmental Services, **Westmorland & Furness Council**

... and many more to be announced!

Association for Public Service Excellence

APSE Energy Update

APSE Energy webinar: Planning for Cost-Effective Fleet Decarbonisation - Dynamon

Thursday 4 September 2025

10:00 - 11:00

MS Teams

APSE Energy Event - Reading

Thursday 25 September 2025

10:00 AM - 3:30 PM

Reading Town Hall, Reading, RG1 1QH

APSE Energy Summit - Glasgow

Date: Tuesday 21 and Wednesday 22 October 2025

Venue: Glasgow Marriott Hotel, 500 Argyle Street, Glasgow, G3 8RR

Association for Public Service Excellence

APSE Training

Renewables, Climate Change and Carbon Literacy

- Carbon Literacy Trainer
- Carbon Literacy for Elected Members
- Carbon Literacy for Local Authorities
- Carbon Literacy for Leaders and Managers
- Building a Climate Business Case

Parks, Grounds Maintenance and Horticulture

- Advanced Parks Management: Sustainable Finance (CPD)
- Biodiversity Net Gain: Preparing Parks Professionals
- Introduction to Parks Management (CPD)
- Managing Allotments in Local Authorities
- Plant Biosecurity for Local Authorities
- Wildflower Meadows and Grasslands Management for Local Authorities

ADAPTING OUR URBAN PARKS AND GREENSPACE TO MEET THE CHALLENGES OF CLIMATE CHANGE

THE HEADLINES

Great Barrier Reef suffers worst coral decline on record

Low–lying islands across the world will be uninhabitable due to rising seal levels

Melting glaciers threaten to wipe out European villages

Future of UK peatlands under threat due to climate change

Native UK plants in catastrophic decline

Climate change hits our own backyard as 4 in 5 UK gardeners notice its impact

Climate change – A global problem

- Climate change is one of the most globally pressing issues, affecting environments, world economies and the health of every living thing on the planet.
- The impacts of climate change are now being felt in our everyday lives and in the places we live.
- Climate change is an evolving process. Many of its impacts are well known. Some less so. And some may not yet have become apparent. But it is safe to say that these impacts will be with us for decades, possibly even centuries.
- Incidents of extreme weather, flooding, illnesses relating to heat extremes, poor air quality etc. are now becoming more commonplace making climate change **a very personal experience**.

Global Actions

- Governments worldwide are trying to reduce their carbon emissions through changes to industrial processes and activities.
- They are also looking at how our natural assets can help absorb greater levels of carbon, known as sequestration, thereby reducing levels of carbon emissions to the atmosphere.
- In a highly urbanised country like the UK, where nearly 85% of the population live in towns and cities which are significant sources of carbon emissions, the importance of green spaces (public parks, woodlands, cemeteries, allotments, street trees, and greenbelts) are increasingly being recognised for their role in absorbing and ultimately helping to reduce carbon emissions.
- **Ecosystem services**

Seasonality breakdown & Ecological mismatch

- May 2025 recorded the highest temperatures ever seen in the UK for that month. It was also one of the driest Mays in recent years. In fact, the combined months of March, April, and May 2025 marked the driest spring period since records began in 1893.
- This shift to drier springs, wetter summers and milder winters has led to what some experts call '***seasonality breakdown.'***
- These changes are having significant effects on plants, pollinators, and entire ecosystems.
- One of the most concerning consequences is the phenomenon known as ***ecological mismatch*****.** This occurs when species do not adapt to environmental changes at the same rate.
- For example, some pollinators may rely on specific plants for nectar, but if those plants bloom earlier due to shifting climate conditions – before the pollinators have emerged from winter dormancy – the flowers may wither before they can be used as a food source. As a result, pollinators may go hungry, and the plants may not be effectively pollinated.

How is climate change affecting UK plants and trees?

•Increased Temperatures:

•Warmer summers and milder winters will extend the growing season, potentially leading to earlier flowering and changes in leaf coloring. However, hotter temperatures can also cause heat stress and sun scorch, impacting plant health.

•Altered Rainfall Patterns:

•Drier summers and wetter winters are predicted, leading to soil moisture deficits in some areas and increased risk of flooding and erosion in others. This will affect water availability for plants and could alter plant distributions.

•Extreme Weather Events:

•More frequent and severe heatwaves, droughts, and heavy rainfall will directly damage plants and make them more vulnerable to pests and diseases.

•Changes in Growing Seasons:

•Earlier springs and potentially delayed autumns will alter the timing of plant life cycles, affecting pollination, seed production, and overall ecosystem dynamics.

•Pests and Diseases:

•Warmer, wetter conditions could allow existing pests and diseases to spread to new areas and affect new plant species

Adapting to climate change

- **Agricultural Practices:**
- Farmers will need to adapt by selecting more drought-tolerant or heat-resistant crop varieties, adjusting planting and harvesting times, and potentially introducing new crops.
- **Forestry and woodlands**
- Forest management will need to shift towards more diverse species mixes, promote drought-tolerant species, and consider changes to silvicultural systems to enhance resilience.
- **Gardening:**
- Gardeners will need to adapt by selecting plants suited to the changing climate, incorporating water-wise gardening techniques, and creating shaded areas to mitigate heat stress. 'No Dig
- **Ecosystems:'**
- Nature reserves and conservation efforts will need to focus on protecting existing habitats and helping species adapt to changing conditions, potentially including managed relocation of species.

Adapting our parks and greenspaces changes already underway

- A significant portion of urban greenspace is maintained as closely mown amenity grass, which often demands high levels of maintenance and irrigation; practices that may become increasingly unsustainable as temperatures rise and droughts become more frequent.
- Increasing introduction of **species-rich grasslands and wildflower meadows,** reflecting a shift toward a less managed, more naturalised approach to urban greenspace management.
- UK grasslands are estimated to store around two billion tonnes of carbon in their soils. Increasing the variety of plants and grasses in these spaces can significantly boost carbon uptake.
- This is because different species have varying root depths, allowing them to access water and nutrients more efficiently than short-mown amenity grass, which typically has shallow roots.

- Grasslands, when surrounded by different habitats such as hedge, scrub, woodland and even bare ground, can support a rich community of wildlife, and many local authorities are now managing their grasslands in a more naturalised way to take advantage of the climate change and biodiversity benefits they bring
- Many local authorities now recognise these areas importance in to tackle climate change and enhance biodiversity.
- Amenity grasslands are not without value as they will continue to play an important role in supporting recreation and leisure.
- These changes will require a culture and operational change in what we currently expect or accept as well-kept green space.
- Nevertheless, we will need to adapt or even completely change how we manage our greenspaces to ensure their long-term sustainability

Trees and woodlands

- Because climate change is an evolutionary process it is not having the same level of effect in all areas across the UK.
- Local authorities are beginning to develop adaptation plans as part of their climate change actions to prepare for specific climate impacts in their areas, for example changing planting schemes to ensure that local ecosystems can withstand changing conditions.
- This approach is particularly relevant to **tree planting.**
- In response to climate change and increasing biodiversity opportunities, many local authorities are undertaking large scale tree planting programmes across the UK. However, Spring 2025 has been a difficult time for many young trees planted due to long spells of hot weather and low levels of rainfall
- 'right tree, right place' has been a common phrase, but one which now has another consideration, adaptability of the tree to future changing climatic conditions.

Choosing the right tree for the future

- Due to their long-life span, some trees may be slow to adapt to the changing climate conditions we are predicting in the future, such as hotter and drier summers and wetter warmer winters.
- Many of the trees we are planting now will encounter a changing and much different climate by the time they reach maturity.
- Dealing with these changes may well stress those trees which are unable to adapt, making them susceptible to diseases and pests.
- Drought is also likely to become an ever more present threat to our trees, woods and forests as our climate changes. Some of those trees identified at most risk include oaks, hollies and acers.
- Therefore, there is a need to identify which trees will be able to not only deal with the current conditions of climate change, but also warmer and wetter conditions in the future.

Looking for Alternatives

- Forest Research's Ecological Site Classification system can help local authorities and other land managers identify the best trees for both current soils and site factors as well as predicted future climate suitability. The Right Trees for a Changing Climate database supports species choice in an urban environment where a range of characteristics may be important.
- https://www.forestresearch.gov.uk/tools-and-resources/fthr/ecological-site-classification/
- Modern technology, including climate modelling and species mapping, is playing a crucial role in identifying tree species that could serve as future alternatives to native trees struggling to cope with the UK's changing climate.
- Recent modelling has highlighted regions such as the Hyrcanian Forest of Iran and Azerbaijan, parts of the southwestern United States and northern Mexico, areas of continental Europe and the Mediterranean, as well as the Eurasian steppe, as promising sources of climate-resilient plant material suitable for the UK.

Protecting our current tree stocks

- As well as considering the types of trees we grow in the future, we can still try to protect our existing tree stocks through tried and tested horticultural practices, such as:

- Ensuring large trees are regularly **watered**, particularly during times of drought. Some authorities are looking to volunteers to take on this role.
- Regular **weeding** to prevent plants around the tree roots competing for water.
- Where the soil is cracked, make sure young trees are in contact with the soil to avoid damage to exposed roots and to reduce evaporation so that they can extend their root systems in search of water This can be achieved by **firming up the soil** around the roots to fill in any cracks.
- **Mulching** can be helpful in controlling both competing weed growth and maintaining soil moisture immediately around the plant; this is especially relevant where bare earth is present at the planting location. Mulching can also be done as a response to drought by preventing water loss through evaporation.

- Protecting our existing trees is essential – especially in urban areas where mature trees play a vital role.
- Replacing them with new plantings cannot replicate the ecosystem services that established trees provide.

Flowers and shrubs: Urban parks and gardens

- Climate change will not only affect our trees, but it will also impact on the flowers and shrubs we plant and grow in our urban spaces, such as parks, allotments and domestic gardens
- Many of our traditional plants are water hungry because they have been planted to cope with a climate where predictable patterns of rainfall and heat have occurred (seasons).
- These plants have generally become the mainstays of our parks and gardens.
- It has been observed that some are now beginning to struggle to varying degrees due to increased drought and extreme levels of rainfall, these include: fuchsias, hydrangeas, roses, anemones, astilbes, ferns, heuchera, phlox, dahlias, hosta, rudbeckia, rhododendron, magnolia and camelias
- This list is not exhaustive. But what it does show is that many of the nation's favourite flowers and shrubs could be at risk. Therefore, greater care and higher levels of monitoring may be needed in order to ensure they remain healthy.

Climate Change resilient plants

- To address these worries, many gardeners and greenspaces managers are beginning to look at other options and alternatives, the most common being Mediterranean drought tolerant plants.
- Whilst not intended to replace native UK or UK style planting schemes, these 'drought tolerant plants,' can help in those areas of the UK where more traditional flowers and shrubs are struggling and will increasingly struggle as climate change impacts increase.

- Below are some of the trees and plants being considered:
- **Trees:** Olive Tree (Olea europaea), Italian Cypress
- **Shrubs:** Lavender, Bougainvillea, Oleander, Rosemary, Star Jasmine
- **Flowers:** Salvia, Geraniums. Sea Holly, Euphorbia, Artemisia, Lamb's Ear Santolina, Verbena, Sedum, Agapanthus, Geums.

Biosecurity

- Due to climate change, droughts are becoming increasingly frequent and are expected to occur more often in the future.
- Incorporating drought-tolerant plants and adopting drought-resilient planting strategies is a sensible and forward-thinking approach for the design and maintenance of future parks and gardens across the UK.
- Should greenspace managers consider the use of drought tolerant plants then there is a real need to ensure that the sourcing of such plants, particularly if they are from outside their region or the UK, has been certified safe to do so.
- It is important that that trees or plants are sourced from suppliers who meet the requirements set out in the Plant Health Management Standard, such as by being a member of the Plant Healthy Certification Scheme or by obtaining a successful Ready to Plant assessment. In this way we can be sure the trees and plants are disease and pest free and suitable for planting in our parks and gardens.
- https://planthealthy.org.uk/resources/plant-health-management-standard-1-1-2-2-2
- https://planthealthy.org.uk/
- https://readytoplant.fera.co.uk/

Public Perception and Acceptance

Aesthetics and Enjoyment

- While climate-adapted plants may be different from traditional choices, research suggests that people are generally open to them, especially if they are visually appealing and well-suited to the location.

Lingering concerns

- Throughout Europe climate change is beginning to render many plant species used in contemporary urban planting design less fit for use in public greenspaces.
- Evidence suggests there is some ecological value in introducing non-native species, yet there is a concern that the introduction of non-native species still carries the risk that non-native species can become invasive.

Education and Awareness

- Gardens and parks can serve as educational tools, showcasing the benefits of climate-friendly planting and encouraging wider adoption
- In essence, adapting our green spaces with climate-resilient plants is a proactive step towards mitigating the effects of climate change and building more sustainable and thriving communities

Landscape Succession Planning

- Landscape succession planning is a process of determining and managing shifts in a landscape, whether it's a garden, park, or broader natural area, to better cope with climate change and other environmental factors.
- It involves assessing the current landscape, identifying vulnerabilities to climate change (e.g., Increased heat, drought, flooding), and developing strategies to adapt or mitigate these impacts
- Kew Botanical Gardens has developed a Landscape Succession Plan that acts as a blueprint for urban spaces, botanic, and public gardens, with a focus on identifying "trees of the future" and planning for geographic shifts in climate suitability.
- https://www.kew.org/read-and-watch/landscape-succession-plan
- A **local authority's landscape succession plan** outlines how they will manage and adapt their green spaces to ensure their long-term health and biodiversity, especially in the face of climate change and other environmental pressures.
- The plan is a proactive approach to maintaining and improving the quality of public landscapes, encompassing tree management, biodiversity strategies, and promoting sustainable practices.

Key Components of a local authority Landscape Succession Plan

Purpose and Scope

- **Adaptation:**
- Landscape succession planning addresses the need to adapt to changing environmental conditions, such as increased temperatures, altered rainfall patterns, and the spread of pests and diseases.
- **Long-term Vision:**
- It focuses on the future health and resilience of green spaces, ensuring they remain valuable assets for the community.
- **Integration:**
- It often involves integrating with other policies like tree management plans and biodiversity strategies.

Key Elements

- **Planting for the Future:**
- This involves selecting tree species and other plants that are resilient to future climate conditions and contribute to biodiversity.
- **Biodiversity Enhancement:**
- The plan aims to improve the diversity of plant and animal life within the landscape.
- **Sustainable Practices:**
- It incorporates sustainable landscaping techniques, such as water conservation, reduced pesticide use, and the use of native plants.
- **Monitoring and Review:**
- Regular monitoring of the landscape and the effectiveness of the plan is crucial, with adjustments made as needed.

Benefits of Landscape succession planning for local authorities

- **Climate Change Mitigation:**
- Trees and green spaces play a vital role in carbon sequestration and reducing the urban heat island effect.
- **Improved Air and Water Quality:**
- Healthy landscapes filter pollutants and improve air and water quality.
- **Enhanced Public Well-being:**
- Access to attractive and healthy green spaces contributes to the physical and mental well-being of the community.
- **Economic Benefits:**
- Well-maintained landscapes can enhance property values and attract tourism

CASE STUDIES

- Wakefield Council
- Highland Council
- North East Derbyshire District Council
- Wirral Council
- Kent County Council

Beyond Parks

- ***'We have more garden area in UK than all National Parks combined, so what gardeners do really does matter'*** - Dr Chloe Sutcliffe, Sustainability Fellow, RHS
- Many local authorities are now looking beyond their own green space assets and are beginning to provide advice to their residents on how they too can help address both climate change impacts and increase biodiversity by making small improvements and changes to their private gardens at home.
- Just growing plants in front gardens can help reduce rainwater run-off that contributes to flooding, increase biodiversity by providing habitat and food for wildlife, and increase the opportunities for air quality improvement and carbon storage in the local environment.
- https://www.rhs.org.uk/science/articles/greening-cities

The growing loss of front gardens

- Increasingly there has been a decline in front gardens nationally due to the amount which have been paved over to allow off street parking. Perversely, this situation has increased due to the introduction of electric cars and the installation of charging points on the side of houses.
- Some local authorities, as part of their climate change and biodiversity promotion, actions, are making it their mission to encourage homeowners to make simple changes that help achieve the above aims.
- With regards to making gardens, both front and back, more environmentally friendly and climate resilient, suggestions include promoting practices like planting native and climate-appropriate plants, using organic gardening methods, and conserving water.

Other Solutions to address the issues raised by increased paving of front gardens

- The use of gravel, permeable concrete, or other materials that allow rainwater to drain through.
- Raising awareness about the environmental benefits of green front gardens and the negative consequences of paving.
- Supporting initiatives that encourage homeowners to rewild their front gardens by planting wildflowers and other native plants.
- Exploring the possibility of implementing planning policies that restrict the conversion of front gardens to hard surface.

Conclusions

- Recent experience in the UK and around the world has shown the dramatic impacts that periods of extreme weather can have on trees, plants and the wider environment.

- Greenspace Managers are increasingly faced with the growing impacts of climate change and the multiple threats it brings and there is therefore an urgent need to start to address these challenges.

- The threat of seasonality breakdown is a particular worry with natural cycles going out of sync and the potential risks to the required pollination levels for plant productivity and sustainability,

- We must explore and properly source new trees and plants that can thrive in warmer climates, look to reduce our use of water in preparation for more periods of drought and consider alternative greenspace management approaches such as the naturalisation of spaces to reduce the impacts of climate change and increase opportunities for biodiversity.

- Urban greenspaces play a crucial role in addressing the impacts of climate change and supporting biodiversity. They provide a wide range of environmental benefits, including flood mitigation, improved air quality, temperature regulation, and carbon sequestration.

- Beyond these ecological services, greenspaces also contribute significantly to public health and well-being, deliver economic value, and enhance overall quality of life – particularly in densely populated urban areas.

- Yet despite all these globally acknowledged benefits these spaces continue to be under threat from a variety of sources, such as housebuilding, industrial development and road building.

- Therefore, there is a broader need to ensure future planning policies build sufficient and sustainable greenspace into any future developments and equally ensure sufficient resources are made available to allow these spaces to be sustainably maintained and future-proofed..

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Q&A

Closing Remarks

- Councillor Freddie Bailey, Cabinet Member for Environment and Community Safety at Preston City Council (Chair)

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Thank you!

Presentations will be available from the APSE website tomorrow