Water Conservators City Environmental Debate

2 October 2025

Sustainable UK Cities: What, How and When?

Chair

Cassie Sutherland   Managing Director for Climate Solutions and Networks at C40 Cities

Speakers

Dr Paul O'Hare,   Manchester Metropolitan University

Michela Ravaglia   Head of Sustainability

Dan Dowling   PwC Partner

Dr Greg Lavery   Managing Director Rype Office

Dima Zogheib   Cities Planning and Design, Arup Director

Report on the Debate

Executive Summary

To deliver on UNSDG 11 Sustainable Cities and Communities, we must embrace long-term thinking, that is sustainable and in the longer-term regenerative. To achieve this, we need to apply the principles of thinking about the future, the design and the systems as a whole.

We need strategies for our new and refurbished built environment. These need to consider the carbon dioxide and the natural world impact of their: materials, construction and the operation of these buildings during their whole life.

We need to remember cities are not just somewhere to work, people live in them and their needs to be in nature, from social groups, and experiences such as the arts, music and museums must be considered.

The cost of achieving sustainability in our existing cities is considerable. With regards to the refurbishment of our housing sector we should consider grouping areas and cities to achieve economies of scale, making it more affordable.

When looking at resilience we need to ensure that it is based on long-term forward-looking strategies, and the people are engaged in the process. We need to bounce forward not backwards.

Nature also must be brought back into the open spaces that represent 50% of our cities. This has two potential benefits, being in nature is good for us and it can provide cooling. Regents Park can be 7°C cooler because of its trees. Reviewing transport and reducing the area of roadways could also be a step in the right direction. We need to ask the question 'What if nature was the client'.

We need to consider the circular economy in the design of our building and infrastructure, and the equipment used in them, such as furniture. We need to rethink, reuse, refurbish and then recycle. This will have the benefit of reducing the impact on the natural world, material resources and

greenhouse gases. Also, on the global South which is being plundered to supply raw materials. The UK Government have established a task force to focus on the circular economy including the built environment. Fiscal measures may have to be employed to force the circular economy to happen.

We need to build on good examples of progress going in the right direction, both nationally and from around the world. These exist in all areas of making cities sustainable including financing and the built environment.

We need to knock down the barriers to progress such as the lack of long-term thinking on the electrical grid supply, or your energy performance certificate rating going down when you install a heat pump. We need to resist lobby groups influencing government for their own aims. We also need to remove politics from the long term aims and goals.

Creating sustainable cities is complex, but it is possible, it is not too hard.

After the event a podcast about the debate was recorded. It was facilitated by Allan Barton talking with Greg Lavery and Dima Zogheib. Here is the link:

**Sustainable UK Cities: What, How and When? | The Beyond Waste Podcast**

If you wish more information or would like to talk about the report, please contact Allan Barton on **barton.allan@outlook.com**

The Debate

Opening remarks

The debate started with the following opening remarks:

- Around the 18th Century three significant events occurred: 1. We discovered affordable sources of energy in the form of coal and oil, 2. The industrial revolution and 3. Population started to increase significantly,
- In the past 9,000 years our cities have grown to be the mega cities we have today, and they are possibly set to grow by another 50% by the year 2100,
- More people now live in the urban than rural environment, and
- We have around 75 years to achieve living in sustainable cities.

The points from the presentations

Property

The construction of buildings contributes up to 40pc of a building's emissions which with operations contributes 25% of all UK emissions.

To deliver on the UNSDG 11 Sustainable Cities and communities, there is the need to embrace long-term thinking to ensure their futures are sustainable and in the longer-term regenerative. To achieve this the principles of future thinking, design and system thinking need to be applied.

When designing new and refurbishing current properties, we need to include whole life carbon of assets, material passports, and the circular economy principles. As well as bringing the natural world back into the cities.

We need to embrace joined up long-term thinking to achieve sustainability and regeneration of the natural world, as it will not be achieved by single initiatives.

Four good examples in London include:

1. Roots in the Sky. First office building in London to create a rooftop urban forest. Part is so densely planted it's effectively inaccessible to humans. It has nature as an integral part of the building, and ecology embedded at its heart.

2. 1 Triton Square. A 1990s office building that was refurbished and reused rather than demolished. This saved 10 tons of carbon compared with rebuilding. Retain and adapt first: demolish only as a last resort. Considering marginal gains works for small projects as well as large-scale structures.

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3. 1 Broadgate. Adopted measures to reduce whole life cycle carbon emissions and deliver zero operational carbon. Evidence of circular economy at work

4. The E.ON project in Royal Docks, interconnecting buildings and using external energy only when internal sources are exhausted

Nature

The natural world needs to be built into any design as an essential part of any sustainable city. Need to ask ourselves the question: "What if nature was the client?" Cities are complex urban systems.
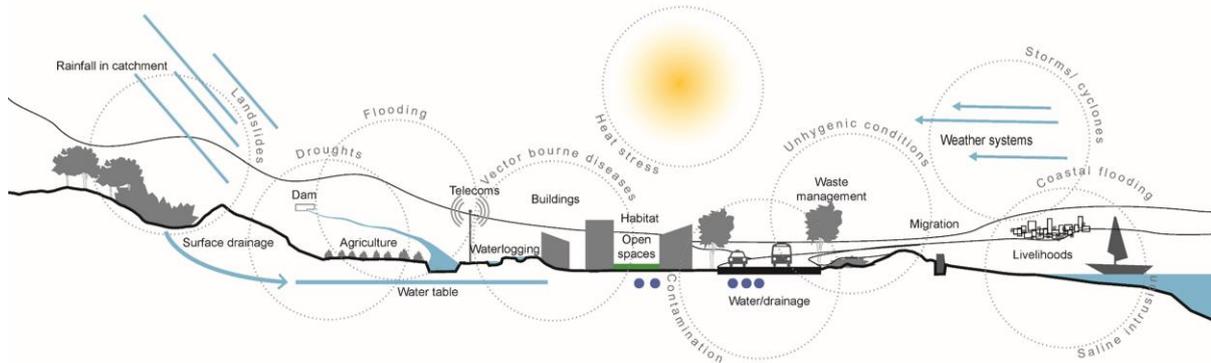
More than 50% of land in cities is open spaces, 25% given over to transport. There is a big role those spaces need to play in bring nature into cities.

One estimate is that 95% of a building impact on nature loss is embodied, only 5% of nature loss occurs on site and in immediate surroundings – the rest is in the supply chain. This needs to understand this better.

Including nature is a design can have positive effects. Such as Regents Park in London is 7°C cooler than rest of city thanks to tree cover. Nature areas are "spongier" and absorb more water. London plane trees, have a role in cooling etc but are losing much of their leaf canopy thanks to warming and so much less efficient at cooling and handling storm water etc. Research at Kew shows 50% of its trees including iconic species like oak, beech could be vulnerable to climate change by 2090. We need to consider replacing plane trees with others more resilient to climate change such as those from the Mediterranean.

Need to think more about responsible design: steel and concrete are irresponsible. Nature-positive cities put nature into all urban systems. Open spaces to be functional and high performance.
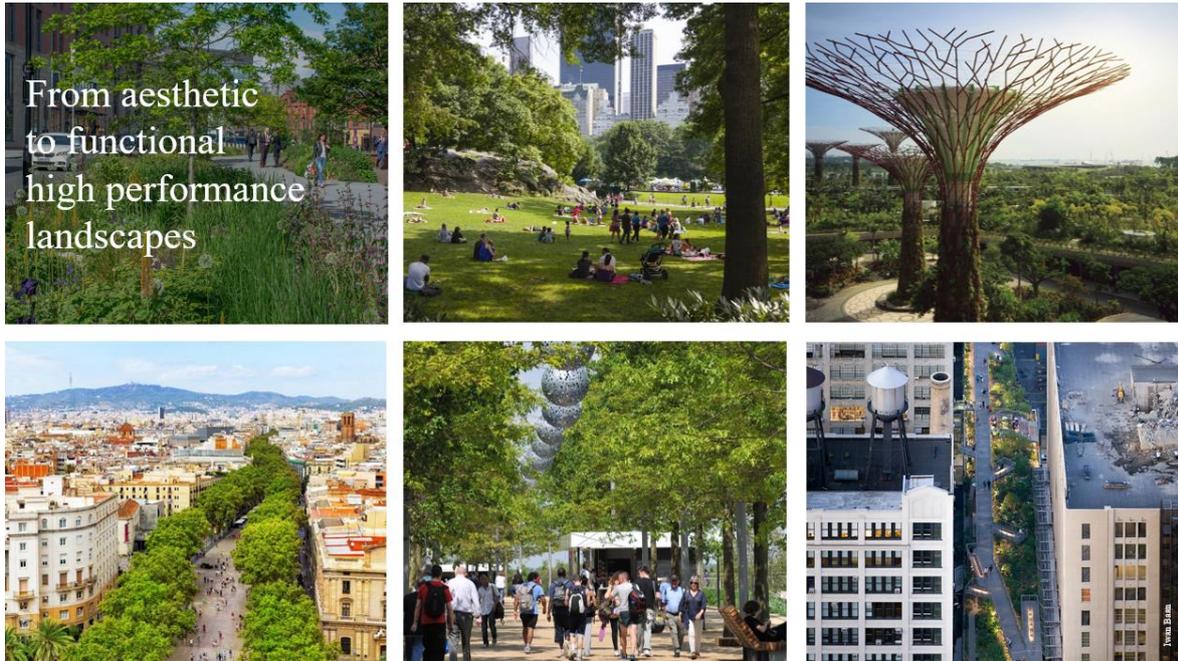
It is possible as Madrid has demonstrated and other areas such as Singapore and New York:

2003   2011

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From aesthetic
to functional
high performance
landscapes

Circular Economy

The UK Government is focusing on the Circular Economy as it can: support economic growth, deliver green jobs, use our resources efficiently and productively as possible, reduce raw material dependance, improve resiliance, minimise impacts and protect our environmental, sustainability, accelerate Net Zero, and reduce costs to customers.

The Government has set up a task force to develop policy, engage with stakeholders and advise Ministers, they will issue a consultation in the Autumn of 2025. They are focusing on these sectors and cross cutting areas, and the built environment in considering these areas.

The Strategy will focus on the following sectors and topics:

Priority Sectors — Agrifood, Built Environment, Chemicals & Plastics, Electrical Equipment & Electronics, Textiles, Transport

Cross-Cuts — Global Context / Data /Design / Standards, Place, Finance / Innovation / Business Support, Governance, Skills, Public Procurement

There are four levels to achieve a circular economy: the highest is rethink (don't create waste in first place); reuse; refurbish; lowest is recycle as it is the least efficient approach and energy intensive. But we have focused too much on recycling. Too many people go straight to recycling, ignoring the higher levels.

Built Environment Sector areas we are considering

1. Embed circularity in the public sector through leveraging procurement frameworks
2. Encourage innovation through funding and collaboration
3. Encourage circularity into the planning and development process
4. Measure and encourage reductions in embodied and whole-life carbon to drive circular resource use
5. Standardise material and product data provision
6. Leverage the tax system and fiscal incentives
7. Build a knowledge base around soil reuse to influence future policies
8. Reduce the regulatory burden for developing brownfield sites

There are good examples, Anglian Water drove down costs by 23% and emissions by 50% by doing things in a circular way. Repairing and reusing office furniture as 500 tons of office furniture thrown away daily. For example, an office chair is made from iron mined in Western Australia, manufactured in China, upholstered in Poland, and costs £330. In a circular system we can refurbish the chair if

required and then treat the chair as if it's in a digital "virtual warehouse" and put it round the cycle again. This saves £200 and 40kg CO2 every time the chair goes round the cycle rather than going to landfill. The opportunities are large; the UK Government spends £200bn a year on goods and services.

How can you make it happen? Fiscal measures have an impact, for example the landfill tax on municipal waste change to sector completely. To prompt a similar impact on inert waste the UK Government are consulting on increasing the tax on landfilling inert waste above its current £2 a tonne. This will drive the reuse of rubble, aggregate and other inert materials.

Resilience

Resilience is "the Cinderella of climate policy" and gets less attention that mitigation. People don't like the term: "Resilience" as it can mean you can do anything to a community, and it will bounce back. It could be seen as a form of greenwashing. There is also potential for bad outcomes including: it means returning to the status-quo, adaptation is inadequate, forgets the political element, place-based planning can reinforce inequality.

Five ways to make cities more (climate) resilient (and better places to live) include: bouncing forward, not just back; risk-informed planning; transformative action/integration; collective approaches and exploiting co-benefits. We need to introduce a more progressive form of resilience with better integrated policies including societal, economic, and political. As in Rochdale where whole household/community view was taken, e.g. assessing houses for flood risk but at the same time for energy efficiency etc. See: Resilient Roch: Coordinating property-level surveys for integrated climate resilience | Local Government Association

Funding

We are in 'Retrofit UK'. We have to rebuild and refurbish most of the country, so there is a huge capital requirement, which is an opportunity for investment. A study of six large urban regions, not all the same, shows they are able to deliver far better than expected by optimising investment power of cities. Housing upgrade cost of £200bn comes down to £58bn if we leverage a city-wide approach.

Focusing on decarbonisation is a key requirement but the estimated outlay of £100bn too much for the public sector to fund in the UK, given its current fiscal situation. Therefore, the private sector has to step in. Parts of market stand up to scrutiny such as solar panels, insulation of homes when they are refurbished and EVs, these have been reasonably successful. The market is broken for whole scale improvement of current cities, as it's impossible to turn a profit. There needs to be fundamental reform and there is a role for city governments to play a part.

The decarbonisation market can be split into three categories: 1. government money for social housing and for equipment like buses etc, 2. those with sufficient funds to upgrade and refurbish their properties, and 3. the mass middle market where the costs are too high at present. For this sector one opportunity is to parcel up UK local authorities into investible units. Using say the legacy municipal development corporations.

These areas could arrange contracts for whole area home retrofit solutions. These would be easier for contractors to operate including the energy companies, and lower prices due to the economies of scale. It would also make it easier for customers to trust the contractors and give them the incentive from seeing that your neighbours are achieving cost savings.

Points from the discussion

Are there good example of what can be done?

BSI moved office and 87% of the old furniture was reused. Corporate leaders have a role here; the BSI can influence the ISO and standards across the world. Trust is important to make people feel confident. Standards are enablers of trust. Make BSI more "tangible": translate it into the everyday.

Get rid of 25% of the roads in cities.

Work with and in communities, talking about adaptation, ensure it is facing forwards not backward.

Sustainability is growing. 10 years ago, we had to push clients to consider this stuff; now they actively want it

Look to France where organisations moving office must put in at least 20% second life furniture. Charities have benefited, advertising money has got involved, a whole infrastructure has grown up around it

We talk too much about problems and not enough about good things. Encourage site visits to show what good practice looks like

Cities can leverage big events and sports like the Olympics to upgrade. Morocco hosting the World Cup means lots of infrastructure upgrades. Development bank financing is available.

Community-level demonstration projects are vital, involving not just homeowners but other stakeholders like local trades, planners etc. Consider Bristol's City Leap project which aims to leverage £1bn investment to accelerate decarbonisation. If it's successful it could solve many problems

How should we look at the growing demand for energy etc?

No easy answer. Outside cities, where they are not locked into the local grid, clients are looking at "taking back control" of their energy supply and going off grid. The problem in cities is a large user can wait years to "electrify" because of the level of demand suppliers cannot meet. A long-term plan for the grid is required else this will always be the case. So, we have to invest in the grid and in energy storage.

Are cities being designed or retrofitted to include the factors that impact on people's longevity such as being in nature, social community, experiencing awe through the arts, music and museums?

Increasingly nature is being built back into cities. We must remember that cities are there for the benefit of people that live in them, not just somewhere to work. This area is receiving more attention.

Resources are being plundered from the Global South with little care for the environment, how do we to stop this from happening and what is their incentive to get on board?

This is exactly what the Circular Economy is trying to achieve. We need to achieve reusing our resources and live within what one planet can sustain. Reuse will reduce the pressure to mine materials in the global south.

Practical problems:

1. Talk about housing refurb: there's a skills shortage, a materials shortage, costs are going up. New housing is simply not affordable.

Upgrading housing can give a good return on the investment as insulation which makes it a great business. Skills shortage is a big problem but there are a lot of people out of work: we need "a big hard lift" to fill that gap.

2. Heat pumps: the Energy Performance Certificate regime is broken, inappropriate and out of date: spend £13k on a heat pump and EPC rating goes down not up.

Message to government: get on with the changes. Reform gas and electricity charging so heat pumps become affordable to install and run.

How do we make the change happen?

We need to be more positive and "carroty" in our messaging. We are too often horrid to people. They think we're doing stuff to them rather than with them. A big issue is changing behaviour: after floods people often don't want to "build back better", they want things replaced as they were, we need to get away from going backwards.

People feel disempowered and disenfranchised. Building demonstration properties so people can see what's possible and being proposed in their area

What happens if the political climate changes? We need to change the conversation away from distractions like immigration and on to things that really matter.

There is a point where blame isn't helpful. This is not down to individuals alone to solve by themselves. There are plenty of cities round the world offering examples of positive change, good practice etc, we need to learn from them.

Where should costs of decarbonisation etc fall, who should bear them?

It should be City-wide, deploy value-capture techniques to land etc so some uplift in value goes to public purse – tax etc. They're doing it in Hong Kong, Ho Chi Minh City, and Crossrail was funded by a tax on business across London.

Some retrofit work needs to be 100% state funded; for the "mass middle" regulation has a role to play to push the market but need to make costs marginal. This needs to be developed further.

What's preventing cities delivering on all this now?

It is complex, many different stakeholders, some who don't want to be circular, e.g. housebuilding sector are obstructive, holding Government to ransom by threatening not build all the homes the Government wants built.

Architects use the RIBA Plan of Works, which is inherently linear, not circular. Some local authorities are good and require a circular statement at planning but there are 30 different versions.

It's cheaper and easier to weld steel than bolt it, though bolting it would make it much easier to reuse. We should recognise resources are finite and we need to consume less. We should build less and retrofit more.

In Morocco 97% of water goes into fruit and vegetables for export: crops have high water demand and produce high revenues. This is about individual decisions countries and people have to make.

<u>End</u>

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