

# The role of subnational leadership in achieving net-zero

September 2021

## Overview

With the UK Government having set a legally binding target to reach net-zero greenhouse gas emissions by 2050, attention is now focused on the actions needed to achieve it. Many of these actions will need to happen at local level, giving subnational authorities a vital role as leaders and actors in delivering net-zero.

Subnational governance in England has been transformed over the last decade with the creation of ten combined authorities, nine of which are led by an elected metro mayor. Including the Greater London Authority, 41% of England's population now live under a devolution deal.<sup>1</sup> While combined authorities' powers and budgets vary, their remits generally cover spatial planning, housing, regional transport, and economic growth – all sectors which will be key for delivering net-zero.

Nevertheless, governance in England remains highly centralised and the prospect for further devolution of powers is uncertain, despite evidence of strong public support.<sup>2</sup> Under the current framework, combined authorities have limited powers and lack the resources to contribute optimally to achieving national priorities, such as net-zero.<sup>3</sup>

The Government is also yet to publish its overarching net-zero strategy or a framework setting out the relevant roles and responsibilities of subnational authorities at all levels. While they await this direction, 74% of England's 404 local authorities and eight combined authorities have declared climate emergencies, although fewer have set specific targets or developed detailed, actionable net-zero plans.<sup>4</sup>

## Purpose

This insight paper explores what climate mitigation actions England's combined authorities could take to contribute to achieving the national net-zero target. It looks beyond what they can do as corporate bodies to explore systems-level actions that could drive change through infrastructure and the built environment.

The paper draws on internationally recognised principles, frameworks, and case studies to explore how subnational climate action is contributing to global efforts to mitigate climate change. It examines how innovative concepts such as 15-minute cities are helping subnational leaders to rethink urban spaces and build a consensus to support the net-zero transition.

The paper highlights nine principles that could guide climate action by combined authorities in England:

1. Combined authorities should develop climate action plans that set ambitious, long-term objectives drawing on their local knowledge and ability to pilot innovative strategies.
2. Climate action plans should be grounded in robust evidence, set specific long-term and interim targets for emissions reductions and prioritise high impact, achievable actions.

<sup>1</sup> Institute for Government (2021) [Metro Mayors](#)

<sup>2</sup> Centre for Cities (2021) [What do the public think about devolution and the metro mayors](#)

<sup>3</sup> UK100 (2021) [Power Shift](#)

<sup>4</sup> Climate Emergency UK (2021) [List of councils who have declared a climate emergency](#)

3. Data collection should be ongoing, transparent, and shared with key partners to ensure accountability, enable adjustments and inform national and regional policies and practices.
4. Combined authorities should fully integrate net-zero across all their operations:
  - All departments should be made responsible for delivering net-zero.
  - All functions and powers of combined authorities, such as procurement, should be leveraged to set market standards that prioritise sustainability and net-zero.
5. Climate action should be place-based:
  - Combined authorities should use their local knowledge to develop the most suitable strategies for climate mitigation and adaptation in their regions.
  - Combined authorities should feed-in key local information to inform national policies.
6. Metro mayors should use their strategic planning powers to be net-zero place-shapers, integrating the net-zero transformation across key sectors to transform whole places to net-zero environments.
7. Metro mayors should leverage their soft power to mobilise stakeholders and build consensus for ambitious, place-based climate action.
8. Planning and delivering climate action should be inclusive. Combined authorities should develop consultation and communication strategies that capture key local knowledge, build consensus around controversial policies and secure the participation of citizens and businesses.
9. Climate action should contribute to a just transition. The impact on lifestyles and financial burden should be distributed fairly and planning should emphasise the wider socio-economic benefits of climate action.

## Why subnational action is essential for achieving net-zero

Achieving net-zero will require a major retooling of the UK's physical infrastructure and economic system. While some progress has already been achieved, primarily through phasing out coal use in electricity production, the next stage of emissions cuts will need to tackle difficult to decarbonise sectors such as buildings, transport and waste.<sup>5</sup>

The Climate Change Committee (CCC) estimates that over half of the required cuts rely on decisions made at local and individual level.<sup>6</sup> However, the CCC argues that the “fragmented”, “complex” and “siloed” arrangements between national and local government in England do not facilitate the delivery of net-zero.<sup>7</sup> The National Infrastructure Commission (NIC) has also recommended further devolution of powers to enable more ambitious, locally-led planning and investment in infrastructure to deliver national priorities.<sup>8</sup> However, the Government did not fully endorse the NIC's recommendations on devolution in its response to the National Infrastructure Assessment.<sup>9</sup>

Climate change is a global issue and countries worldwide are working out how to align national and subnational strategies to deliver ambitious climate targets. The United Nations has called on national governments to mainstream their NDCs into subnational policies and budgets.<sup>10</sup> However, in 2018 the IPCC estimated that the currently submitted NDCs were insufficient to achieve the Paris Agreement's target of limiting the global temperature rise to 1.5°C, prompting calls for a more ambitious, coordinated “whole-of-government” and “whole-of-society” approach.<sup>11</sup>

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<sup>5</sup> Climate Change Committee (2020) [Local Authorities and the Sixth Carbon Budget](#)

<sup>6</sup> Ibid

<sup>7</sup> Ibid

<sup>8</sup> National Infrastructure Commission (2021) [Annual Monitoring Report 2021](#)

<sup>9</sup> HM Treasury (2020) [Response to the National Infrastructure Assessment](#)

<sup>10</sup> UN-Habitat (2020) [Enhancing Nationally Determined Contributions through Urban Climate Action](#)

<sup>11</sup> OECD (2019) [An integrated approach to the Paris Climate Agreement: the role of regions and cities](#)

Unlocking subnational climate action is crucial because cities in particular are part of both the problem and the solution to climate change.<sup>12</sup> They are home to over half the world's population and contribute over 70% of energy-related CO<sub>2</sub> emissions.<sup>13</sup> Improving urban infrastructure is key for adapting to climate change as well as delivering deep emissions cuts.<sup>14</sup> Cities are also the frontline for ensuring that climate action addresses wider socio-economic challenges such as inequality, unemployment and poverty.<sup>15</sup>

## Principles for subnational climate action

Given the urgent need to unlock subnational climate action, a growing number of frameworks and international networks are highlighting the opportunities and guiding subnational leaders. An overview of existing frameworks is included as Annex 1 to this paper.

These frameworks complement broader global agendas such as the Sustainable Development Goals (SDGs) and UN-Habitat's New Urban Agenda, which links sustainable urban development with delivering key socio-economic outcomes. The UK is committed to achieving the SDGs by 2030, which include sustainable cities and communities (SDG 11) and climate action (SDG 13).

Each subnational region is unique, and England's combined authorities will need to take different approaches to climate action based on their local circumstances, including geography and population. This section suggests nine core principles that could provide a platform for climate action by combined authorities.

### **1. Combined authorities should develop climate action plans that set ambitious, long-term objectives drawing on their local knowledge and ability to pilot innovative strategies.**

Climate action planning "should reflect the urgency and scale of the climate challenge."<sup>16</sup> The UK has an ambitious, legally binding national target to reach net-zero by 2050, but there is a serious risk it will fall short of getting there.<sup>17</sup> Achieving it requires unlocking climate action at all levels. Combined authorities should set ambitious objectives which can accelerate decarbonisation and build pressure on the Government to provide additional resources for subnational climate action.

While many low-hanging fruit opportunities to cut emissions exist in cities<sup>18</sup>, capturing them should be done in the context of ambitious, long-term planning to deliver the deep cuts required. Leaders of combined authorities can use their local knowledge to identify sectors where more ambition is possible and pilot innovative strategies that could be scaled-up nationally.<sup>19</sup> The CCC recommends enabling "pathfinder areas" with the freedom, powers and resources to go faster and further than national standards.<sup>20</sup>

Innovative regional projects already exploring the potential of new technologies include the HyNet North West clean energy project, which aims to deliver hydrogen production and Carbon Capture and Storage (CCS) capacity in North West England and North Wales. The North East of England is growing as a hub for off-shore wind energy production and manufacturing key components required for wind farms.<sup>21</sup>

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<sup>12</sup> Ibid

<sup>13</sup> Ibid

<sup>14</sup> Ibid

<sup>15</sup> OECD (2019) [OECD work in support of climate action](#)

<sup>16</sup> UN-Habitat (2015) [Guiding Principles for City Climate Action Planning](#)

<sup>17</sup> Climate Change Committee (2021) [2021 Progress Report to Parliament](#)

<sup>18</sup> UN-Habitat (2020) [Enhancing Nationally Determined Contributions through Urban Climate Action](#)

<sup>19</sup> New Climate Institute (2021) [Subnational and non-state climate action in the EU - An overview of the current landscape, emission reduction potential and implementation](#)

<sup>20</sup> Climate Change Committee (2020) [Local Authorities and the Sixth Carbon Budget](#)

<sup>21</sup> Department for Business, Energy and Industrial Strategy (2021) [Huge green jobs windfall for the North-East and Yorkshire](#)

**2. Climate action plans should be grounded in robust evidence, set specific long-term and interim targets for emissions reductions and prioritise high impact, achievable actions.**

Ambition is essential given the scale of the challenge, but climate action must be grounded in robust evidence with targets that are achievable while delivering the necessary cuts. Evidence-based planning also builds credibility with stakeholders, including the public, national government and private investors, whose support and contributions will be required.

Climate action plans should set specific long-term and interim targets for emissions reductions. Evidence-based planning could include an emissions inventory, climate risk assessment, and the socio-economic context. Plans should also be forward-thinking, using evidence to focus on solutions that both reduce emissions in the near term and lay the foundation for a low-carbon future. C40, for example, argues for prioritising electrification and renewables over bridging technologies.<sup>22</sup>

Robust evidence can also help subnational authorities with limited resources prioritise actions. Stockholm assessed and ranked 50 potential carbon reduction measures for its 2010-2020 climate plan using four evidence-based criteria: cost efficiency, reduction potential, degree of city control, and speed of impact.<sup>23</sup> C40 argues that cities can make more progress by “concentrating on a small number of high-value opportunities than by spreading effort over hundreds of potential actions”.<sup>24</sup>

Oslo has an ambitious target of reducing greenhouse gas emissions 95% by 2030 from 2009 levels. The city’s evidence-based approach to planning uses an annual climate budget to show exactly how much emissions will need to be cut each year, where and how the cuts will be achieved, and which municipal bodies are responsible.<sup>25</sup> Recent data showed that emissions in the city are higher than estimated, particularly from buildings and construction. In response, the 2021 carbon budget prioritises cuts from those sectors, with new requirements for zero-emissions construction sites and fossil-fuel free transportation of construction materials.<sup>26</sup>

**3. Data collection should be ongoing, transparent, and shared with key partners to ensure accountability, enable adjustments and inform national and regional policies and practices.**

Oslo’s climate budget highlights the importance of continuously building data and evidence to ensure the required emissions cuts are achieved and strategic adjustments are made if needed. Evidence gathering should also be transparent to ensure accountability and enable data to be shared with other regions and national government to be factored into national policies and inform best practice.

Oslo publishes a climate barometer three times a year to track progress against its climate budgets.<sup>27</sup> In the US, Boulder’s online dashboard, BoulderMeasures, tracks and publishes emissions data across key sectors.<sup>28</sup> The data is also informing new climate policies and actions, such as helping the city’s leaders understand the potential for solar panel adoption across Boulder’s rooftops and carbon capture in carbon sinks across the city’s land.

**4. Combined authorities should fully integrate net-zero across all their operations:**

- **All departments should be made responsible for delivering net-zero.**
- **All functions and powers of combined authorities, such as procurement, should be leveraged to set market standards that prioritise sustainability and net-zero.**

Achieving net-zero will require combined authorities to embed it across all their policies, functions and departments as far as possible. Making all departments responsible for delivering net-zero is one approach to this. Oslo’s climate budget, for

<sup>22</sup> C40 [Focused Acceleration – A strategic approach to climate action in cities to 2030](#)

<sup>23</sup> Carbon Neutral Cities Alliance (2015) [Framework for Long-Term Deep Carbon Reduction Planning](#)

<sup>24</sup> C40 [Focused Acceleration – A strategic approach to climate action in cities to 2030](#)

<sup>25</sup> KlimaOslo (2019) [The Climate Budget - explained](#)

<sup>26</sup> KlimaOslo (2021) [Climate Budget 2021](#)

<sup>27</sup> KlimaOslo (2019) [The Climate Budget - explained](#)

<sup>28</sup> ICLEI (2021) [From Climate Data to Climate Action: Experiences from Boulder, Colorado, USA](#)

example, sits with the city's finance department, allocates emissions cuts to all city departments, and requires them to propose new climate measures each year.<sup>29</sup>

Combined authorities have a range of levers for embedding net-zero across their remits, although as noted these vary across the regions. Combined authorities can set ambitious efficiency and emissions standards for homes and buildings under their control. New York City's novel Buildings Mandate, for example, will require 50,000 of the city's largest buildings to cut their carbon emissions by half by 2030 and by over 80% by 2050.<sup>30</sup> It gives owners the flexibility to pursue the best solutions for cutting carbon and includes the power to fine owners who do not comply.

Combined authorities also have substantial procurement powers they can leverage to drive markets towards new standards, practices and outcomes focused on sustainability rather than cost-cutting.

This could be particularly effective in construction, where opportunities for decarbonisation include reducing dependence on materials with a high level of embodied carbon, such as steel and concrete. As noted above, Oslo targeted the construction sector in its 2021 climate budget. A group of European cities is also developing policies to use more bio-based materials in construction and aims to build pressure on national governments to adopt similar measures.<sup>31</sup>

Some subnational authorities are using circular economics to help cut emissions. Amsterdam aims to become the world's first fully circular economy city and will require all invitations to tender in the built environment to be fully circular in 2023 and all renovations by 2025.<sup>32</sup>

#### **5. Climate action should be place-based:**

- **Combined authorities should use their local knowledge to develop the most suitable strategies for climate mitigation and adaptation in their regions.**
- **Combined authorities should feed-in key local information to inform national policies.**

A one-size-fits all approach to climate action will not work. Subnational leaders are best placed to develop climate action plans that suit the specific circumstances, opportunities and needs of their region, such as the nature of the housing stock, energy sources, travel patterns and infrastructure.

Subnational leaders' proximity to communities also means they are less likely to be dealing with climate change in the abstract but may already be grappling with the tangible impact, giving them valuable insights for planning adaptation and resilience strategies for their region alongside emissions cuts.<sup>33</sup>

A place-based approach can also improve national policies by feeding in key local information. Identifying which areas are suitable for hydrogen distribution will help target investment and prioritise other areas for electrification.<sup>34</sup> Subnational authorities' knowledge of their local building stock will be crucial for supporting the decarbonization of heating.

#### **6. Metro mayors should use their strategic planning powers to be net-zero place-shapers, integrating the net-zero transformation across key sectors to transform whole places to net-zero environments.**

Place-based climate action also means actively "transforming whole places towards Net Zero".<sup>35</sup> According to the CCC, net-zero housing and commercial developments, connected to sustainable transport infrastructure with active and public transport options, should become the norm rather than the exception across the UK.<sup>36</sup>

Nine of England's combined authorities are led by an elected metro mayor who holds key strategic planning functions for their region. Metro mayors should use these powers to act as place-shapers and drive net-zero transformations in their

<sup>29</sup> KlimaOslo (2019) [The Climate Budget - explained](#)

<sup>30</sup> C40 (2019) [New York City is slashing skyscrapers' emissions with first-of-its-kind legislation](#)

<sup>31</sup> Carbon Neutral Cities Alliance (2021) [European Cities Launch Ambitious Effort to Reduce Embodied Carbon with Grant from Laudes Foundation](#)

<sup>32</sup> Ibid

<sup>33</sup> ICLEI [Climate Neutrality Framework](#)

<sup>34</sup> Climate Change Committee (2020) [Local Authorities and the Sixth Carbon Budget](#)

<sup>35</sup> Ibid

<sup>36</sup> Ibid

regions. In areas such as transportation, energy, and spatial planning, they can lead the development of coordinated regional plans that fully integrate net-zero.

**7. Metro mayors should leverage their soft power to mobilise stakeholders and build consensus for ambitious, place-based climate action.**

The metro mayors also wield significant soft power which can be leveraged to build support for ambitious, place-based climate action. The metro mayors' direct electoral mandates, high visibility and distance from council and ward politics gives them more power to influence stakeholders and push forward difficult and controversial decisions.<sup>37</sup> There is growing evidence of metro mayors' ability to impact national politics to champion the interests of their area, for instance in their response to the Covid-19 pandemic.<sup>38</sup> Metro mayors could take a similar approach to championing ambitious climate action in their region, particularly as polling also indicates strong public support for climate action in the UK.<sup>39</sup>

**8. Planning and delivering climate action should be inclusive. Combined authorities should develop consultation and communication strategies that capture key local knowledge, build consensus around controversial policies and secure the participation of citizens and businesses.**

Ensuring effective, place-based climate action means planning should be inclusive, gathering diverse perspectives and capturing key local knowledge. C40, for example, proposes three stages of inclusive climate action:<sup>40</sup>

- the process – engaging a wide range of communities and stakeholders
- the policy – fairness and accessibility in design and delivery
- the impact – the wider benefits of climate action are distributed as equitably as possible

The net-zero transition will have an enormous impact on behaviours, lifestyles and the physical infrastructure of communities. It will require citizens and businesses to participate and accept trade-offs and major investment before the benefits of long-term savings take effect.<sup>41</sup>

Leaders will need to be upfront about these changes, but an inclusive process will help to persuade constituents to support them. New York's controversial Buildings Mandate passed after years of engagement with stakeholders including the real estate industry, environmental organisations, labour unions and city agencies.

Metro mayors are well placed to undertake this leadership and influencing role in their regions, using their convening power and platforms to build relationships, manage interactions between stakeholders and mobilise the energy and expertise of non-state actors.<sup>42</sup>

Local-level outreach programmes and citizens' assemblies can help ensure "widespread understanding, participation and support" for climate action.<sup>43</sup> In 2020, participants in Climate Assembly UK prioritised principles of improving access to information and education on climate change; fairness across sectors, geographies, incomes and health; and freedom and choice for individuals and local areas.<sup>44</sup>

Combined authorities should also collaborate and coordinate with neighbouring authorities and other key delivery bodies on strategies to deliver a coherent, systems-wide transformation. This could include sharing skills and expertise as well as knowledge and data.<sup>45</sup>

<sup>37</sup> Centre for Cities (2021) [The metro mayors are a success - now they need more responsibilities](#)

<sup>38</sup> Ibid

<sup>39</sup> Department for Business, Energy and Industrial Strategy (2021) [Public Attitudes Tracker \(March 2021\)](#)

<sup>40</sup> C40 Cities [Climate Action Planning – Inclusive climate action](#)

<sup>41</sup> Institute for Government [Net Zero - How government can meet its climate change target](#)

<sup>42</sup> Place-Based Climate Action Network [Trends in Local Climate Action in the UK](#)

<sup>43</sup> C40 Cities [Climate Action Planning Framework](#)

<sup>44</sup> Climate Assembly UK (2020) [Report](#)

<sup>45</sup> Climate Change Committee (2020) [Local Authorities and the Sixth Carbon Budget](#)



## 9. Climate action should contribute to a just transition. The impact on lifestyles and financial burden should be distributed fairly and planning should emphasise the wider socio-economic benefits of climate action.

An inclusive strategy will help leaders build consensus and a mandate for climate action. Inclusive climate action should also mean the associated impact on lifestyles, financial burden and the wider socio-economic benefits should be distributed fairly. Costs should be balanced fairly between “businesses, consumers and (current and future) taxpayers”.<sup>46</sup> Planning should “enable transitions to be delivered by and for local communities, rather than being done to them”.<sup>47</sup>

Highlighting the wider economic and social benefits of climate action can help build public support. Until recently, climate change and inclusive growth have been addressed separately, with little attention paid to the trade-offs and synergies between them.<sup>48</sup> However, frameworks such as the SDGs can help measure and highlight the wider benefits of climate action, including poverty reduction, better health outcomes, access to cheaper energy and new job opportunities.

There is also evidence that people are more likely to engage in climate action if it is communicated in the local context and framed as an opportunity to reorganise communities and local economies.<sup>49</sup> In contrast, failure to reflect on the links between broader sustainability and climate change may result in missed opportunities and limit the political sustainability of climate action.<sup>50</sup>

New York framed its climate action plan as a “Green New Deal”, emphasising new investment, job creation and actions to reduce inequality.<sup>51</sup> Barcelona’s plan to achieve carbon neutrality by 2050 puts vulnerable people and justice at the heart of climate action. It was developed through extensive public consultation and analysis of the impact of climate change on different socio-economic groups and neighbourhoods. Goals include achieving zero-energy poverty by 2030 through measures such as expanding local solar energy generation.

Portland’s initial approach to climate action reduced emissions while achieving economic growth, but it has not delivered social benefits for the city’s non-white and low-income residents. In response the city prioritised high-impact emission reduction strategies that improve the health, prosperity, and resilience of communities most vulnerable to the impact of climate change.<sup>52</sup> City leaders moved from consultation with communities to collaborating on community-centred actions and new-thinking around infrastructure issues, such as addressing wider socio-economic barriers that discourage public transport usage.

## Lessons for subnational climate action in England

This section explores how combined authorities might adopt these principles in some priority infrastructure-related areas for subnational climate action – decarbonising transport, spatial planning and local energy networks.

### Decarbonising transport

In the UK, surface transport is the largest emitting sector.<sup>53</sup> The transition to electric vehicles (EVs) will be a key part of decarbonising transportation and all cities and towns will have a vital role in encouraging their uptake by providing the necessary charging infrastructure. In the UK the number of charging points across the country will need to rise from 20,800 to 280,000 by 2030.<sup>54</sup>

<sup>46</sup> Institute for Government [Net Zero - How government can meet its climate change target](#)

<sup>47</sup> Place-Based Climate Action Network [Trends in Local Climate Action in the UK](#)

<sup>48</sup> OECD (2019) [OECD work in support of climate action](#)

<sup>49</sup> IPPR [The Climate Commons - How Communities Can Thrive in a Climate Changing World](#)

<sup>50</sup> New Climate Institute [Global Climate Action from Cities, Regions and Businesses](#)

<sup>51</sup> New York City (2019) [Action on Global Warming: NYC’s Green New Deal](#)

<sup>52</sup> Fast Company (2019) [How Portland is building equity into its climate planning](#)

<sup>53</sup> Climate Change Committee (2020) [Local Authorities and the Sixth Carbon Budget](#)

<sup>54</sup> Climate Change Committee (2021) [Progress in reducing emissions – 2021 Report to Parliament](#)

Norway is a world leader in EV usage and aims to become the first country to end the sale of new petrol and diesel cars by 2025. Oslo highlights the role cities can play to support delivery of ambitious national targets. The city's government has built partnerships with utilities companies and private investors to rapidly expand the city's charging infrastructure. The city now offers drivers EV-only charging garages, faster charging points and standardised charging point operation.<sup>55</sup> It has also embedded EV-readiness in new infrastructure and prioritised placing EV chargers in low-income neighbourhoods underserved by transport options.<sup>56</sup>

Low Emissions Zones (LEZ) are also increasingly popular worldwide for cutting emissions from vehicles, improving air quality and transforming urban spaces. In England, London's Ultra Low Emission Zone (ULEZ) will be expanded later this year, while Birmingham recently introduced a Clean Air Zone and Greater Manchester will follow in 2022. Amsterdam has six LEZs which it plans to scale up to zero-emission zones before making the entire city emission free from transport by 2030.<sup>57</sup>

While the transition to EVs is vital for delivering net-zero, reducing road congestion altogether is critical for both decarbonising transport and protecting local economies. In addition to introducing LEZs, some cities are repurposing existing transport infrastructure, such as converting traffic lanes into bus and cycle lanes, and restricting car parking by removing spaces or increasing charges.

Measures to reduce private car usage can be emotive, associated by some as restrictions on individual freedom.<sup>58</sup> Metro mayors have a key role in incentivising public transport and active travel use, making them more accessible, affordable and attractive to users. Leaders should communicate the benefits of reduced car use for people's health and well-being as well as the environment while giving people confidence that they can complete journeys using alternative means to their cars.

## Spatial planning: 15-minute cities

Spatial planning is one of the biggest opportunities for combined authorities to contribute to net-zero. It is also an opportunity to build a mandate for the net-zero transition around a holistic vision that emphasises the wider socio-economic benefits of the net-zero transition for local communities and demonstrates how some of the trade-offs, such as reduced private-car use, can be overcome.

Whether planning new developments or rethinking existing infrastructure, the Coalition for Urban Transitions argues that cities and towns should be "compact, connected and clean".<sup>59</sup> Such areas display three characteristics crucial for achieving net-zero:

- Economic density: a high concentration of people living, doing business and working in a given area;
- Morphological density: making the most efficient use of available land and built space to meet people's needs; and
- Mixed land use: putting residential, employment, retail, and leisure opportunities close to one another.

Put another way, this is an opportunity to innovate by shifting focus "from increasing mobility to enhancing accessibility" by densifying local activities.<sup>60</sup> For example, the 15-minute city concept combines innovation and inclusivity by aiming to ensure citizens can access their essential needs within a 15-minute bicycle ride or walk and fulfil six key urban social functions in that space: living, working, commerce, healthcare, education and entertainment.<sup>61</sup>

<sup>55</sup> Carbon Neutral Cities Alliance (2018) [Game Changers: Bold Action by Cities to Accelerate Progress Toward Carbon Neutrality](#)

<sup>56</sup> Ibid

<sup>57</sup> City of Amsterdam [Policy: Clean air](#)

<sup>58</sup> UK100 (2021) [Power Shift](#)

<sup>59</sup> Coalition for Urban Transitions [Climate Emergency: Urban Opportunity](#)

<sup>60</sup> Climate Chance (2021) [Global Synthesis Report on Local Climate Action](#)

<sup>61</sup> Smart Cities (2021) [Introducing the "15-Minute City": Sustainability, Resilience and Place Identity in Future Post-Pandemic Cities](#)



C40 has advocated the concept to stimulate recovery from the Covid-19 pandemic and link climate action with people-centric urban development.<sup>62</sup> It highlights four principles for creating 15-minute cities:

- Creating ‘complete’ neighbourhoods with core services and amenities that residents can easily walk or cycle to.
- Prioritising equity and inclusivity to ensure equal access to services, amenities and green space.
- Reimagining streets and public space to prioritise people not driving.
- Physical and digital connectivity to offer convenience and quality of life, but not isolation.

Critics have cautioned that the 15-minute city concept is unrealistic and favours middle class residents with stable jobs over poorer people with insecure employment who will likely need to move around more.<sup>63</sup> However, the concept has proved popular with cities developing climate plans, and some are attempting to adapt it to local circumstances and use it to serve a broader strategy of achieving a just transition.

Portland built its 2015 climate action plan around “complete neighbourhoods”, defined as providing “safe and convenient access to the goods and services needed in daily life”.<sup>64</sup> Other variations include Melbourne, where “20-minute neighbourhoods” are the guiding principle of its 2017-2050 city plan<sup>65</sup>, Barcelona’s car-free social superblocks<sup>66</sup>, and Sweden’s “One-minute city” concept, which is experimenting with repurposing street space to prioritise pedestrians and cyclists.<sup>67</sup>

In Paris, the concept was central to the 2020 re-election of mayor Anne Hidalgo. Among measures to create space for cyclists and walkers and discourage car use, Paris plans to remove over half the city’s on-street parking spaces.<sup>68</sup> The city has also vastly expanded its cycle network, accelerated by the Covid-19 pandemic, with many temporary lanes added during the lockdown to be made permanent and 200 miles of new routes planned.<sup>69</sup>

## Sustainable local energy networks

The CCC has examined the role subnational authorities could play in generating and distributing renewable and low-carbon energy.<sup>70</sup> This will be critical to creating a more flexible energy system and meeting the growing demand for electricity for heating and transportation which will be required to deliver net-zero.

Metro mayors and combined authorities can use their leadership and convening power to develop place-based energy plans. These should assess local demand, highlight risks such as climate resilience and the network’s ability to handle increased electricity demand, which may require further investment. Combined authorities are also well placed to identify opportunities to increase local renewable energy generation, such as new onshore wind sites, and support communities to generate renewable energy and adopt more energy efficient behaviours.

Combined authorities can leverage their procurement power to obtain renewable energy and ensure additional sources are built. Melbourne used a Power Purchase Agreement (PPA) to support construction of a new wind farm which now supplies electricity to some of the city’s largest energy consumers, while London has signed a \$40m PPA with Voltalia to buy electricity from a new solar farm in Dorset.<sup>71</sup>

<sup>62</sup> C40 (2021) [Introducing Spotlight On: 15-minute cities](#)

<sup>63</sup> London School of Economics (2021) [The 15-minute city is a dead end – cities must be places of opportunity for everyone](#)

<sup>64</sup> Multnomah County (2015) [Climate Action Plan](#)

<sup>65</sup> Victoria State Government (2017) [Plan Melbourne 2017-2050](#)

<sup>66</sup> C40 [Cities100: Climate justice is at the heart of Barcelona’s journey to carbon neutrality](#)

<sup>67</sup> Climate Chance (2021) [Global Synthesis Report on Local Climate Action](#)

<sup>68</sup> Forbes (2020) [Paris Mayor Anne Hidalgo To Make Good On Pledge To Remove Half Of City’s Car Parking Spaces](#)

<sup>69</sup> The Guardian (2021) [Europe doubles down on cycling in post-Covid recovery plans](#)

<sup>70</sup> Climate Change Committee (2020) [Local Authorities and the Sixth Carbon Budget](#)

<sup>71</sup> Climate Chance (2021) [Global Synthesis Report on Local Climate Action](#)

## Current barriers: Frameworks and financing

Despite the levers available to combined authorities, from direct to indirect or soft powers, their ability to act is impeded by key power gaps that prevent systems-scale approaches as well as a lack of funding, capacity and skills.<sup>72</sup> Delivering the net-zero transition requires a national strategy or framework that is clear about the roles and responsibilities of subnational governments, includes support in terms of funding, skills and capacity, and is flexible enough to allow for place-based and accelerated solutions.

Government should also ensure that all new and existing national policies which might impact on subnational actions are net-zero compliant, ensuring for instance that subnational authorities can put net-zero at the heart of local housing and transport policies rather than prioritising housing targets or traffic flow. In England, for example, the National Planning Policy Framework has been cited as undermining regions' ability to require low-carbon developments in sustainable locations.<sup>73</sup>

The CCC has also called on national government to enable more local and regional financing solutions to achieve net-zero and to introduce non-competitive, long-term investment opportunities. Currently funding available from the Government for local authorities tends towards short-term grants, fragmented across multiple pots which are awarded through competitive bidding. This means subnational authorities have struggled to develop investment pipelines tailored to place-based needs and supported by business and investors.<sup>74</sup>

In the US, green bonds are firmly established at state and municipal level. In the UK, however, the focus is on central government, which plans to issue \$15bn worth of green bonds in 2021 to help finance green infrastructure projects.<sup>75</sup> However, enhancing the powers of England's city regions to issue green bonds could enable more local climate action.

Green banks are also well established in the US and have supported local climate initiatives in several states and counties. In 2020, for example, New York's green bank invested in community distributed solar plus storage, renewable and energy efficiency projects to benefit low-and moderate-income communities, wind farms, and fuel cells whilst responding to additional needs arising from the Covid-19 pandemic.<sup>76</sup>

In March, the UK Government announced a new National Infrastructure Bank, likely to invest £1.5bn a year. Crucially, the bank has a clear mandate to support subnational climate change strategies through financing and capacity building.

## About ICE

Established in 1818 and with over 95,000 members worldwide, the Institution of Civil Engineers exists to deliver insights on infrastructure for societal benefit, using the professional engineering knowledge of our global membership.

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<sup>72</sup> Climate Change Committee (2020) [Sixth Carbon Budget](#)

<sup>73</sup> Climate Change Committee (2020) [Local Authorities and the Sixth Carbon Budget](#)

<sup>74</sup> Climate Change Committee (2020) [The road to net-zero finance](#)

<sup>75</sup> Boston University Institute for Sustainable Energy (2021) [Accelerating Cities' Net Zero Action](#)

<sup>76</sup> Ibid

## Appendix 1: International principles and frameworks to support subnational action on climate change

### UN-Habitat – Guiding Principles for City Climate Action

In 2015 UN-Habitat published its Guiding Principles for City Climate Action Planning, designed to be “globally applicable” and help cities reduce greenhouse gas emissions and build climate resilience.<sup>77</sup> The eight principles recommend that climate action should be:

- Ambitious
- Inclusive
- Fair
- Comprehensive and Integrated
- Relevant
- Actionable
- Evidence-based
- Transparent and Verifiable

### The Global Covenant of Mayors for Climate and Energy (GCOM)

The Global Covenant of Mayors for Climate and Energy (GCOM) is the largest global alliance for city climate leadership. It is a network of over 10,000 cities and local governments committed to voluntary action to combat climate change. In Europe its signatories are committed to achieving “decarbonised and resilient cities with access to affordable, secure and sustainable energy” by 2050.<sup>78</sup> GCOM has developed a roadmap for members to develop and implement climate change action plans, along with tools to support them.<sup>79</sup>

### C40

C40 is a network of the world’s megacities, supporting its members to collaborate and drive action to address climate change. Its Climate Action Planning Framework advises members how to build a climate action plan that is compatible with the Paris Agreement.<sup>80</sup> Plans are built around three pillars:

- Commitment and collaboration – including community and business engagement
- Challenges and opportunities – considering the evidence base and existing city conditions
- Acceleration and implementation – developing and prioritising actions

C40 identifies four key components of climate action planning:

- Emissions neutrality: cities should aim to be emissions neutral by 2050 and set ambitious interim targets.
- Resilience to climate hazards: Cities should show how they will adapt to current and future climate hazards.
- Inclusivity and benefits: Plans should be based on community engagement, outline expected social, environmental, and economic benefits and demonstrate how they will be equitably distributed.

<sup>77</sup> UN-Habitat (2015) [Guiding Principles for City Climate Action Planning](#)

<sup>78</sup> Covenant of Mayors for Climate & Energy Europe (2021) [New ambitions – European mayors act together for a fairer, climate neutral Europe](#)

<sup>79</sup> Global Covenant of Mayors for Climate & Energy Europe [City Journey](#)

<sup>80</sup> C40 [Climate Action Planning Framework](#)

- Governance and collaboration: Plans should detail the city's current powers, capacity and contributing stakeholders.

### ICLEI – Local Governments for Sustainability

ICLEI is a global network of more than 2,500 local and regional governments working to achieve sustainable urban development. ICLEI has developed five interconnected pathways that enable subnational leaders to “design solutions in a holistic and integrated way, creating change across entire urban systems.”<sup>81</sup> The five pathways cover low emissions development; nature-based development; circular development; resilient development and equitable and people-centered development.

ICLEI's GreenClimateCities (GCC) programme provides a framework and methodology for achieving climate neutrality based on three phases: analyse, act, and accelerate. The underlying principles for approaching climate neutrality are that action should be “locally driven, cross-sectoral, evidence-based and ... inclusive”.<sup>82</sup>

According to ICLEI's Climate Neutrality Framework subnational leaders “should set a clear goal and advance rapidly following a holistic and integrated approach that leads to a wide range of co-benefits for sustainable development”.<sup>83</sup>

### Local Governments and Municipal Authorities Constituency (LGMA)

The LGMA represents local and regional governments within the United Nations Framework Convention on Climate Change (UNFCCC) process. Its COP26 roadmap focuses on multi-level action based on seven pillars:<sup>84</sup>

- Raising ambition
- NDC vertical integration and transparency
- Localising climate finance
- A balanced approach in mitigation and adaptation
- Linking climate to circular economics and nature
- Amplifying global climate action
- Climate justice and social equity

### Carbon Neutral Cities Alliance (CNCA)

The CNCA's Framework for Long-Term Deep Carbon Reduction Planning provides cities with a framework for planning and delivering long-term deep reductions in carbon emissions.<sup>85</sup> Deep reductions usually require transformative rather than incremental approaches and take many years to achieve. Planning deep carbon reductions should be underpinned by the following principles:

- Use best available science
- Embrace the unfamiliar
- Lead by example
- Make carbon reduction everyone's responsibility in government
- Seek strategies that produce co-benefits
- Get “all hands on deck” in the community

<sup>81</sup> ICLEI [Our pathways, our approach](#)

<sup>82</sup> ICLEI [GreenClimateCities programme](#)

<sup>83</sup> ICLEI [Climate Neutrality Framework](#)

<sup>84</sup> Local Governments and Municipal Authorities Constituency [Shifting gears to boost multilevel climate action](#)

<sup>85</sup> Carbon Neutral Cities Alliance (2015) [Framework for Long-Term Deep Carbon Reduction Planning](#)

- Base decisions on data—the essence of performance management and accountability
- Don't hesitate: Set transformation into motion as soon as possible
- Integrate climate targets into other city plans
- Anticipate where your strategies will need to go
- Embrace social equity in climate action