

Practical Solutions



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**Climate
'mitigation'**
VS
'adaptation'



Climate mitigation

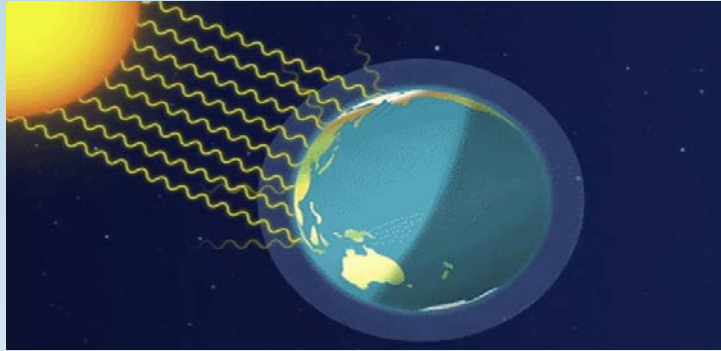
*Reduce the quantities of
Greenhouse Gases going
into the atmosphere*

Climate adaptation

*Preparing for predicted
changes in climate*



Climate mitigation



ZERO 
EMISSION

Why reduce GHG emissions?

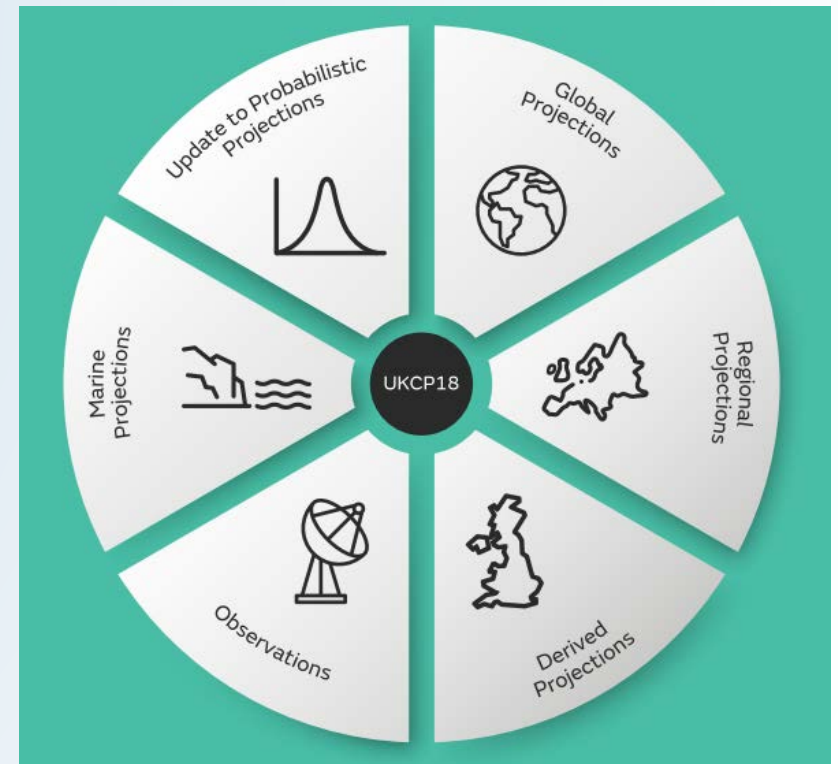
- Councils can play its part in reducing the impacts of climate change
- Expectation from residents to act / lead
- National UK policy (and global agreements) - climate change act includes mandatory carbon budgets and the target for the UK must to be net zero by 2050
- Co-benefits – reduced air quality / noise issues, and promotes healthy lifestyle.

Climate adaptation

Climate Change Projections

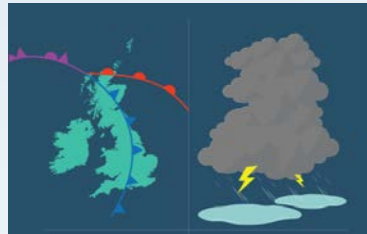
UKCP18

- Cutting-edge climate science and observations
- Projections for the 21st century
- Range of emissions scenarios

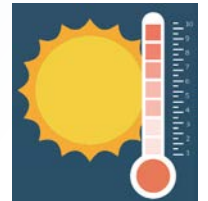


Headline findings:

- **Warmer, wetter winters and hotter, drier summers and an increase in frequency and intensity of extremes.**

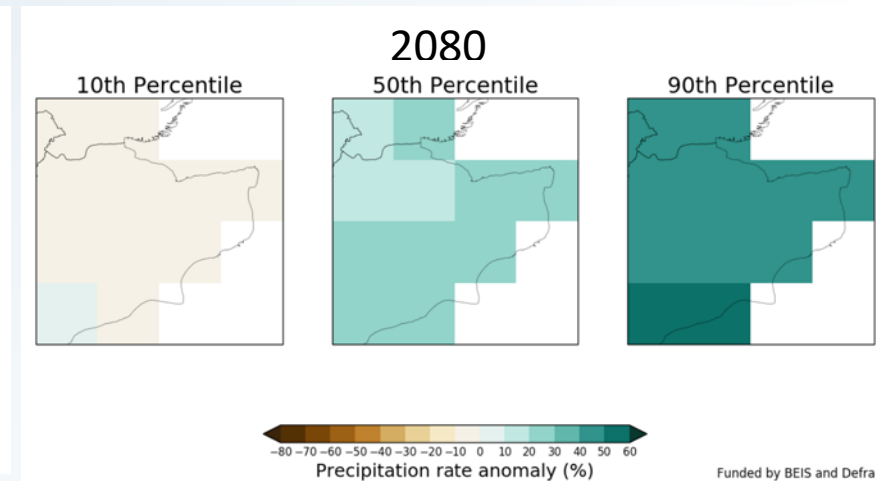
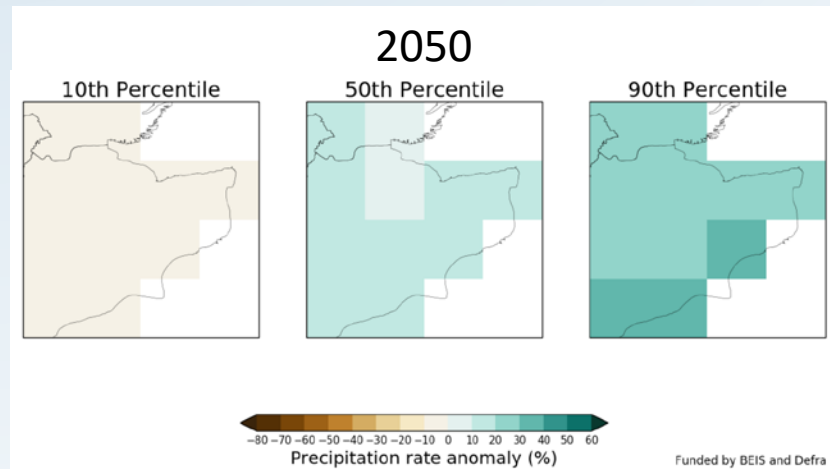
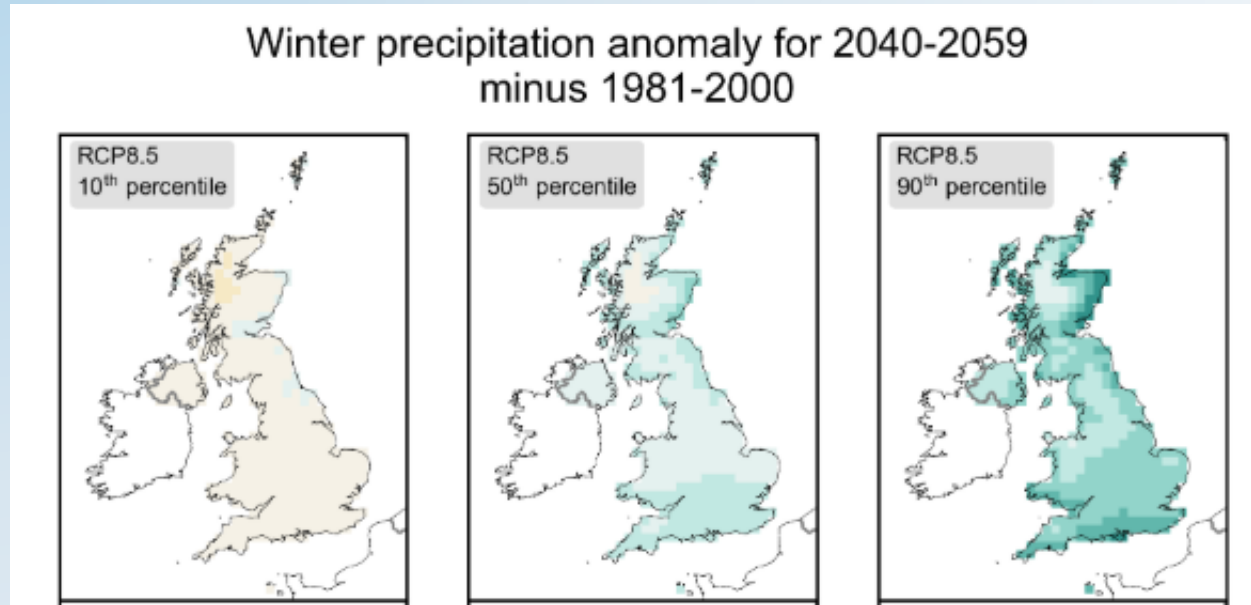


- Hotter summers more common
- Change in the seasonality of extremes
- Decrease in soil moisture (summers)
- Lying snow decrease
- Winter near surface wind speeds



Climate adaptation

Climate Change Projections

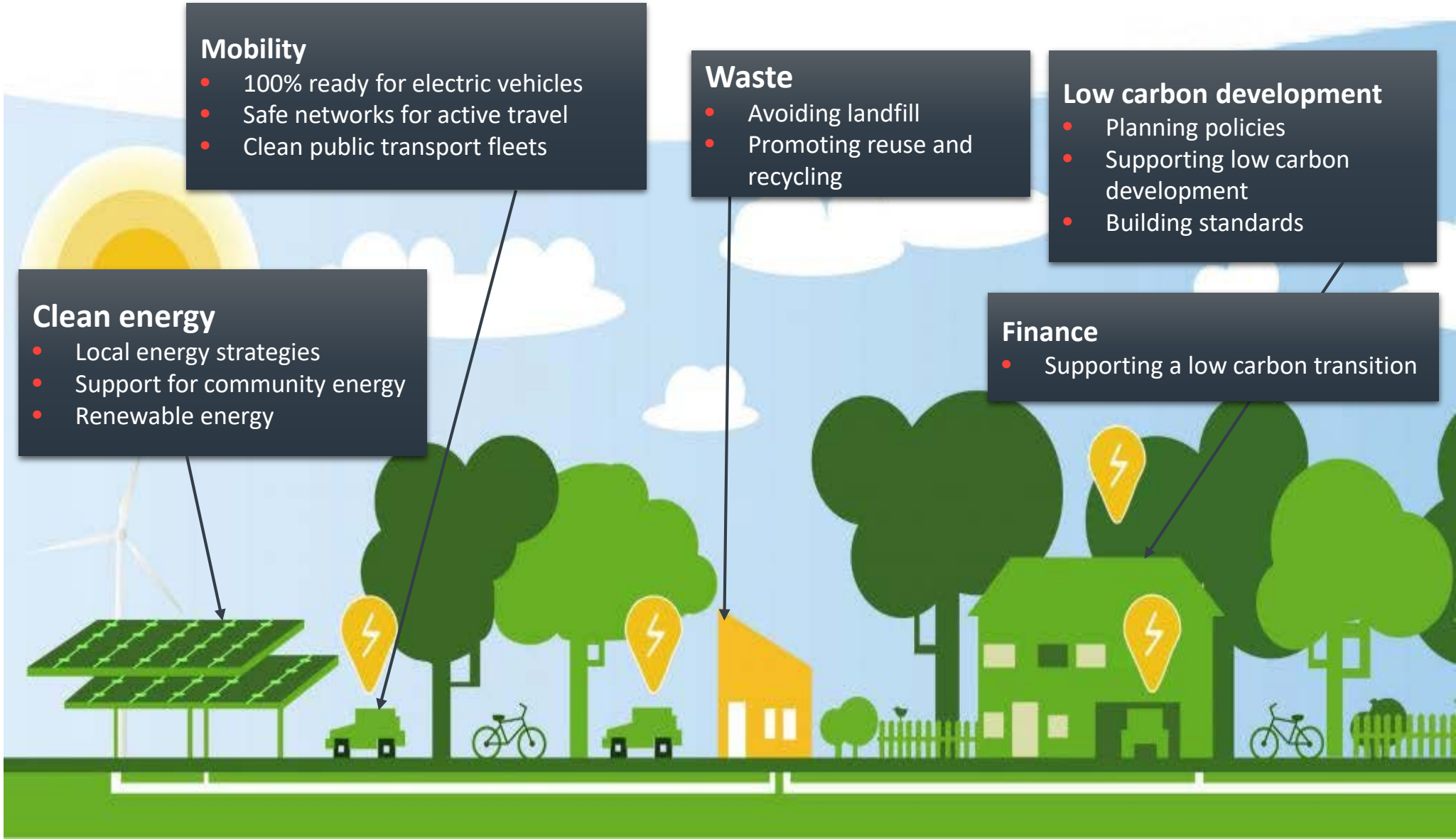


Climate mitigation

Low carbon, resilient district

Enabling a low carbon, resilient region

6



Climate adaptation measures

How can we work climate resilience into design and planning?

Physical measures

E.g. building design, choice of materials, SuDS, water storage, permeability, urban forests, retrofitting

Resilience planning

E.g. severe weather response plans

Governance

E.g. assess resilience of investments, challenge supply chain, design standards, climate disclosure, wider climate education



Implementation

Greater London Authority – London Plan (2016)

- The environmental impact of existing urban areas should be reduced through policies and programmes that bring existing buildings up to the Mayor’s standards on sustainable design and construction. In particular, programmes should reduce carbon dioxide emissions, improve the efficiency of resource use (such as water) and minimise the generation of pollution and waste from existing building stock.
- Within LDFs boroughs should develop policies and proposals regarding the sustainable retrofitting of existing buildings. In particular they should identify opportunities for reducing carbon dioxide emissions from the existing building stock by identifying potential synergies between new developments and existing buildings through the retrofitting of energy efficiency measures, decentralised energy and renewable energy opportunities.



Implementation – Urban Greening Factor (UGF)

Surface Cover Type	Factor
Semi-natural vegetation (e.g. woodland, flower-rich grassland) created on site.	1
Wetland or open water (semi-natural; not chlorinated) created on site.	1
Intensive green roof or vegetation over structure. Vegetated sections only. Substrate minimum settled depth of 150mm – see livingroofs.org for descriptionsA.	0.8
Standard trees planted in natural soils or in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree – see Trees in Hard Landscapes for overviewB.	0.8
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014C.	0.7
Flower-rich perennial planting – see Centre for Designed Ecology for case-studiesD.	0.7
Rain gardens and other vegetated sustainable drainage elements – See CIRIA for case-studiesE.	0.7
Hedges (line of mature shrubs one or two shrubs wide) – see RHS for guidanceF.	0.6
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6
Green wall –modular system or climbers rooted in soil – see NBS Guide to Façade Greening for overviewG.	0.6
Groundcover planting – see RHS Groundcover Plants for overviewH.	0.5
Amenity grassland (species-poor, regularly mown lawn).	0.4
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014I.	0.3
Water features (chlorinated) or unplanted detention basins.	0.2
Permeable paving - see CIRIA for overviewJ.	0.1
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0

Draft London Plan (2019)

Policy G5 – Urban Greening: Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

Urban Greening Factor

Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development.

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Future Ready: <https://www.wsp.com/en-GL/who-we-are/future-ready>