

Capital Development

How will capital development be impacted by the anticipated changes to our climate?

Our climate is changing. We each need to understand our role in addressing this challenge and work together to increase the resilience of our organisations and society. Cutting carbon emissions is vital as we must reduce the severity of climate change. However, it is equally important to begin preparing for the increase in extreme weather which we are already experiencing, and which is projected to increase substantially in intensity and frequency in the coming decades. We call this act of preparation 'Climate Adaptation.'

Local councils will play a pivotal role in the implementation of any measures, and so require a collaborative approach from different service areas in order to address the impacts of climate change. Every service has something to offer to increase resilience for the council and communities it represents, from overall strategies to daily decisions and management.

This brief is not designed to provide a comprehensive overview, but rather to initiate discussion on the role of Capital Development in addressing climate change impacts as part of a wider suite of documents for other services.

What are the effects of climate change that are particularly relevant to capital development?

Decisions around local place shaping can help to protect local populations and local authority services, infrastructure and finances over the coming decades as well as securing new local economic opportunities¹. The risks associated with the predicted climatic changes should be taken into consideration with developments and projects. Some of the potential climate impacts to capital development can include:

- Increasing frequency of high temperatures creating greater water demand and increased drought risk impacting on water supply, water quality, green infrastructure, landscapes, leisure and local communities
- Increased precipitation and sea level rise increase the risk of flooding (rivers, coastal, surface water and groundwater)
- Changes in growing season, increased risk of pests/invasive species
- Increased precipitation and humidity impacting heritage assets
- Longer growing seasons and fluctuations in weather can increase maintenance costs.

Potential opportunities for capital development in response to climate change:

- With higher temperatures outdoor activities may become more attractive, increasing demand for active transport options like cycling and walking.
- Milder winters may reduce the costs of heating homes and other buildings. This could provide opportunities for using more energy efficient heating systems in developments.

What actions could you take?

Capital development tends to deliver physical changes to the built environment (buildings, public realm) that are intended to last for decades. To avoid the need to make costly changes to capital development projects in future years as a result of the changed climate it will often be better to factor in the expected changes to the climate at the design stage. Both nature-based and technical solutions can be implemented to manage climate risks and deliver wider societal benefits².

You could take action by getting involved with your council's adaptation planning process, which should outline short to long-term impacts, implications and recommended actions for capital development including:

- When commissioning the design teams for capital works include climate adaptation in the brief. Scope of works to include a statement showing how the effects of the changing climate have been considered in the design under the following headings:
 - Increased temperature
 - Increase in frequency and severity of extreme weather events
 - Increased precipitation/driving rain
 - Increased flood risk
 - Increased humidity
 - Increased demand for water
- Identify areas to implement nature-based solutions such as:
 - Green roofs
 - Multifunctional spaces, bioswales and rain gardens
 - Street trees
 - Supporting walls
- Identify areas to implement technical solutions such as:
 - Flood resistant/resilient building components - SuDS
 - Flood walls
 - Solar shading
 - Backflow preventers
- Identify wider measures that lessen the risks of climate change beyond the boundaries of individual projects. E.g. Measures within site boundary to reduce the risk of flooding elsewhere.

Additional Resources

Climate Ready Clyde: A changing climate for development: <http://climatereadyclyde.org.uk/a-changing-climate-for-development-a-toolkit-for-assessing-climate-risks-for-built-environment-and-infrastructure-projects/>

References

¹Department for Environment Food and Rural Affairs (2019) 'Preparing for A Changing Climate- Good practice guide for local government' Available online: <https://www.adaptnet.org.uk/system/files/documents/Good%20Practice%20Guide%20ADEPT%202019f.pdf>

²Climate Ready Clyde (2019) 'A changing climate for development' Available online: <http://climatereadyclyde.org.uk/a-changing-climate-for-development-a-toolkit-for-assessing-climate-risks-for-built-environment-and-infrastructure-projects/>