

# Infrastructure Adaptation and Policy



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# The UK Climate Change Act

- The Committee on Climate Change (the CCC) is an independent, statutory body established under the Climate Change Act 2008.
- Advise the UK Government and Devolved Administrations on emissions targets; and,
- Report to Parliament on progress made in reducing greenhouse gas emissions and preparing for climate change.



Climate Change Act 2008

2008 CHAPTER 27

An Act to set a target for the year 2050 for the reduction of targeted greenhouse gas emissions; to provide for a system of carbon budgeting; to establish a Committee on Climate Change; to confer powers to establish trading schemes for the purpose of limiting greenhouse gas emissions or encouraging activities that reduce such emissions or remove greenhouse gas from the atmosphere; to make provision about adaptation to climate change; to confer powers to make schemes for providing financial incentives to produce less domestic waste and to recycle more of what is produced; to make provision about the collection of household waste; to confer powers to make provision about charging for single use carrier bags; to amend the provisions of the Energy Act 2004 about renewable transport fuel obligations; to make provision about carbon emissions reduction targets; to make other provision about climate change; and for connected purposes. 9

[26th November 2008]

BE IT ENACTED by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

- Strategic priorities
  - Provide independent advice on setting and meeting carbon budgets and preparing for climate change
  - Monitor progress in reducing emissions and achieving carbon budgets and targets
  - Conduct independent analysis into climate change science, economics and policy
  - Engage with a wide range of organisations and individuals to share evidence and analysis



## What's at risk?

- UK Climate Change Risk Assessment

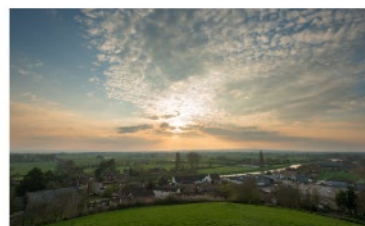
- Climate changes, actual and projected
- Changes in vulnerability and exposure (demographics, economic growth etc)
- Combined impact on the magnitude of long-term risks
- Consequences of incremental climate change and increasing weather extremes



## The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting

Making the country resilient to a changing climate

July 2018



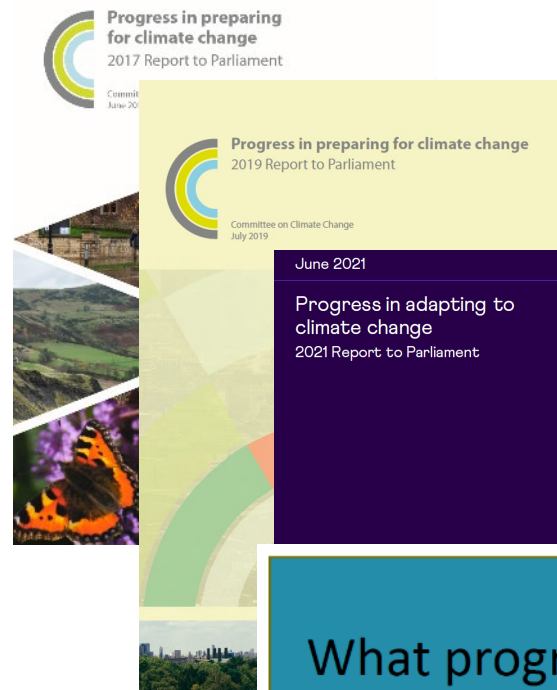
## What action is being taken?

- UK National Adaptation Programme

- Direction of travel under existing policy and practice
- Barriers and incentives
- Specific adaptation policies and programmes
- Monitoring and evaluation of key policies

## Infrastructure Action

- Adaptation Reporting Power



## What progress is being made?

- CCC statutory progress report

- National indicators of vulnerability
- Is there scope for additional policy 'win-wins', low regret actions?
- Do decisions with long-term consequences account for the future climate?
- Are we preparing now for options with long lead times?



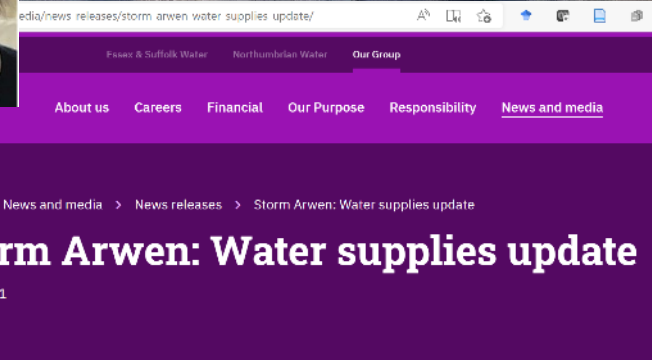
# Interdependence

- Exposed by extreme weather
- Electrification and Digitisation changing risk pathways
- Lack of accountability to identify, track and mitigate them
- Requires coordination, data-sharing, common resilience standards, assessment in ARPs



## Storm Arwen: Why power cuts left people unable to phone for help

By Francesca Williams  
BBC News  
12 December 2021

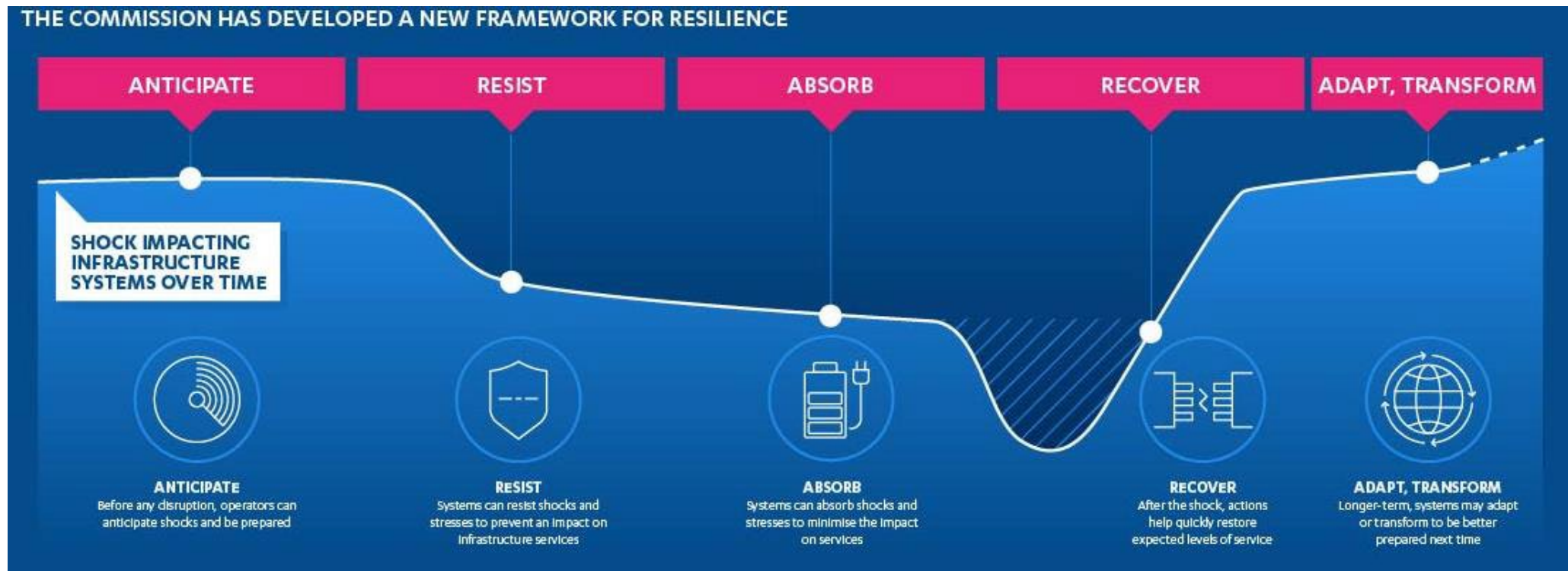


Northumbrian Water is continuing to work hard in the aftermath of Storm Arwen.

# Resilience and regulation

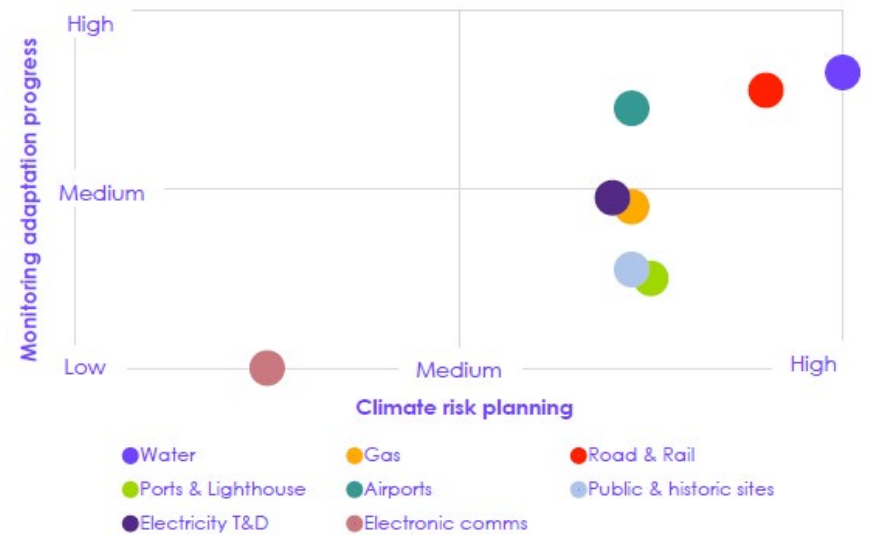
- Need outcome-based resilience standards for all sectors
- From now until 2029: new price controls for electricity, gas, water (twice), Network Rail
- Ofwat's resilience duty has been central to resilience planning in the water sector - similar duties needed for Ofgem, Ofcom and the Office of Rail and Road

NATIONAL  
INFRASTRUCTURE  
COMMISSION



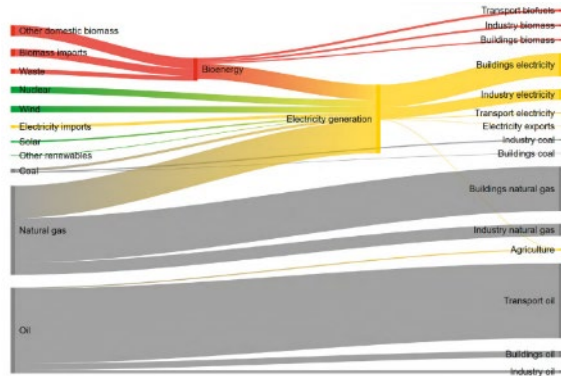
# Better and comprehensive ARPs

- Adjust timing to feed into CCRA 4 / NAP 4
- Mandatory to ensure complete national picture
- Interdependencies
- Link actions to risk reduction
- Key sectors needing improvement:
  - ICT
  - Ports
  - Energy (gas, generation)



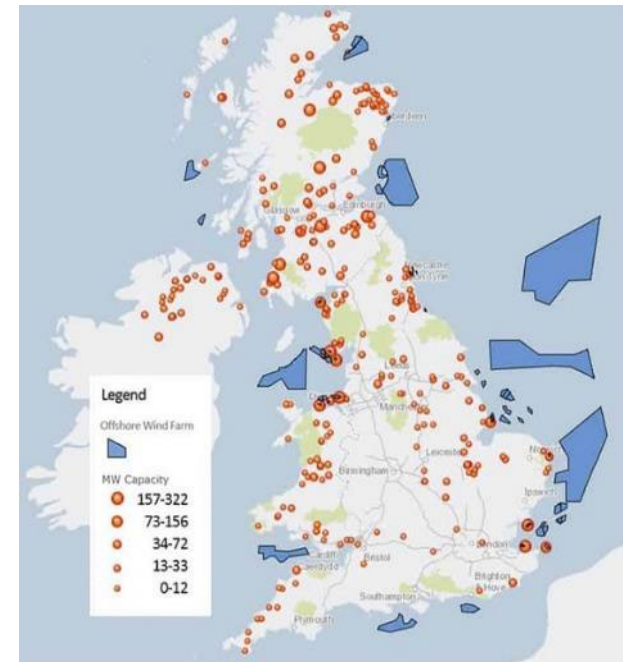
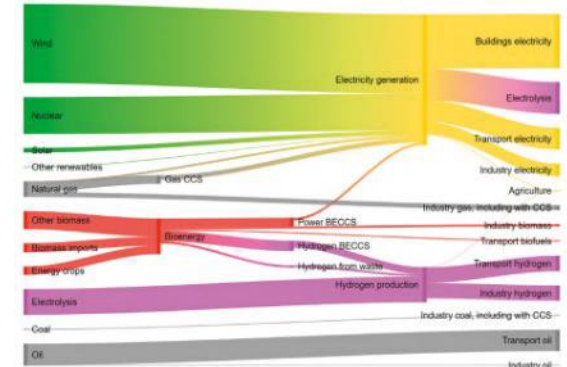


# Transition to Net Zero is fundamentally rewiring system architecture



**Gas power stations**

Source: [www.carbonbrief.org](http://www.carbonbrief.org)



**Wind generation**

Source: Renewable Energy Hub

# Net zero infrastructure must be resilient

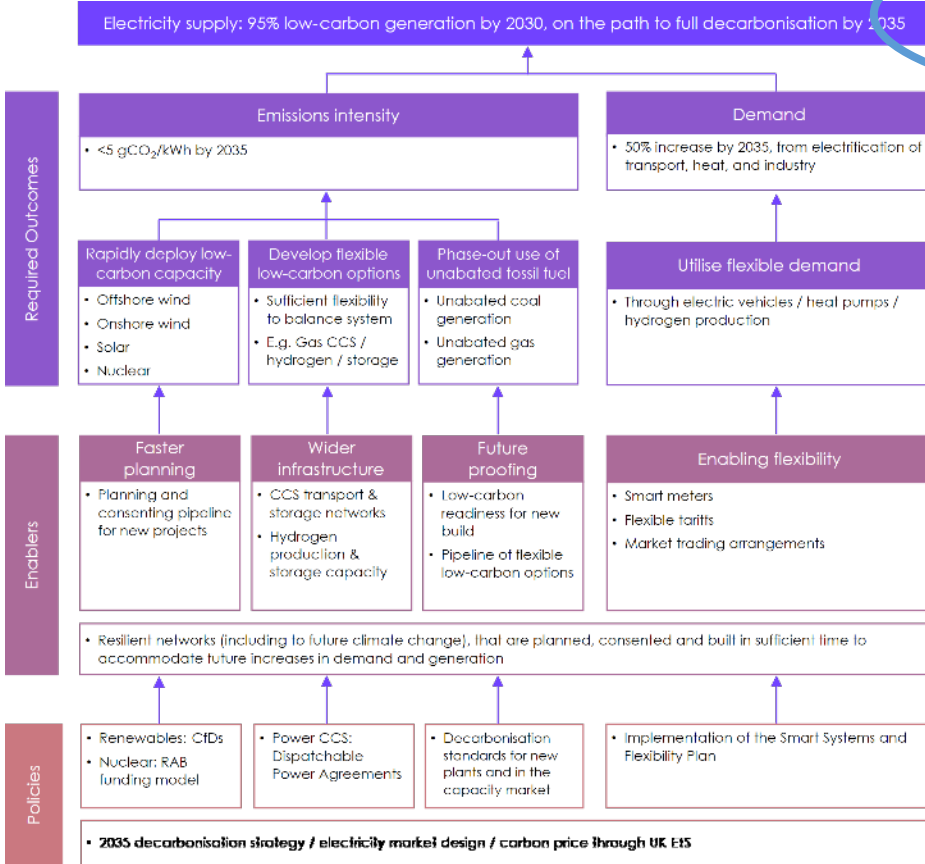


Or... where will all the Tesla's charge?



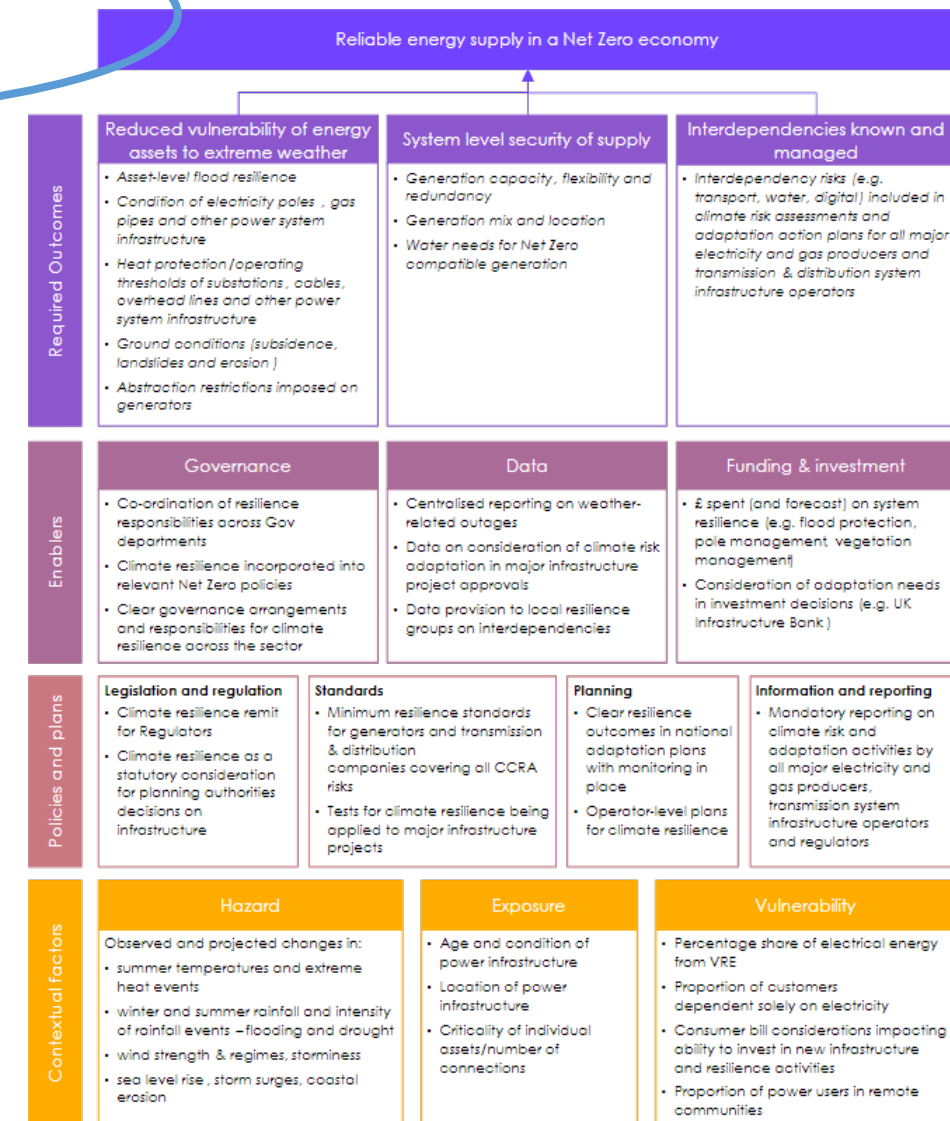
# Monitoring progress

## Mitigation



## A resilient and net zero electricity supply

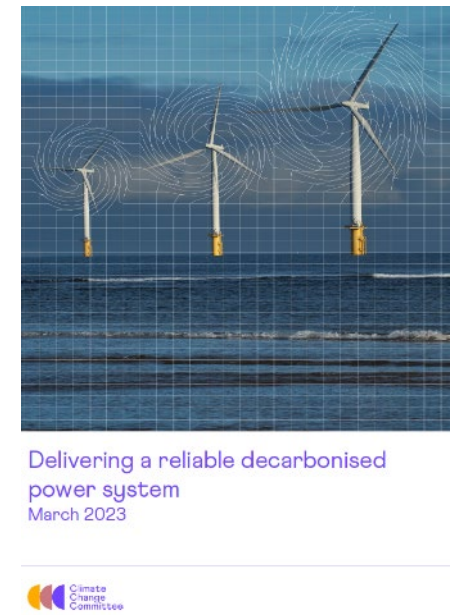
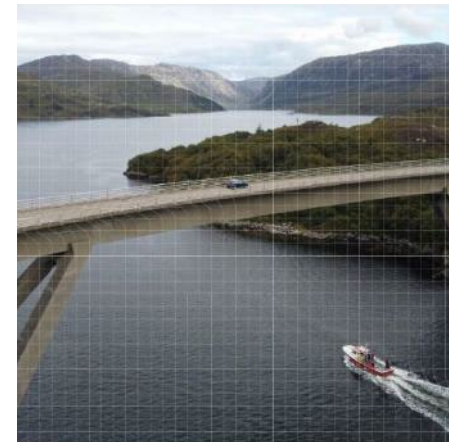
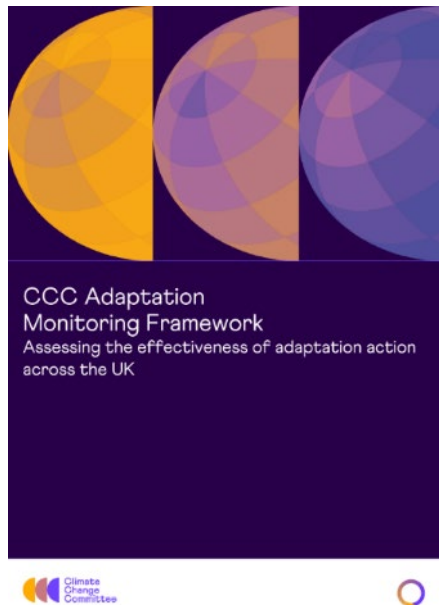
## Adaptation



# Summary

- Adaptation not yet at the scale needed to prepare fully for climate risks facing UK infrastructure, or more broadly for cities, communities, the economy and ecosystems
- Key priorities for policy are:
  - Translate present high-level objectives into delivery plans and monitor progress of delivery
  - Align adaptation and resilience timeframes with regulatory cycles
  - Develop and operationalise common resilience standards
  - Enable coordination between sectors
  - Embed net zero and climate adaptation in infrastructure planning
- Imminent opportunities
  - Upcoming regulatory cycles
  - 3<sup>rd</sup> National Adaptation Programme (NAP3)
  - Clarify important delivery milestones for the National Resilience Framework

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