

# ProCon

Nottinghamshire

PROPERTY & CONSTRUCTION

# Climate Change Resilience

30 April 2026





# The Climate Is Changing.... So What For Construction?

PRESENTED BY  
**Mark Wakeford**  
Chairman of Evoenergy Ltd

30<sup>th</sup> April 2026

# Mark Wakeford

- Chair of Evoenergy – Commercial solar and battery installer
- Chair of The National Federation of Builders
- Director of the Global Solar Council
- Director of Constructing Excellence Midlands
- Chair of the West Midlands Solar Taskforce
- Member of Supply Chain Group of Solar Energy UK
- Fellow of the Institution of Civil Engineers & Chartered Director



# Where is Public Opinion?

New [research](#) by University of Oxford researchers from the [Institute of New Economic Thinking at the Oxford Martin School](#), [Saïd Business School](#) and [Smith School of Enterprise and Environment](#) finds that policymakers, politicians and other policy officials greatly underestimate the public's willingness to contribute to climate action.

Building on prior [research](#) that found that 69% of the general public support climate action, the new paper shows that policymakers surveyed by the researchers estimated this figure at just 37%.

# What informs public opinion?



# Will we have to measure the problem?

## Streamlined Energy and Carbon Reporting Regulations (SECR)



Scope Three to include all supply chain emissions



Procurement on embodied and operational carbon emissions



How does your ultimate client recognise value?  
How should they?



Do you collaborate with your value chain to unlock carbon? Can you support a circular economy for your goods and services?

# Do you design resilient structures?



What standards are you designing to?



How will insurers cover you over the next twelve years?



What are the consequences of no insurance? Does the liability simply go away?



What does your design risk register tell you about your client's project?

What will change to  
create *resilience*?

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**Physical conditions**

Stresses on Nature

Food Security

Water Availability

National Security &  
Immigration

Health (of Employees)

Transport Networks

Energy Networks

Economic Priorities

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# FOCUS

Create. Deliver. Assess.

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## ProCon Nottinghamshire

Climate Resilience – Overheating

30.04.26

# AGENDA

1. Introduction
2. Record Breakers
3. The Scale of the Problem
4. Paradox
5. The Regulatory Landscape
6. Where are we now
7. Close Out/Thank You

# Who Are We?



**Jason Redfearn**  
Managing Partner

- RICS Chartered Surveyor
- Multi Disciplinary Construction Practice – 72 Staff
- Over 25 years in industry across all sectors,

Focus are committed to a sustainable future for the Built Environment. We provide a single point of service for our clients, delivering excellence in economic development, construction, and sustainability.

### Create.

- Funding
- Business Planning
- Economic Development
- Research & Evaluation

### Deliver.

- Project Management
- Building Surveying
- Quantity Surveying

### Assess.

- Sustainability & Environment
- Carbon
- Building Physics
- Compliance
- Planning Support
- Performance Testing



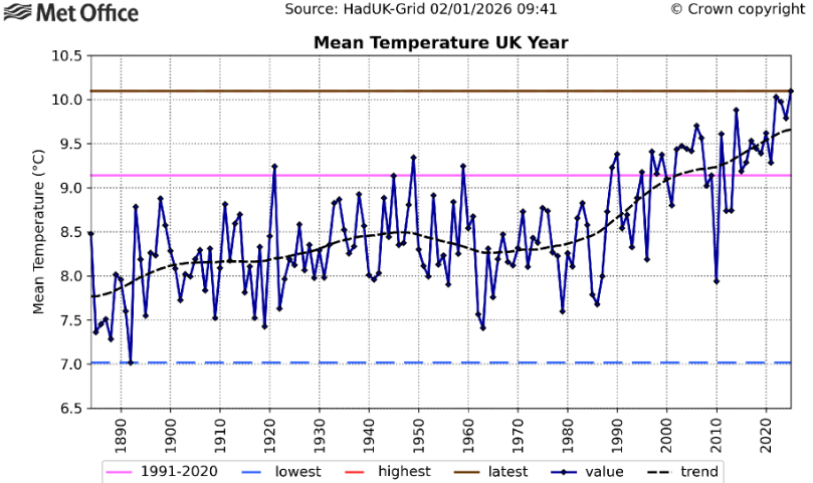
# Record Breakers



**2025 is double-record breaker: UK's warmest and sunniest year on record**

**2025 was the hottest year on record for the UK.**  
Met Office

**An upwards trend with a 0.5°C uplift expected by 2050 regardless of measures.**  
The CCRA3 report from the Climate Change Committee (CCC, 2021)



**In 2023-24, 2.9 million households reported that their home got uncomfortably hot.**  
[www.gov.uk/english-housing-survey-2023-to-2024](http://www.gov.uk/english-housing-survey-2023-to-2024)

# The Scale of the Problem

## Addressing overheating risk in existing UK homes

An Arup report commissioned by the Climate Change Committee

ARUP

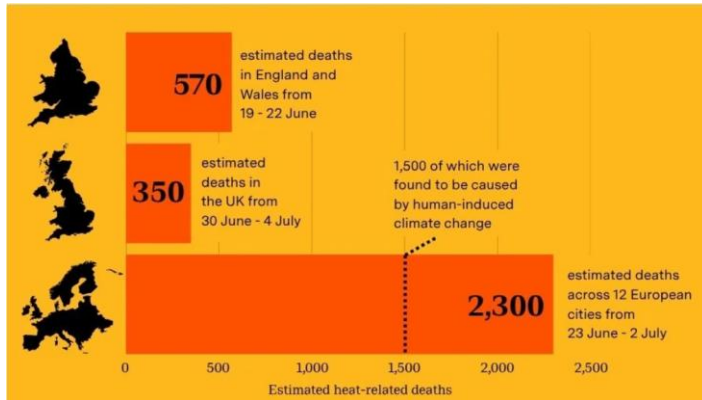
Under the current weather conditions, half of UK homes suffer from industry overheating risk.

Around 90% of the existing homes will overheat under a 2°C GW scenario and the totality of the UK will face overheating risks in a 4°C GW scenarios.

Even under current weather conditions, a majority of homes did not pass industry measures for night-time bedroom comfort



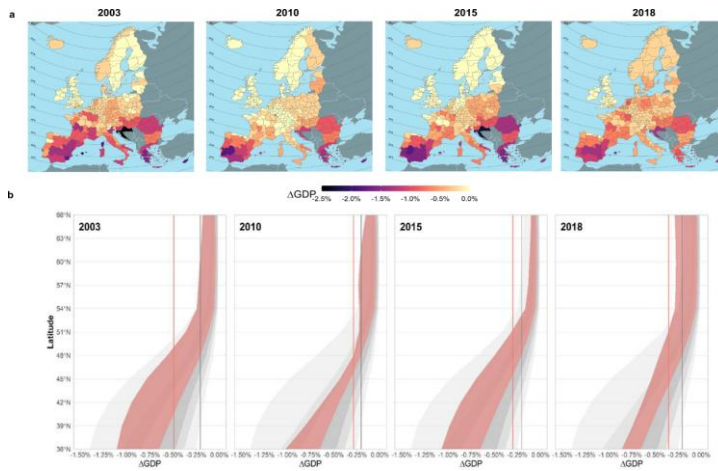
# The Scale of the Problem



Mortality Rates predicted to increase but the data does not always correlate.

Existing buildings and infrastructure will feel the strain hospitals and care facilities.

LSHTM's From forecasts to fatalities: Mapping the health impacts of extreme heat 21 July 2025



Productivity impacted by rising temperatures in particular built-up areas with urban heat island affect. Heatwaves could trim 0.5% off European GDP alone.

Economic and health impacts can't be ignored

Nature Observations - Current and projected regional economic impacts of heatwaves in Europe Oct 2021

# Paradox



Energy Efficiency and Carbon Targets can cause a paradox.

Airtight structures with high levels of insulation with poor ventilation strategies can compound the issue.

Homes with high Energy Performance Certificate (EPC) ratings (A-C) are 1.5 times more likely to overheat

Adoption of air conditioning in UK homes is projected to rise from roughly 1.6% in 2030 to 30% by 2050 increasing energy demand,

We need to approaches that are flexible.

Recognition that strategies need to be wholistic for both newbuild and retrofit projects.

Positively, the industry continues to move forward in this arena.

# The Regulatory Landscape

- CIBSE AM11 – 1998 ( DTM rules)
- CIBSE Guide A - 2006
- CIBSE TM52 - 2013
- CIBSE TM59 - 2017
- BREEAM Thermal Comfort
- iSBEM – Criterion 3
- SAP – Rudimentary Analysis
- GBC/Leti/Passivhaus, EAM's
- GHA Overheating in New Homes
- PAS:2035:20-2023
- Approved Document O – June 22



Tools and Guidance increasing



A significant step forward for the Built Environment.

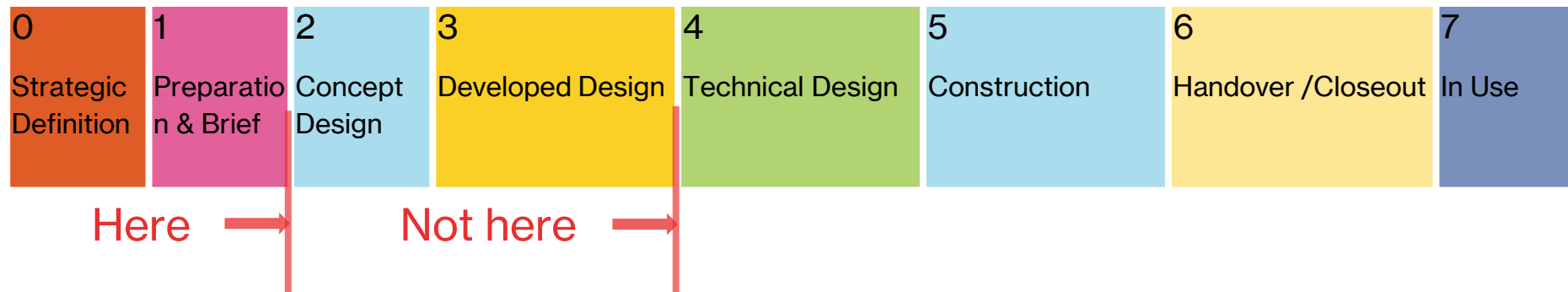
Sets a simplified methodology for homes and a dynamic simulation approach, but 80% of 2050's homes are already standing.

ADO needs to be updated to reflect industry feedback – Consultation promised.

CIBSE TM59 needs to be updated – it was not originally designed to be a regulatory tool.

# Where are we now

- We need a strategy to deal with our existing building stock to engineer resilience – awareness and planning as much as physical measures.
- Retrofit and Newbuild works need to be wholistic, consider the whole building performance.
- Education and good management can make as much difference as design.
- We need to accept that building design is going to change, we can't bolt on or play around the edges for much longer.
- The best decisions on mitigating for overheating start:



# Thank you

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Consulting Group

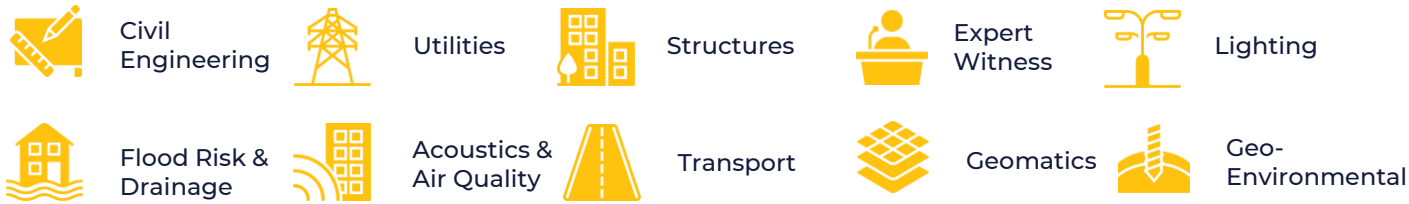
# Flood Risk & Drainage: **Designing for a Changing Climate**

Climate Resilience in Practice | ProCon | April 2026

# About Us

Established in 2009, MEC Consulting Group is a multi-disciplinary development consultancy operating nationwide from offices in **Birmingham, Brighton, Leicester** and **Nottingham**.

Our team consists of **62 experts**, who offer technical services across **10 key disciplines**.



## Our Sectors:

- Residential
- Commercial
- Industrial
- Retail
- Leisure
- Education
- Healthcare

## Who we work with:

- Architects
- Planning Consultants
- Developers
- Land Promoters
- Agents
- Landowners



Alexander Bennett

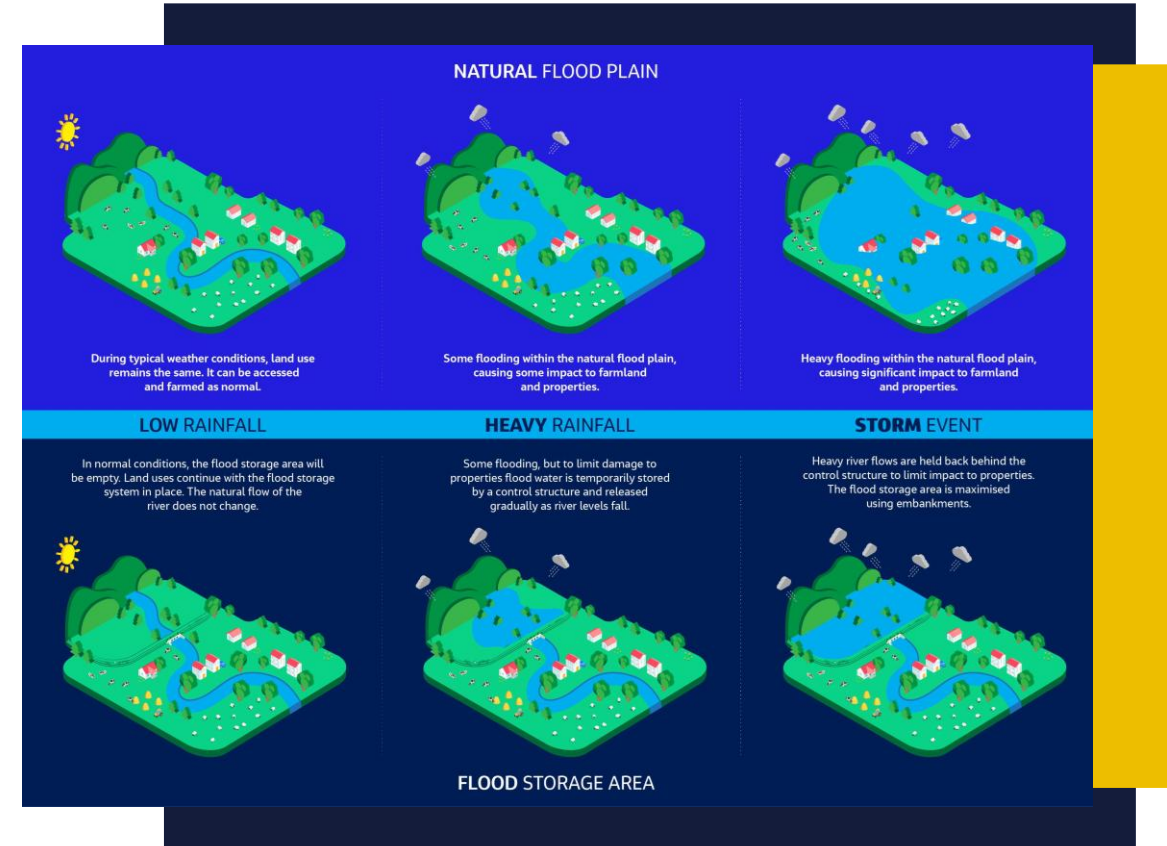
Managing Director

[alex.bennett@m-ec.co.uk](mailto:alex.bennett@m-ec.co.uk)

# The Reality

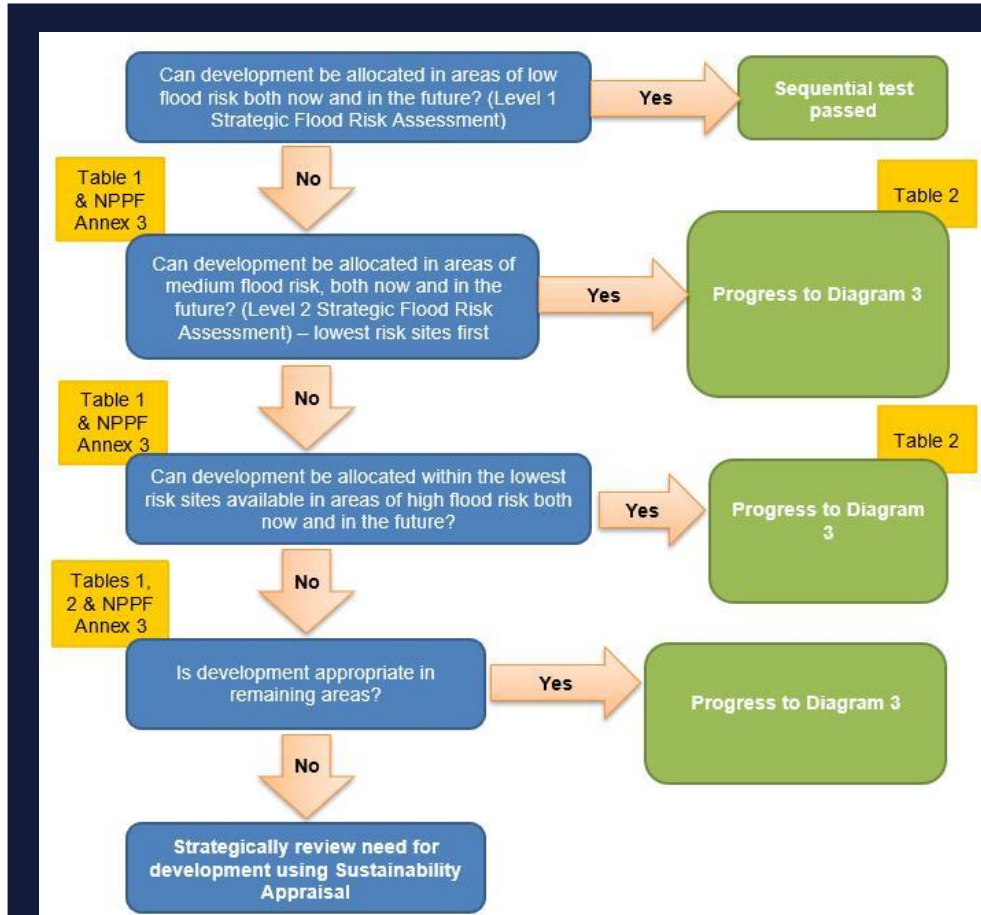
## Flooding, especially from surface water, is no longer just a future problem, it is a now problem!

- Extreme rainfall increasing
- All forms of flood risk now need to be considered at the planning stage
- Surface water now dominant risk
- Existing infrastructure under pressure
- 1.8M UK homes at risk of significant flooding



# From Compliance to Resilience

## Resilience = Mitigation + Adaptation



UK Government Planning Practice Guidance (PPG)

- Mitigation: not just about reducing carbon
- Adaptation: designing for the impact of flooding
- Focus today: adaptation in practice
- All forms of flood risk

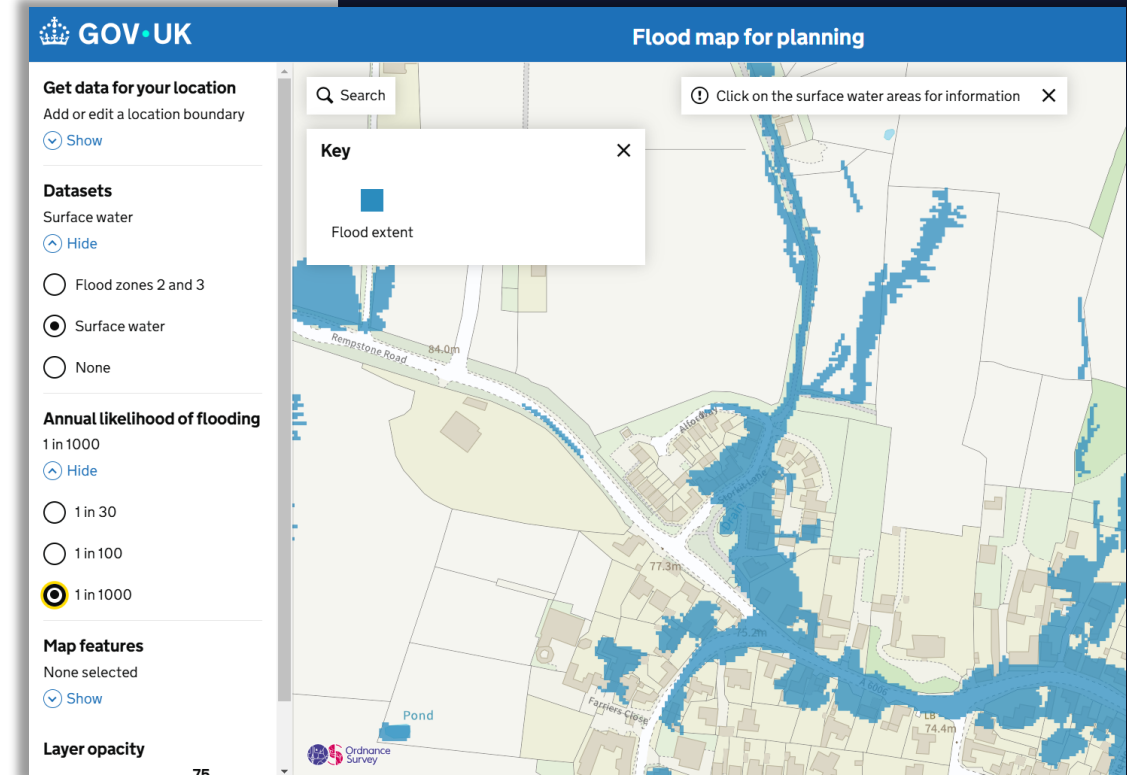
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- Then: minimum standards
- Now: designing for uncertainty
- Climate allowances embedded
- Focus on long-term performance

# Why the shift is important.

## Case Study – Leicestershire

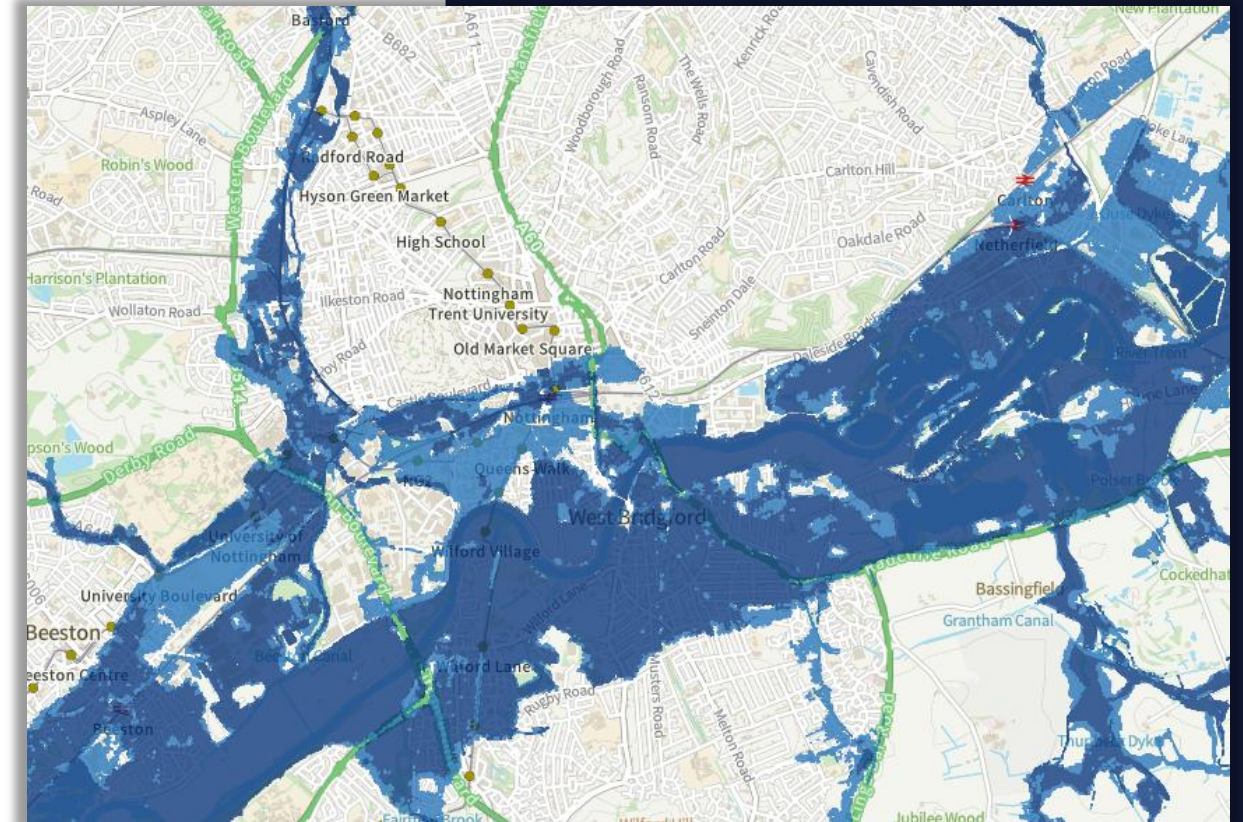
- FRA undertaken in 2012
- Limited consideration of surface water risk and no modelling
- Site was passed and constructed
- Development now experiencing significant flood risk issues due to surface water flooding
- Site would have acted as a flood storage area, but this was never considered at the time
- Developer is now having to retrospectively deal with this issue.



# What's changed?

## Better data. Higher Expectations!

- Advanced flood mapping
- Climate change uplifts required
- Updated software and data
- Improved standards
- Sequential test
- Stronger regulatory scrutiny
- Local authority variation increasing



# Designing for Extremes



- 1:30 and 1:100 + climate uplift
- Testing beyond standard and multiple scenarios
- Higher flow assumptions
- Designing worst-case scenarios

# Risk Reality

## We're Managing Risk, Not Removing It

- Drainage often deprioritised early
- Value engineering removes resilience
- Late-stage compromises
- Higher long-term cost

Figure 3: Flood Risk from Surface Water Map

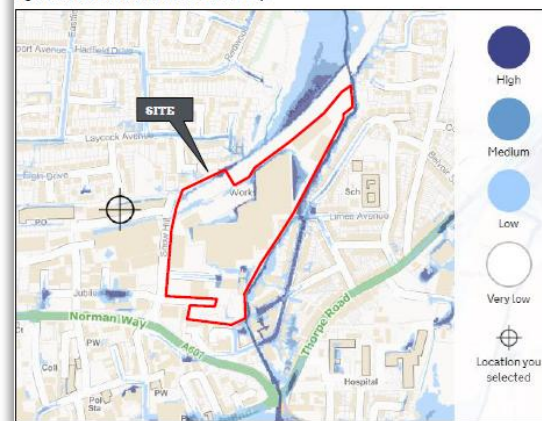


Figure 2: Flood Map for Planning



# Where Things Go Wrong... and How to Get It Right

## Where it goes wrong:

- Drainage not prioritised early
- Late-stage design changes
- Value engineering removes resilience

## What works:

- Strategy embedded at concept stage
- Integrated with levels, layout & landscape
- Designed in, not fixed later

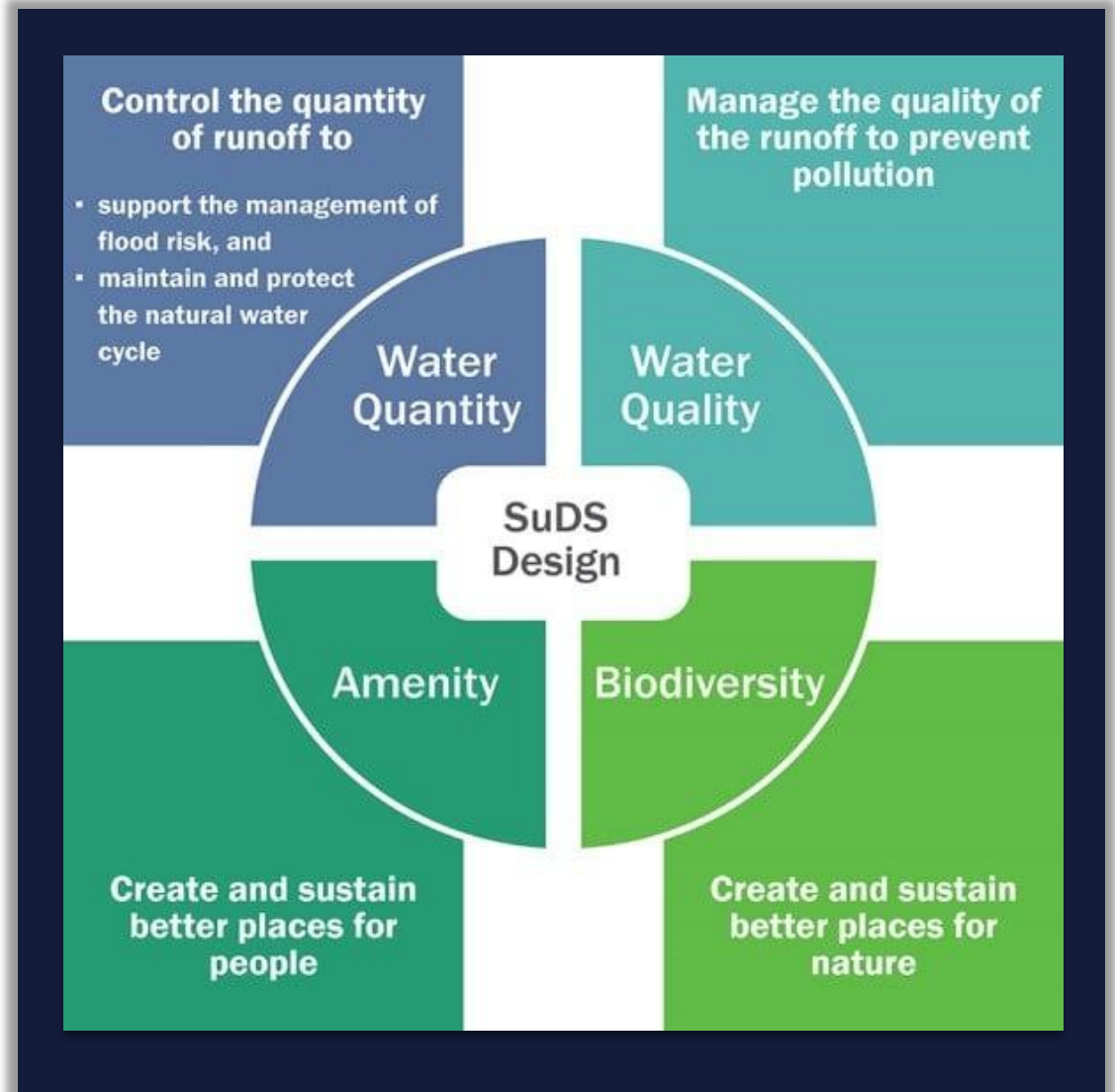


# What Good Looks Like

- SuDS-led design
- Planned exceedance routes
- Multi-functional spaces
- Design for safe failure

## Four Pillars of good SuDS design

- Water Quantity
- Water Quality
- Amenity
- Biodiversity



# Future Outlook



## Where we're heading

- Increasing standards
- Greater scrutiny
- More constrained sites
- Resilience expectations rising
- Increased push for SuDS



# MEC

Consulting Group



Civil Engineering



Transport



Flood Risk & Drainage



Structures



Geo-Environmental



Acoustic Air



Utilities



Geomatics



Lighting

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# Climate change resilience – key take aways

**Laura Mayhew-Manchón, Head of Sustainability, NTU**  
**ProCon Nottinghamshire event. Thursday 27<sup>th</sup> April 2026, TBCG**

30/04/2026

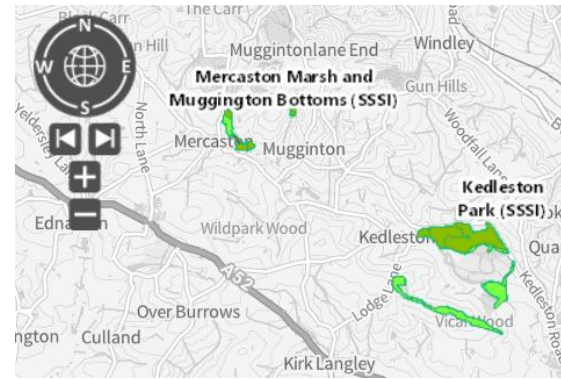
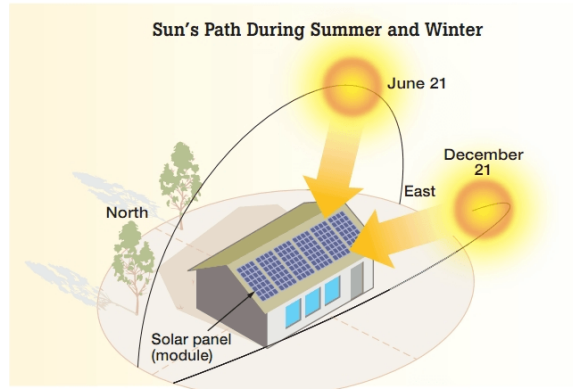
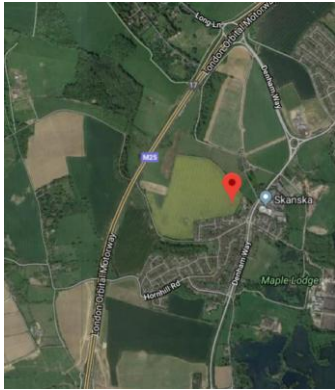
# The built environment sector needs to make climate resilience:

- More **underst(and)able**
  - What, why, where, when, whom, how
- More **tangible**
  - Bring mitigation and adaptation early into design
- More **relevant**
  - Tailor solutions to different scales & settings



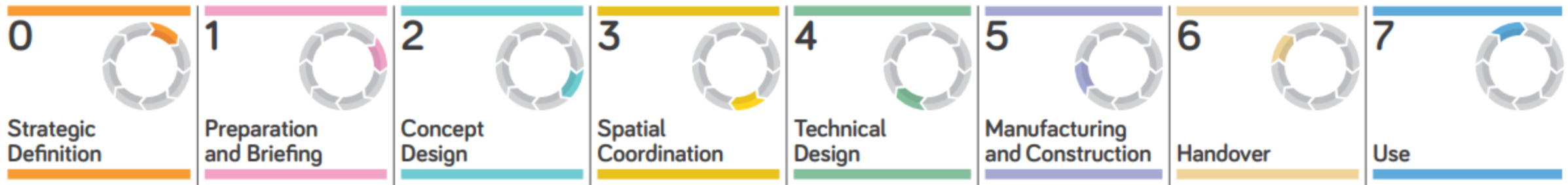
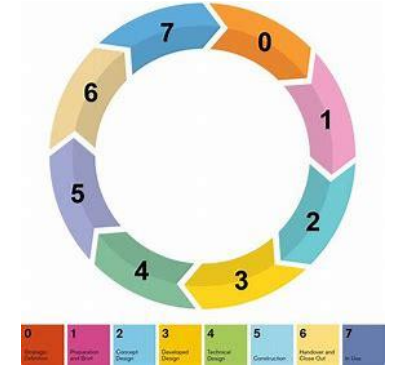
# Make it underst(and)able

What, why, where, when, whom, how?



# Make it tangible

Bring mitigation and adaptation early into design



**More control**

**Easier to influence** outcomes & performance

Often **cheaper**

**Less control**

**Harder to influence** outcomes & performance

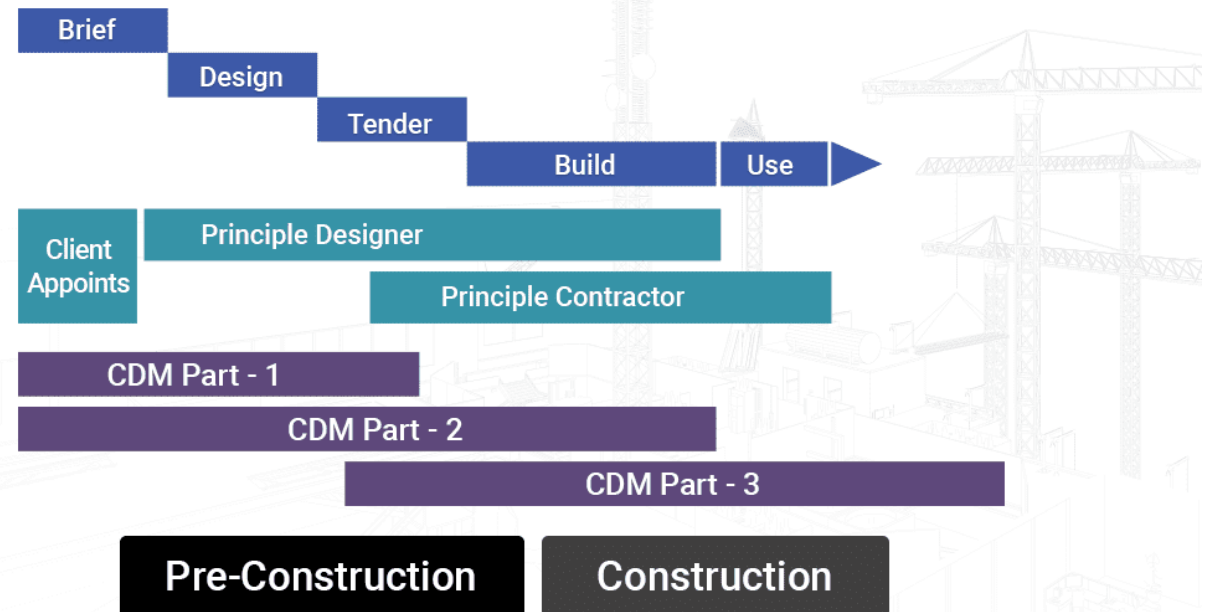
Likely more **expensive**

# Make it tangible

- Who is **responsible**?
- Who is **accountable**?
- Who needs to be **consulted**?
- Who needs to be **informed**?
- Who is best placed to **advise**?
- Who is **competent**?

## CDM Awareness

Understand the phases of a Construction Design Management Regs. 2015 (CDM) project



# Make it relevant

Tailor solutions to different scales & settings



# Resources

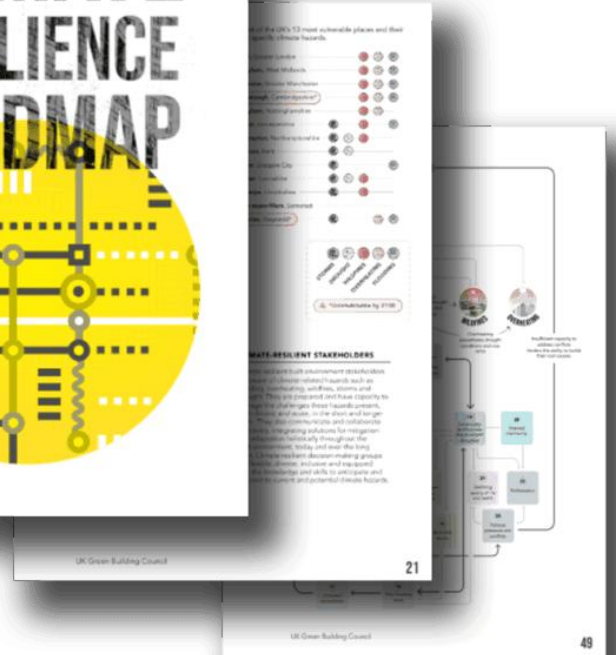
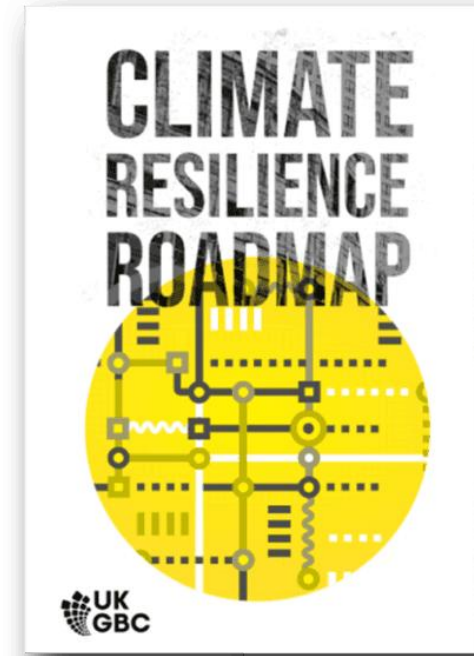
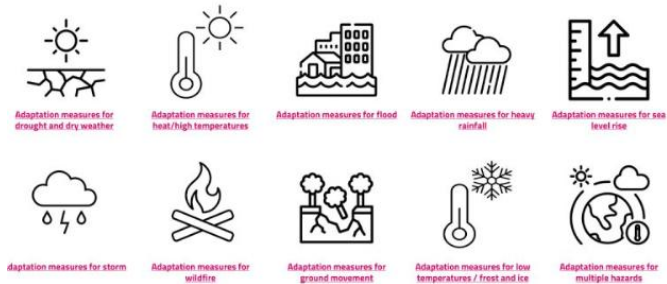
## AUDE

ASSOCIATION OF UNIVERSITY DIRECTORS OF ESTATES

**A Guide to Decarbonisation**  
*Intended to help you navigate your way through decarbonising your operations by optimising and specifying a decarbonisation plan that will have real-world impact on emissions.*



## The AUDE Climate Change Adaptation and Resilience Guide



# Key take aways

- **Inherent** climate resilience risks in **all built environment projects** – but some more critical than others
- **Easier** to minimise risks and maximise opportunities at **early** stages, **harder** at **later** stages – **design is key**
- Set controls for **planned and unplanned scenarios** - e.g. BAU v 1 in 100 year flood
- **Plan, do, check, act, learn, start** again – allow for continual improvement and **lessons learnt**
- The climate/nature doesn't understand contractual/red line **boundaries** – **think, plan and act beyond these**
- Plenty of **guidance and support available** locally, nationally, and across the sector – tap into it!



Nottingham Trent  
University

**Thank you**

# Challenges from the audience?



**FOCUS**  
Create. Deliver. Assess.

The logo for FOCUS is set against a solid blue rectangular background. The word "FOCUS" is written in large, white, bold, sans-serif capital letters. Below it, the tagline "Create. Deliver. Assess." is written in a smaller, white, sans-serif font.

**Nottingham Trent  
University**

The text for Nottingham Trent University is written in a white, sans-serif font on a red background. The words "Nottingham Trent" are on the top line, and "University" is on the bottom line.

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