



# Climate Impact Assessment Training Series

## Webinar 1: Getting your HEI started on the path to resilient net zero

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# Work on climate impacts and adaptation

SEVERN  
TRENT  
WATER



European Bank  
for Reconstruction and Development



ADB



FUTURE  
CLIMATE  
FOR  
AFRICA



FINANCE  
UNEP INITIATIVE

# Institutional experience



University of Strathclyde

## CLIMATE RESILIENCE AND VULNERABILITY ASSESSMENT



JULY 2022

CONFIDENTIAL

Source: [University of Strathclyde](#)



## Environmental Sustainability Strategy



CURRICULUM | RESEARCH | CARBON | FLIGHTS | BIODIVERSITY | FOOD | INVESTMENT

Source: [University of Oxford](#)

KING'S  
College  
LONDON

## CLIMATE & SUSTAINABILITY *Action Plan*



Source: [KCL](#)

# UUCN Working Paper

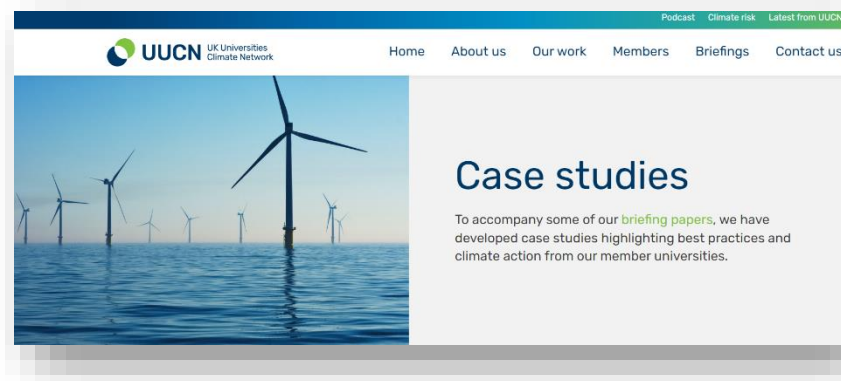
## Assessing climate risk and strengthening resilience for UK Higher Education Institutions

### KEY MESSAGES

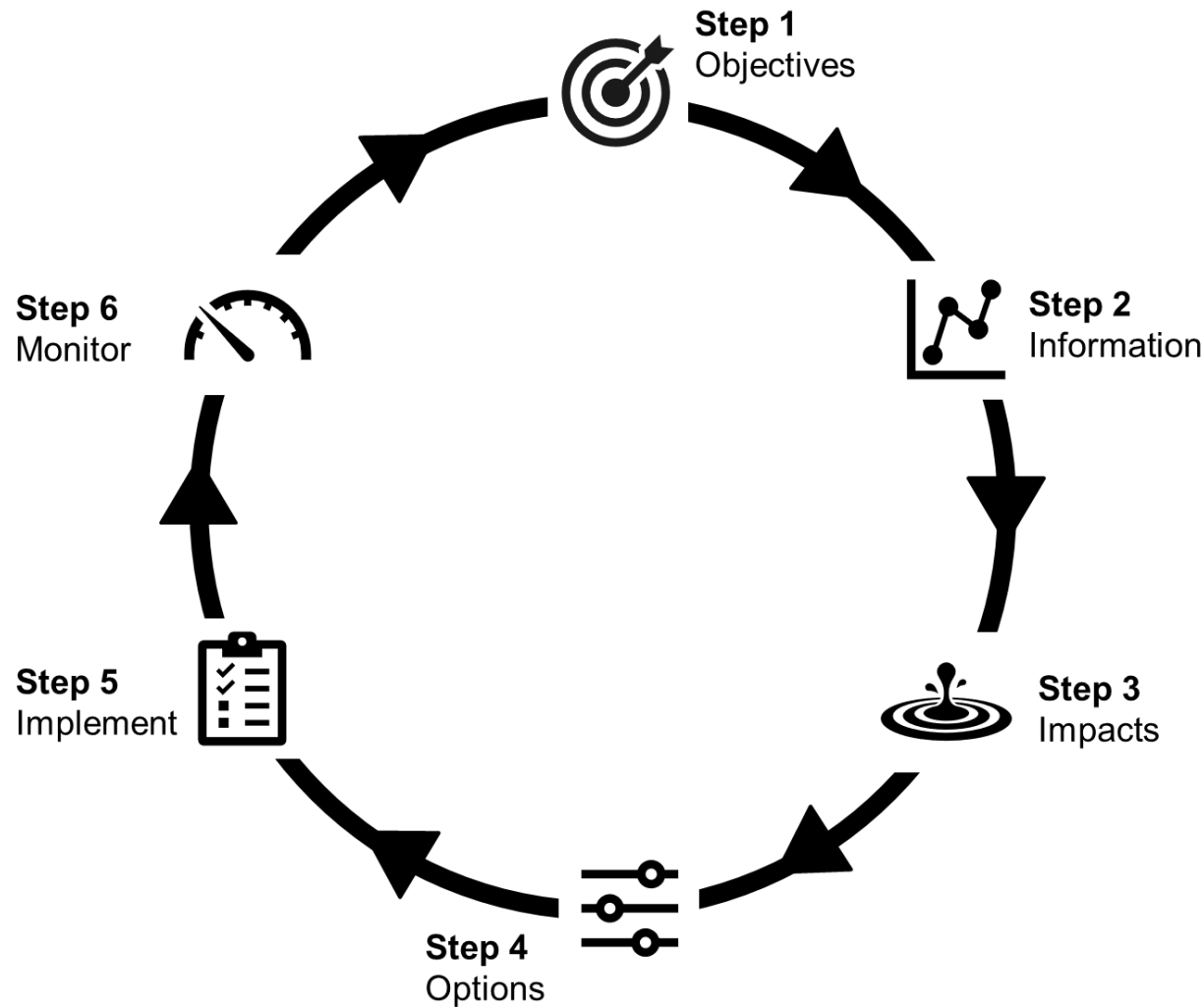
- **Incorporate climate risk indicators into risk registries** as the first step towards acknowledging their importance and identifying and managing existing and anticipated climate risks and priorities for adaptation including consideration of risks to overseas activities.
- **Prepare for current and future climate impacts through resilient net zero planning** by taking a twin-tracked approach to climate mitigation and resilience that recognises the interconnected nature of protecting against climate risks whilst also reducing climate change.
- **Consider climate risk exposure beyond the physical footprint of the campus or site(s)**, including climate risk assessment and the development of adaptation and resilience plans for neighbouring communities and critical infrastructure, transnational educational offerings, field work, international research collaborations and international supply chains.
- **Identify co-benefits and trade-offs amongst climate actions** because climate risks may interact with one another and with other non-climatic risks in the register.
- **Anticipate and manage transition risks** linked to evolving legal, policy, investment, market, and technology contexts under climate change, including the potential for stranded assets and reputational damage.
- **Draw on the skills and knowledge of different groups making up the institutional community when undertaking climate risk assessment**, recognising the process as both a technical and social endeavour.
- **Approach resilience building as an ongoing, open-ended process** requiring regular monitoring and evaluation to support reassessment of risks and ongoing development of adaptation plans.
- **Recognise that Higher and Further Education Institutions have important roles in building resilience to climate beyond their own operations and in terms of people and places** through their work and status as anchor institutions in local communities and regional economies.
- **Share insights and lessons learned about how to move to resilient net zero** with other institutions and sector, through forums such as the Alliance for Sustainability Leadership in Education (EAUC) Climate Risk Community of Practice and Universities UK fora.
- **Call on Government to give more attention to risks to education in the forthcoming Climate Change Risk Assessment (CCRA4)** and subsequent National Adaptation Plan, plus accelerate the release of data held by Government agencies and funded bodies to enable local climate risk assessment and adaptation planning.

### Authors:

Rob Wilby, Loughborough University; Shona Smith, University of Leeds; Katrine Petersen, Imperial College London; Haleema Misal, Imperial College London; Abbas AbdulRafiu, University of Sussex; Ashraf Alam, University of Salford; Rosie Anthony, University of Salford; Stephen Blenkinsop, Newcastle University; Claire Brown, University of Manchester; Hayley Fowler, Newcastle University; Rajat Gupta, Oxford Brookes University; Rachel Harcourt, University of Leeds; Esra Kurul, Oxford Brookes University; Michael Lee, Harper Adams University; Anil Padhra, University of West London; Jonathan Radcliffe, University of Birmingham; Becky Shepherd, Cranfield University; Jo Lindsay Walton, University of Sussex; Roddy Yarr, University of Strathclyde.



# Climate risk management framework



Source: [UUCN \(2023\)](#)



# Aims of the webinar series

The aim of this series is to show how to develop an institutional Climate Risk and Adaptation Assessment in **three sessions**:

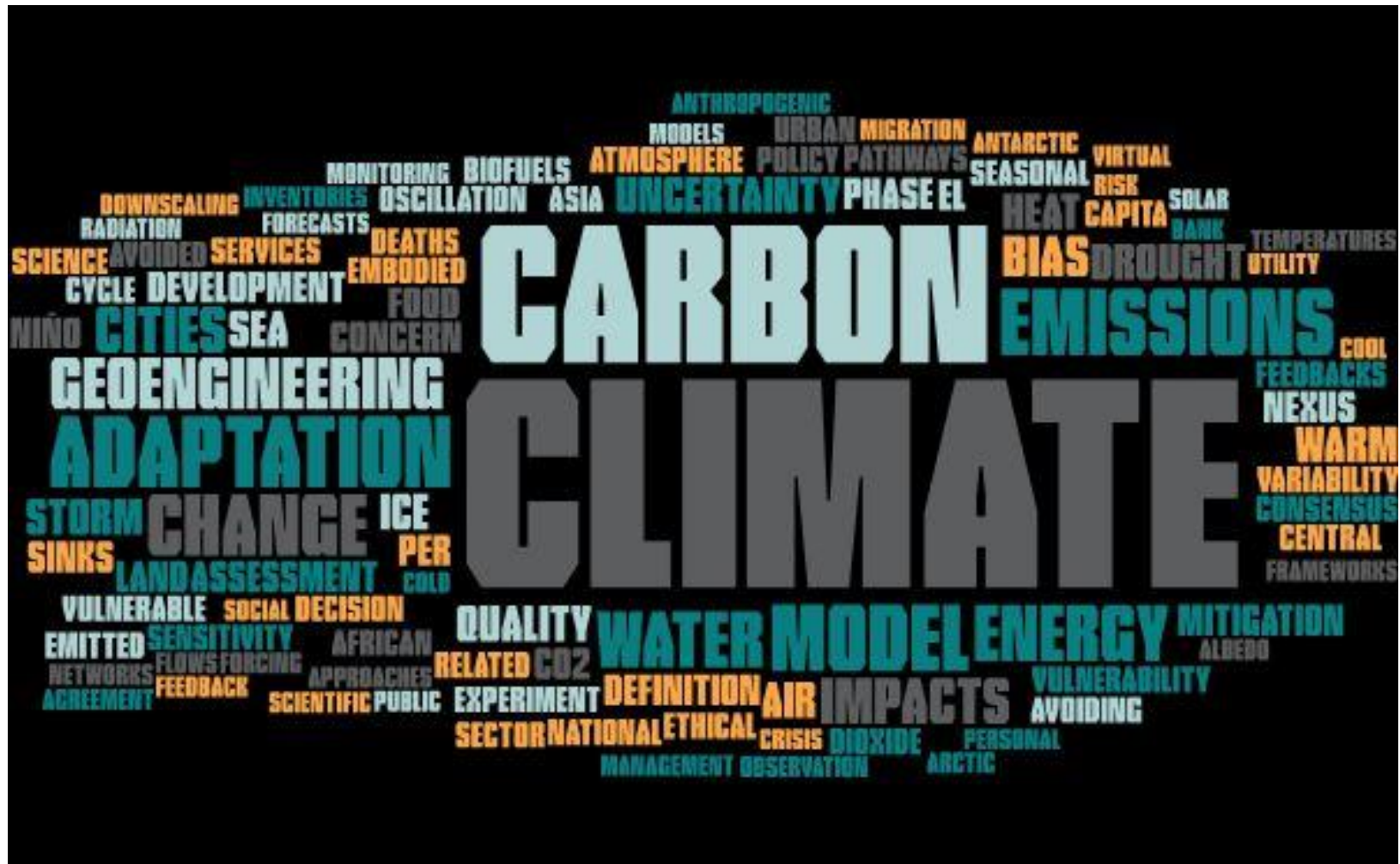
- **12th September Step 1:** Set adaptation objectives that align with national and sector plans for climate action & **Step 2:** Gather contextual information to establish baseline knowledge and activities plus depth analysis.
- **19th September Step 3:** Evaluate climate risk to vulnerable people, services and assets climate variability and change & **Step 4:** Identify adaptation options that manage, or transfer identified climate risks.
- **26th September Step 5:** Prioritise and implement adaptation actions using defined criteria and schedule preferred options within planning pathways & **Step 6:** Monitor evolving climate risks and evaluate adaptation outcomes.



# Aims of this webinar

- Define **key concepts** around resilient net zero (RNZ)
- Step1: Set **adaptation objectives** for your HEI that align with national and sector plans for climate action
- Step 2: Gather essential **contextual information** to establish baseline knowledge and activities at your HEI

# Part I: Key concepts





# Climate concepts quiz – Question 1



Photo: [Guardian](#)

**Which of the following pairs of climate-related hazards are most likely to be faced by UK HEIs?**

- (a) Heatwaves and floods
- (b) Sea-level rise and storm surges
- (c) Wildfires and droughts
- (d) Tsunami and earthquakes

# Climate concepts quiz – Question 1



Photo: [Guardian](#)

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# Climate concepts quiz – Question 2



**Which of the following groups of people are vulnerable to climate change?**

- (a) Undergraduate and postgraduate students
- (b) Estates and professional services colleagues
- (c) Research and teaching staff
- (d) All the above

Photo: [University of Nottingham](#)

# Climate concepts quiz – Question 2



**Which of the following groups of people are vulnerable to climate change?**

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- (b) Estates and professional services colleagues
- (c) Research and teaching staff
- (d) All the above**

Photo: [University of Nottingham](#)



# Climate concepts quiz – Question 3



Photo: [Mirror](#)

**Which of the following is the most important step in a climate risk assessment?**

- (a) Stakeholder consultation
- (b) Baseline data gathering
- (c) Climate scenario analysis
- (d) Obtaining resources

# Climate concepts quiz – Question 3



Photo: [Mirror](#)

**Which of the following is the most important step in a climate risk assessment?**

- (a) Stakeholder consultation**
- (b) Baseline data gathering
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# Climate concepts quiz – Question 4

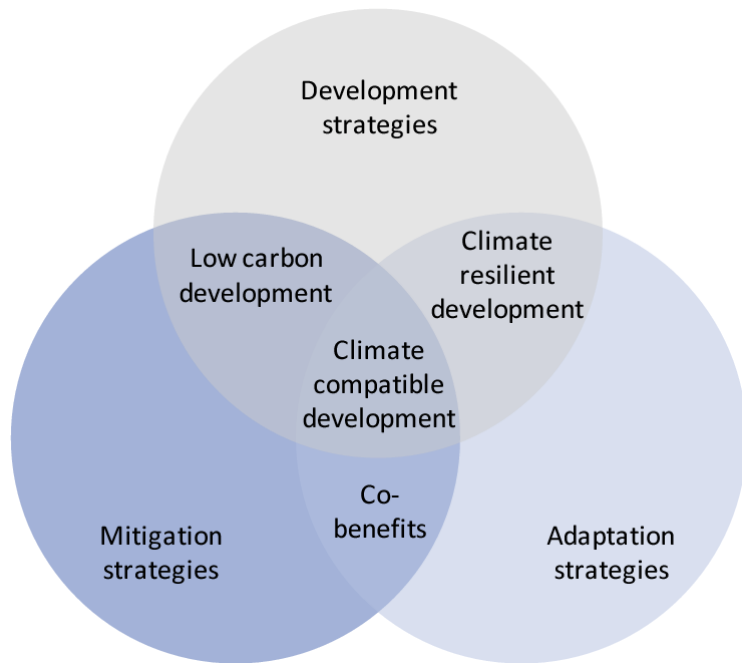


Figure: [Illman et al. \(2013\)](#)

**Which of the following deliver adaptation-mitigation co-benefits?**

- (a) Carbon-offsets for Scope 3 emissions
- (b) More green space on campus
- (c) Overseas travel policy
- (d) All the above

# Climate concepts quiz – Question 4

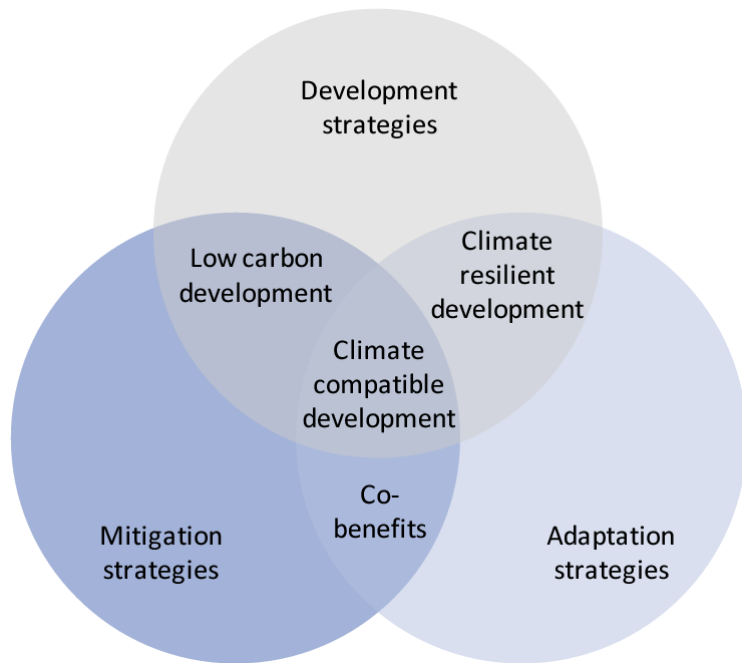


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# Climate concepts quiz – Question 5



Source: [UUCN](#)

## Resilient net zero (RNZ) means:

- (a) Managing carbon emissions before managing climate hazards
- (b) Managing climate hazards before managing carbon emissions
- (c) Managing carbon emissions whilst managing climate hazards
- (d) Managing carbon emissions to increase resilience to energy costs



# Climate concepts quiz – Question 5

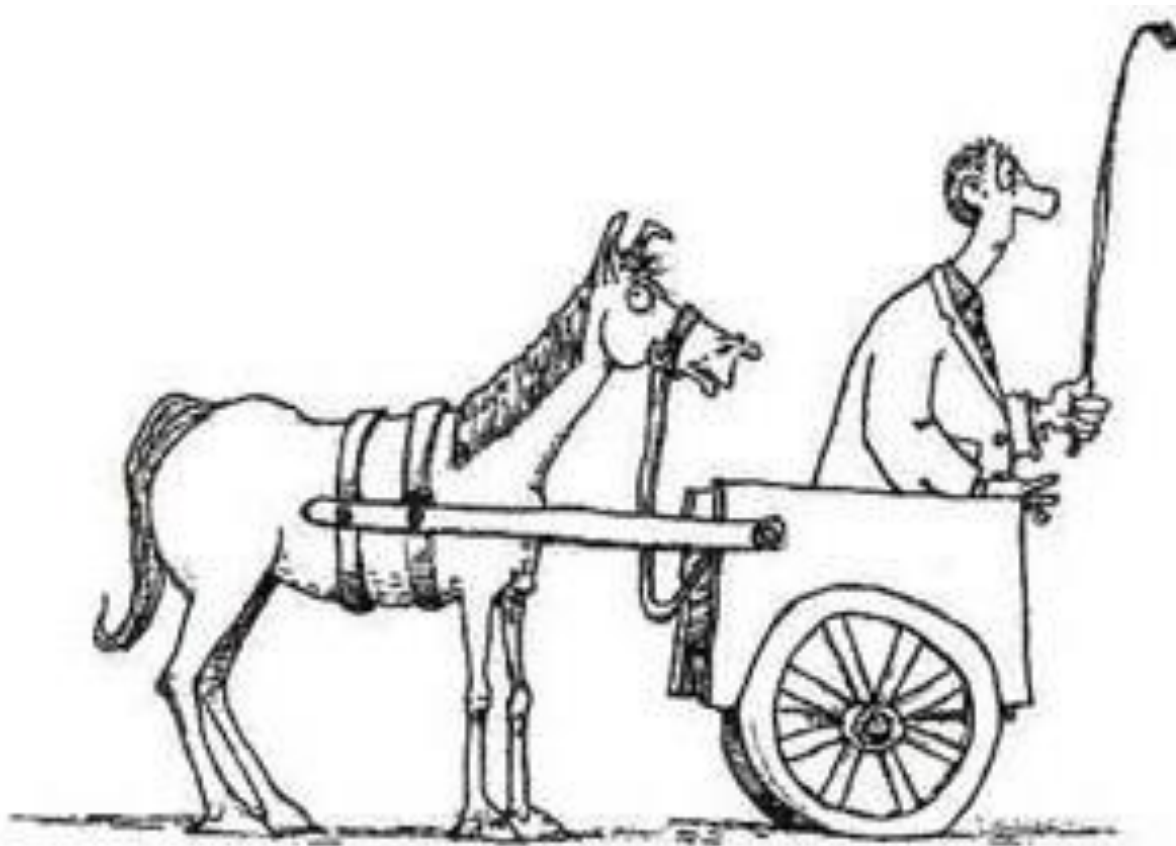


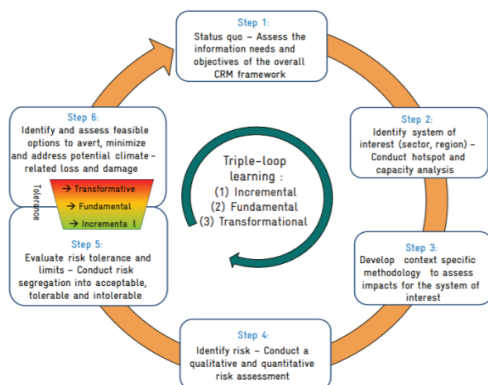
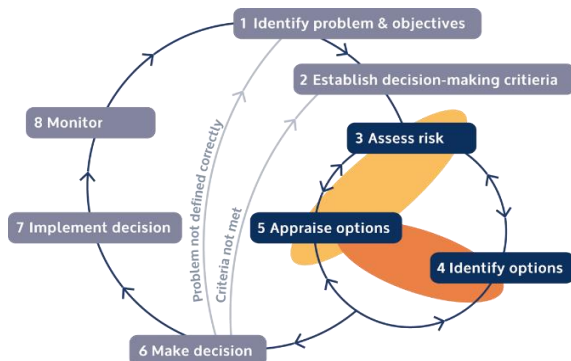
Source: [UUCN](#)

## Resilient net zero (RNZ) means:

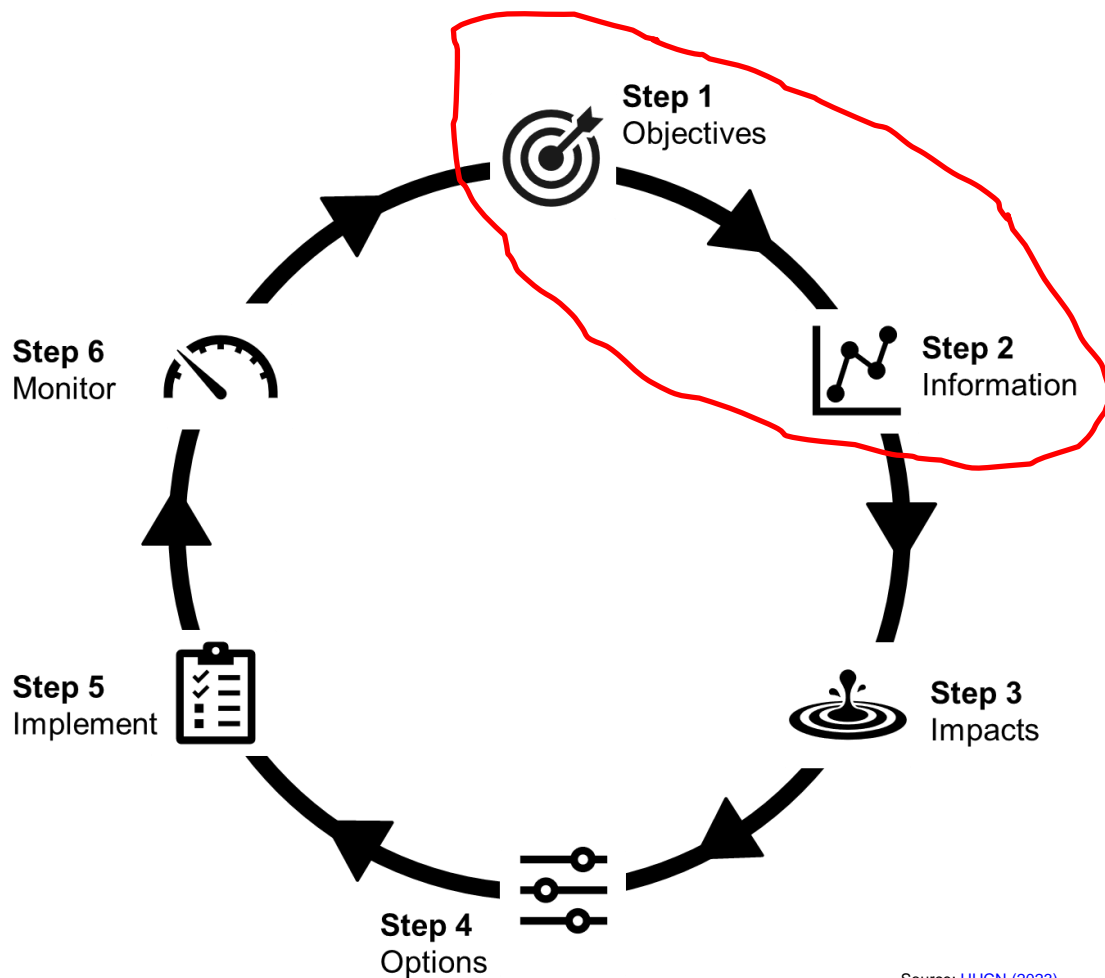
- (a) Managing carbon emissions before managing climate hazards
- (b) Managing climate hazards before managing carbon emissions
- (c) Managing carbon emissions whilst managing climate hazards**
- (d) Managing carbon emissions to increase resilience to energy costs

# Part II: Set adaptation objectives (Step 1)





# CRM frameworks



Source: [UUCN \(2023\)](#)



# Big picture: HMG Strategic Framework

## 2030 Strategic Framework for International Climate and Nature Action

*The UK's 2030 Strategic Framework for International Climate and Nature Action defines the government's vision for our long-term role in the world tackling climate change and biodiversity loss.*

*The framework sets out an integrated approach to climate change mitigation, adaptation and resilience, and the protection, conservation and restoration of nature.*

### Overview of the 2030 Strategic Framework

#### What we want to achieve: 2030 Vision

Keep 1.5°C in reach by halving global emissions

Build resilience to current and future climate impacts

Halt and reverse global nature loss

#### By helping to tackle these global challenges

**1.** Transition to clean technologies and sustainable practices across all sectors

**2.** Build resilience and adapt to climate impacts, supporting communities, economies and ecosystems

**3.** Increase protection, conservation and restoration of nature and tackle key drivers of nature loss

**4.** Strengthen international agreements and cooperation to accelerate delivery of climate and nature commitments

**5.** Align global financial flows with a net zero, climate resilient and nature positive future

**6.** Shift trade and investment rules and patterns to support the transition to a climate and nature positive future

#### Using these levers

International Partnerships

Finance

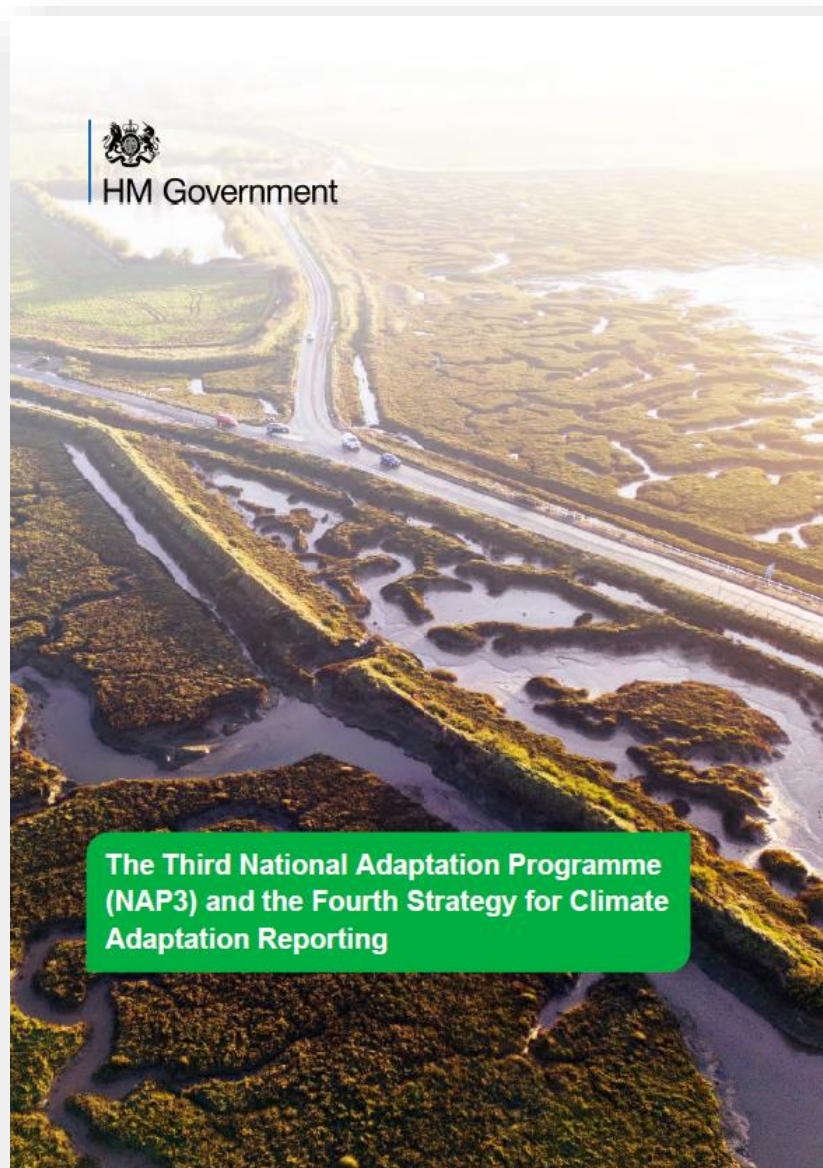
Trade and Investment

Expertise & Domestic leadership

Science, innovation and technology

Source: [HMG \(2023\)](#)

# National Adaptation Plan 3



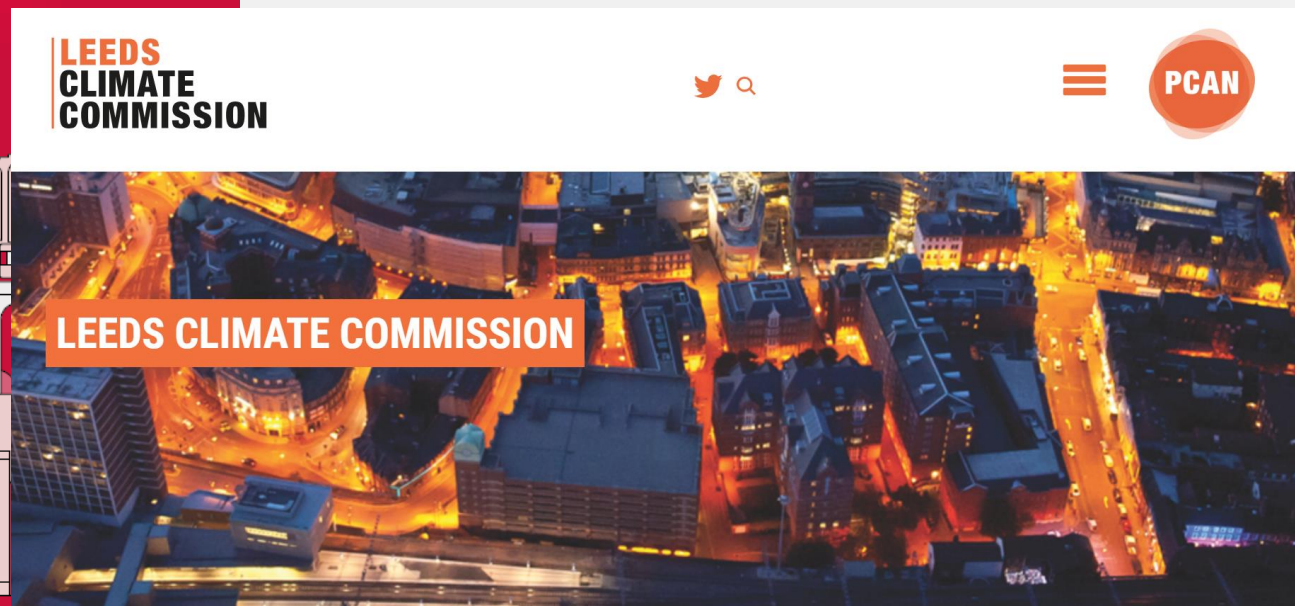
## ***Our Adaptation Vision***

*The UK government's vision for adaptation is for a country that effectively plans for and is fully adapted to the changing climate, with resilience against each of the identified climate risks...*

## ***National Infrastructure Strategy***

*This strategy sets out the government's vision for infrastructure, emphasising the need for continued investment as an enabler of economic growth, alongside long-term planning to support delivery of net zero by 2050 while levelling up the country. The strategy recognises that effective adaptation will be essential to achieving this...*

# Engaged with community actions...



Source: [Leeds Climate Commission](#)

Source: [Yorkshire & Humber Climate Commission](#)



# ...and strategic priorities



CHARNWOOD

CLIMATE CHANGE STRATEGY

2018 – 2030

*“Taking action to protect the environment for  
future generations”*

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*A. We will work with our partners to understand the current and future risks of flooding*

*B. We will work with communities and businesses to increase resilience to future changes in climate*

*C. We will ensure business continuity planning at the Council is resilient to climate impacts*

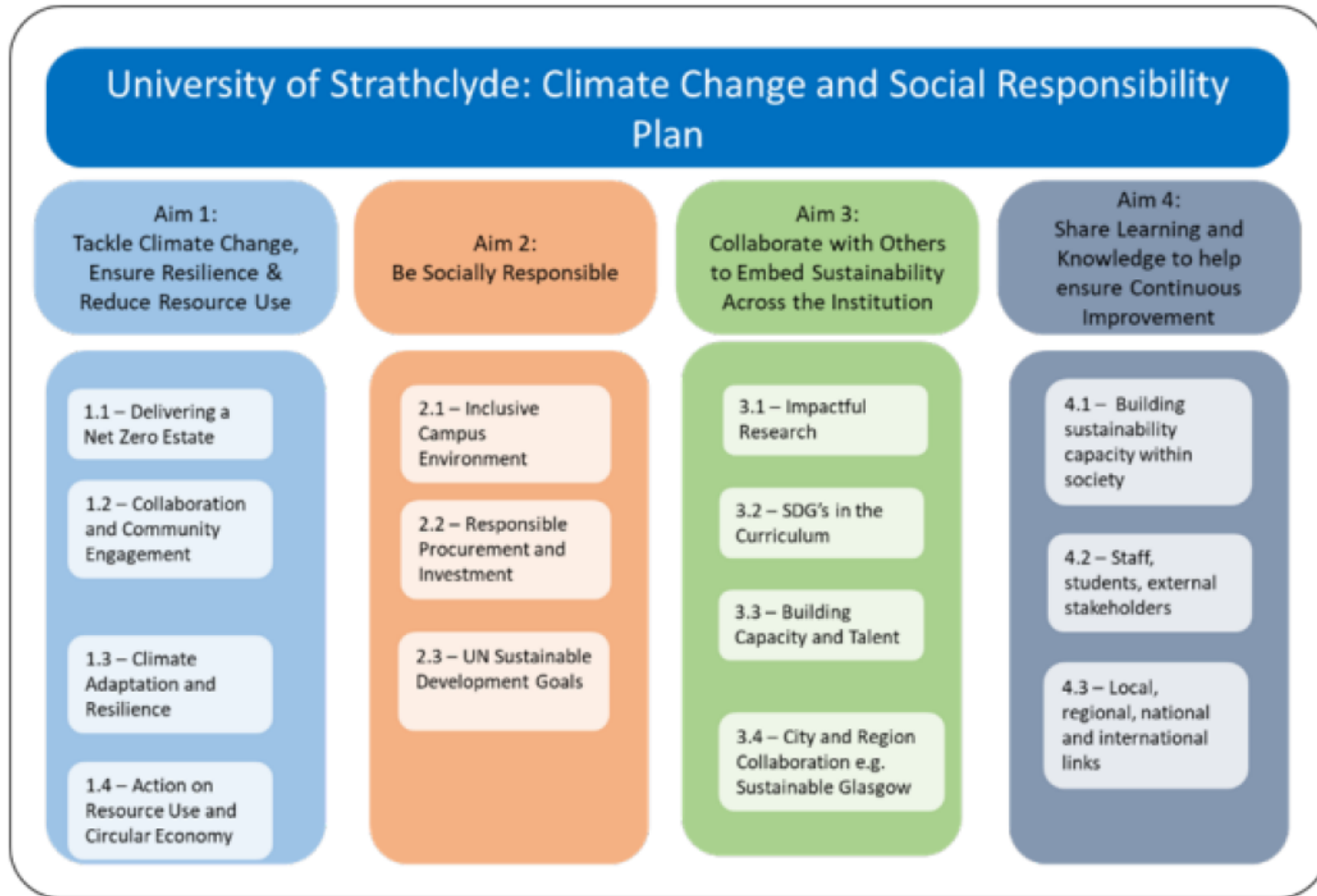
*D. We will ensure Council owned open spaces and habitat are well adapted to the changing climate*

*E. When new development is considered in areas with nature conservation value we will ensure that risks can be managed through suitable adaptation measures*

*F. We will support health and ethical local food and produce*

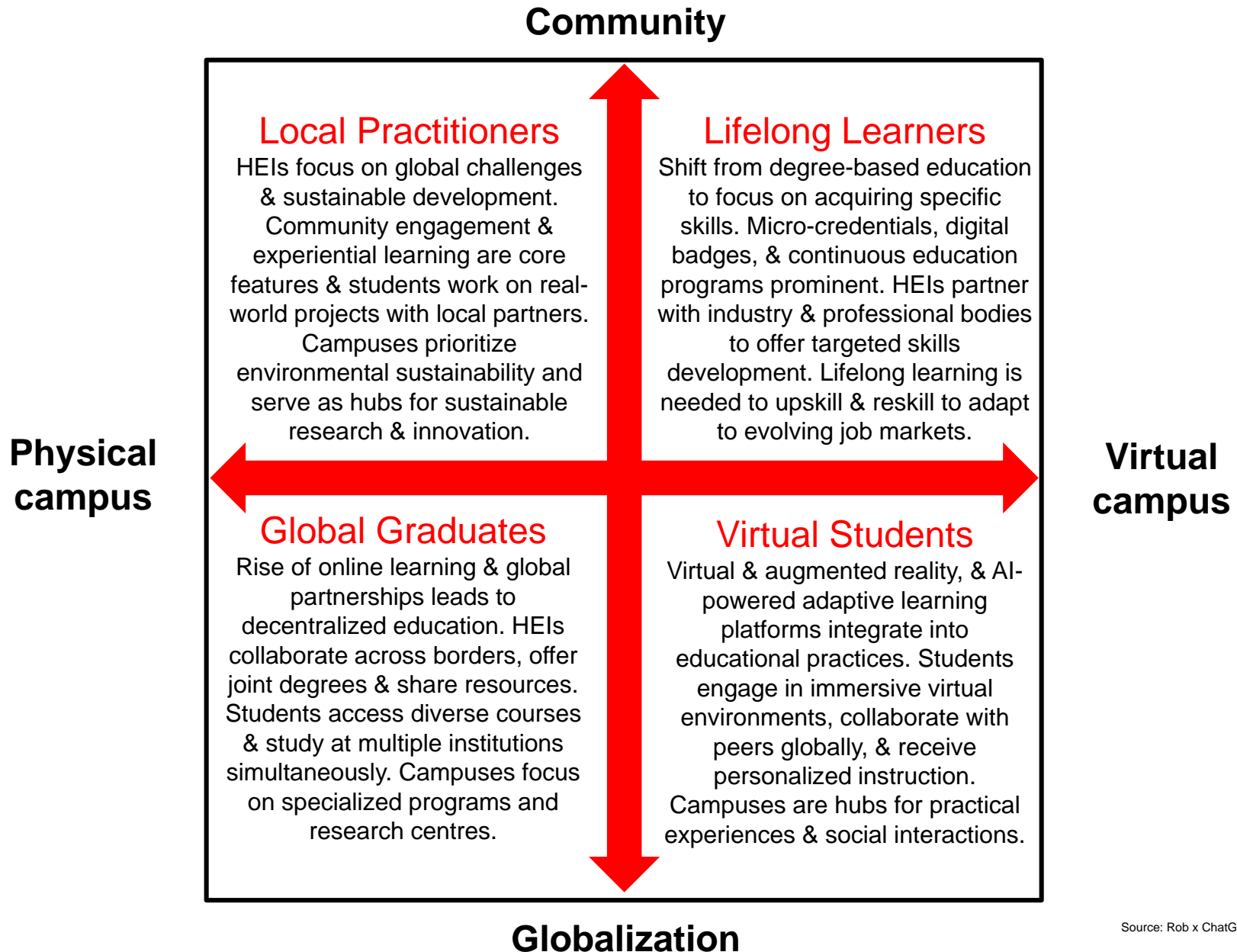
# Example climate vision statements

## Climate Change and Social Responsibility Policy 2016 to 2026



Source: [University of Strathclyde](#)

# Plans must be viewed in context of HEI futures





# Pause for reflection



Rob x DALL.E images of Loughborough University in 2050

What are the strategic goals and desired outcomes of my HEI?

What community, industry and government support has been secured?

What other policies and strategies align with adaptation planning, such as for carbon management and sustainability?

What is an acceptable level of climate risk?

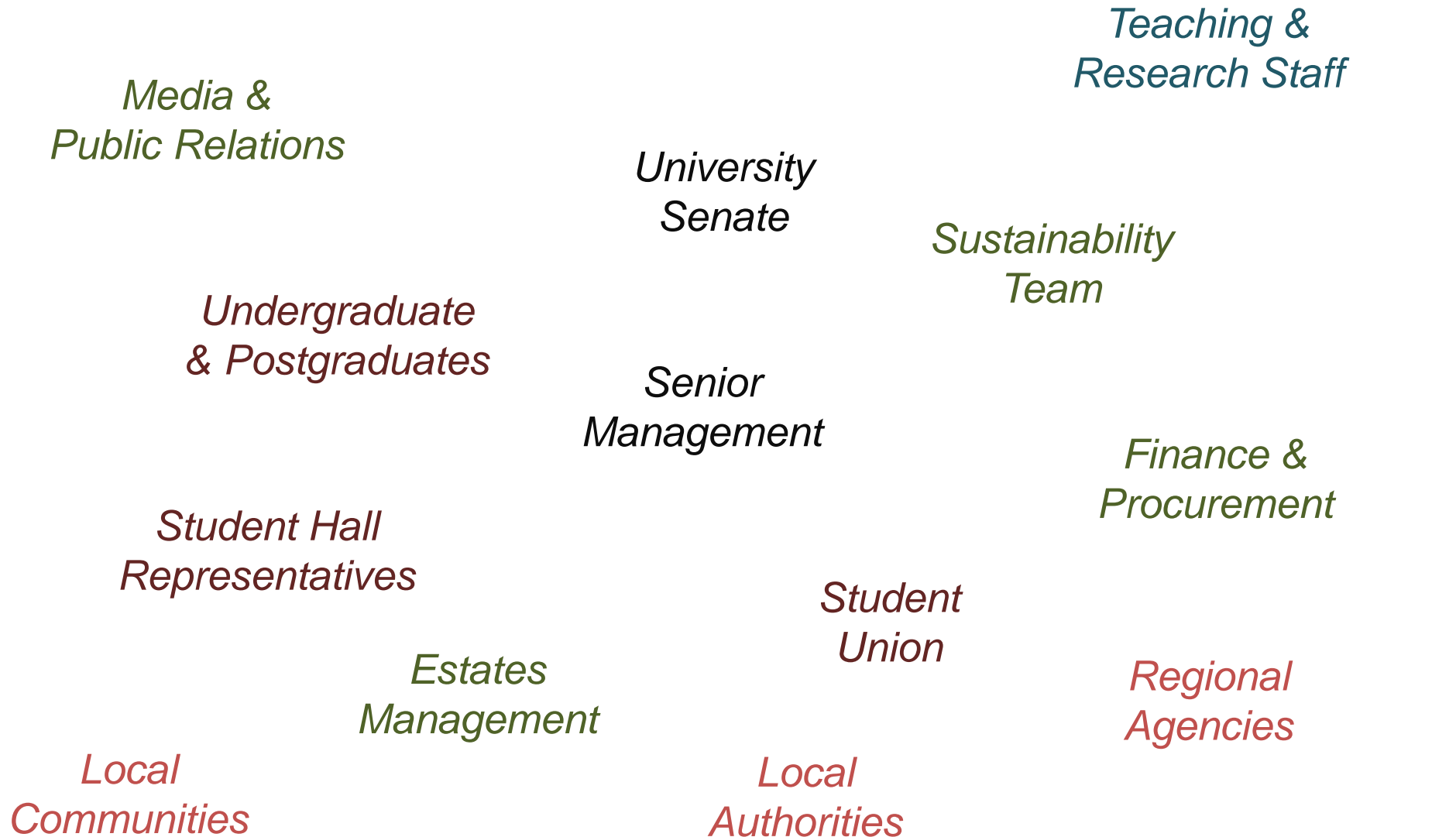
What will my HEI look like in the future?

# Part III: Gather contextual matter (Step 2)



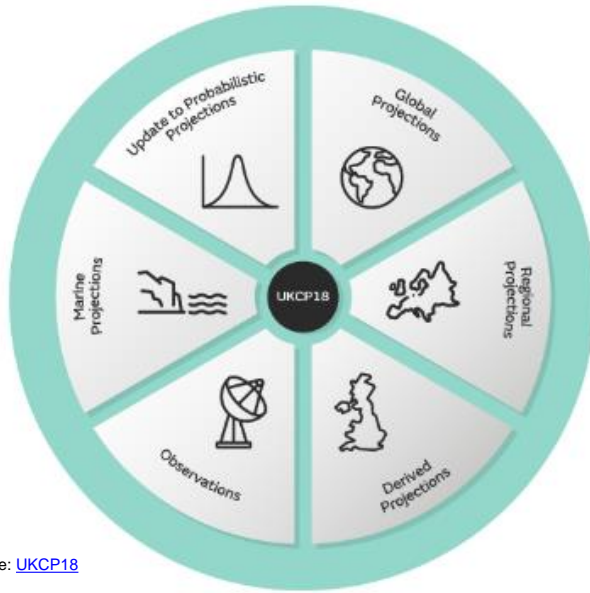
Photo: Loughborough University

# Stakeholders

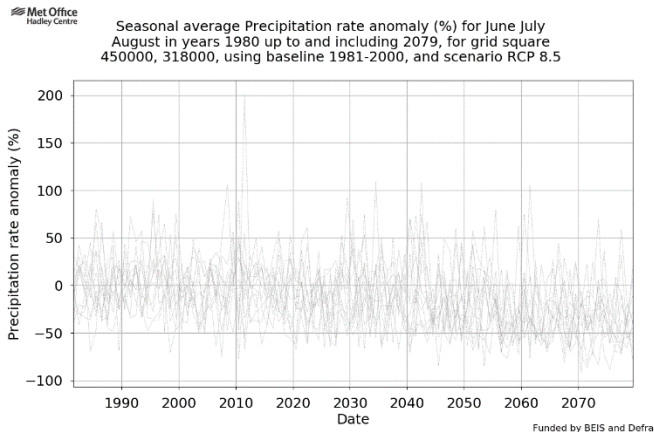




# Guiding questions



Source: [UKCP18](#)



- Are there previous climate risk analyses and adaptation plans for the university?
- What weatherproofing or risk-reducing actions have already been taken?
- What technical and financial resources are available?
- What baseline socio-economic and climate data exist?
- What (if any) data have been compiled on historic weather impacts, losses and damages?
- What local climate change scenarios are available for evaluating future risks?

# Example baseline building blocks



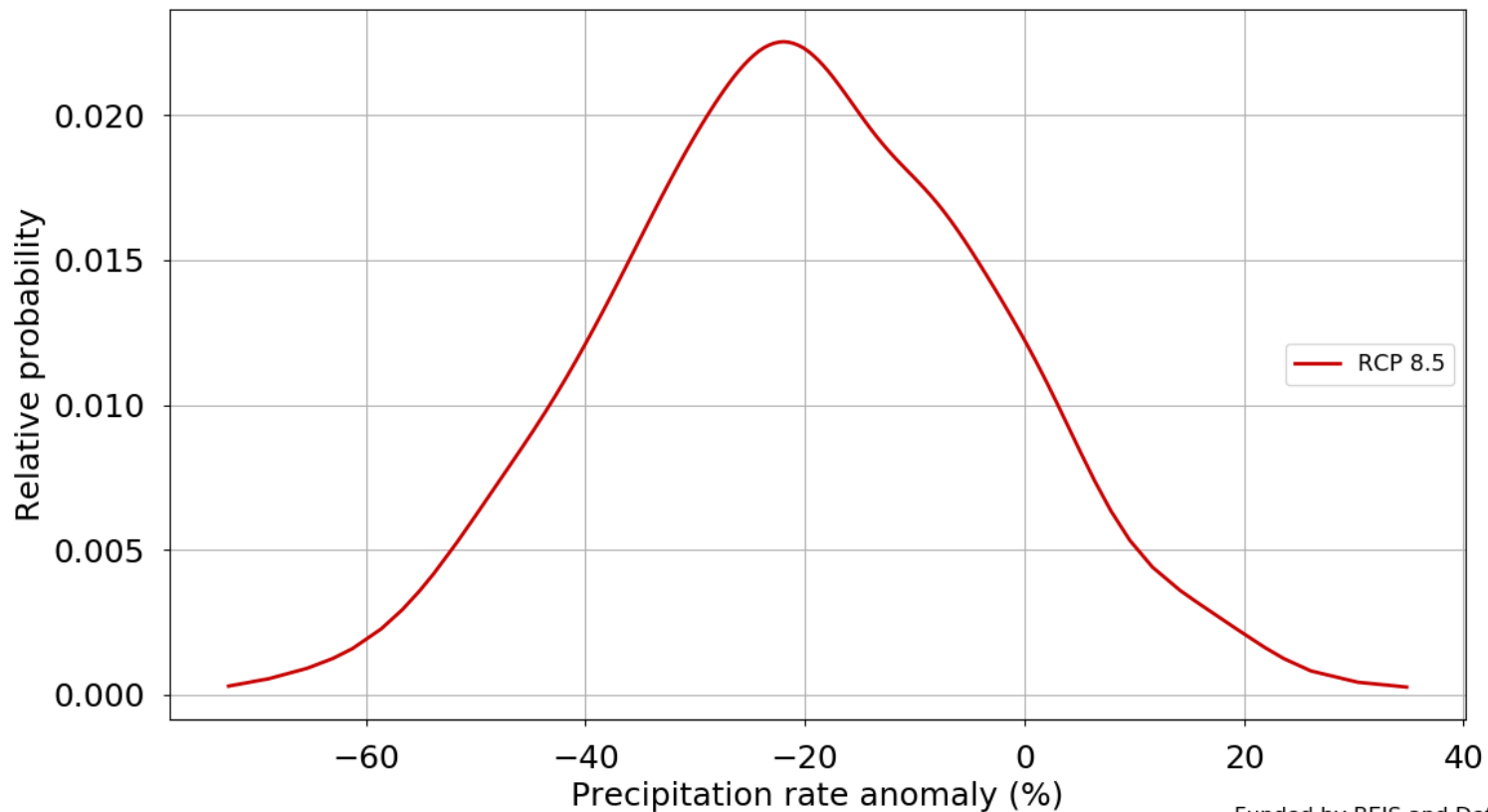
Source: [Met Office](#)

- High-resolution campus/site elevation data
- Detailed maps of land use, buildings, and critical infrastructure
- Inventories of building type, fabric, and performance
- Local weather, river flow, and biodiversity records
- Information about any historic impacts (such as floods and heatwaves) on people, facilities, and operations
- Model projections of future climate conditions, such as rainfall and temperature extremes
- Strategic development plans for student numbers, research, teaching and supporting estates

# Pause for reflection



Seasonal average Precipitation rate anomaly (%) for June July August in years 2040 up to and including 2058, for grid square 462500, 312500, using baseline 1981-2000, and scenario RCP 8.5



Funded by BEIS and Defra

# Concluding remarks



Source: [Loughborough University](#)

- Climate risk assessment and adaptation planning is **highly contextual**
- Clear **goals** and **inclusive** approach are essential
- Let's go beyond protecting people, buildings, and operations into the **curriculum, sustainability, and more...**



# Tasks for next week



## Setting scenarios for a university adapted to climate change

In the second part of their series, Rob Wilby and Shona Smith explain how running institutional plans through different scenarios can help improve a university's resilience to future...

**Robert Wilby, Shona Smith**  
Loughborough University, University of Leeds

- 1) Read THE Campus article on [Setting scenarios for a university adapted to climate change](#)
- 2) Identify some key strategies and/or policies for your HEI where there may be entry points for climate action
- 3) Write a 2-3 sentence statement of intent for RNZ at your HEI; this can be as high-level or specific as you like
- 4) Identify 3 academics or groups at your HEI who might be able to contribute useful data, knowledge, or skills on RNZ