Explaining the adaptation gap in the UK – the hidden story of policy lock-ins

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Overview

- The growing adaptation gap
- Understanding lock-ins
- Research methods
- Findings
- Conclusions & next steps

The Adaptation Gap

UK Climate Change Risk Assessment (CCRA3)
UK adaptation inventory

"***Despite progress, adaptation gaps exist between current levels of adaptation and levels needed to respond to impacts and reduce climate risks (high confidence).*** *Most observed adaptation is fragmented, small in scale, incremental, sector-specific, designed to respond to current impacts or near-term risks, and focused more on planning rather than implementation (high confidence)*"

(IPCC, 2022)

"*Despite encouraging trends, the rate and scale of adaptation progress at the national level is not enough to keep up with growing needs …* ***Growing climate risks require a step change in adaptation ambition***"

(UNEP, Adaptation Gap Report 2021)

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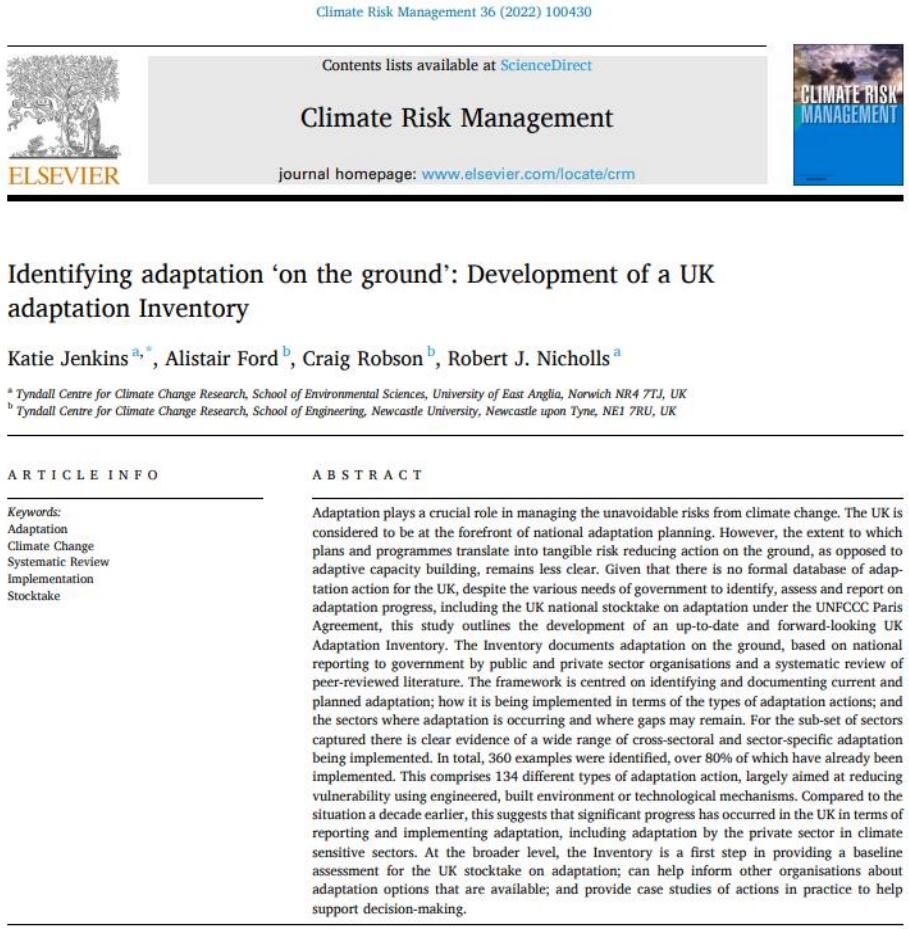
CCRA3 Key Messages

- 61 risks & opportunities: 34 'more action needed', 8 urgent in next 2 years
- The gap between the level of adaptation and the level of risk is increasing: **Adaptation action has failed to keep pace with the worsening reality of climate risk.**
- **Lack of adaptation over the past five years has led to lock-in,** irreversible changes and higher future costs
- **Risk of lock-ins** in the next five years - e.g. ca. 1.5 million homes are due to be built across the UK, locking-in increased climate vulnerability unless planning and building policy is changed now
- Future national adaptation programmes **must identify the barriers and constraints to adaptation actions** – and seek solutions

UK adaptation Inventory

- **Adaptation inventory** of public and private sector adaptation projects (current & planned) and case studies in literature
- **Significant progress is being made** in terms of reporting and implementing adaptation –
  - 360 examples identified, over 80% already implemented
  - 140 different types of adaptation actions
- First step in providing a baseline for UK stocktake on adaptation
- Online searchable database & user guide



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Identifying adaptation 'on the ground': Development of a UK adaptation Inventory

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ABSTRACT

Adaptation plays a crucial role in managing the unavoidable risks from climate change. The UK is considered to be at the forefront of national adaptation planning. However, the extent to which plans and programmes translate into tangible risk reducing action on the ground, as opposed to adaptive capacity building, remains less clear. Given that there is no formal database of adaptation action for the UK, despite the various needs of government to identify, assess and report on adaptation progress, including the UK national stocktake on adaptation under the UNFCCC Paris Agreement, this study outlines the development of an up-to-date and forward-looking UK Adaptation Inventory. The Inventory documents adaptation on the ground, based on national reporting to government by public and private sector organisations and a systematic review of peer-reviewed literature. The framework is centred on identifying and documenting current and planned adaptation; how it is being implemented in terms of the types of adaptation actions; and the sectors where adaptation is occurring and where gaps may remain. For the sub-set of sectors captured there is clear evidence of a wide range of cross-sectoral and sector-specific adaptation being implemented. In total, 360 examples were identified, over 80% of which have already been implemented. This comprises 134 different types of adaptation action, largely aimed at reducing vulnerability using engineered, built environment or technological mechanisms. Compared to the situation a decade earlier, this suggests that significant progress has occurred in the UK in terms of reporting and implementing adaptation, including adaptation by the private sector in climate sensitive sectors. At the broader level, the Inventory is a first step in providing a baseline assessment for the UK stocktake on adaptation; can help inform other organisations about adaptation options that are available; and provide case studies of actions in practice to help support decision-making.

However, barriers persist!

- A host of barriers and challenges to implementing adaptation agendas have been documented
    - E.g. resource constraints, lack of political will and sense of urgency, absence of leadership, conflicting priorities, capacity, fragmented governance, policy silos, incentive structures, institutional cultures, evidence gaps, lack of accountability etc…
- **Are these symptomatic of something else?**
- **Thinking beyond barriers** - calls to move beyond the heuristic of 'barriers' and ahistorical descriptions, to uncover deeper, systemic stabilising dynamics contributing to inertia and hindering adaptation

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Understanding Lock-ins

As an outcome and/or process?
Mechanism-based approach

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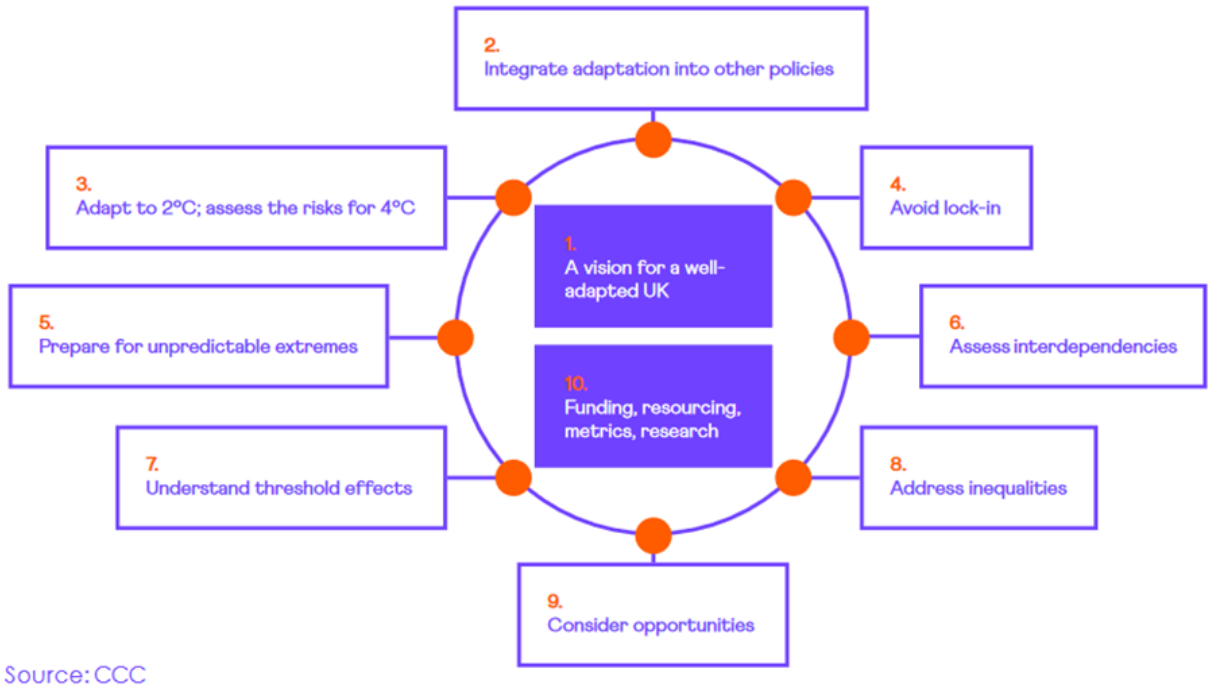
Lock-ins in CCRA3

- **Lock-ins are early actions or decisions that involve long lifetimes or path dependency**, that could -
  - potentially increase future risk or vulnerability
  - difficult or costly to reverse later (quasi-irreversibility / path dependency)
- Resulting from an action or decision taken that is 'business-as-usual', a lack of an action or decision, or a maladaptive action or decision
- Short-term focus: next 5 years

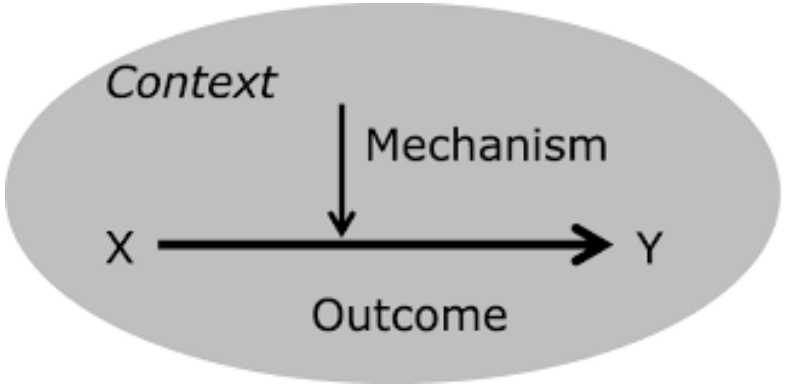
Figure 2 Ten principles for good adaptation



Source: CCC

Our approach takes a process-based perspective

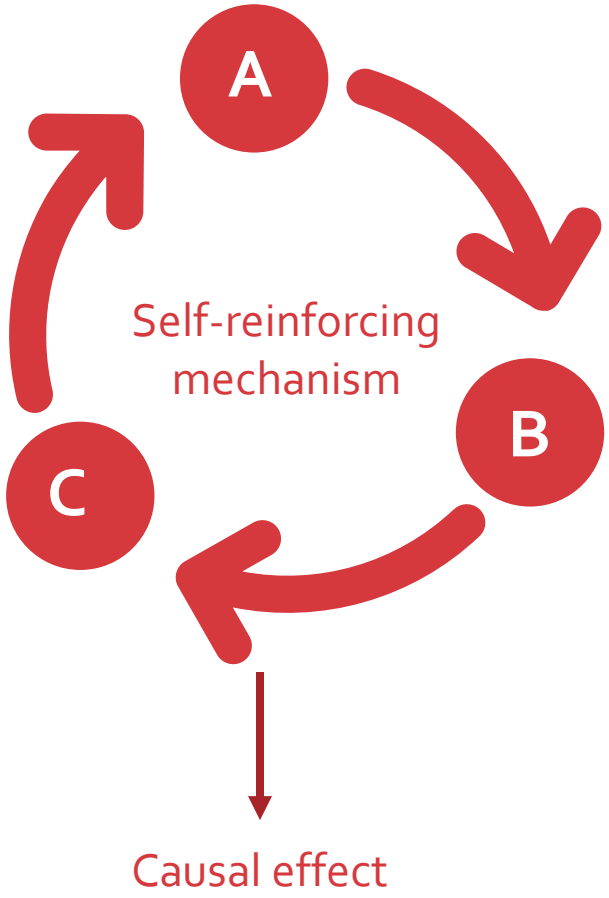
- **Processual perspectives focus on underlying decision-making processes and structures** – how entrenched and resistant are these to change? How do these reinforce a specific pathway and constrain alternatives?
- **Searching for <u>mechanisms</u>**
  - Mechanisms are theoretical propositions about cause-effect to explain how and why a certain outcome was produced
  - Made up of entities and activities
  - Mechanisms can operate in isolation or together via positive feedbacks
- **Lock-ins are identified by the presence of self-reinforcing dynamics**, which stabilise a specific path and create resistance to change
- Lock-in dynamics can be **intentional or unintentional, positive or negative**

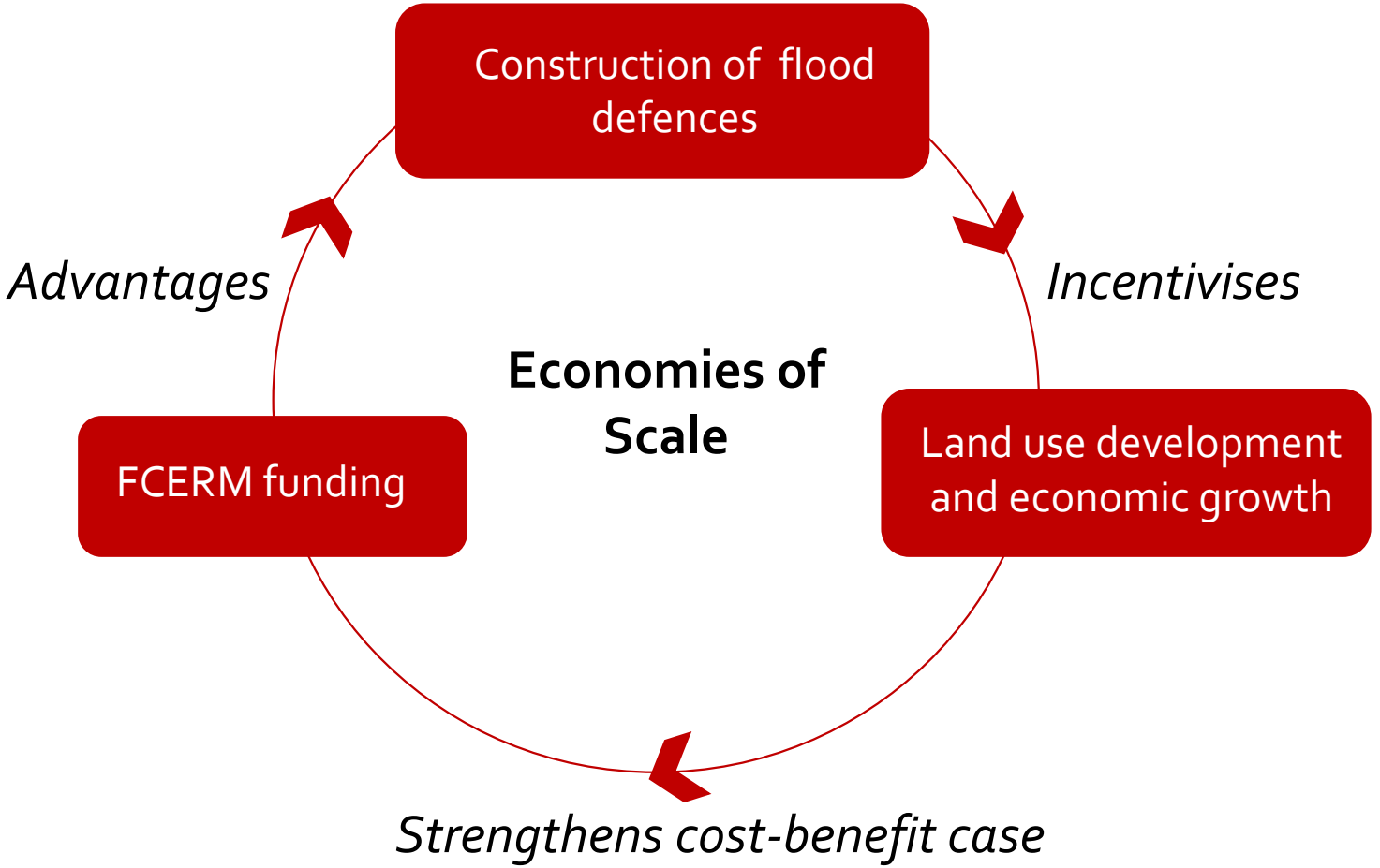


From Biesbroek & Candel (2019)

A process-based perspective on lock-in

EXAMPLE:





Different sources of lock-in

- Infrastructures – e.g. engineered flood defences, transport networks etc.
- Built environment
- Technologies

- Institutional practices and established ways of working
- Rules of the game
- Power elites

- Behavioural factors
- Psychological and cognitive factors
- Norms and values
- Habits and expectations

Example of lock-in mechanisms

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Economies of scale	Economies of scope	Network externalities	Learning effects	Technological inter-relatedness
Collective action	Power differentiation	Turf protection	Policy feedback	Institutional learning effects
Adaptive expectations	Cognitive switching costs	Habituation	Escalation of commitment	Informational increasing returns

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Research methods

Identifying lock-in dynamics within the Adapt Lock-in project

https://adaptlockin.eu/

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Project team

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Research Questions

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1. Identification and attribution

To what extent are lock-in dynamics responsible for observed adaptation gaps in selected problem domains?

2. Evolution

How do lock-in dynamics form, persist and evolve over time? Under what conditions do these dynamics flourish?

3. Comparison

How do lock-in dynamics compare across different problem domains, within & between countries?

4. Transformation

How can an understanding of lock-in dynamics inform 'unlocking strategies' to accelerate adaptation action?

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Methods for identifying lock-ins

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Problem domains

- Coastal adaptation
- Water scarcity

- Biodiversity
- Forestry

- Heatwave impacts
- Mental health

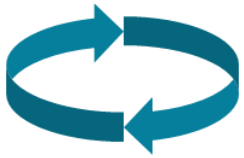
Methods

Ca. 60 interviews per country

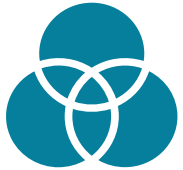
Extensive document analysis (200+ per country)

Analysis

Process tracing



Causal loop diagrams



Qualitative Comparative Analysis

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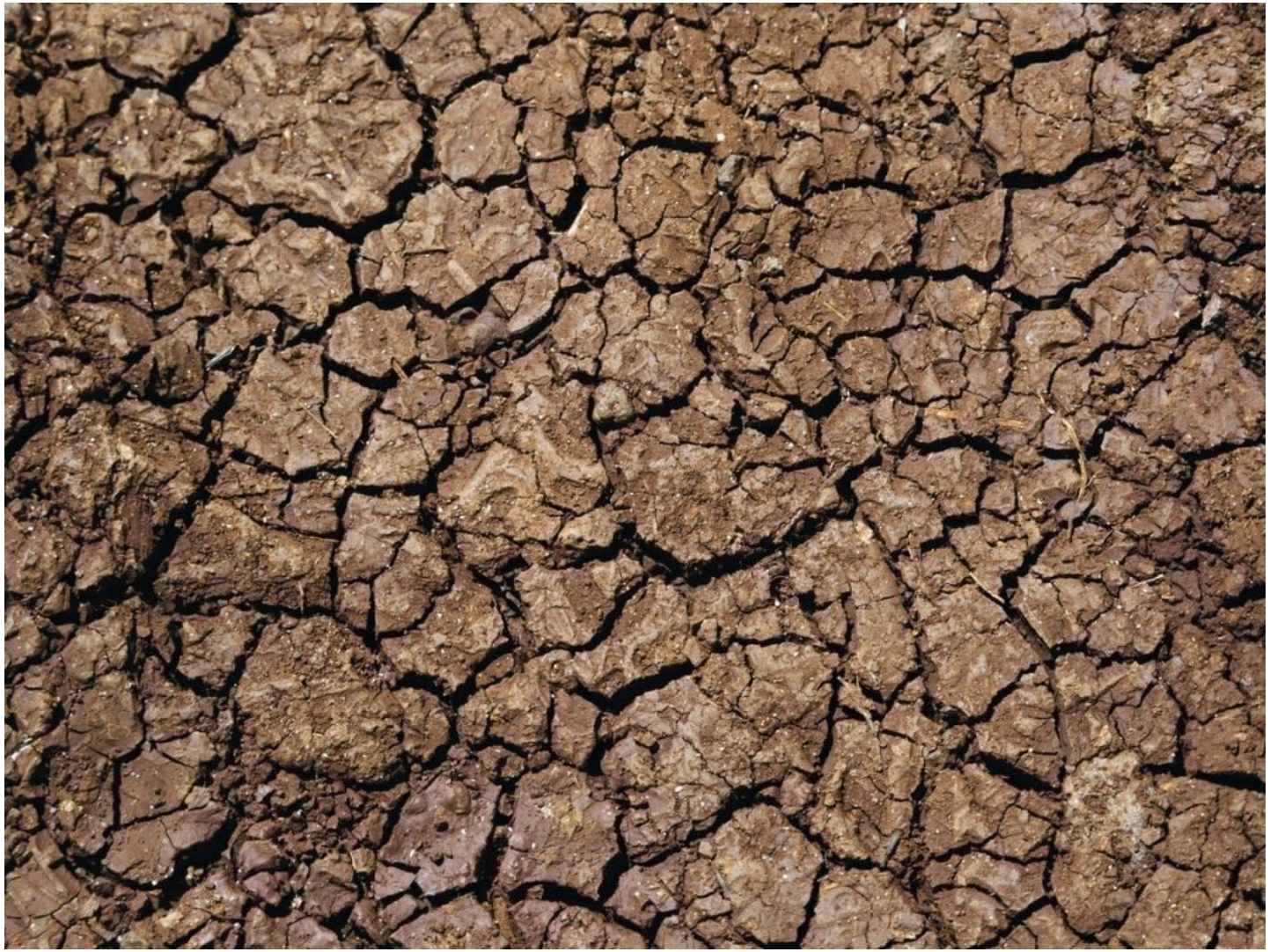
Research Findings

Examples of different types of lock-in mechanisms



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Overview of key mechanisms (so far)

Coastal adaptation	*Economies of scale * Adaptive expectations * Habituation * Learning effects * Social contracting * Collective action * Co-dependency * Responsibility avoidance*
Water scarcity	*Responsibility avoidance, Adaptive expectations, Cognitive switching costs (within regulator and regulated), Differentiation of power, Habituation*
Biodiversity	*Policy feedback * Economies of scale * Learning effects * Frame polarisation * Adaptative expectations * Habituation * Cognitive switching costs * Power differentiation * Turf protection*
Forestry	*Economies of scale (or absence), Frame polarisation, Cognitive switching costs, Adaptive expectations*
Heatwaves	*Responsibility avoidance, Frame (re-)production [others tbc]*
Mental health	*Learning effects * Habituation * Frame (re)-production * Policy feedback * Institutional learning effects * Escalation of commitment * Power differentiation*

Example: Lock-ins impacting mental health

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Adaptation gap: Preventative and integrated care

Example lock-in mechanisms within the health sector:

- **Frame (re)production** - describes how the framing of problems and their solutions are constructed and reproduced (and potentially institutionalised).
- Evident in the **institutionalised paradigm of healthcare** ('curative' model) and **embedded in the education and training** of medical practitioners
- Progress – e.g. Health and Care Bill to establish integrated care systems, and current "Mental health and wellbeing plan: discussion paper"

> *It took me a number of years on the front line to realise that the medical model that we're all wedded to in our society, which is a technological, sort of pharmaceutical and interventionist model, with a very linear process of history, investigations, diagnosis, treatment […] linear processes don't work for complex system […] But it's very,* ***very hard to break the existing habits and training.***

> ***It's not really part of what we see as our job,*** *so there's a big question then why not?*

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Example: Lock-ins impacting biodiversity

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Adaptation gap: Restoration at-scale

Example lock-in mechanism within agriculture:

- **Economies of scale** driven via CAP
- **Adaptive expectations**, amongst retailers and consumers, driving demand for cheap food
- **Power differentiation** - large supermarkets have a monopoly on food retail and setting the price point, which drives *economies of scale*
- Opportunities created by withdrawal from CAP and new Environmental Land Management Schemes (ELMS)

British farmers forced to pay the cost of supermarket price wars

"…the price point is set and ultimately you've got to find a way to produce to that price point and if you … as the value of units of production has fallen, farmers find a way of trying to be more efficient to produce to that price point.

… I think once you've offered the consumer that level of choice at the price point that they've got it, it's very difficult to walk away from… while it's the cheapest common denominator which is the one that flies off the shelf, then that's the standard that everyone's going to produce to… ***farming is definitely part of the solution but markets and consumers are a crucial part*** *…"*

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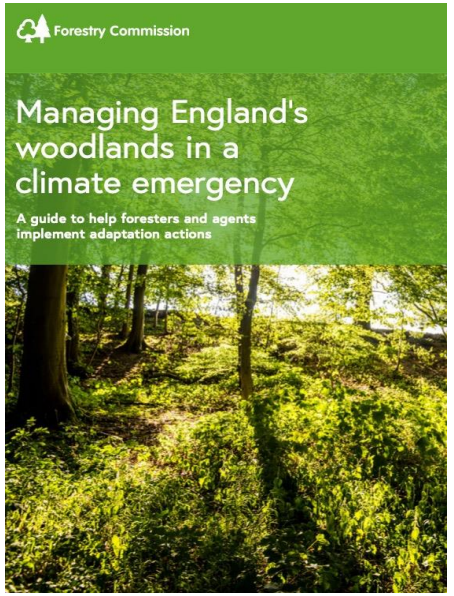
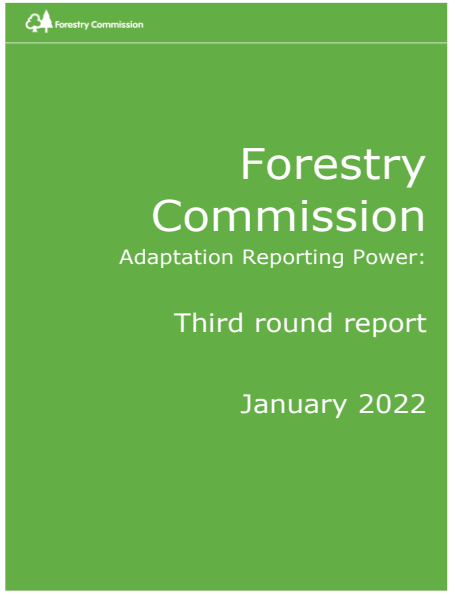
Example: Lock-ins impacting Forestry & Woodlands

Adaptation gap: Diversification/ management of existing woodlands and forests

Some example lock-in mechanisms:

- **Economies of scale (or *lack* thereof)**
  - profit-maximisation still favours large-scale monoculture plantations, despite risks
  - smaller woodlands - where ownership fragmented - *lack* such economies
- **Frame polarisation –** divergence of values and beliefs across groups causes certain adaptation strategies (e.g. 'assisted migration') to become contested
- ***Both linked to cognitive switching costs?***





'The divergence of the wider forestry sector in addressing adaptation has become apparent over the past five years, with resistance to … assisted migration from some where nature conservation is the principal objective, even when applied solely to production forestry' (Forestry Commission 2022).

Example: Lock-ins impacting Water

Adaptation gap: Demand management

Some example lock-in mechanisms:

- **Adaptive expectations** – Societal/ political expectation that water be available as a cheap commodity undermines case for greater efficiency, some potential innovations.
- Regulator/companies relationship – expectations of what investments Ofwat will allow, based on past experience, may shape company plans.
- **Responsibility avoidance** – Govt has left onus with private sector (until recently), lagged on legislation for consumer products, buildings etc, encouragement of metering.

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Some cross-cutting power dynamics

- **Power differentiation** in spatial planning
  - In local planning since 2012, official 'viability' requirements, protecting 'realistic' developer returns, may have tipped scales against more sustainable urban development, where this is deemed more costly.
  - Reliance of political parties on donations from property sector likely to constrain policy choices (Transparency International UK, 2021)
- **"Cutting red tape"** discourse, a key feature of the Nature Recovery Green Paper, speaks to the underlying interests of developers and the economic growth agenda - evidence of *power differentiation* 'unlocking' change in a way that could be detrimental for nature recovery
- **Power asymmetries in Whitehall: Treasury rules!**
- **Responsibility avoidance** and coordination deficits between government departments.

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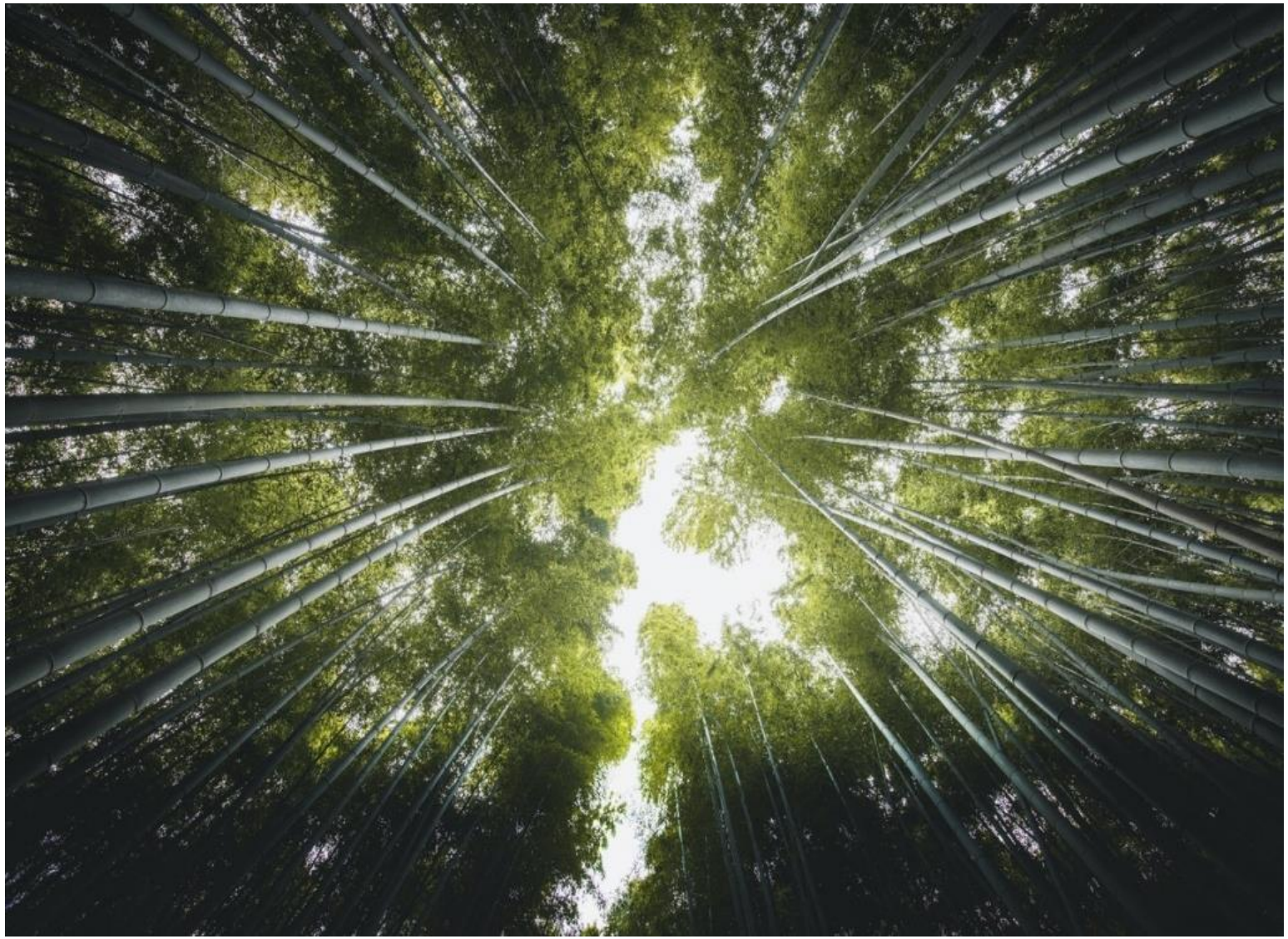
Conclusions

Implications and next steps



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Key messages

- Political, institutional, behavioural and infrastructural forces interact to create and maintain lock-in dynamics in ways that reinforce adaptation gaps
- Different degrees of lock-ins – this needs to be unpicked further!
- Current opportunities to loosen/dissolve lock-ins – if done right!
- Added value of taking a processual perspective to examining lock-ins
  - 'Mapping' sticking points in the system
  - Identifying underlying driving forces of resistance

Next steps

- **Analysis still ongoing – feedback very welcome!**
- Currently working towards a comprehensive national causal loop diagram and cross-country comparisons
- Implications for targeting and tailoring **'unlocking' interventions**
  - Where to prioritise interventions (e.g. cross-sectoral lock-ins with co-benefits across adaptation challenges? Those with the longest lead time for action?)
  - Intervention points (e.g. targeting specific entities within the mechanism itself or through changing the enabling contextual conditions)? Modes of leverage?
- Longer-term goal to inform guidance for identifying presence of lock-ins and how to reconfigure lock-ins to avoid maladaptation

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