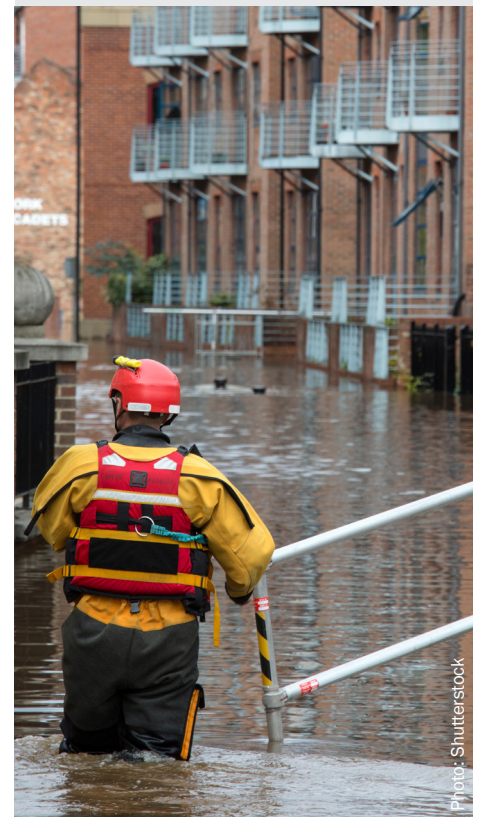


Unlocking UK climate adaptation finance: lessons from adaptation investment planning

Summary

- The UK faces a considerable gap between the need to adapt to the impacts of climate change and the scale of finance accessible to support that adaptation. Adaptation investment planning has emerged as a key strategy to help close the gap.
- The UKRI-Defra-funded ATTENUATE project is developing a new Adaptation Investment Framework that will provide a toolkit for the Government, real economy actors, and financial institutions to mobilise adaptation investment through planning across different levels of governance.
- To develop the framework, we are drawing on lessons from guidance and strategies for adaptation investment planning developed around the world.
- We have identified 37 enabling conditions relevant to the UK context to integrate into an investment planning process. They are grouped under five themes: mainstreaming sustainable finance; multi-level governance and coordination; supportive policy and regulation; skills, competencies and capabilities; and decision-relevant data, evidence and future scenarios.
- An Adaptation Investment Framework responding to these enabling conditions and aligned with the UK's domestic needs should:
 - » Be practical for use at every level of government (UK, devolved administration, combined authority, local)
 - » Address the barriers, enablers and motivations for investment
 - » Facilitate investments that support both incremental and systemic change.
- The framework should maximise the private sector's potential for funding and financing adaptation, based on possible returns and characteristics of goods (public/private). This should help identify where private capital can invest on largely commercial terms, where government intervention (funding, standards, risk-sharing, incentives) is needed to enable private participation, and where public sector delivery is preferable.

Authors: Rachel Harrington-Abrams, Kit England, Kate Gannon, Sara Mehryar, Anna Beswick, Denyse S. Dookie, Francisco de Melo Virissimo, Ashley Thornton, Matt Ellis, Paul Watkiss and Bill Donovan.



This policy brief synthesises findings from a review of global knowledge on adaptation investment planning frameworks and enabling conditions to inform the development of a multi-level Adaptation Investment Framework (AIF) for the UK. The framework will provide a delivery and financing approach to help actors across all levels of government translate priorities in the UK Climate Change Risk Assessment (CCRA) and National Adaptation Programme (NAP) into pipelines of bankable adaptation projects and promote changes to the enabling environment.

Context: rising climate impacts, growing financing gap

The UK is facing urgent climate risks, such as extreme flooding and heat, with projected impacts across economic sectors, from agriculture to energy supply. Large flows of public and private finance are needed to enhance the UK's climate resilience. Yet there is a significant adaptation investment gap, with persistent challenges in the planning, financing and delivery of adaptation measures (UNEP, 2025). The Climate Change Committee has called for clearer goals, regulatory expectations and funding signals to mobilise investment for resilience (CCC, 2023).

The cost of inaction is high. The monetary valuation of risks and opportunities prepared for the third UKCCRA highlighted that without further action, the costs of selected climate risks would be in the billions every year by the middle of the century (Watkiss et al., 2021). Subsequent analysis suggests costs could be between 1% and 1.5% of gross domestic product by 2045, rising to 4% by the end of the century (Watkiss, 2022). Adaptation costs are hard to assess due to limited finance tracking, but indicative work for the UK suggests that planning, facilitating and implementing adaptation measures will require investment ranging from £5 billion to £10 billion per year into 2030 (ibid.). From a societal perspective, these costs are relatively affordable and have high economic benefits (e.g. benefit–cost ratios from 2:1 to 10:1, Watkiss et al., 2021), but low rates of financial return and low revenues.

Yet adaptation costs are continuing to rise as we fail to meet mitigation targets under the Paris Agreement and experience even more acute climate change impacts (UNEP, 2025). The forthcoming 'Well-Adapted UK' report, part of the UKCCRA, will likely include updated estimates of the costs of adaptation. Ensuring that up-front financing and long-term funding are scaled up in accordance with rising adaptation needs is critical to avoid further widening this gap. If financing and funding are not increased, it could undermine economic competitiveness, expose public institutions and assets to escalating costs, increase fiscal exposure where insurance coverage retreats or prices rise, and make wider public policy goals harder to achieve. Adaptation finance is also often framed in terms of mobilising near-term capital, yet many adaptation needs require sustained funding for long-term capability, preparedness and coordination, rather than project-by-project investment. Without durable access to finance and funding, anticipatory efforts often remain incremental and maintenance-oriented, as evident in flood risk planning (Sayers et al., 2022), with limited investment in deeper system transformation.

“Large flows of public and private finance are needed to enhance the UK’s climate resilience. Yet there is a significant adaptation investment gap, with persistent challenges in the planning, financing and delivery of adaptation measures.”

Barriers to finance

Given these challenges, unlocking broader public and private sector investment in adaptation is essential. Yet, while the theoretical underpinning of why the private sector should act as both financier and funder of adaptation is becoming clearer, its role in this, to date, has been limited in practice (CCC, 2025). Further, private finance is often discussed in terms of how it can be mobilised or aligned to support adaptation, rather than in relation to the wider market imperfections and institutional constraints that shape investment decisions. In practice, expectations of climate risk ownership and wide-ranging investor requirements influence how adaptation is financed, how it is delivered and the forms of adaptation that are pursued and prioritised.

Mobilising adaptation finance depends on understanding and addressing barriers to finance, as well as considering the roles and motivations of the public and private sectors. In well-functioning markets the private sector will fund adaptation where it avoids costs and/or delivers partial market returns, while public sector interventions for adaptation typically relate to addressing market failures or providing public goods (of which adaptation involves many, e.g. improved health or productivity).

Analysis of the UK context is still nascent, but common barriers to finance are:

- Market failures, including public goods characteristics and positive externalities
- A lack of revenues, including limited rates of return or long paybacks
- Information gaps and low investment because of uncertainties and risks financing the project's implementation; these can be compounded by project structures
- Governance and coordination failures
- Regulatory needs, including changing frameworks to enable and incentivise investment
- Operational implementation challenges.

Overcoming these barriers requires deliberate public policy action to change the enabling environment and align markets with societal goals.

Guidance for adaptation investment planning is being developed around the world, including within Europe. However, while the UK's adaptation cycle includes public sector risk assessments and place-based adaptation plans, currently there is no investment planning process that integrates finance from the outset, produces project pipelines and ensures budget integration with government planning. UK guidance to date on adaptation investment has primarily focused on physical climate risk appraisal and financing within the private sector (e.g. CCRI, 2025).

Findings from a global review

While guidance for net zero investment planning is well-developed, equivalent frameworks for adaptation are just emerging. Our review of global knowledge of adaptation investment planning identified 29 guidance documents (see [Annex 1](#)) produced by international organisations, consultancies, coalitions and expert groups. Some encompass general guidelines for reforming the national enabling environment and for planning at the subnational level, while a subset describe a specific adaptation investment framework or process targeted at other geographies.

“Mobilising adaptation finance depends on understanding and addressing barriers to finance, as well as considering the roles and motivations of the public and private sectors.”

Adaptation investment frameworks provide a structured approach – sometimes accompanied by a planning and financing process or toolkit – that translates high-level adaptation objectives and planning into investable projects and programmes at local, regional and national scales. For example, some provide a strategic framework for embedding adaptation into macro-fiscal frameworks and aligning public instruments and institutions to de-risk and crowd in private and public finance. These frameworks are important for facilitating adaptive actions because most national adaptation plans and programmes do not automatically produce pipelines of financed projects.

Across the frameworks reviewed, most are targeted at developing country contexts, although some strategies are being developed for the EU, particularly at the subnational level. None are inherently designed for multi-level governance. Government-facing frameworks identify policy building blocks and processes for investment planning, budget integration and mobilisation (see Table 1 for examples). Meanwhile, some global investor-facing resources guide the private sector on climate risk assessments for assets and supply chains, as well as strategies to invest in adaptation measures that provide financial opportunities and contribute to overall economic resilience. Subnational models help regional and local entities to identify investment needs and possible funding sources and develop a pipeline of bankable projects.

Most of these frameworks have emerged within the last five years and are only now being tested in practice (e.g. the Asian Development Bank’s Climate Adaptation Investment Planning [CAIP] programme in the Philippines and Nepal), so there is limited evidence on effectiveness to date; however, early analysis from the ADB indicates additional loans and sectoral grant support are being mobilised through investment planning.

Lessons for the UK from global frameworks

Our review highlights relevant lessons for developing a UK-specific, multi-level Adaptation Investment Framework. While existing frameworks of this kind vary in their definitions, processes, scale and sectoral focus, all include a strategy for identifying and prioritising projects that accounts for uncertainties and variable economic and climate pathways and an approach to mobilising finance from diverse sources. This suggests a UK AIF process could be anchored in public financial management (PFM) and investment management processes, and aligned with wider near-term sector priorities. The AIF should improve project viability and bankability (e.g. ensuring the project is well designed, has a clear delivery plan, has mitigated risks and has a plan to repay the original lending) through sequencing and prioritisation, quantifying economic, financial and fiscal benefits and activities to matchmake funding sources with need or build bespoke financing models. An AIF should also include efforts to improve the wider enabling environment.

Our review also identified gaps and challenges relevant to developing and applying a UK AIF. Many of the existing frameworks implicitly assume a linear pathway from guidance and planning, through pipelines and finance, to delivery. In practice, adaptation investment is often constrained by upstream social and political factors that shape whether technical, financial and institutional enablers are activated at all. These factors include competition with more immediate priorities, ambiguity over ownership and responsibility, challenges sustaining commitment across electoral cycles and the difficulty of framing adaptation benefits that are long-term or largely invisible. Addressing these requires iterative processes that link project development with enhancement of the wider enabling environment and market-based approaches.

“Adaptation investment frameworks provide a structured approach that translates high-level adaptation objectives and planning into investable projects and programmes at local, regional and national scales.”

Additionally, despite expanding guidance on adaptation investment planning, there is limited systematic ex-post evidence – including counterfactual analysis – on whether these frameworks have delivered further or higher-quality adaptation investment, reduced long-term climate risk, or demonstrably shifted capital allocation. This highlights the need to treat an AIF not as a solution in itself, but as a hypothesis to be tested, evaluated and refined through practice – suggesting a rich area for action-oriented research.

Table 1. Synthesis of further considerations for a multi-level UK Adaptation Investment Framework

Framework	Primary purpose	Lessons for the UK context
Global – National governments		
OECD Climate Adaptation Investment Framework (CAIF)	<p>Strengthens enabling conditions for adaptation investment by addressing policy gaps and improving coherence. It identifies six critical policy areas:</p> <ol style="list-style-type: none"> 1. Strategic planning and policy coherence 2. Regulatory alignment 3. Insurance and risk transfer 4. Public finance and investment 5. Sustainable finance 6. Support and incentives for private investment. <p>Aims to clarify responsibilities and ensure adaptation priorities translate into financeable strategies.</p>	<p>Focus on regulatory alignment and risk-transfer mechanisms could inform UK reforms to embed resilience into financial regulation.</p> <p>Demonstrates need for incorporating adaptation finance tracking into UK national reporting systems and linking incentives for private investment to resilience outcomes.</p>
United Nations Development Programme (UNDP) Climate Change Financing Framework (CCFF)	<p>Integrates climate priorities into PFM systems through climate screening, medium-term expenditure frameworks, budget reforms and tracking systems.</p> <p>Lessons from global developing country applications show a need to:</p> <ul style="list-style-type: none"> • Value losses and damages • Strengthen budget tracking/tagging • Invest in capacity building for end-users of climate information. 	<p>Offers lessons on use of budget and expenditure tagging to improve transparency in financial tracking for adaptation.</p> <p>Highlights the need to focus on valuing climate risks and losses for integrating longer-term risk and impact assessments into macroeconomic planning.</p>
The Green Climate Fund (GCF) & NDC Partnership Climate Investment Planning and Mobilization Framework (CIPMF)	<p>Moves the National Adaptation Programme (NAP)/ Nationally Determined Contributions (NDC) process from investment planning to finance mobilisation through coordination and pipeline development</p> <p>Follows six stages and 18 components –</p> <p>for investment planning:</p> <ol style="list-style-type: none"> 1. Capacity building 2. Prioritisation 3. Financing strategy <p>and for mobilisation:</p> <ol style="list-style-type: none"> 4. Partner programming 5. Project development 6. Implementation. 	<p>Model process to create an adaptation investment coordination unit.</p> <p>Strategies for linking local projects to national priorities and designing blended finance structures to attract private capital alongside public funds.</p>

Framework	Primary purpose	Lessons for the UK context
Regional – National governments, Asia/Pacific		
ADB's Climate Adaptation Investment Planning Process (CAIP) (Asia)	<p>Five-step iterative process:</p> <ol style="list-style-type: none"> 1. Reviewing context 2. Conducting localised climate diagnostics 3. Prioritising investments 4. Linking with public financial management systems 5. Identifying financing opportunities. <p>Used for national development plans and donor pipelines, focusing on macro-fiscal and budget integration alongside prioritisation and pipeline preparation. Early-stage consultation with investors proven critical to success.</p>	<p>Shows how adaptation can be mainstreamed into fiscal planning.</p> <p>Applicable guidance includes requiring sector-specific risk assessments, linking adaptation priorities to budget allocations, and creating investment pipelines aligned with Treasury spending reviews and local authority financing strategies.</p>
Subnational		
Pathways2Resilience Adaptation Investment Cycle (Europe)	<p>Supports European regions in developing climate resilience strategies and investment pipelines through a six-step process:</p> <ol style="list-style-type: none"> 1. Defining context 2. Diagnosing financing barriers 3. Identifying investment needs 4. Building plans and pipelines 5. Matchmaking for bankable projects 6. Monitoring and learning. 	<p>Incorporating the use of economics and financing approaches into adaptation planning cycles can reframe the narrative on adaptation from a cost to an investment, diversify sources and instruments, help identify high-level financing approaches for sectors and hazards and improve project bankability.</p>
CLIMATEFIT's Investment Strategies & Plans (Europe)	<p>Develops a high-level 'investment strategy' and an associated 'investment plan' to define funding streams and pilot bankable investment cases.</p> <p>Amplifies local public authority capacity to attract and disburse public and private finance.</p> <p>Convenes Local Resilience Task Forces (LRTs) to create a solutions space between public and private entities towards identifying bankable opportunities on adaptation.</p>	<p>Convening project promoters and funders to co-develop innovative solutions through place-based mechanisms could provide a useful model for diversifying local and regional funding strategies.</p>
Investors		
Institutional Investors Group on Climate Change's (IIGCC) Climate Resilience Investment Framework (CRIF)	<p>Helps institutional investors manage physical climate risks and identify opportunities for adaptation investment through a process-based approach covering scoping, materiality assessment, resilience building and value enhancement (including residual risk transfer).</p> <p>Demonstrates how private capital can adopt adaptation-relevant criteria and allocation while interfacing with public frameworks through metrics and pipeline access.</p>	<p>UK planners across scales can embed CRIF principles by requiring resilience metrics in investor reporting and promoting financial instruments such as catastrophe bonds and insurance-linked securities to manage residual risk.</p>

Enabling conditions for unlocking adaptation finance

Beyond assessing the main components and focus areas of global AIFs, our review also explored the role of enabling conditions in adaptation investment planning. These individual enabling conditions serve as levers of change and collectively shape the 'enabling environment' which encompasses the policies, mandates, institutions, information, incentives and market infrastructures that determine whether adaptation priorities can be translated into investments (Tall et al., 2021). While some global guidance details the role and characteristics

of enabling conditions (e.g. CPI, 2021), most existing frameworks highlight the importance of these conditions but do not necessarily elaborate on how to integrate them within investment planning processes.

We identified 66 initial enabling conditions through our review. We assessed these for relevance to the UK and identified a working typology of 37 conditions. We summarise these conditions at a high level across five overarching categories below:

1. Mainstreaming into the financial sector

Adaptation investment planning requires a coherent approach linking adaptation priorities to financing strategies and instruments. A robust sustainable finance regime can create positive incentives for investment, with mainstreaming through appropriate entry points in the financial sector as a key enabler.

While the UK already has some robust elements of a sustainable finance regime, existing financial instruments require better alignment for adaptation. Some of these activities, such as pricing of physical climate risk and developing taxonomies for adaptation (e.g. LNAS, 2024), have been initiated in the UK but these efforts still need integration within the broader public financial management system. This can be encouraged through disclosure requirements, climate risk stress testing and pricing physical climate risk into financial markets.

2. Effective, multi-level governance, coordination and institutional arrangements

Strong institutional arrangements and effective multi-level governance are foundational for scaling up adaptation finance. Across local, regional and national levels, adopting an economy-wide rather than project-based approach – integrating fiscal frameworks, regulations, data and investor needs – can create more strategic access to public finance and help unlock private capital. The Organisation for Economic Co-operation and Development’s (OECD) Climate Action Investment Framework (CAIF), for example, prioritises policy coherence and clear mandates across finance, planning and sectoral ministries, supported by coordination units that link national priorities to subnational implementation. Since many powers, responsibilities and capabilities are distributed among different governance levels, coordination across actors and levels is critical, including to ensure adaptation is integrated with budgeting systems (CPI, 2021). Clear leadership and identification of relevant entry points for impact are also essential to create consistent flows of finance and develop durable, bankable project pipelines.

Within the UK, there is evidence of efforts to strengthen horizontal coordination at different levels (e.g. the UK Cross Departmental Climate Resilience Board, or the West Midlands Adaptation Network), and some early signs of vertical coordination (e.g. through the Local Adaptation Advisory Panel). However, governance across levels remains fragmented, and coordination on investment planning is needed to ensure coherence across policy, regulations and incentives from the local to the national level.

3. Supportive policy and regulation

Policy and regulatory frameworks are important levers for embedding resilience across planning and financial systems, shaping how climate risk is assessed, valued and acted upon in investment decisions. Legal frameworks may require clarification and coordination to enable investment. Targeted regulations can therefore drive compliance with adaptation objectives (e.g. incorporating assessment of overheating in building regulations). The OECD’s CAIF, for example, recommends setting standards based on resilience objectives and ensuring private sector alignment through climate risk reporting.

“While the UK already has some robust elements of a sustainable finance regime, existing financial instruments require better alignment for adaptation.”

Supportive policies can enable fiscal incentives and market mechanisms. Examples include the UK's FloodRE insurance mechanism which provides affordable cover while seeking to transition to market prices in the long term. Similarly, economic regulators of infrastructure (e.g. electricity or water), can require consideration of adaptation, which crowds in new investment. Governments can also create new financial resources and instruments such as dedicated funds, concessional and blended finance facilities, bonds and guarantees. Guidance from the World Bank (Tall et al., 2021) highlights resilience bonds and insurance as tools to transfer risk and attract institutional investors, emphasising that these must also be integrated through public financial and investment frameworks.

The UK Government has taken initial steps in this area, including by introducing resilience standards for infrastructure which incentivise investment by utility companies, and overheating assessments for new homes which require housebuilders to include adaptation options (HM Government, 2025). Green Book recommendations also integrate climate uncertainty into public appraisal methodologies which require public decision-makers to mainstream consideration of climate risks into spending decisions (Defra and HM Treasury, 2025). However, despite these examples, mainstreaming across sectors and aligning investor priorities with adaptation investment needs remain limited.

4. Skills, competencies and capabilities

Institutional capacity and technical skills feature prominently as key enablers across global guidance. The OECD's CAIF emphasises the need for capacity building in strategic planning, financial structuring and risk appraisal across government sectors and from local to national levels. Similarly, the World Bank and Pathways2Resilience both identify the need for specific training programmes for public authorities and financial institutions to integrate resilience into decision-making.

How projects are planned can affect the types of funding that are accessible, as well as longer-term outcomes throughout the adaptation cycle. Early project preparation with safeguards to reduce transaction costs and risk for investors can enable crowding in of private sector investors (Tall et al., 2021). Using monitoring and evaluation frameworks to track adaptation outcomes is also essential for iterative learning (CPI, 2021).

In the UK, even where policy measures appear relatively advanced, capacities and skills are not always robust enough to implement them – as evident in flood risk management where persistent gaps in programme management, engineering and planning continue to obstruct implementation (CCC, 2023). Links to wider economic policy on skills and training and strategic leadership on investment planning will therefore both be important. A co-creation approach – as used in the ATTENUATE project (Beswick et al., 2025) – can further activate collective skills and capabilities by drawing on diverse stakeholder experience to improve uptake and implement improvements (Mauser et al., 2013).

5. Data, evidence and future scenarios

Robust data systems, credible evidence and compelling narratives underpin the enabling environment for adaptation finance. The CAIF identifies consistent climate risk information, standardised metrics and transparent disclosure as essential for prioritisation and appraisal. Reliable metrics on risks and impacts can make it easier to match potential investors with adaptation needs. UK guidance reinforces this by requiring explicit consideration of climate uncertainty in public investment decisions, supported by improved analytics and scenario planning (Defra and HM Treasury, 2025). Some jurisdictions (e.g. France, the Netherlands and the EU) are considering common reference scenarios

“In the UK, even where policy measures appear relatively advanced, capacities and skills are not always robust enough to implement them.”

— levels of resilience under particular warming levels or hazards — which can reduce uncertainty when costing and appraising investments, and support whole-economy approaches. These enablers are closely linked with skills and capabilities since access to robust climate information is essential but also dependant on stakeholders’ ability to use the data effectively.

One underexplored way to integrate data and evidence with long-term economic and investment planning is using physical climate ‘storylines’. Storylines are structured narratives grounded in physical climate science that connect plausible climate futures with socioeconomic developments, making complex risks and uncertainties more tangible for decision-makers (Shepherd et al., 2018). Storylines have the potential to be integrated into investment planning strategies across different levels of governance, as will be explored through the ATTENUATE project (see Box 1).

Box 1. The enabling role of climate storylines in adaptation finance

In contrast to traditional ways of presenting climate information, a climate storyline explicitly represents the dynamic evolution of a climate event, how it unfolds, and its consequences. By contextualising data and evidence within relatable scenarios, storylines help stakeholders understand not just what could happen, but how and why certain climate impacts might unfold, and what this means for investment planning. This approach is particularly valuable in adaptation finance, where uncertainty and system interdependencies often challenge, if not prevent, decisive action. For example, in the context of elevated temperatures and flooding, traditional investment frameworks may focus narrowly on historical data or probabilistic forecasts, potentially overlooking emerging risks, especially those from low-likelihood but high-impact events. Through storylines, decision-makers can explore a wider range of plausible futures, identify critical vulnerabilities, and consider adaptive strategies that might otherwise be overlooked.

The ATTENUATE project is pioneering the use of storylines in public adaptation investment planning by co-creating storylines with case study stakeholders to bridge the gap between climate science, economic analysis and practical investment decision-making. Bespoke storylines are being co-developed and tested with stakeholders (Beswick et al., 2025) to explore their potential to address behavioural and institutional barriers to adaptation investment, and to support more forward-looking scaling and targeting of adaptation finance across sectors and governance levels.

Considerations for a UK-specific adaptation investment framework

There is no technical solution to adaptation investment planning. What works will vary across places and sectors due to differences in institutions, conventions, mandates, coordination capacity and local priorities. However, our global review highlights several relevant insights for unlocking public and private adaptation finance in the UK, through the development of a multi-level UK AIF:

- **The enabling conditions most important for unlocking adaptation investment — from policies and regulations, to upskilling and data-informed decision-making — will vary by governance level and stakeholder need.** A UK AIF will require the alignment of planning and budgeting across central government spending cycles, sector regulators and local authority capital and asset management processes. Thinking about enabling conditions as a system, rather than individually, can help decision-makers focus effort on the combinations of actions that unlock adaptation investment most effectively — some must be sequenced, some work only in combination, others can conflict.
- **Integrating a two-way feedback process between the adaptation investment planning process and the wider enabling environment and macro-economic conditions is key to addressing barriers.** Adjusting national and subnational enabling environments to reflect barriers identified during investment planning can help establish strategic directives that support

adaptation investment across governance levels. For example, scaling up lessons from local-level investment planning can support the mainstreaming of adaptation, aligning local and national planning cycles and strengthening connections between planning and budgeting. Similarly, information gaps identified through investment planning can be linked to wider efforts to address market imperfections. In addition, adaptation investment planning can serve as a platform for trialling improvements to the enabling environment, addressing both barriers to investment and underlying market imperfections and externalities. A UK AIF should be designed less as a fixed blueprint and more as a learning-oriented framework, supporting testing, reflection and adjustment over time, rather than assuming a single, stable definition of success. The framework should be used in an active learning context and shaped by the specific institutional and coordination contexts in which it is applied.

- **There is a gap across existing adaptation investment frameworks in other parts of the world regarding investor attitudes and motivations.** Much of the existing global guidance assumes actors will mobilise resources once institutional conditions exist, with less focus on the political, psychological and social factors that influence real-world investment behaviour. Yet adaptation financing is not only a technical process; successful investment planning will need to account for the behavioural and decision-making factors that enable or constrain how organisations and investors translate adaptation priorities into practice. These factors are largely absent from current investment planning practices, and the challenge of closing this gap will likely require a broader range of knowledge and expertise to be brought to bear – including from behavioural, political and social sciences.
- **Capability-based approaches could address organisational and capacity dimensions underemphasised in existing adaptation investment frameworks and contribute to a stronger enabling environment.** While not specifically this kind of framework, lessons can be drawn from Adaptation Scotland’s Adaptation Capability Framework (2024), which focuses on organisational culture, strategy and collaborative capabilities to help organisations embed adaptation into operations. The framework is targeted at major organisations to help build the business case for investment in adaptation using the Green Book Five Case Model, with a process for influencing broader enabling conditions for systems change. A review for the Climate Ready Clyde initiative similarly considers how values could be integrated as an enabling condition, to better capture how change occurs within social systems (E3G and Climate-KIC, 2020). A UK AIF could incorporate a capability diagnostic alongside technical investment planning to evaluate the strength of enabling conditions, including human skills and institutional capabilities.

The ATTENUATE project is responding to these challenges by developing a UK-focused AIF and testing this through three case studies, at national, regional and local levels in the UK. This initial set of case study testing will be complete in 2027 paving the way for wider rollout of the AIF across different contexts. The AIF is being developed with active involvement from public, private and philanthropic stakeholders, and will provide a toolkit for the UK Government, real economy actors and financial institutions to diagnose strategies for mobilising adaptation investment through planning across governance levels. Through our science-driven co-creation approach, ATTENUATE aims to identify and activate the most impactful levers of change in the UK enabling environment, providing public and private decision-makers with the insights needed to unlock adaptation finance and support anticipatory action towards a resilient UK economy.

“Through our science-driven co-creation approach, ATTENUATE aims to identify and activate the most impactful levers of change in the UK enabling environment, providing public and private decision-makers with the insights needed to unlock adaptation finance and support anticipatory action towards a resilient UK economy.”

References

- Adaptation Scotland (2024) *Public Sector Climate Adaptation Capability Framework*. <https://adaptation.scot/app/uploads/2025/02/public-sector-climate-adaptation-handbook.pdf>
- Beswick A, Watkiss P, England K, Gannon K, De Melo Virissimo F, Mehryar S, et al. (2025) *ATTENUATE Co-creation Protocol (Report)*, ATTENUATE Project. London: Grantham Research Institute on Climate Change and the Environment. <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2025/08/ATTENUATE-Co-Creation-Protocol-July-2025.pdf>
- Climate Change Committee [CCC] (2023) *Investment for a well-adapted UK*. <https://www.theccc.org.uk/publication/investment-for-a-well-adapted-uk/>
- Climate Change Committee [CCC] (2025) *Progress in Adapting to Climate Change: 2025 Report to Parliament*. Progress Reports (Adaptation). London: CCC. <https://www.theccc.org.uk/publication/progress-in-adapting-to-climate-change-2025/>
- Climate Policy Initiative [CPI] (2021) *The State of Cities Climate Finance*. Climate Policy Initiative. <https://www.climatepolicyinitiative.org/publication/the-state-of-cities-climate-finance/>
- Coalition for Climate Resilience Investment [CCRI] (2025) *The Physical Climate Risk Appraisal Methodology (PCRAM) 2.0 (No. 2.0)*. Coalition for Climate Resilience Investment (CCRI), IIGCC, Mott MacDonald. <https://www.iigcc.org/resources/the-physical-climate-risk-appraisal-methodology-2.0>
- Defra, HM Treasury (2025) *Green Book Supplementary Guidance: Climate Change and Environmental Valuation*. <https://www.gov.uk/government/publications/green-book-supplementary-guidance-environment>
- E3G, Climate-KIC (2020) *Political Economy Mapping of Adaptation and Climate Resilience in Glasgow City Region: Pilot Study Findings*. Climate Ready Clyde. https://climatereadyclde.org.uk/wp-content/uploads/2024/08/Glasgow_Political_Economy_Mapping_climate-kic_041420.pdf
- HM Government (2025) *The UK Government Resilience Action Plan: The UK's Strategic Approach to Resilience*. https://assets.publishing.service.gov.uk/media/687508b6cfc3756455bb69af/UK_Government_Resilience_Action_Plan_-_Accessible_PDF.pdf
- Land, Nature, and Adapted Systems Advisory Group [LNAS] (2024) *Framework to Develop a UK Green Taxonomy for Adaptation and Resilience*. LNAS, Green Finance Institute. <https://www.greenfinanceinstitute.com/wp-content/uploads/2024/12/LNAS-Framework-to-develop-a-UK-Green-Taxonomy-for-adaptation-and-resilience.pdf>
- Mauser W, Klepper G, Rice M, Schmalzbauer BS, Hackmann H, Leemans R, et al. (2013) Transdisciplinary global change research: the co-creation of knowledge for sustainability. *Current Opinion in Environmental Sustainability* 5(3–4): 420–431. <https://doi.org/10.1016/j.cosust.2013.07.001>
- Sayers P, Moss C, Carr S, Payo A (2022) Responding to climate change around England's coast – the scale of the transformational challenge. *Ocean and Coastal Management* 225: 106187. <https://doi.org/10.1016/j.ocecoaman.2022.106187>
- Shepherd TG, Boyd E, Calel RA, Chapman SC, Dessai S, Dima-West IM, et al. (2018) Storylines: an alternative approach to representing uncertainty in physical aspects of climate change. *Climatic Change* 151(3): 555–571. <https://link.springer.com/article/10.1007/s10584-018-2317-9>
- Tall A, Lynagh S, Blanco Vecchi C, Bardouille P, Montoya Pino F, Shabahat E, et al. (2021) *Enabling Private Investment in Climate Adaptation and Resilience: Current Status, Barriers to Investment and Blueprint for Action*. Washington DC: World Bank. <https://doi.org/10.1596/35203>
- United Nations Environment Programme [UNEP] (2025) *Adaptation Gap Report 2025: Running on Empty – The World is Gearing up for Climate Resilience – Without the Money to Get There*. <https://doi.org/10.59117/20.500.11822/48798>
- Watkiss P (2022) *The Costs of Adaptation, and the Economic Costs and Benefits of Adaptation in the UK*. Policy Paper. Paul Watkiss Associates, Climate Change Committee. <https://www.theccc.org.uk/wp-content/uploads/2023/01/The-Costs-of-Adaptation-and-the-Economic-Costs-and-Benefits-of-Adaptation-in-the-UK-Paul-Watkiss.pdf>
- Watkiss P, Cimato F, Hunt A (2021) *Monetary Valuation of Risks and Opportunities in CCRA3*. Supplementary Report for UK Climate Change Risk Assessment 3, prepared for the Climate Change Committee, London, UK. <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/Monetary-Valuation-of-Risks-and-Opportunities-in-CCRA3.pdf>

About the authors

Rachel Harrington-Abrams is a Research Officer at the Grantham Research Institute on Climate Change and the Environment, LSE.

Kit England is a Senior Climate Adaptation Specialist at Paul Watkiss Associates and Visiting Fellow at Grantham Research Institute on Climate Change and the Environment, LSE.

Kate Gannon is an Assistant Professorial Research Fellow at the Grantham Research Institute on Climate Change and the Environment, LSE.

Sara Mehryar is an Assistant Professorial Research Fellow at the Grantham Research Institute on Climate Change and the Environment, LSE.

Anna Beswick is a Senior Policy Fellow at the Grantham Research Institute on Climate Change and the Environment, LSE.

Denyse S. Dookie is a Research Fellow at the Grantham Research Institute on Climate Change and the Environment, LSE.

Francisco de Melo Virissimo is a Research Fellow at the Grantham Research Institute on Climate Change and the Environment, LSE.

Ashley Thornton is a Project Manager at the Grantham Research Institute on Climate Change and the Environment, LSE.

Matt Ellis is a Senior Advisor in the Future Funding Department at the UK Environment Agency.

Paul Watkiss is the Director of Paul Watkiss Associates.

Bill Donovan is a Senior Advisor in the Future Funding Department at the UK Environment Agency.

Acknowledgements

An earlier version of this brief was circulated at the ATTENUATE Co-Creation Workshop on 28 January 2026 at LSE and the authors are grateful to the participants for their feedback. The authors would also like to thank Candice Howarth, Swenja Surminksi, Ariana Jessa and Sandie Gene Muir for their review. Sarah King copy-edited the brief, Georgina Kyriacou provided editorial oversight and it was designed by Joseph Adjei.

Funded by UK Research & Innovation (grant number UKRI282).

DOI: 10.21953/researchonline.lse.ac.uk.00137986

Disclaimer and copyright

The views expressed in this policy brief represent those of the authors and do not necessarily represent those of the host institutions or funders. The authors declare no conflict of interest in the preparation of this brief.

Licensed under CC BY-NC 4.0. Commercial permission requests should be directed to gri@lse.ac.uk

It was first published in April 2026 by the Grantham Research Institute on Climate Change and the Environment.

© The authors, 2026.



ATTENUATE – Creating the enabling conditions for UK climate adaptation investment – is a collaborative project focused on unlocking private sector funding for climate adaptation, building the case for greater public sector investment, and addressing governance barriers to investment. Led by the Grantham Research Institute on Climate Change and the Environment in collaboration with the Environment Agency, Green Finance Institute, Love Design Studio, Paul Watkiss Associates, the Met Office and the University of Bath, the project is funded by the UKRI-Defra 'Maximising UK Adaptation to Climate Change' programme.

For more information, visit www.lse.ac.uk/granthaminstitute/projects/attenuate