

Recommendations: Policy and governance



Heading	Intention	Recommendation	Output	Timescale	Benefits
Review	To understand how our existing built environment is performing as a system of systems. To identify how to deliver improved outcomes from the built environment, with a particular focus on sustainable growth and climate resilience. To unlock all the other recommendations below.	Commission the “Built Environment Systems Review”. Demonstrate the economic value of the existing built environment. Evidence the link between the performance of built environment systems and sustainable economic growth. Evaluate the current performance of the existing built environment in delivering key outcomes and identify tangible actions to address gaps and barriers. Publish an influential report with clear insights and practical recommendations for systems improvement	A published influential report demonstrating potential cost savings, increased efficiency, and enhanced economic value. The approach for this report should be similar to that of HMT’s Infrastructure Carbon Review (2013). It is proposed that the review should be commissioned by HMT and be sponsored by the Infrastructure Client Group (ICG).	24 months (a year to set up and a year to deliver)	Mission alignment – Helps to deliver sustainable growth and climate resilience. Clarity and ownership – Establishes clear responsibilities and actions across government to improve system performance. Baseline for improvement – Provides a clear baseline for improvement and supports positive systems change aligned with government missions and future risks. Evidence base – Provides evidence to support action towards implementing positive system changes. Action agenda – Sets an agenda for positive tangible action. Reinforced purpose - Emphasises the built environment’s purpose to deliver social, environmental, and economic outcomes.
Policy	To improve cross-departmental policymaking for the built environment. To maximise the value gained from the built environment, seen as outcomes/£(TOTEX). To address interconnected challenges, and to provide solutions that are strategic, long-term and joined up.	Create an “Office for Systems Responsibility”. Empower a body with the remit to challenge the connectedness of built environment policies across government departments and with local government. Whether this body is new or the extension of an existing body, it should have sufficient independence to provide effective challenge. Develop outcome-focused policy objectives (and investment decisions) that are based on a comprehensive understanding of system performance.	An effective body with clear cross-department responsibilities. Improved outcomes/£(TOTEX).	36 months	Policy coherence and coordination – Enhances policy coherence and coordination across departments. Risk management and resilience – Enhances interdependency management, risk management, and resilience. Accountability and transparency – Increases accountability and transparency in policymaking. Mission delivery – Maximises the societal outcomes from interventions and increases the capacity to achieve government missions. Complex problem-solving – Improves the ability to solve complex problems.
Oversight	To improve the long-term effectiveness of the built environment. To improve cross-sector regulation and the scrutiny of systematic risks. To provide ongoing systems-based overview of the built environment.	Create the “Built Environment Commission”. Empower a body with the remit to oversee the performance of the built environment as a whole. Whether this body is new or the extension of an existing body such as NISTA, it should provide a joined-up overview. [While the existing remit of NISTA focuses on the delivery of new infrastructure, this recommendation focuses on improving the whole-life, whole-system performance of the existing built environment as well.] Reform regulatory frameworks to require cross-connection between regulators in the built environment. Give regulators objectives and metrics that are related to the delivery of outcomes. Create a clear overview of interdependencies, with associated risks and opportunities. Include data and digital infrastructure within the remit of the body.	An effective body with a clear overview of the built environment. Cross-sector regulatory collaboration. Improvements in outcomes from the built environment.	24 months	Decision-making – Improves cross-sector decision-making, with more strategic and informed decisions. Sustainability – Improves long-term focus and future-proofs development. Improved long-term political and economic planning. Public confidence – Enhances public trust and confidence with better public understanding and engagement in built environment policy. Economic and resource efficiency – Increases efficiency in resource allocation, reduces wastage, and improves economic stability and growth. Enhances value of investments during planning, design, build, and operation. Collaboration and coordination – Improves collaboration and coordination between regions, nations, and central government. Achieves more effective outcomes from the development of the built environment.

Recommendations: People and capabilities



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Competencies	To develop industry-wide capability in systems thinking. To ensure that there are sufficient individual skills and corporate capabilities to implement systems approaches in the built environment. To enable the education system at all levels to equip individuals with the necessary skills to handle complexity.	Embed systems thinking in education and training curricula. Define and establish the competencies required for systems thinking and leadership in order to implement systems approaches in the built environment, and set them out in a clear and effective competency framework. Integrate systems thinking in education at all levels, with a focus on secondary and tertiary education and training. Conduct an audit to understand the current education baseline and identify gaps. Include systems competencies in the requirements for the UK specification for MEng and standards for chartered professional status.	A clear and effective competency framework that enables capability to be built. Systems thinking clearly integrated into syllabuses for STEM degrees and other relevant fields. Competencies for systems thinking and leadership incorporated in standards for chartered professional status.	24 months	Capable industry – Contributes to a more capable, collaborative, and innovative built environment, equipped to address complex challenges through a systems approach. Clear competency framework – Provides a clear and effective framework for managing competencies. Ensures that the necessary skills and capabilities are developed and maintained. Future capability building – Enhances the growth of future capability within the built environment. Professional standards alignment – Aligns competencies with professional standards, such as those required for charterhip. Enhanced collaboration and innovation – Fosters a culture of systems thinking, leading to increased opportunities for innovation.
Leadership	To create a cadre of leaders who will unlock the benefits of systems thinking in the built environment. To develop future leaders with a sufficient understanding of systems thinking to achieve better outcomes. To enable ‘governance for complexity’ as well as leaders who can deal better with complexity individually.	Roll out systems leadership development programmes. Collaborate with academia and professional organisations to develop systems leadership development programmes for leaders in industry and government. Include systems thinking capabilities as a requirement in role descriptions for senior leaders in investment, policy, and engineering, with competencies agreed by professional institutions. Develop mentorship programmes where experienced leaders can guide emerging leaders.	Systems leadership is recognised as a key capability for leaders in investment, policy, and engineering. Systems leadership competencies appropriate for different roles, agreed by professional institutions.	24 months	Generation of systems leaders – Equips leaders to appreciate and drive the full benefits of systems thinking. At the highest level, it creates and sustains conditions that enable people and nature to flourish. Decision-making – Enhances understanding of systems and improves problem-solving and decision-making skills. Strategic thinking – Improves long-term strategic thinking by approaching problems holistically. Knowledge sharing – Improves the sharing of knowledge across institutions. Institutional capacity – Creates stronger institutions capable of making positive systemic change. Dealing with complexity – Enhances the capabilities of government officials and other stakeholders to deal better with complexity.
Network	To enable connected and aligned efforts across the built environment. To connect the communities and individuals who are leading systems change. To empower systems leaders, enabling them to access to the necessary tools, frameworks, and knowledge.	Establish the “Built Environment Connective”. Create a coordinated, collaborative systems leadership network, with clear remit, ToR and membership, to activate communities of action that will drive positive systems change in the built environment. Support the development of robust, flexible, and scalable programmes and initiatives to drive the change.	An active systems leadership network, with a clear remit, ToRs and membership. Connected communities of action driving positive systems change. A movement for change.	12 months	Systems change – Promotes positive systems change. Creates a collaborative, well-governed, and sustainable approach to systems thinking in the built environment, addressing complex challenges through enhanced collaboration, shared knowledge, and strategic governance. Connections across networks and sectors – Enhances collaboration and interdisciplinary engagement. Addresses silos, which is crucial for addressing complex challenges. Cultural shift – Fosters the development of a systems-thinking culture. Increases opportunities for innovation. Strengthens institutional partnerships. Shared understanding and resources – Facilitates the co-creation of resources, events, and thought leadership, promoting a shared understanding of systems thinking. Sustained impact and scalability – Supports the development of robust, flexible, and scalable programmes and initiatives that can be replicated internationally. Enables systems thinking to become business as usual in the built environment.

Recommendations: Frameworks and methodologies



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Framework	To embed systems thinking across the built environment. To create a framework and methodology for the built environment value chain, underpinned by our shared understanding. To share systems approaches that are proven to be effective.	Publish the PAS on “Systems approaches for the built environment”. Develop a coherent and scalable framework for applying systems thinking to built environment problems. Support this framework with practical methodologies, toolsets and case studies. Share the good practice that emerges from ‘learning by doing’. Consolidate the identified good practice in a Publicly Available Specification (PAS). [Start by focussing on the use of existing infrastructure and the circular economy. Include the management of infrastructure interdependencies.]	A PAS that is widely adopted. Shared methodologies, toolsets and case studies.	12 months	Common approach and language – Provides a starting point, frame of reference and common language for organisations across the built environment value chain. Consistent approach – Ensures a consistent approach to applying systems thinking in the built environment. Knowledge dissemination – Spreads good practices, leading to improved industry outcomes. Demonstrated utility – Convinces stakeholders of the benefits of systems approaches through championed case studies. Innovation and continuous improvement – Fosters rapid progress through shared methodologies, toolsets and case studies. Improved efficiency – Enhances the efficiency of infrastructure use and resource management through optimized interactions. Built environment performance – Enhances performance of the built environment in operation. Reduces risks and enhances resilience.
Platform	To facilitate knowledge sharing and collaboration. To provide stakeholders with readily available access to the resources they need to drive positive change and improve outcomes. To maintain positive connections between the stakeholder communities via effective communication.	Develop an information platform with active communication. Create a platform that connects people to valuable information and resources that are distributed among the stakeholder communities. This would include tools, methodologies, examples, case studies, guidance and the competency framework. Create an active online communications portal as part of the platform, with committed editorial/publishing input. This would be to connect the stakeholder communities with each other and with the emerging content.	A well-used platform as evidenced by the use statistics of the content. Regular valuable communication with and between the stakeholder communities.	12 months	Knowledge sharing and collaboration – Facilitates the exchange of information and collaboration among stakeholders. Readily available resources – Provides stakeholders with easy access to tools, methodologies, examples, case studies, guidance, and competency frameworks needed to drive positive change. Improved outcomes – Supports stakeholders in achieving better results through access to shared resources and knowledge. Effective communication – Maintains positive connections between stakeholder communities through an active online communications portal. Increased engagement – Encourages regular and valuable communication, as evidenced by the use statistics of the platform’s content.
Metrics	To account for the value of the built environment measured against current and future needs. To provide effective outcomes-focused systems metrics for the built environment. To establish a consistent set of metrics aligned with the shared theory of change for the built environment.	Develop outcomes-focused systems-based metrics. Collaborate with research and development centres to create systems-based metrics that indicate the value of systems thinking in the built environment. The metrics must relate to every part of the theory of change, from input and output to impact and outcome. Embed the metrics in government’s and regulators’ contracts and reporting structures. Communicate these benefits to investors, including performance and efficiency-related examples. Monitor the ‘value’ of the built environment against a set of system performance criteria on an ongoing basis. This ‘balance sheet’ approach for the built environment should independently account for the value of existing built systems measured against current and future needs.	Systems-based metrics embedded as a requirement in government’s and regulators’ contracts and reporting structures. Effective monitoring and evaluation.	12 months	Informed decision-making – Provides investors with clear performance and efficiency-related examples, aiding in informed decision-making. Enhanced accountability – Embeds systems-based metrics in government and regulatory contracts, enhancing accountability and transparency. Consistent monitoring and evaluation – Establishes a consistent set of metrics aligned with the shared theory of change, enabling consistent monitoring evaluation across the built environment. Demonstrated value – Indicates the value of systems thinking by relating metrics to every part of the change process, from input to outcome. Collaboration and innovation – Encourages collaboration with research and development centres, fostering innovation in metric development and application.