

The role of innovation in driving economic recovery

Keith Waller – March 2021

Agenda



Market context

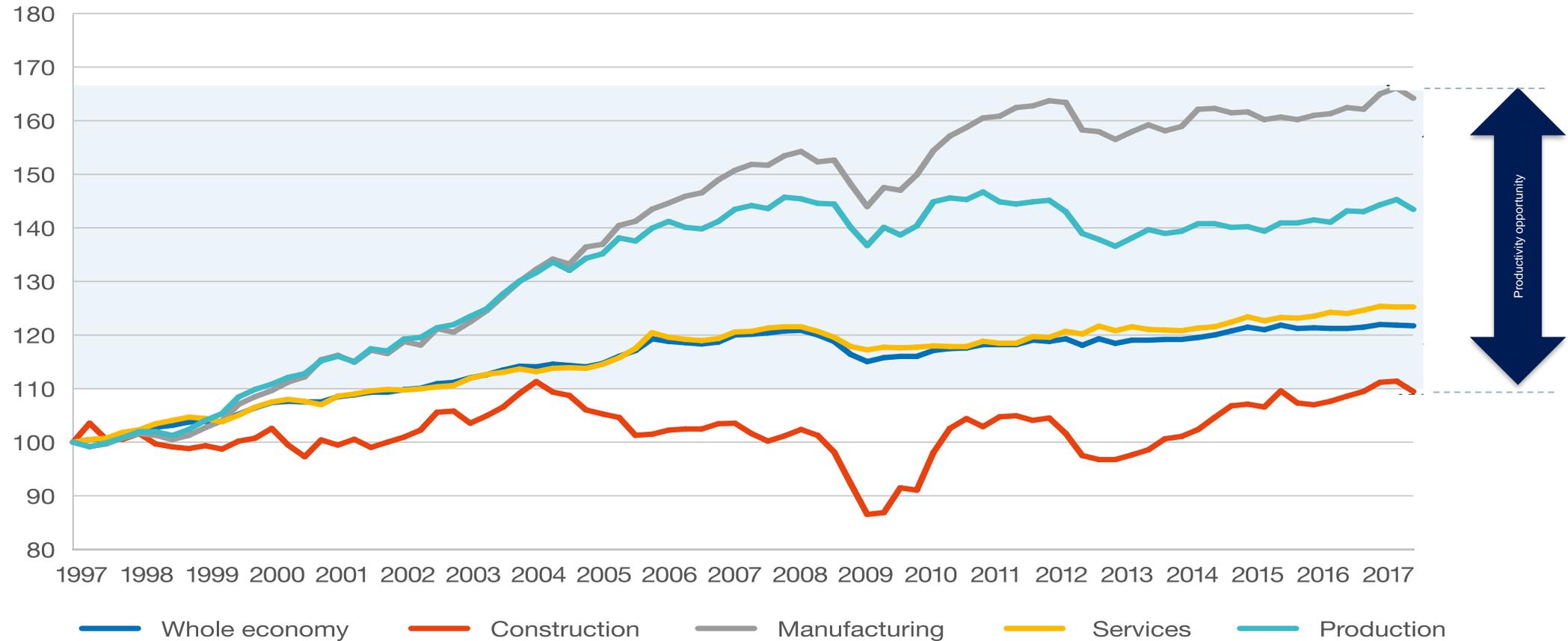
Policy context

Market response

Innovation paths

Summary

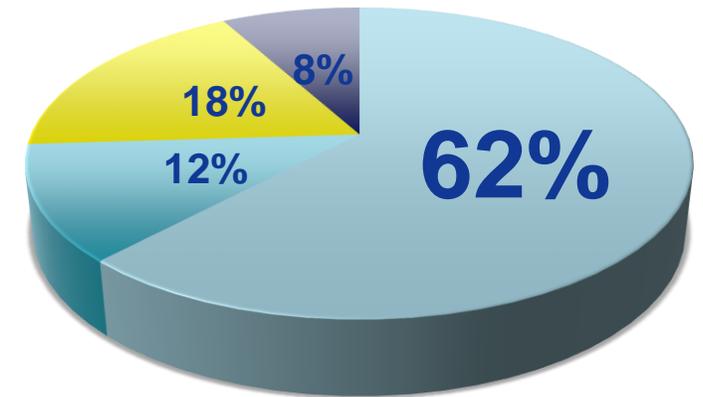
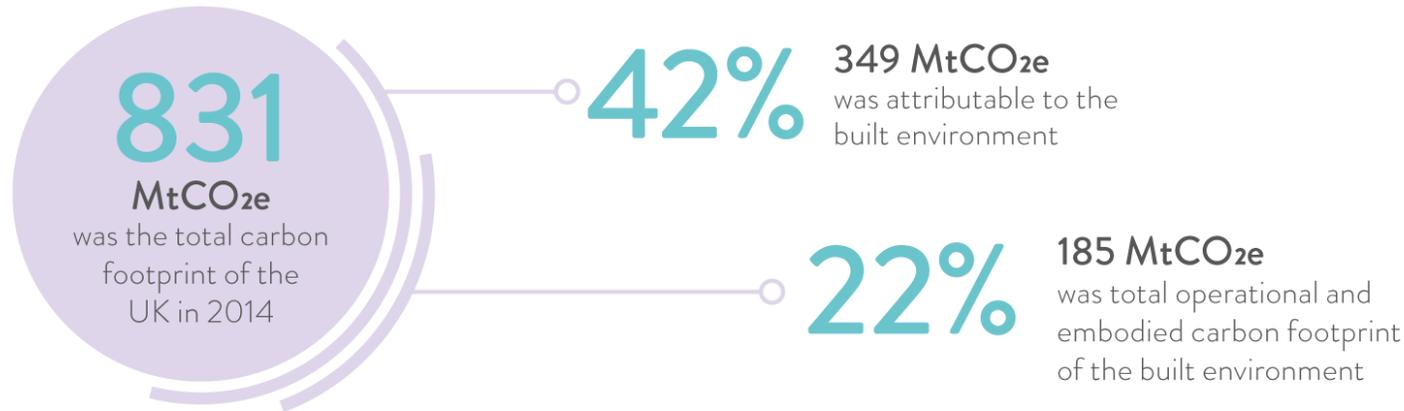
Productivity – a reminder



Source: ONS / Transforming Infrastructure Performance, IPA, 2017.

We are still wasteful and polluting

Carbon impact of the built environment



■ Construction & Demolition ■ Households
■ Commercial & Industrial ■ Other



We need something different



It is not enough to just do the same thing properly

It is not enough to do the same thing better

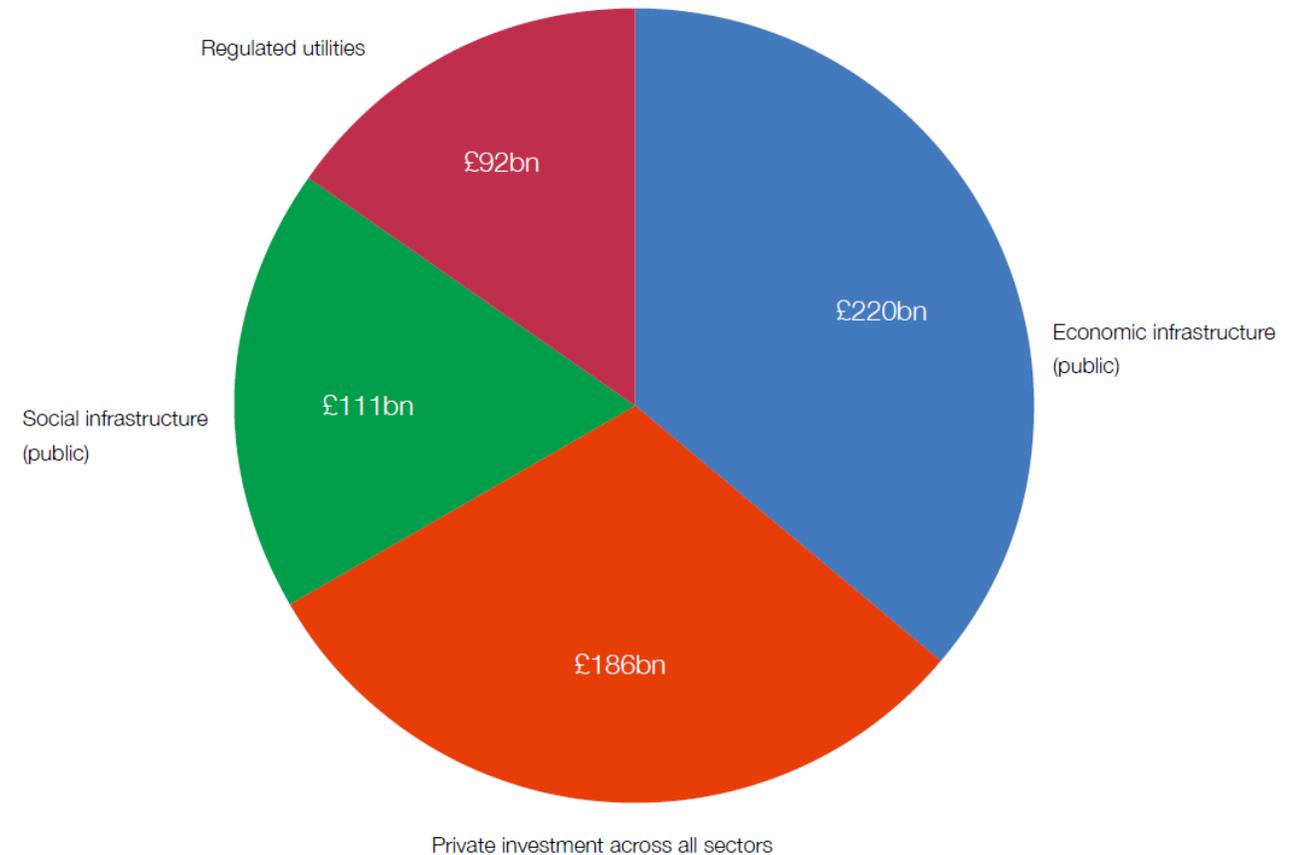
We need to do a better thing if we are to address the
critical challenges

Market context

- Investment in construction and infrastructure likely to grow as key element of economic recovery

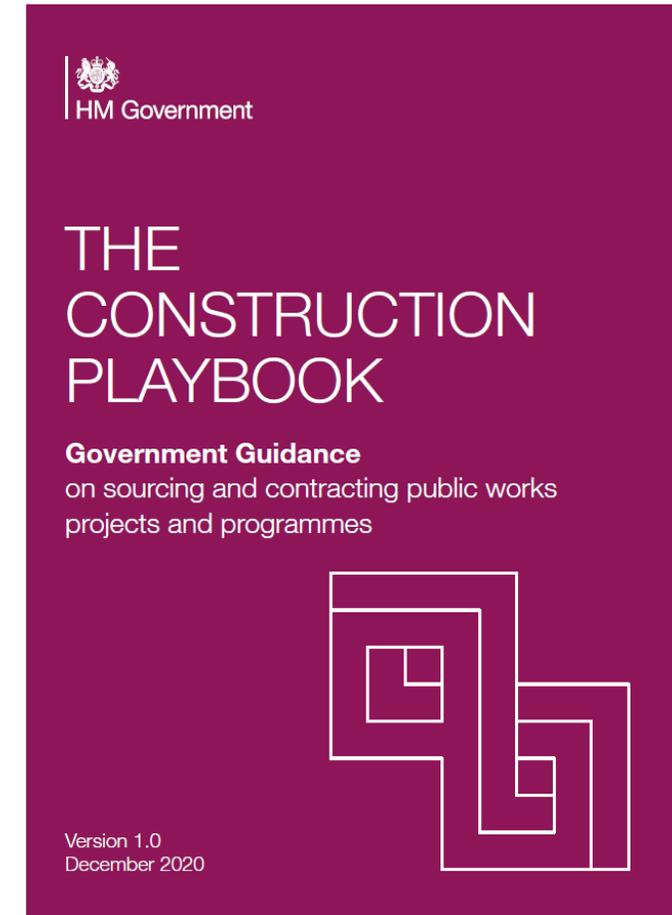
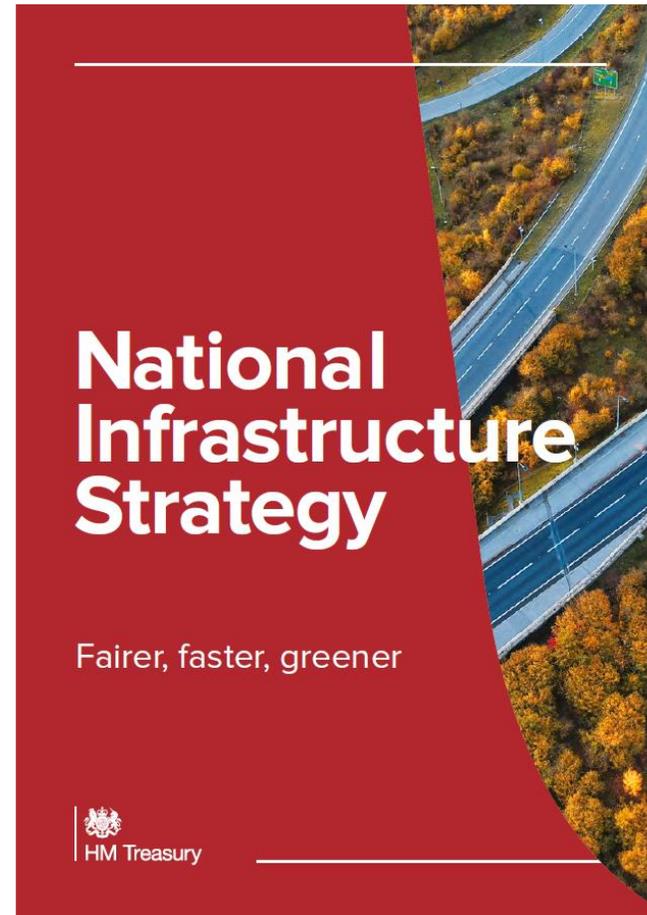


Chart 5: Over £600bn projected public and private infrastructure investment from 2018/19 to 2027/28 by sector



Policy context

- Moving – quickly – from not just “what”, but increasingly “how”
- Financial crisis response – focused on delivering **efficiency**
- Current context – more about delivering **value**
 - social impact, levelling up, net zero, whole life performance

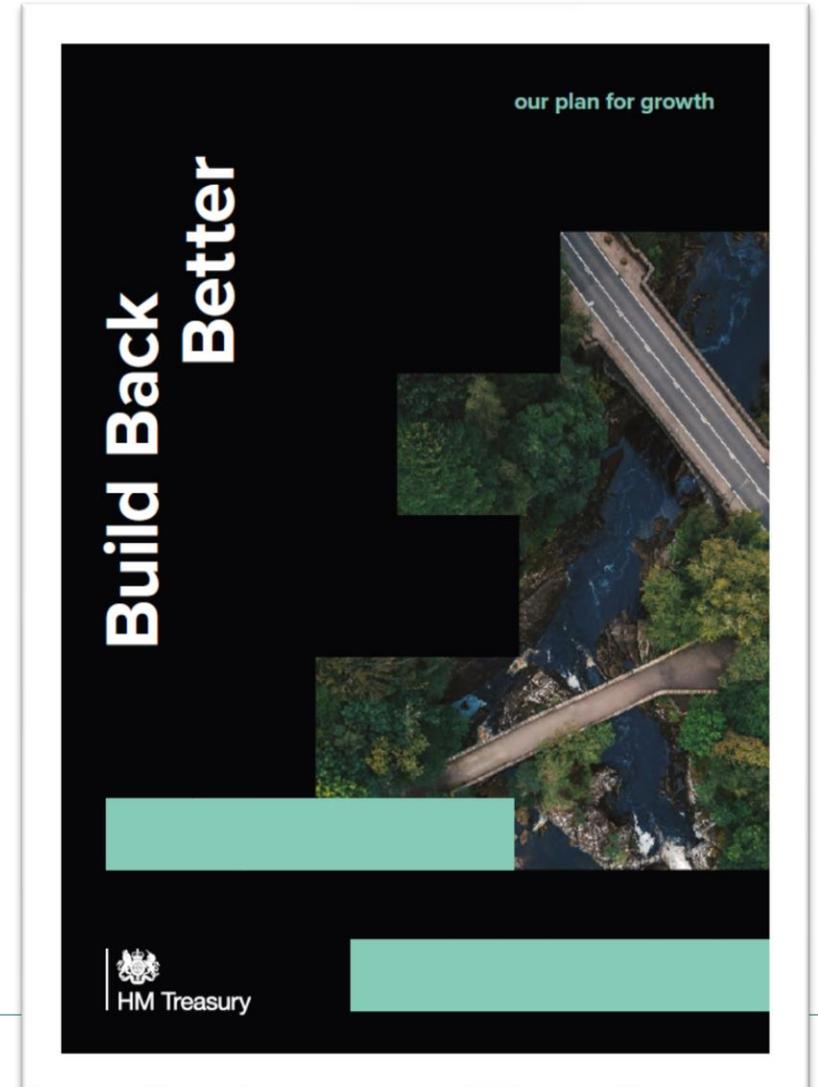


Transforming Construction

Budget 2021 set some challenges for our economic recovery

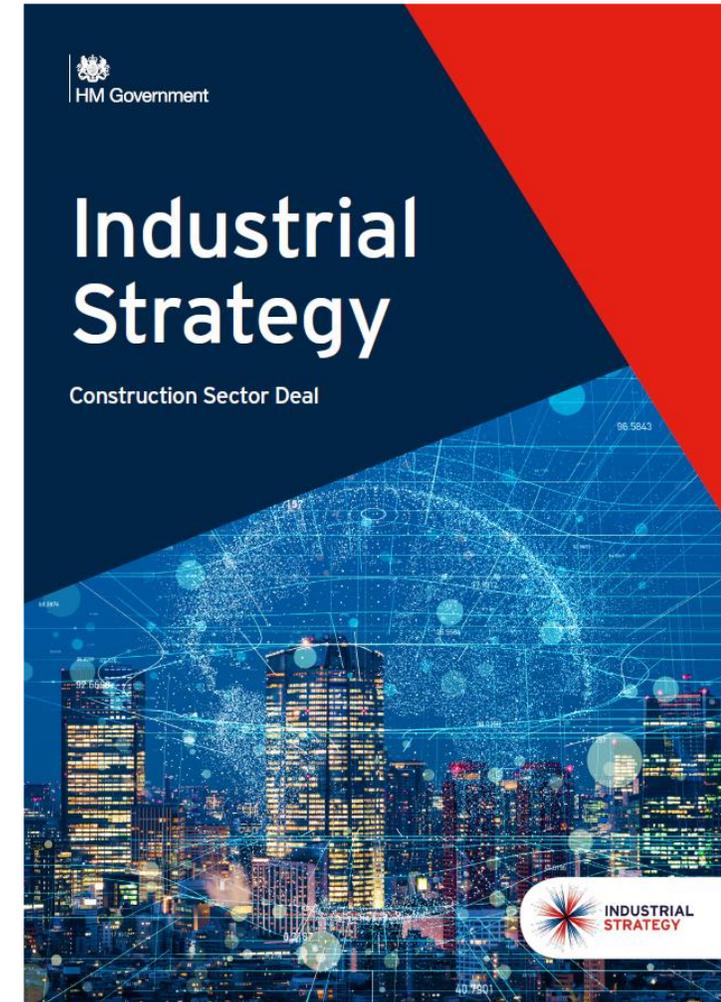
Build Back Better- three pillars of investment

- Skills
- Infrastructure
- Innovation



Market response

1. Long term plans for investment in construction and infrastructure
2. Policy landscape that is demanding a different response
 - Digital, manufacturing, value
3. In a sector with poor productivity growth, low levels of investment in R&D
 - So how to build on 1, take advantage of 2 and mitigate 3?



A funded programme

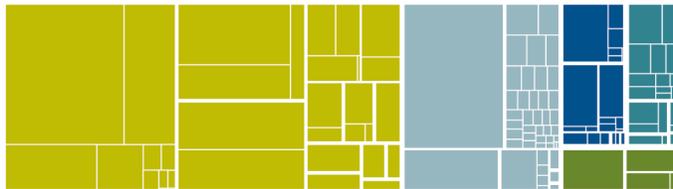


Manufacturing

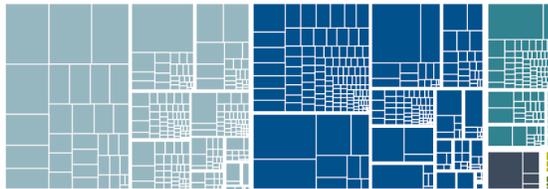
 Ministry of Housing, Communities & Local Government



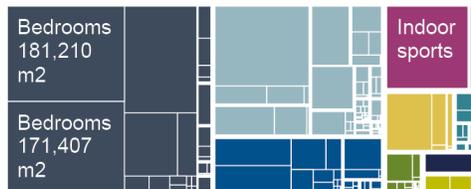
 Department for Education



 Department of Health & Social Care



 Ministry of Defence



 Ministry of Justice



Platform Design Programme:
Defining the Need

Construction Innovation Hub

January 2021

Defining the Need



Key insights

Findings from the Hub's analysis of a £50 billion DfE, DHSC, MoD, MHCLG and MoJ's five-year new build pipeline:

c£35bn

the estimated value of the pipeline that could be delivered with a defined range of mid-span (~8m) platform construction systems, based on geometry alone.

c£13bn

the estimated value of the pipeline that could be delivered with the Hub's Platform Construction System.

104

different names for toilet spaces across the estate. This highlights the need for a common, machine-readable, way of naming spaces to accurately analyse and harmonise future demand.

50%

More than 50 percent of space types across the pipeline are not department specific — hallways, bathrooms and storage areas could be delivered with a standardised platform solution.

38%

of spaces across the new build pipeline will be 'Residential Spaces', presenting a secondary market for the private sector. If the Hub's Platform Construction System demonstrates how it can be used to deliver 'more beautiful, more sustainable, better quality homes in all parts of the country', it could potentially be used to deliver private sector homes, student accommodation, and hotels domestically and internationally.

?

The majority of departmental specifications are open to interpretation. Units can vary across departments — . dB or NR are both used for acoustic performance. Improved standardisation of requirements — not least nomenclature — is needed to unlock the potential for solutions that deliver pan-government.

Trends

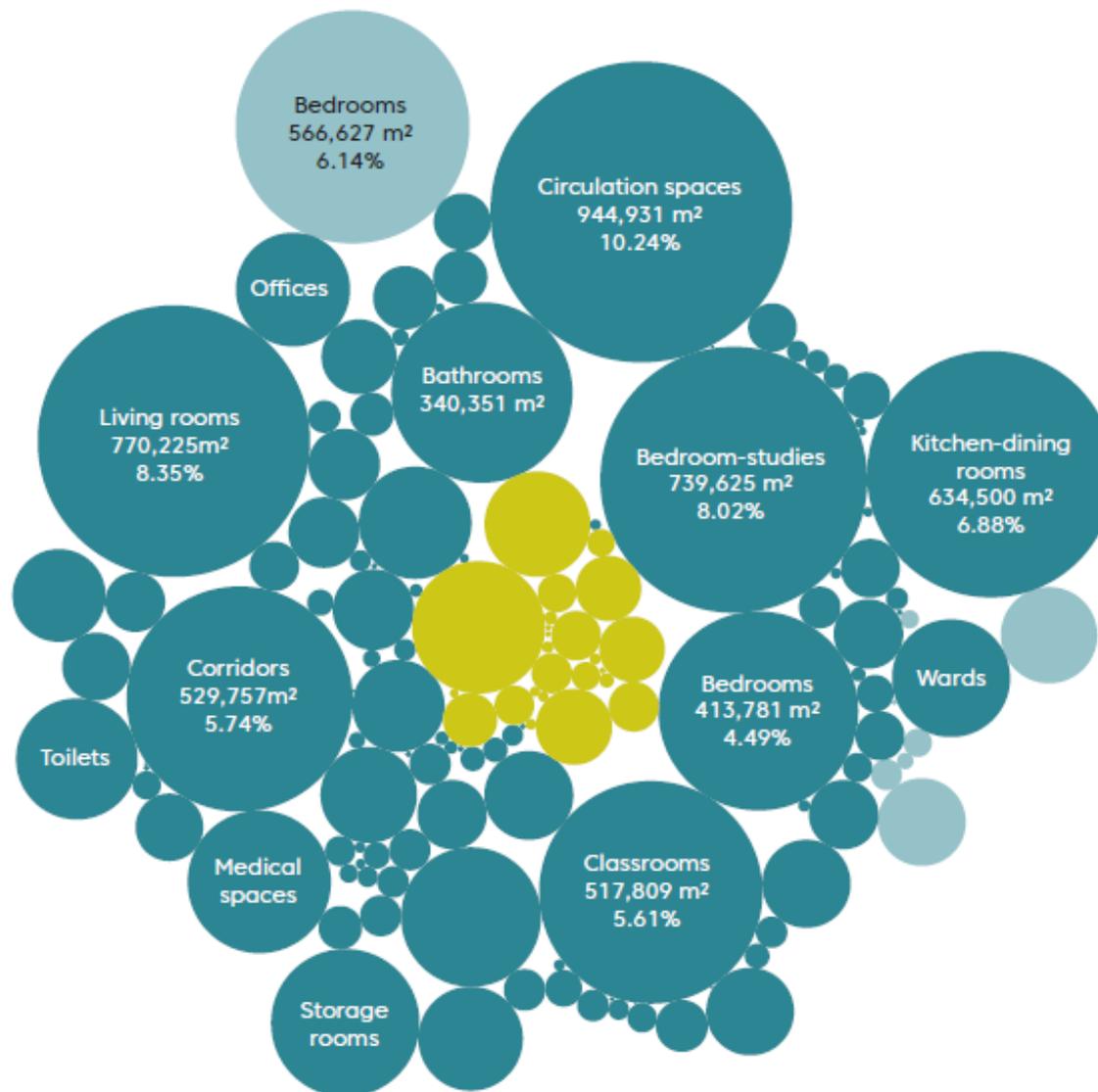
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The government is committed to bringing all greenhouse gas emissions to net zero by, or ahead of, 2050. Platform construction systems must understand and minimise their GHG emissions footprint throughout their lifecycles.

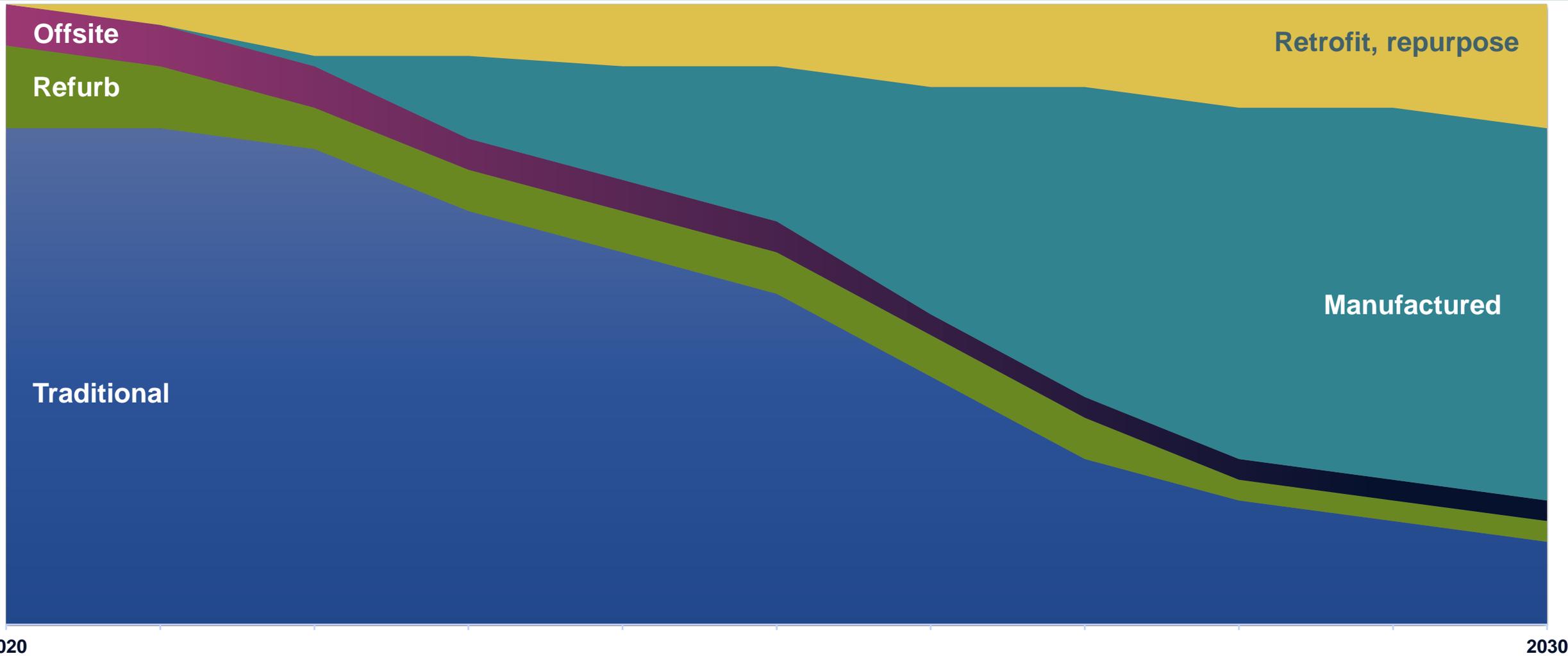


Buildings need to be highly adaptive so that they can be reconfigured/repurposed across the required 60-year service life.

Area of spaces



Vision – in 10 years time.....

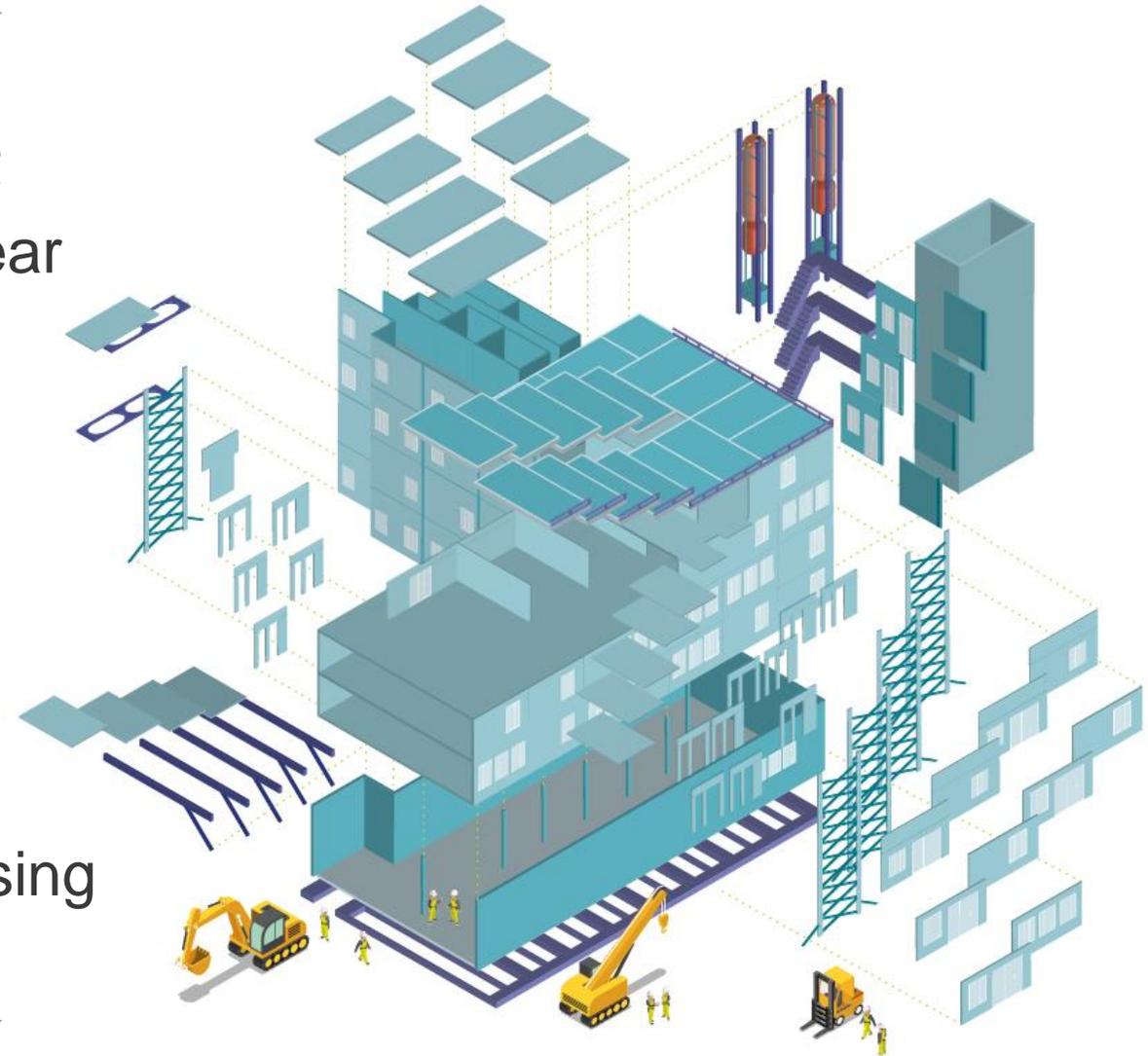


2020

2030

Manufacturing - Platforms

- Bringing learning from auto and aero
- About standardising process, not product
- We will publish Platform Rulebook this year
- Delivers:
 - Higher quality and safety
 - Less waste, less carbon
 - More speed, more predictability
 - Mass customisation, easier re-purposing



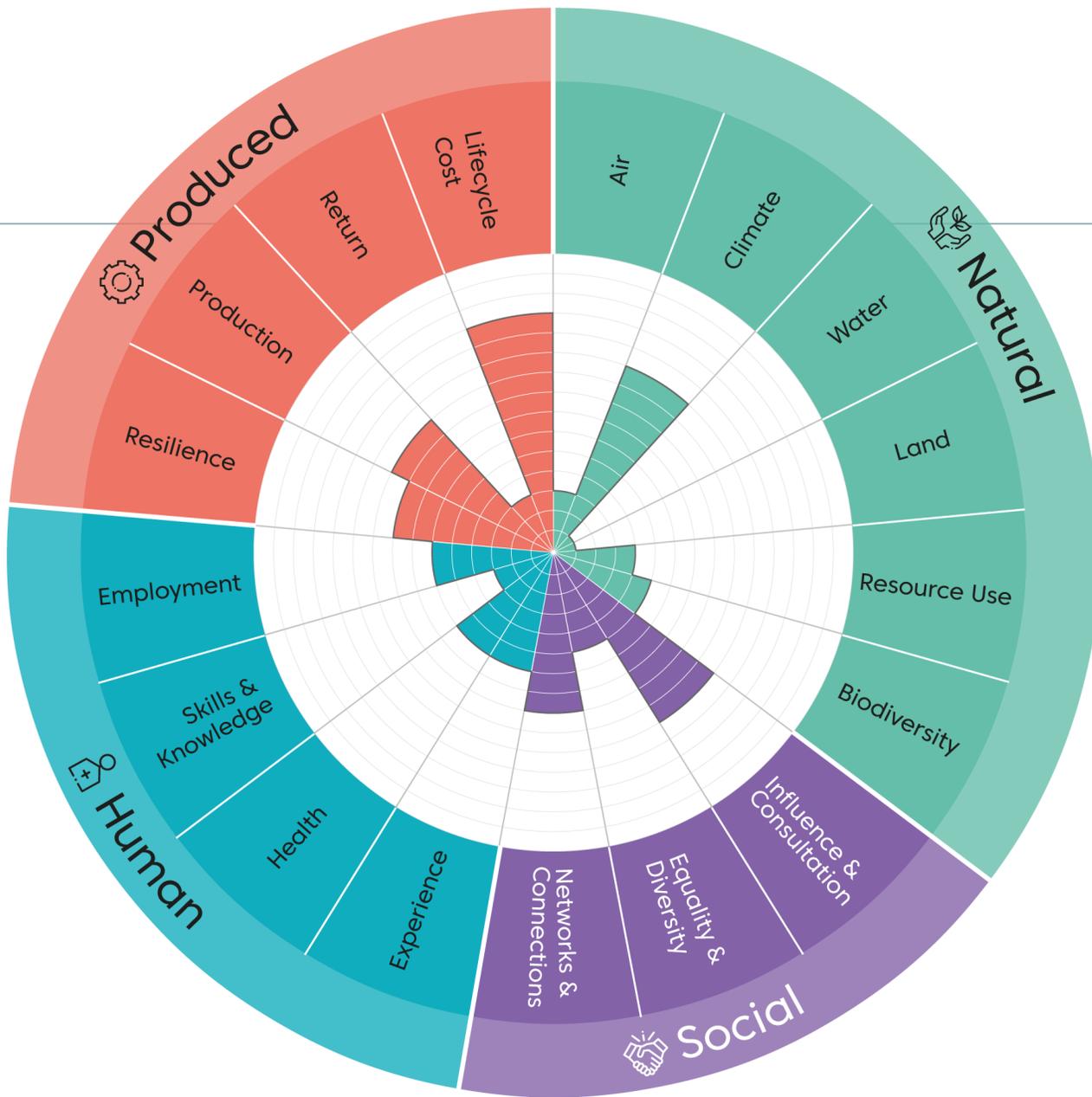
Value based decisions

The Value Toolkit is a suite of tools which empowers clients and policy makers to make more informed, value-based decisions.



VALUE TOOLKIT

It sets out a series of integrated activities - supported by digital tools and clear guidance – which should be undertaken by a client over the lifecycle of a project or programme to support value-based decision-making.



Value drivers give each scheme its unique **Value Profile** – set at the very inception of a scheme – which informs through life decision making, backed by a golden thread of digital data

3 essential innovation ingredients

1. Identify & develop solutions that can make a difference
2. Build appetite in clients so they see the value of adopting these solutions
3. Enable a market that can deliver these solutions to innovate, thrive and grow



Hub has the advantage of being publicly funded as a solution developer and a market enabler, not a market player.

Innovation – summary

- Clear appetite for the sector to innovate – from government, clients and businesses
- Working out what to do is easy, working out how to make it happen is hard
- Needs all three ingredients – solution, appetite and capability – to come together for innovation to succeed

