



**the construction industry –
delivering a green Manchester**

Egan key objective :

“ to achieve radical improvements in the design, quality, customer satisfaction and sustainability of UK construction ”



government strategy - 2025:

Lower costs

33%

reduction in the initial cost of construction and the whole life cost of built assets

Lower emissions

50%

reduction in greenhouse gas emissions in the built environment

Faster delivery

50%

reduction in the overall time from inception to completion for newbuild and refurbished assets

Improvement in exports

50%

reduction in the trade gap between total exports and total imports for construction products and materials



Industrial Strategy: government and industry in partnership



Construction 2025

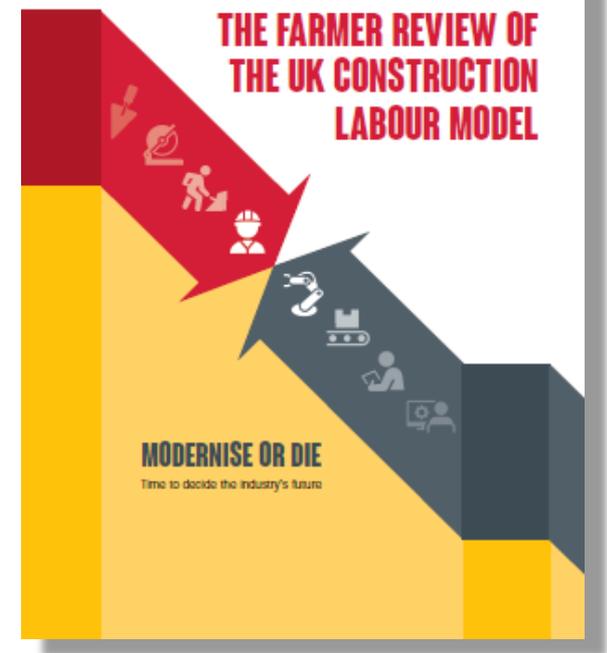
July 2013

A joint report of a Government and Industry working group

2013

modernise or die :

- Farmer identifies ' critical symptoms of failure and poor performance '
- the first issue is again productivity which leads to low profitability
- it locks us into a low wage, low skill economy relative to other industries
- We must ' invest in new technology and manufacturing capability to boost capacity and productivity reducing our reliance on labour '



smart construction :

the review includes construction as a key industry where significant gains in efficiency and productivity can be made

it seeks to ' transform the UK industry by ensuring digitalisation at scale to realise productivity increase and the creation of highly skilled jobs '



Government ambitions:

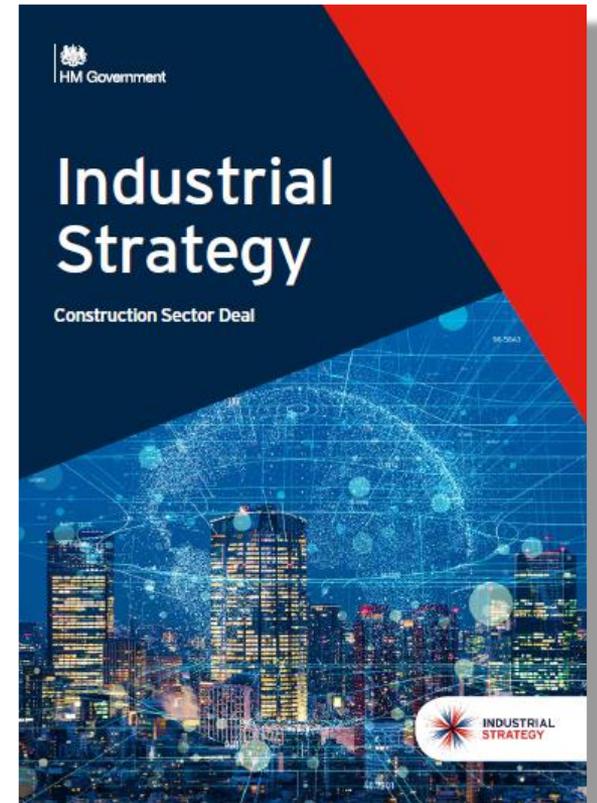
better performing buildings that are built more quickly and at a lower cost

lower energy use and cheaper bills for homes and workplaces

digital techniques deployed at all phases of design to deliver better, more certain results

offsite manufacturing technologies will help to minimise the wastage inefficiency and delays

whole life asset performance shifting the focus from the costs of construction to the costs of the building across its lifecycle



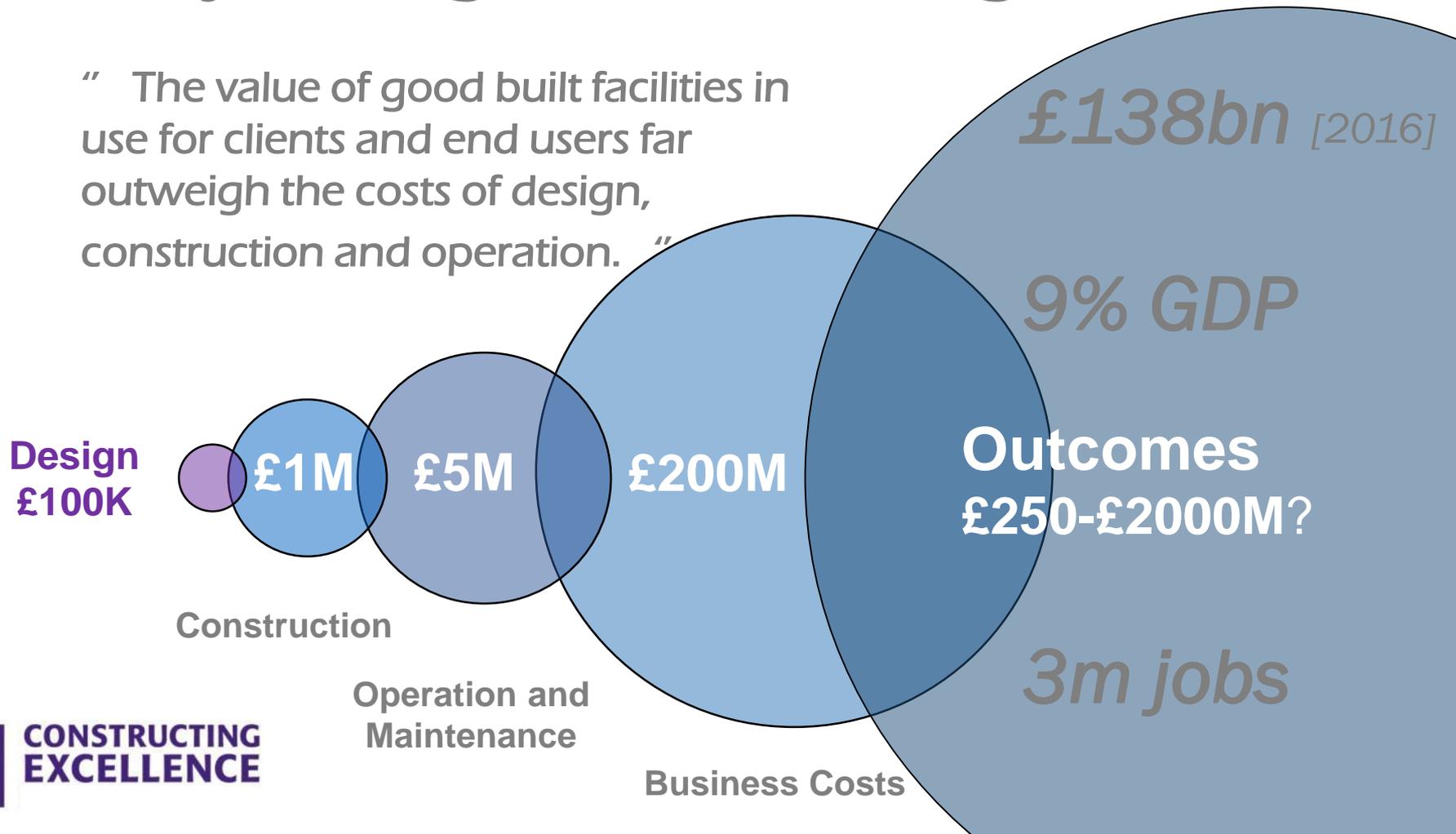
themes :

“ Constructing Excellence is a platform for industry improvement to deliver excellence through clients, industry and users through collaborative working. ”

- successful delivery through early contractor involvement and collaboration
- digitisation and the transformation of design and construction
- gaining better value from a sustainable and resilient industry

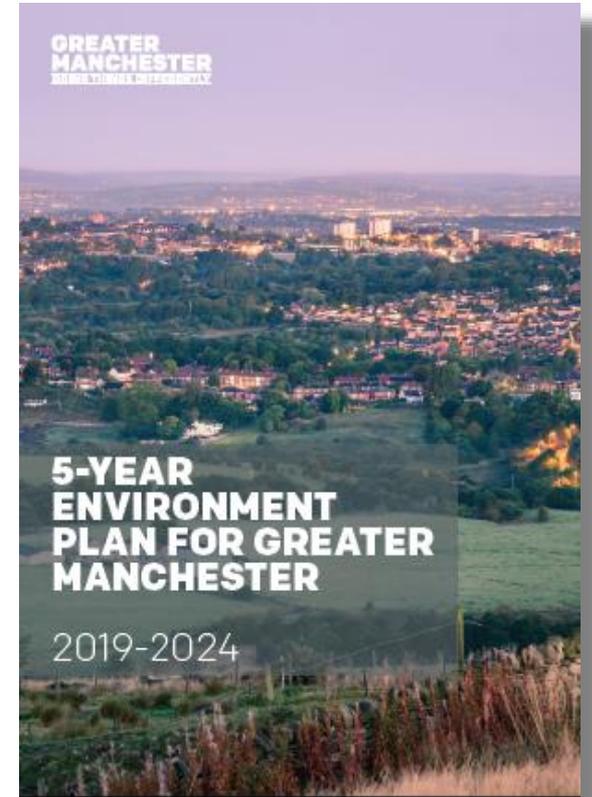
a key message: understanding value :

“ The value of good built facilities in use for clients and end users far outweigh the costs of design, construction and operation. ”



Manchester – the next five years

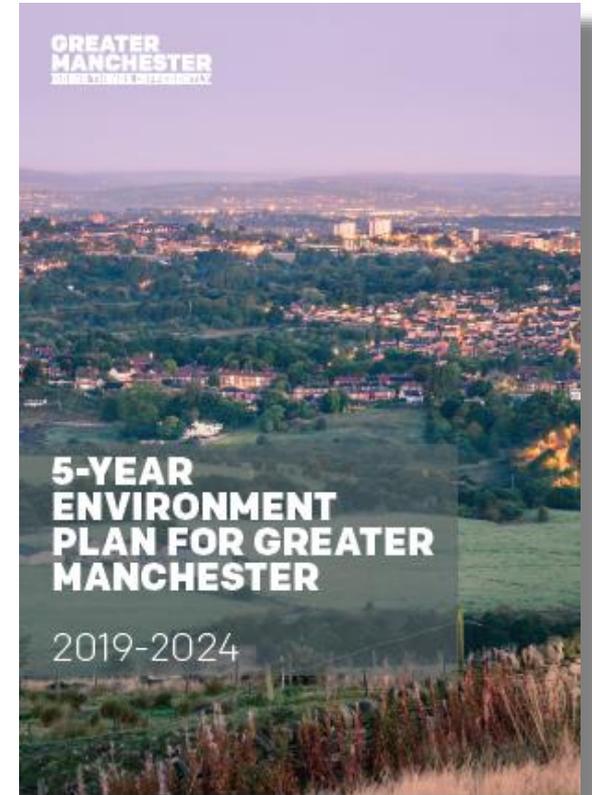
- an environment plan builds on the outcomes of the 2018 Green Summit
- sets out the aim to be a carbon neutral city region by 2038
- the construction industry has an important role in this transformation



Green Summit 2019

the Plan sets out urgent actions we need to take over the next five years including:

- GMSF to introduce plans for all new development to be zero carbon by 2028
- a Housing Vision recognising the challenge of retrofitting existing buildings



challenges to be met:

- 1 Mitigating climate change
- 2 Improving air quality
- 3 Reducing wastage and and consumption of resources
- 4 Enhancing the natural environment
- 5 Resilience to the impacts of climate change



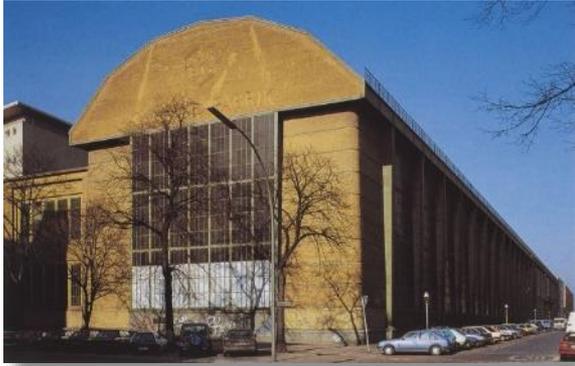


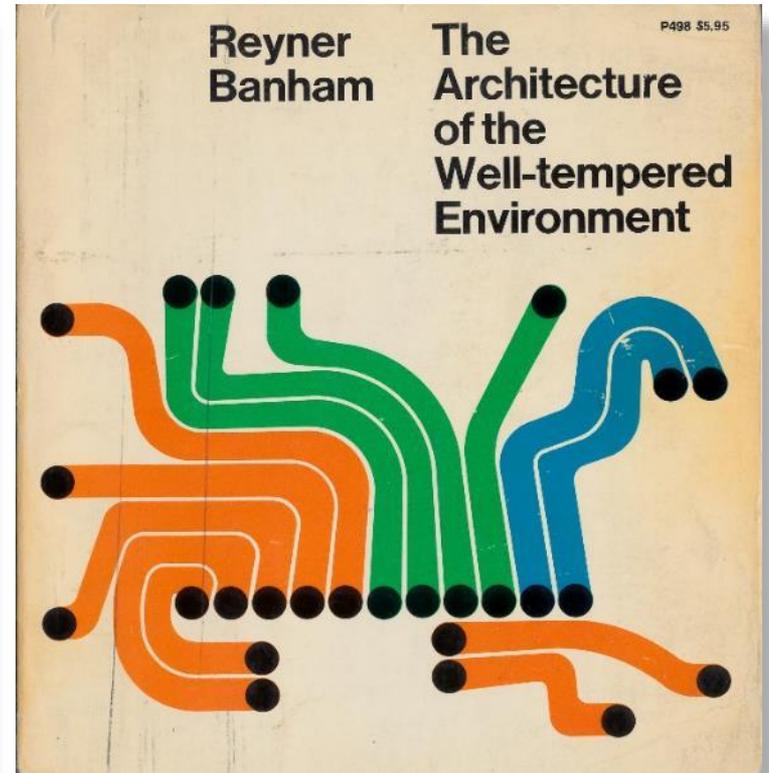
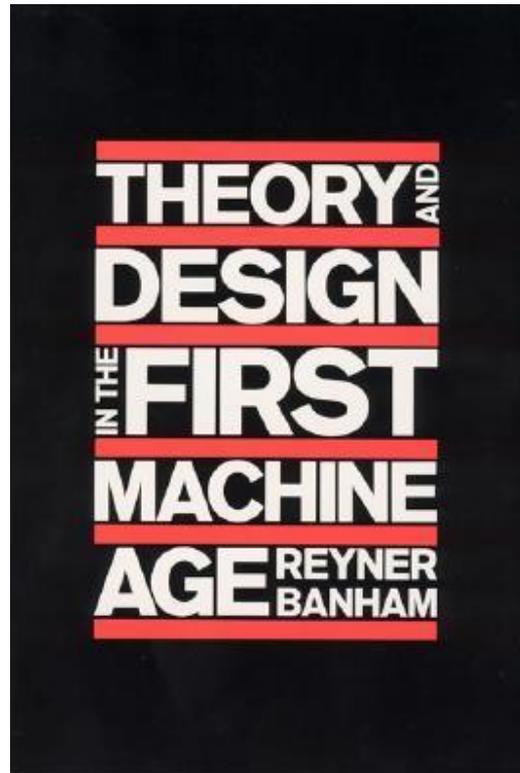
- the industry challenge



- the industry challenge









Glasgow to Manchester

“ a kit of new mechanical devices which facilitated changes not having to adapt the structure to husband or create particular environmental qualities ”

Banham

1972

“ A national study into the future shape and use of buildings has been announced by the RIBA. It will be known as the ‘long life / loose fit / low energy study’, and will investigate the concept of long-life buildings with infinitely adaptable interior spaces and economic running costs.

Announcing the study at the RIBA spring congress, the president, Alex Gordon, said: "We must not get a reputation for being good environmentalists except in our own backyard “

Design 1972
Journal

1972

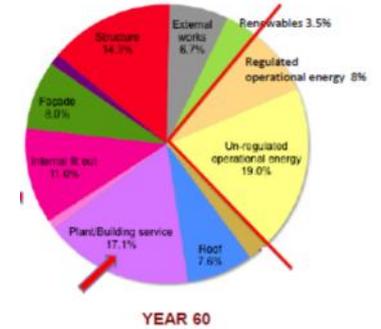
“ The study is an attempt to work towards a set of professional ideas to meet the environmental crisis. Our buildings over the last 20 years have depended heavily on the use of man-made energy.

Should we not be moving towards ways of designing that maximise the contribution of the building itself to the reduction of the use of energy and the stabilisation of good environmental conditions? ”

Design 1972
Journal

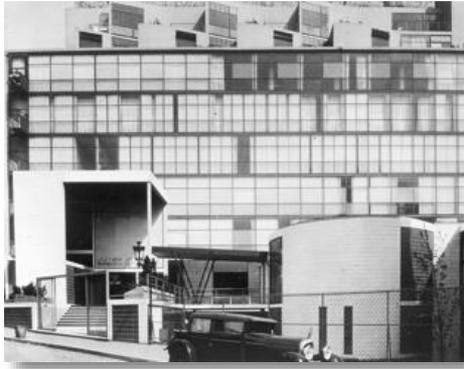


different challenges



the value of re-use

- high performance glazing units
- internal insulation
- low energy lighting
- reduced air infiltration
- heat networks
- renewables



retrofit

address solar gains
improve façade performance
low energy lighting
reconsider ventilation systems and
reduce or eliminate a/c



new development

consider whole life carbon
floor plans, facades, orientation,
ventilation -
'zero carbon' performance
renewable energy generation and
storage
local networks



new homes

'zero carbon' performance – fabric first
healthy environment
resilient
renewable energy generation and
storage
off-gas
minimise energy costs



existing homes

'deep' retrofit
renewable energy generation
minimise energy costs
off-gas
healthier environments



delivery at scale

digital construction
pre-manufacture
off-site construction
robotics
new skills

- new opportunities

transformation

to meet this challenge to reduce the carbon footprint of our built environment in the shrinking timescale we need a transformed industry which....

- is supported by an informed and willing client body
- designs with an understanding of building performance and whole life carbon
- is procured and constructs economically and effectively to deliver whole life asset performance



a new architecture



creating well tempered environments
which respond effectively to the
pressing demands of our age by
minimising environmental impact.

thank you