

# Sustainability & Innovation

Carbon, costs & efficiency – let's  
make the connection!

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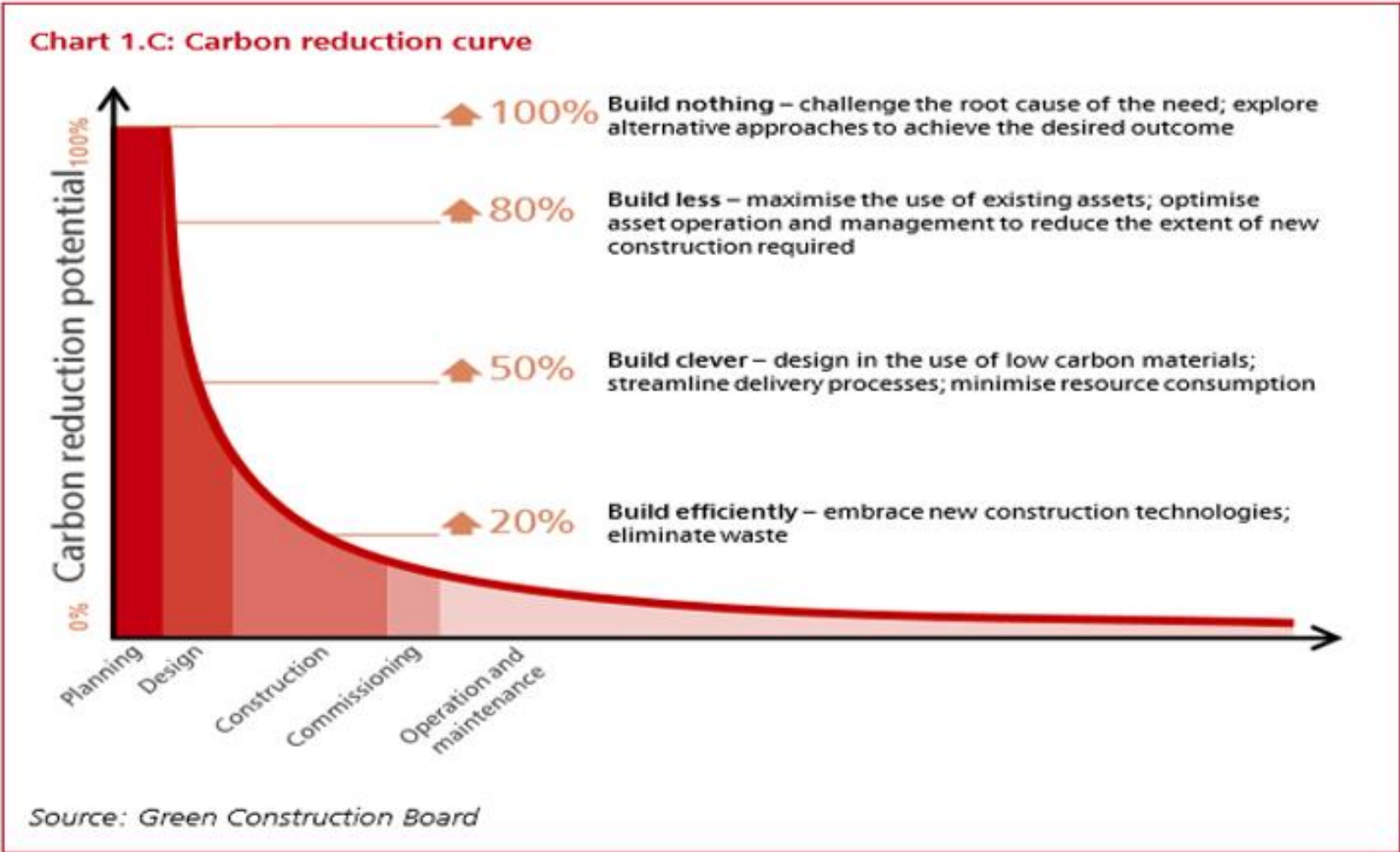
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# Linking cost and carbon – a question of scale?



£££ ≠ tCO<sub>2</sub>e

# Where in asset lifecycle can cost/carbon be cut?





# Pennington Pumping Station

Pennington Pumping Station provides a 1 in 100 year standard of flood protection to 400 residential and commercial properties.

Replacement works provided an opportunity to improve the efficiency and reducing the whole-life carbon of the pumping system.

Revenue budget savings of £70k for the operation and maintenance of the new system over the 25 year design life. Estimated saving of 35 tonnes of operational carbon usage throughout the design life of the pumping station.

# Curiosity



# Reducing our Impact



contact [Carbonplanningtool@environment-agency.gov.uk](mailto:Carbonplanningtool@environment-agency.gov.uk) for access and training



Reduce supplier impact by 20%



Reduce lifecycle carbon by 40%



Recover, reuse or recycle at least 90%

# Back-up slides



## Woodbridge Wall Stability Works - Cem-free Concrete Trial

**A team from Jackson, David Ball Group and Tarmac achieved a 67% reduction in CO<sub>2</sub> by using a new type of 'cem-free' concrete as an in-fill to the flood wall.**

Conventional mixes consist of 50% GGBS and 50% Portland cement, which has a typical CO<sub>2</sub> value of 158 kg per m<sup>3</sup>.

Cem-free concrete is made up of 95% ground-granulated blast-furnace slag (GGBS) and a 5% alkali activator, and has a CO<sub>2</sub> value of 52 kg per m<sup>3</sup>.





# IMPACT OF DESIGN CHANGES

