Climate Change, sea level rise and our sector response to carbon

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Climate Change Update

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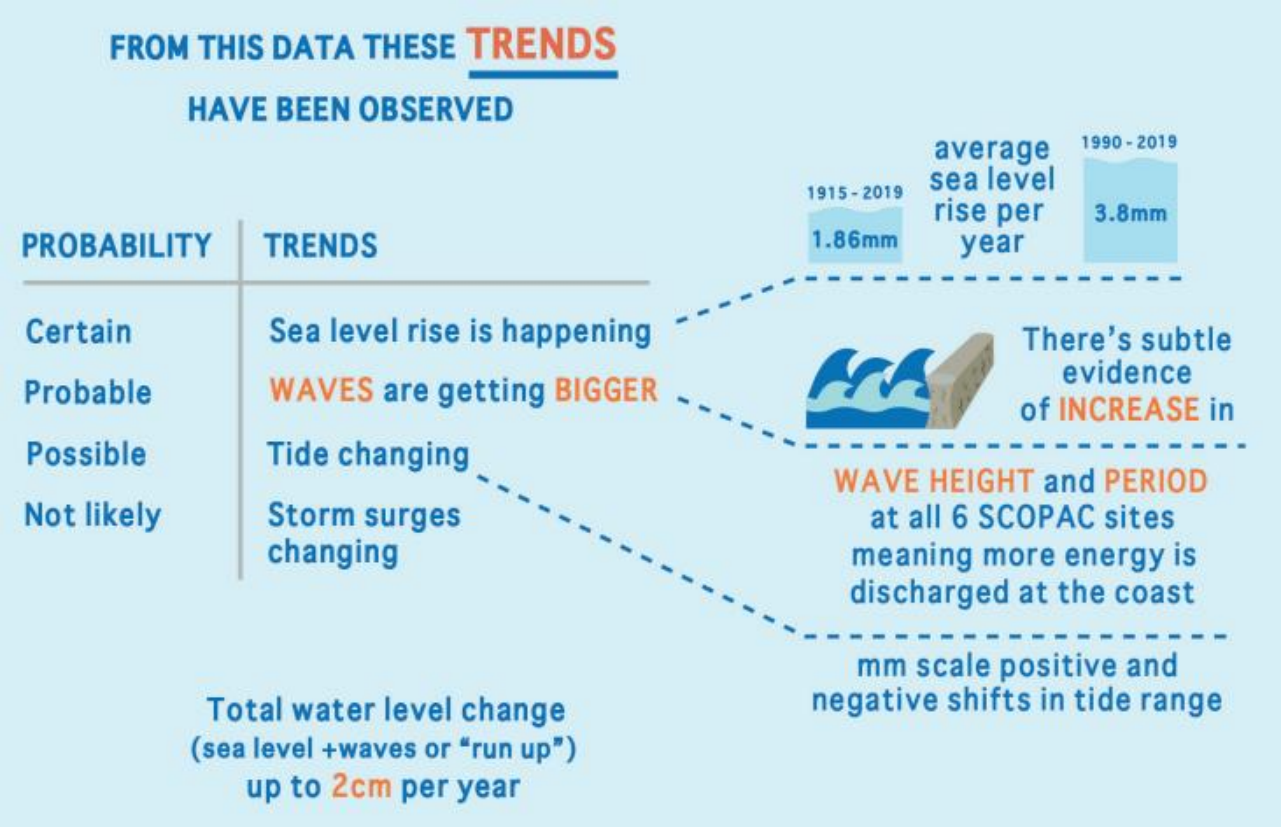
Recent SCOPAC research shows concerning trends in sea level rise, wave height and storms on the south coast of England

Southern Coastal Group and SCOPAC

SCOPAC Storm Analysis Study



Key Issues

1. More frequent and severe storm events (extreme storm events today could become an annual event in 100 years time).
2. Increased and more frequent flooding and erosion events, often occurring in sequence.
3. Pressure on aging sea defences with higher risk of damage or failure.

More information can be found here: https://southerncoastalgroup-scopac.org.uk/scopac-research/scopac-storm-analysis-study/

Climate change Guidance– Environment Agency

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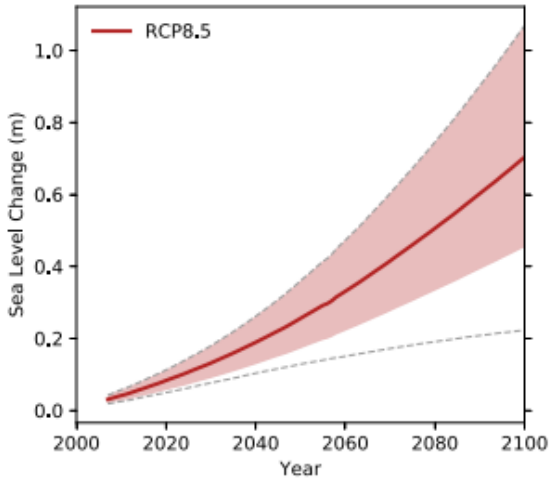
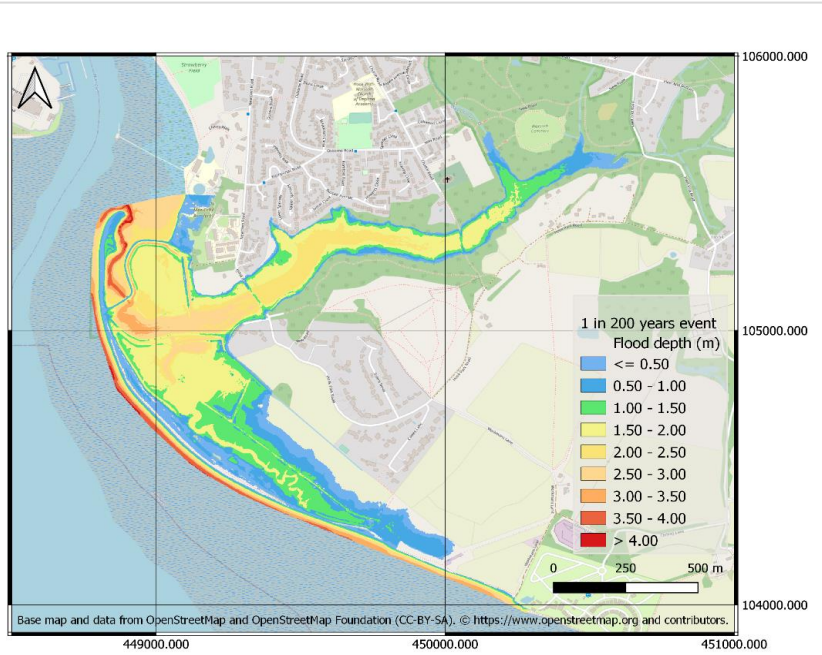
Sea level rise (SLR) UKCP18

- All projects to adopt the *"Representative Concentration Pathway 8.5 (RCP8.5) high emissions scenario 70th %ile (for design purposes) and 95th %ile (for sensitivity testing)."* **This equates to 1.03 m of sea level rise by 2120 and 1.4 m by 2120 respectively.**



Extreme storm surge events

- All projects to use latest Coastal Flood Boundary Dataset (CFBD2018). These include the effects of: extreme water levels + storm surges and astronomical tides. These allow us to simulate coastal flooding.



Linkage to Schemes & Studies

- All our projects and studies include these allowances.

- To access EA Grant Aid funding, we have to consider climate change.

Conceptual approach

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Sustainable Development Goals

Sector response – Planning

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Emerging themes:

- 'Whole Life Cycle'
- Early interventions have greatest ability to influence carbon cycle.
- Policy and strategic decisions
- Business case and carbon/carbon in economic/scheme appraisal

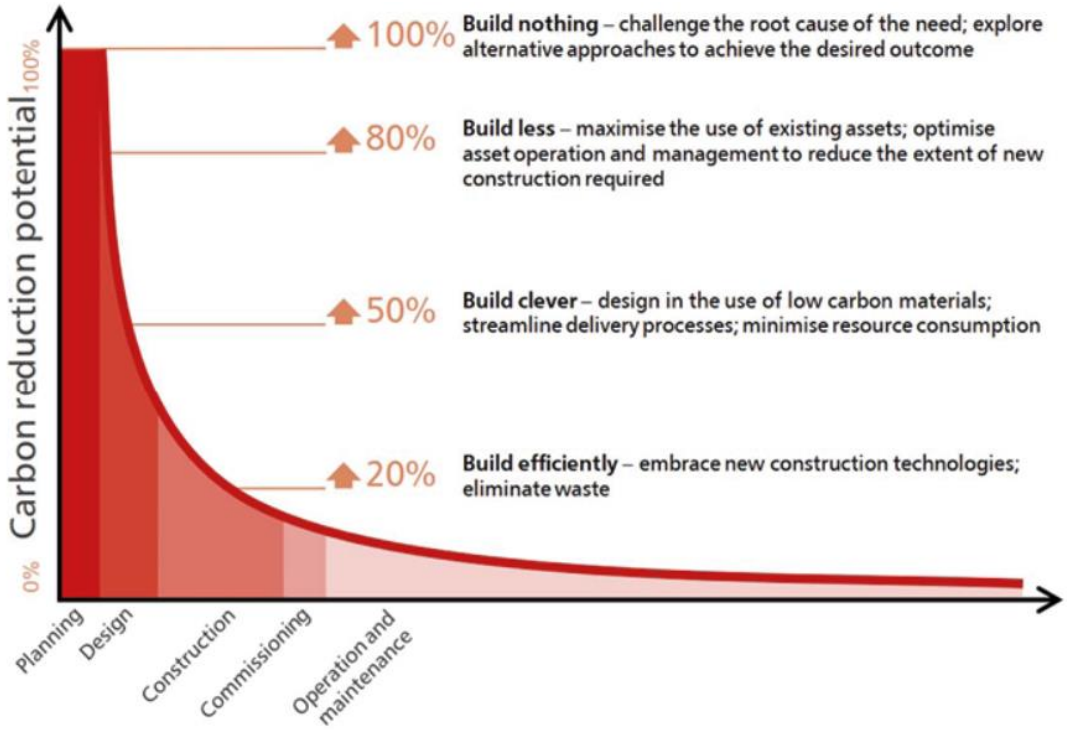
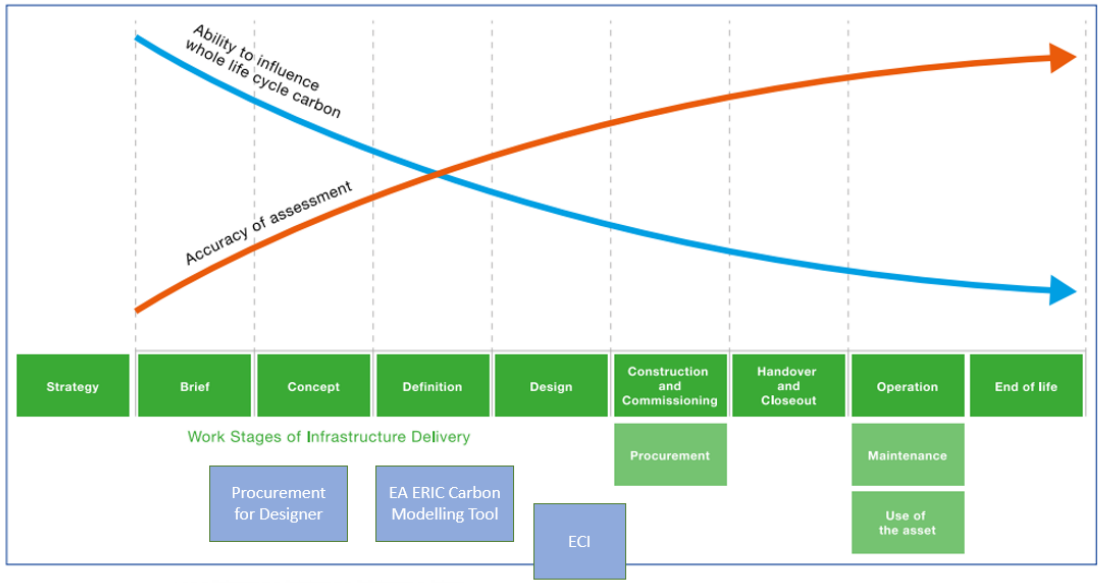


Figure 4 – Conceptual diagram to showing ability to influence carbon reduction across the different work stages of infrastructure delivery



Sector response: Construction and environment

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Mitigations measures:

- Net zero approach to emissions
- Analyse and optimise - *'you can't improve what you don't measure'.*
- Selection of plant & equipment
- Use of bio-diesel fuel
- The concrete we use at NPI contains Ground Granulated Blast-furnace Slag

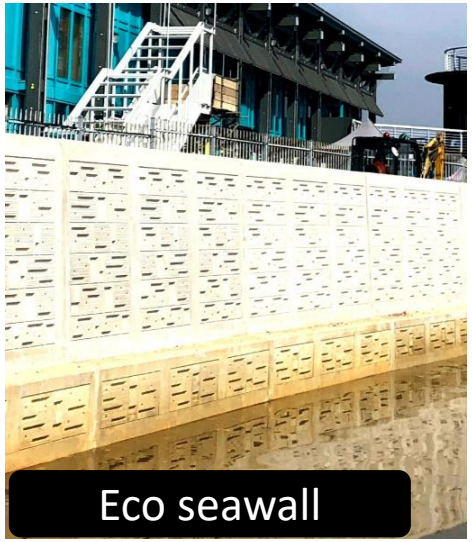
Adaptation measures:

- Nature-based solutions
- 'Greening the grey' - Habitat creation – Eco formliner and other initiatives – saltmarsh, water quality, nitrate removal etc
- Regional Habitat Compensation Programme (RHCP) strategic scale habitat creation to offset habitat losses.

"Construction contributes to 54% of total Environment Agency emissions and the vast majority of that is embodied carbon in materials."


Place-making


BESE saltmarsh planting


Eco seawall


Rockpools