



NET ZERO CARBON: What does it cost?

Introductions



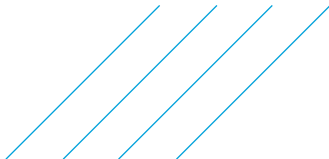
Annabel Clark
Associate Director



Steve Jackson Regional
Director



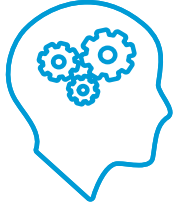
Peter Dunn Associate
Director



The Challenges

Annabel Clark

Where are we now?



**Innovation &
Availability**



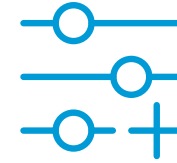
**Stakeholder
Engagement**



**Data, Design &
Understanding**



Risk



**Quantifying
benefits**



Cost

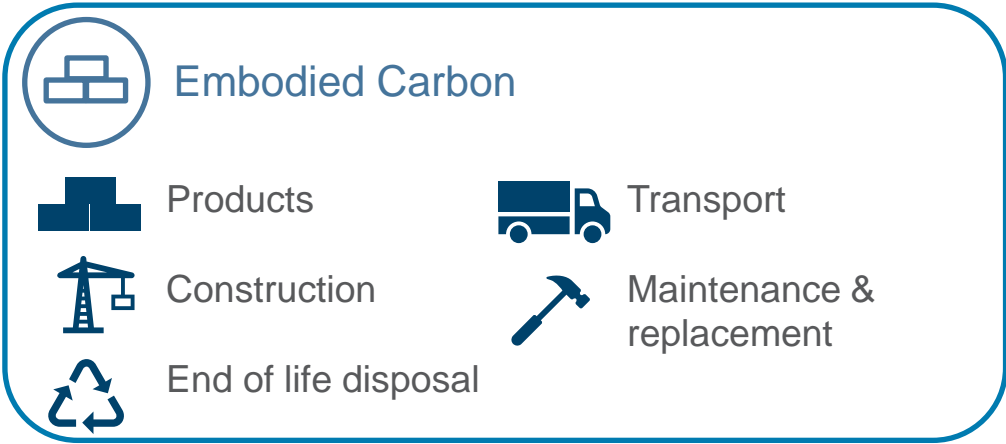
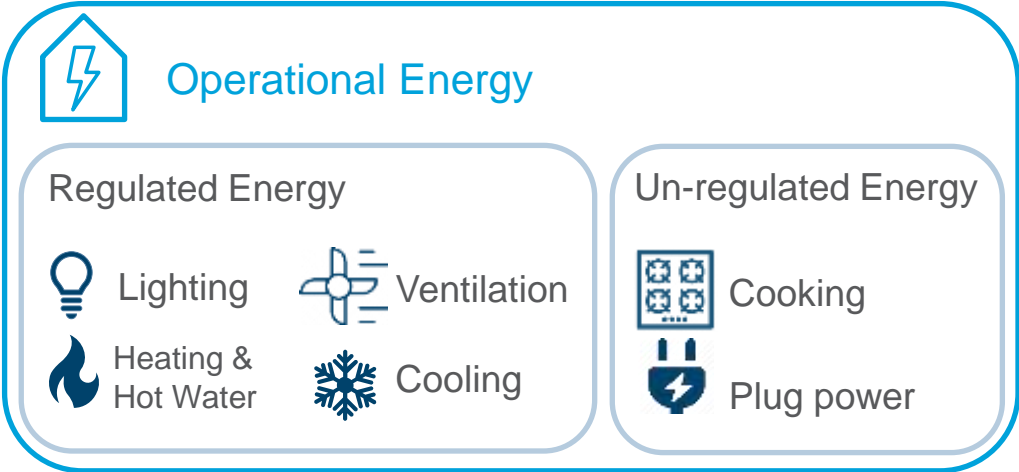


FAITHFUL+GOULD
Member of the SNC-Lavalin Group

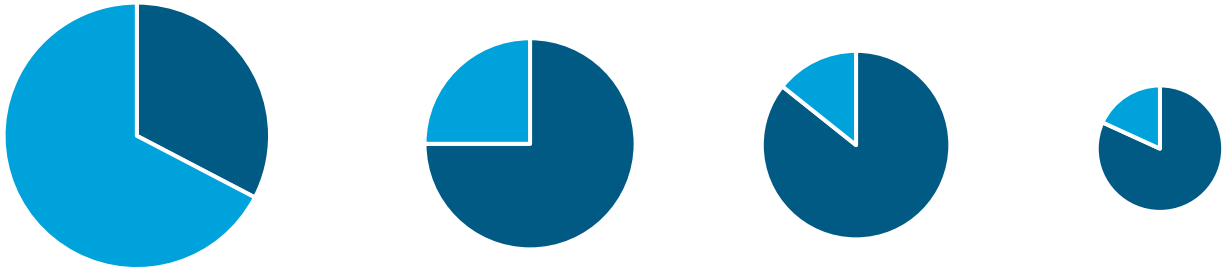
Building a Net Zero Carbon future

Defining Net Zero

Net Zero Carbon

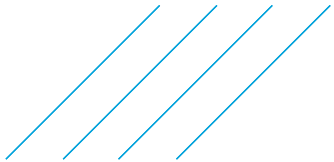


2020 2030



Total building carbon reduction

Credit: LETI



New Builds: Cost Associated with NZC

Steve Jackson

Challenges



Lack of current
expertise/supply
chain drives up costs



Balance between
design and planning



Insufficient
incentive



Case Study – London Borough

- Residential Development
- Assessed baseline, aspirational and Passivhaus principles
- 89% reduction CO2 – Passivhaus principles
- Maximise PV on roof
- +£2.45m capital cost (+6.4%)
- Carbon offset -£135k
- 30% reduction in heating costs per year



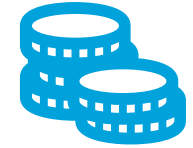
Main Cost Drivers



Insulation increase
to walls, ground
floor and roof



Increased **GEA** of
building impacting
frame



Increased **façade
complexity** and costs



Triple glazing



Improved **MEPH**
system efficiencies



Additional
preliminaries costs



The Future



Increased uptake will
reduce costs over time



Elemental
analysis to **focus**
design



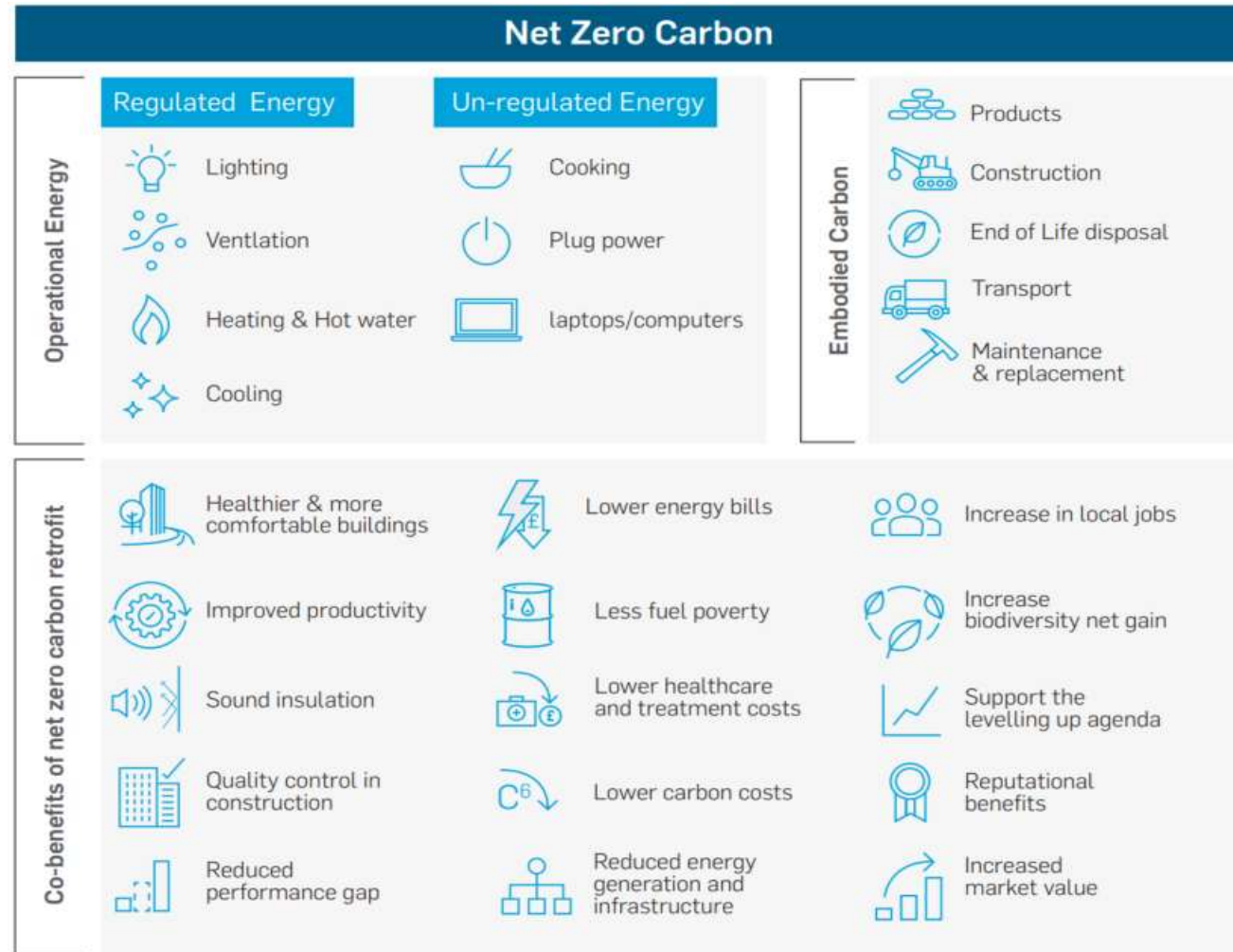
Whole life cost
assessment



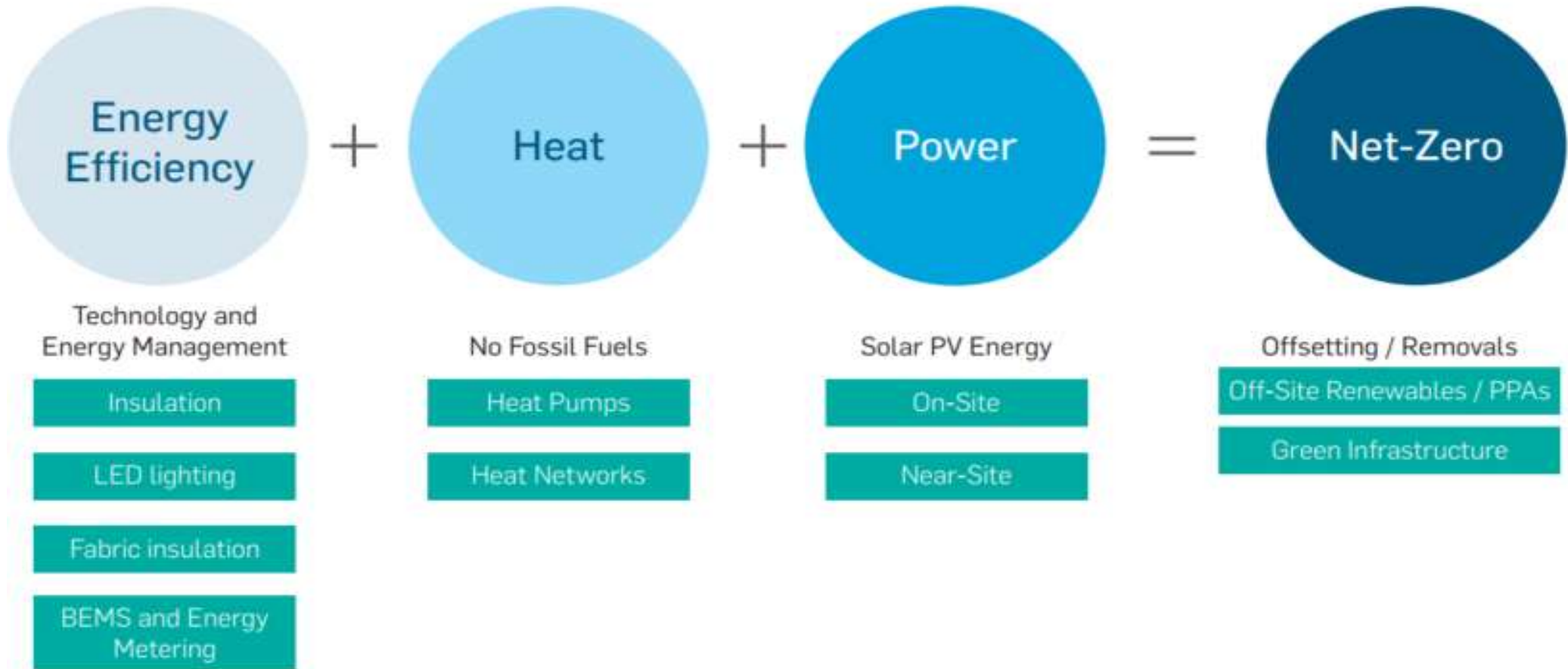
Existing Buildings: Cost Associates with NZC

Peter Dunn

Defining Net Zero and Co-benefits



Top Net Zero Interventions



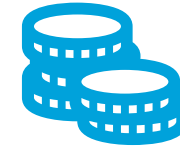
Main Cost Drivers



Uncertainty in carbon technology developments



Lack of accurate asset data



Significant cost of additional investment



Defining clients' estates that are consistently changing



Day-to-day disruption from intervention works



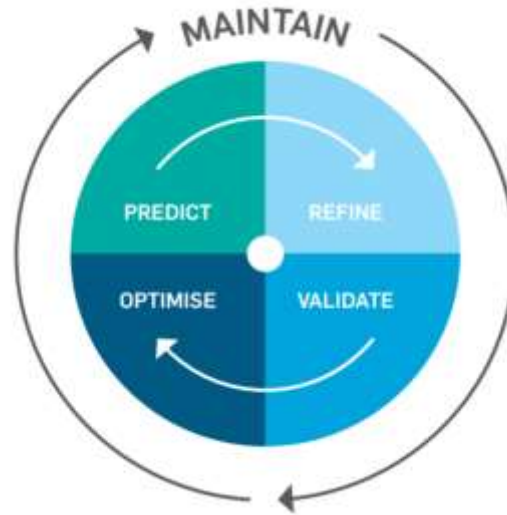
Skills gap within the construction industry



The Future

Organisations timeframe to achieving operational net zero are determined by:

- Financial Commitments
- Life cycle replacement works
- Reputation
- Leadership goals



Building a Net Zero Interventions Road Map

