

Sustainability

How the primary care estate needs to respond

Simon Gould, David Austin and Ashley Bateson

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Welcome

John Hearle, Chair, PCPF

Tuesday 12 October 2021:
Primacy Care Premises Development
Case Studies

Thursday 18 November 2021:
AGM & Conference

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Agenda

- Overview of the policy and legislation towards net zero carbon and the primary care estate in context
- Sustainability in primary care – perspectives from developers, investors and occupiers
- Practical steps for consideration in creating a sustainable estate

Presented by:

Simon Gould, Head of Sustainability and Innovation, Assura

David Austin, Property Director, PHP

Ashley Bateson, Head of Sustainability, Hoare Lee and Vice President of the Chartered Institution of Building Services Engineers.

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Why now?

Increasing importance of ESG

Public/consumer perception –
now the mainstream?

Risk of 'stranded' assets

Green premium/brown
discount?



Context

Global

Paris Climate Agreement 2016 - goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

COP 26 Glasgow November 2021

National

Climate Change Act 2008 – amended 2019 first major economy in the world to set a net zero target for 2050

MEES – EPC band E minimum, band B by 2030?

Energy White Paper Dec 2020

Environment Bill 2020

Local

74% of local authorities declared 'climate emergency'

Planning policy



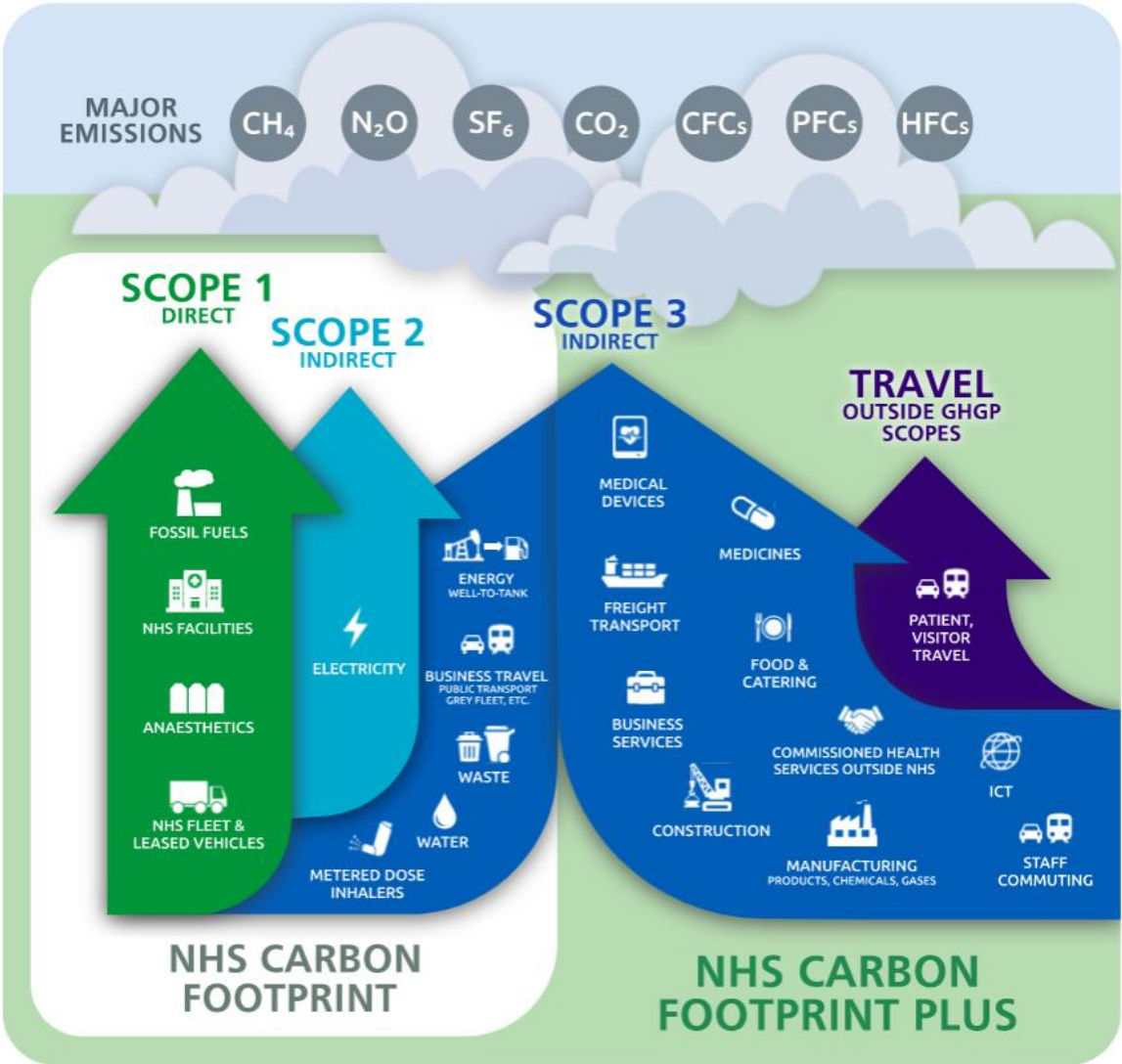
Context

Delivering a Net Zero Health Service 2020

Net Zero 2040 (80% reduction by 2032)

NHS Carbon Footprint ‘plus’ Net Zero by 2045 (80% reduction by 2039)

Source: Delivering a ‘Net Zero’ National Health Service



National Operational Plan 2020-21



All organisations to purchase 100% renewable electricity by April 2021

All organisations to build to net zero carbon standards; for new builds and refurbishments

Replace lighting with LED alternatives during routine maintenance

All NHS organisations to implement Stretch Programme

All fleet vehicles leased or purchased after April 2020 to confirm to ULEZ standards

Restrict high emission vehicles from car leasing schemes

All organisations to sign the plastics pledge

Cut business and fleet emissions by 20%

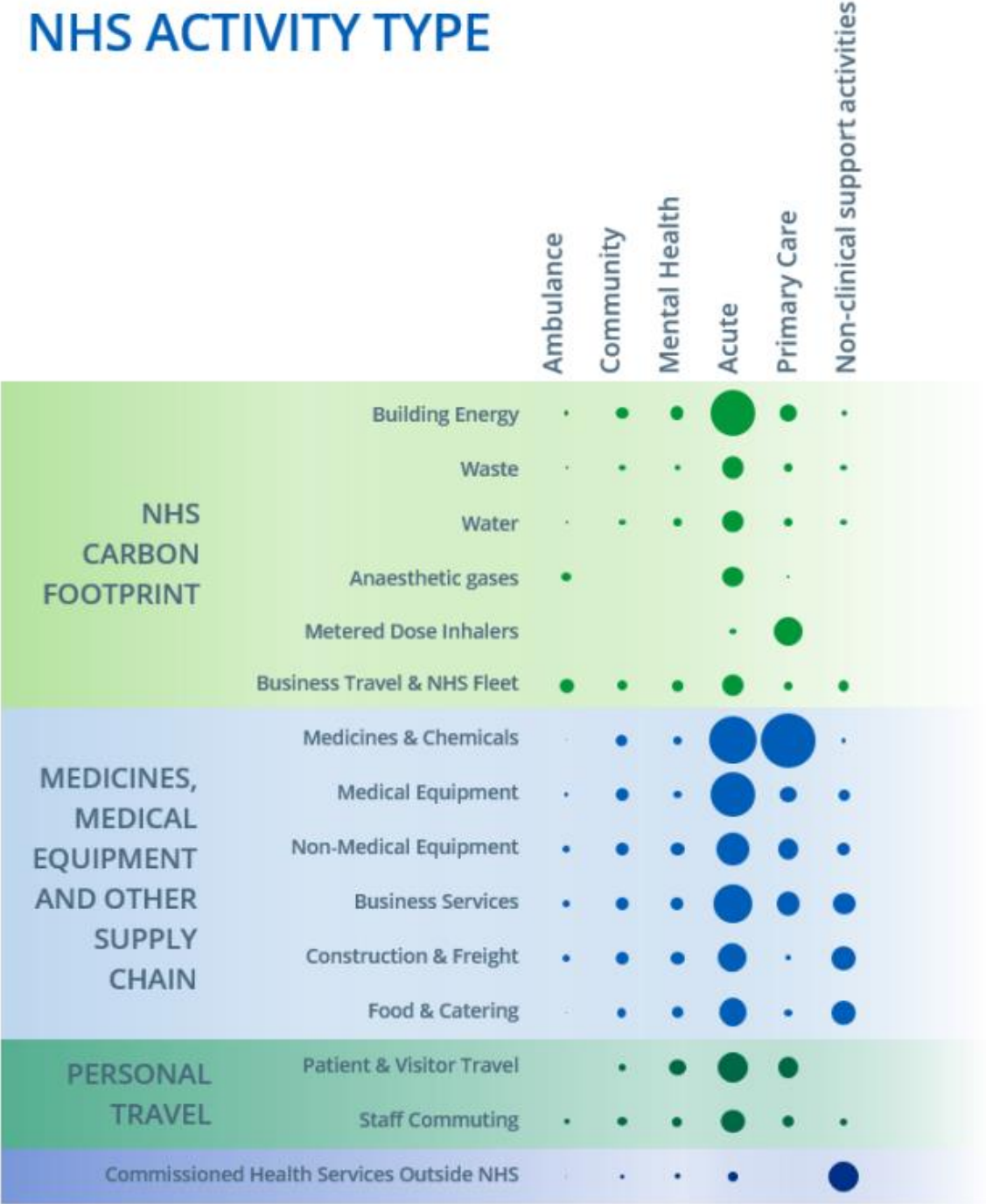
Reduce prescribing of metered dose inhalers

Reduce use of Desflurane to less than 20% use

NHS Estate Decarbonisation

- HIP programme – Net Zero Carbon
- Upgrades of existing buildings
- Proptech interventions – occupancy/smart buildings
- Renewable energy
- Grid decarbonisation
- Primary care – less focus but still a part to play in strategy

NHS ACTIVITY TYPE

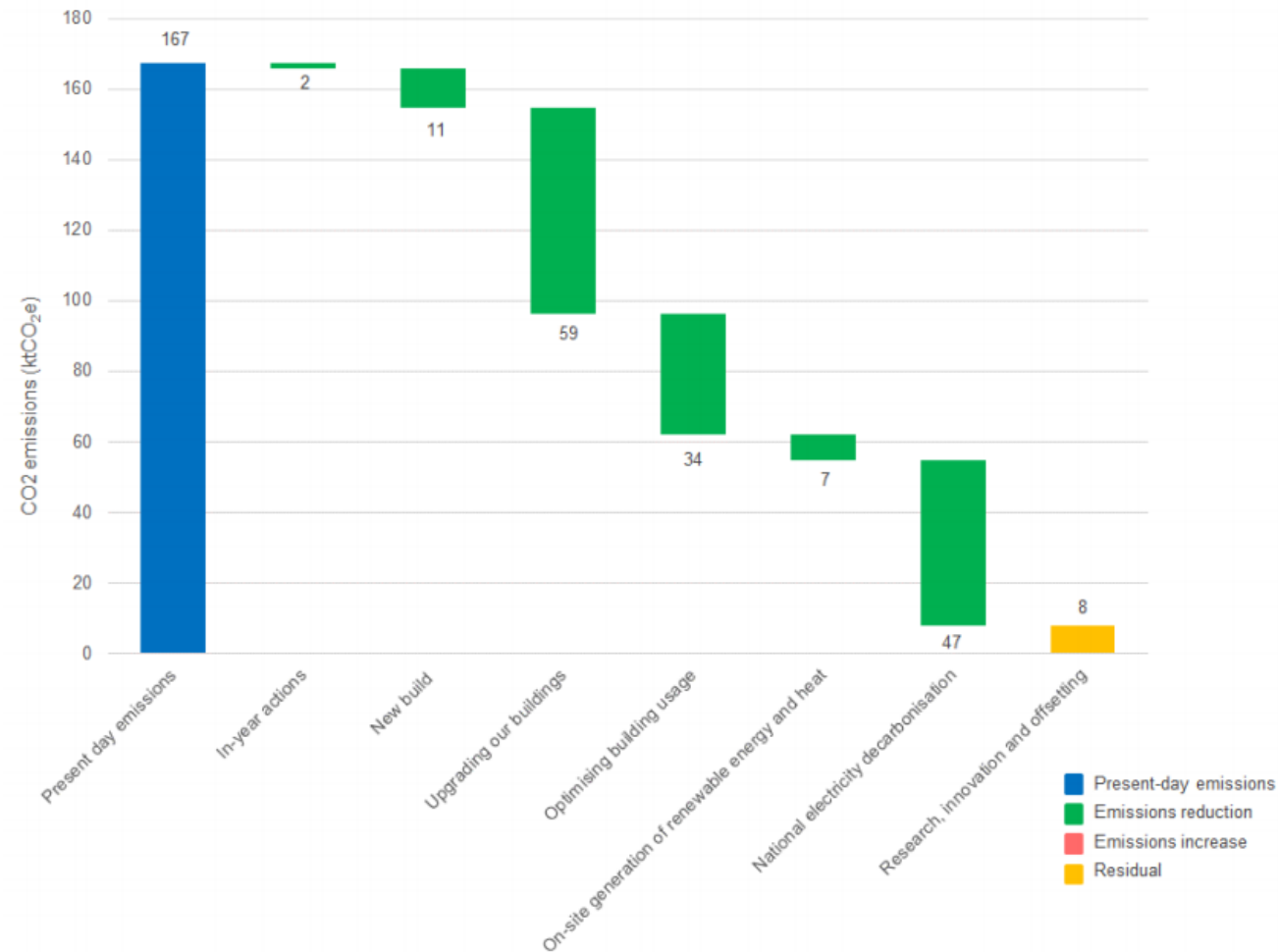


Primary Care Estate

Source: Delivering a 'Net Zero' National Health Service

Primary Care Estate

Figure 7: Interventions to reduce emissions in the primary care estate



Source: Delivering a 'Net Zero'
National Health Service

Developer's view

- BREEAM requirements
- Building Regulations Part L2a Consultation
 - Minimum 27% reduction in Co2?
 - 'Fabric First' design approach
 - Dynamic carbon factors
- Full carbon lifecycle reporting?
- Planning conditions e.g. Biodiversity net gain
- Well Standard?

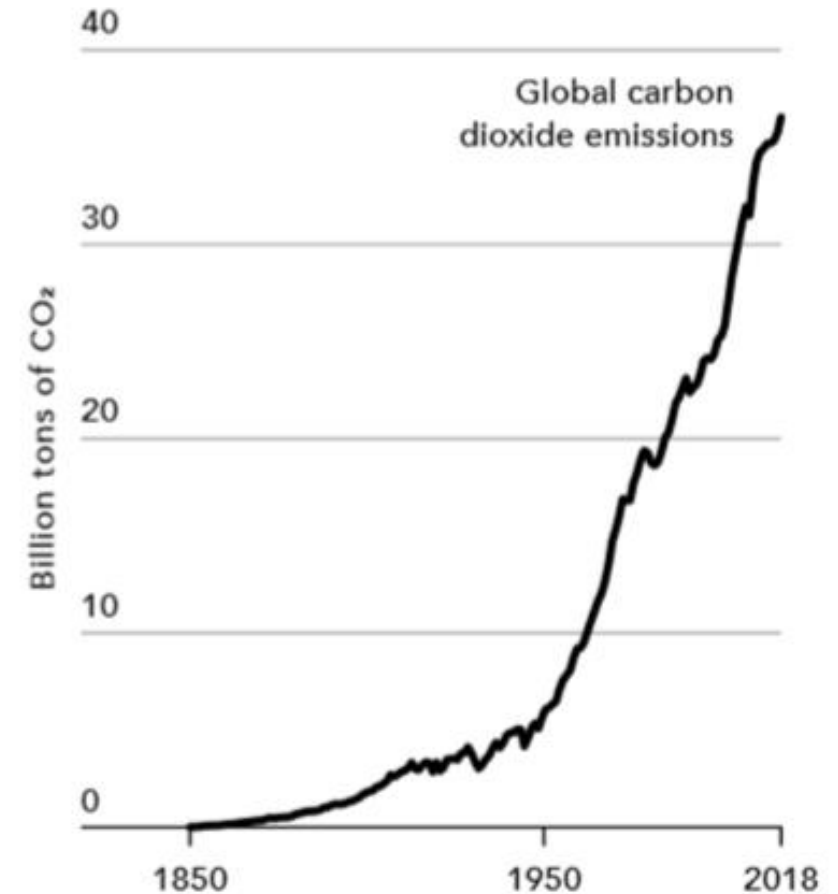
Investor's view

- Indirect investors
 - Reporting and transparency /mandatory reporting
 - Investment objectives (Green finance)
 - GRESB, TCFD etc..
 - Green finance
- Direct investors
 - GP owned (notional rent CMR)
 - GPs lease from 3rd party landlord (reimbursed rent CMR)
 - PCD 2013 – guides valuer to disregard environmental improvements in assessing CMR



Occupier's view

- The right thing to do - GHG emissions grown exponentially
- Its now law - UK Net Zero 2050 signed into law, MEES, ESOS, SECR etc
- NHS commitment - Carbon Net Zero by 2045 and interim reduction of 80% by 2036-2039
- Can everyone be net zero? Doing your bit....
- BMA, RCGP supporting general practice in reducing environmental footprint
- Split incentive - reduced utility bills through capital – working together – green lease clauses / MOUs
- Measuring actual performance – EPC's / Build regs compliance to operational in use energy performance NABERS



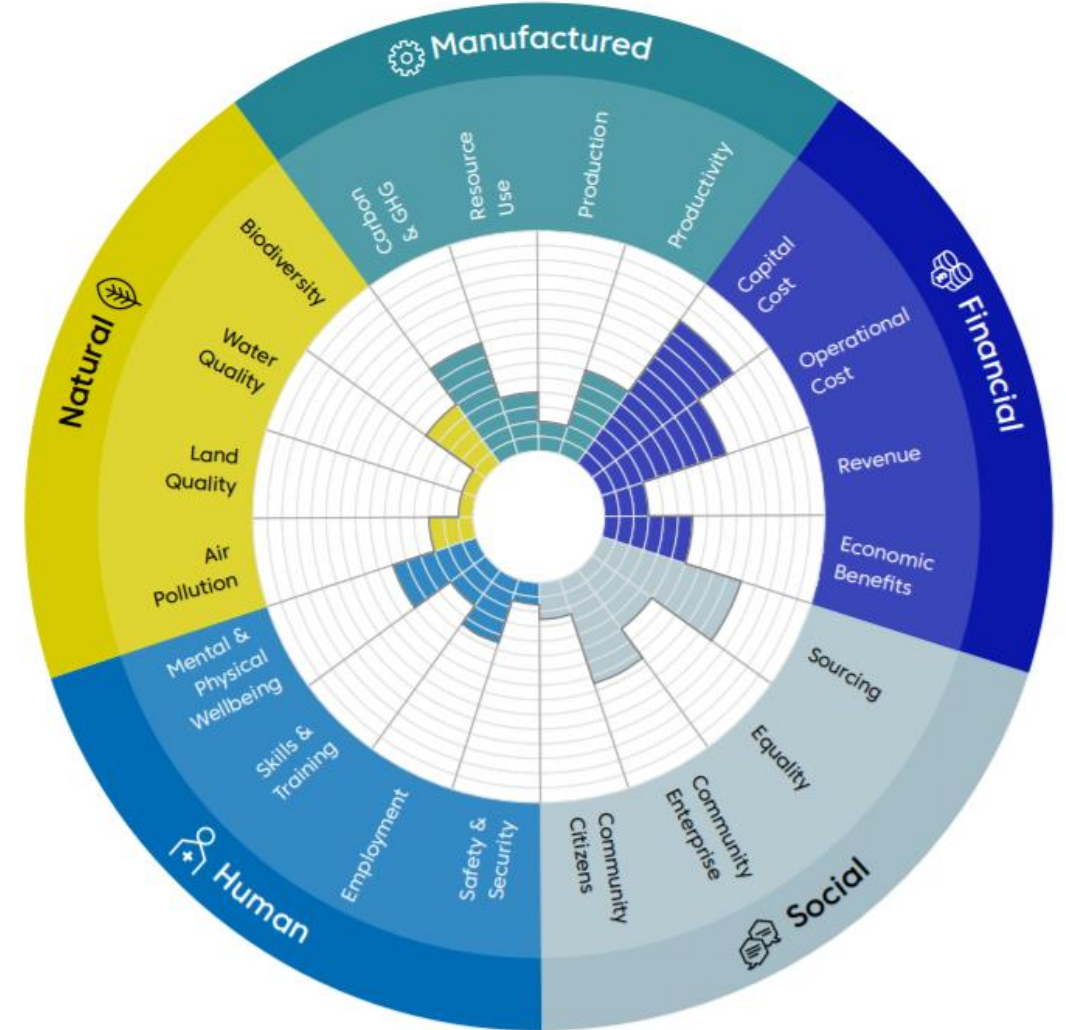
Value Toolkit. New public sector value assessment methodology.



The Value Toolkit will be a method to assess whole-life value in the procurement of projects.

It adopts the 5-capitals model for assessing value:

- Natural
- Manufactured
- Physical
- Human
- Social



Example Project Value Profile

Advancing Net Zero

A World Green Building Council global project



WorldGBC definition:

A net zero carbon building is highly energy efficient with all remaining energy from on-site and/or off-site renewable sources

100% of buildings must operate at net zero carbon

2050

2030

All new buildings must operate at net zero carbon

Key Principles

1. Measure and disclose carbon

Carbon is the ultimate metric to track, and buildings must achieve an annual operational net zero carbon emissions balance based on metered data



2. Reduce energy demand

Prioritise energy efficiency to ensure that buildings are performing as efficiently as possible, and not wasting energy



3. Generate balance from renewables

Supply remaining demand from renewable energy sources, preferably on-site followed by off-site, or from offsets



4. Improve verification and rigour

Over time, progress to include embodied carbon and other impact areas such as zero water and zero waste



What is zero carbon development?

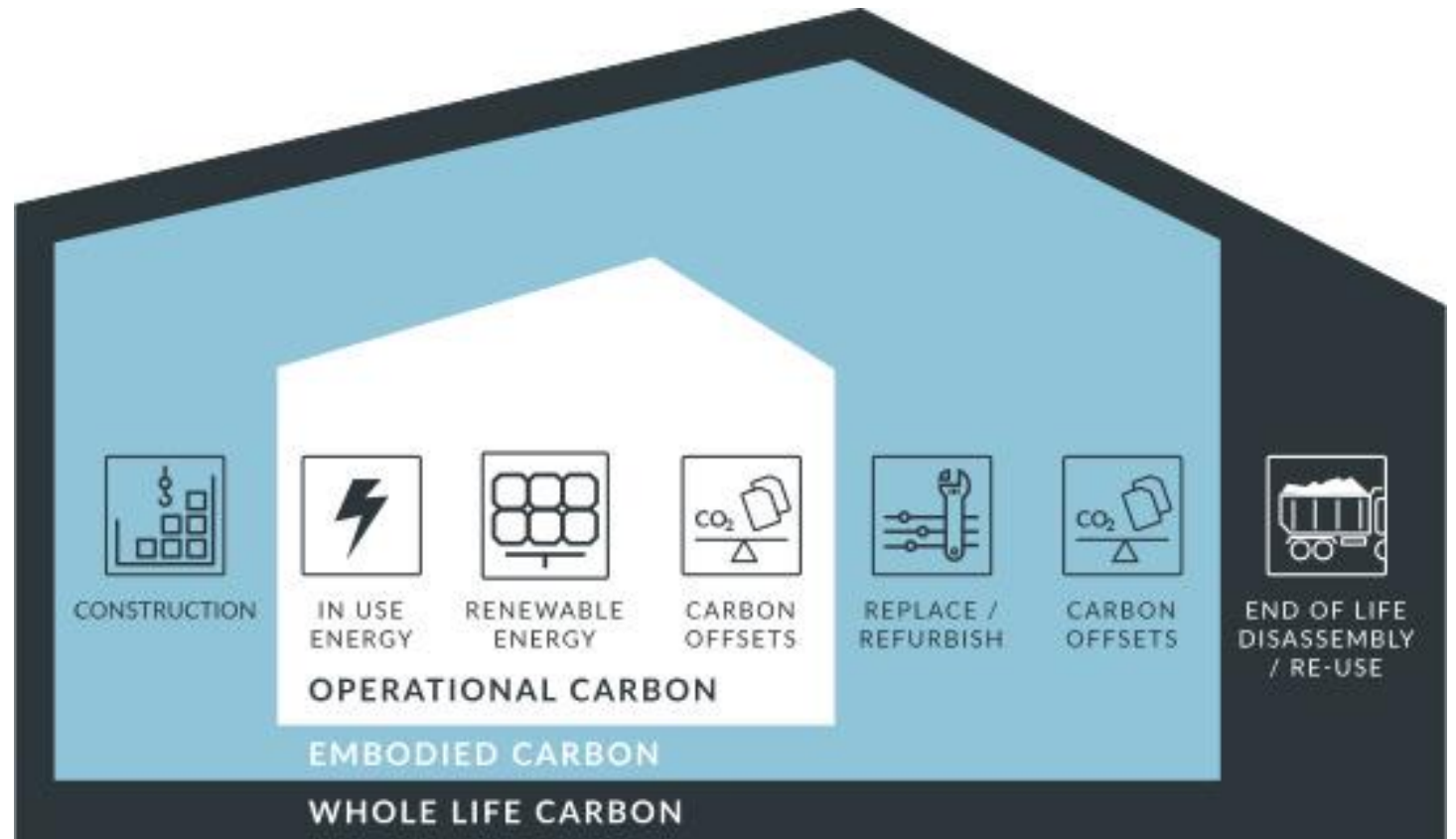
Defining the scope.

UK-GBC framework defines two scopes for targeting net zero buildings:

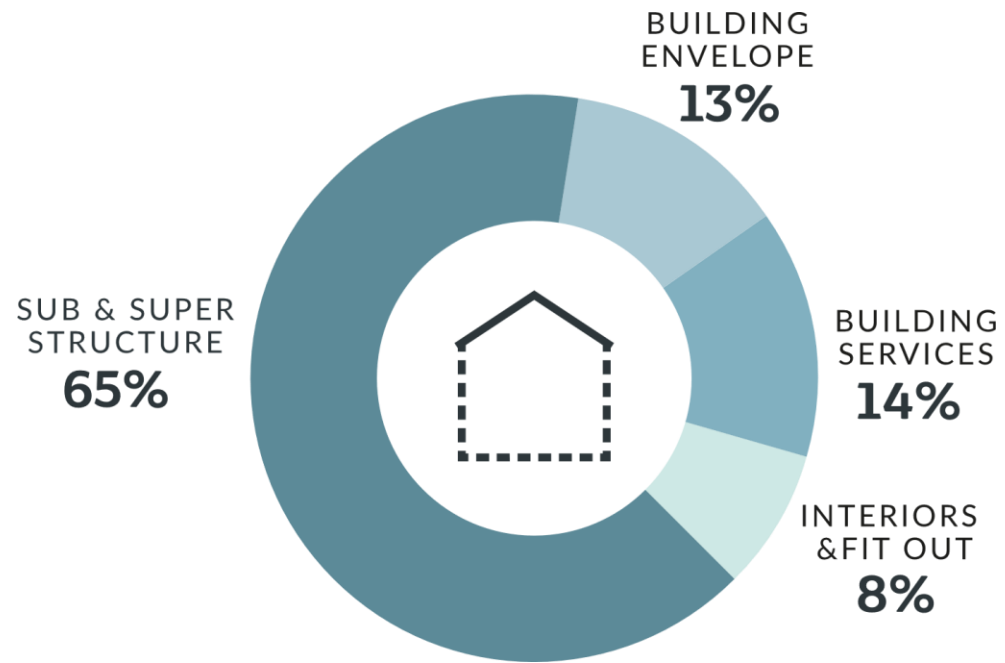
- Net zero carbon in Construction
- Net zero carbon in Operation

Sum of both = Whole Life Carbon.

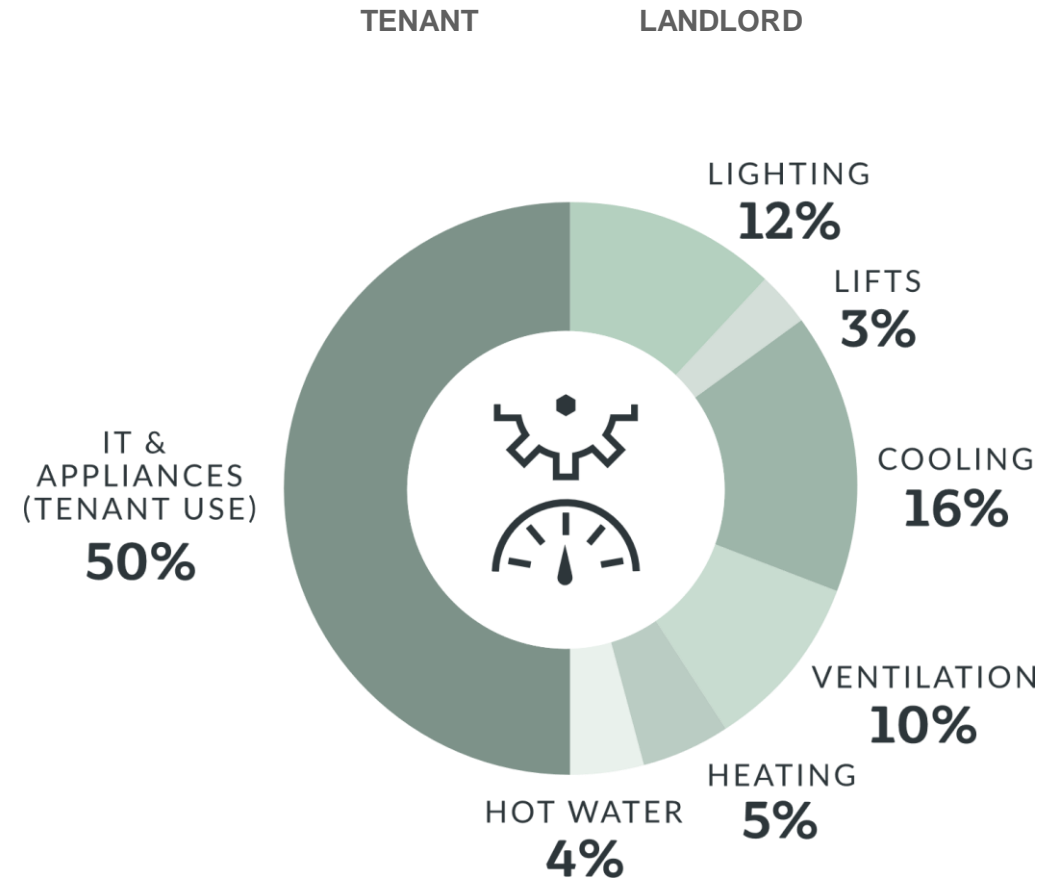
- Remaining carbon emissions to be offset.



Net Zero Carbon. Embodied and operational analysis.



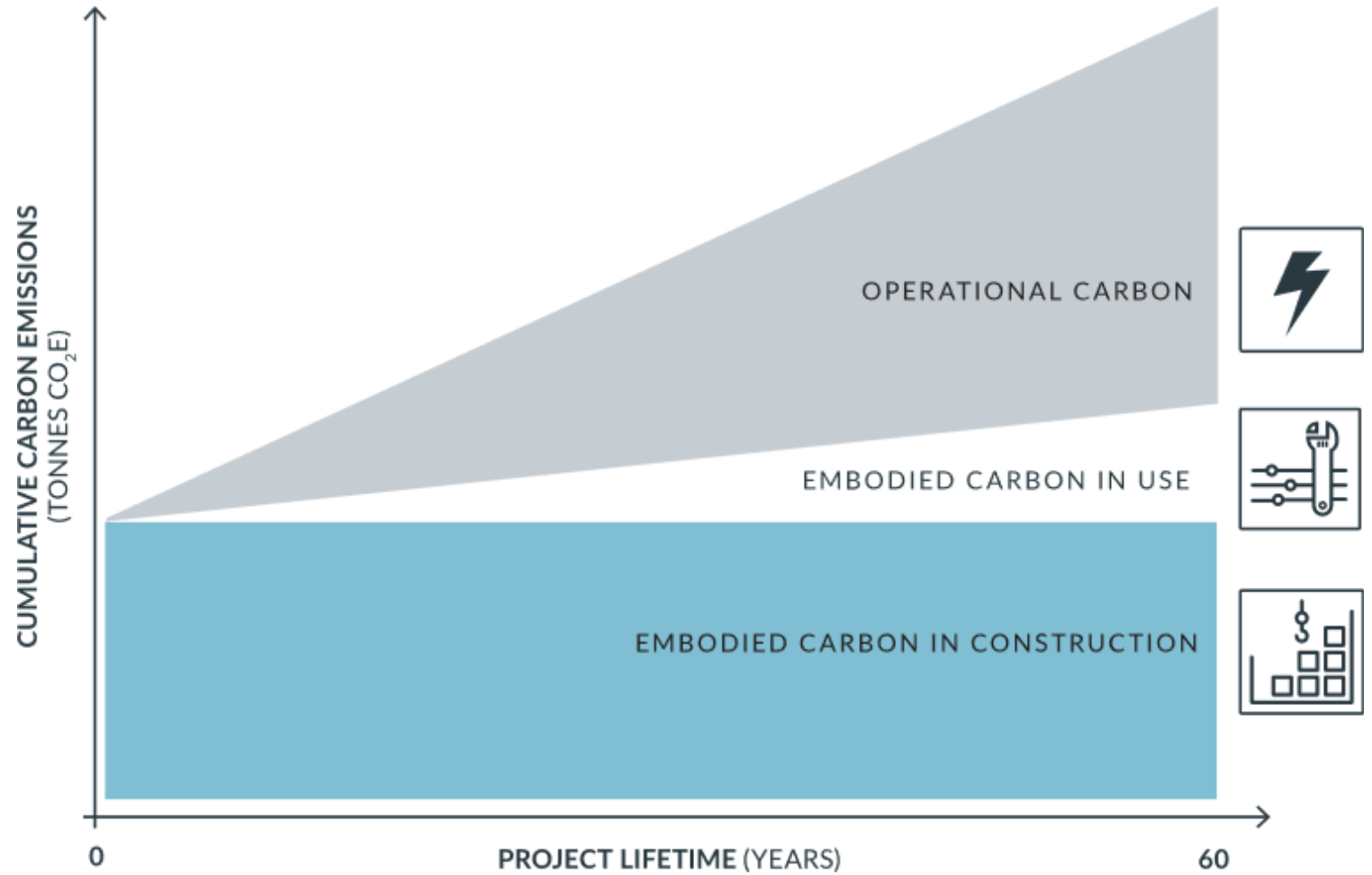
Embodied carbon



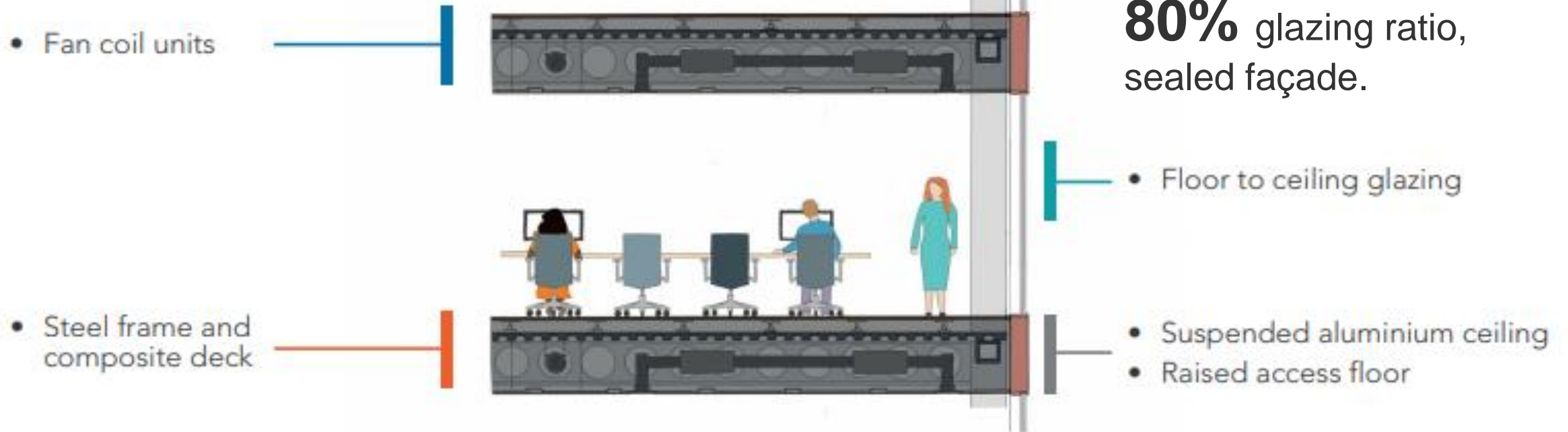
Operational carbon

Net Zero Carbon. Whole life assessment.

Cumulative carbon emissions.
Typical 60-year whole life assessment.



Workplace - Baseline design.



(Image: Bennetts Associates)

- Reinforced concrete substructure
- Steel frame and concrete composite floor structure
- Suspended ceiling and raised access floor system

- Gas Boiler & Chillers – Fan Coil Units
- Comfort set point 22 +/- 2°C (BCO standard)
- Typical tenant lighting, power and server rooms

Workplace - Stretch target.

- Mixed mode ventilation/ chilled beams
- Task lighting
- Wider range of indoor temperatures (due to reduced comfort cooling)

- Timber frame and CLT deck



40% glazing ratio,
openable windows and
solar shading

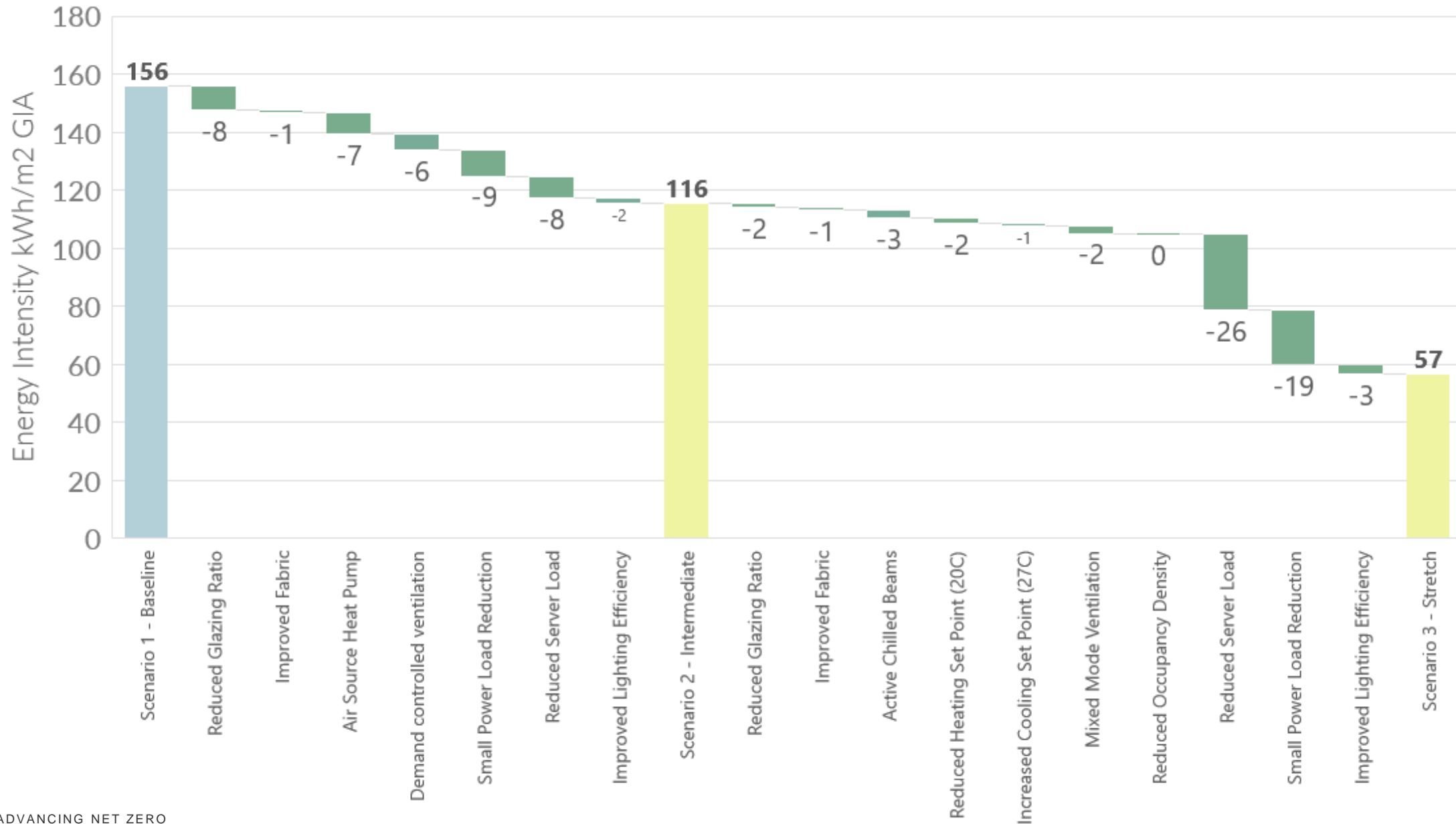
- Lower glazing ratios
- External solar shading
- Opening windows

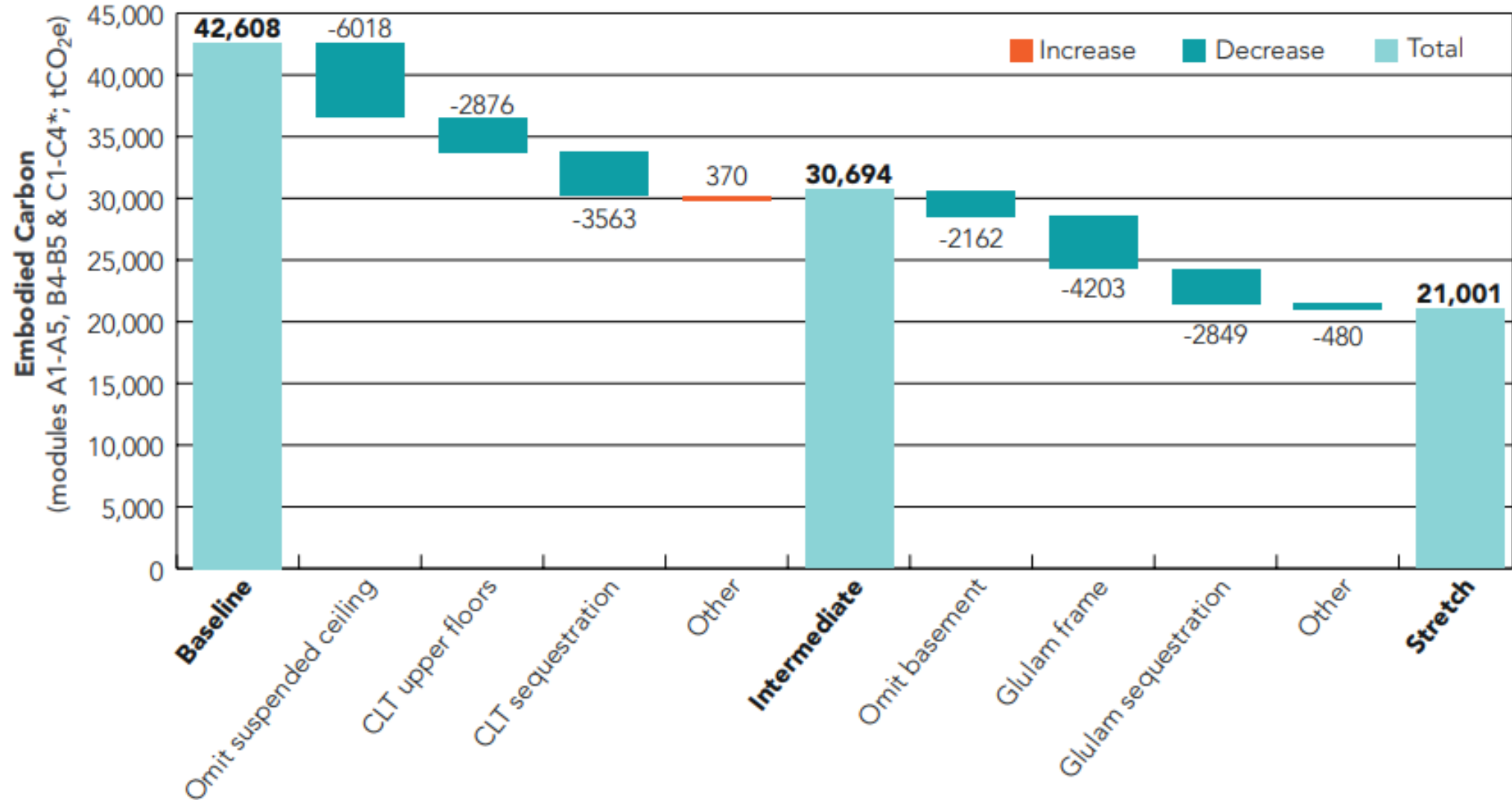
- No suspended aluminium ceiling
- Timber floor build-up without floor access for services (power and IT distribution to be surface mounted)

- Omit concrete basement
- Glulam frame and cross laminated timber floor
- Exposed ceiling and timber floor build-up

- Mixed Mode Ventilation , Chilled Beams
- Relaxed comfort set points : (Summer peak: 27°C)
- Off site cloud computing; reduced lighting levels .

Workplace case study - Operational energy analysis.





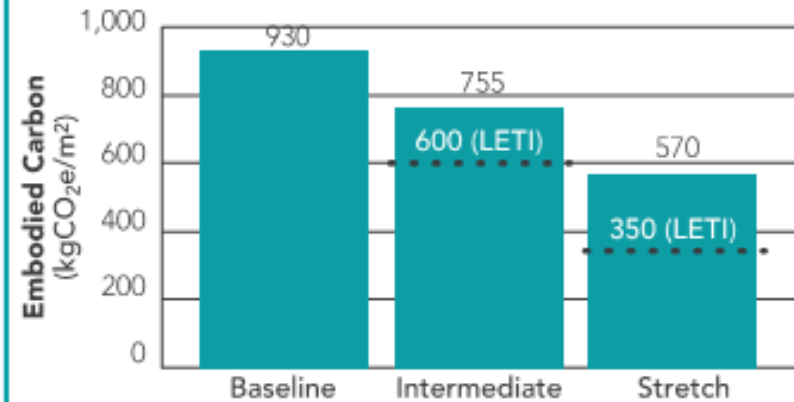
Cost summary.



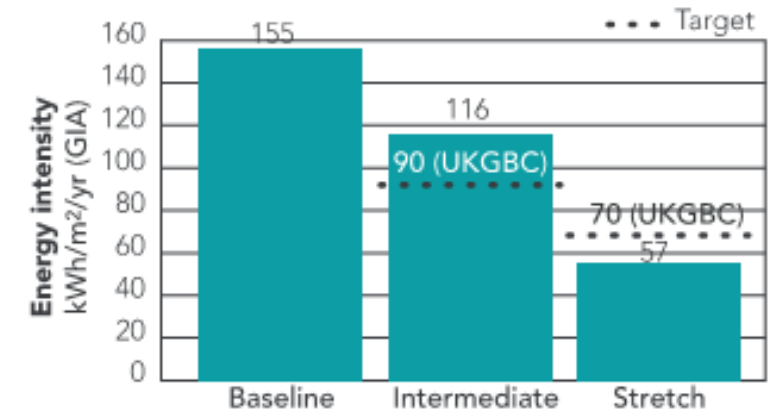
Workplace
case study



Case study analysis – net zero commercial building (multi-storey city office)



Upfront embodied carbon*
(LCA module A; kgCO₂e/m²)



Energy performance
(whole building; kWh/m² (GIA) / year)

Cost change (shell and core; £/m² GIA) See pages 40-46



£3,125



6.2% increase
(£3,320)



8-17% increase
(£3,370 to £3,660)

*Not including sequestration (capture of carbon in timber building materials)

Conclusions and summary

- Increasing awareness from investors, corporations, occupiers and general public
- Legislation/policy drivers – will only increase.
- NHS Net Zero Carbon plan may translate into higher standards.
- Range of measures to improve energy efficiency, but needs planning and implementation soon to de-risk assets.
- Owners and occupiers needs to be aligned and work together.