

# IS NET ZERO CARBON ACHIEVABLE IN LABS?



# PANEL SESSION: IS NET ZERO CARBON ACHIEVABLE IN LABS?



**Chair: Philip Macdonald,  
Managing Partner,  
Oberlanders Architects**



**Tim Fry, Director,  
Business Leader Science  
UKIMEA, Arup**

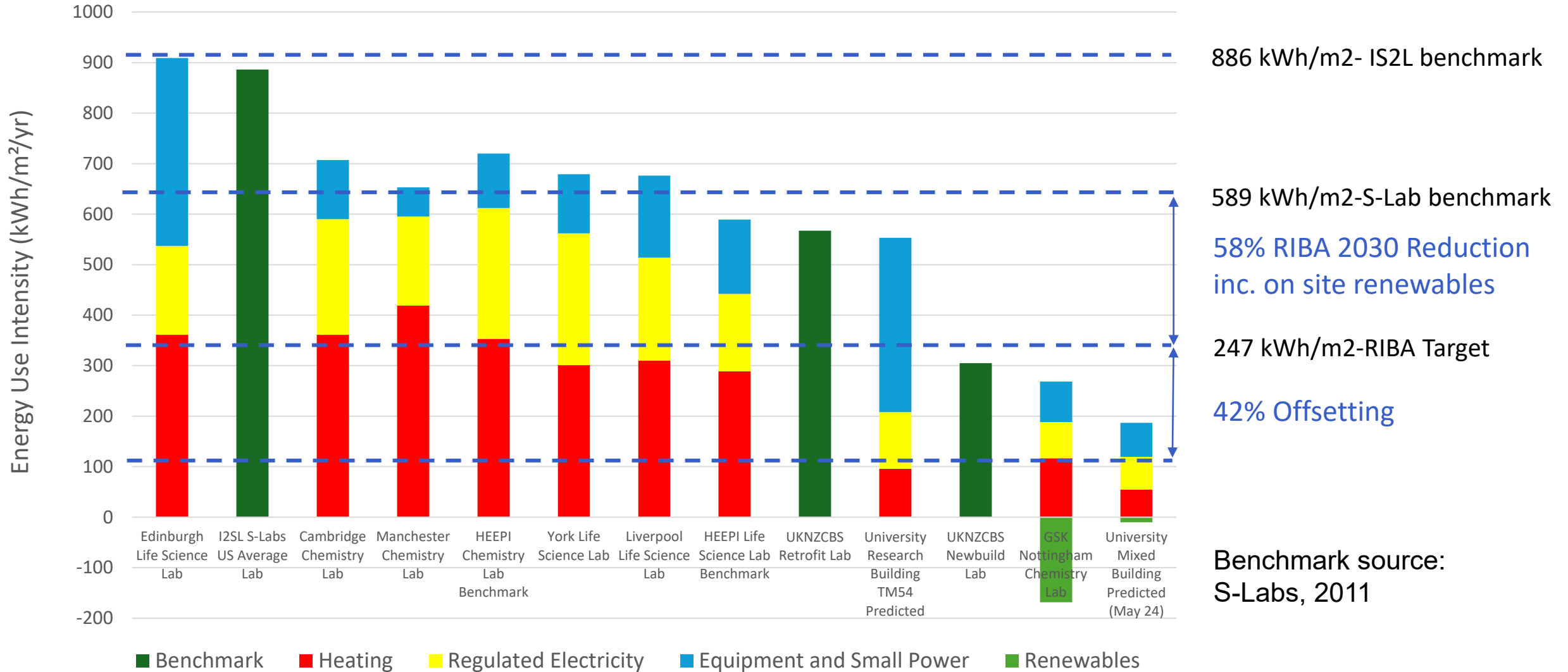


**Gary Clark, Managing  
Director, HKS**

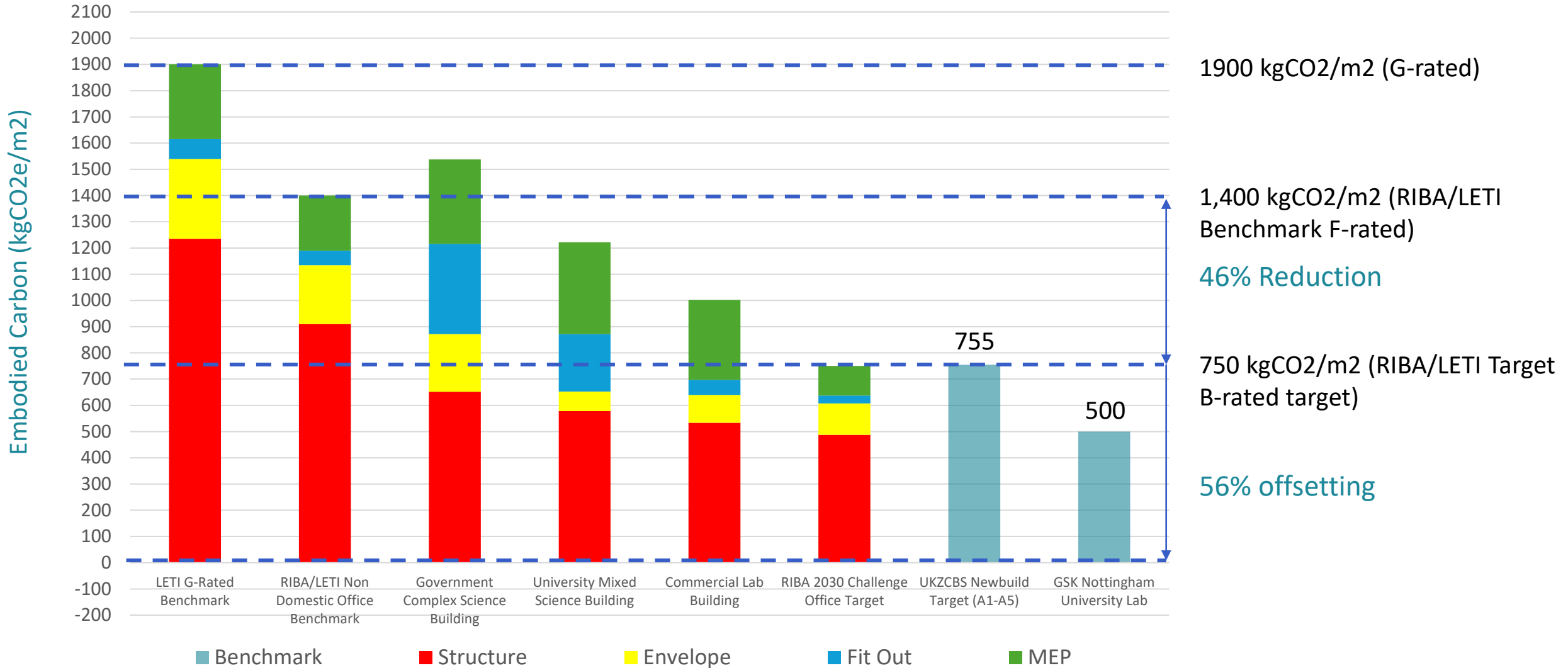
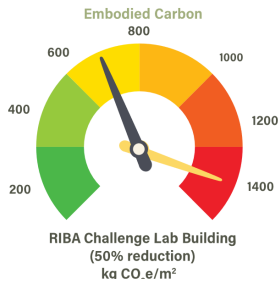


**Alison Wring, Director  
Commercial Science/Tech Lead  
UK/I AECOM**

# Operational General Life Science Labs Benchmarks



# Embodied Carbon Life Science Labs Benchmarks



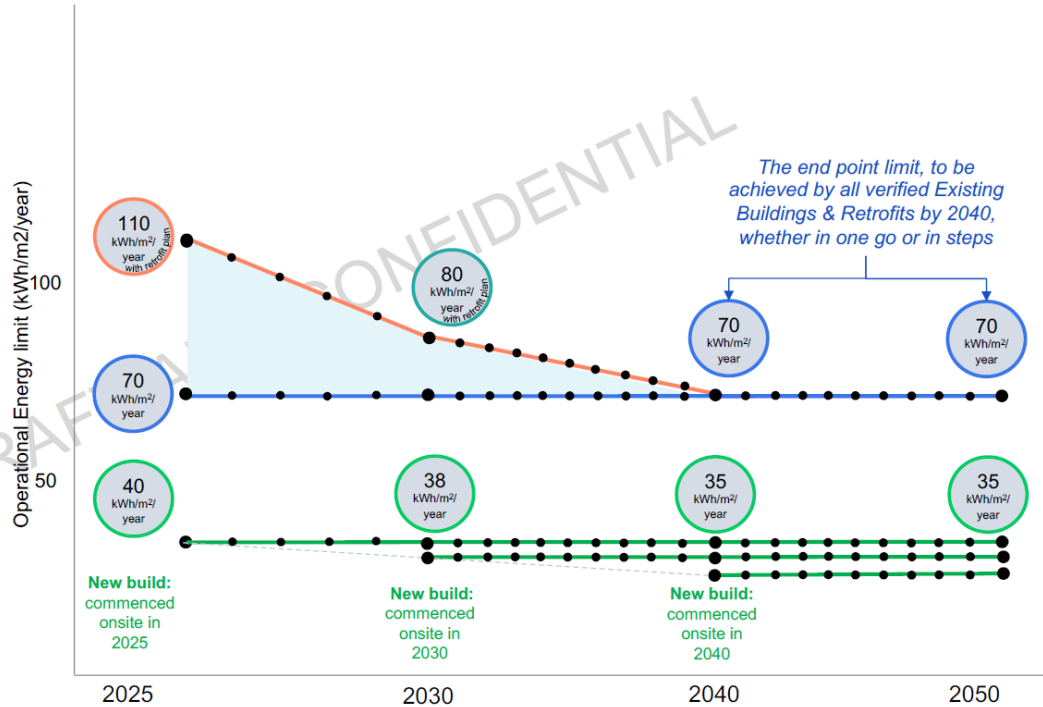
# Developing Net Zero Carbon Benchmarking Targets

## Example – Homes – Sub-sector: Detached home

**Retrofit “step by step”:**  
Not achieving the end point limit on 1<sup>st</sup> verification, but with a Retrofit Plan and improvements over time to meet the intermediate limits and the end point limit by 2040.

**Retrofit “in one go”:**  
achieving the end point limit from its 1<sup>st</sup> verification.

**New build:**  
Limits are fixed based on the time the development commenced onsite



# I2SL Benchmarking Tool

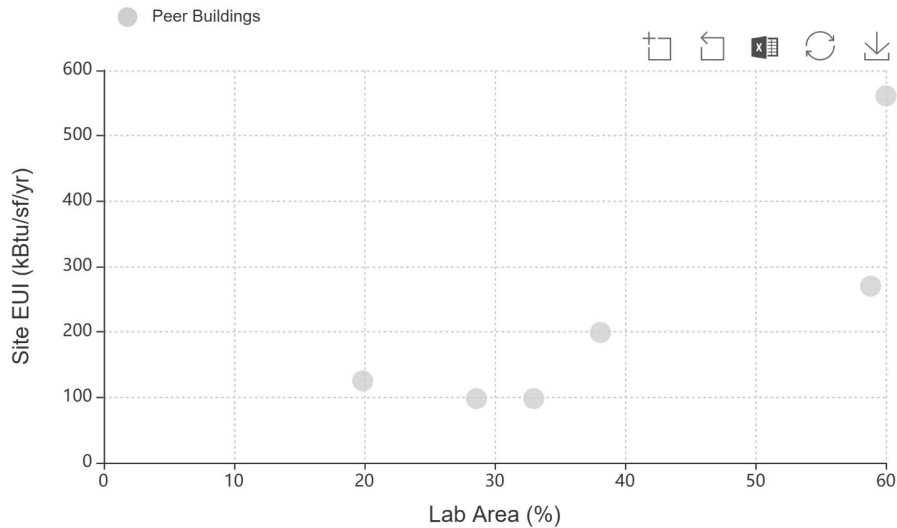


## Laboratory Benchmarking Tool

### Energy and Operational Emissions Benchmarking ?

By default, all buildings are shown on the charts. Use the filters to narrow down your peer group.

Scatter Plot



Select Quantities to Plot

Horizontal Axis: Lab Area (Units: %)  
Vertical Axis\*: Site EUI (Units: kBtu/sf/yr)

### Filters ?

Clear All

Start with Basic Filters if you're a new user.

Basic Filters ? Clear Edit

Building Properties ? Clear Edit  
Region: Europe

Building Systems ? Clear Edit

Fume Hoods ? Clear Edit

Lab Types ? Clear Edit

- 1300+ data entries globally
- **Only 6 entries for Europe**
- Filters by
  - Type
  - Geolocation
  - Built / in planning
  - Environment
    - Humid/Dry/Marine
  - Use / sector
  - Containment level
  - MEP/HVAC system
  - % lab / non lab area
  - Occupancy

*Opportunity to add more projects and build the data set!*

