HNCLT AGM – 26th September 2023

Ian Pritchett – Growth & Innovation Director (Co-founder)

GREENCORE

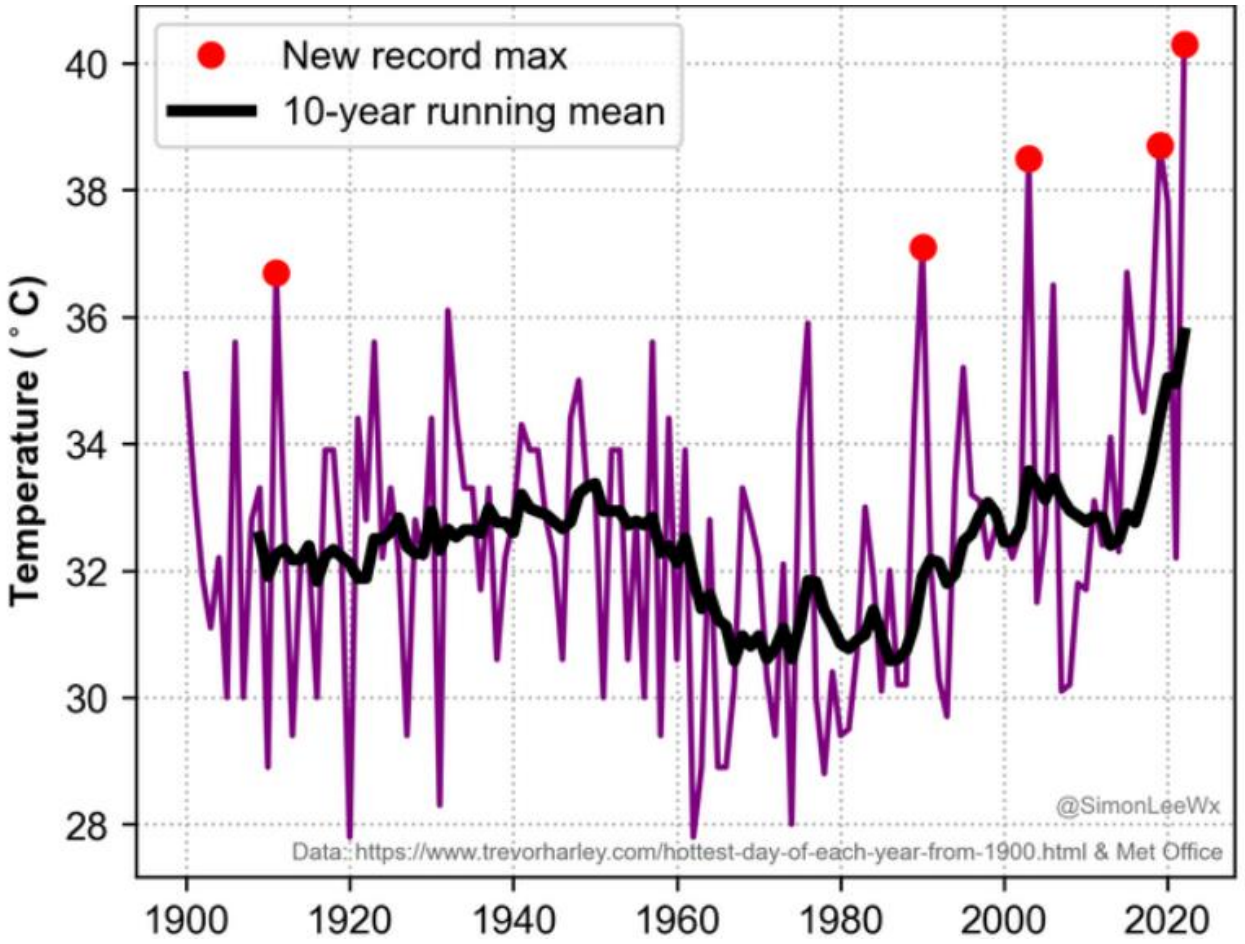
HOMES

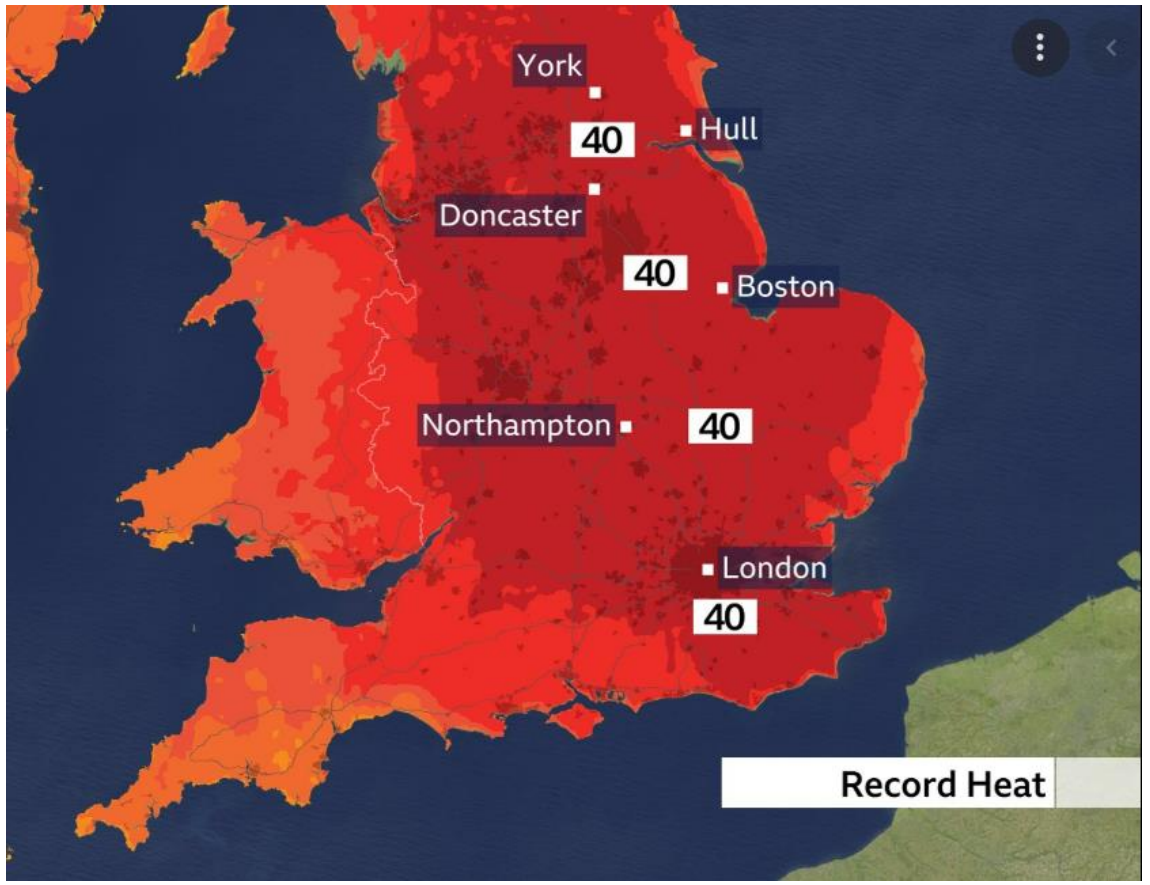
Greencore Homes

- Formed in 2013 to pioneer low-carbon housing
- Majority owned & funded by M&G
- Delivering Zero-Carbon Now
- Building the Team and Capability to scale-up
- Aiming to deliver 10,000 homes by 2035
- 500+ houses in planning
- Office/factory based in Bicester

Climate Change

Hottest day of each year since 1900





Carbon Budgets

- The Tyndall Centre for Climate Change Research has published the carbon budgets for each Local Authority in the UK
- Oxfordshire has a budget of 26.3MT of allowable emissions (up to 2100)
    - Cherwell District Council 7.3MT
    - West Oxfordshire District Council 3.7MT
    - South Oxfordshire District Council 5.6MT
    - Vale of the White Horse District Council 5.2MT
    - Oxford City Council 4.5MT

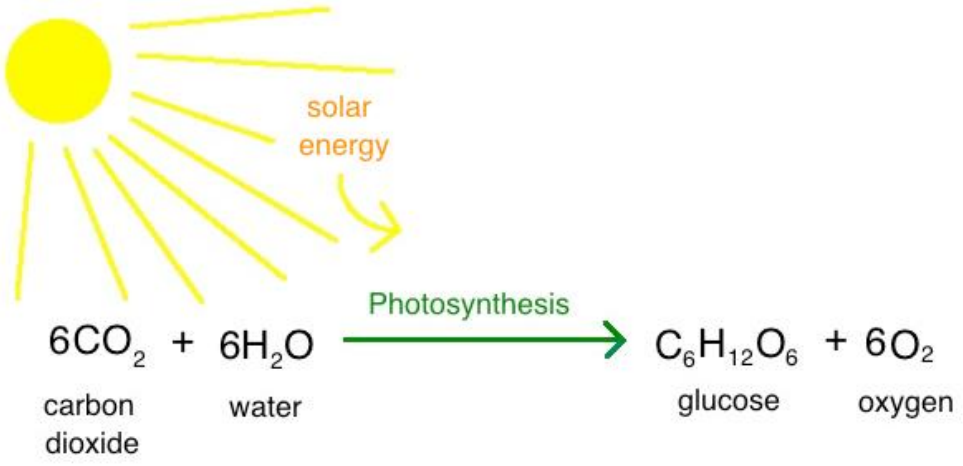
Embodied Carbon

Embodied Carbon

- An average new house is responsible for over 100T of CO_2e emissions at the construction stage
- This is its carbon footprint
- An average house emits 3 to 5T of CO_2e per year in use
- A new house built this year will be responsible for 200T of CO_2e by 2050

Carbon Capture and Storage

- Bio-based materials lock up CO_2
- Plants absorb CO_2 and turn it into cellulose
- It takes 1.8kg of CO_2 to make 1kg of cellulose
- The more bio-based materials we incorporate in buildings, the more carbon we lock up



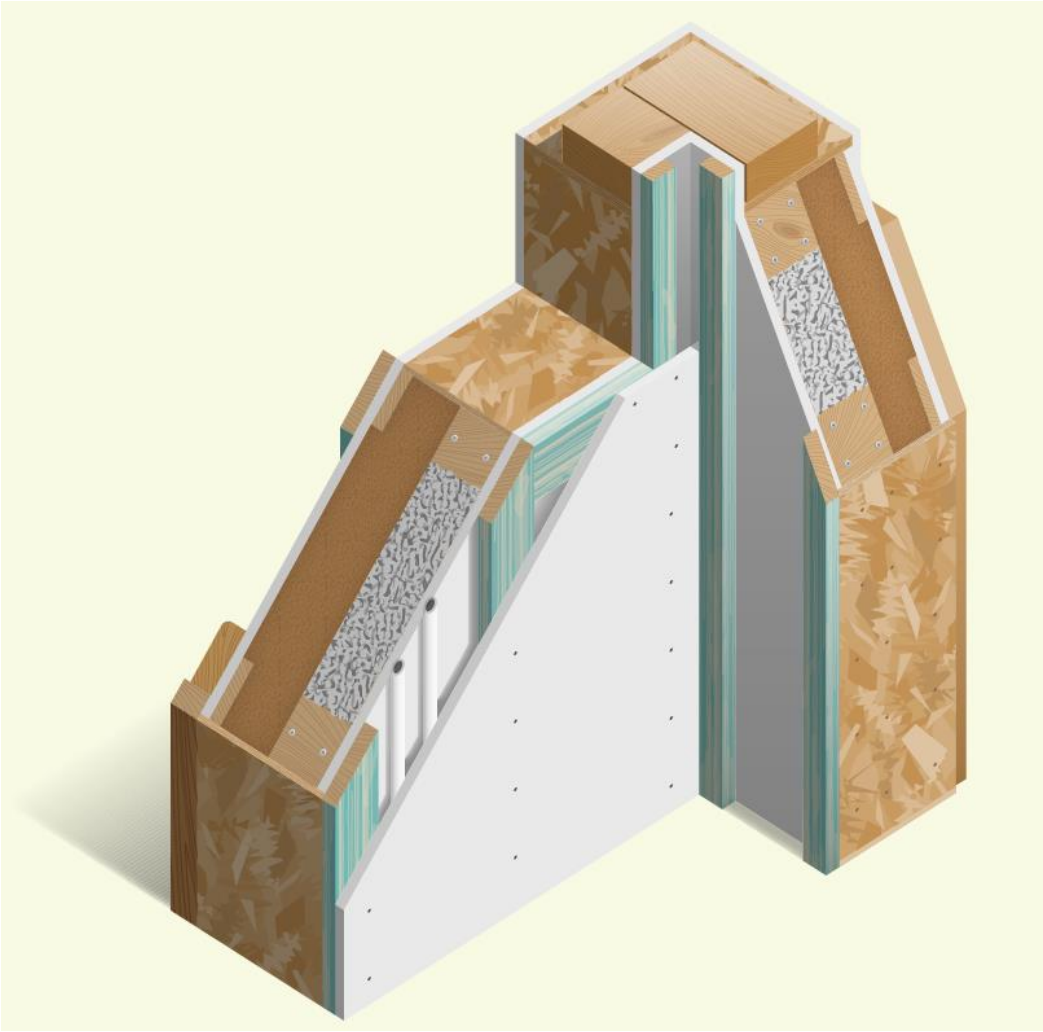
Embodied Carbon

“What we do in the next ten years will profoundly impact the next few thousand” Sir David Attenborough

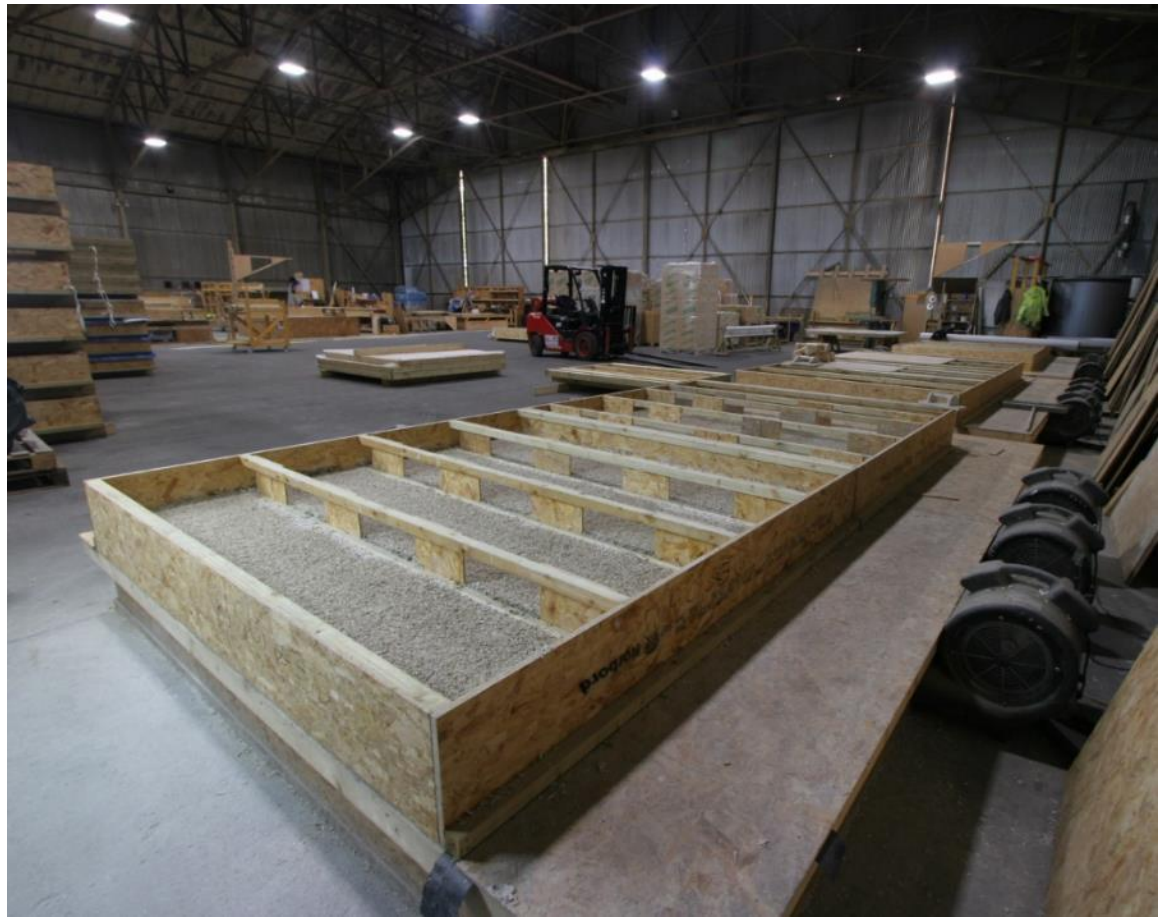
- There are 100,000 new houses planned for Oxfordshire in the next 10 years.
- Thus 80% of Oxfordshire’s carbon budget may be squandered by building un-sustainable houses that will need to be upgraded to future standards before too long.
- **Plc figures suggest we will use 100% of the budget by 2029**

Biond Building System

- Closed panel timber frame
- Insulated with Hemp-Lime and wood-fibre insulation
- Breathable (air-tight) construction
- Locks up carbon
- Cross-Laminated Timber (CLT) floors



Off-site Manufacture



Insulated Rafts

Super-Structure Erection

Super-Structure

Roof Integrated PVs

What makes this project special?

- Community led
- First project through our new factory
- Climate Positive
  - Embodied carbon
  - Low energy use
  - Renewable energy generation to meet 100% of energy use
- Micro-grid that includes the Sports & Social Club
- Monitoring

The Secret Formula

- Bio-based materials used to ‘lock up’ or sequester carbon
- Passivhaus thermal performance including:
  - High levels of insulation
  - Design out thermal bridging
  - Excellent air-tightness
  - Triple glazed timber windows
  - Heat recovery ventilation
- Electric heating, hot water and cooking
- PVs used to generate electricity,batteries to store it and micro-grid to optimise distribution

Carbon Savings

- If all houses in the UK were built this way, we could save 600 million tonnes of CO_2e emissions over the next 30 years.
- This is equivalent to 5% of the UK's emissions during this period.


“The best way to predict the future is to create it.”
Peter Drucker
GREENCORE
HOMES