

# Delivering “better than zero carbon” homes now!

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# GREENCORE

H O M E S

# We are in a Climate Emergency

**“What we do in the next ten years will  
profoundly impact the next few thousand”**

Sir David Attenborough



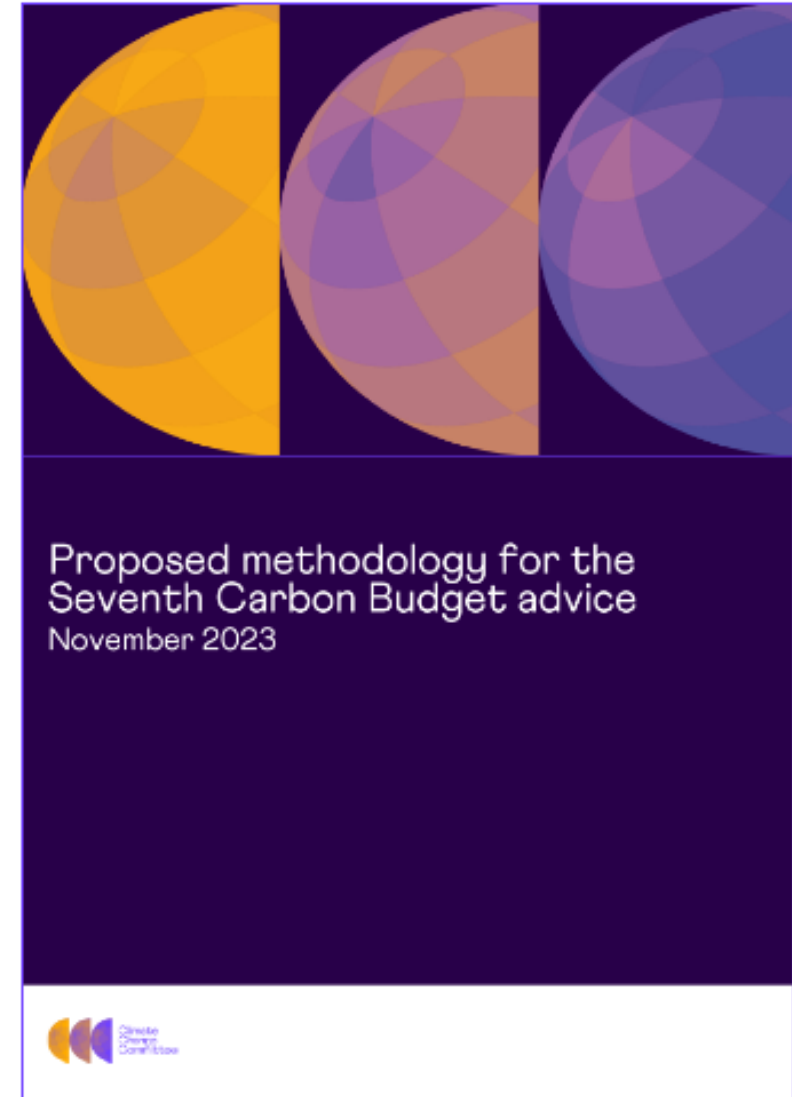


East Midlands East of England London North East North West South East South West West Midlands Yorkshire and the Humber Scotland Northern Ireland Wales  
Aggregate Budgets

# Carbon Budgets

Dorset has a budget of 12.7MT of allowable emissions (up to 2100)

- Christchurch 1.3MT
- East Dorset 2.5MT
- North Dorset 2.1MT
- Purbeck 2.0MT
- West Dorset 3.5MT
- Weymouth & Portland 1.3MT



# Zero Carbon & the Performance Gap

- What do we mean by Zero Carbon?
  - Heating, Hot Water, Lighting & Ventilation
  - Embodied carbon not included
  - Un-regulated energy not included
- Most new homes don't perform as well as predicted
  - Inaccurate modelling
  - Material substitution
  - Poor site practices
  - No monitoring



# Carbon Emissions

- An average new house is responsible for over 100T of CO<sub>2</sub>e emissions at the construction stage
- This is its carbon footprint (up-front carbon)
- An average house emits 3 to 5T of CO<sub>2</sub>e per year in use
- A new house built this year will be responsible for around 200T of CO<sub>2</sub>e by 2050
- New housing target is 3,230 homes per year
- 650,000T ~ 20-year runway (based on BAU)

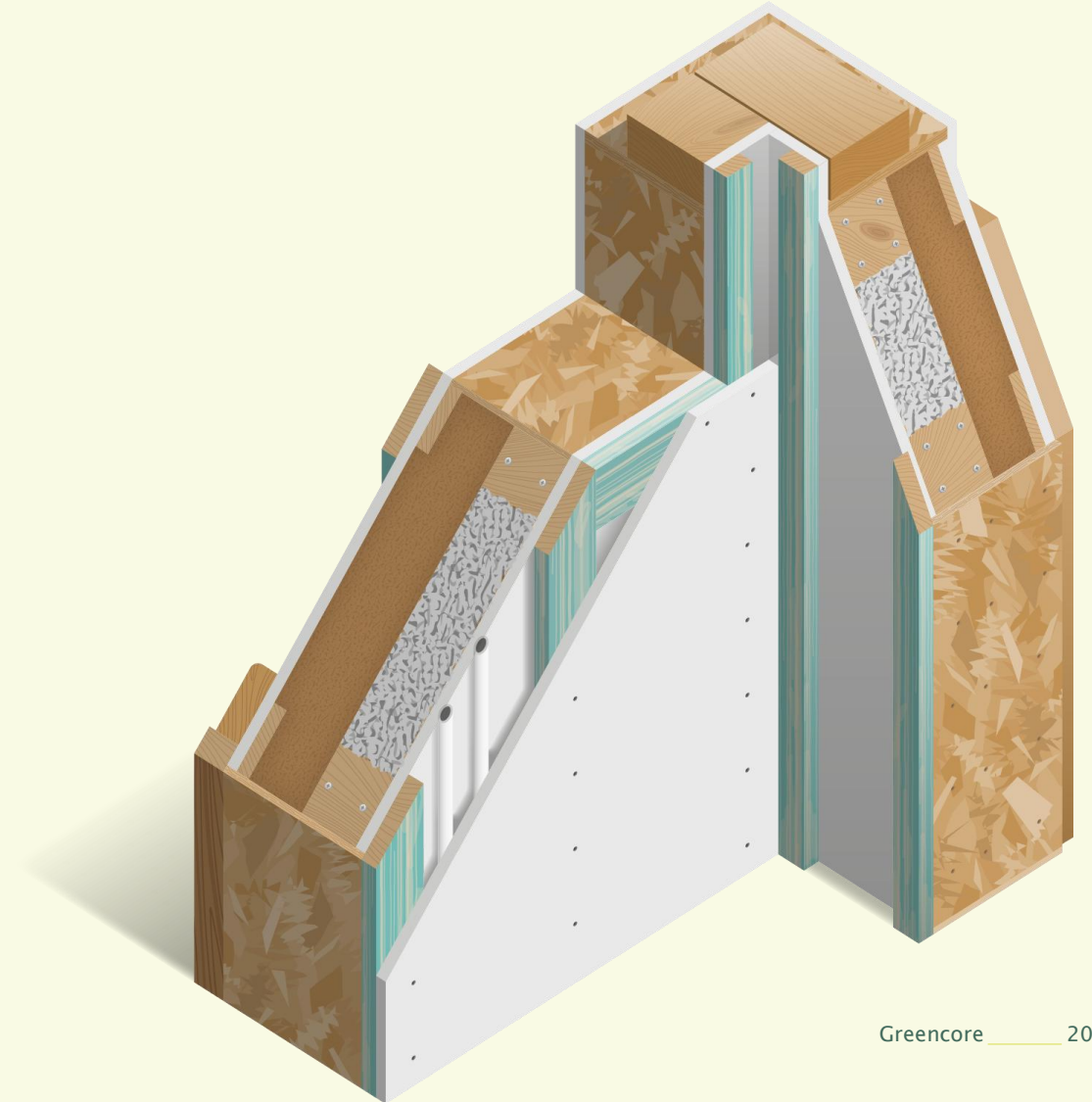


# The Journey So Far

- We have built around 100 homes since we started in 2013
- Evolved from single houses to small developments
- Delivered the multi-award-winning Springfield Meadows
- Now majority owned & funded by M&G
- Around 500 homes in progress
- Office/factory based in Bicester
- Ambitious growth plans



# The Greencore Factory



# Purpose & Vision

Greencore Homes are passionate about delivering better than net zero homes and creating communities where people can live **low carbon, healthy** and **active lives**.



## Our purpose

To **accelerate** the global transition to **low carbon living**



## Our vision

To **lead** the housebuilding industry by delivering 10,000 **better than net zero** homes by **2035**



# Sustainability Targets

Greencore is dedicated to sustainability at every level.

Our targets span construction and occupation, aligning with RICS 2017 and LETI guidance. We surpass industry standards, for whole life embodied carbon in use and energy in use. Greencore aims to set a new standard of low carbon living.

Embodied Carbon	Target	Guideline
The superstructure of our homes	Whole Life Embodied Carbon - Better than Zero (<0kg/CO2e/sqm inc sequestration)	RICS 2017
Whole Home	Upfront Embodied Carbon <300kgCO2e/sqm (exc sequestration)	LETI 2030
Whole Home	Upfront Embodied Carbon <200kgCO2e/sqm (inc sequestration)	LETI 2030

Energy In Use	Current Target / Design Standard	Guideline
Energy in Use Intensity (EUI)	35kWh per m2 of GIA per year or less	LETI
Space Heating Demand	15kWh per m2 per year or less	LETI
Energy Performance Certificate (EPC) Rating	EPC A	
Renewable Energy Source	100% of energy required by our homes	LETI



# The Place Around The Homes

Greencore incorporates **Bioregional's One Planet Living Framework** into our design brief.

We **design landscape-led schemes with publicly accessible, natural green spaces.**

We are **committed to biodiversity and the enhancement of wildlife** on every development.

We apply biodiversity net gain consistently on all developments, ahead of legislation.



 Health and happiness	Encouraging active, social, meaningful lives to promote good health and wellbeing
 Equity and local economy	Creating safe, equitable places to live and work which support local prosperity and international fair trade
 Culture and community	Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living
 Land and nature	Protecting and restoring land for the benefit of people and wildlife
 Sustainable water	Using water efficiently, protecting local water resources and reducing flooding and drought
 Local and sustainable food	Promoting sustainable humane farming and healthy diets high in local, seasonal organic food and vegetable protein
 Travel and transport	Reducing the need to travel, encouraging walking, cycling and low carbon transport
 Materials and products	Using materials from sustainable sources and promoting products which help people reduce consumption
 Zero waste	Reducing consumption, reusing and recycling to achieve zero waste and zero pollution
 Zero carbon energy	Making buildings and manufacturing energy efficient and supplying all energy with renewables









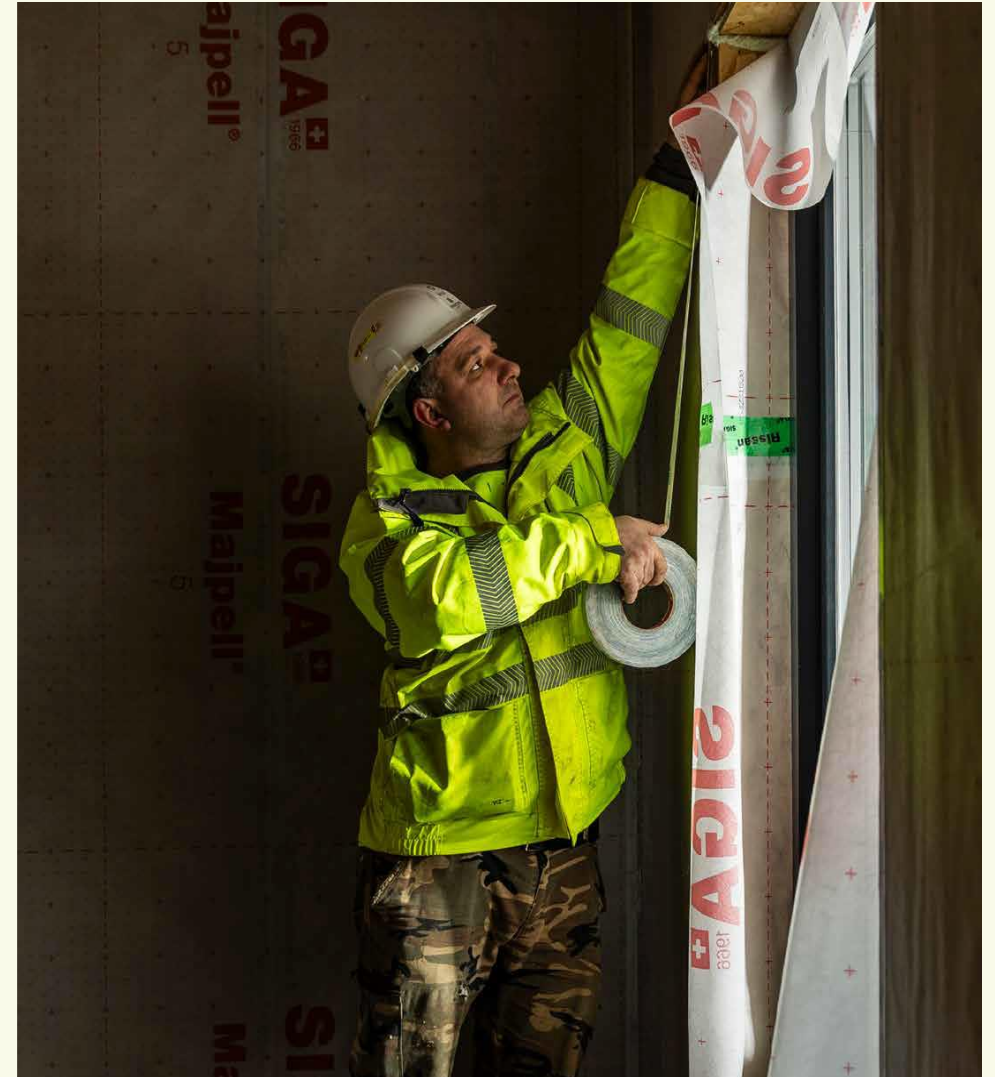
# The Secret Formula

- Use bio-based materials to lock up carbon
- Passivhaus thermal performance standard
  - High levels of insulation
  - Design out thermal bridging
  - Excellent air-tightness
  - Triple glazed timber windows
  - Heat recovery ventilation
- Electric heating, hot water and cooking
- Use PVs to generate electricity and batteries to store it, via a Smart Micro-grid
- Post Occupancy Evaluation



# How can the industry do better?

- **Site construction phase**
- Properly trained construction teams
- Emphasis on air-tightness
- Air-tightness test before plaster-boarding
- Strong QA processes
- **Incentives**
- SDLT
- CIL



# Land Requirements

Sites for 50 to  
500 homes



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Landowners interested  
in sustainability



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Greenfield, or  
brownfield sites



Opportunities for  
renewable energy  
generation



and / or  
rewilding /  
biodiversity net  
gain



Sites with planning,  
outline planning, subject  
to planning, option  
agreements or land  
promotion deals



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Locations that suit private  
rental or shared ownership  
requirements



**“The best way to  
predict the future is  
to create it.”**

Peter Drucker



**GREENCORE**

**HOMES**