

# Delivering Net Zero Collaboration

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# THIS AFTERNOON

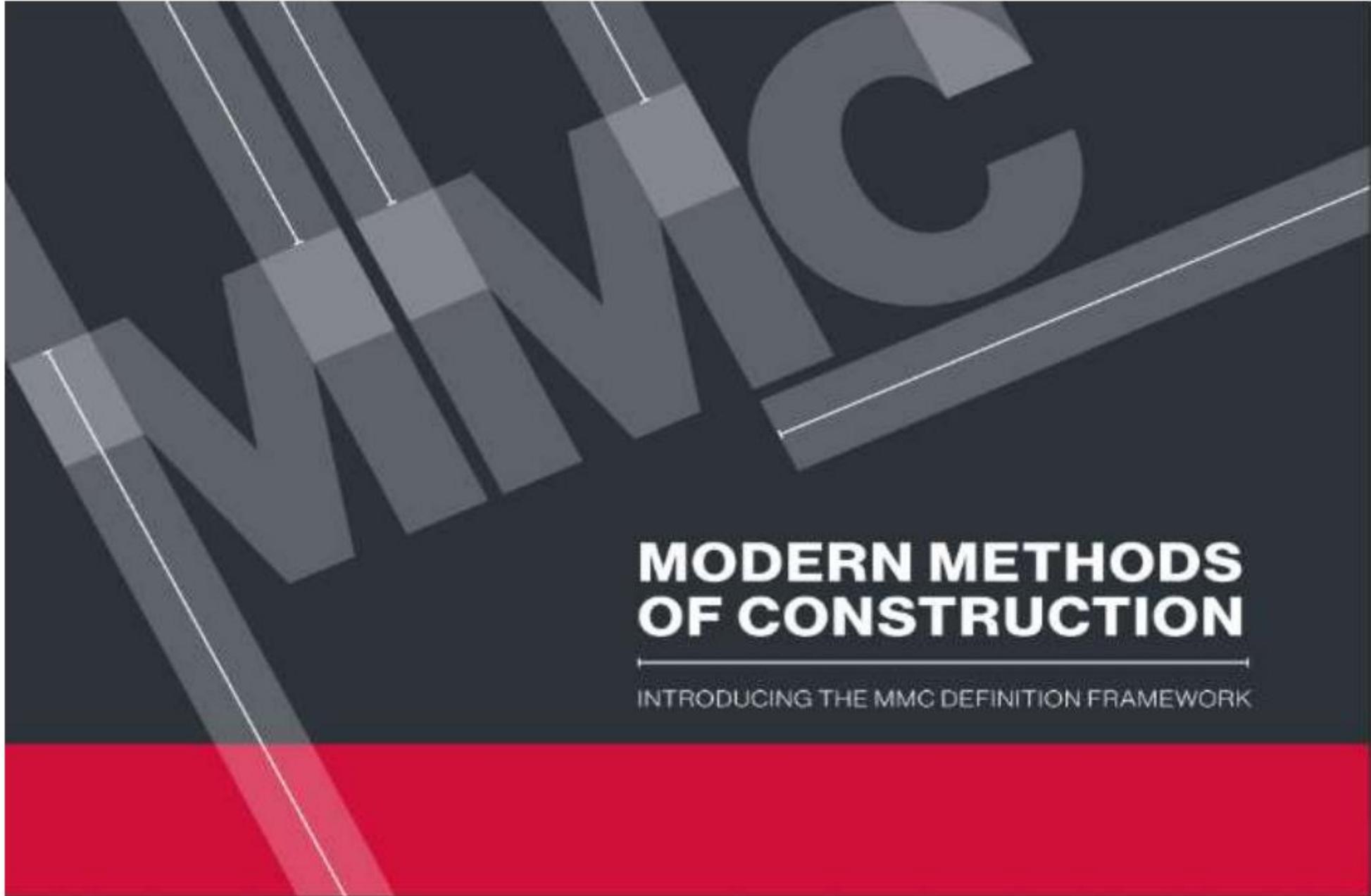
- Opportunity to hear about a new approach to build better new affordable homes
- Hear from you about what a good homes needs to be
- Ask whether you would like to be involved in this project



# CHALLENGE – To Build Homes ....

- Great to live in
- Affordable to live in
- Help address climate change
- Use natural materials
- Can be built by local companies
- Create local jobs and apprenticeships
- Easy to maintain
- Affordable to build





# MODERN METHODS OF CONSTRUCTION

INTRODUCING THE MMC DEFINITION FRAMEWORK

# OFFSITE MANUFACTURE



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# MODERN METHODS OF CONSTRUCTION

- Offsite manufacture
- Achieve better quality
- Reduce long-term costs
- Increase resident satisfaction
- Build more efficiently
- Less waste
- Speed + fewer accidents
- Reduce CO2 emissions

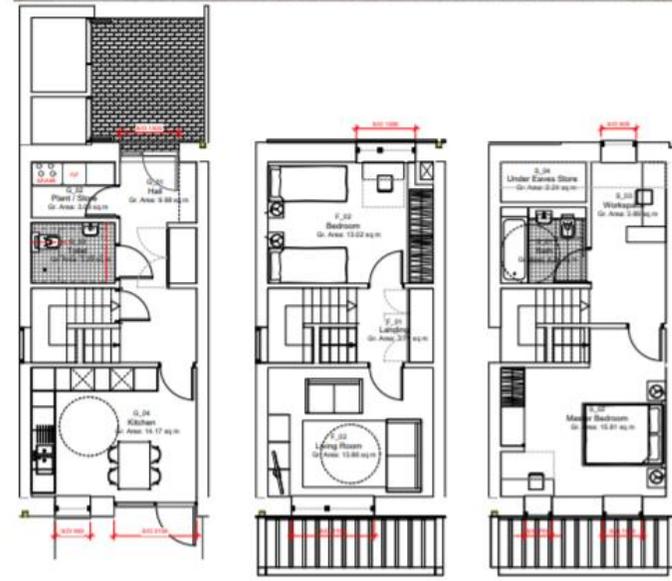
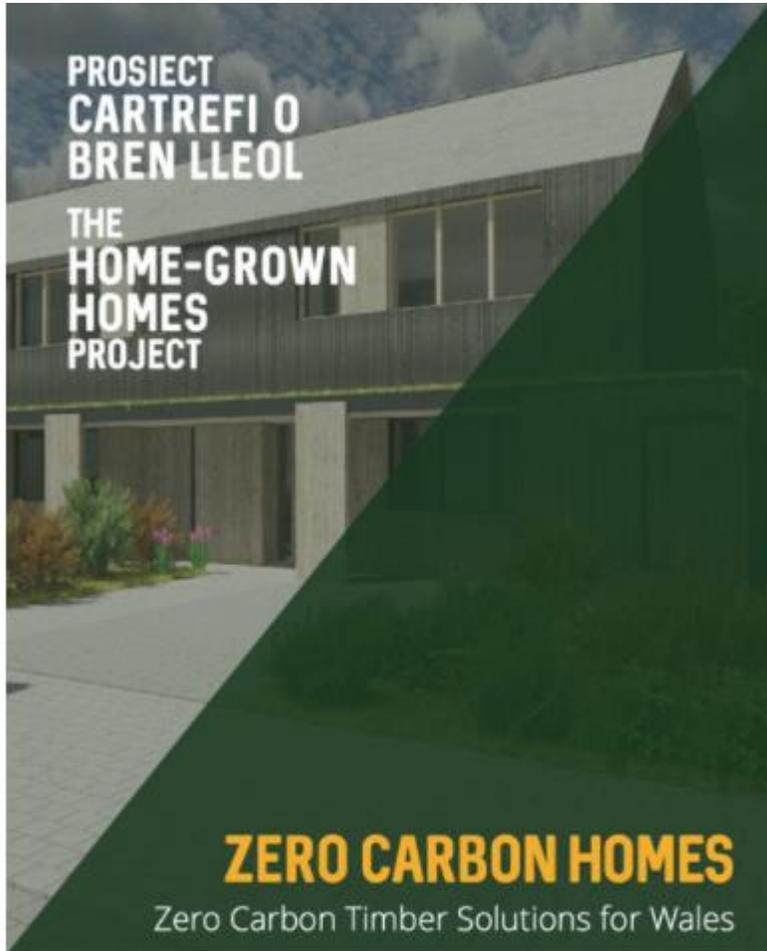
**COLLABORATION**

**AGGREGATION**

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# BACKGROUND TO PROJECT



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# COLLABORATION MEMBERS

- 11 Local authorities - Anglesey, Caerphilly, Cardiff, Carmarthenshire, Denbighshire, Flintshire, Pembrokeshire, Powys, Swansea and Vale of Glamorgan
- 7 housing associations - Caredig, Cartrefi Conwy, ClwydAlyn, Coastal, Monmouthshire Housing Association, Tai Tarian and United Welsh
- 40% of Welsh developing social landlords



# PROJECT DELIVERABLES

- **Pattern Book** standardised designs of property types
  - 1b 2p flats, 2b 3p flats, 2b 4p house, 3b 5p house 4 p house
- **Whole life carbon spec** – big reductions in energy needed to live in homes and carbon used in making the homes
- **Using Timber** - increasingly Welsh timber



# PROJECT DELIVERABLES

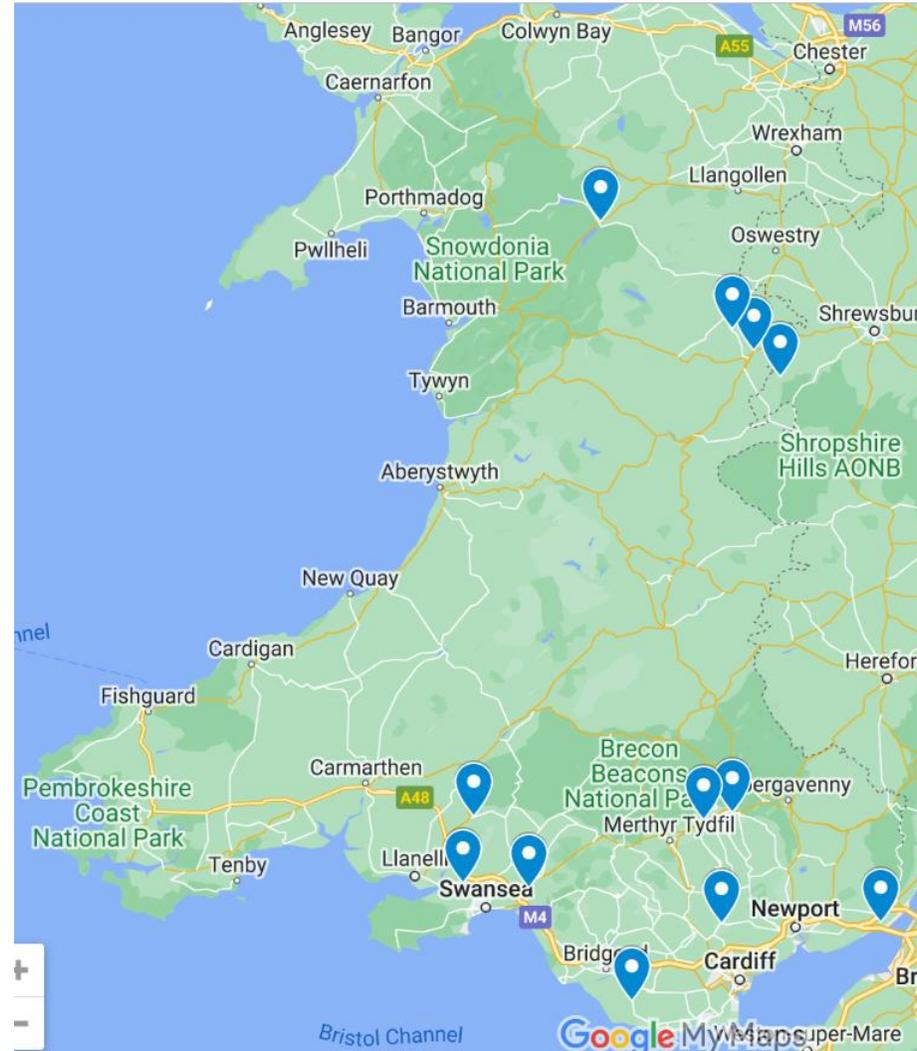
- **Supply chain** - Unlock a sustainable, short and strong supply chain of offsite manufacturers to make and install homes:
  - Framework of Welsh SMEs to manufacture and install homes
  - Foundational economy benefits



# TIMBER FRAME MANUFACTURERS

Timber Frame Manufacturers

- ^ All items
- Robinson Manufacturing
- Fforest Timber Engineering
- Lowfield Timber Frames
- PYC Construction
- SO Modular
- Williams Homes
- TRJ Ltd
- Kenton Jones
- Benfield Timber Systems Ltd
- Roe Timberframe
- Ashdown Construction Group Ltd
- Celtic Offsite



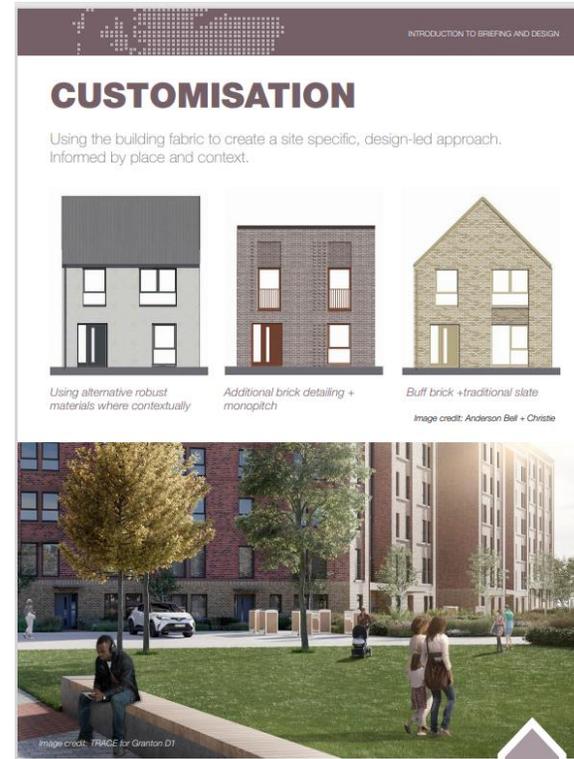
Source - Wood Knowledge Wales

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# LEARNING FROM OTHERS

Edinburgh Home Demonstrator [ehd-introduction-to-briefing-and-design.pdf](https://www.be-st.build/introduction-to-briefing-and-design.pdf) (be-st.build)



# THE TYPES: FLATS

Instead of an open plan arrangement, it was preferred that flats have a closed configuration. Where noise from washing machines could be an issue, these would be located in a designated drying cupboard with its own extract.



1b2p Flat



1b2p Accessible Flat





2b3p Accessible Flat



# THE TYPES: HOUSES

As described in the later section, Attributes Explored, ensuring tenants can stay in their homes for longer with minor adaptations (i.e. downstairs bedroom) would be beneficial to both wellbeing of tenants and reduce the strain on accessible homes.



2b4p House



# DESIGNED FOR MANUFACTURE

The types were developed in dialogue with consortia of OSM companies utilising timber designs were reviewed to ensure deliverability

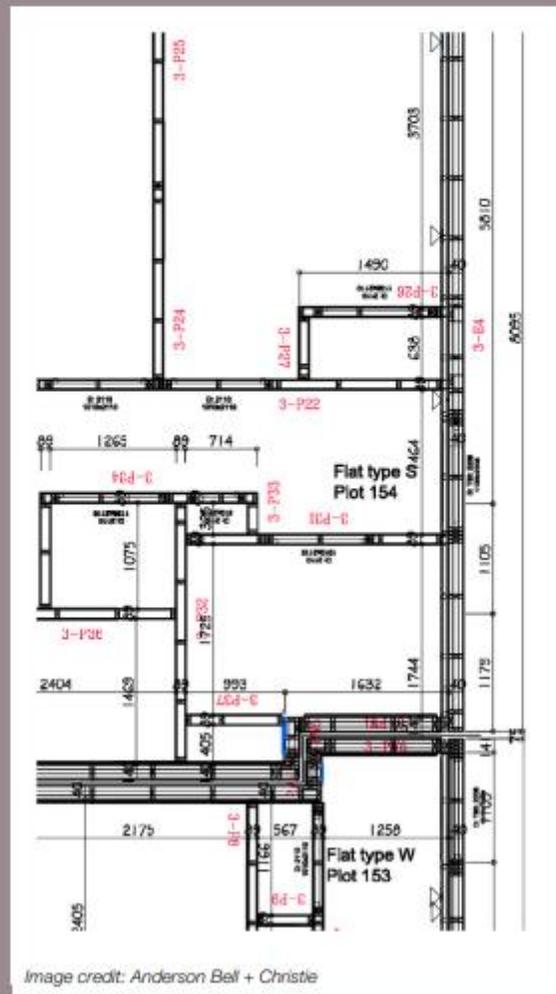


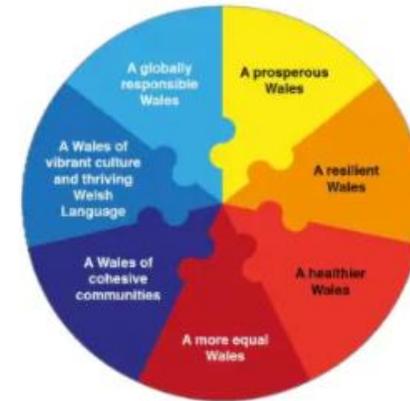
Image credit: Anderson Bell + Christie

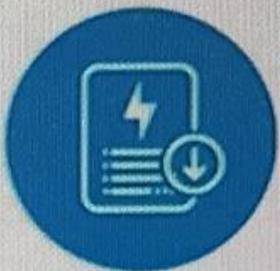
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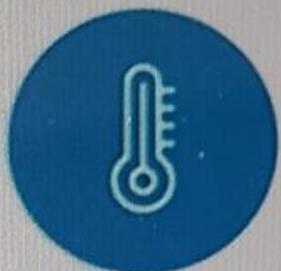
# COLLABORATION – CO DESIGN

- Sharing Iterative Designs - Prototyping
- Nurturing an active learning community - Site Visits/Workshops
- Landlords
- Residents
- Public Health
- Funders/Insurance/Warranty Providers
- Supply Chain

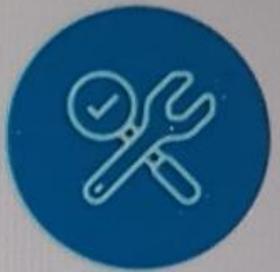




Low Energy Bills



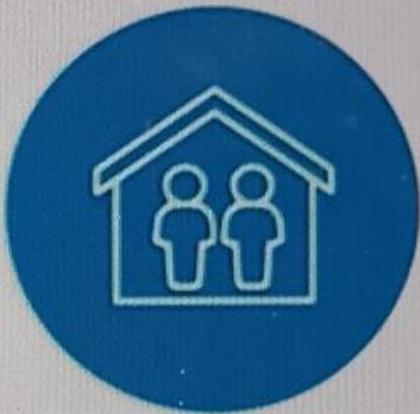
Warm in Winter



Easy to Maintain



No overheating



Residents



Sufficient Hot Water



Good Handover



No restrictions on use, furniture &



Easy to Understand & Control Systems



# WHAT ELSE?

- Accessibility
- Natural light
- Good air quality
- Use of natural materials
- Future proof

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# NEXT STEPS

- Appoint design team
- Agree project plan with time lines
- Invitation to get involved in shaping the house designs



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