

AHRC Green Transition Ecosystems

Transforming Housing and Homes for Future Generations



Need to improve our existing homes



Drivers for a change in approach...

- Poorly executed retrofit measures can lead to unintended negative consequences:
 - Increased problems with damp and mould
 - Reduced indoor air quality
 - Damage to building fabric and cultural heritage
- Current retrofitting approaches rely heavily on synthetic and non-renewable materials, which can have negative environmental impacts.
- In some cases, the embodied carbon emissions of retrofitting measures exceed the carbon savings from reduced energy use.

Transforming Housing and Homes for Future Generations project

- 2-year project funded by AHRC
- Multi-disciplinary team of 10 partners
- AHRC & Future Observatory Green Transition Ecosystem programme
- Products using bio-based and non-extractive materials
- Co-design focused
- Stakeholder engagement
- Demonstrator projects in Bristol and Swansea

1920-1940s low-rise houses account for approximately 3 million of homes still in use today.



Springfield Allotments

Knowle West, Bristol

Safe & Sound



Townhill, Swansea



Our vision for the Transforming Homes GTE is to transform existing housing by working with, and for, communities.

Co-create low energy resilient homes using bio-based and non-extractive materials, together with renewable energy supply and storage.

Bring together diverse stakeholders to work together to design remodelling solutions to create low energy homes.

Our GTE partners...



MIKHAIL
RICHES



Co-Design

- Fabric first approach to:
 - increase levels of insulation
 - improve air tightness
 - minimise thermal bridging
 - improve resilience of building fabric
 - reduce VOCs.
- Examine the technical, environmental, and economic solutions using bio-based and non-extractive materials for retrofitting homes, employing circularity and zero waste combined with renewable supply and storage.
- EWI to minimise disruption including need for decant.

Intended outputs include:

- Increased capacity to deliver bio-based and non-extractive solutions for housing transformation
- Validated prototypes for retrofit
- Architype design solutions
- New policies and processes in housing transformation
- Raising public awareness of the housing challenge and solutions
- Support training, upskilling and job creation

Opportunity: stakeholder engagement

- We plan workshops to bring together professionals with different perspectives for reflective discussions that seek to build capability.
- We want to engage with stakeholders to:
 - create dialogue around barriers and opportunities
 - identify pathways for scaling up, replicating, transferring knowledge
 - foster acceleration of design for retrofit.

Thank you

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