## Retrofit Process + Community + Scale

Matthew Clubb mwclubb Architectural Design



RETROFIT COORDINATOR

LEVEL 5 GRADUATE





Based on a sample of over 80,000 European homes

Aberdeen & Aberdeenshire





of homes are in fuel poverty

of homes have no wall insulation

## Fabric First!..... (a word about heat pumps)

- Reduce emissions
- Reduce bills & fuel poverty
- Reduce infrastructure burden
- Increase thermal comfort
- Increase internal air quality
- Increase building resilience
- Increase jobs market

Fabric First (Insulation!)



### Heat Pumps



## Methods



## The Whole House Retrofit Process

PAS2035 Retrofitting Dwellings for Improved Energy Efficiency

Retrofit Coordinator role is key

Logged in the national TrustMark Data Warehouse



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Occupant is central to the Intended Outcomes

Detailed Energy Assessment Thermal Imaging Survey Ventilation Assessment

Energy modelling

Evaluation of all possible options

10-20 year plan focused on net-zero

By competent architects or contractors

PAS 2030 or Competent Retrofit Contractors

Ensuring the intended outcomes are met and that there are no unintended consequences

## The Retrofit Plan



Energy demand and generation over the retrofit steps

# Live Projects

Traditional Granite

- Roof insulation
- Triple Glazing
- Extension insulation

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Stage 1 35% Saving Stage 2 48% Saving Heat Pump Ready







# Live Projects

Traditional Granite

- Airtightness
- MVHR
- Triple Glazing

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# Live Projects

### Masonry & Timber frame

- Loft Insulation
- Airtightness measures
- Roof insulation
- Underfloor Insulation
- Ventilation improvements



### Stage 1 40% Saving Heat Pump Ready

Stage 2 70% Saving

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#### Aberdeen

### Edinburgh

#### Glasgow



Edinburgh Building Retrofit and Improvement Collective



Community led cooperative

Community Questionnaire https://edinbric.scot/ Community led cooperative

- 1. Public Awareness
- 2. Supply Chain and skills
- 3. Retrofit Plans

### Retrofit at Scale



Questions please