

00

**Dm**

01

What is the problem

**Every other\* home**

\*almost

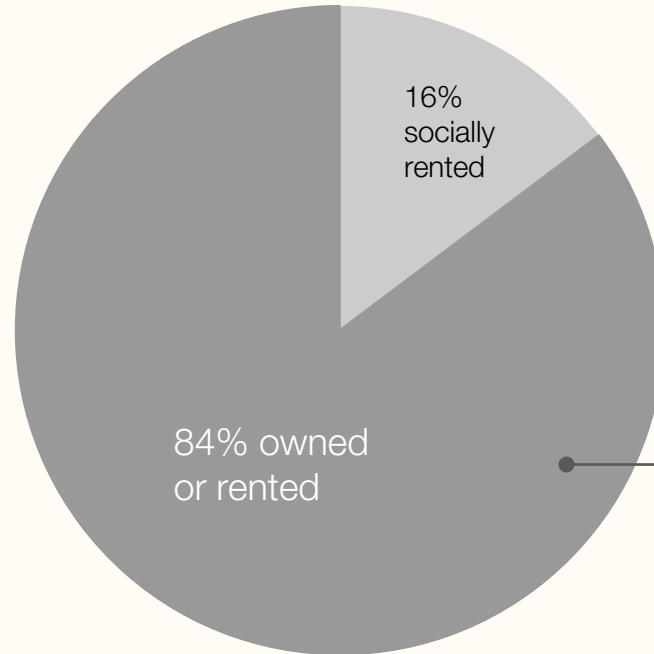
**98,000+ private homes**

in Edinburgh

**£2.9bn +**

~£35k per home\*

## Most of those homes are owned or rented



We need to retrofit **200 homes a week\*** by 2030.

# The funding gap

Beyond the amount of homes that need improving, there is at least a £31bn shortfall in making that a reality.

**+£33bn**  
Cost of building  
transformation in Scotland

**£1.6bn**

Heat and Building  
Strategy

**£465m**

Energy  
efficiency  
measures

# Our current retrofit model isn't working

01

Reliant on the household or govt grants to pay

02

Lack of trust in contractors

03

Temporary and insecure workforce

04

Every home (and person) is different making design bespoke & expensive

05

Funding and (re)training are disjointed and short term

06

Disruptive and unpredictable

07

Single measures rather than whole-house

08

Little focus on user journey and customer service

02

Retrofit as part of a wider transition

# Seeing the street as a system

Understanding the whole building and streetscape as an integrated system in meeting just climate transition targets.

## 1 Sustainable commons

Shared green space  
Sustainable drainage

## 2 Local skills & training

Upskilling & training workshop  
Build trust to reduce perception of risk/disruption  
Decentralised local manufacturing

## 3 Resident participation

Co-design with future inhabitants  
Designed for direct procurement by citizens  
Adaptable throughout lifecycle



## 4 Whole building retrofit

Whole house renovation  
Decarbonisation  
Buildings passports and performance registries  
Performance monitoring infrastructure

## 5 Local energy/services

High quality, zero carbon housing as standard  
Ultra low energy  
Community generated energy  
Services packages

## 6 Streetscape

Pedestrianisation and active travel  
Building biodiversity  
Schools and local retail opportunities  
Space for community initiatives

## 7 Community wealth

Energy outcome contracting  
Collective ownership and management  
Community investment in shared assets



House by house → Street by street

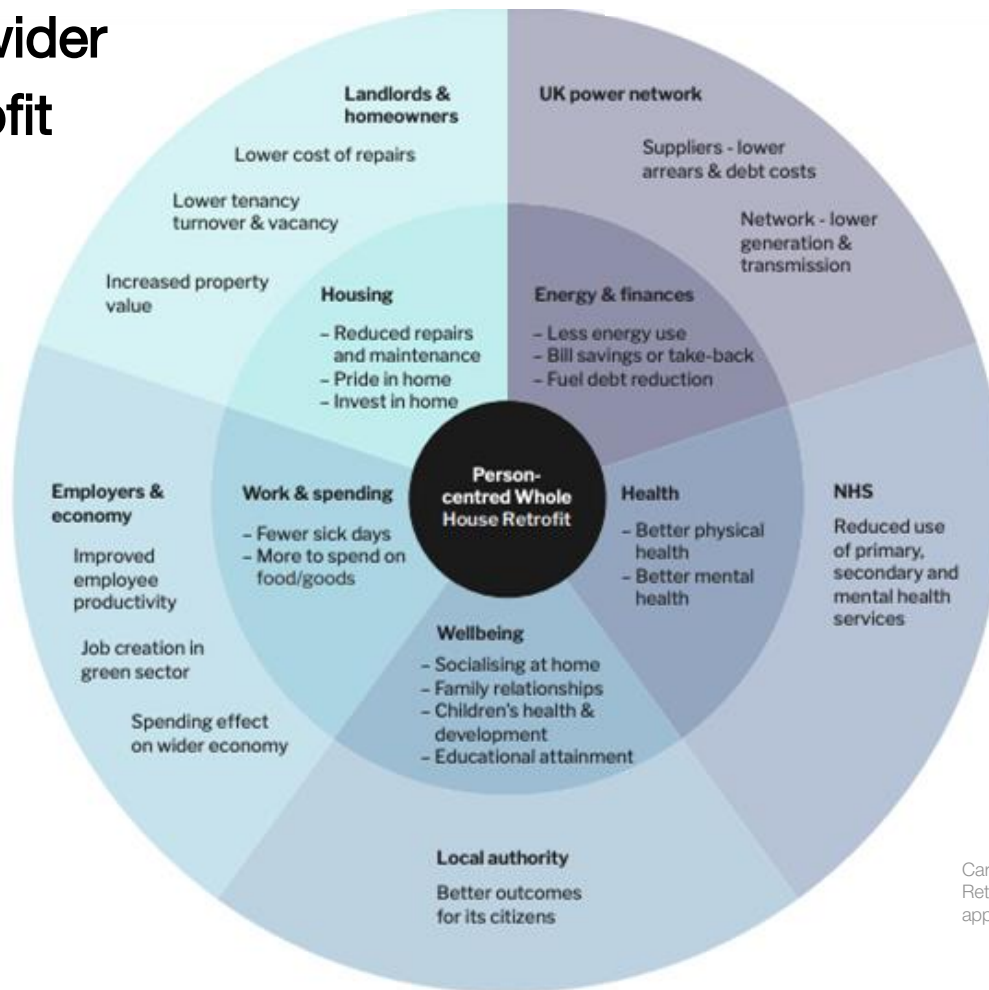
One-off grants → Long-term investment

Individual customers → Neighbourhood-level governance

Piecemeal grants → Integrated service model

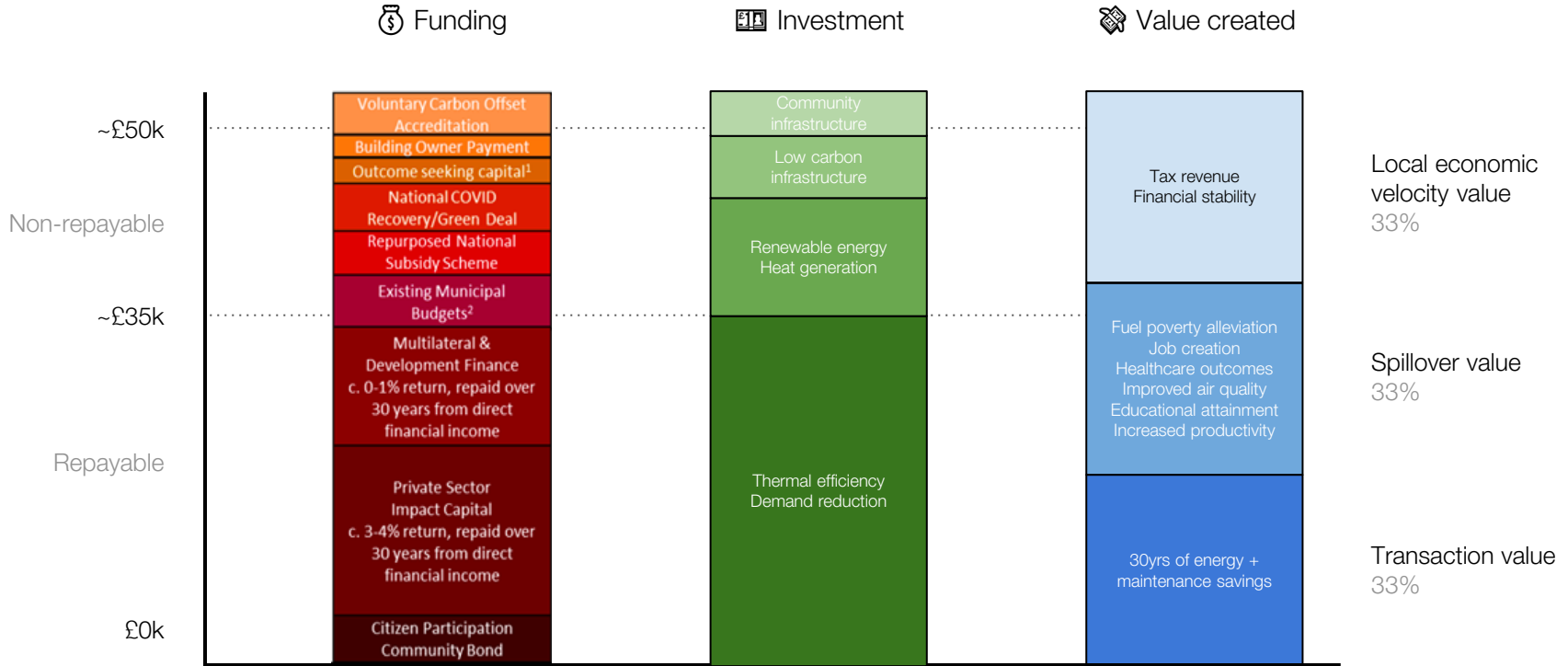
Private profit → Civic value

# Unlocking the wider benefits of retrofit



Carbon Coop: Person-centred Retrofit: A fuel poverty vulnerability led approach, 2022

# Outline funding model



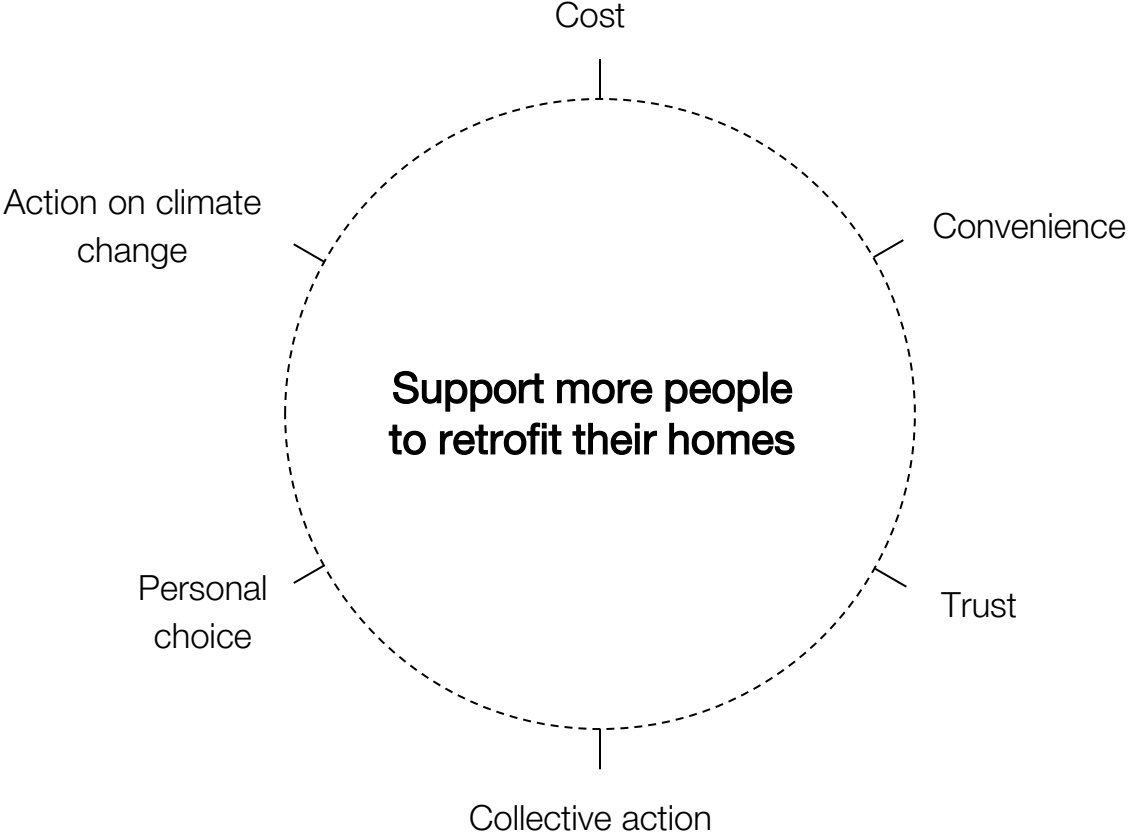
\*Working concept based on [BwB's GnaaS](#) model and DML's proposal

03

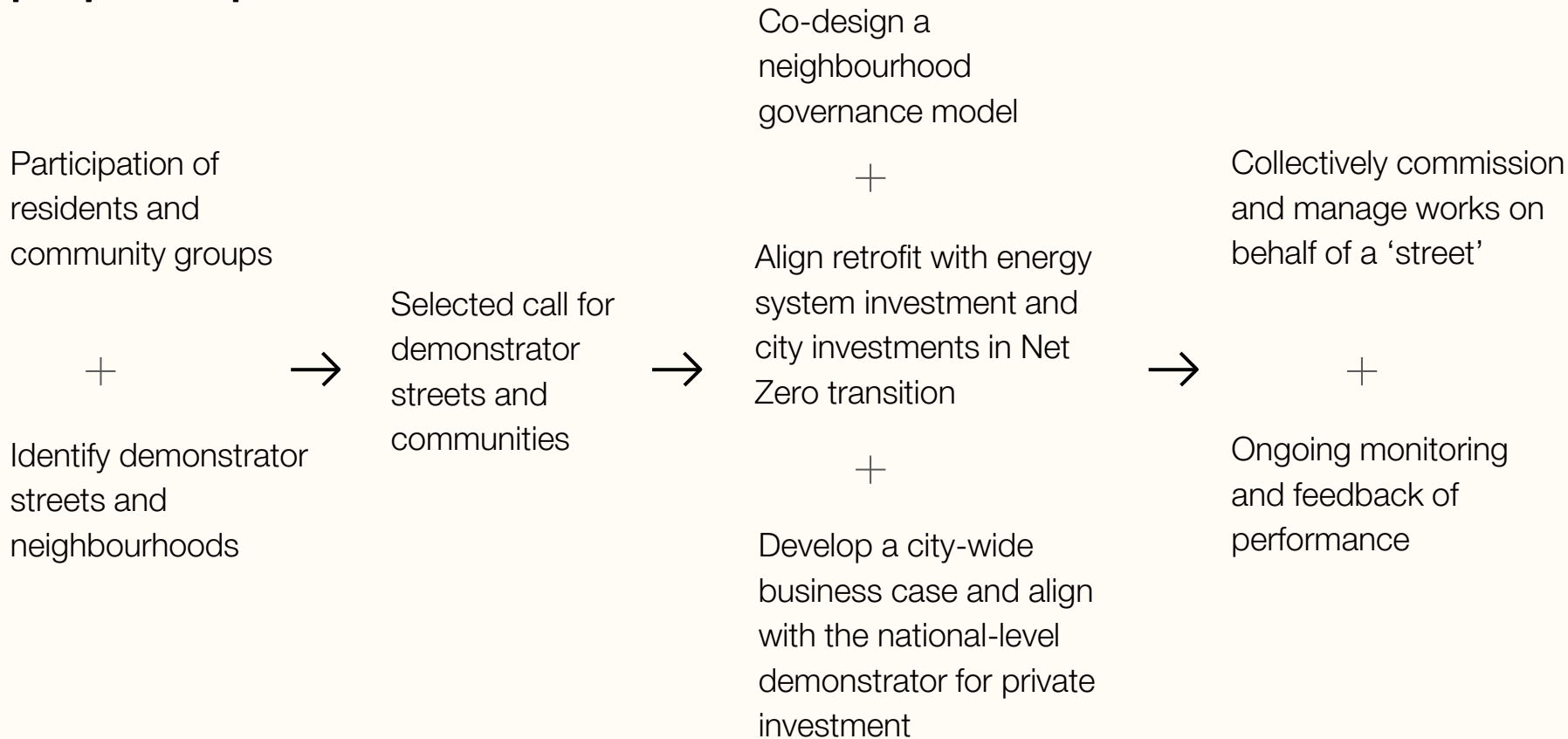
Redesigning the retrofit experience

# Current process





# Net zero communities proposed process



# Build a multi-disciplinary team

**Current upskilling focus:**



Contractor(s)

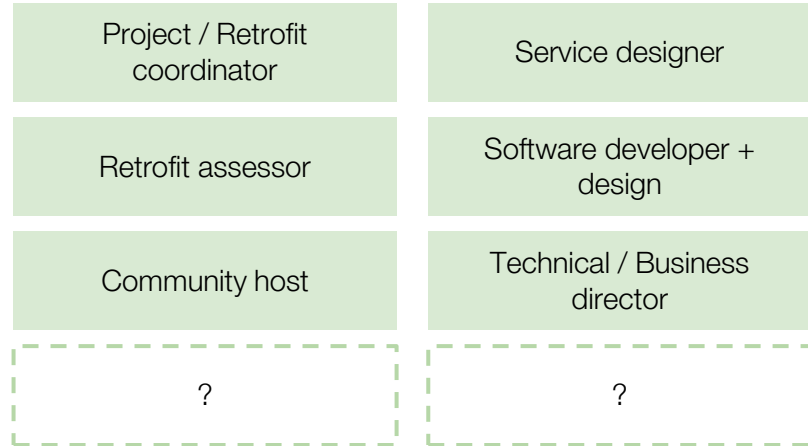
*Skills Dev.  
Scotland &  
skills colleges*

Architect/Engineer

*Curriculum and  
professional  
code of conduct*

## **Future retrofit organisations:**

(We need) “a multitude of different skills - understanding energy, building survey EPC, understanding of how planning works, influencing policy and strategy, and taking a strategy through to implementation” – **LHEES pilot evaluation, 2021**





04

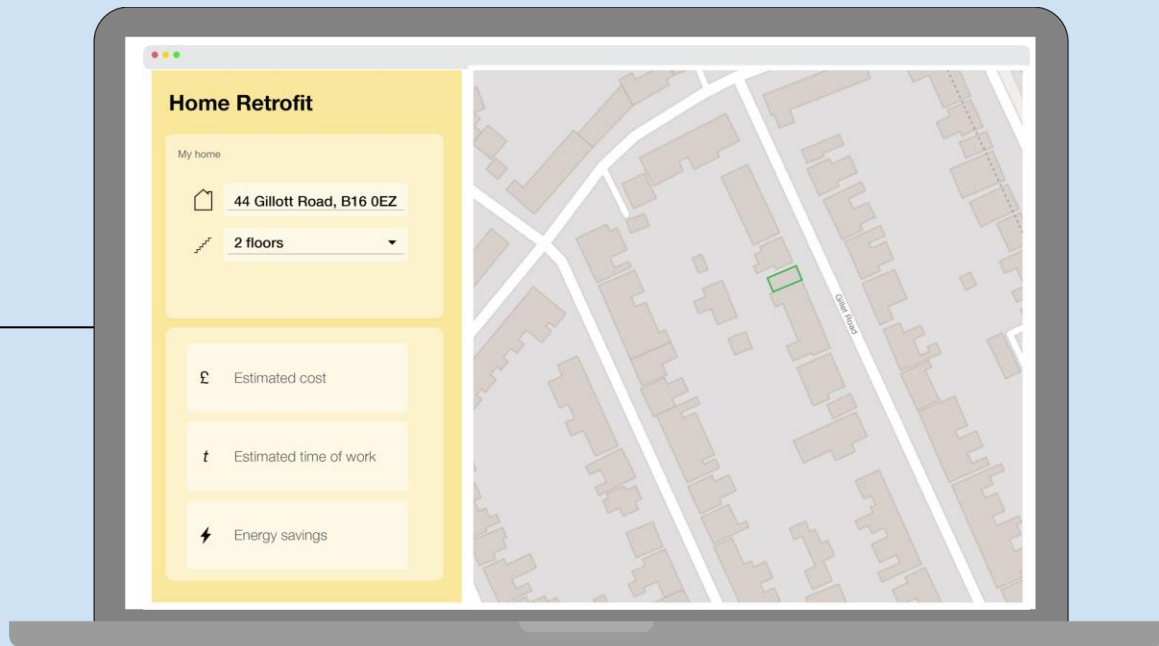
Possible futures



Energy use  
database

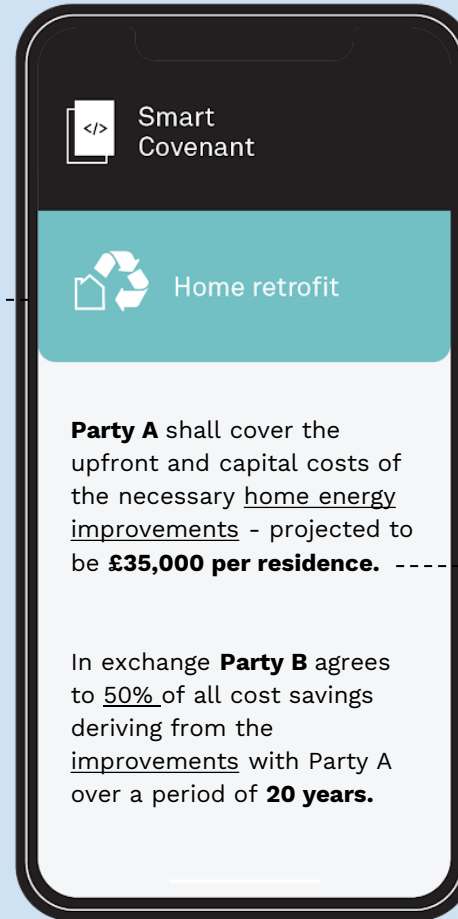
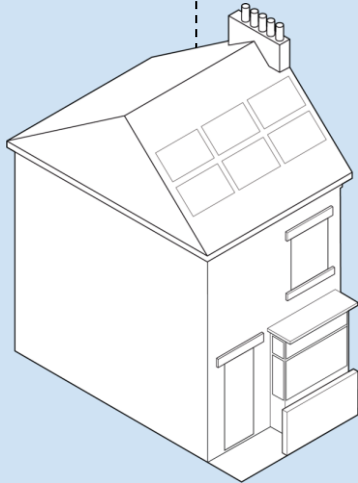


Property  
condition data



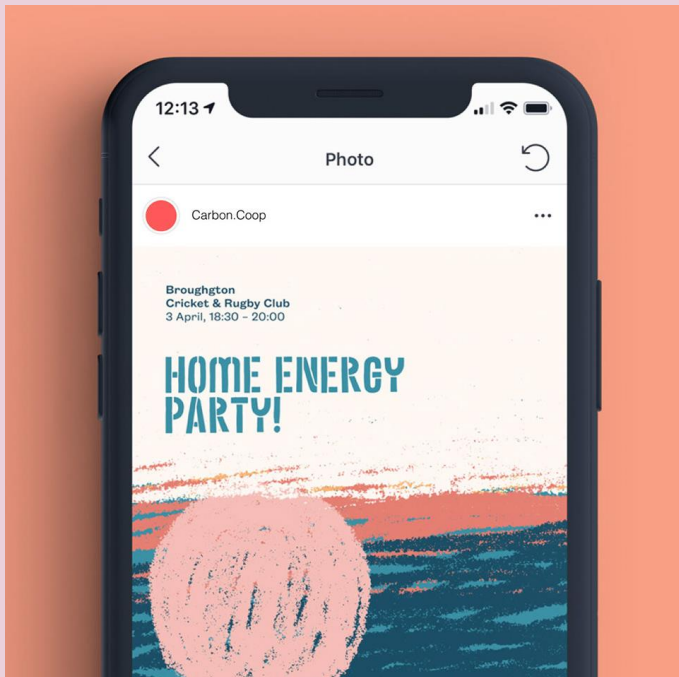
**Public retrofit platform  
to understand your home**

# Standard digital contracts



## Live performance guidelines on:

- Window replacements
- External wall insulation
- Renewable energy provision



## Carbon Coop, UK

'One-stop shop' for home retrofit and energy savings

Non-profit and cooperatively owned, offering a range of energy efficiency services



### Power Shaper

An open source, DSR prototype service for decentralised energy management

Coordinate and build local retrofit skills and networks

Value model based on hosting community of innovators and activists

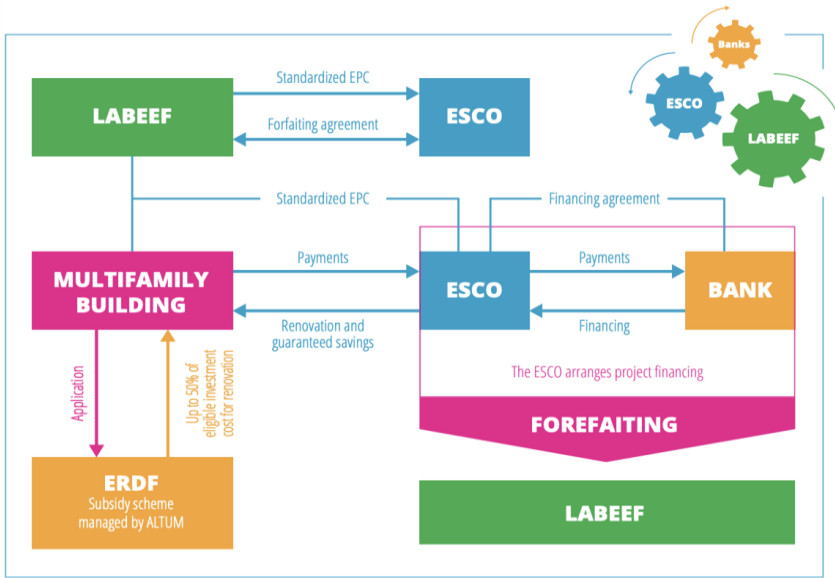


## Energiesprong, NL

Precision measurement and off-site manufacturing

Typical construction is less than 14 days

30 year 'comfort' contract with no upfront cost to building owners/residents.



# Sunshine/LABEEF

'One-stop shop' for multi storey home retrofit

ESCO structure that offers reduced energy costs and renovation

Replicable funding model, currently active in SE EU

Coordinates multiple residents in one process

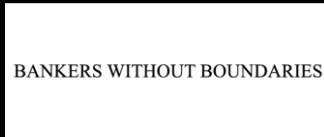
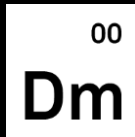
# Questions

How do we organise at a street level?

Get in touch:

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[jack@darkmatterlabs.org](mailto:jack@darkmatterlabs.org)  
[dan@darkmatterlabs.org](mailto:dan@darkmatterlabs.org)

Partners:







## RetrofitWorks

A cooperative model for retrofit and energy efficiency contractors developing schemes for homeowners



## Brixton Energy, London

Cooperatively-owned  
renewable energy projects

Income generated will be  
reinvested in the Community  
Energy Efficiency Fund

Upskilling through  
internships, workshops &  
advice sessions