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Dm

01 What is the problem

## Every other\* home

\*almost

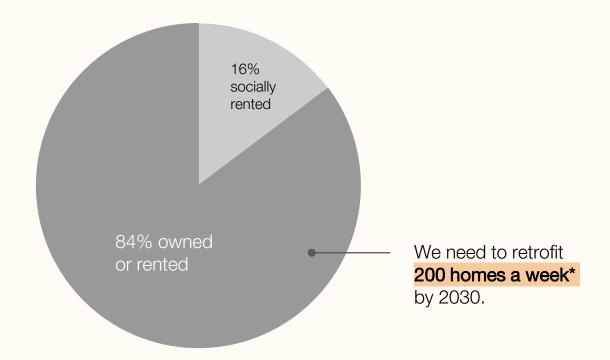
## 98,000+ private homes

in Edinburgh

£2.9bn+

~£35k per home\*

## Most of those homes are owned or rented

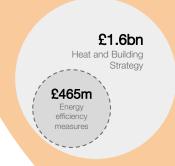


## The funding gap

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



# Our current retrofit model isn't working

01	02	03	04
Reliant on the household or govt grants to pay	Lack of trust in contractors	Temporary and insecure workforce	Every home (and person) is different making design bespoke & expensive
05	06	07	08
Funding and (re)training are disjointed and short term	Disruptive and unpredictable	Single measures rather than whole-house	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

Decarbonisatio

Buildings passports and performance registries

Performance monitoring infrastructure

### 5 Local energy/services

igh quality, zero carbon housing as standard

Ultra low energy

Community generated energy

Services packages

### 6 Streetscape

Pedestrianisation and active trave

Building biodiversit

Schools and local retail opportunities

Space for community initiatives

### 7 Community wealth

Energy outcome contracting

Collective ownership and managemer

House by house → Street by street

One-off grants → Long-term investment

Individual customers  $\longrightarrow$  Neighbourhood-level governance

Piecemeal grants → Integrated service model

Private profit → Civic value

## Unlocking the wider benefits of retrofit

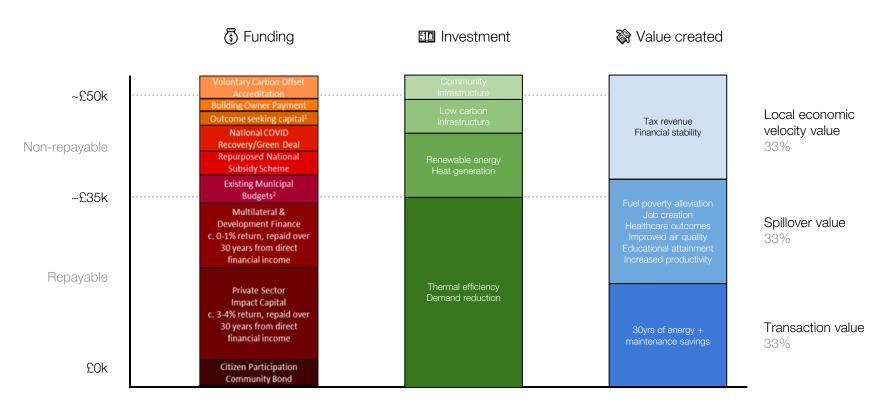
UK power network Landlords & homeowners Suppliers - lower Lower cost of repairs arrears & debt costs Lower tenancy Network - lower turnover & vacancy generation & transmission Increased property Housing Energy & finances value - Reduced repairs - Less energy use - Bill savings or take-back and maintenance - Pride in home - Fuel debt reduction - Invest in home Person-Employers & Work & spending Health NHS centred Whole economy **House Retrofit** Reduced use - Better physical - Fewer sick days of primary. health - More to spend on Improved secondary and - Better mental food/goods employee mental health health productivity services Wellbeing Job creation in - Socialising at home green sector - Family relationships - Children's health & Spending effect development on wider economy - Educational attainment

#### Local authority

Better outcomes for its citizens

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

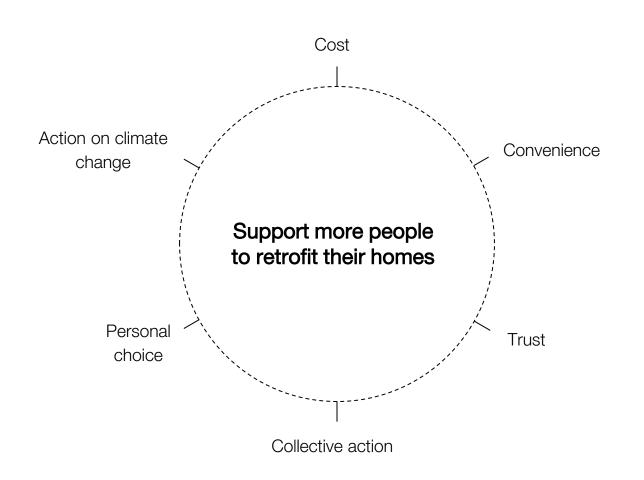
## Outline funding model



03 Redesigning the retrofit experience

### **Current process**





# Net zero communities proposed process

Participation of residents and community groups

+  $\rightarrow$ 

Identify demonstrator streets and neighbourhoods Selected call for demonstrator streets and communities Co-design a neighbourhood governance model

+

Align retrofit with energy system investment and city investments in Net Zero transition

+

Develop a city-wide business case and align with the national-level demonstrator for private investment Collectively commission and manage works on behalf of a 'street'

 $\rightarrow$  +

Ongoing monitoring and feedback of performance

### Build a multi-disciplinary team

Current upskilling focus:

Contractor(s)

Skills Dev. Scotland & skills colleges

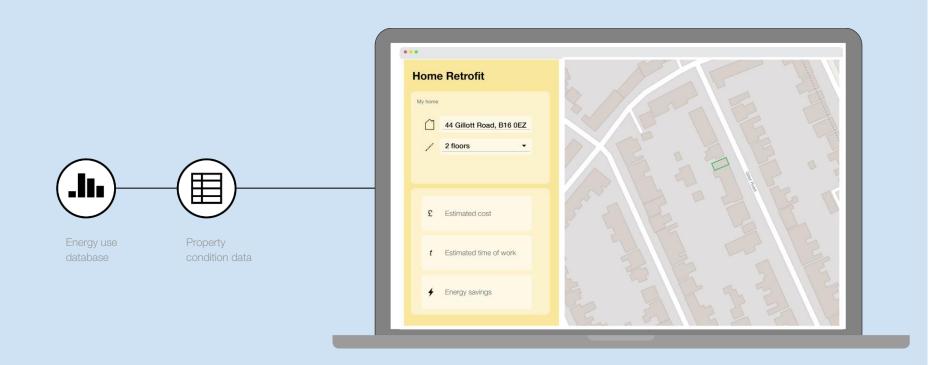
Architect/Engineer

Curriculum and professional code of conduct

### Future retrofit organisations:

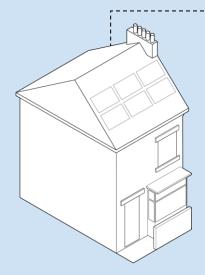
(We need) "a multitude of different skills understanding energy, building survey EPC, understanding of how planning works, influencing policy and strategy, and taking a strategy through to implementation" – LHEES pilot evaluation, 2021

Project / Retrofit coordinator	Service designer	
Retrofit assessor	Software developer + design	
Community host	Technical / Business director	
?	?	



# Public retrofit platform to understand your home

### Standard digital contracts







Home retrofit

Party A shall cover the upfront and capital costs of the necessary <a href="https://home.necessary.necessary">home energy</a> <a href="https://improvements">improvements</a> - projected to be £35,000 per residence. --

In exchange **Party B** agrees to 50% of all cost savings deriving from the improvements with Party A over a period of **20 years.** 

## Live performance guidelines on:

- Window replacements
- External wall insulation
- Renewable energy provision





### Power Shaper

An open source, DSR prototype service for decentralised energy management

## Carbon Coop, UK

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

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

Coordinate and build local retrofit skills and networks

Value model based on hosting community of innovators and activists



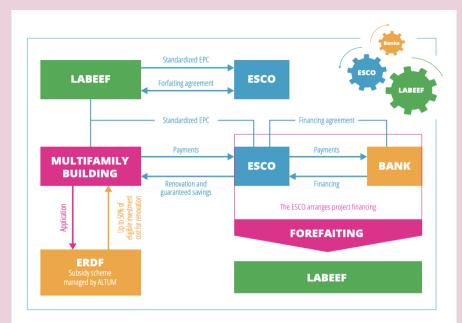


## Energiesprong, NL

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:

cat@darkmatterlabs.org jack@darkamtterlabs.org dan@darkmatterlabs.org

BANKERS WITHOUT BOUNDARIES

### Partners:

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### **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