

# Net Zero Terrace Streets

A deep dive for  
Local Authorities

UtilityWeek  
AWARDS  
/2024

★ WINNERS ★



# Why we are here today?

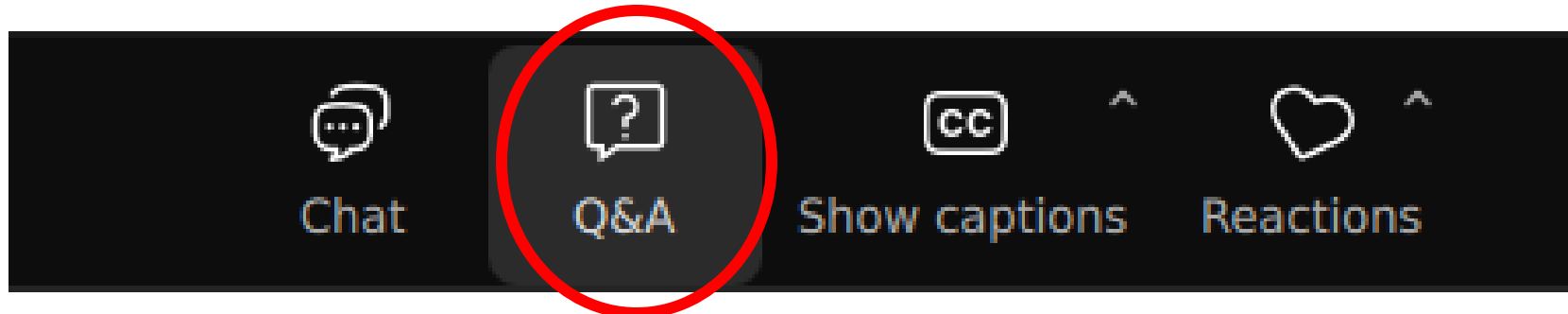
- **Shared challenges:**
  - **Achieving high standard retrofit**
  - **Across all tenures and income levels**
  - **Tackling damp, cold houses**
  - **Decarbonising domestic heating and hot water**
  - **A patchwork of funding sources.**
- **Possible solution/ Work in progress**





- This webinar is being recorded
  - We'll share the recording and slides afterwards
- Please ask questions using the Q&A button (not the chat)
- If we run out of time today, we will provide answers online later for all questions asked today.

<https://NZTS.info>





# Introducing the speakers



Louise Marix Evans  
Strategic Director  
Rossendale Valley Energy



Natalie Whitham  
Net Zero Street Officer  
Rossendale Borough Council



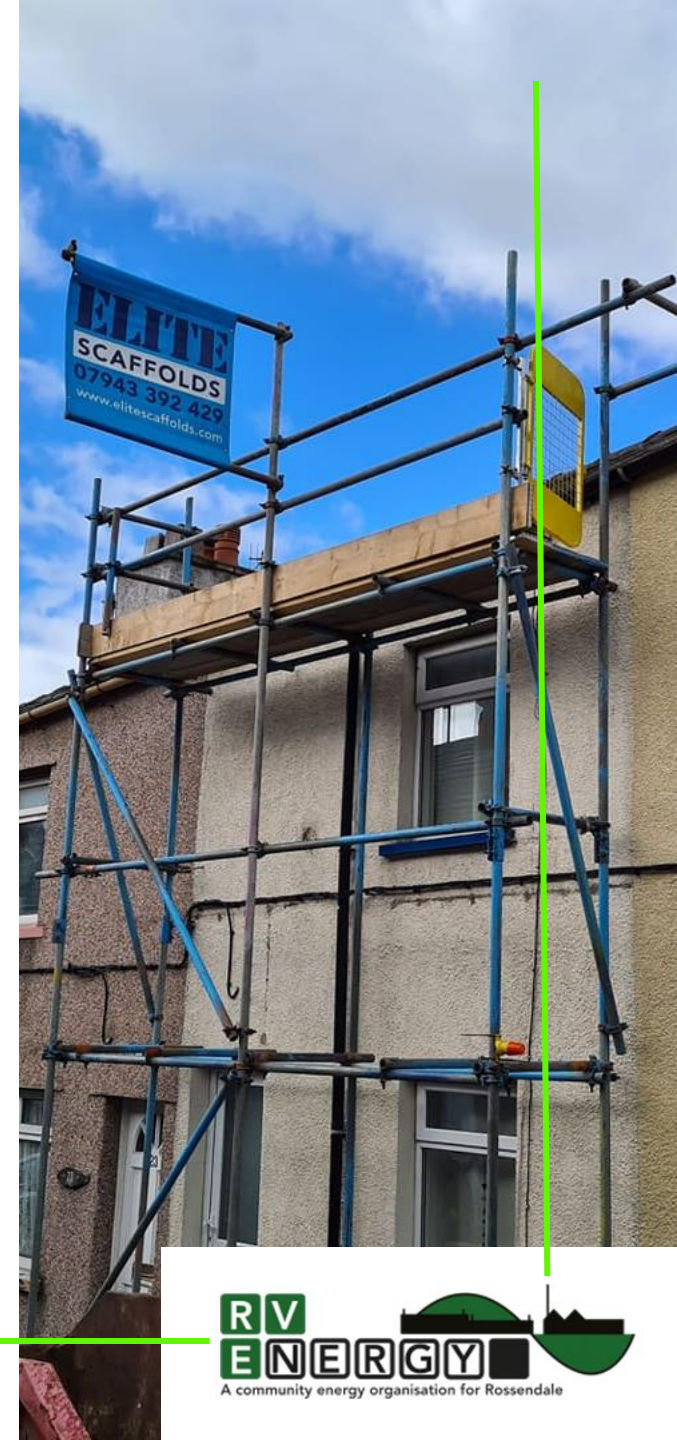
# What is retrofit like currently?

## Government or Energy co. Funding

- **For retrofit/heat** - multiple schemes, individual qualifying homes
- **Technology incentives** - Boiler Upgrade
- **Government means tested help on energy bills**

## Eligibility – complex and constantly changing

- Income threshold
- On or off gas
- Certain health conditions
- EPC level D-E
- *Combinations of the above*





# The retrofit conundrum

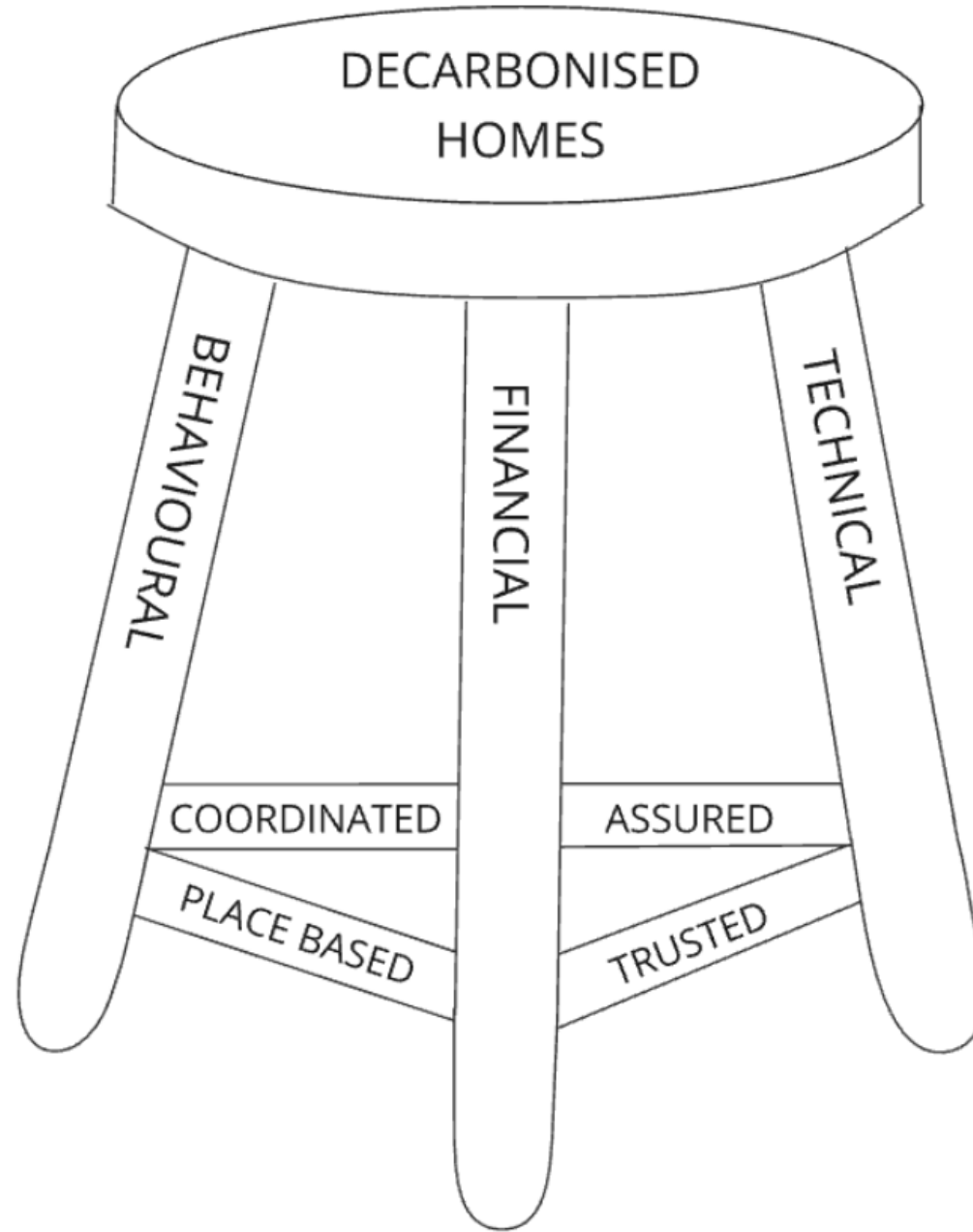
Individual properties and tenure-based?

OR

Street by street or neighbourhood?



# The three-legged stool - it all needs doing to decarbonise homes





# Net Zero Terrace Streets (NZTS): A Deeper Dive for Local Authorities

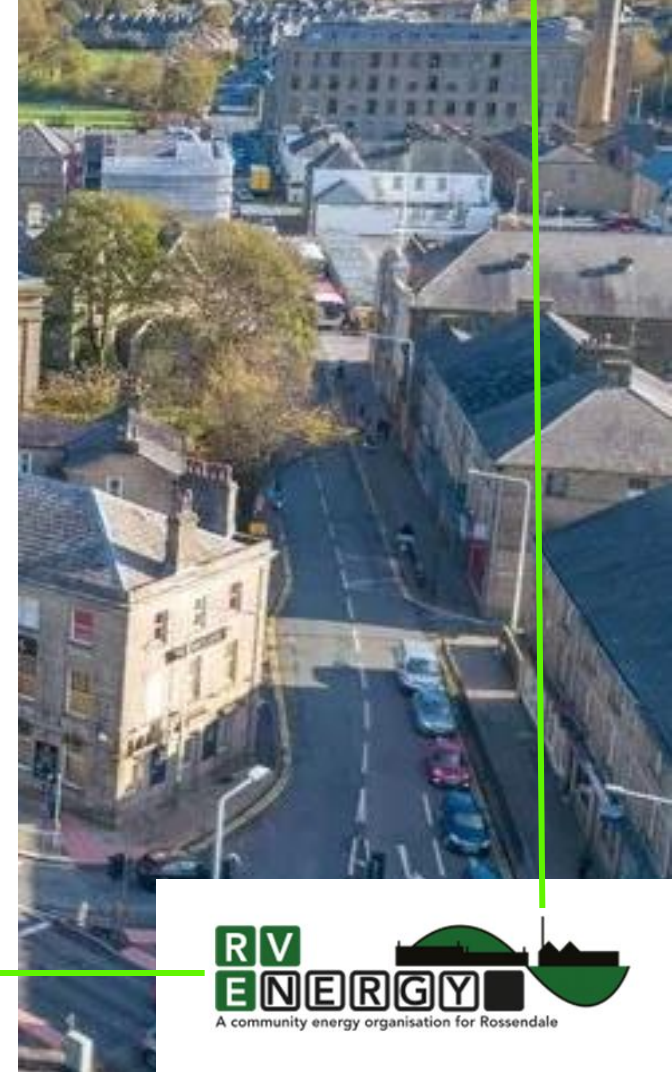
- NZTS in a nutshell
- Working together: council and community energy
- Demonstrator homes in Rossendale
- Finance and investment update
- Coming up next & staying in touch





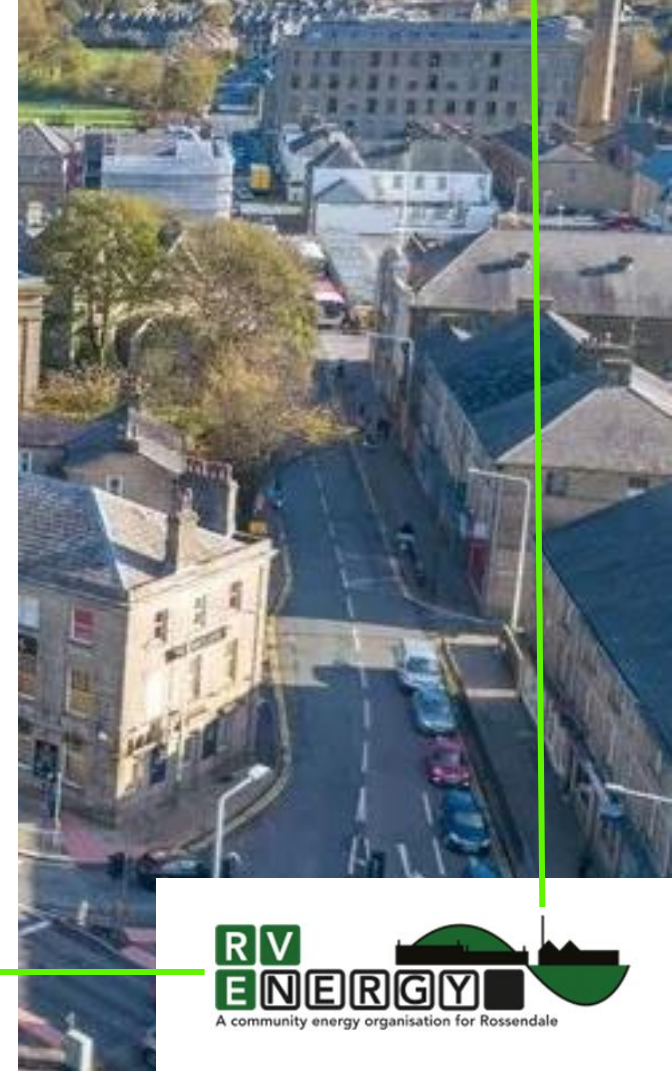
# NZTS: The challenge

- A replicable, scalable solution
- The challenges of traditional terraces
  - Mixed tenure
  - Low incomes, often in fuel poverty
  - Less space for alternative solutions
  - Often outside of centralised district heating schemes



# NZTS: Ensuring nobody gets left behind

- Retrofit to keep heat load below 5.8kW
- Shared ambient loop GSHP @ 6kw
- Solar PV – with surplus sold to the grid
- A smart local energy system with flexible tariffs delivering affordable energy
- No upfront cost to join – people pay back via a standing charge
- Community-led and operated with fair-share values
- Local energy champions engage with and sign people up

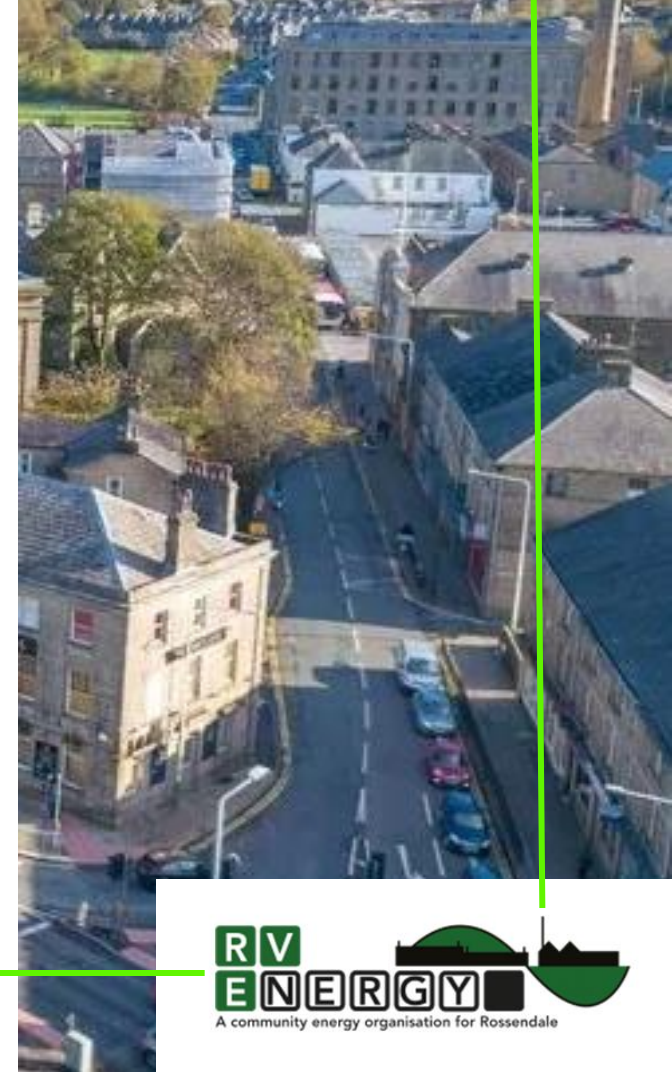
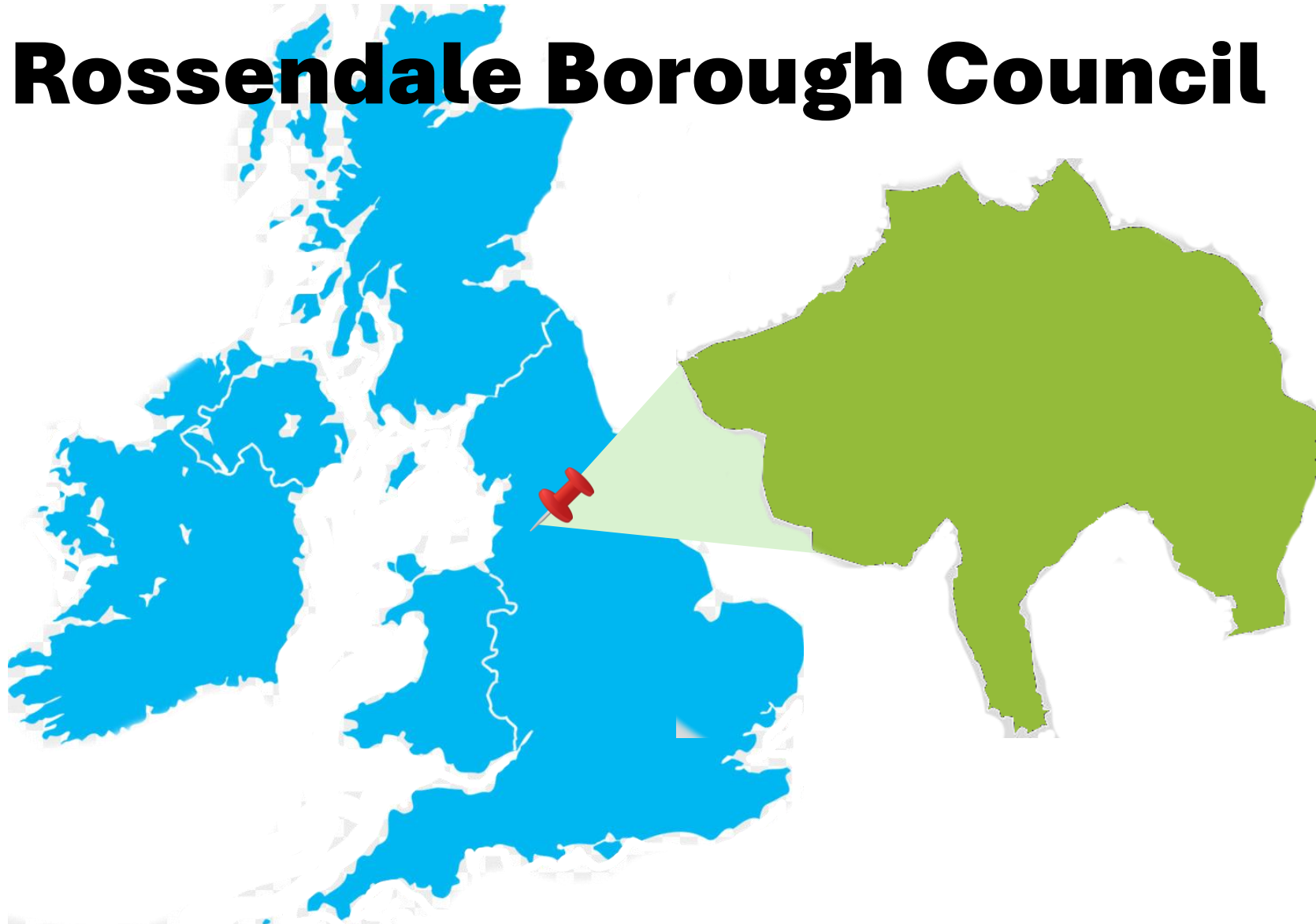




# How we formed

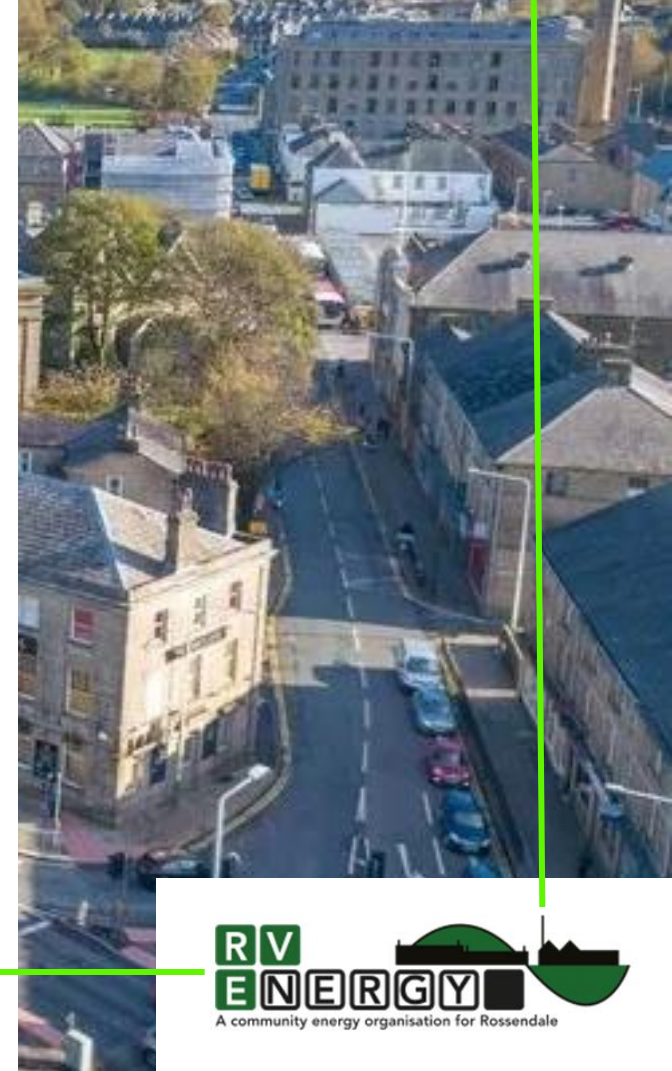


# Rossendale Borough Council

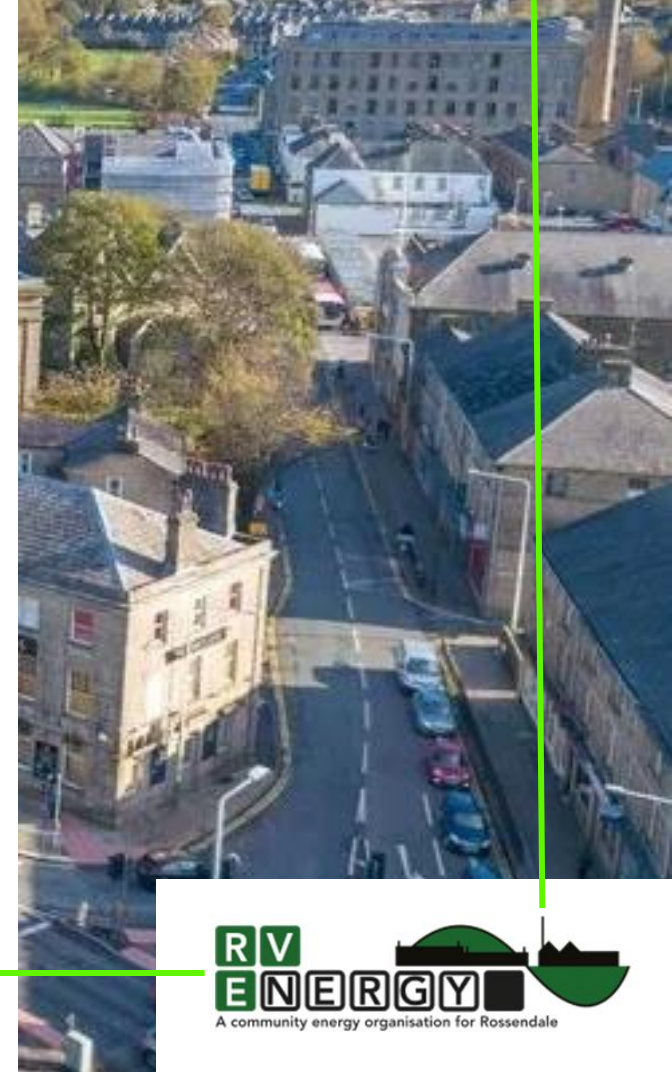




# What are the challenges?



# Would we do it again?





# Net Zero Terrace Streets Project - Partners

# Funding



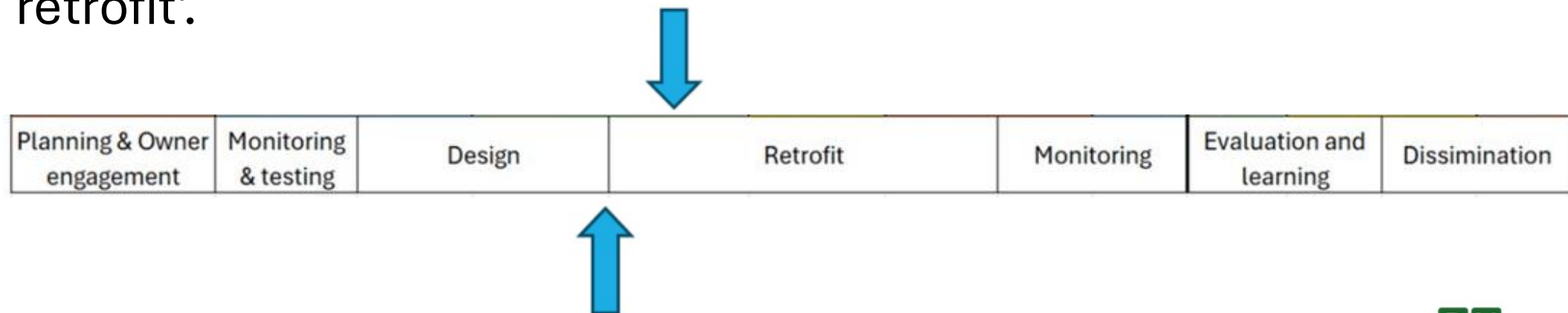
# Delivering NZTS in the Demonstrator Homes





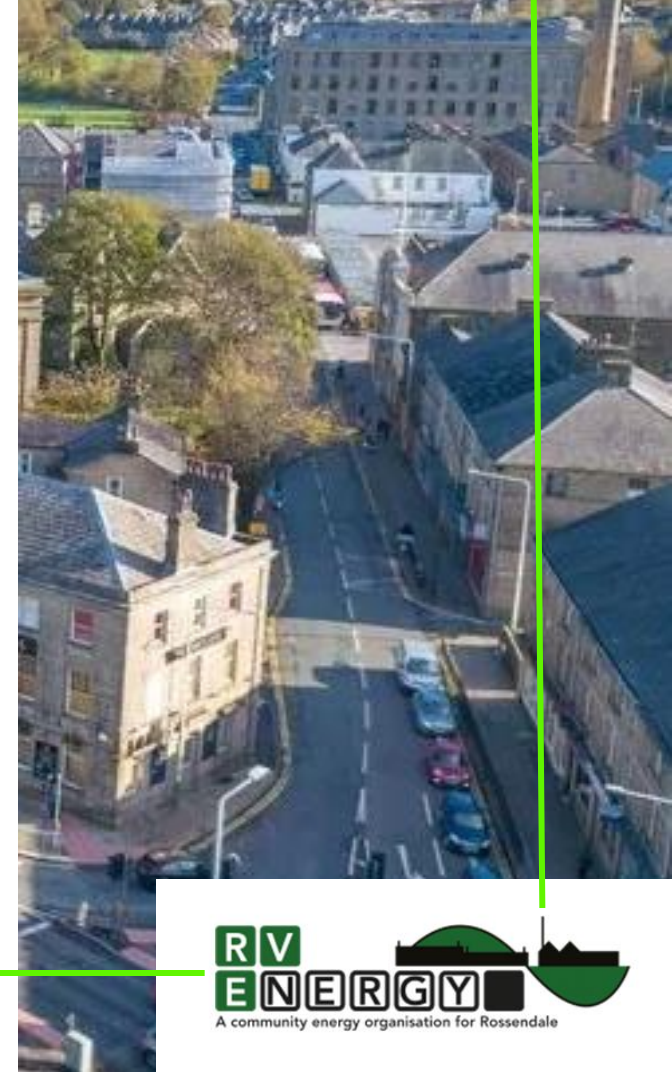
# Delivering the NZTS Standard (under development)

- A NZTS standard delivers a borehole and shared ground source ambient loop with house optimally retrofitted to lower the heat load to suit 6kW heat pump.
- To budget and least possible disruption
- High quality offer that's right for that building - 'responsible retrofit'.



# Local Authority engagement

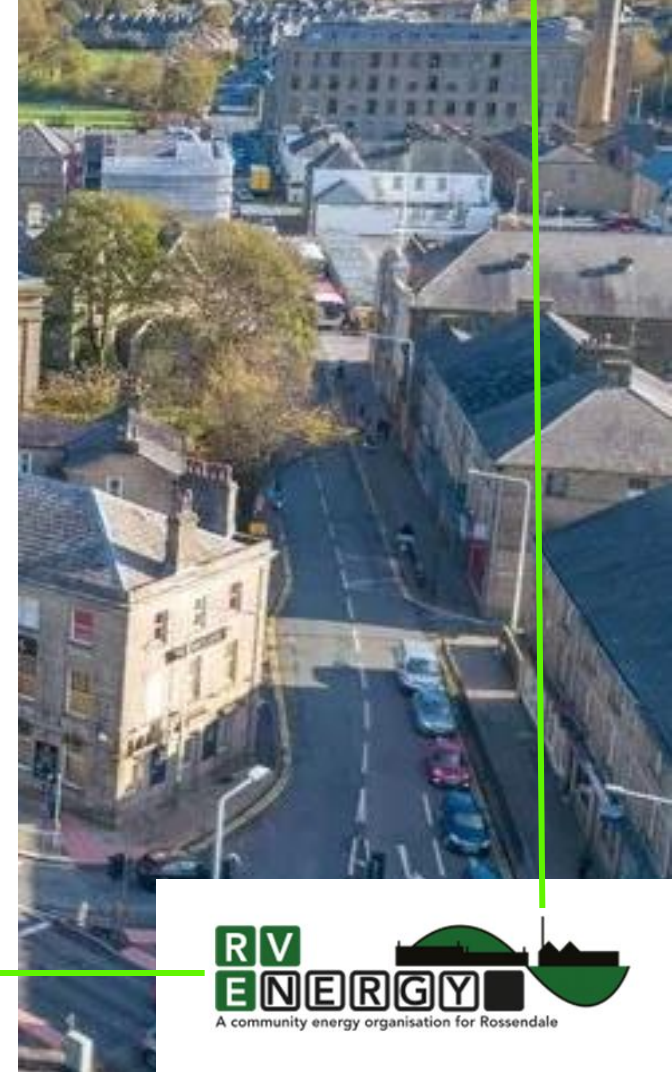
- Planning applications
  - RBC Planning Team
  - Boreholes: United Utilities
  - Retrofit: Conservation Officer
- Road closure application
  - Lancashire County Council Highways
- Resident and business engagement





# In our landlord capacity...

- Licences between RBC/RVE for:
  - Retrofit works in all houses
  - Drilling into RBC-owned land
  - Exclusive use of RBC's car park during works
- Getting the meters ready
  - Enrolment onto Smart Data Communications Company (DCC) Network
  - Credit mode and billing



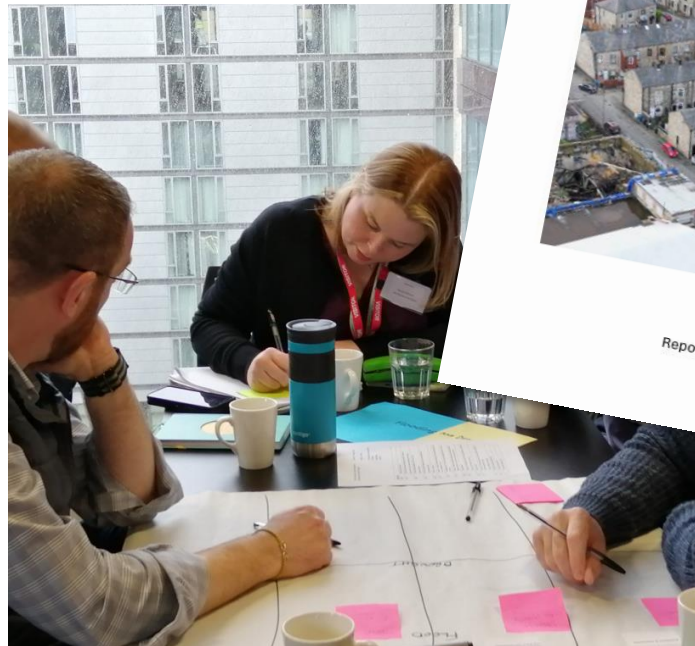
# Working around people in their homes





# One team working together

- RVE's Demonstrator Lead key in all this.
- Architects, Quantity Surveyors, Contractors and sub-contractors
- Contracting, cash flows, deposits
- Insurances
- Licenses and unexpected costs



# Dealing with the unexpected





# What have we learnt?

- Learning through doing
- Working on a tight timeframe
- Working around and with people in their homes
- Knowledge is distributed across a lot of different experts
- Mapping risks and liabilities



# Summary

- Make no assumptions
- Stay agile
- We are gathering all this up into the NZTS Handbook ready for bigger demonstrators and larger pilots





# How are works progressing on the Demonstrators?



# Getting the site ready





# Re-roofing and solar

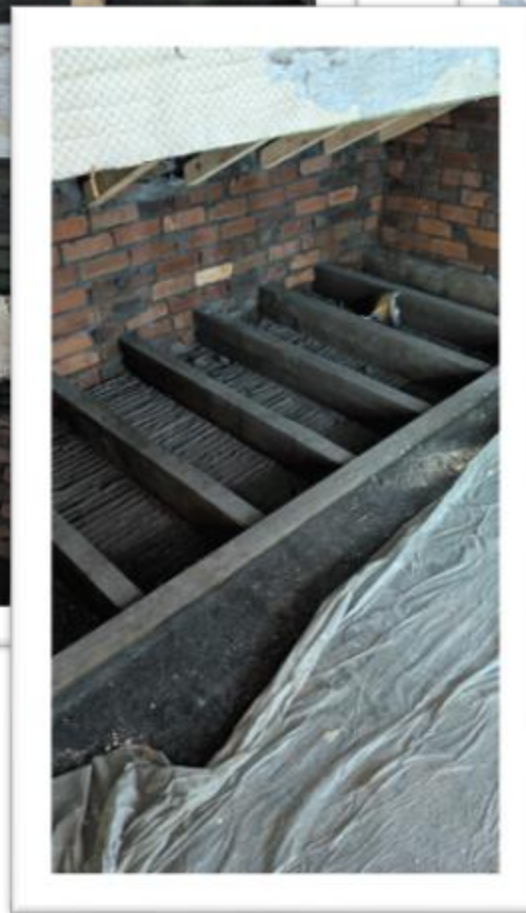
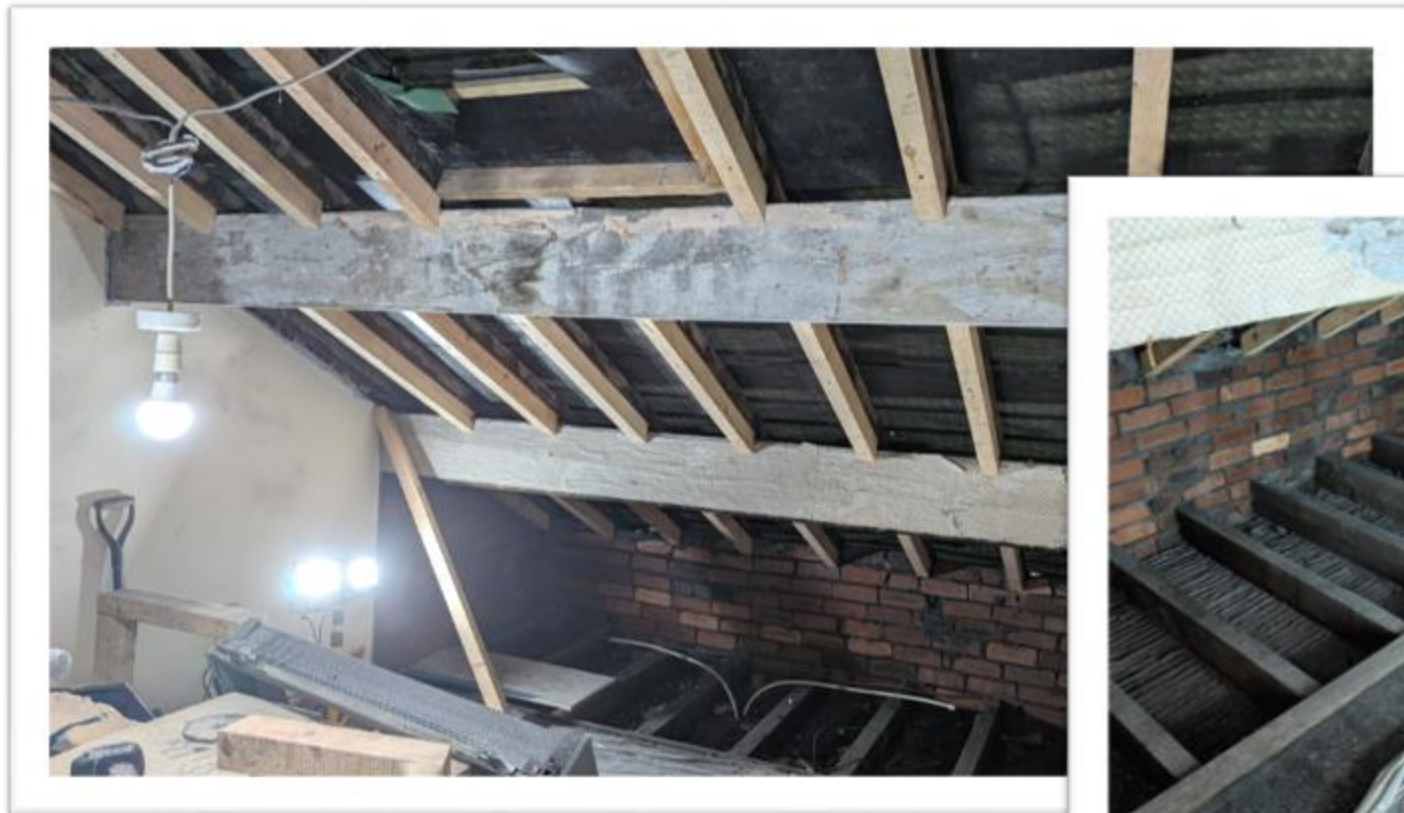


# Boreholes





# Fabric Retrofit



# Has it made a difference?



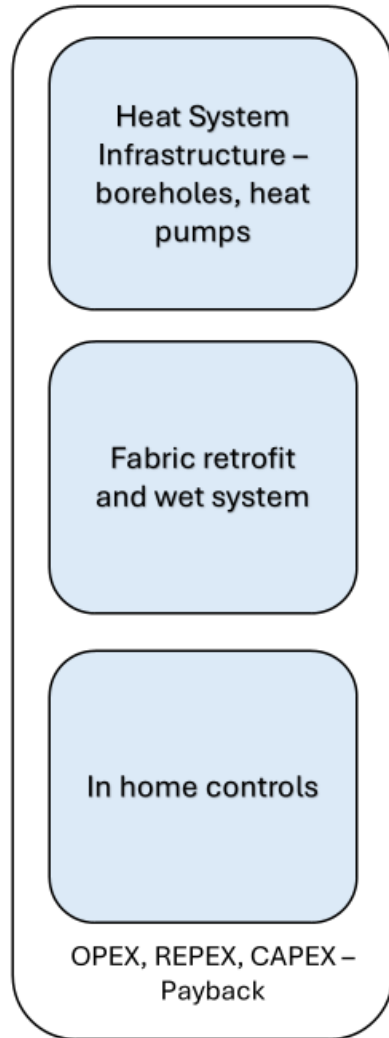


# Paying for it all

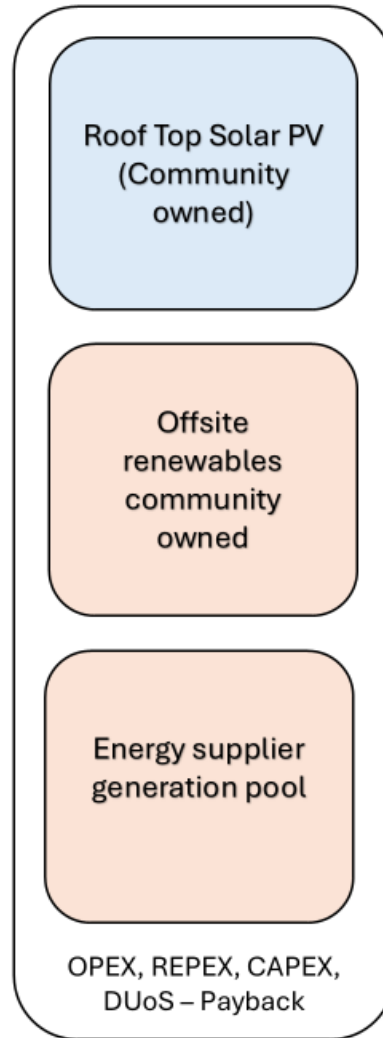
- Progress in our finance modelling and investment plans
- Aiming for a non-grant dependent model that brings in social investment and patient capital



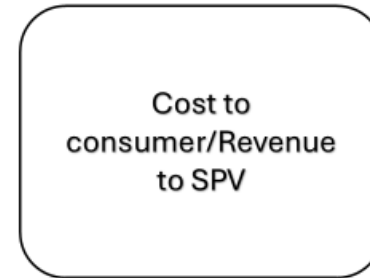
# Affordability to the householder



Standing Charge



Energy Price+ tariffs – benefits from flex, solar etc



**Energy Bill can not be greater than before**

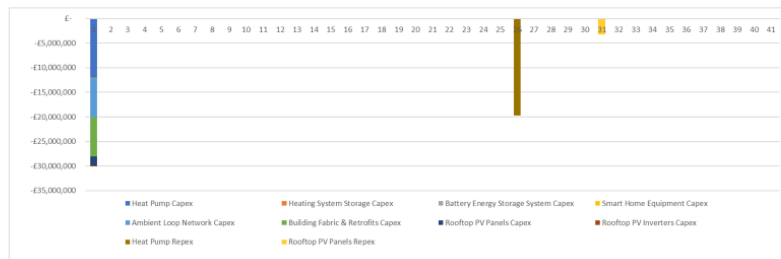
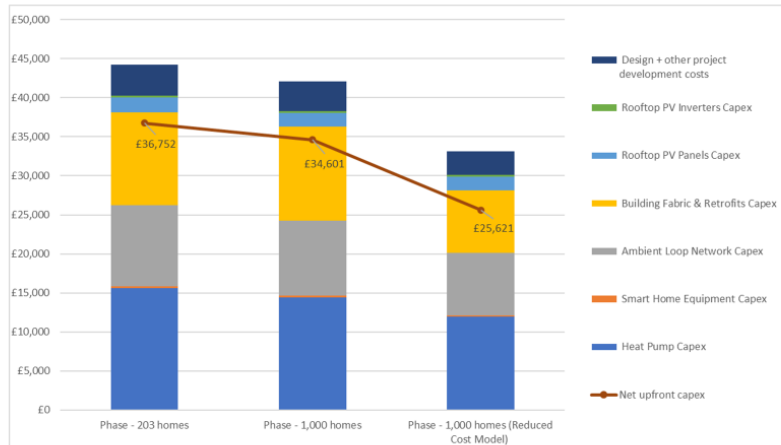
## Sensitivities

- Rate of finance
- CAPEX
- OPEX
- REPEX
- Economies of scale and rate of uptake
- Payback/NPV requirements
- Inflation on energy price
- Balancing market payments



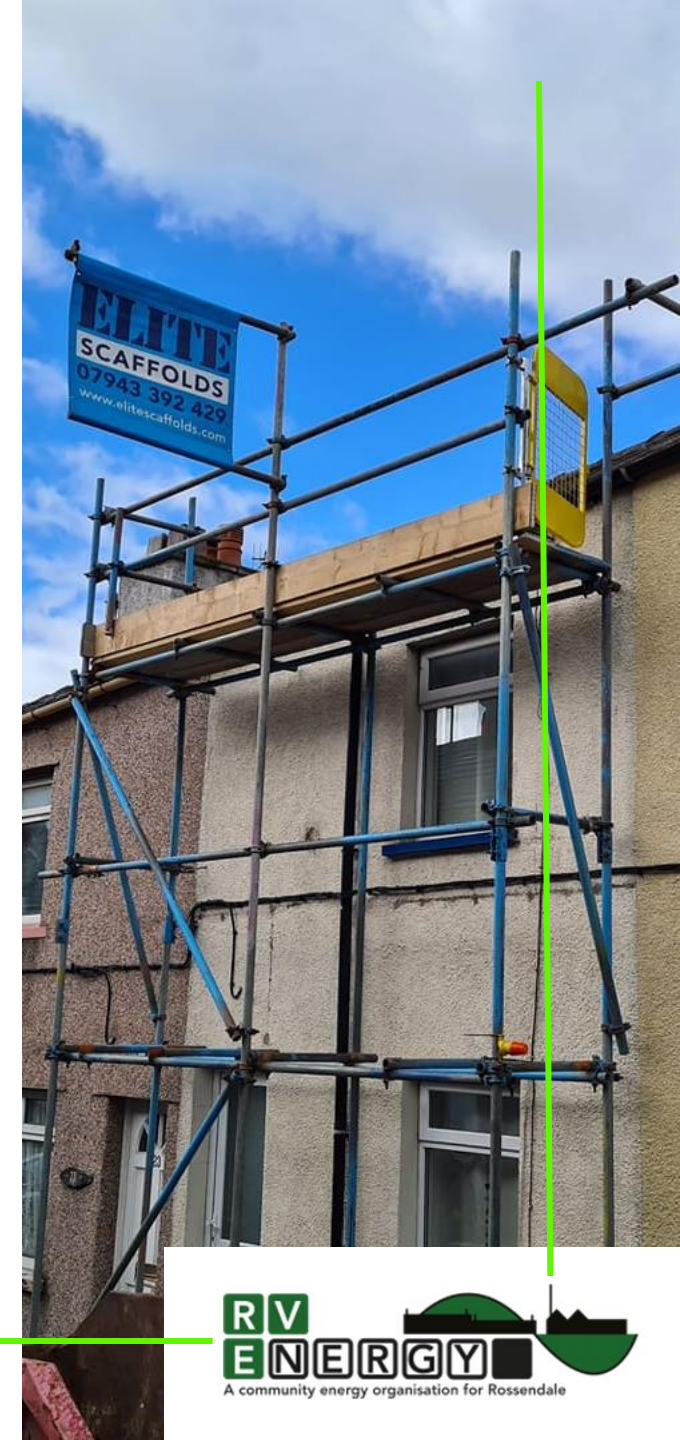
# What progress have we made on financing NZTS?

## Understanding the numbers – capex

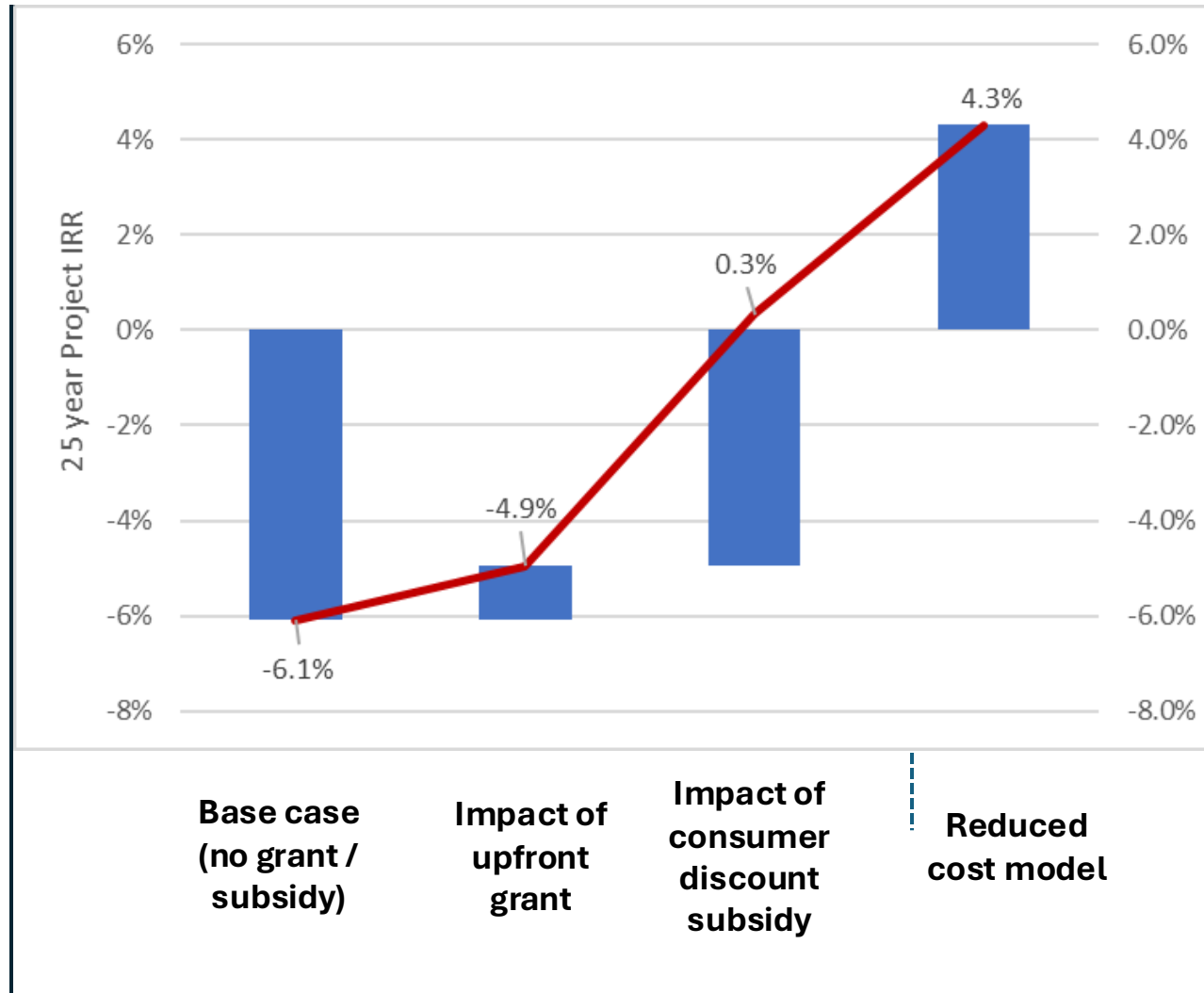


Key items – heat pump capex (blue), ambient loop (grey), building retrofit (yellow)

Significant expected cost savings on these items once scale, market develops, efficient use of existing infrastructure etc



# Understanding the numbers – project IRR and scenario impact



Progression of Project IRR as upfront grant, income subsidy and cost savings that come with scale / market development are achieved - should be able to achieve a commercial level of Project IRR for private investment

First few phases of deployment will need more grant/subsidy support that can tail off as technology and project becomes more proven and cost savings are achieved



The logo for 'Looped Energy Communities' features the word 'Looped' in a large, red, rounded font. The letters 'o', 'p', and 'e' are stylized to resemble the outlines of houses, with their top curves forming rooflines. Below 'Looped' is a horizontal bar with a blue-to-red gradient. Underneath the bar, the words 'ENERGY COMMUNITIES' are written in a blue, spaced-out, sans-serif font.

# Looped

ENERGY COMMUNITIES



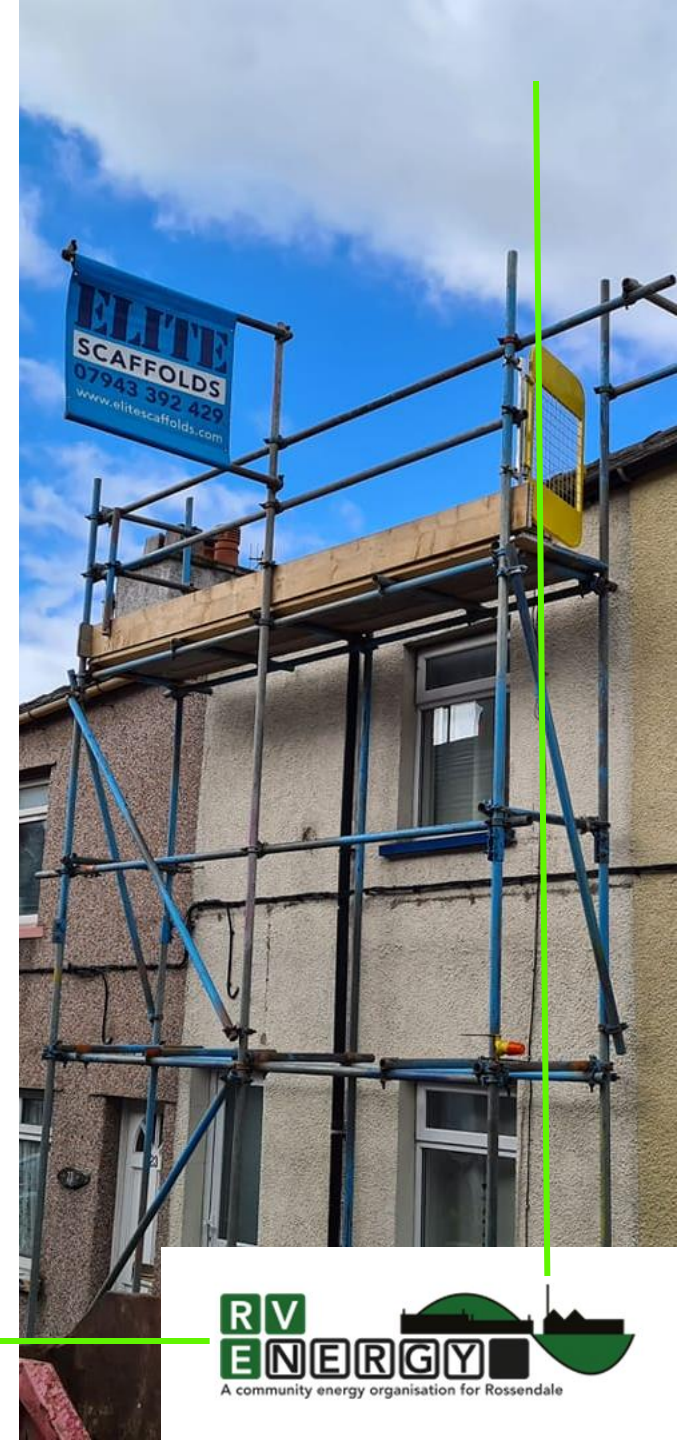
# Healthy, warm homes and affordable energy





# What's next?

- Recording of today's webinar will be available at <https://NZTS.info>
- Today's Q&A will be available on the same website as soon as we can manage it.
- Ask the panel – a live Q&A later in the spring
- Finally, please complete the feedback poll that is about to pop up on your screen





# Healthy, warm homes and affordable energy

