

Net Zero Terrace Streets

A deep dive for
Community
Organisations

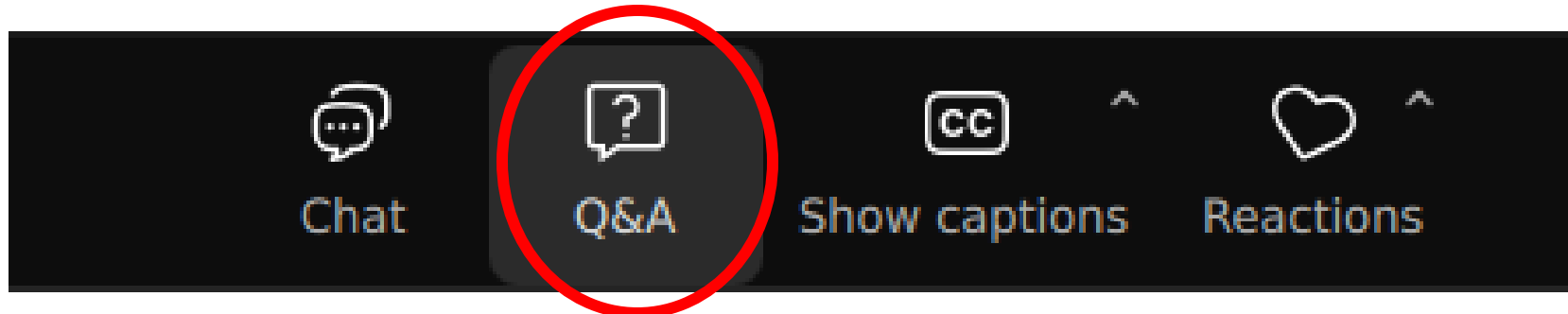
UtilityWeek
AWARDS
/2024

★ WINNERS ★



- 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>



Why we are here today?

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



Introducing the speakers



John Taylor
Head of Capacity
Building
**Community Energy
England**



Louise Marix Evans
Strategic Director
**Rossendale Valley
Energy**



Natalie Whitham
Net Zero Street Officer
**Rossendale Borough
Council**



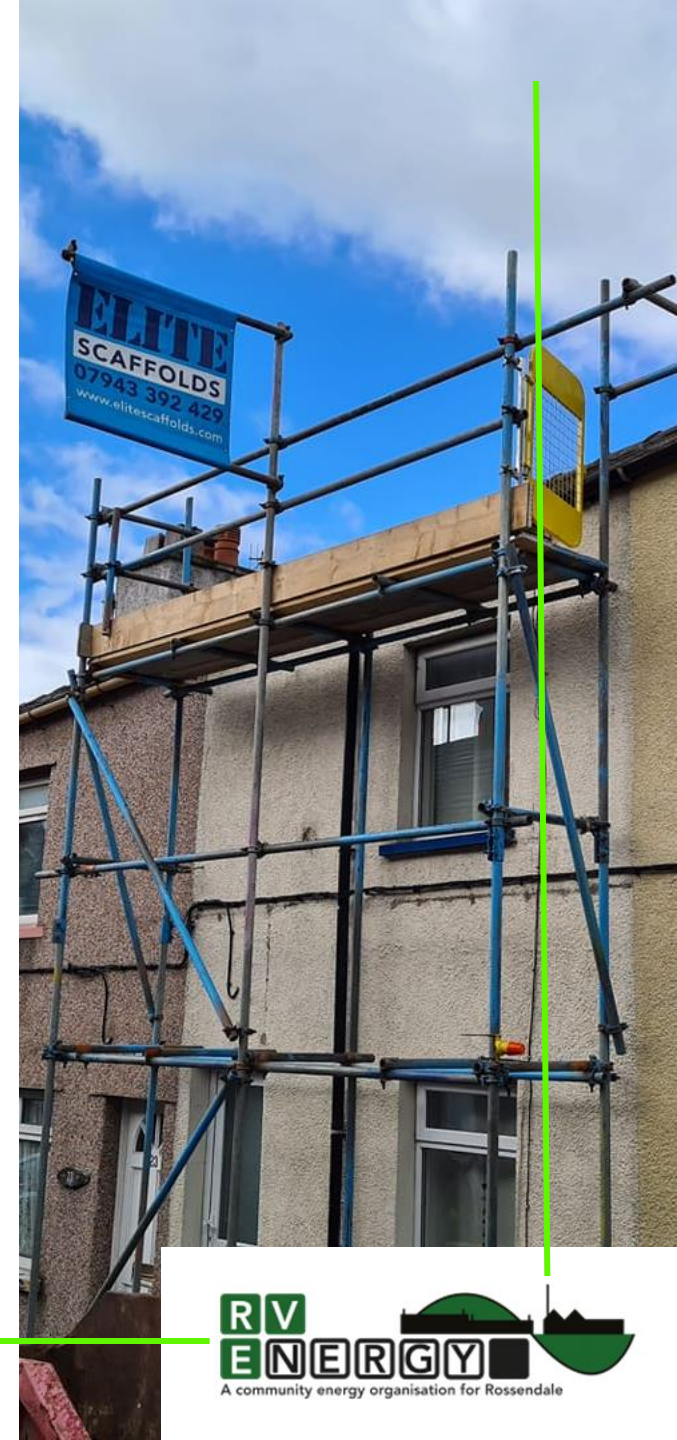
What is retrofit like currently?

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?



Community energy in the UK 2023



Sponsored by



RENEWABLE ENERGY GENERATION

TOTAL RENEWABLE ELECTRICITY CAPACITY

398 MW capacity

TOTAL RENEWABLE ELECTRICITY GENERATION

617 GWh produced in 2023

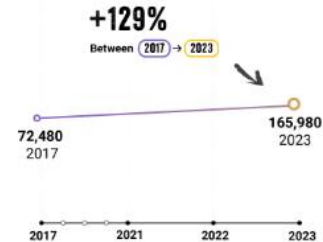
Equivalent to powering **228,530** domestic households



TOTAL TONNES OF CARBON EMISSIONS SAVED

165,980 tCO₂ saved in 2023

equivalent emissions to 209,570 passenger round trips from London to New York*
On average, a round-trip flight from London to New York emits approximately 792 kg of CO₂ per passenger.



FINANCE & INVESTMENT

TOTAL ORGANISATIONAL TURNOVER

£43.2 million turnover

TOTAL INVESTMENT SECURED

£24 million investment secured in 2023

£225 million investment secured since 2017

EMPLOYEES & VOLUNTEERS

TOTAL NUMBER OF JOBS IN THE SECTOR

796 currently employed



102 new jobs created in 2023

TOTAL NUMBER OF VOLUNTEERS IN THE SECTOR

3,719 volunteers



LOCAL ECONOMY

FINANCIAL CONTRIBUTION TO LOCAL ECONOMY

£12.9 million contributed to local economies from organisational expenditure and community benefit funds

INVESTMENT RAISED FROM LOCAL COMMUNITIES

£6.4 million investment raised from communities in 2023

ORGANISATIONS

COMMUNITY ENERGY ORGANISATIONS IN THE SECTOR

583 organisations



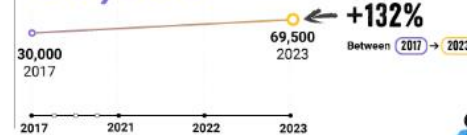
123 organisations providing energy advice

111 organisations providing low carbon transport

319 organisations providing energy efficiency retrofit

TOTAL MEMBERS OF COMMUNITY ENERGY ORGANISATIONS

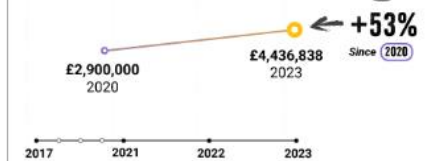
69,500 members



ENERGY EFFICIENCY & FUEL POVERTY

BILL SAVINGS FROM ENERGY EFFICIENCY & ADVICE

£4.4 million bill savings



£13.8 million saved since 2020

PIPELINE

CONTINUED SECTOR DIVERSIFICATION IN 2024

72 new energy advice and energy efficiency services

FORECAST FINANCES IN 2024

£157 million planned investment to be secured for renewable energy

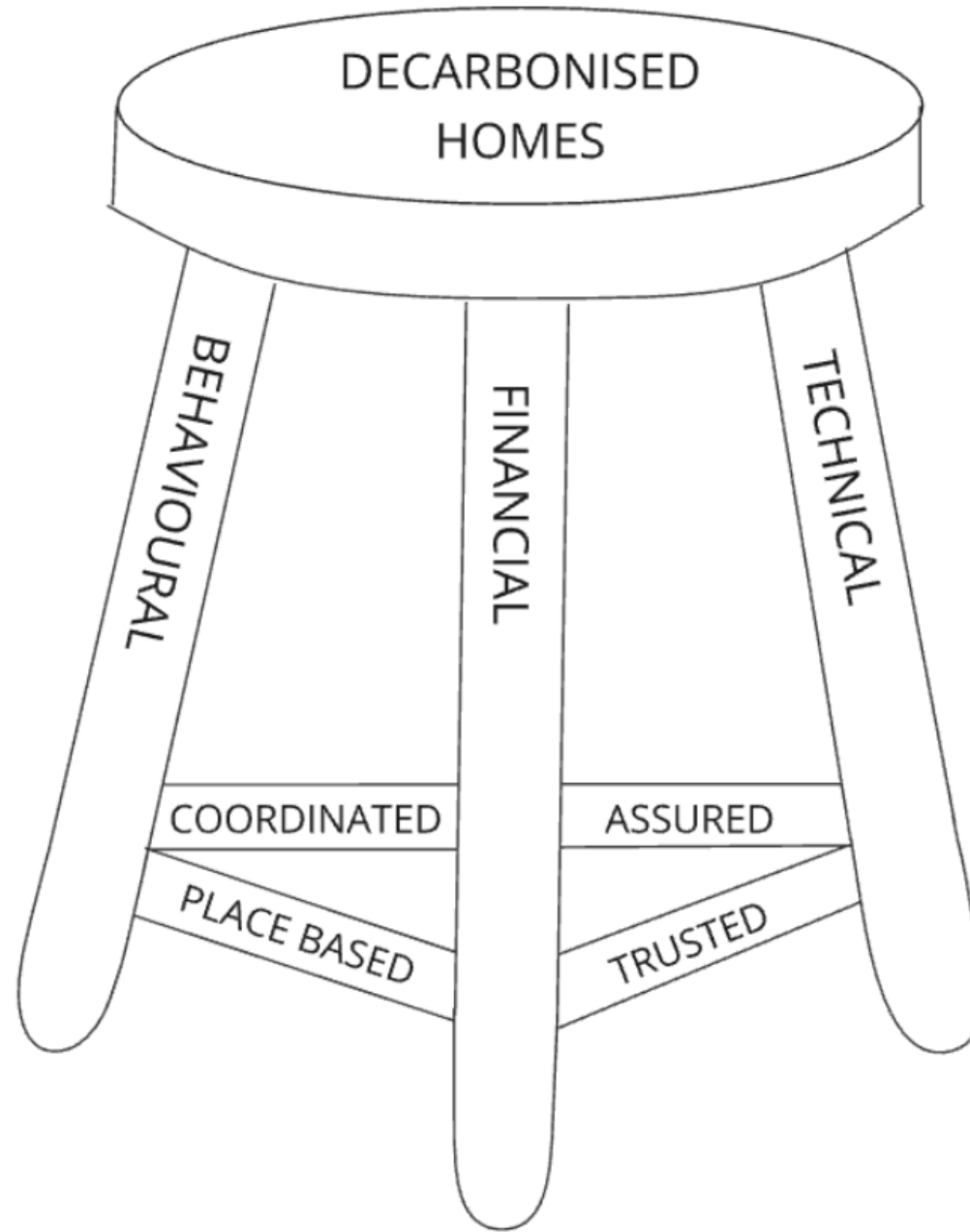
STALLED RENEWABLE ENERGY

79 stalled projects with **270** MW capacity that communities want to deliver

Produced by



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



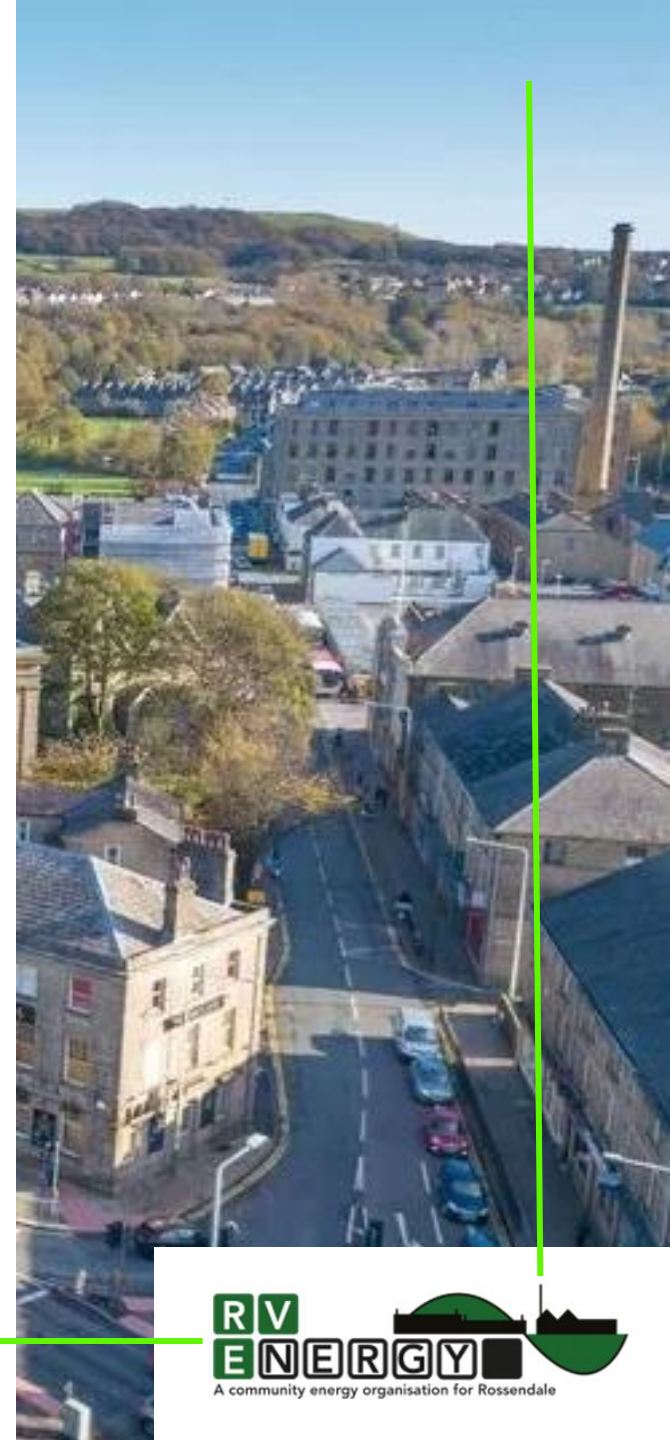
Net Zero Terrace Streets (NZTS):

- NZTS - a recap
- Working together: community energy and council
- Demonstrator homes in Rossendale
- Finance and investment update
- Support and capacity building for community energy organisations
- 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 and flexibility provided
- A smart local energy system with flexible tariffs delivering affordable energy – linked to community energy
- No upfront cost to join – people pay via a standing charge
- Community-led and operated with fair-share values
- Local energy champions engage with and sign people up and provide ongoing support



Net Zero Terrace Streets Project - Partners

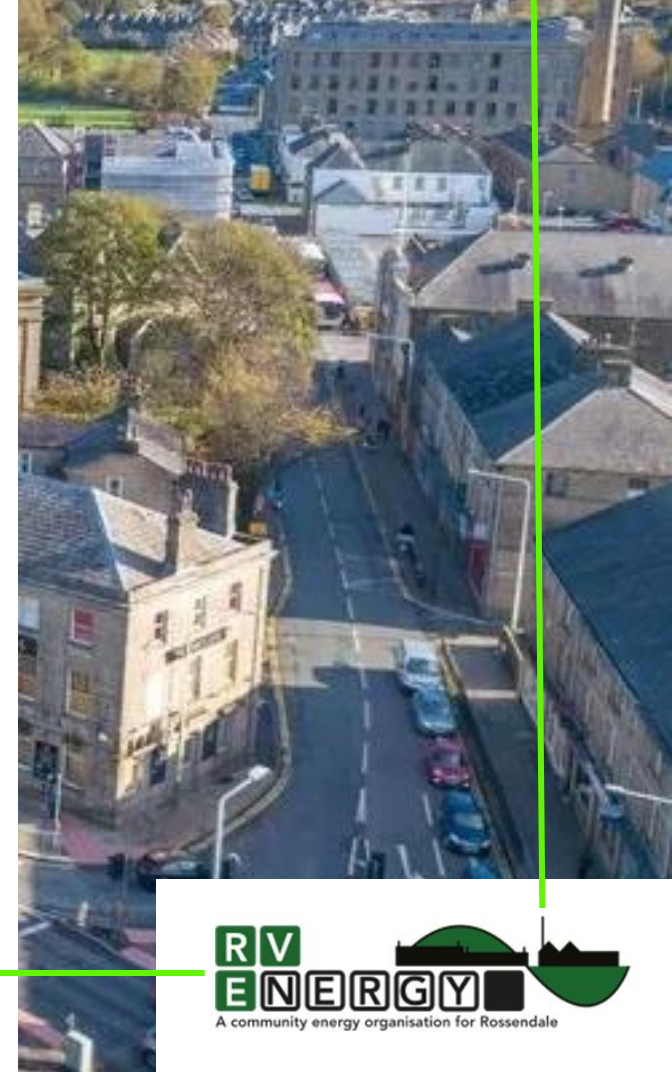
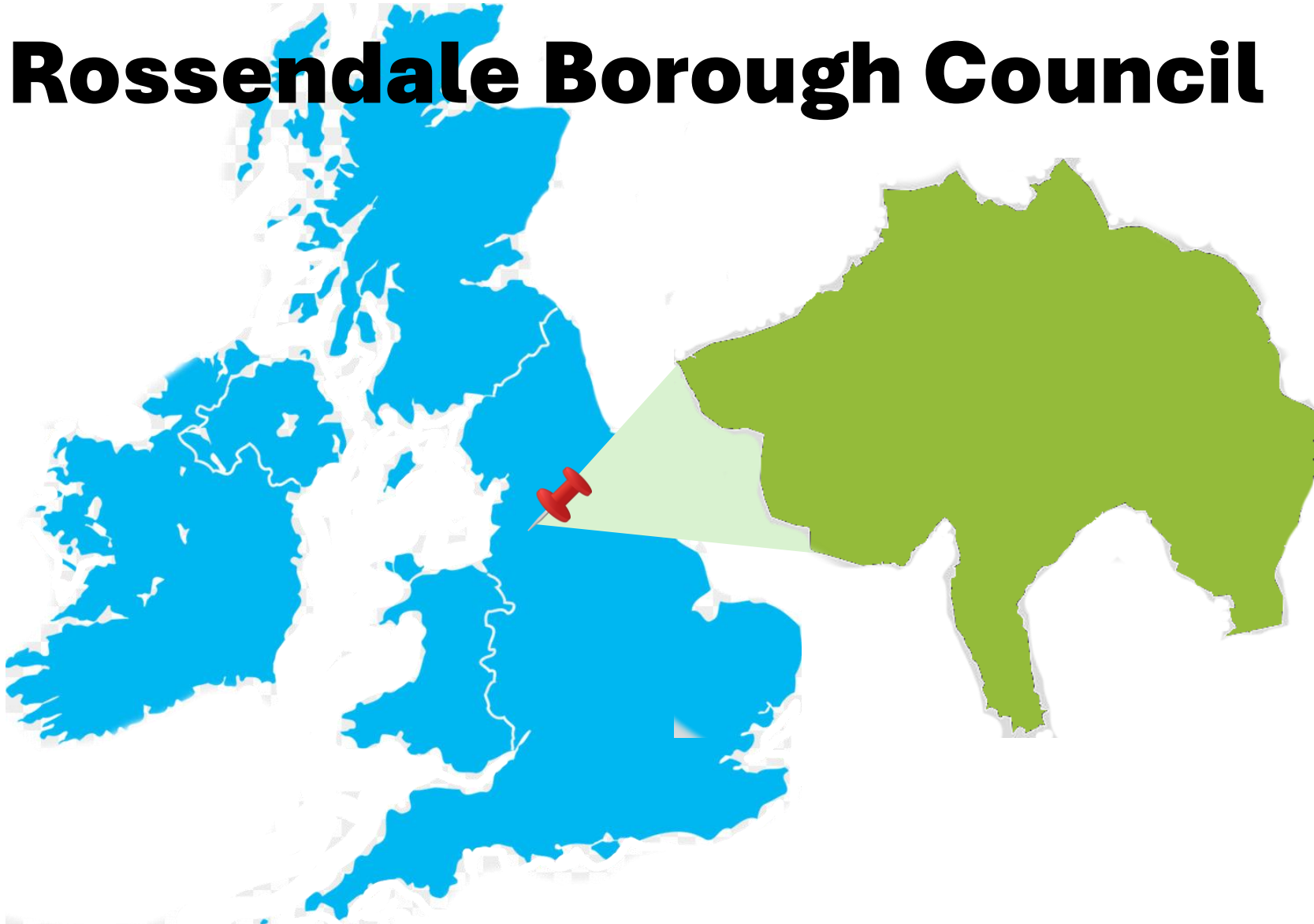
Funding



How we formed



Rossendale Borough Council



Partnership Ingredients

Council

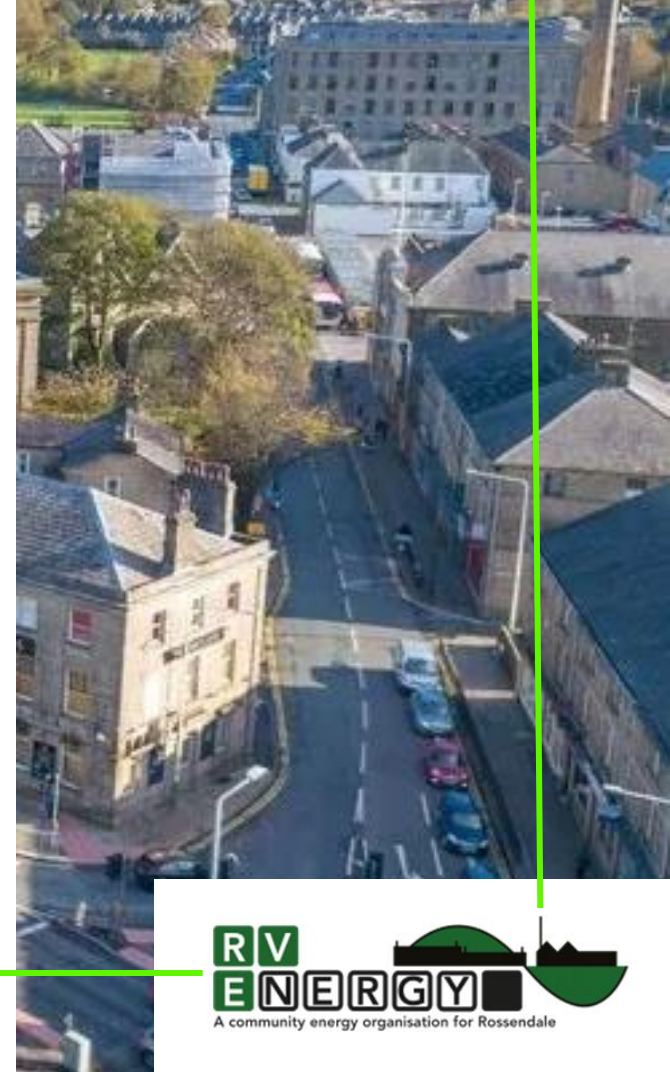
- Permanent
- Democratic
- Skills & experience of homes, regeneration, delivery
- Owns property for testing
- Trusted voice
- Access to resources

Community Energy Organisation

- Technical expertise
- Writing bids & building coalitions
- Locally rooted & trusted
- Motivated and creative
- Access to funding councils can't get
- Supported by wider networks

What are the challenges?

- Council officer time & capacity
- Risk attitude differs between RVE and RBC
- Different organisational cultures



Would we do it again?

Yes



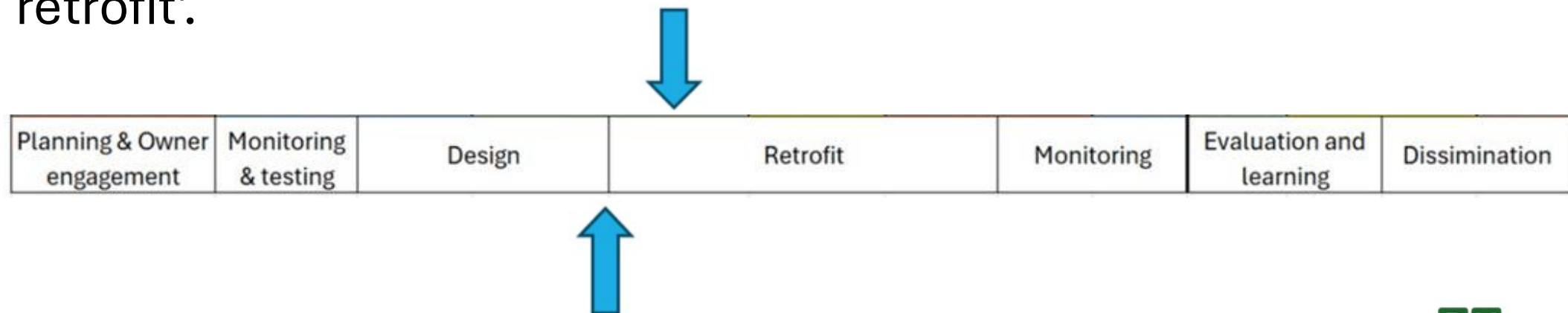


Delivering NZTS in the Demonstrator Homes



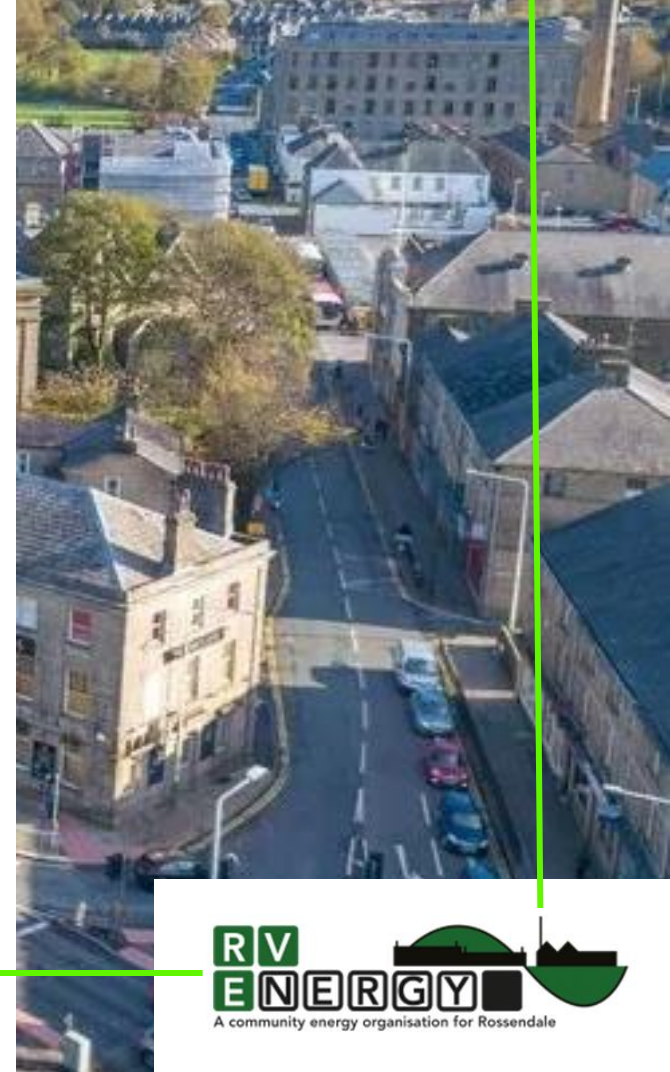
Delivering the NZTS Standard (under development)

- 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'.



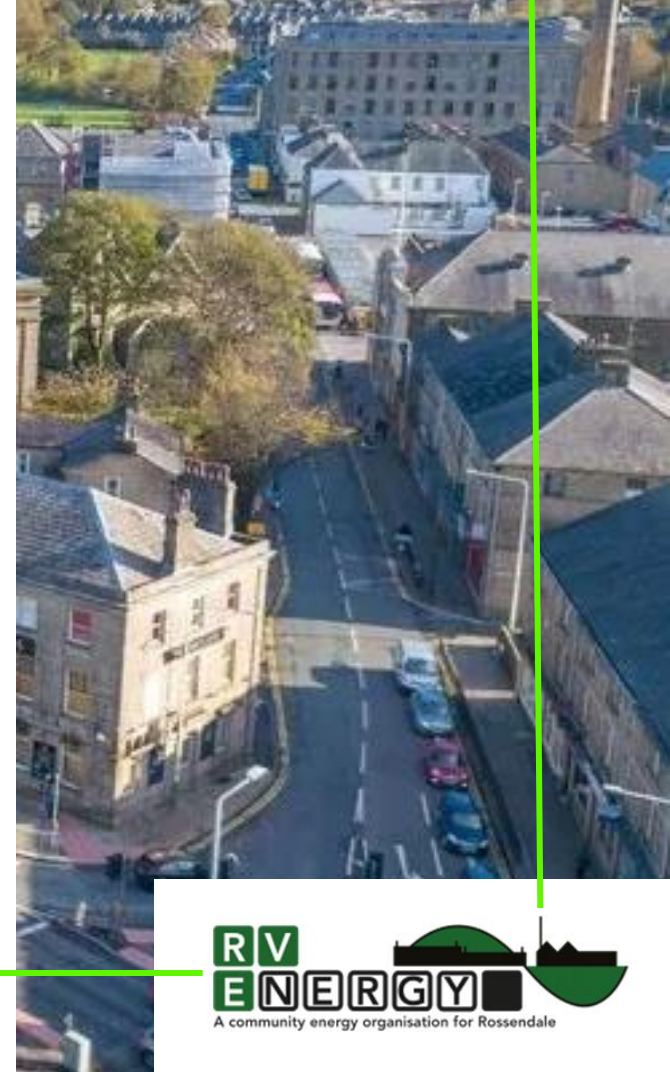
Local Authority engagement

- Planning applications
 - RBC Planning Team
 - Boreholes: United Utilities
 - Retrofit: Conservation Officer
- 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



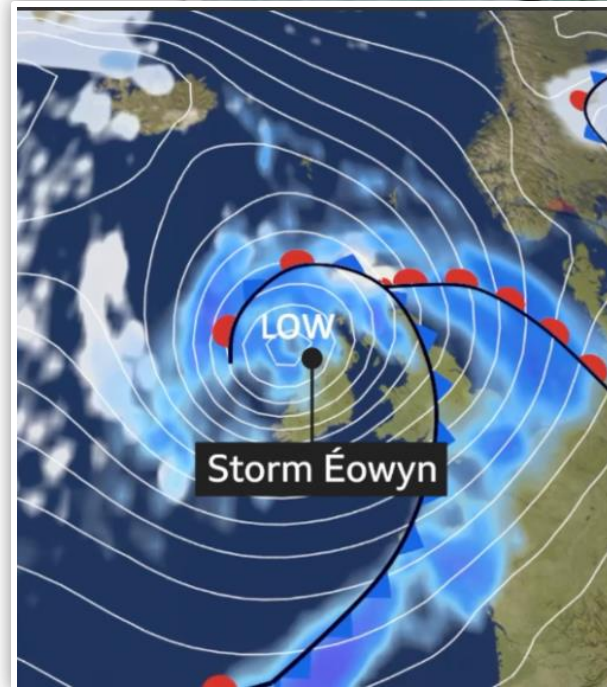
One team working together

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



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
- Expect surprises, make no assumptions, weather, stay agile
- **Writing all this up in the Handbook**



How are works progressing on the Demonstrators?



Getting the site ready



Re-roofing and solar



Boreholes



Fabric Retrofit



Has it made a difference?

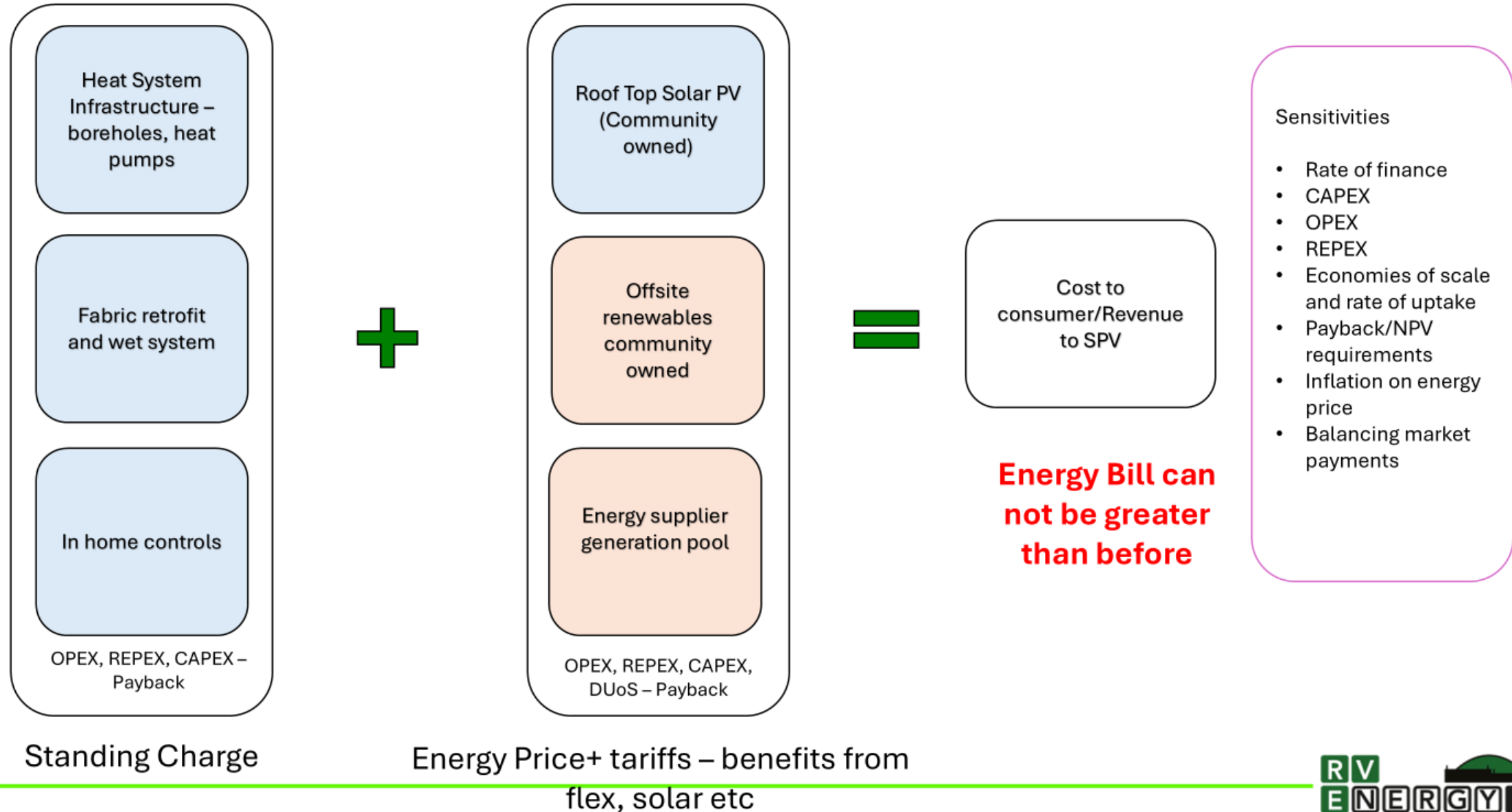


Paying for it all

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

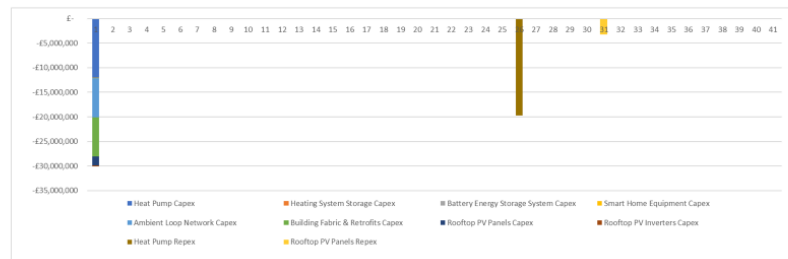
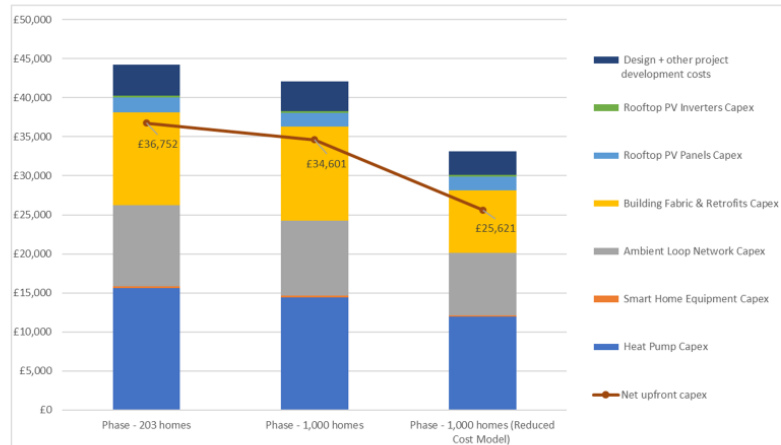


Affordability to the householder



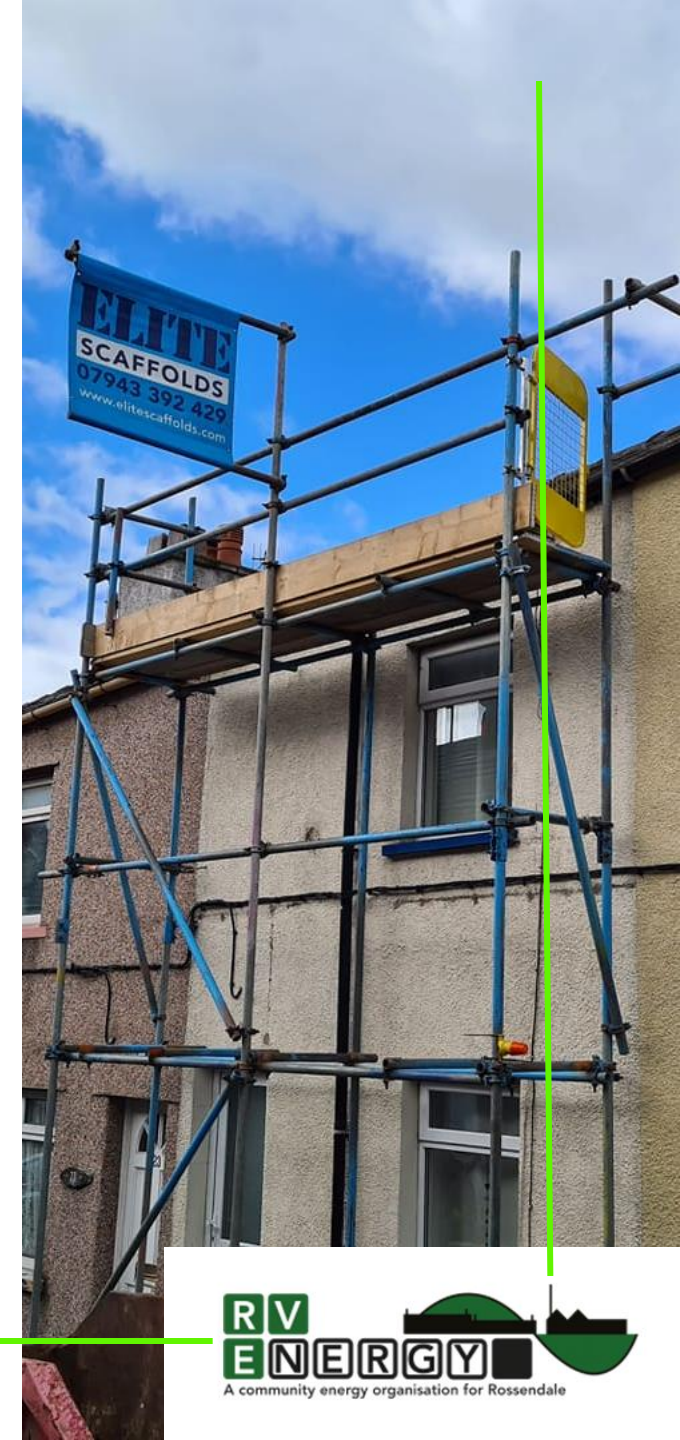
What progress have we made on financing NZTS?

Understanding the numbers – capex

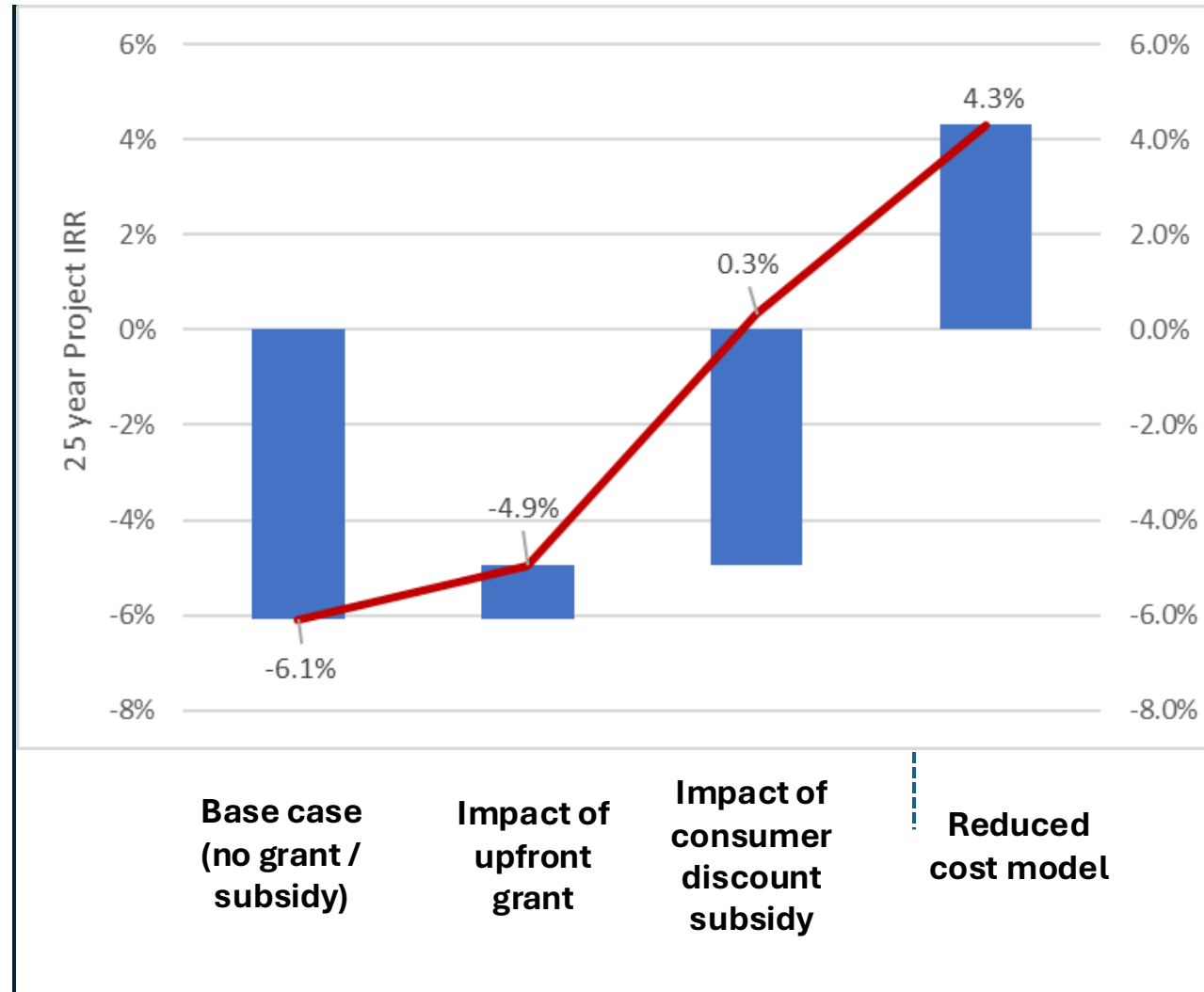


Key items – heat pump capex (blue), ambient loop (grey), building retrofit (yellow)

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



What support is available for new community energy organisations and local authorities?

Energy Learning Network

Mentoring Opportunity

We're on the lookout for mentors who can share their knowledge and guide new leaders in building resilient energy communities!

As a mentor, you'll provide real-world advice and support to passionate individuals stepping into or expanding within the field of community energy.

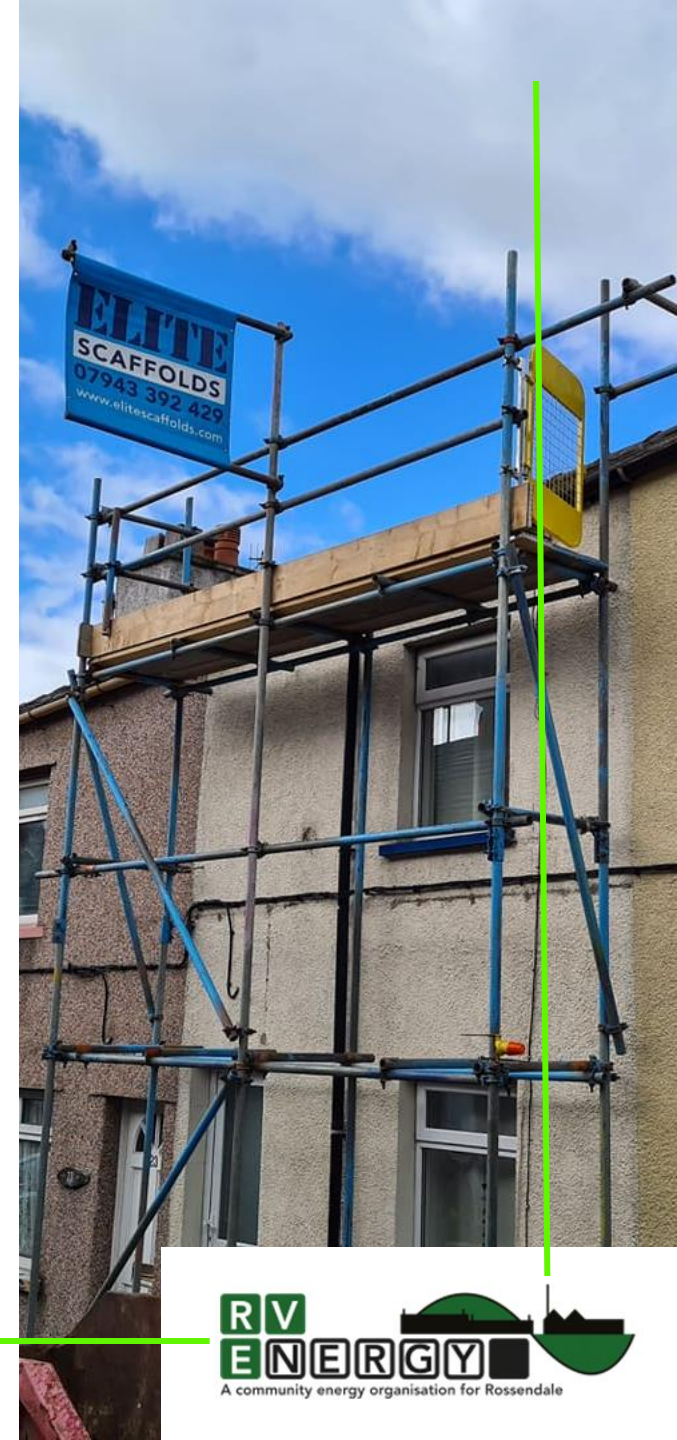


Healthy, warm homes and affordable energy



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

