

Democratising Demand Side Response



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Themes and questions

- The evolution of 'paid for' Demand Side Response (DSR) services creates opportunities for long term revenue streams
- Can these revenue streams be used as a strand within community energy business models?
- How can learning and strategies from existing business models be re-purposed?
- Where is the most value for communities that want to get involved?

Challenges to wider participation in DSR services

- Technically complex
- Conceptually complex
- Contractually complex
- Uncertainty on future value streams
- Traditionally focussed on larger scale infrastructure (e.g. aluminium smelting)
- Revenues per kWh are relatively low and therefore business models are sensitive to scale

Challenges to *domestic* DSR services

- Limited scope for demand flexibility at household level
- Scale of demand is small
- Customer acquisition cost is (relatively) high
- Cost of verification is (relatively) high
- In event of technical failure, reputational risk is high
- No existing commercial arrangements
- Potential for conflict with existing industry processes (e.g. non half hourly settlement)

Our approach

- Focus on households with greatest proportion of flexible demand (electric heating and batteries)
- Focus on localised opportunities for DSR
- Work with landlords with large portfolios in order to scale and reduce contractual arrangements
- Leverage existing networks for customer recruitment and support
- Leverage existing community governance infrastructures
- Leverage smart metering and grid infrastructure
- Integrate with other energy/social/health services

Why community energy?

Community energy puts people at the heart of the energy system



Community

Locks in social, economic and environmental benefits locally, and addresses disenfranchisement with current energy system



Democracy

Gives local people a stake and a say in their energy



Fuel poverty

Saves money on energy bills and makes homes warmer



Climate change

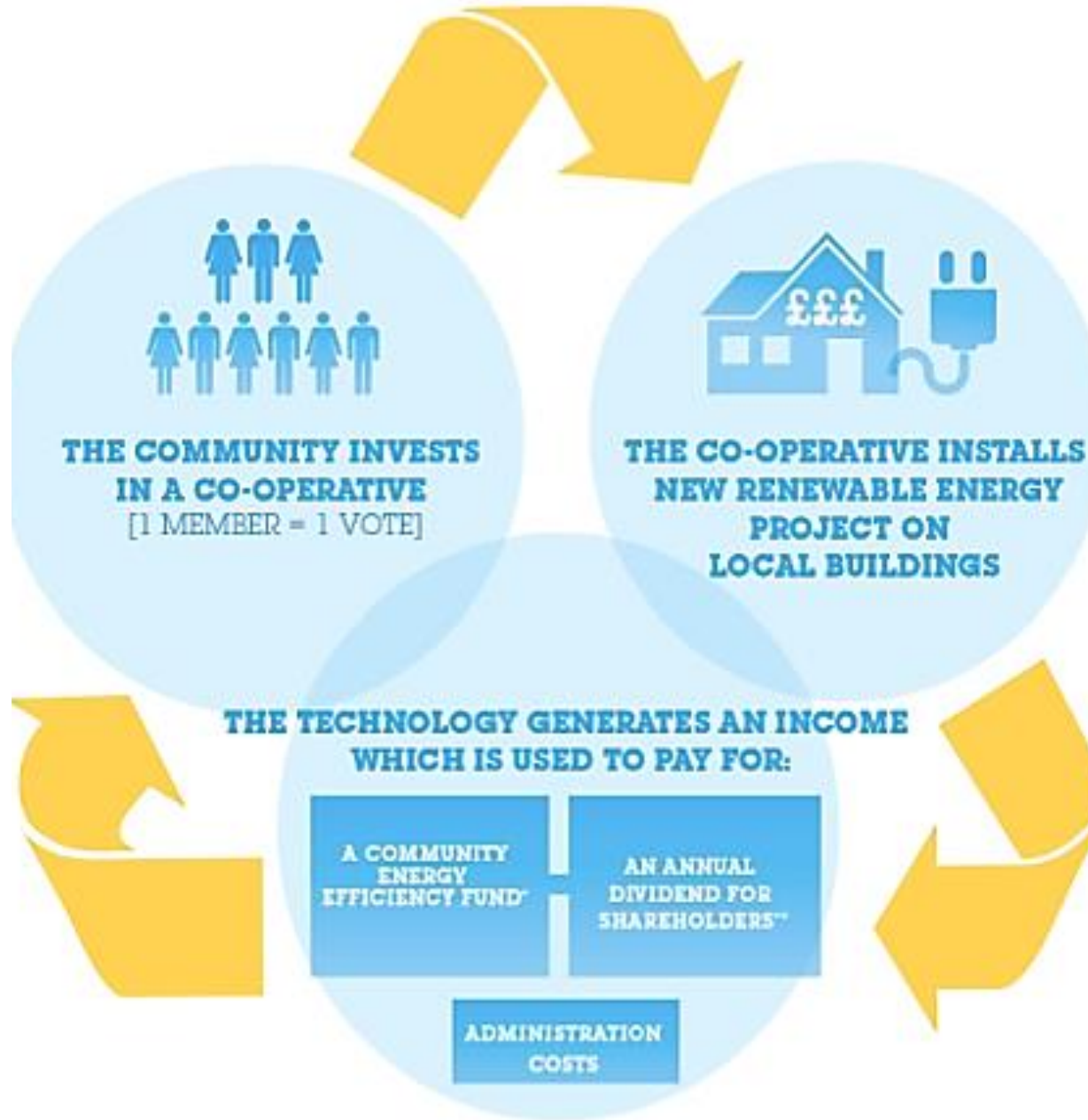
Reduces carbon emissions and increases energy efficiency



Energy innovation

Pioneers new technology, systems and engagement

Repowering's community solar model



Community Engagement

Asking what people want

Community Engagement

- Existing networks
- Door knocking
- Energy surveys
- Events

Co-production

- Mentoring sessions
- Monthly public meetings
- Energy efficiency workshops

Training

- 30 week internship
- Energy efficiency training
- Paid work experience



What is Home Response

Home Response is a Mayor of London innovation project to demonstrate how existing domestic electrical hot water immersion heaters and solar PV with battery energy storage can be controlled to provide flexible Demand Side Response (DSR) services in social housing households.

Home Response will:

- support UKPN and National Grid's needs for flexible grid capacity and balancing
- remotely control flexible demand for hot water and power
- manage everything for households
- engage and recruit 160 households
- Reward households for their flexibility
- trial business models that offer replication potential
- Unlock up to 0.5MW of energy demand flexibility



Project partners

- Greater London Authority (project management and comms)
- Repowering (engagement)
- Moixa (technology)
- Element Energy (modelling and evaluation)
- UK Power Networks (DNO)

Project funding

- The project is supported by BEIS, under the Innovative Domestic Demand Side Response competition

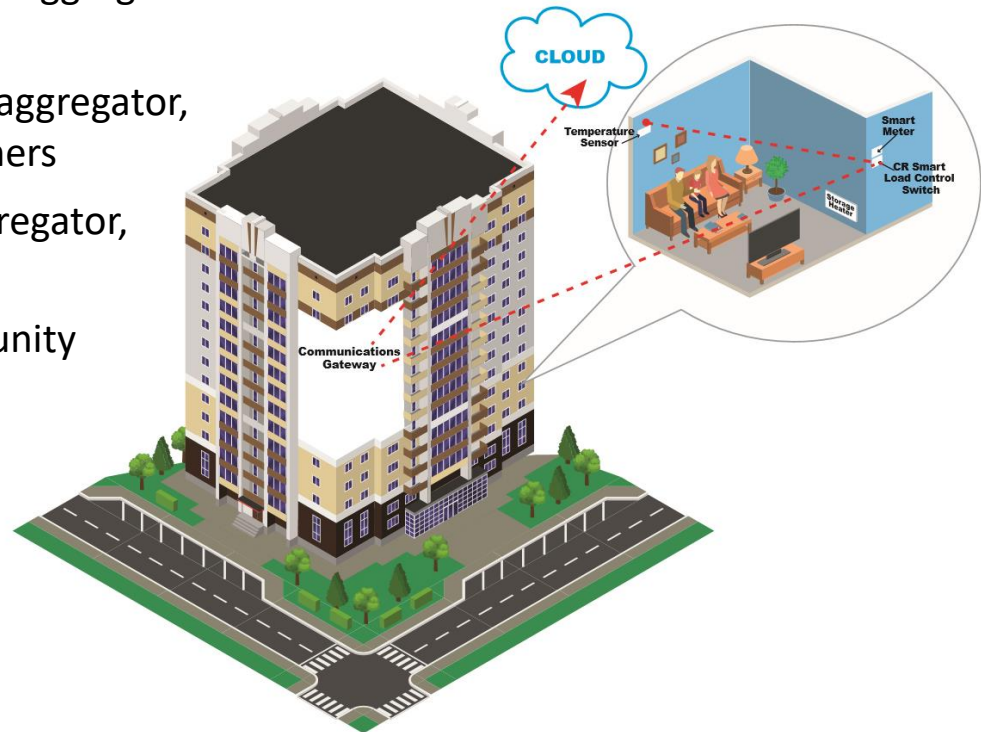
MAYOR OF LONDON

Types of Technology

- 1) Electricity battery storage in targeted tenanted properties with existing solar PV
- 2) Smart controls and timer switches for domestic hot water immersion heaters

Community Model:

- Incorporates a local intermediary between the aggregator and household
- Reduces recruitment and admin costs for the aggregator, while offering locally based support to customers
- DSR revenues will be shared between the aggregator, households and local intermediary
- Revenues can be used to support local community energy projects



Project Offer

Housing Associations and Local Authorities

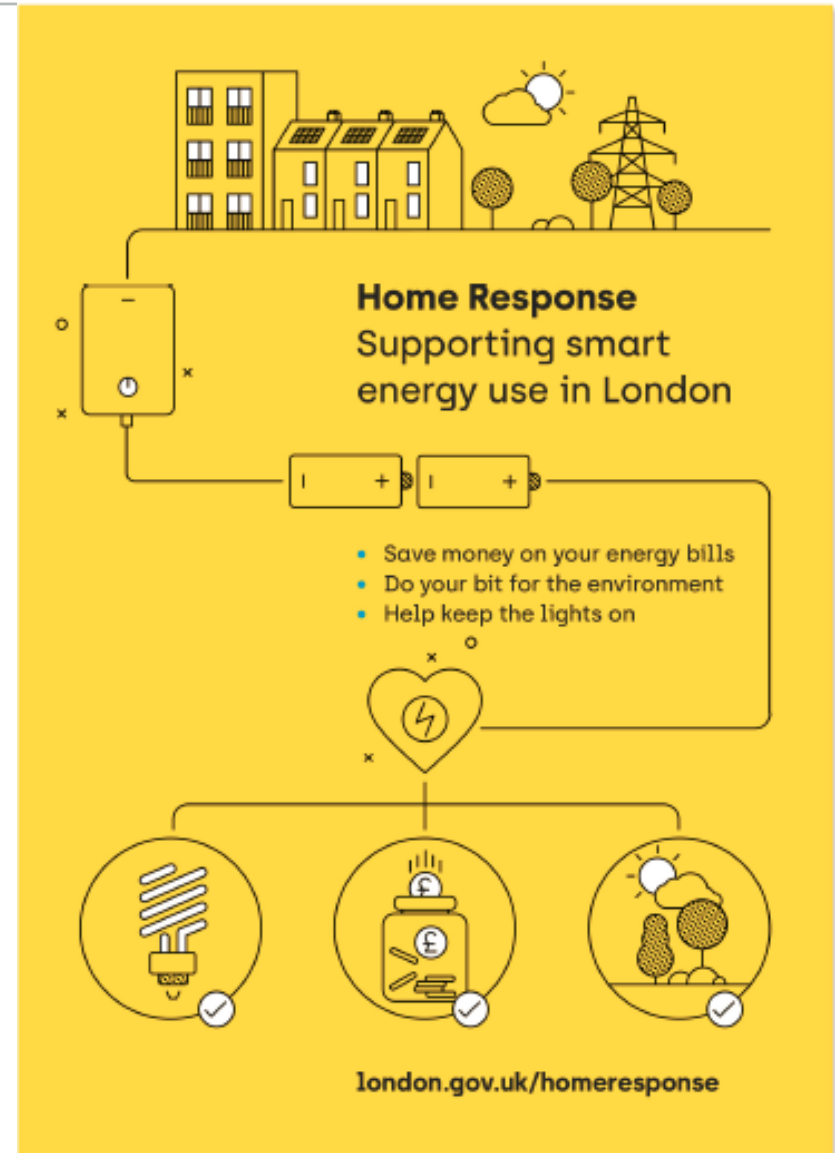
- No cost support to residents, contributing towards fuel poverty and environmental objectives
- Estimated 600-800 households engaged on energy efficiency and low carbon innovation

Residents

- Local employment through recruitment of Energy Champion roles
- Up to £50 per household for participation
- Opportunity for participants to create a community fund and vote on fund priorities
- Free access to Moixa app for monitoring energy usage
- Offer of one-to-one energy advice

Current status

- One Local Authority partner signed up, ongoing discussions with two more
- Control equipment has completed testing
- Comms and branding agreed
- Registration portal is live
- Two community champions recruited
- Installations expected to start in March





Thanks for your time



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