

# **Optimisation of Electric Domestic Storage Heating**

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## The problems we set out to tackle

Problem 1: 40 years of **bad** heating experience, **bad** tariffs and **bad** charging regimes (you may know it as Economy 7)

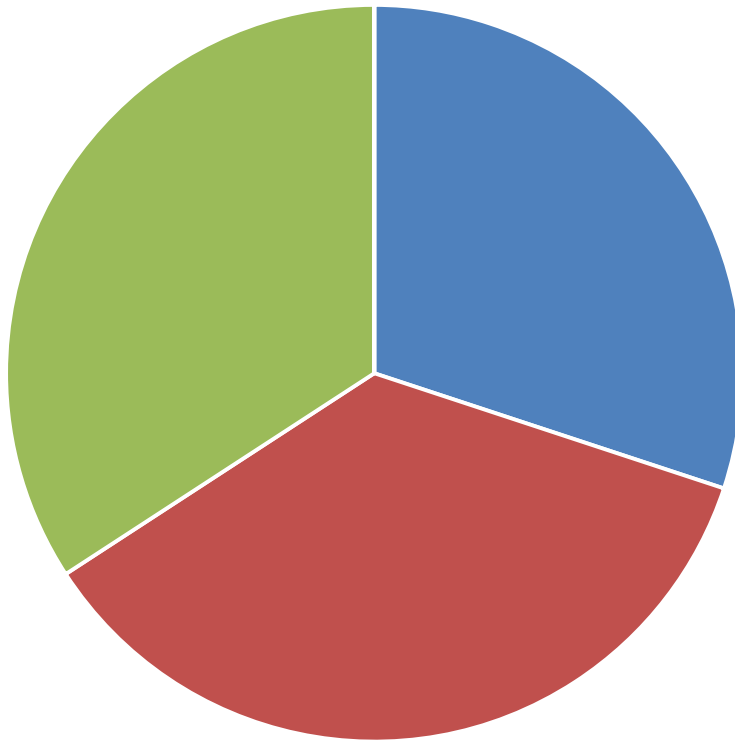
How? - Smart-charging of electric storage heaters to improve comfort, reduce cost and alleviate fuel poverty

Problem 2: Inability to use local renewable generation within a community by individual residents

How? - Developing a Consumer Access Device (CAD) to read Smart Meters in near-real-time to track “who and how much” local generation has been successfully used within the community

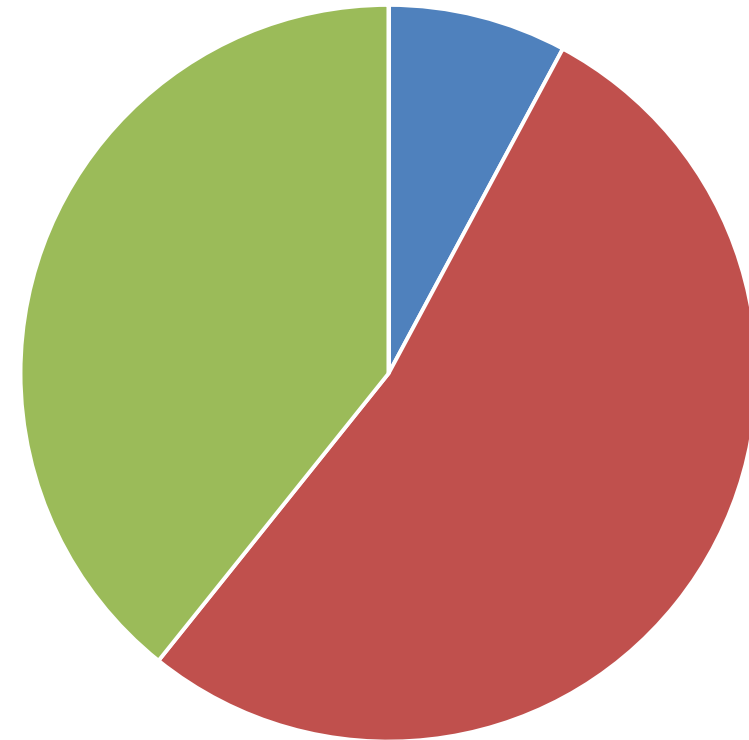
**Around 1.5m homes in GB with electric storage heating - our initial focus is in social housing (tower blocks and low rise/flats)**

Homes by Tenure



■ Social Housing ■ Owner Occupiers ■ Private Landlords ■

Homes by Type

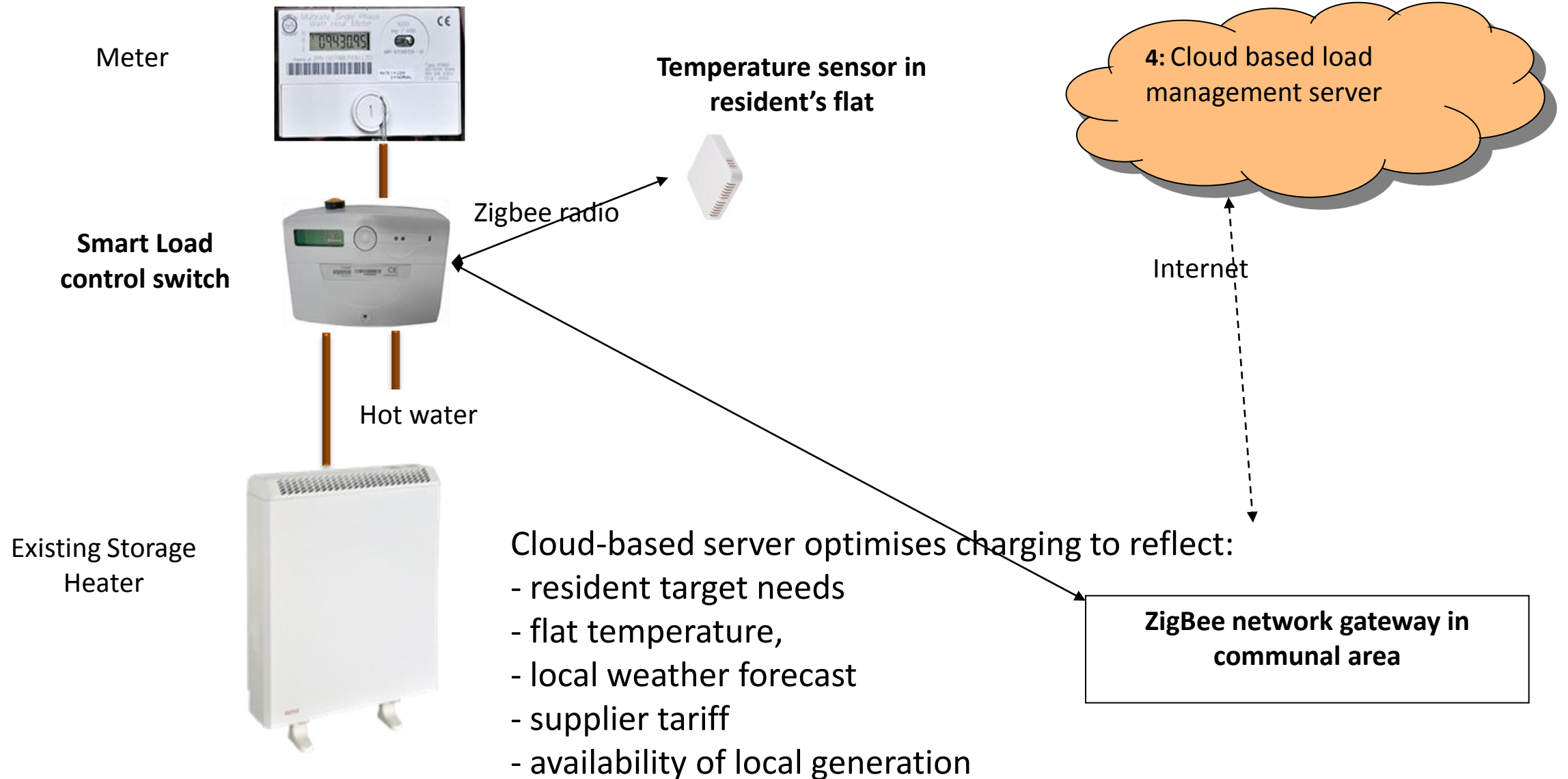


■ Tower Blocks ■ Low Rise Flats ■ Houses/Bungalows ■

## Market Trends

- New storage heaters installed in 5% of flats pa
- Heat Pump penetration slower than forecast
- Smart Meter roll-out late
- Time-of-Use tariffs becoming more prevalent
- “Flexible Storage Heaters mop up Volatile Renewables”
- Realisation that Fuel Poverty and Electric Heating are linked
- Good Heating and Good Health go hand-in-hand

## Retrofit technology



## Financial Snapshot

- Initial funding of circa £90k from three co-founders
- Year 1 projected Turnover £744k and Net Profit £146k
- Year 3 Turnover:
  - With fundraising £2.6m, Net Profit £711k, +ve cashflow £673k
- Year 3 Turnover with adoption by two Top 10 energy suppliers £7.5m
- **Round 1 external raise seeking:**
  - £250k for 10% equity
  - £200k as loan (with 12 month interest holiday)

## Growth and Diversification

- Customers include Glasgow Housing Association and Westminster City Council
- New business with other major London Council landlords imminent
- Currently part of three funded projects with Energy Savings Trust, BEIS and Scottish Government
- Developing new products/services:
  - Consumer Access Device (CAD) to read Smart Meters (on Redress project)
  - Heat Pump Interface to comply with Ofgem regs (with service provider)
  - Hot Water dynamic charging (with battery manufacturer)
  - Flexibility Services (with an aggregator)
  - Heat-as-a-Service - “Comfort not kWh” (with large energy supplier)
- Target to reach 15,000 retrofit flats cumulative by Year 3 (1% of installed heaters)
- With external funding and neutrality, this could triple with multiple supplier partners

**“Please talk to us later!” - Kenny Cameron and David Reynolds**