



RetroMeter

Alpha Phase – Show & Tell

Dr Geraldine Paterson – Electricity North West

Samuel Young – Energy Systems Catapult

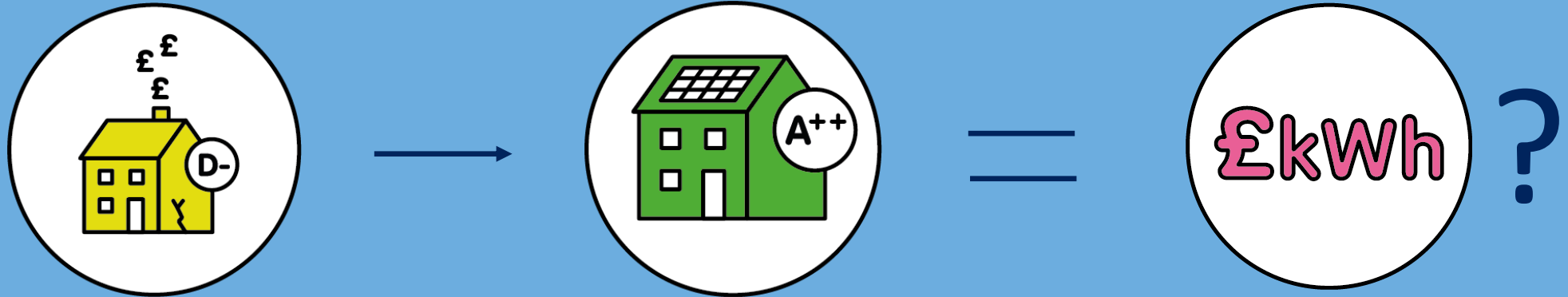
Connor Enright – ep Group

Matt Fawcett – Carbon Co-op

Stay connected...



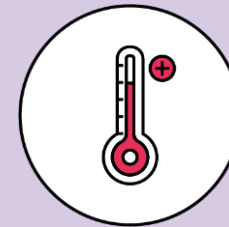
www.enwl.co.uk



How much energy (and money, and carbon) does a retrofit actually save?

Why is it hard?

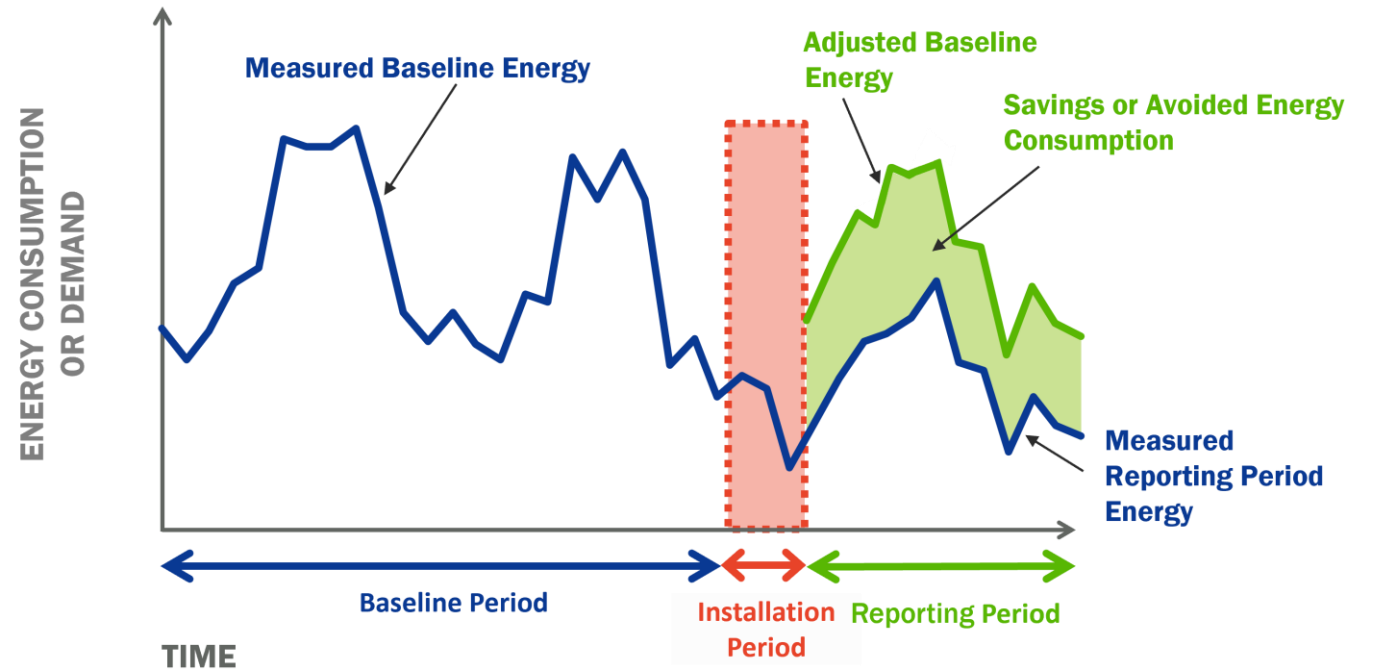
- Weather
- Covid / Cost of living crisis
- Customer behaviour



What are Metered Energy Savings?



- Current methods use modelling **at the point of install** to estimate the energy saved
- We can do better by looking at the **real energy consumed post-retrofit**



Credit: EVO 2022

Methodology Approach and Results



OpenEEmeter Daily

- US open-source model using outside temperature and seasonality
- Cannot account for external factors like energy price

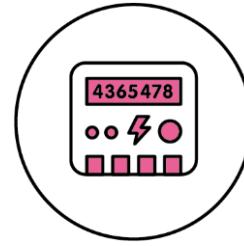
Comparator Groups

- Adjust predicted consumption using similar properties without intervention
- Accounts for society-wide externalities

Physics-based

- Models household heat loss to measure comfort take-back
- Accounts for behavioural changes post-intervention

Median Annual Performance for 1 home, Error (Bias)	Median Annual Performance for 10 homes, Error (Bias)
19% (17%)	11% (14%)
9% (0%)	5% (0%)
36% (-2%)	19% (-4%)



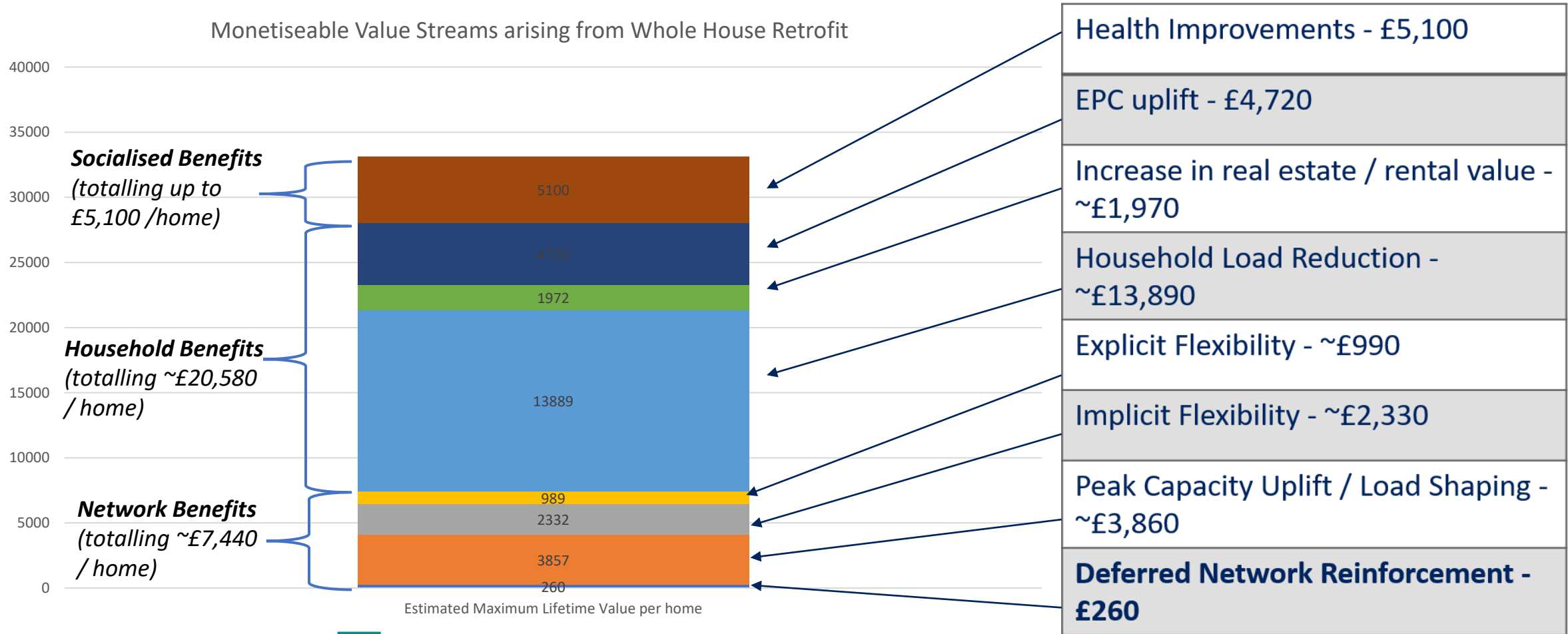
Hildebrand
3k homes with >2 years smart meter data



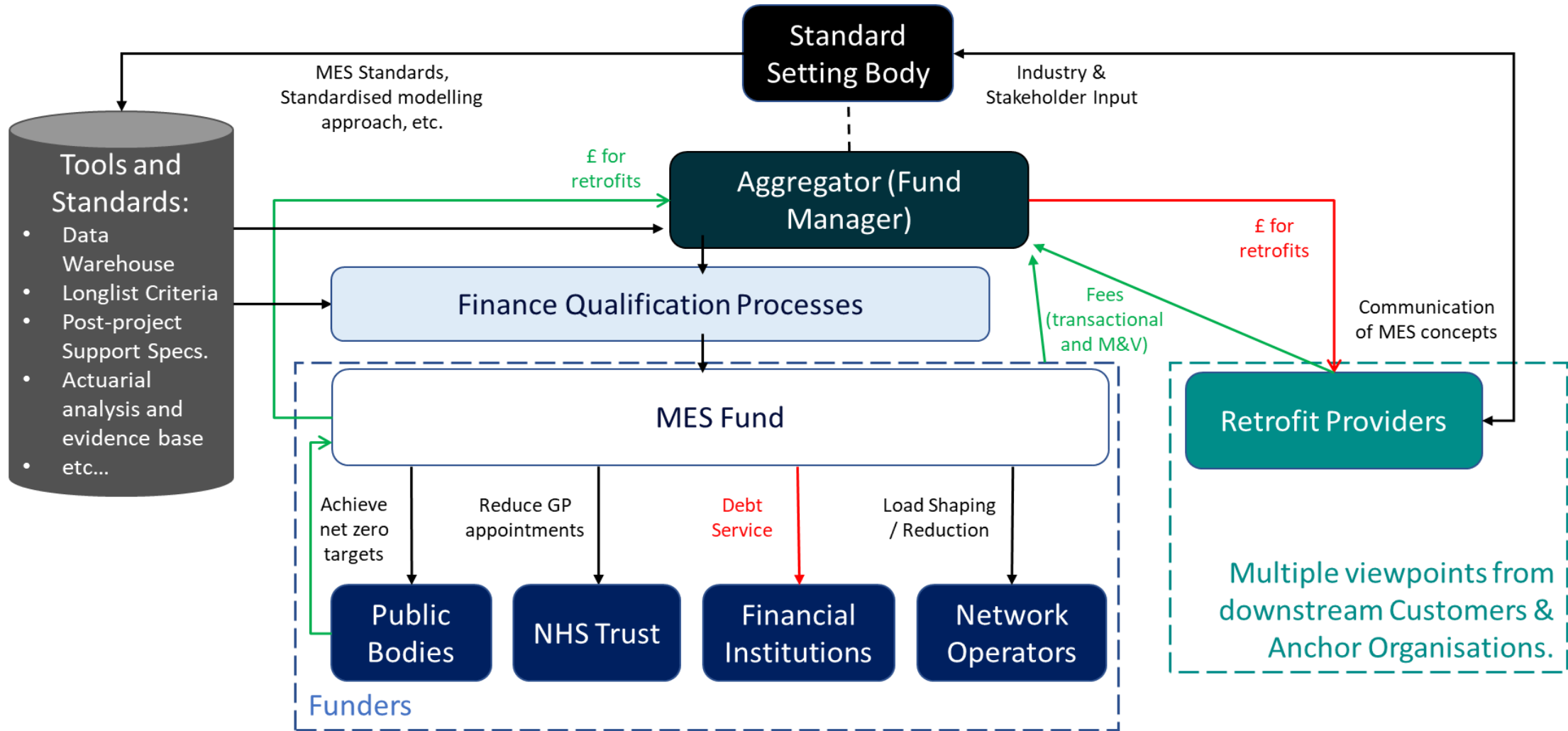
SMETER (HTC)
15 homes with known HTC



Retrofit brings **multiple value streams to multiple parties**, as shown below:



RetroMeter Business Model



Key Learning



Energy savings can be accurately estimated using smart meter & weather data and a comparison-based methodology

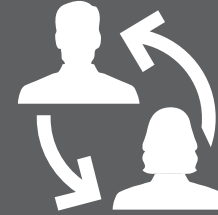
(requires ongoing access to smart meter data for non-retrofit homes)



Aggregating a small number of homes (~10) significantly improves accuracy



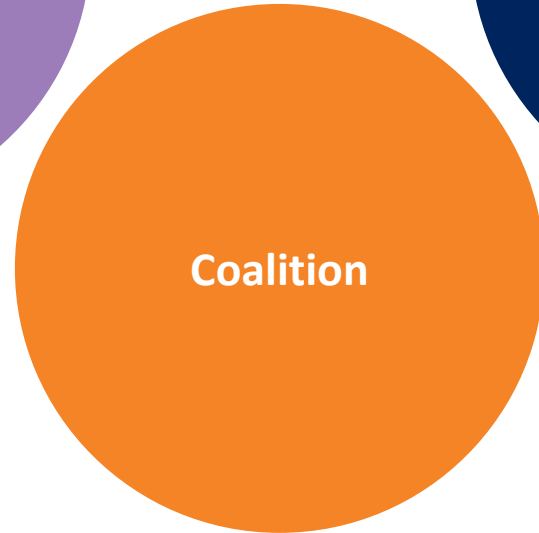
Significant challenges around Smart Meter data: availability, quality and access



Importance of early engagement with retrofit and housing providers



Clear benefits for decarbonisation but most value sits with other actors, rather than the DNO



Looking at a broad range of future funding options

QUESTIONS & ANSWERS



innovation@enwl.co.uk



www.enwl.co.uk/innovation-strategy



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