

Pilots Retrofitting Council Housing for Energy Efficiency

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Striving for excellence



Background

Working alongside

- Retrofit London (London Councils)
- Mayor London / GLA as part of their Retrofit Accelerator Housing Innovation Partnership



Retrofit London Programme



Be the solution to climate change



London's Housing Context

- 3.8m homes with tenure (eg private rented) and type (solid brick, flatted) challenges.
- Local authorities manage around 10%.
- Increasing levels of fuel poverty and residents struggling to meet basic needs.
- Homes need to be more energy efficient:

Table 1 Average SAP Score by Tenure

Socially Rented (8%)	Privately Rented (13%)	Owner Occupied (20%)
66.52 (Band D)	63.28 (D)	60.63 (D)

Ambitious Regional Programme

- Aim is to support organisations and individuals to make homes greener and warmer so they are an average of EPC B (or equivalent) by 2030
- Minimum £49bn estimated cost to deliver
- Cross party political and Housing Directors support
- Strategic Action Plan published late 2021 with governance and resources in place in 2022
- Strength of collaborative approach and leadership recognised with two national awards

Recognises Similar Challenges

- Costs.
- Supply side capacity.
- Skills and training.
- Finance and funding.
- Housing tenures and types.
- Plethora of approaches and prioritisation.
- Measuring progress.
- Roles of different stakeholders.

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Retrofit Accelerator Programme

Innovation Partnership



PART-FUNDED BY



European Union
European Regional
Development Fund

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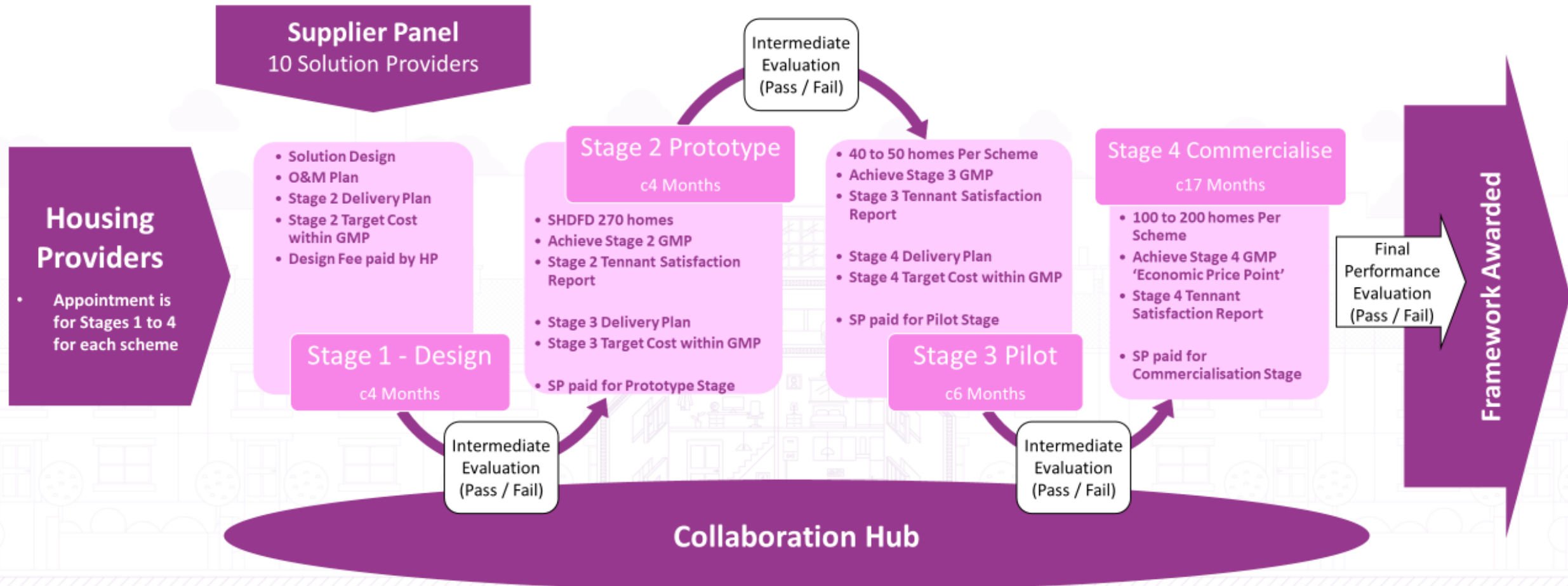
To date UK Energiesprong projects used traditional low volume scheme by scheme procurement. This has not created the necessary volume to stimulate a supply market or drive the economies of scale necessary to achieve an economic price point

energie
sprong
uk



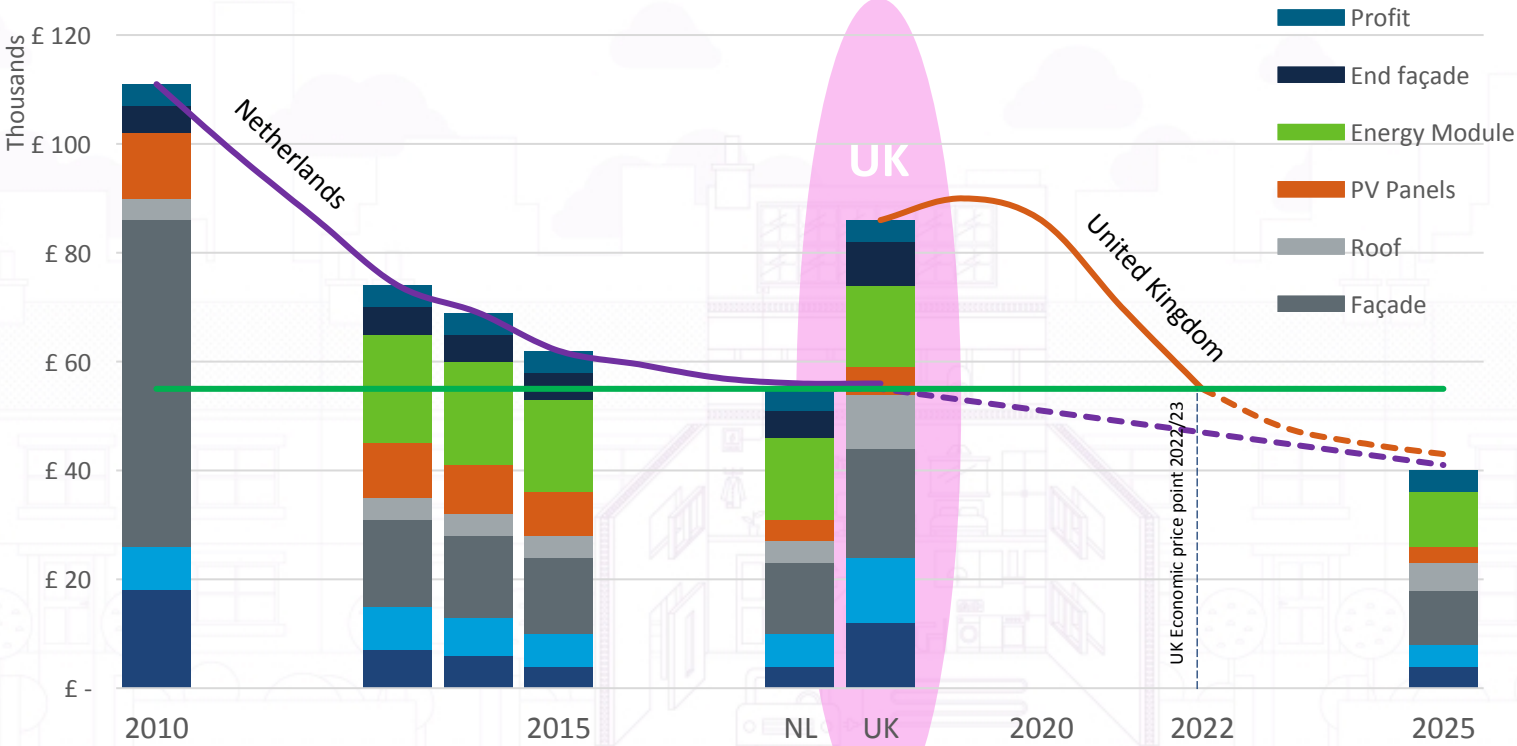
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RAHIP Stage 1 to 4 – Developmental Process



Netherlands Case Study

By creating scale and longevity through a structured development procurement process, the Netherlands was able to attract multiple landlords, stimulate competition in the market and generate investment in further solution innovation, industrialisation and digitisation



Retrofit Accelerator – Housing

EPC B by 2030

Deep Whole Home Retrofit

Stage 2 (prototype of 10 homes and planning

Stage 3 (pilot of 120 homes)

Retrofit Accelerator team

- Enfield Council
- Energie-Sprong and Turner & Townsend
- Osbournes and Pellings
- Subcontractors and Suppliers

3.2 tonnes CO2 saved per year per home

Good feedback from residents

Reduced energy bills for residents

16,300kWh energy saving per year per home



**Retrofit Accelerator
Phase 2**



Retrofit Accelerator - Phase 2

- Haselbury area – 10 properties
- Deep retrofit to EnergieSprong principles
- High levels of insulation and using Air Source Heat Pumps (ASHPs) and Mechanical Ventilation (MHVR)



Retrofit Accelerator - Phase 2

- Initial low levels of insulation
- Energy cost per unit rising
- Cost of living crisis



Retrofit Accelerator - Phase 2 – Loft Insulation

- regulates the temperature to provide warmth in the winter and cool in the summer months
- Access provided
- Boards for storage provided



Retrofit Accelerator - Phase 2 – Solar Panels

- Generating electricity
- Use immediately
- Sell back to grid



Retrofit Accelerator - Phase 2 – External insulation

- External wall insulation
- Triple glazed windows
- High performance doors
- Reducing heat loss
- Matching previous finish



Retrofit Accelerator - Phase 2

Air source heat pump

- Removal of old gas boiler
- Runs on electricity
- More efficient than a boiler



Retrofit Accelerator - Phase 2 – Ventillation

- Whole house ventilation
- Heat exchanger



Retrofit Accelerator - Phase 2

- Large savings gained
- Comfort charge contributes to the capital funding



Retrofit Accelerator - Phase 2

Funding for construction: £456k from central government, £821k from Enfield Council

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RETROFIT ACCELERATOR HOMES

Transforming homes in Enfield



10

homes retrofitted

2.9

total carbon saved
(tonnes per year per home)

16,300

annual energy savings
(KWh per year per home)

176

homes in pipeline

The Mayor's Retrofit Accelerator - Homes Innovation Partnership moves the work of the Retrofit Accelerator - Homes one step further, taking a major stride towards delivering warm, comfortable and affordable net zero housing retrofit at scale, not just in London but across the UK.

Seven London-based social housing providers, including Enfield, and four UK building firms, along with a network of suppliers, are working together to stimulate a new market for whole house retrofit and reduce costs.

With technical support from the Greater London Authority, Enfield joined the Retrofit Accelerator Homes Innovation Partnership, which consists of one design and three delivery stages, with a recognition that earlier stages will have higher capital costs because of the innovation involved and the lower number of properties.

Challenges and lessons learned

There were a number of challenges faced in delivering the project, particularly in a very pressured financial situation with rapidly increasing inflation having impacts throughout the supply chain.

However, as Enfield have led the way in delivering an innovative approach, there was a determination to see this through to completion, ensuring learning was embedded in the local authority, and also shared with partner housing providers through the Collaboration Hub.

The investment into the retrofit construction works to these homes was £456k from the Social Housing Decarbonisation Fund (SHDF) and £821k from Enfield Council.

The breakdown of these costs was approximately as follows:

Design	2%
Monitoring	2%
Preliminaries, safety, scaffolding	15%
Fabric preparation	7%
External Walls	18%
Windows and Doors	10%
Loft and roof work	6%
Mechanical and Electrical	30%
Risk, overheads and profit	13%

The next stages will be at a lower cost per property because of the greater number of properties and the learning from earlier stages. Currently Enfield Council, the team and funders are analysing the business case and value for money for how we move forward.

Energetik retrofit pilots

- South street flats (GLA funded)
- Victorian Properties (GLA funded)
- Naylor Grove (Enfield NDCCF funded)
- Heating measures only, not including insulation



Issues and Challenges

- High cost per property in these early stages
- Managing expectations with residents as numbers of homes in scheme reduced
- The whole house approached work well regarding quality, time, disruption and resident satisfaction.

For next projects

Reduce cost by:

- Focussing on properties that are externally rendered
- Value engineering of installation – e.g. ventilation system
- Increase Scale, but maintain similar typology of homes
- Divide works into insulation measures, heating measures and Solar Panel measures so they can happen at different times
- Coordinate with works done to meet Decent Homes targets
- Apply for external funding – eg Successful Social Housing Decarbonisation bid for £3.5m

Manage expectations:

- Only engage with residents when sure of process to avoid disappointment