Plenary 4

NHMF Study Tour 2024

Speakers:

Stephanie Lloyd-Foxe | NHMF Group Board Chair/Magna Housing

Julian Ransom | NHMF Committee/ iON Consultants

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NHMF Vision

The NHMF is the leading body representing housing providers in delivering excellence in maintenance and asset management services through:

Championing innovation

Bringing organisations and people together

Sharing and celebrating knowledge and best practice

Collectively improving standards

Being well managed and financially sustainable

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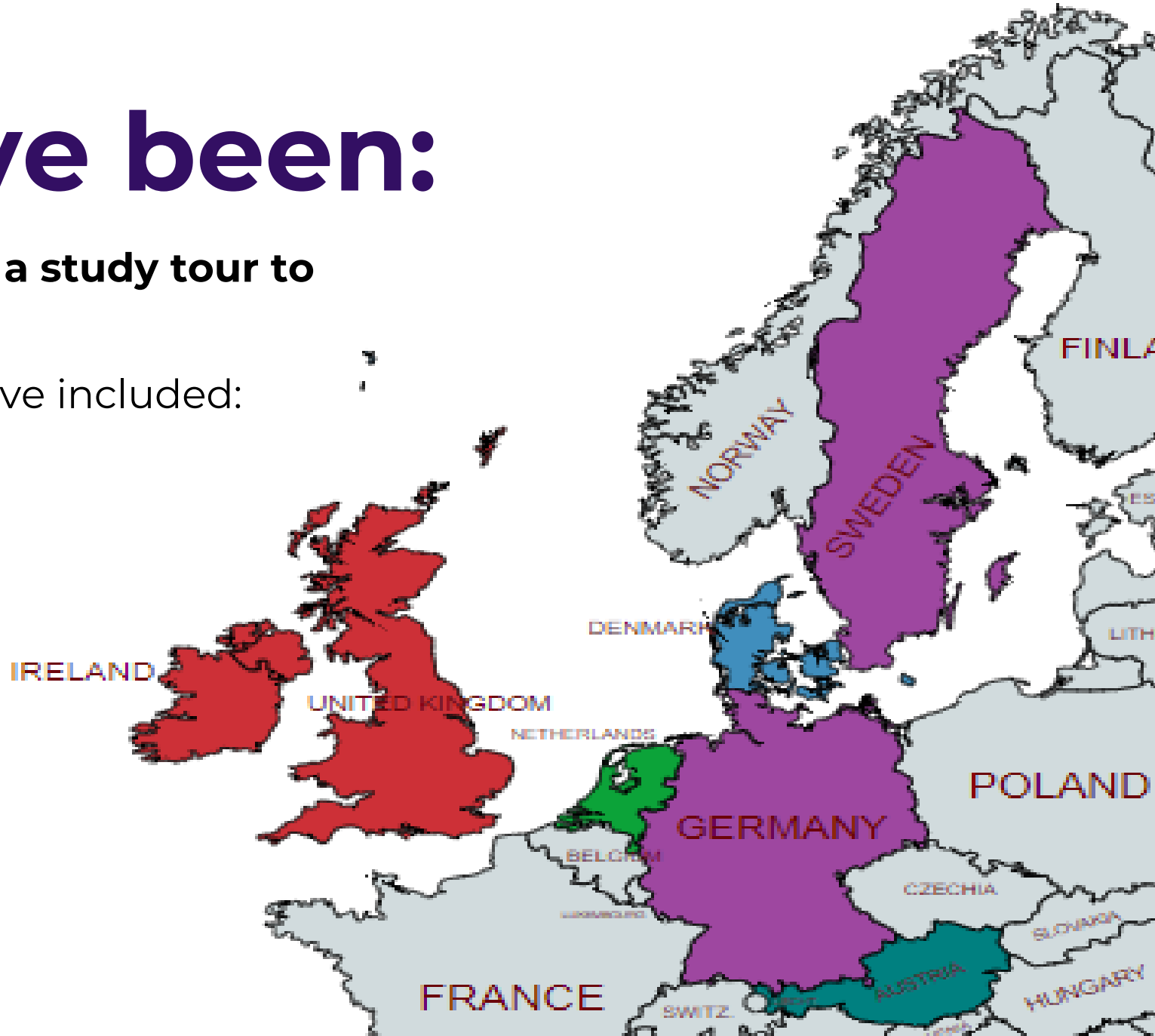
Where we've been:

Every year the NHMF organise a study tour to look at best practice.

Previous study tour locations have included:

- Netherlands
- Denmark and Sweden
- Ireland
- Scotland
- Germany
- Austria – 2022
- UK - 2023



Where we're going 2024

- **Sweden**
- Stockholm visit: May 2024
- Net Zero + Ecological focus / theme

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What is Sweden known for?

- ABBA
- Ikea
- Volvo
- Meatballs
- The Nobel Prize
- Herring based dishes...

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But also:

- One of the most progressive Net Zero / ecological development strategies in EU.
- Most visited flagship eco development suburb (Hammarby Lake City).
- Very widespread Heat network adoption.
- Amongst the Lowest Heat pump install costs worldwide.
- Largest residential development in Europe (Royal Seaport) with biggest heat pump + biomass plant in the EU.

However:

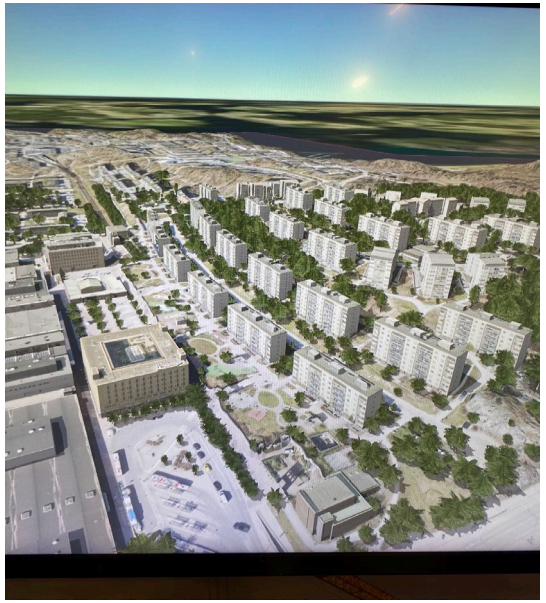
- Highest gun crime death rate in EU.
- Blighted estates/ challenges around immigration.
- Difficult 60s/ 70s concrete block estates (Millenium programme).

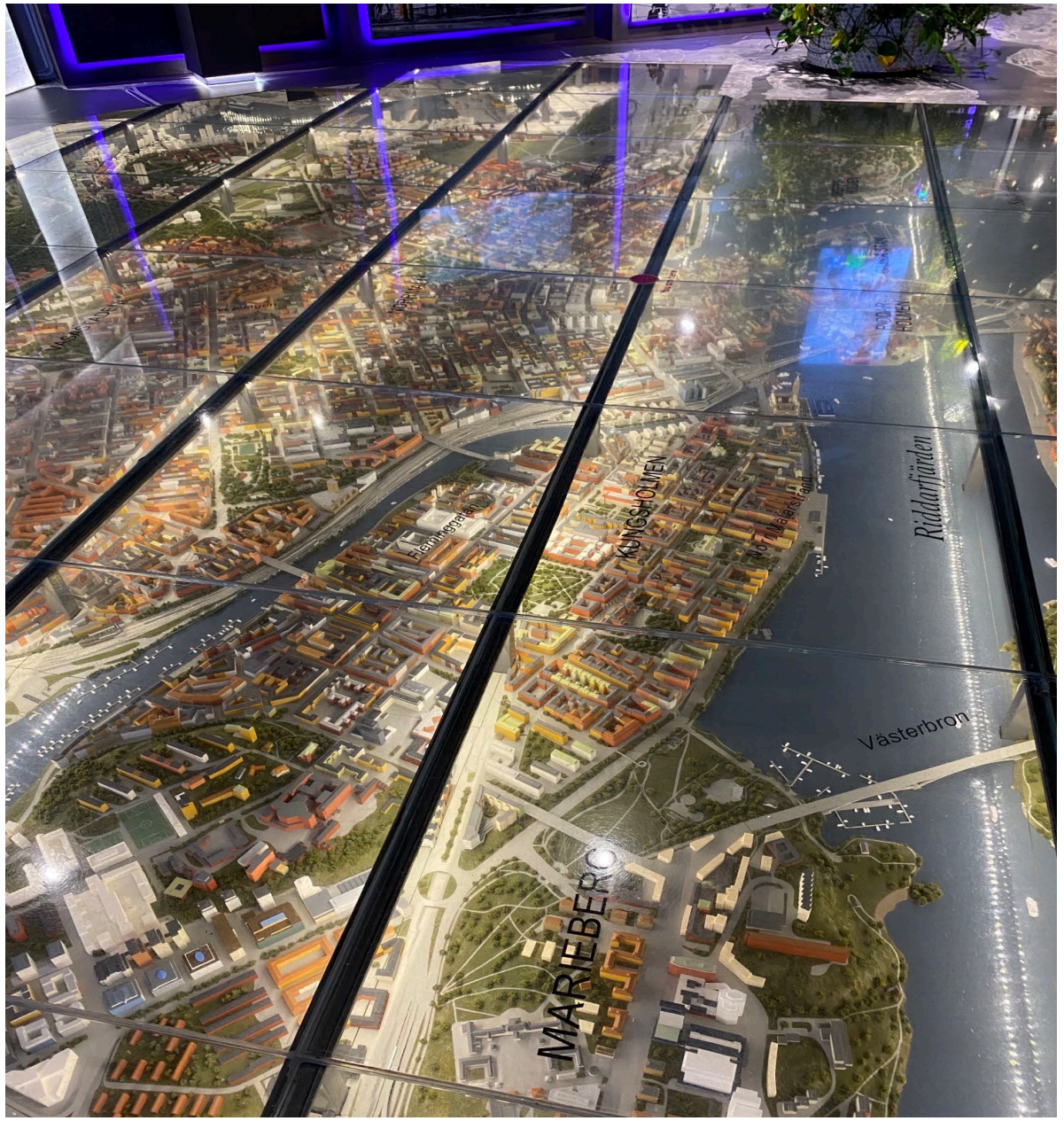
WHO (facilitating the visit):

- The City of Stockholm (guided technical tours) + model city
- Stockholm Technical University
- National and Regional governmental housing bodies
- Progressive Energy Cos
- City of Stockholm Museum
- Tenant / occupant groups
- Old City walking tours


LILJEHOLMEN


SIGHTSEEING




KUNGSHOLMEN
Riddarfjärden
Västerbron
MARIEBER


GRILL RUBY
HILDA
Skottgränd
1 - 9
BURGER KING
RESTAURANG TRE VALV
CAFE

Why attend?

- Learning
- Information sharing
- Networking
- New working methods
- Examples of practical applications
- Innovation
- Use of technology in practice

Making a difference

More:

- Collaboration
- Training
- Best practice
- Frameworx
- Community benefit

Summary

- Wednesday 15 - Friday 17 May
- Stay the weekend (partner joining) as an option
- Weblinks to full programme & booking options coming soon
- LinkedIn updates
- If interested, come and speak to:
  - Julian Ransom
  - Ben Virgo
  - Stephanie Lloyd-Foxe

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Thank you.

See you at the
next conference!

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Plenary 4

Fabric ~~First~~ Fifth...

Reprioritising to reduce emissions and bills (to zero)

Speaker:
Nigel Banks | Technical Director, Zero Bills
Octopus Energy

Chair:
Julian Ransom | iON Consultants

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Context: I advocated for “Fabric First”…

2008-11: 101 of first 120 Zero Operational Carbon, Code for Sustainable Homes 6* rated homes

2012: Highest performing ‘TSB Retrofit for Future’

2012-14: Third of first 100 UK Passivhaus homes

2018: First homes to New London Plan ‘Zero Carbon’

2017: Deep internal retrofit to 1850’s home

Context: Why I've moved to "Fabric Fifth"...

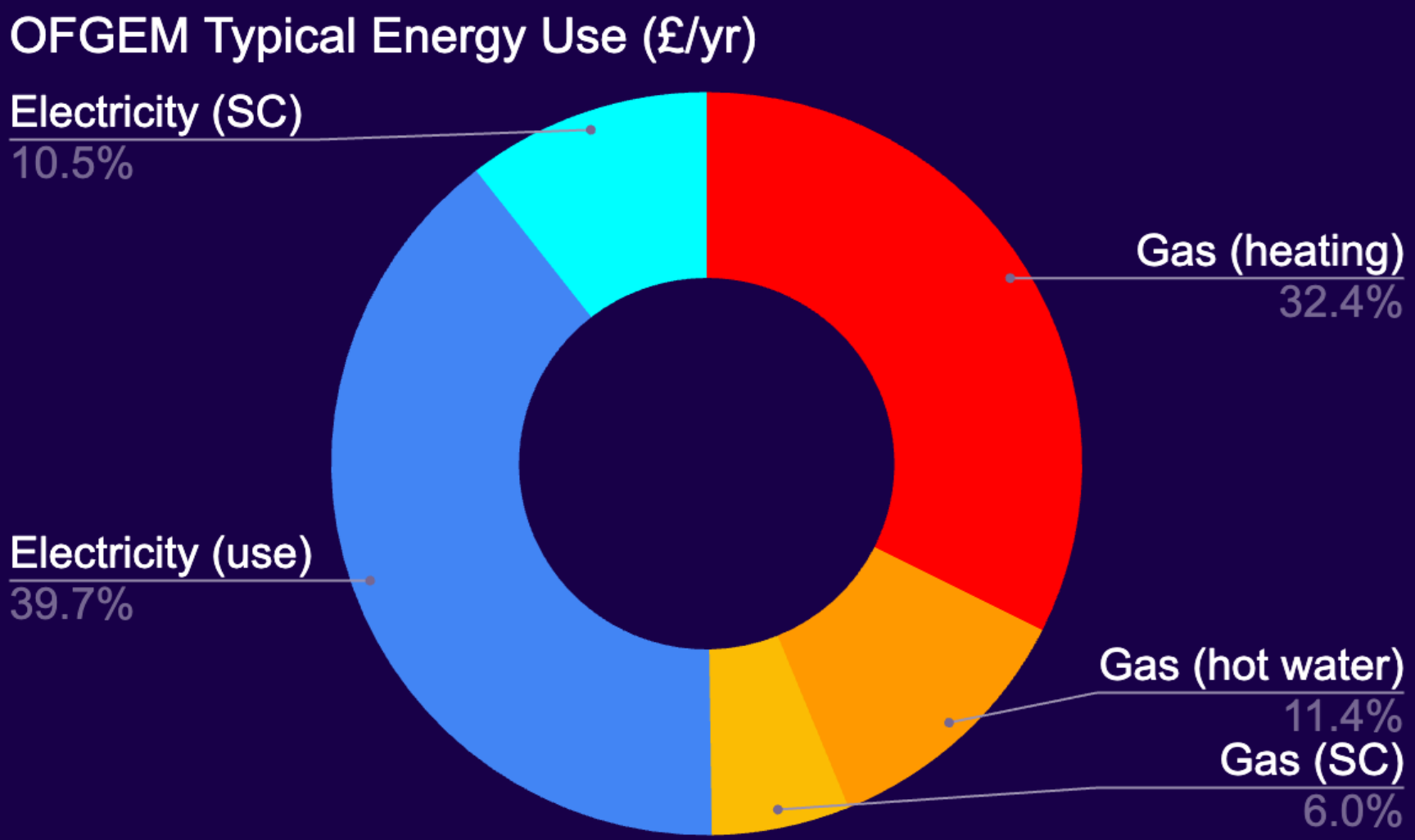
"When the facts change, I change my mind. What do you do?"

Since 2015 in UK ~
- Energy costs ⬆️ 2x (but smart ⬇️ upto 2x)
- Grid Carbon Intensity ⬇️ 2x
- Heat Pumps sCOPs ⬆️ 1.5x
- Insulation costs ⬆️ 2x
- Insulation upfront carbon ⏸️ (largely)
- PV & Battery costs ⬇️ 3x
- PV upfront carbon ⬇️ 2x

Also "Skate to where the puck is going"

By 2030 in UK:
- Grid Carbon Intensity ⬇️ - Going to 0️ a lot of the time
- Electricity costs ↕️ - More variable & frequently going to 0️
- Heat Pumps, EVs & Batteries - 🐙 Smart controls built in (to use that free, clean energy)
- Heat pump, EV, PV & Battery costs ⬇️ - Continuing the trend
- Insulation costs and upfront carbon? ⏸️ - Suspect these will remain high

Context: Understanding energy bills



Fabric Fifth

1. ASHP ASAP
2. Get Smart
3. Measure & Get Comfy
4. Solar & Storage
5. Fabric Fifth

Fabric ~~First~~ Fifth

We need to rapidly reduce emissions, lower energy bills as well as deliver comfortable and healthy homes, so where should we be prioritising spending our money in the UK?

The housing industry mantra has been “Fabric First” for decades, but for the next few decades, I (and many experts I speak to) now think most funds need to be reprioritised. Here are the list of measures that move “major fabric improvements” down to fifth place (in most homes):

1. **ASHPs ASAP** - replacing our fossil fuel heating and cooking systems with electric heat pumps and electric oven/hobs: Getting off oil and gas is the only step required to fully decarbonise our homes (as the electricity grid will do the rest by around 2035). There is currently a £7,500 grant available which covers most of the cost in most homes (SHDF funding is available in social housing).
2. **Get Smart** - fitting a smart meter, smart controls and get on a smart tariff can massively lower bills and further reduce emissions without compromising comfort: The UK now has huge amounts of very low cost, even free electricity available from wind and solar sources. However, at peak times and when the wind isn’t blowing, electricity is very expensive and is higher carbon. Smart controls can automatically move when we use energy to these very low cost times (which are almost always the lowest carbon times)
3. **Measure & get comfy** - Understanding how much energy we are using and the comfort (including air quality) levels in our home: There are usually some simple, low cost steps we can take to improve comfort, air quality and reduce our energy use as well as the timing of energy use (such as draught proofing, loft & cavity wall insulation, using timers/programmers, etc). Let’s not forget this important step!
4. **Solar & Storage** - the financial and carbon payback of fitting solar panels and battery (and/or heat) storage systems is now reasonably fast without subsidy (4-8 years): These systems can deliver huge energy bill reductions in summer but also big savings in winter by shifting energy use. They have a large embodied energy footprint but do have a carbon payback. Also, we need to install a huge amount of solar and storage in all zero carbon forecasts, so why not fit this on the roofs of homes where possible?
5. **Fabric Fifth** - Major fabric improvements also increase upfront emissions and currently don’t have a financial or carbon payback (in most cases). However, there are many homes in the UK which need major fabric and ventilation improvements to be safe and comfortable in winter and in summer. Government funding (such as ECO4, GBIS, SHDF) should support these to be done well. Funding should prioritise lower embodied carbon materials in order to try and actually deliver short term carbon savings.

Please note that fabric still makes the top 5 and shouldn’t be forgotten! When combined with good fabric performance, we can deliver homes that generate more energy than they use, so are operationally zero carbon and can also have zero energy bills (guaranteed by Octopus Energy!).

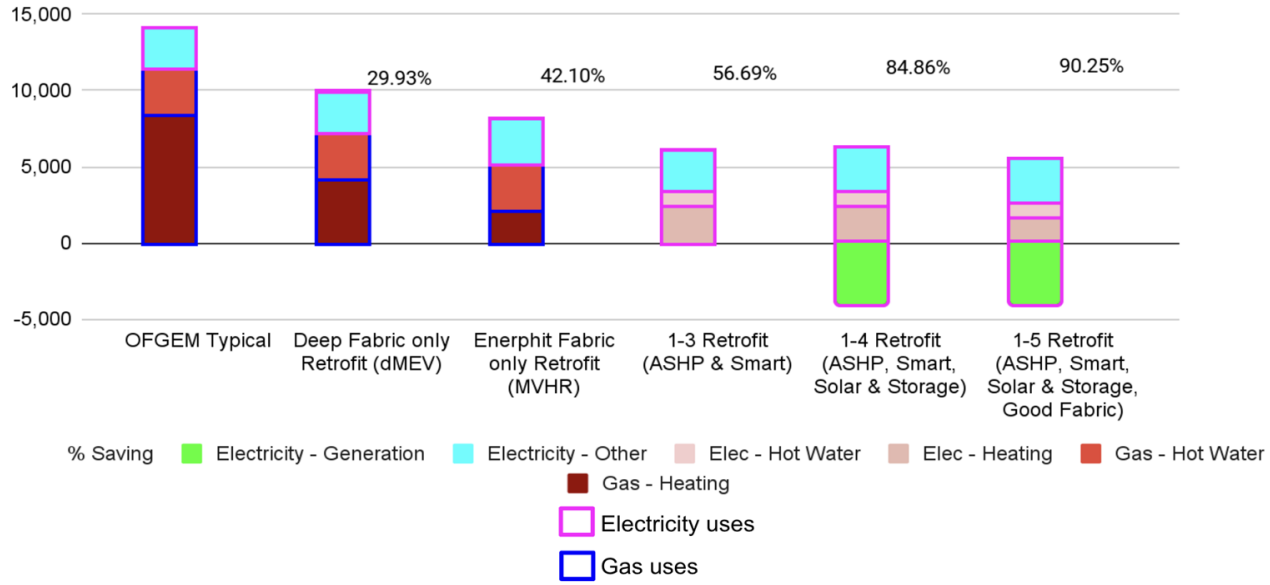
Even without a good fabric, air source heat pumps, particularly high temperature heat pumps, are available and are able to heat almost any home and building now. If you do then go on to insulate or upgrade radiators, you can then lower your flow temperatures and get even better efficiencies and would be able load shift even more. It is worth noting that there are various heat pump options available for flats now too (EASHP, A2A, Ambient Loop, communal/district, etc).

Right now, measures 1, 2 and 3 are relatively cost effective and measure 4 can have a relatively short payback and so it is worth considering finance options for them (especially in Scotland where the Government offers 0% interest free loans). The combined package of these 4 measures is transformational to bills and emissions, far more so than even deep fabric retrofits.

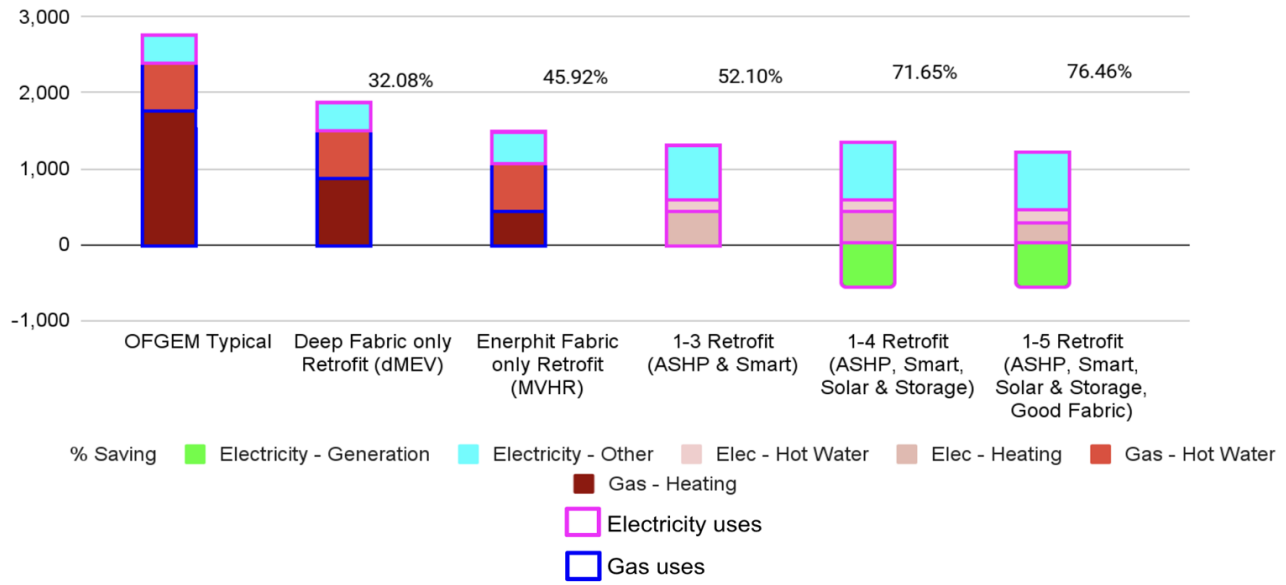
I’ve put some illustrative charts together for a typical home retrofit, to different levels, to highlight the rationale for the above points…

Fabric ~~First~~ Fifth

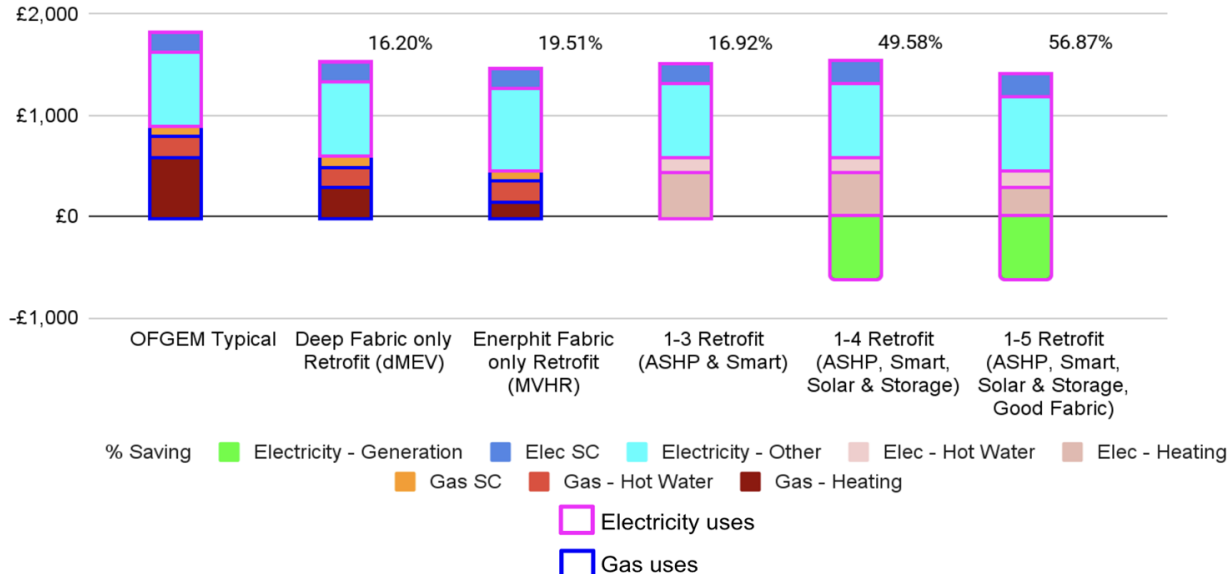
Total Energy Use (kWh/yr)



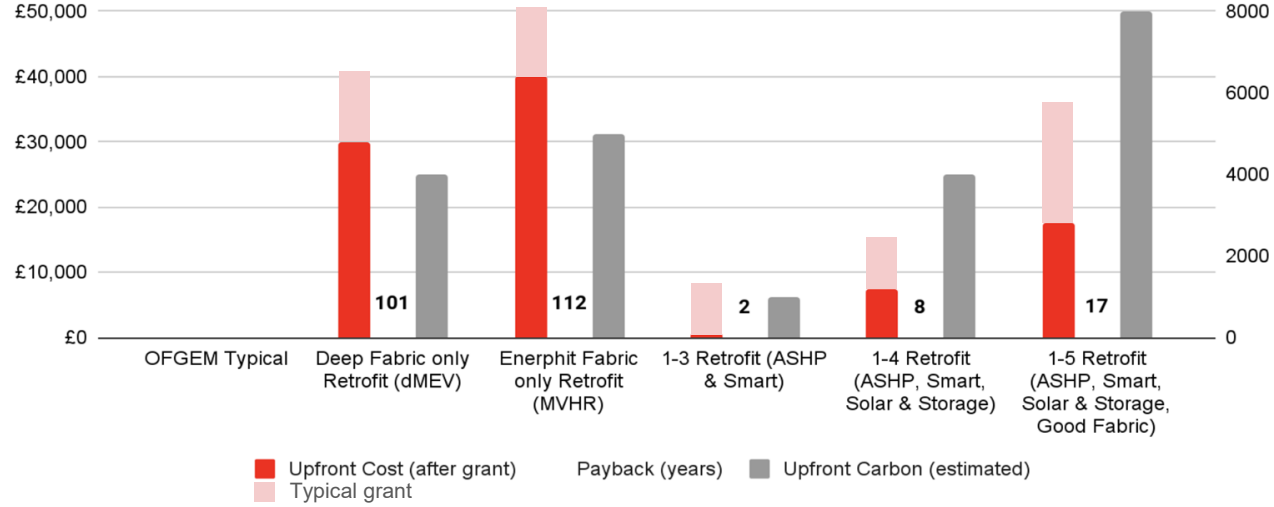
"2023" Operational Carbon Emissions (kgCO2e/yr) [SAP10.2 carbon factors]



Running Costs (£/yr) [OFGEM price cap rates]



Typical Upfront Cost (£, after grant), Payback (years) and Upfront Carbon (kgCO2e)

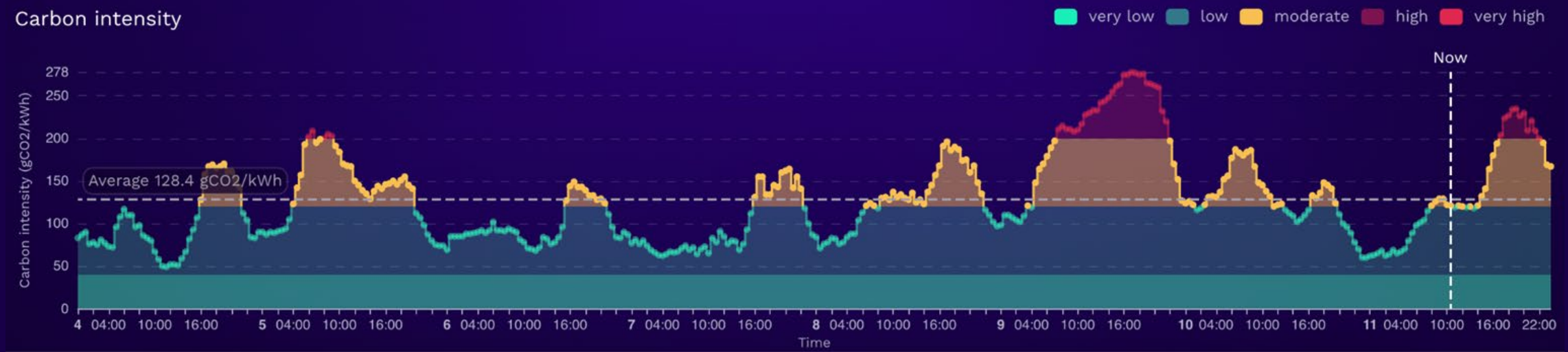


Tariffs - the third factor in performance

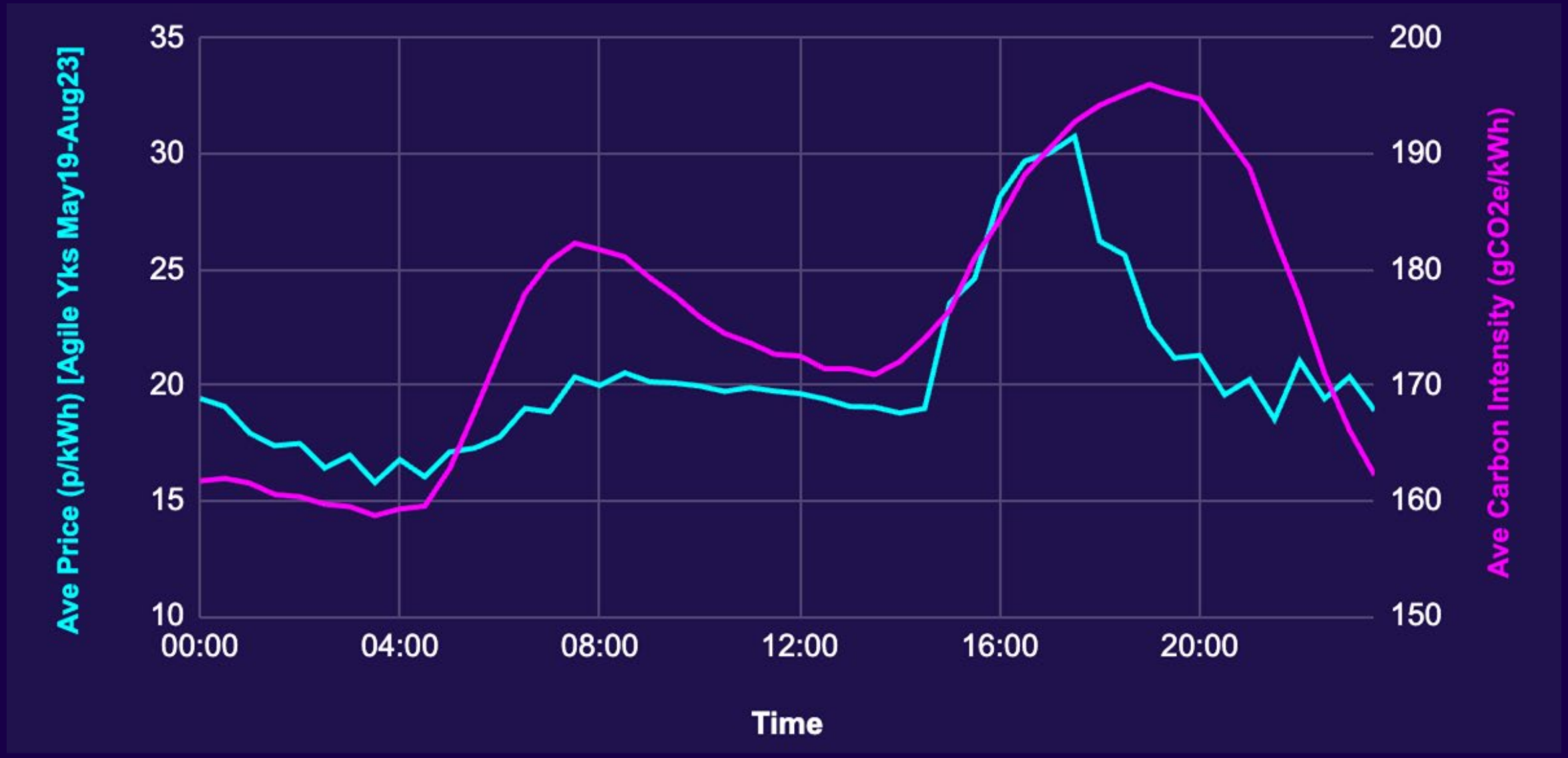
$$\frac{\text{Demand } (kWh/yr)}{\text{Efficiency } (\%)} \times \text{Tariff } (£/kWh) = \text{Running Cost } (£/yr)$$

Smart tariffs drive use of low carbon electricity

* "Average" is quite subjective - you don't consume the same amount each half-hour, so if your consumption is heavily skewed to 4.00pm-7.00pm you will have a much higher average than if, for example, you charge an EV overnight. Your monthly statement has the actual average you've achieved. The Average on these graphs is therefore only a guide to what you might achieve if you consumed exactly the same amount of energy every single half hour of the day.



Smart tariffs drive use of low carbon electricity



Smart tariffs drive use of low carbon electricity

$$\frac{\text{Demand } (kWh/yr)}{\text{Efficiency } (\%)} \times \text{Tariff } (£/kWh) = \text{Running Cost } (£/yr)$$

$$\frac{\text{Demand } (kWh/yr)}{\text{Efficiency } (\%)} \times \text{Carbon Intensity } (kgCO_2e/kWh) = \text{Operational Carbon } (kgCO_2e/yr)$$

Example: Petrol *vs* EV *vs* smart EV

$$\frac{10{,}000 \text{ (miles/yr)}}{11 \text{ (miles/litre petrol = 50mpg)}} \times 1.60 \text{ (£/litre petrol)} = £1{,}454.54 \text{ (£/yr)}$$

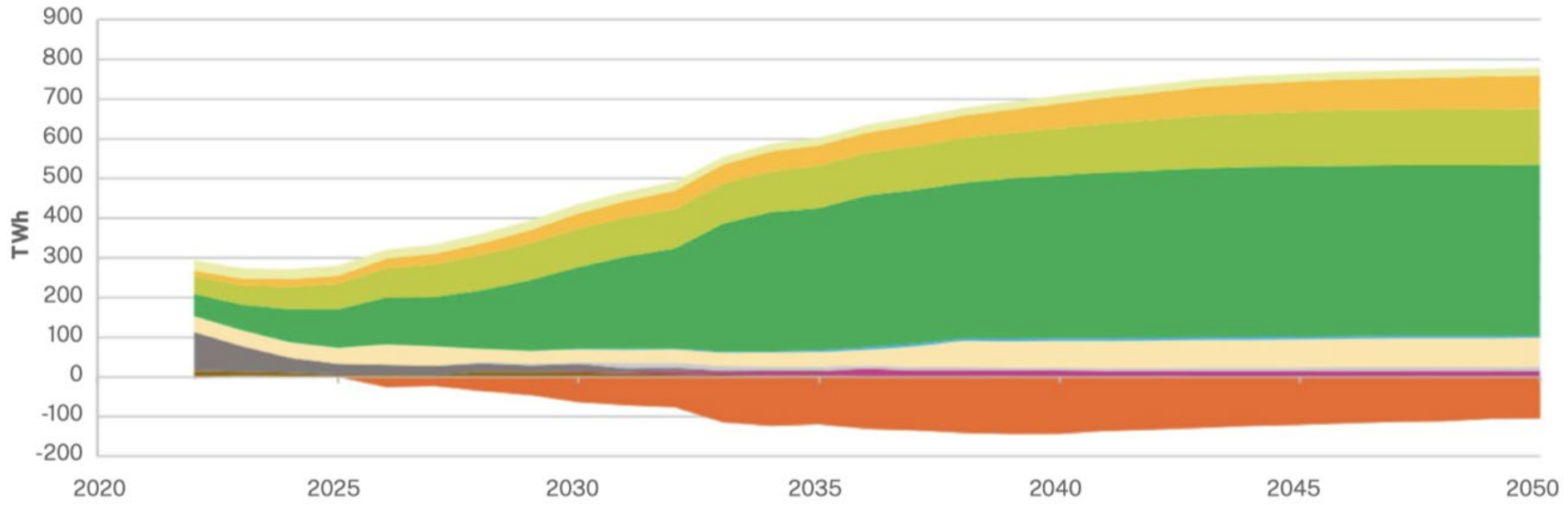
$$\frac{10{,}000 \text{ (miles/yr)}}{4 \text{ (miles/kWh)}} \times 0.27 \text{ (£/kWh) } \textbf{\textit{Standard Tariff}} = £675 \text{ (£/yr)}$$

$$\frac{10{,}000 \text{ (miles/yr)}}{4 \text{ (miles/kWh)}} \times 0.075 \text{ (£/kWh) } \textbf{\textit{Intelligent Octopus Go}} = £187.50 \text{ (£/yr)}$$

FLEXIBILITY

KEY IN A SYSTEM POWERED BY RENEWABLES

National Grid ESO's Future Energy Scenarios show growing electricity demand met by increasing share of intermittent renewables in the UK[6]



Octopus tariffs for specific devices

EV's

Intelligent Octopus Go

Tesla · Ford · Volkswagen · Mercedes-Benz · Jaguar · Kia

Plus many more!

Solar & Storage

Intelligent Octopus Flux

Huawei · Enphase · Energizer · GivEnergy

Plus many more!

Heat Pumps

Intelligent Octopus Cosy

Vaillant · Daikin

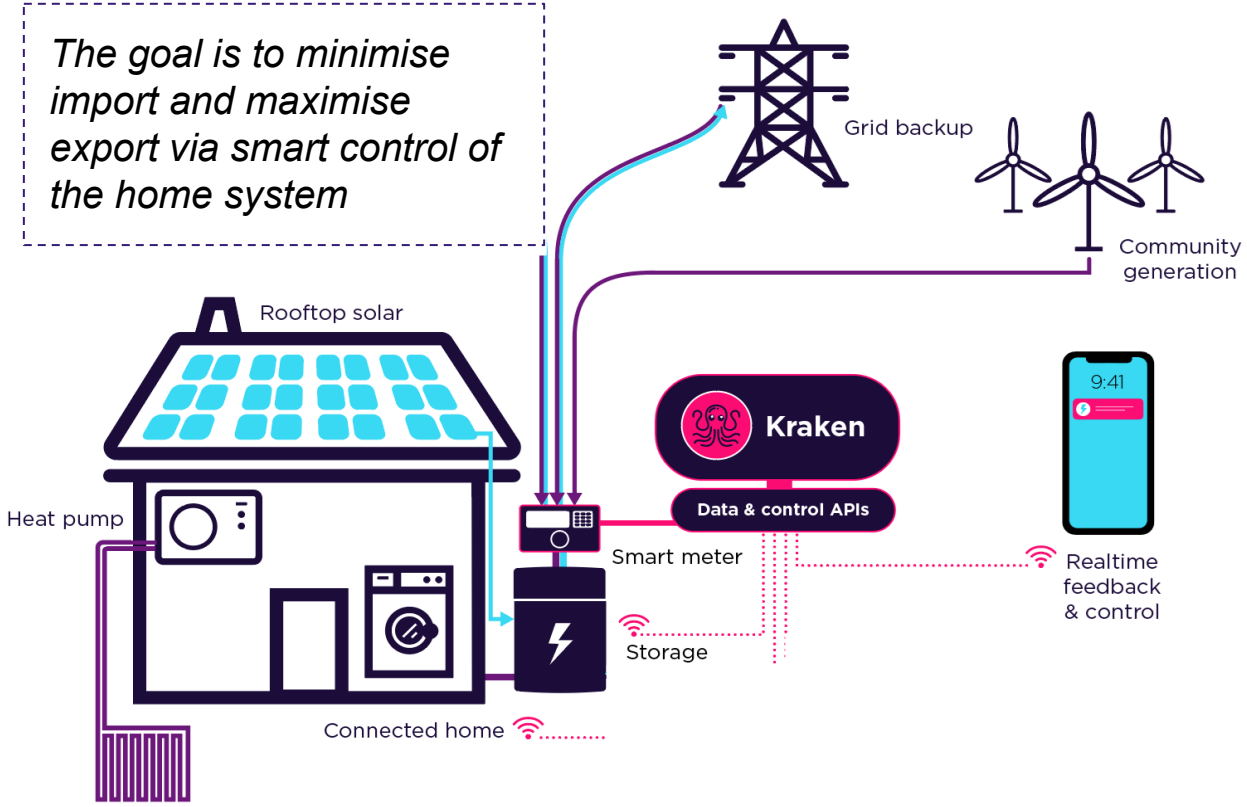
Plus many more!

ZERO BILLS

PAY NOTHING FOR 5 YEARS

octopus energy

We combine **Air Source Heat Pump (ASHP), Solar PV and a domestic battery** to eradicate energy bills



Using our “Intelligent Octopus” platform (Kraken & Kraken Flex) we are able to optimise the home energy system for a zero bill over 12 months by:

- Optimising around customer controls and preferences
- Controlling the heat pump in the home
- Controlling solar and battery systems in the home
- Taking feed from weather forecasts
- Dynamically accounting for market conditions
- Providing flexibility services to the grid

The case for housebuilders - commerciality

	Win-factor	Description	
1	Zero Bills Homes sell for more	Our data shows that Zero Bills Homes sell for considerably more than their bill bearing equivalents	
2	Zero Bills Homes sell faster	Developers report increased sales velocity for Zero Bills Homes when compared to the rest of their portfolio	
3	People want Zero Bills Homes and are willing to pay for it	Two thirds of mortgage holders surveyed would pay more for a Zero Bill Home, on average £50k more	 
4	Banks will lend more to buyers of Zero Bills	Major lenders will factor a zero energy bill into their affordability	

Bellway

Persimmon
Together, we make your home

Hill

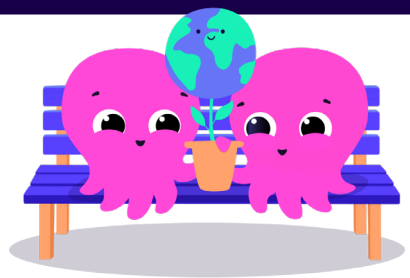
The Hill Group

The accreditation process

STEP 1:
Developer submits data

STEP 2:
Octopus carries out assessment

STEP 3:
Zero Bills accreditation



STEP 4:
Marketing activation

ZERO BILLS

octopus energy

Fabric ~~First~~ Fifth...

Reprioritising to reduce emissions and bills (to zero)

NHMF Conference

Wednesday, 24 January 2024

Service Provider Forum - what's new

Speakers:

Melissa Woodall | Chair

Amy Boothman | Deputy Chair

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Our mission

- **Drive best practice & innovation** of repairs & maintenance services - through knowledge sharing from within and outside the housing sector.

- **Create closer working relationships** between providers, clients and sub-providers - working closely with the NHMF to promote best practice in the procurement and management of repairs.

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01 The opportunity to participate in meetings and shape the development of products and services that are widely used across the sector

02 The chance to get involved in areas of particular interest to you, including NHMF conferences, seminars and events

03 Membership is open to any provider providing maintenance services to managed housing

04 Stay informed of the latest sector updates, including new regulations or changes to legislation which come under the NHMF banner

05 Each company membership includes two named representatives who are eligible to attend meetings and events

Membership and Pricing

Organisation turnover	Annual Rate
Under £15m	£400 + VAT
£15m - £100m	£700 + VAT
Over £100m	£1000 + VAT

Aims

- To drive best practice and innovation of repairs and maintenance services through knowledge sharing, both within and from outside the housing sector
- To work with the NHMF on the work of M3 in developing and promoting the M3NHF Schedule of Rates, to keep them up to date with best practice in repairs procurement
- To strengthen relationships across the sector through networking

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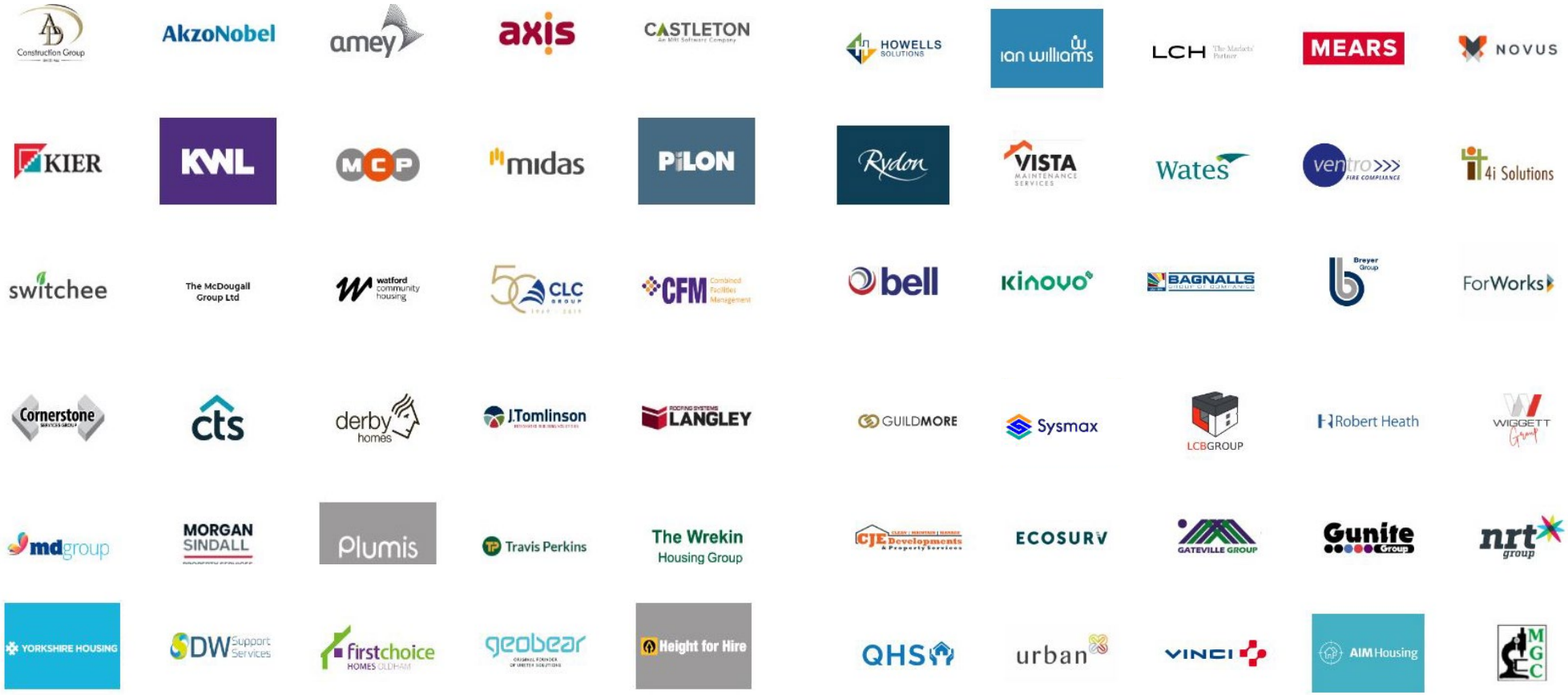
Our members



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2024 what's coming

2024

- 2 May (London)
- 18 July (online)
- 5 September (London)

Building Safety	Decarbonisation	Decarbonisation funding models	Cost models / Quality procurement
Procurement Regulations updates	Supply Chain Management	Personal Development/ Leadership	Social Value – HACT/TOMs models
Training and Apprenticeships	Customer service (TPAS)	Disrepair /Damp and Mould	Social Housing Regulation Act/ Consumer Standards)
Materials Supply and Inflation	Systems/IT development / data	?	

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Questionnaire – have your say

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Thank you!

Enjoy the conference!

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