



octopusenergy

Decarbonising homes & reducing bills (to zero) with smart controls & tariffs

SE Clean Heat Accelerator

Thursday, 26th September 2024

Nigel Banks

Technical Director (Zero Bills & Low Carbon Homes)

Octopus Energy

Use **technology** to drive
the global green energy
revolution.

Make it **cheaper** and
faster for **people** and
the planet.



Octopus works across 4 key areas, each one critical for the transition

Octopus Energy 

Generation



- **\$7bn** generation assets managed
- **19** countries
- Fan Club community generation

Retail Energy



- **7.7m** customers / **13m** accounts
- **8** countries
- **#1** for customer service
- **World-leading** consumer flex
- Europe's **largest VPP** (140k+ devices)

Services



- **EV** leasing & EV charger installation
- **Heat pump** tech & installations
- **Solar** and **meter** installations
- **Electroverse EV charging** network

Kraken 

Tech



- **Single platform** to manage customers and assets
- **16 countries**
- **54m** contracted retail accounts
- **38GW** infrastructure assets contracted

Energy bills today - typical existing home

OFGEM Typical Energy Use (kWh/yr)

Electricity (use)

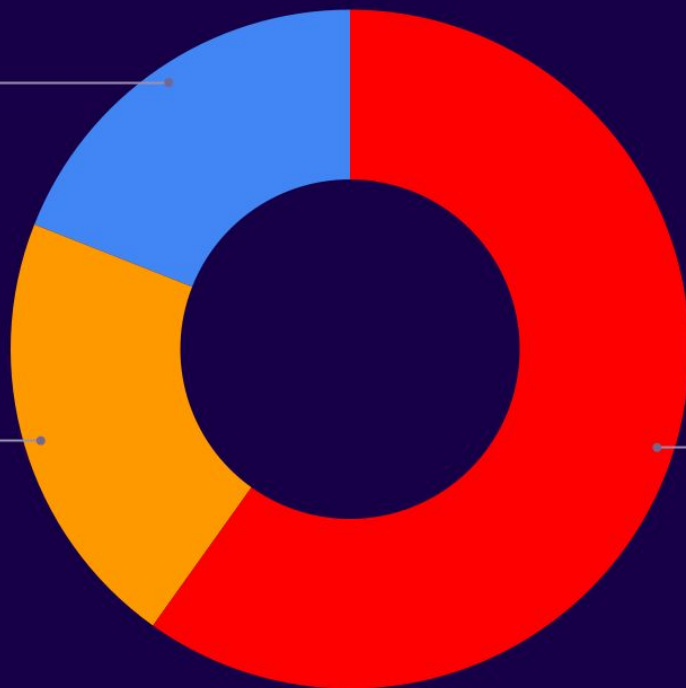
19.0%

Gas (hot water)

21.1%

Gas (heating)

59.9%



Energy bills today - typical existing home

OFGEM Typical Energy Use (£/yr)

Electricity (SC)

10.5%

Electricity (use)

39.7%

Gas (heating)

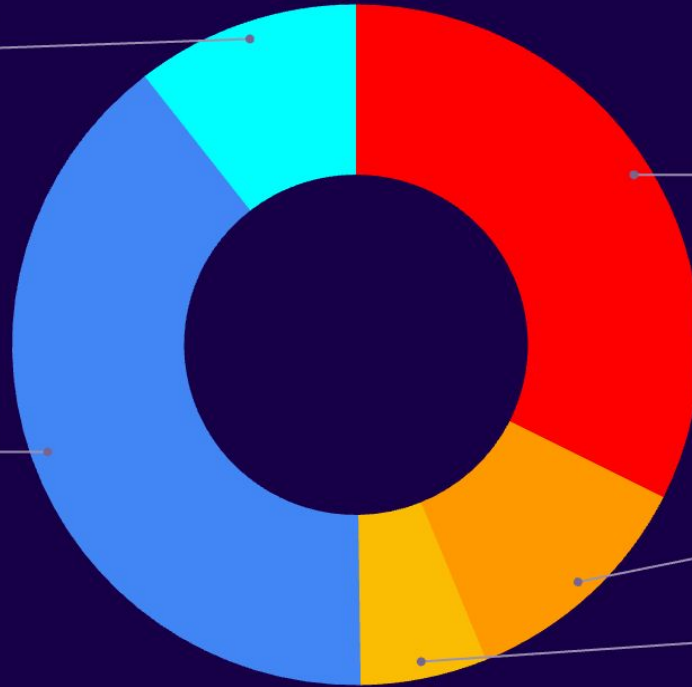
32.4%

Gas (hot water)

11.4%

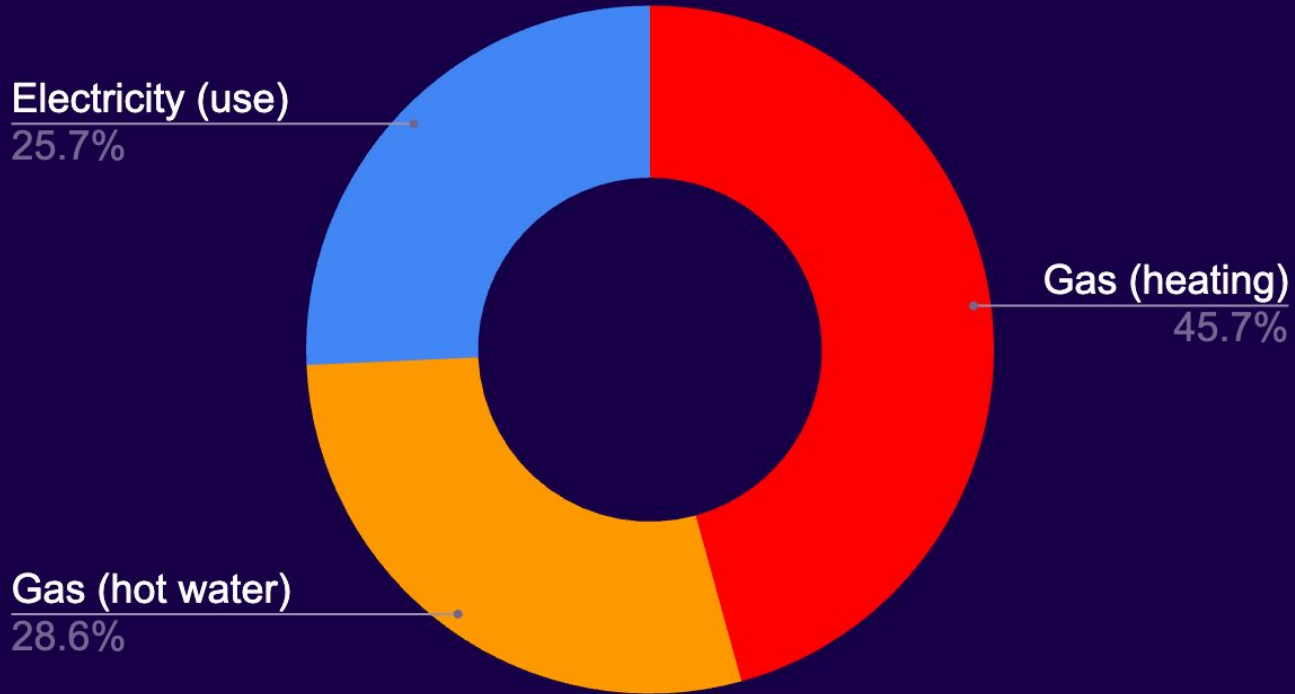
Gas (SC)

6.0%



Energy bills today - typical new home

Part L 2013 New Build Energy Use (kWh/yr)



Energy bills today - typical new home

Part L 2013 New Build Energy Use (£/yr)

Electricity (SC)

12.3%

Gas (heating)

21.3%

Gas (hot water)

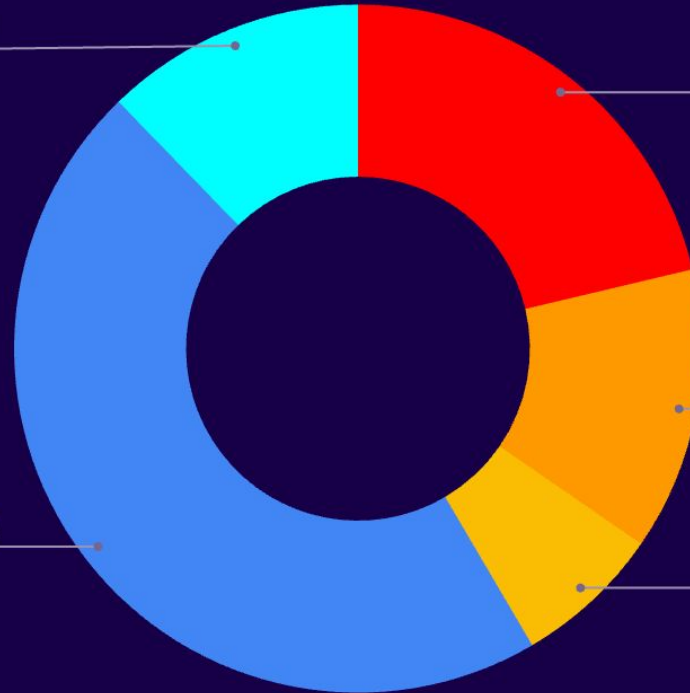
13.3%

Electricity (use)

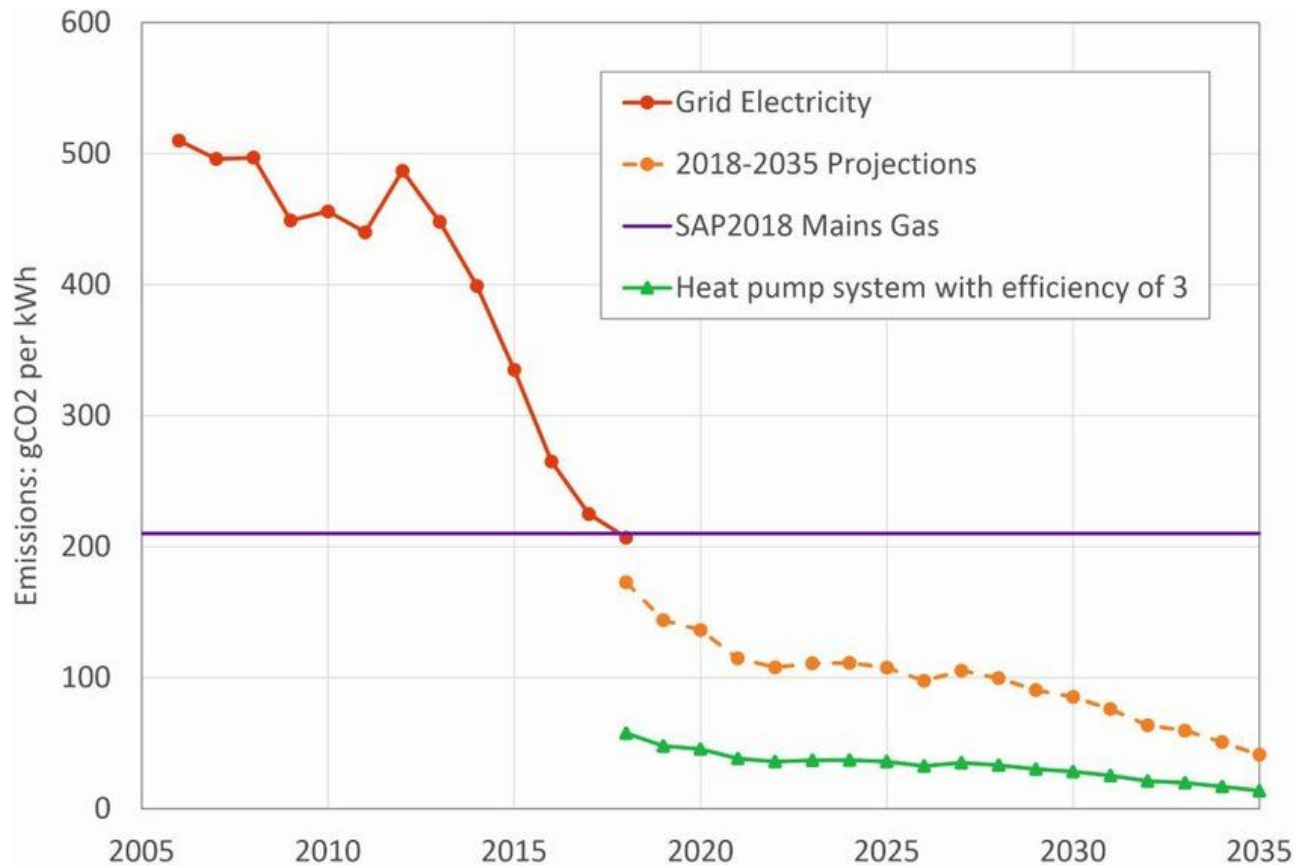
46.2%

Gas (SC)

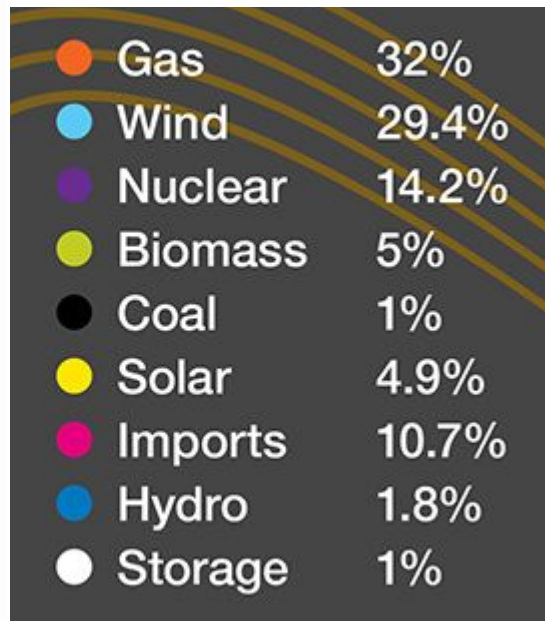
6.9%



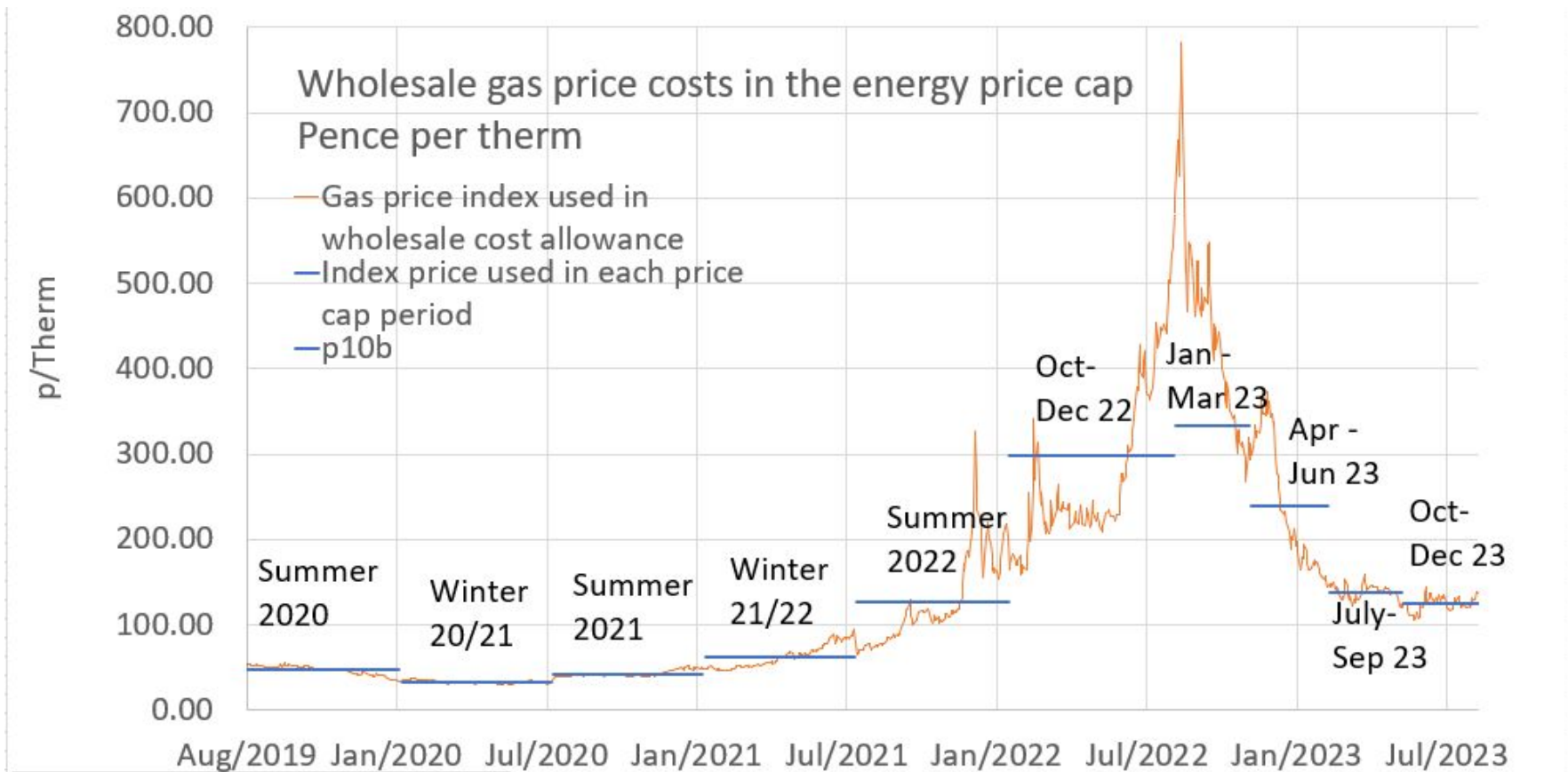
The electricity grid has transformed...



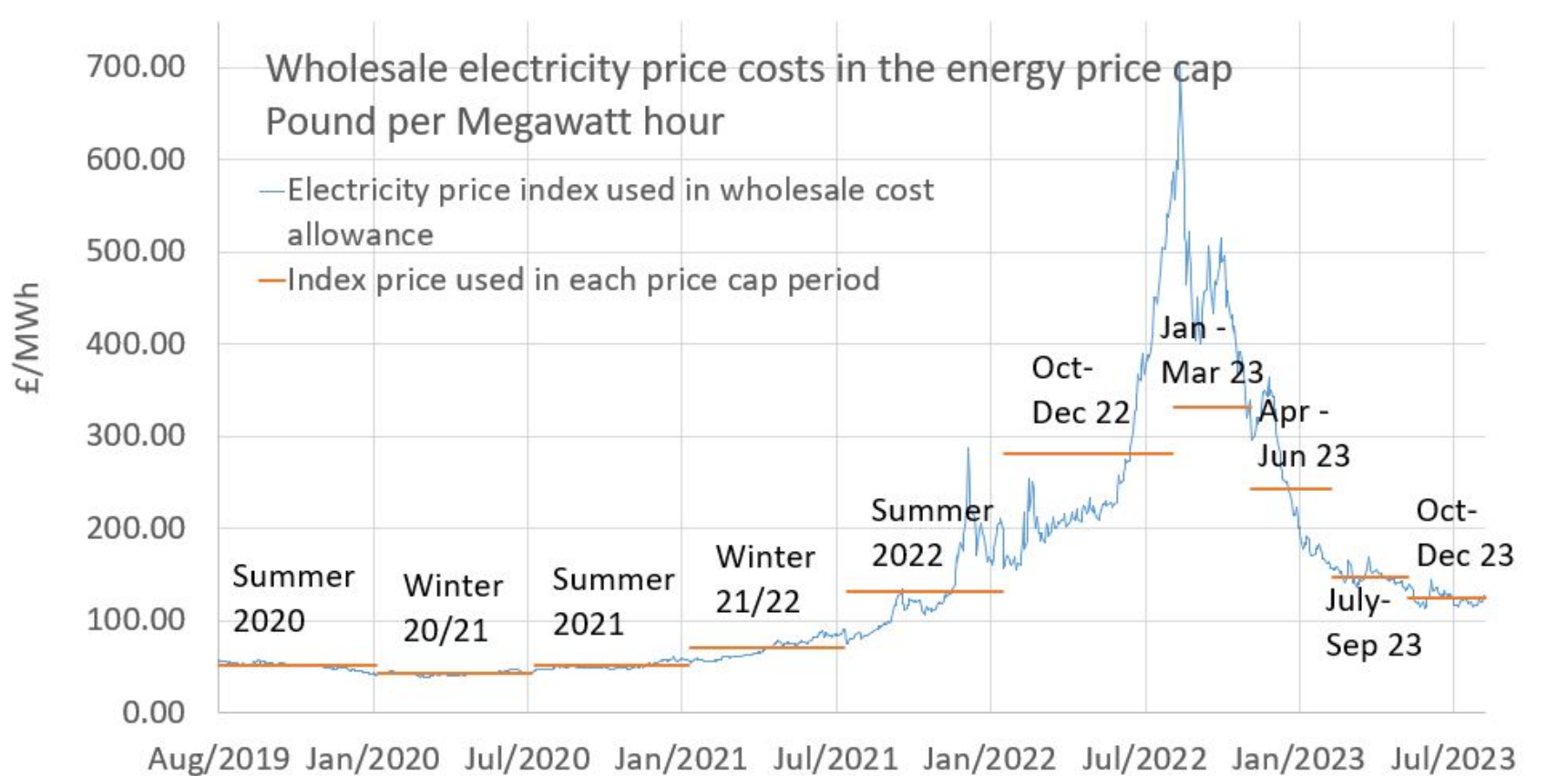
2023 energy mix



Gas prices impact our gas heating costs...

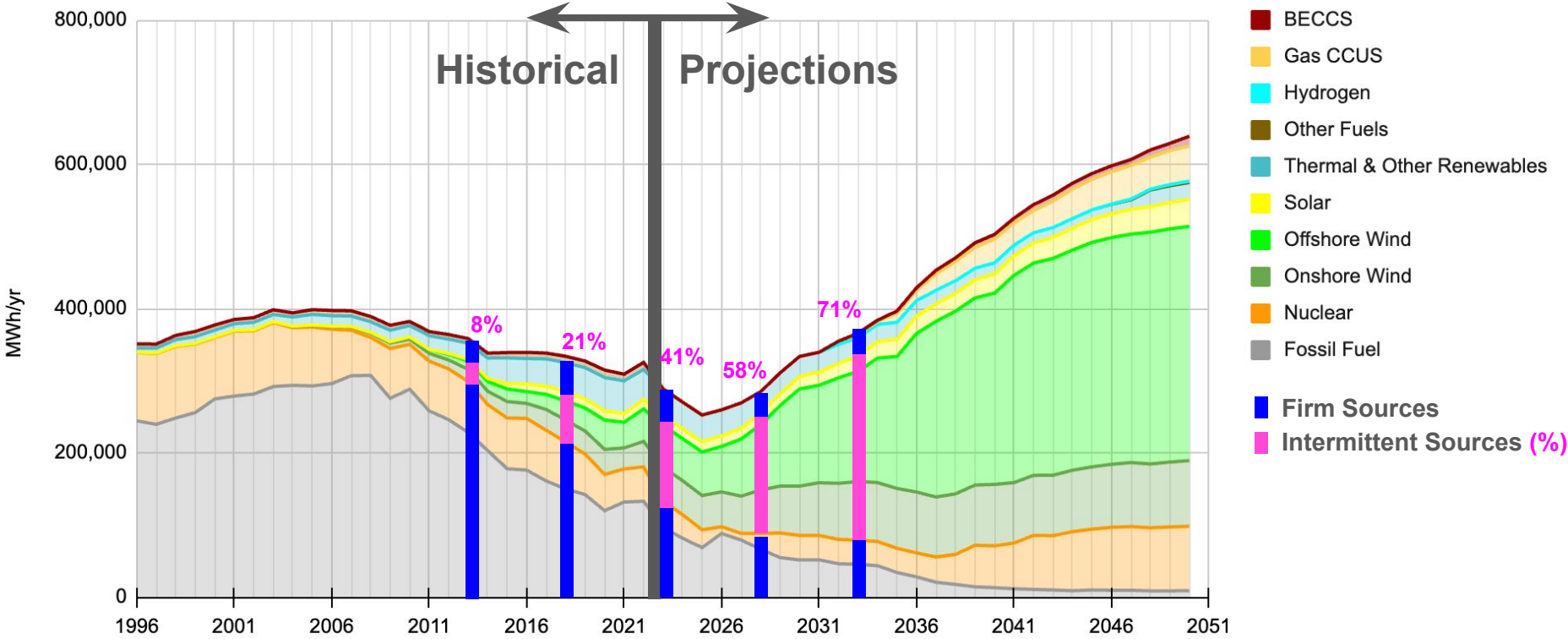


And our electricity costs...



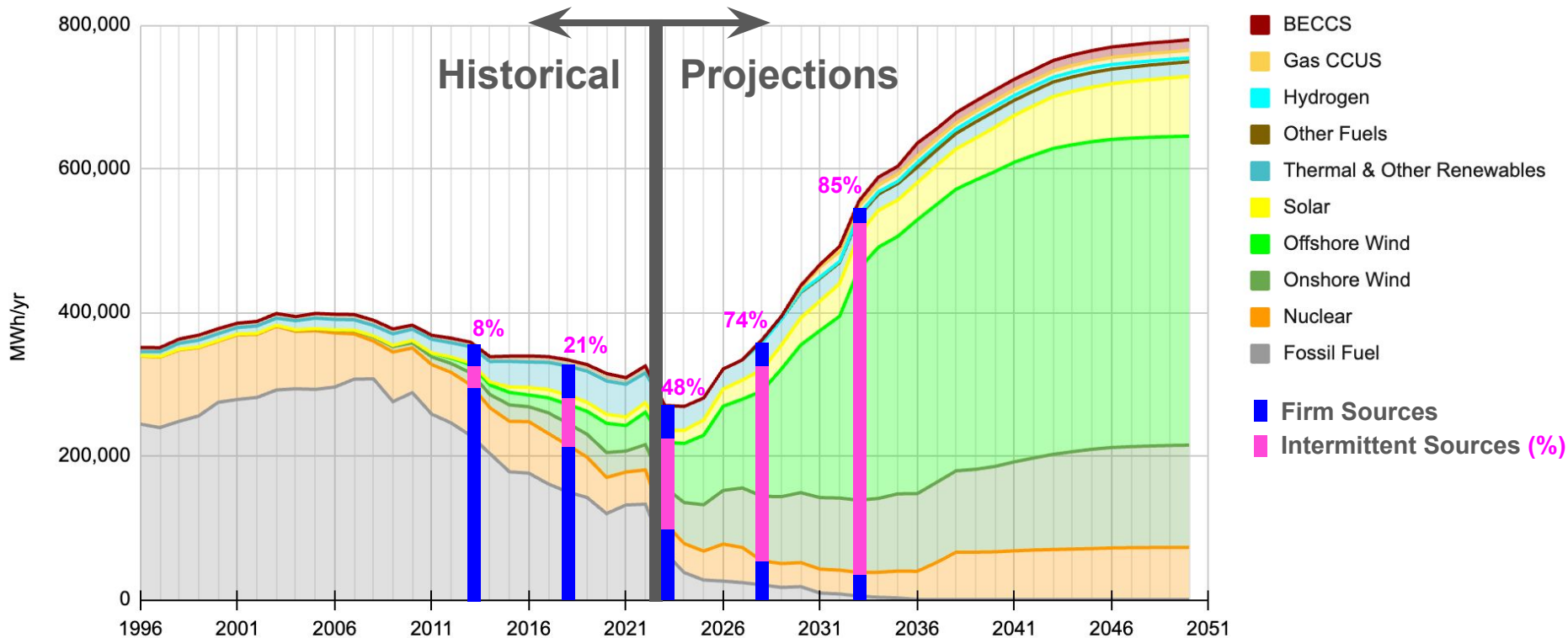
We are at a key transition point in the electricity grid...

Annual Electricity Generation by source (Historical to 2022 from DUKES, 2023 onward from National Grid FES2023 - Falling Short)

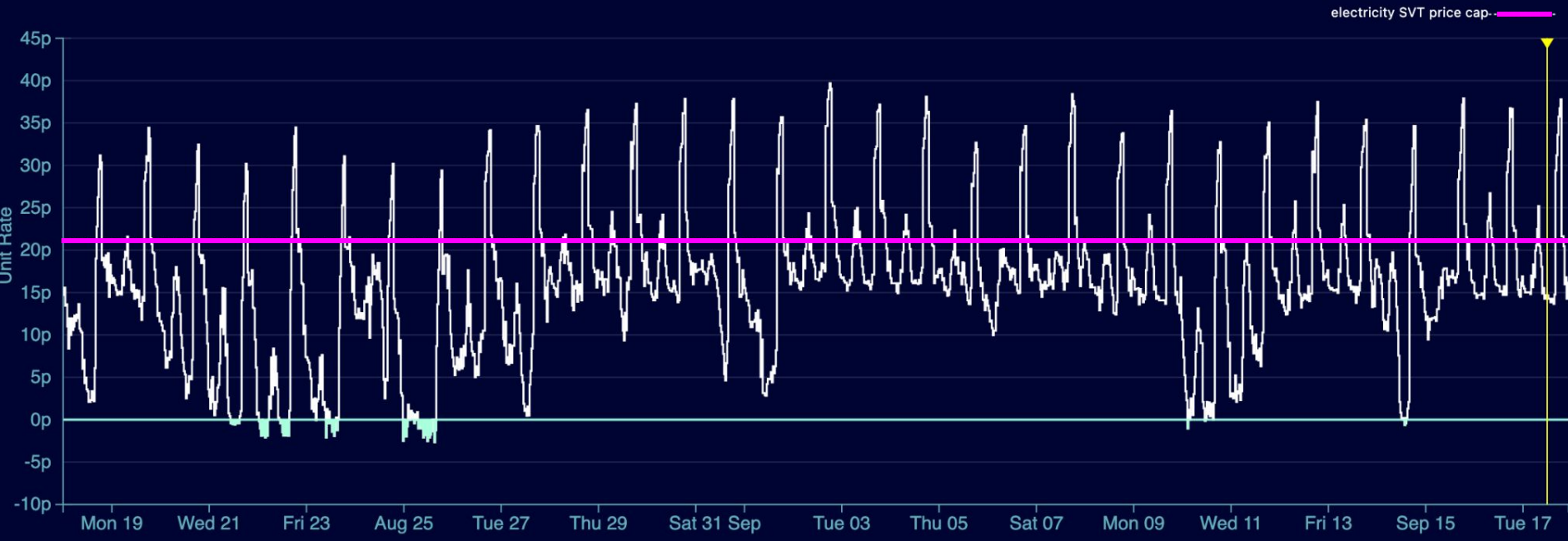


We are at a key transition point in the electricity grid...

Annual Electricity Generation by source (Historical to 2022 from DUKES, 2023 onward from National Grid FES2023 - Leading the Way)



Electricity price - p/kWh (last month)



Tariffs - the third factor in performance



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

Example: Petrol VS EV VS smart EV (Sept 2024)



$$\frac{10,000 \text{ (miles/yr)}}{11 \text{ (miles/litre petrol = 50mpg)}} \times 1.40 \text{ (£/litre petrol)} = \text{£1,273 (£/yr)}$$

$$\frac{10,000 \text{ (miles/yr)}}{4 \text{ (miles/kWh)}} \times 0.212 \text{ (£/kWh Standard Tariff)} = \text{£530 (£/yr)}$$



$$\frac{10,000 \text{ (miles/yr)}}{4 \text{ (miles/kWh)}} \times 0.07 \text{ (£/kWh Intelligent Octopus Go)} = \text{£175 (£/yr)}$$

Octopus tariffs for specific devices

EV's



**Intelligent
Octopus Go**



Mercedes-Benz

Plus many more!

Solar & Storage



**Intelligent
Octopus Flux**



HUAWEI



ENPHASE



Energizer

GivEnergy

Plus many more!

Heat Pumps



**Intelligent
Octopus Cosy**



DAIKIN

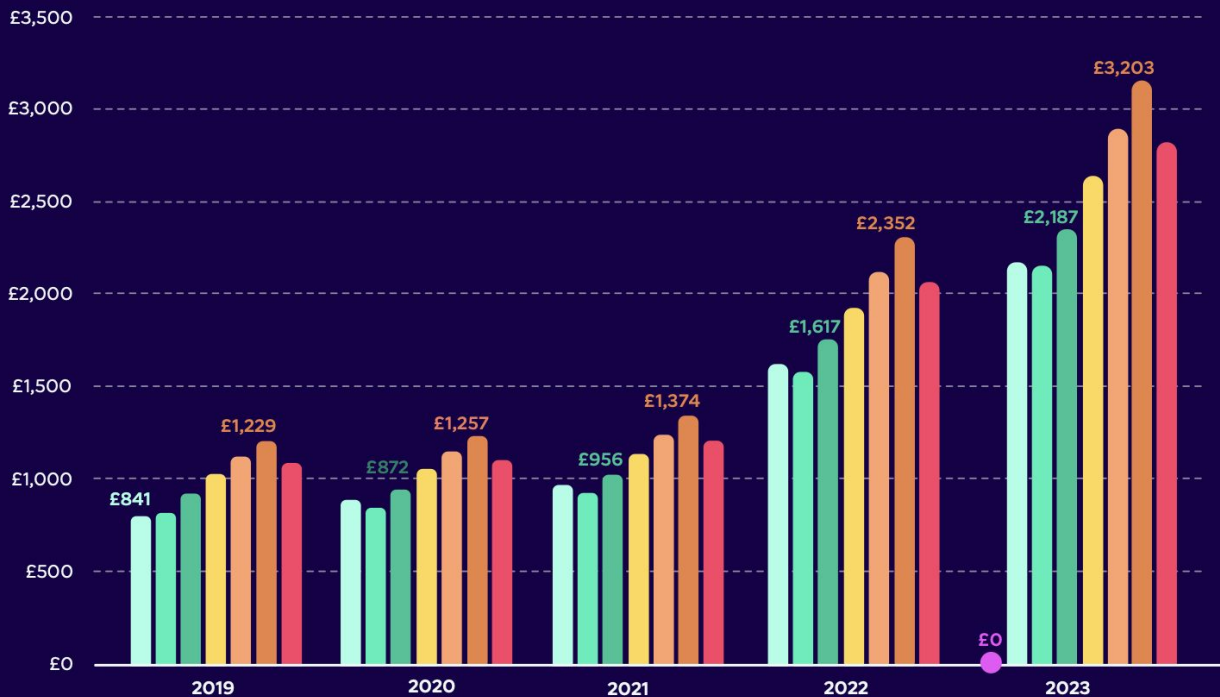
Plus many more!

EPC A/B homes have lower bills – but potential to go further

Octopus Energy mean dual fuel customer energy bill, by EPC rating, over the last 5 years

Includes Gas, Electricity & standing charges. Excludes 2022/23 £400 Energy Bill Support Scheme, or any oil/LPG/solid fuel costs

■ Zero Bills ■ A ■ B ■ C ■ D ■ E ■ F ■ G (Excl. oil/LPG/solid fuel costs)



ZERO BILLS

octopusenergy

ZERO BILLS

Now with a 10 year guarantee!



ZERO BILLS

octopusenergy

We combine heat pump, battery & solar to eliminate bills – offered in perpetuity, *now guaranteed for 10 years*



ZERO BILLS



The goal is to optimise imports and exports via smart control of the home system

Zero Bills homes come in all shapes and sizes



 **Persimmon**
Together, we make your home



Bellway



 **Hill**



 **VERTO**



 **ST.MODWEN**



 **TILIA**
HOMES


HOPKINS HOMES



Citra



 **EDENSTONE**
HOMES

ZERO BILLS

octopusenergy



Solar panel price (£/panel)



JA SOLAR

440W N-type Bifacial Double Glass Traceable LB All Black with MC4

Part No: JAM54D-41-440-LB-TS-AB-MC4 Panels - Double Glass Bifacial

- ➔ Rating: 440W
- ➔ Efficiency: 22%
- ➔ Width: 1,134mm
- ➔ Height: 1,762mm

JA Solar: 440W n-type Bifacial Double Glass with MC4 Connectors

JAM54D-41-440-LB-TS-AB-MC4

Powered by the latest MBB n-type solar cell and half-cell configuration, these modules have higher output power, lower LID, better weak illumination response and better temperature coefficient.

Features:

- Higher power generation better LCOE
- Better weak illumination response
- -type with very lower LID
- Better Temperature Coefficient

Warranty:

- 25-year product warranty
- 30-year linear power output warranty

JA Solar Integrated Traceable System.

Fabric ~~First~~ Fifth

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

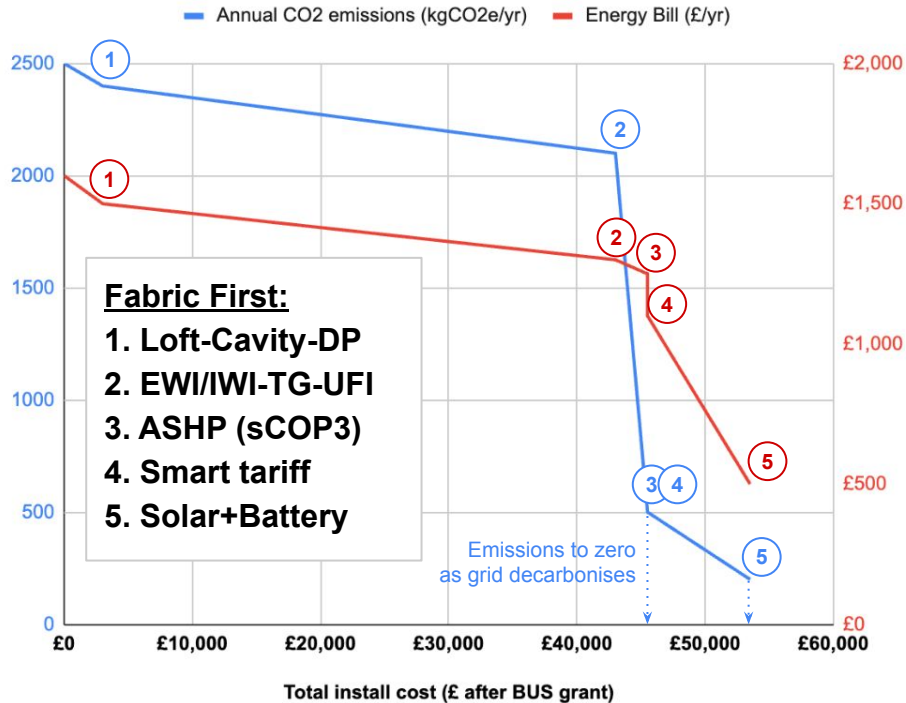
Fabric ~~First~~ Fifth

or “Fabric ‘Fird’ & Fifth”

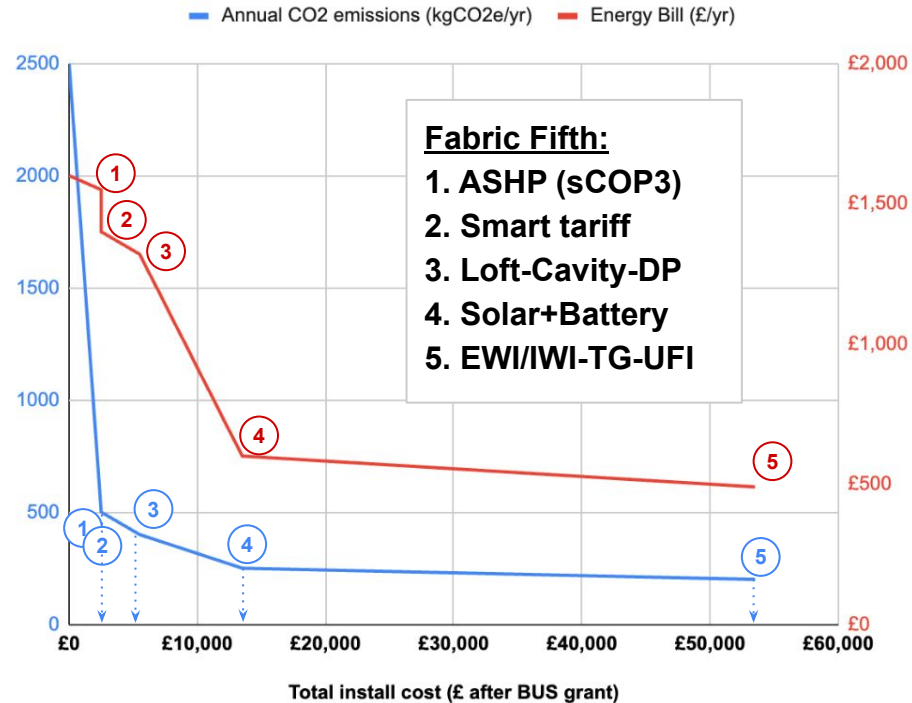
1. **ASHP ASAP** : electrify heat >>> net zero
2. **Get Smart** : tariffs & controls >>> bill savings
3. **Measure, *basic fabric* & Get Comfy**
4. **Solar & Storage** : big savings >>> financeable
5. **Fabric Fifth** : major fabric measures (*low upfront carbon*)

Fabric ~~First~~ Fifth

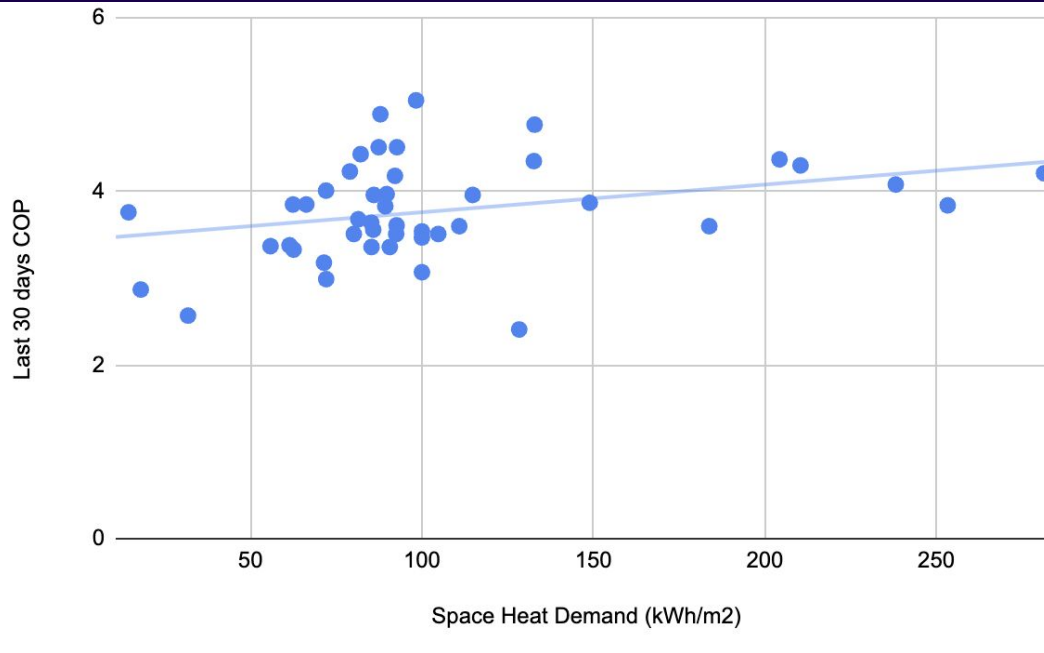
Fabric First



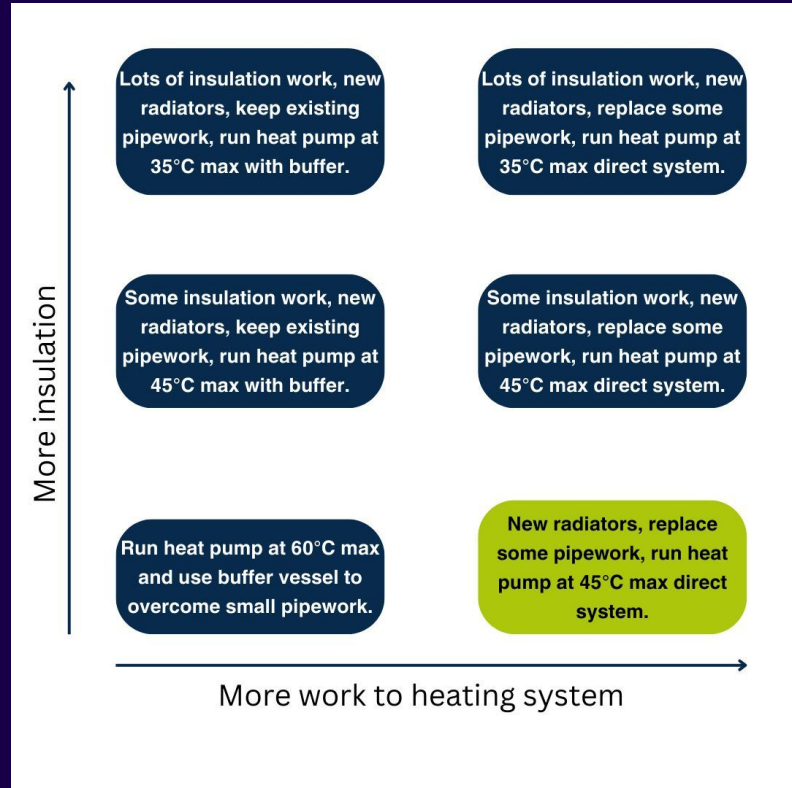
Fabric Fifth



Heat pumps can work efficiently in all homes!



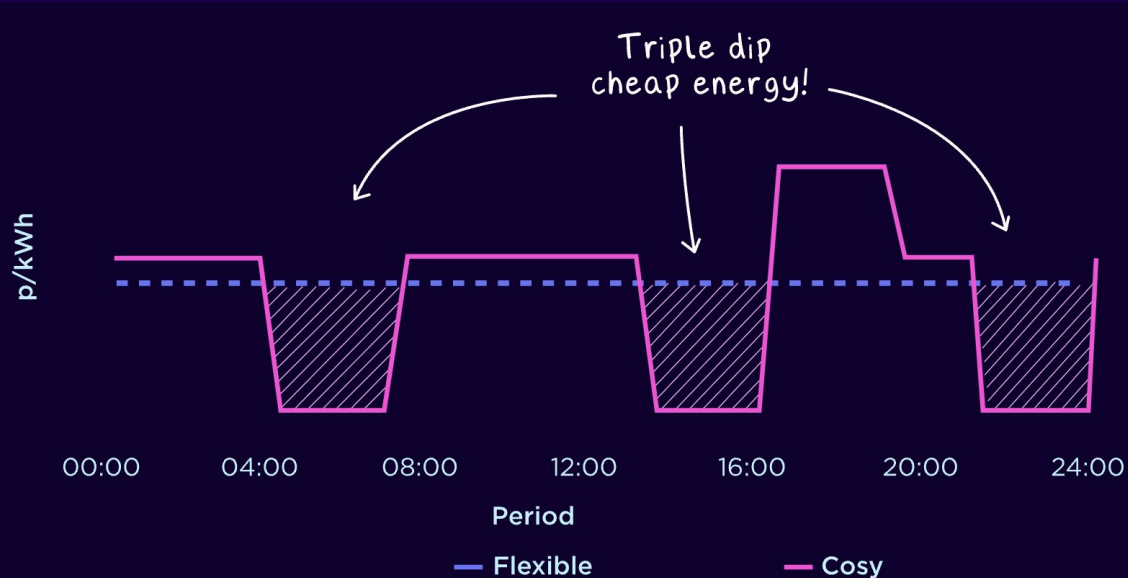
Source: <https://heatpumpmonitor.org/>



Source: @Jez Climas on LinkedIn

Useful links: Octopus Cosy Tariff

<https://octopus.energy/smart/cosy-octopus/>



1. Three cosy periods of **super cheap rates** between 04:00 - 07:00, 13:00 - 16:00 and 22:00 - 00:00 every day, 51% cheaper than the Day rate in your region.
2. A **peak rate** between 16:00 - 19:00, 45% above the Day rate in your region.

Useful links: Octopus Cosy Tariff savings

<https://octopus.energy/blog/heat-pump-run-cost-savings/>

Whereas if you're on our [Cosy Octopus](#) smart tariff you can save around £220 a year compared to gas.

Check out the cost comparison below for these two scenarios (based on the Ofgem average for a medium sized UK home and July 2024 price cap):

	Annual heat demand (heating & hot water)	Heating Efficiency	Annual Heating Energy Usage	Annual General Elec Usage	Gas price (p/kWh)	Elec price (p/kWh)	Gas standing charge (p/kWh)	Elec Standing charges (p/kWh)	Total Annual Energy Bill	Total Annual Bill Savings
Gas boiler: Flexible Octopus	10,207 kWh	85%	11,966 kWh	2,700 kWh	5.48	22.36	31.41	60.12	£1,610	-
Heat pump: Flexible Octopus	10,207 kWh	310%	3,293 kWh	2,700 kWh	5.48	22.36	31.41	60.12	£1,691	-£80
Heat pump: Cosy Octopus	10,207 kWh	310%	3,293 kWh	2,700 kWh	5.48	17.48	31.41	58.03	£1,391	£219

Useful links: Octopus Trusted Partners

<https://octopus.energy/Octopus-Trusted-Partners/>



Introducing Octopus Trusted Partners

We're on an urgent mission to bring affordable green power to homes worldwide – fast. So far our impact has been rooted in pairing incredible customer service with trailblazing tech solutions. But we know that with a little help from our friends, we can build a greener future even faster.

We're looking to share the love with local installers that have the same laser-focused commitment to quality and outstanding customer service.



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Discussion / Q&A