

Energy and Property

Harnessing your power to disrupt and innovate

Emma Fletcher - Low Carbon Homes Director



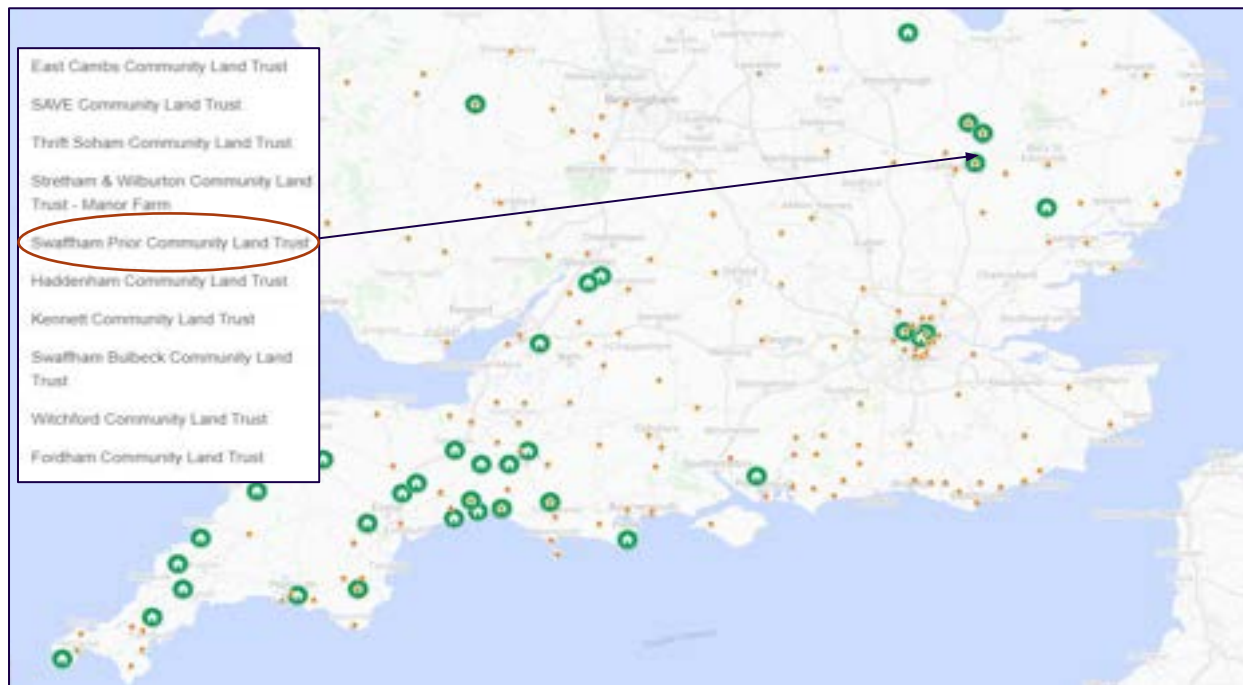
In ten years time what will you say you did to tackle climate change?

Everyone has a role to play in decarbonising the UK and needs to step up to be part of the solution - both in the workplace and at home.

2024 needs to be the year we stop talking and start doing.



Where it all started...



8 miles east of
Cambridge

300 homes

Conservation area

40+ Listed homes

45+ Affordable Homes

Reliant on oil heating



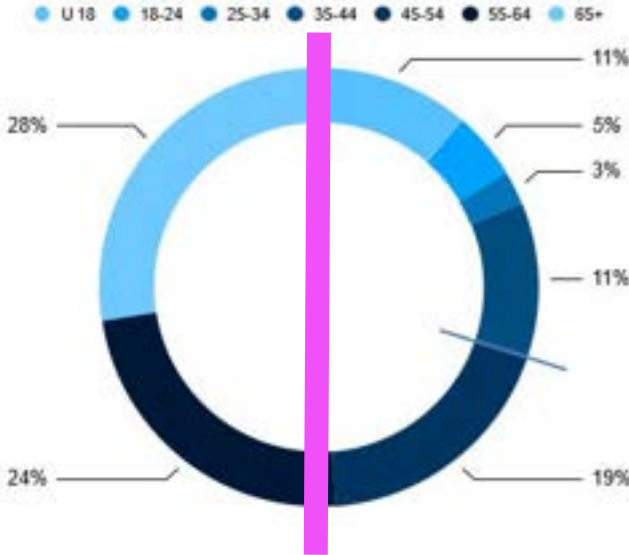
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Swaffham Prior – a community of assets

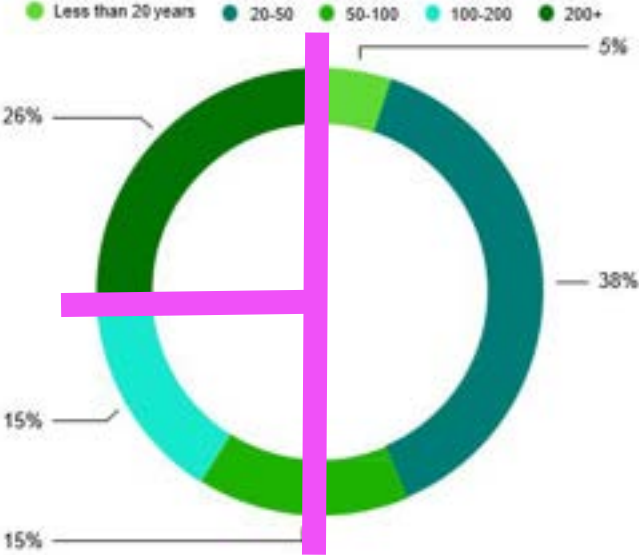


Swaffham Prior – where people and buildings matter

Demographics



Building Age



Swaffham Prior Community Land Trust



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An aerial photograph of a rural landscape. The foreground and middle ground are dominated by green fields, some of which are divided into smaller plots. A small village or hamlet is visible in the center, with several buildings and a cluster of trees. In the background, there are more fields and a small pond. The sky is bright, suggesting a sunny day.

INITIAL BRIEF

“

Establish options for a low carbon heat network to serve the village of Swaffham Prior

”

2017

Cambridgeshire County Council

- ▶ Climate Change and Local Energy Investment Unit
- ▶ Large Energy Investment Projects
- ▶ Building and school decarbonisation portfolio
- ▶ Economic and investment models
- ▶ Natural and biodiversity
- ▶ Innovation project investment



Collaboration = success



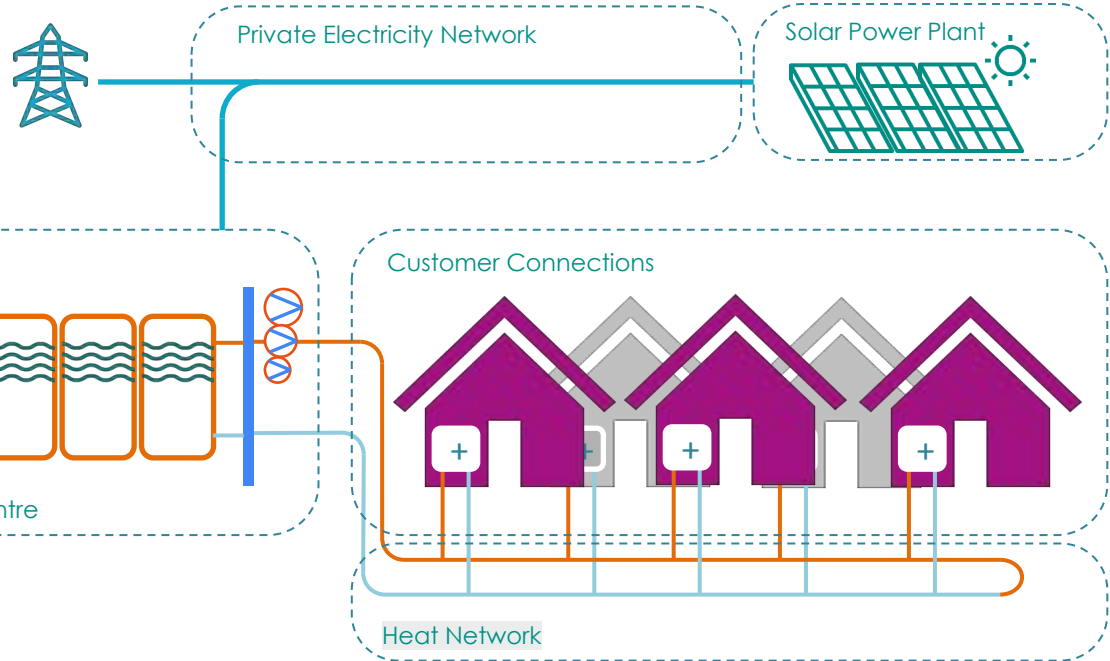
EVOLVED BRIEF

“

*Design, develop, build, operate
and maintain and guarantee a
zero carbon heat network to
serve the village of Swaffham
Prior*

2021 ”

FINAL PROPOSAL

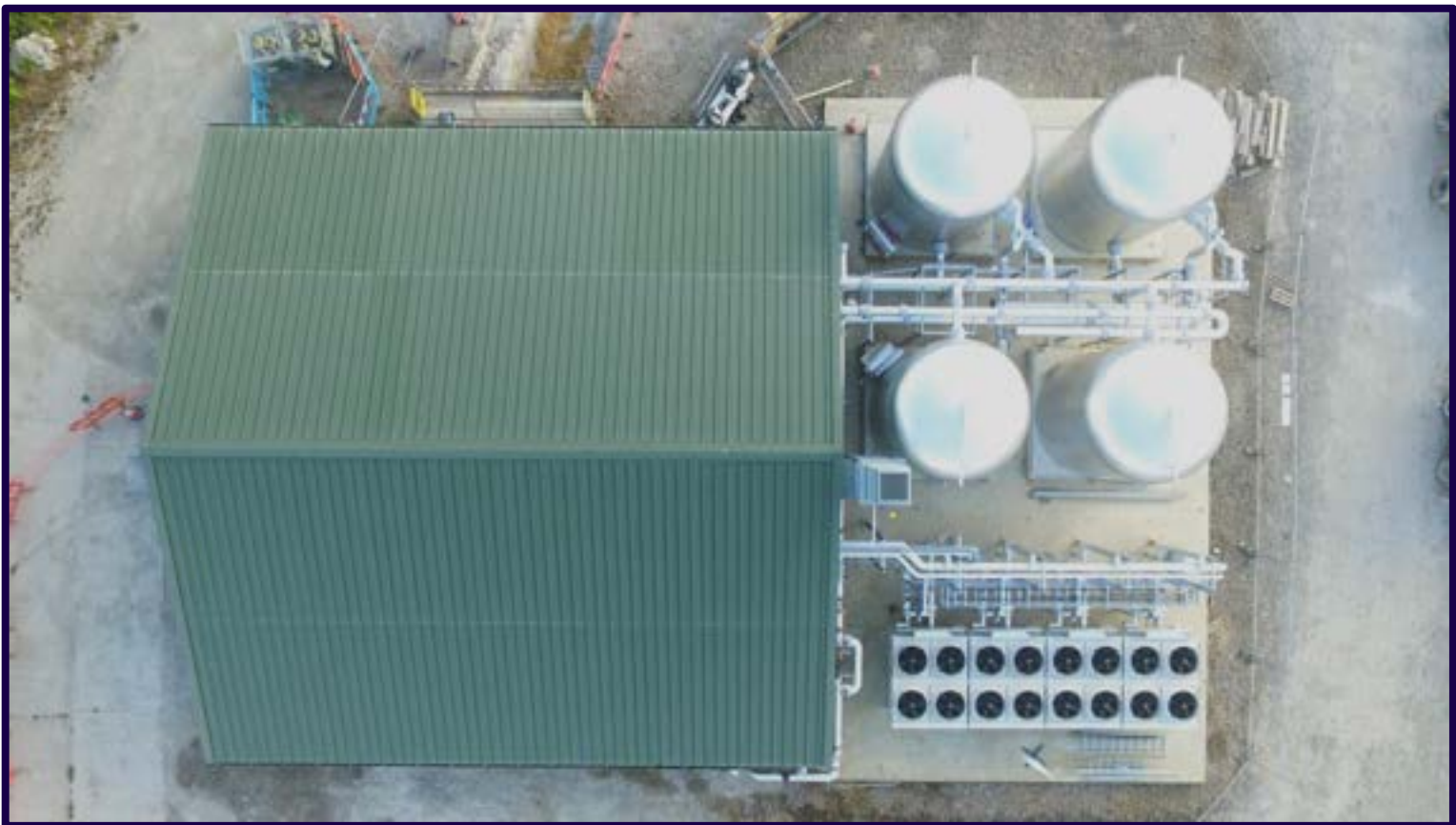


- **2 x 750kW High-Temperature GSHP**
- **1 x 500kW High Temperature ASHP**
- **3 x 400kW Electrode Boilers**





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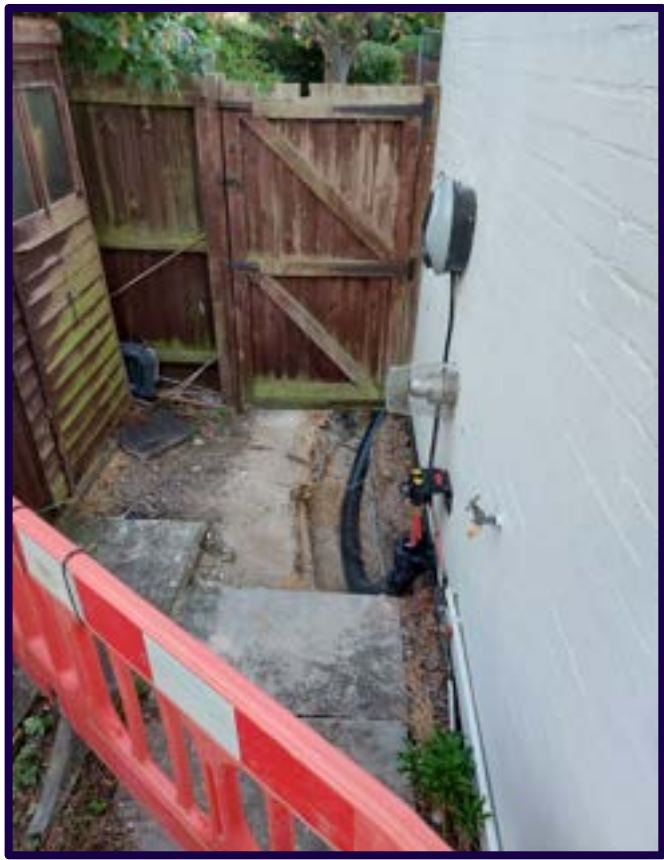
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Global issues to be tackled



Department for Business, Energy & Industrial Strategy

PHASING OUT THE INSTALLATION OF FOSSIL FUEL HEATING IN HOMES OFF THE GAS GRID

Consultation Paper, 12th January 2023

Chapter 2: The proposals

This section details the policies we have developed following extensive consultation with the heating industry, energy suppliers, energy network operators, consumer advice groups, industry and consumers.

#1 - An end to the installation of new fossil fuel heating in homes off the gas grid from 2026



Inspiring Others



Overall Project Impact

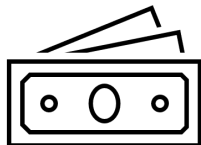


Carbon

Net-Zero heating & hot water

1,100 tonnes saved annually

Reduced oil deliveries



Cost (in 2023)

Neutral for oil boilers

Benefit for electric heaters

No-Retrofit / No big upfront cost



Precedent

Cambridgeshire look to bring 25,000 homes off oil

Over 40 villages interested

UK flagship project



Exploring the Octo-verse



What we do

We're Octopus. And we're a bit unusual. For the last two decades, we've been challenging convention and backing companies.

We're proud to be a certified B Corporation ©

Being a B Corp means our social and environmental performance, accountability and transparency have been assessed and certified. We strongly believe that there is no trade off between 'being good' and making money, and our business can pursue purpose as well as profit. We care about how we do business.

Certified



Corporation

We're a group of entrepreneurially minded businesses, all founded on one simple belief: that people and the planet deserve better.

Where we invest

Renewable energy

Smaller companies

Healthcare

Property



Octopus Investments

Octopus Investments was where it all began. Today we manage more than £13.4* billion on behalf of our institutional and retail clients, with more than 70% of these funds targeting investments that tackle climate change, improve people's quality of life and address inequality.



Octopus Energy

Octopus Energy Group is the global energy tech pioneer, launched in 2016 to use technology to unlock a customer focused and affordable green energy revolution. It currently looks after over 3 million customers globally with award-winning customer service and serves 25 million energy accounts via its proprietary platform Kraken, which has been licensed to the likes of E.ON, EDF and Origin Energy.



Octopus Money

Octopus Money is making it easier, cheaper and more exciting for everyone to get money advice from a real person. We partner with workplaces to help their employees make the most of the money they earn. We're on a mission to help millions take the first steps to turning their life dreams into reality.



Octopus Legacy

Octopus Legacy is the place to plan for death and find support after loss. Offering a range of estate planning services from wills to life insurance, as well as probate and bereavement support. When people think about planning for death they think about wills, life insurance and funerals. Octopus Legacy take these cold processes and turn them into something more human. Share more than just money: leave voice notes, music, recipes. Shape a legacy that connects you while you're here. And after you're gone.




Octopus Energy Generation

In 2021, Octopus Energy Generation joined the Octopus Energy Group. It manages a diverse portfolio of assets with a capacity of over 3GW, making it one of the largest commercial solar investors in Europe and a leading investor in onshore wind.



Seccl

Our mission at Seccl is simple - to rebuild the infrastructure of investments and advice. Our custody and investment technology helps financial advisers, investment managers and fintechs of all sizes to operate their own investment platform, more easily and more affordably than ever.



We use **technology** to drive the green energy revolution – making it **cheaper and faster** for citizens and the planet.



We are a tech company leading integrated energy transition

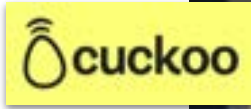
-  Launched in **2016**
-  Global presence: **18** countries
-  **12 million accounts** across **7 million** customers
-  **45 million** contracted accounts on Kraken
-  **\$7 bn** renewable generation assets under management
-  Unparalleled customer service and love!
-  A **#1** Glassdoor employer

All on the back of Kraken



INDUSTRY NEWS

Kraken Technologies expands into water and broadband



5000MW of contracted capacity	30 MILLION customer accounts
16 COUNTRIES home to Kraken	30+ MIGRATIONS from legacy systems



Kraken is our full-stack platform designed for a renewable dominant “post-energy transition” world



CIS Billing

Resi, SME, I&C



Meter Data Management



CRM



Customer Interaction



Asset Mgmt & Control

Resi, I&C, Utility Scale



Realtime Alerting



Asset & Portfolio Optimisation



Reporting & Analytics





outrageously good customer service



2023 - 2022 - 2021 - 2020 - 2019 - 2018

Great value for the long term

Our standard prices have always been cheaper than any other large supplier.



2023 - 2021 - 2020 - 2018

The UK's most awarded energy supplier

We've won more awards for customer service than anyone else.



THE ONLY ACCREDITED SUPPLIER

100% green

All our electricity comes from 100% renewable sources like sun, wind and water

Rated 5 stars for customer service from 186,393 reviews.



We deliver innovative products from generation to transport...

Electric Vehicles



Energy Generation



Low carbon tech installation



Electroverse charging network



Octopus Energy Services is spearheading the energy transition providing a **one-stop shop, end-to-end installation service** for the delivery of low-carbon tech in homes across the UK and globally



octopusenergy

Our one-stop shop is underpinned by our 5 star customer service standards

What we do?

- ✓ Smart meters
- ✓ Insulation
- ✓ Air Source Heat Pumps
- ✓ Ground Source Heat Pumps
- ✓ Solar
- ✓ Home batteries
- ✓ EV chargers
- ✓ Energy Helpers
- ✓ Smart tariffs

How we do it?

- ✓ Contract work
- ✓ End-to-end service
- ✓ Retrofit or new build
- ✓ Directly employed team
- ✓ In-house logistics
- ✓ Team culture / ambition
- ✓ Aftercare

For who and where?

- ✓ Landowners
- ✓ Housing Associations
- ✓ Developers
- ✓ National coverage



We have built a state-of-the-art **training and R&D centre** for low carbon technologies, investing £10 million of our own money. This year we have the capacity to train **1,000** low carbon heating (ASHP) **engineers** from this centre alone



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The Cosy 6

The Cosy 6 heat pump:
revolutionising heating the
Octopus way

Size dimensions -
Width 855mm
Depth 595mm
Height 1125mm

Green home tech

Flexibility & smart energy

Octopus news



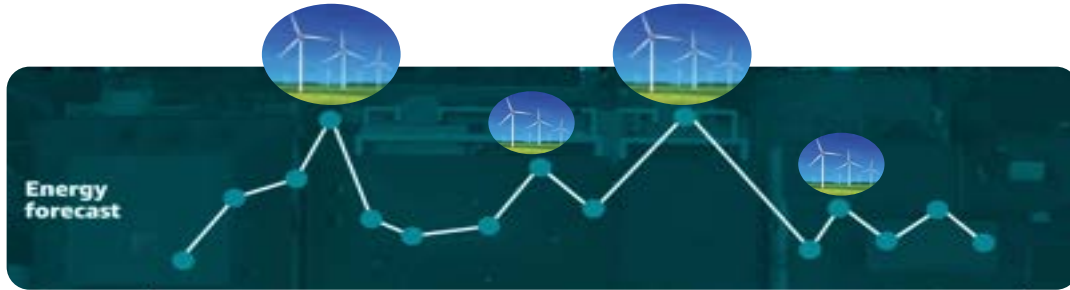
This is a huge day for clean heating. The combination of a high-temperature heat pump - as hot as a gas boiler - Octopus smart tariffs and room sensors across your home doesn't just open up cheaper clean heating - but more comfort too

GREG JACKSON (CEO)



octopusenergy

Our next generation of EV tariffs - **Intelligent Octopus** smart charges your EV when the grid is the greenest



- **6 hours** of smart charging every night at a **super low rate** (11:30pm to 5:30am @ 7.5p per kWh)
- Charging of your EV takes place when the price of **energy is the cheapest**
- Customer via the **Octopus Energy App** can set their charging preferences or bump charge at any time



But what if it were possible to decarbonise our homes and not have an energy bill at all....?



Your energy account

1st Sep 2022 - 30th Sep 2022

On 21st Sep 2022
Your balance was zero: £0.00

1. Your Zero Bill home
You still have 92% of your annual quota left

Electricity imported
31st Aug 2022 — 28th Sep 2022 **472 kWh**

Electricity exported
31st Aug 2022 — 28th Sep 2022 **732 kWh**

As of 30th Sep 2022
Your balance is zero: **£0.00**



octopusenergy

Recently Built Zero Bills Homes

Launching the world's first bill-free homes

Octopus joined forces with Gresham House and SOResi in 2022 to build the first Zero Bills homes in Essex. Available under shared ownership, the modular homes garnered over 100 pieces of media coverage internationally



Gaining momentum in the SME space

Partnering up with GS8 London and Verto to deliver the first fully-Zero Bills developments in Walthamstow and Exeter (50 plots total)



**VERTO**



Unlocking volume with the UK's biggest housebuilders

Including the launch of the UK's biggest Zero Bills development in Newport, Essex



Tackling fuel poverty with the social housing sector

Clarion is delivering the first affordable Zero Bills homes – including 25 shared ownership and affordable rent properties in Essex

INSIDE HOUSING

Clarion partners with two firms on 'zero bills' affordable development

NEWS 19.12.23 3.00 PM BY HUGH TAYLOR

Clarion has announced a strategic partnership with a major energy firm and house builder to develop what they believe will offer the first "zero bills" affordable homes.



Bellway





No energy bills for 5 years

ZERO BILLS







Citra

Our first
Zero Bills Home
Retrofit Project



Why build a Zero Bills Homes?

The case for Zero Bills Homes - commerciality

	Win-factor	Description	
1	Zero Bills Homes (private and shared ownership) sell for more	Our data shows that Zero Bills Homes sell for considerably more than their bill bearing equivalents	
2	Zero Bills Homes sell and rent faster	Developers and landlords report increased sales and rental velocity for Zero Bills Homes when compared to the rest of their portfolio	
3	Zero Bills Homes have huge social benefits	We assume twice the usage of an average equivalent home so occupiers can live happy healthy lives with better social outcomes	
4	Landlords have less exposure with Zero Bills Homes	There is no exposure for landlords if tenants leave with unpaid energy bills and less costly retrofit later on i.e. already EPC A	

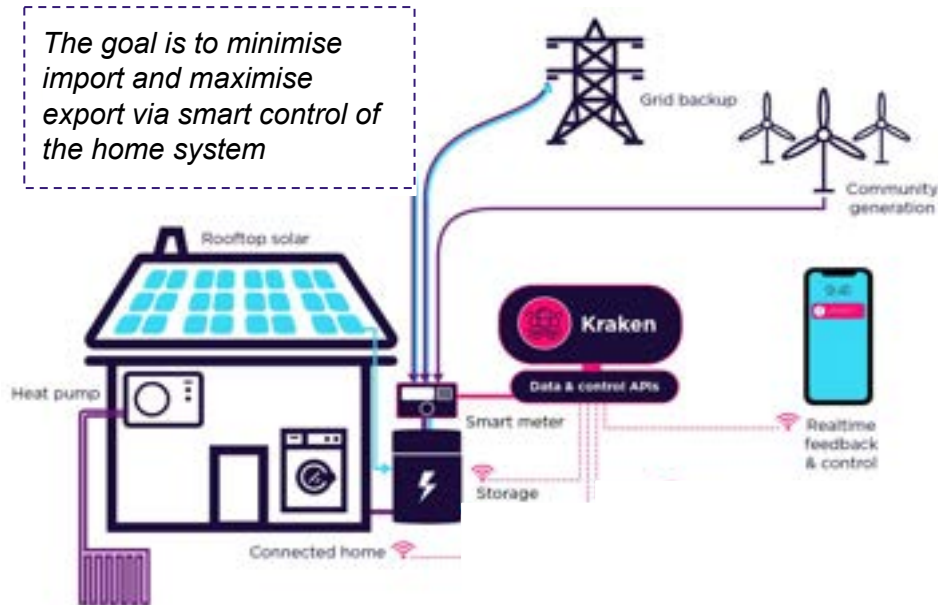
Why do customers want a Zero Bills Home?

No more stress and uncertainty, Zero Bills is the 'new standard' which customers expect



What is a Zero Bills Home and how does it work?

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
- A fair usage cap will apply

Introducing Octopus ZERO™

Octopus ZERO™: What you will get from Octopus

1 2 3 4



1



A dedicated Octopus Energy **account manager** to capture information about your portfolio / pipeline



2



A **calculation** of the properties and property types in your portfolio and / or pipeline



3



An **Octopus ZERO™ accreditation** (the “Zero Bills stamp”)



4

Installation services for hardware - (heat pumps, solar PV and battery)

How much solar generation is required?

On a **typical 80m² semi-detached house** with...

a Part L 2021 compliant fabric specification;

a good heat pump (45°C flow temp) and
cylinder (low heat loss);

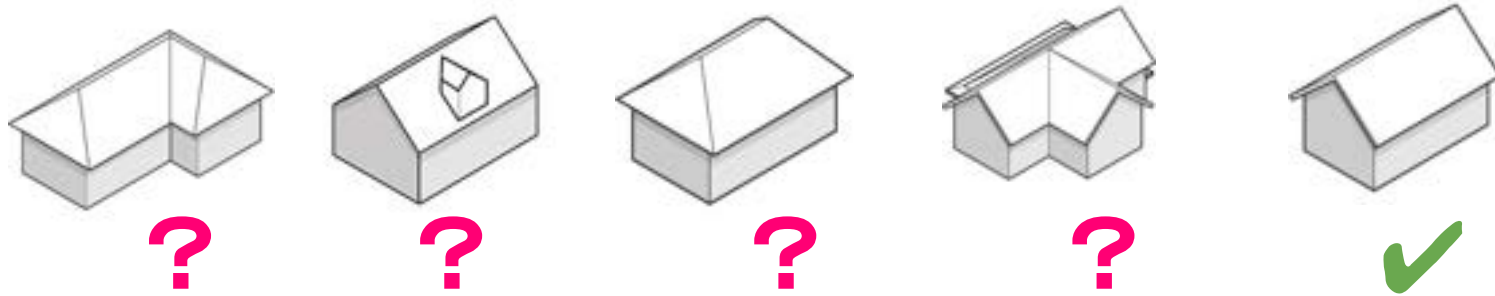
a 9.5kWh GivEnergy battery

... you need approximately **7-10kWp of solar PV**.

This is the equivalent of 18-25 panels (400Wp),
depending on location, orientation, roof inclination
and shading.



First, you need to consider roof design



Possible for highly efficient homes where heating and HW demand is low, resulting in lower PV requirements

What works well:

- Solar on both sides of the roof (in any orientation)
 - Side gable roof
- Front gable roof (but need to minimise self-shading)
 - Bungalows & larger homes

What's more difficult:

- Very small footprint homes
- Hipped roofs & flat roofs
 - 3+ storey flats
- Integration with velux window



Specifying the battery and inverter

Once Octopus has received the completed data template we will feedback on the following:

- (i) Battery size which the Zero Bill accreditation is based off (typically this will range from 9.5 to 13.5kw) and;
- (ii) The manufacturer of the battery. Currently, **GivEnergy, SolarEdge, Tesla, Enphase and Huawei** are the only manufacturers we can accredit a Zero Bill home on. See below the various setups.



GivEnergy®

Learn more about GivEnergy batteries and inverters [here](#)

The Zero Bills spec - build to this and unlock zero bills for customers

Core Requirements:



+



+



+



Domestic Battery

Solar

Heat Pump

Smart Meter

Other Requirements:

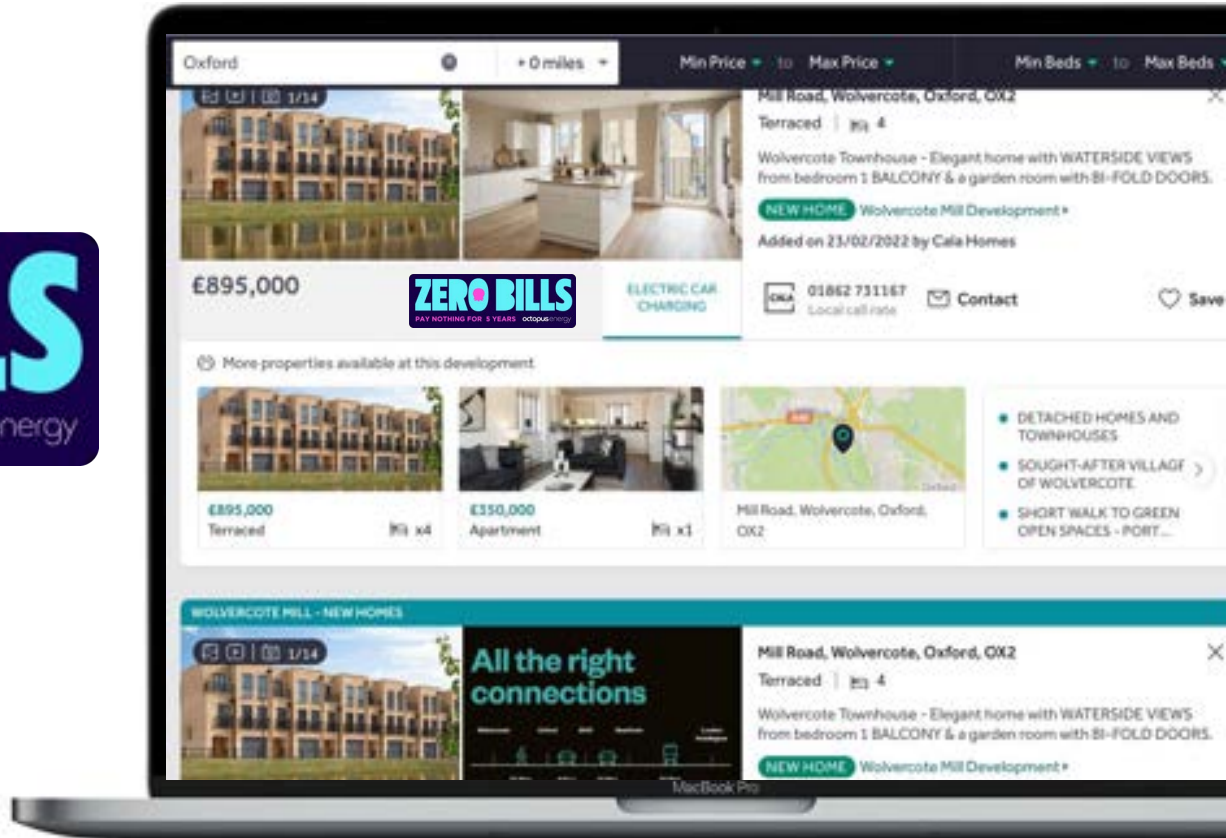


No Gas



Broadband

Once validated, Octopus ZERO™ is the accreditation for a zero energy bill home

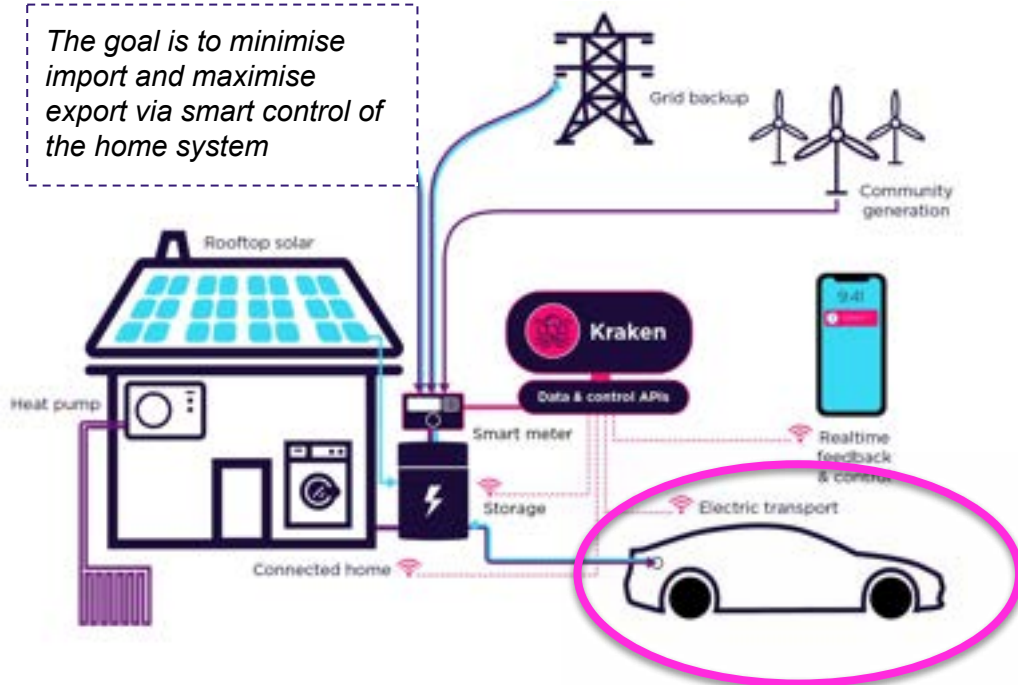


Octopus ZERO - Customer journey



Could adding the car to the home unlock Zero Bills in retrofit?

The goal is to minimise import and maximise export via smart control of the home system



Combine **Air Source Heat Pump (ASHP), Solar PV, Smart Meter, domestic battery** and **domestic electric car** to eradicate energy bills





Octopus Power Pack: the UK's first Vehicle-to-Grid tariff

Get free EV charging with our groundbreaking vehicle-to-grid (V2G) tariff

Add Octopus Power Pack to your regular tariff. We'll set up your V2G charger to automatically manage your charging and discharging in the greenest way possible, so you can fill up for free.

A typical V2G driver could **save £880 per year compared to Flexible Octopus**, and **£180 compared to Intelligent Octopus Go**.

Power pack is currently compatible with:

Nissan Leaf

Nissan e-NV200

Mitsubishi Outlander PHEV

And we're working hard on more integrations!

Value can unlock the UK's sustainability objectives

In a world where energy efficiency is more highly valued, the reverse is also true. Can the industry afford *not* to act?

Housebuilders

What do builders need to see in order to recognise the Zero Bills premium and take it to market?

Banks

What do lenders consider to be "enough" evidence to deliver innovative green products and to lend more favourably?

RICS

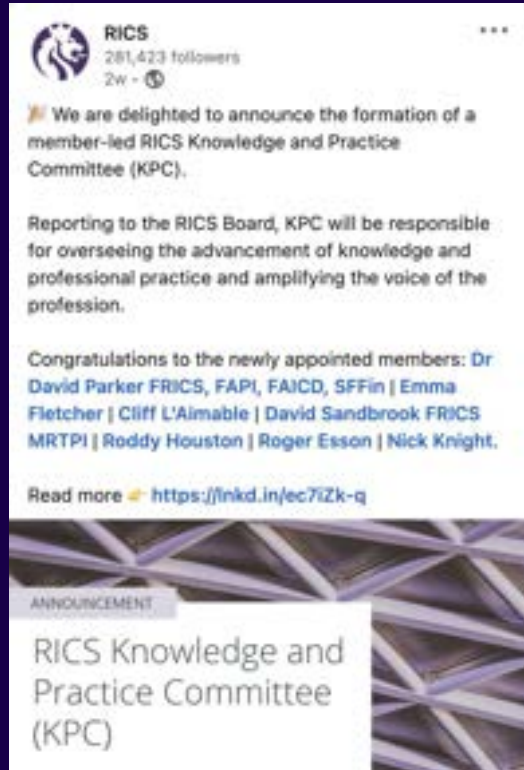
What will it take to update mortgage & Red Book valuations?

What does it mean to "act in the public best interest"?

Bigger picture

If we don't up-value sustainable, bill-free homes, what happens to existing housing stock?

Valuing sustainability...



RICS
281,423 followers
2w · 🌐

👉 We are delighted to announce the formation of a member-led RICS Knowledge and Practice Committee (KPC).

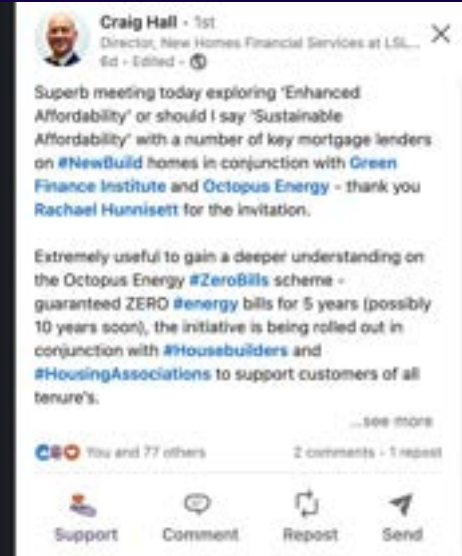
Reporting to the RICS Board, KPC will be responsible for overseeing the advancement of knowledge and professional practice and amplifying the voice of the profession.

Congratulations to the newly appointed members: [Dr David Parker FRICS, FAPI, FAICD, SFFin](#) | [Emma Fletcher](#) | [Cliff L'Aimable](#) | [David Sandbrook FRICS MRTPI](#) | [Roddy Houston](#) | [Roger Esson](#) | [Nick Knight](#).

Read more → <https://lnkd.in/g/ec7iZk-q>

ANNOUNCEMENT

RICS Knowledge and Practice Committee (KPC)



Craig Hall · 1st
Director, New Homes Financial Services at LSL...
6d · Edited · 🌐

Superb meeting today exploring 'Enhanced Affordability' or should I say 'Sustainable Affordability' with a number of key mortgage lenders on #NewBuild homes in conjunction with [Green Finance Institute](#) and [Octopus Energy](#) - thank you [Rachael Hunnisett](#) for the invitation.

Extremely useful to gain a deeper understanding on the Octopus Energy #ZeroBills scheme - guaranteed ZERO #energy bills for 5 years (possibly 10 years soon), the initiative is being rolled out in conjunction with [#Housebuilders](#) and [#HousingAssociations](#) to support customers of all tenure's.

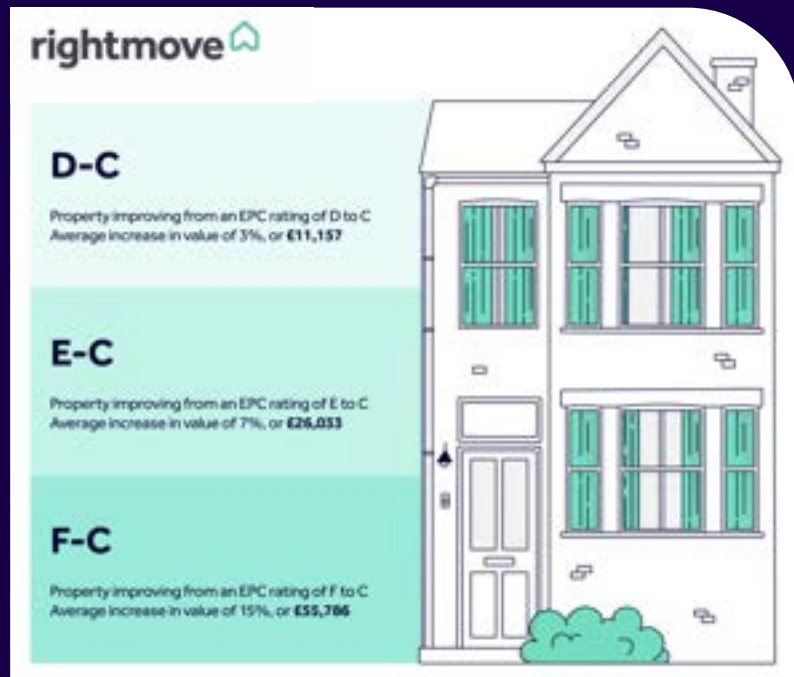
... see more

👤 You and 77 others 2 comments · 1 repost

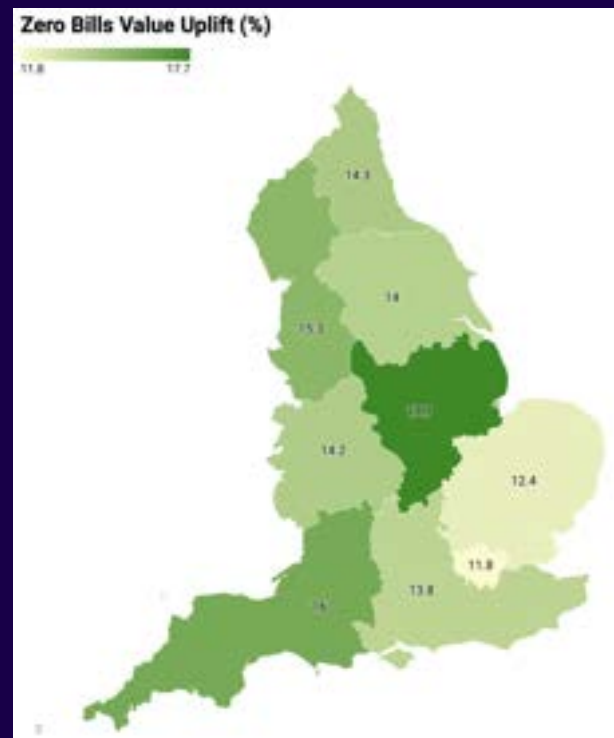
Support Comment Repost Send

Consumers place a premium on greener homes

This is already reflected in ONS/EPC sales data with greater premium for Zero Bills

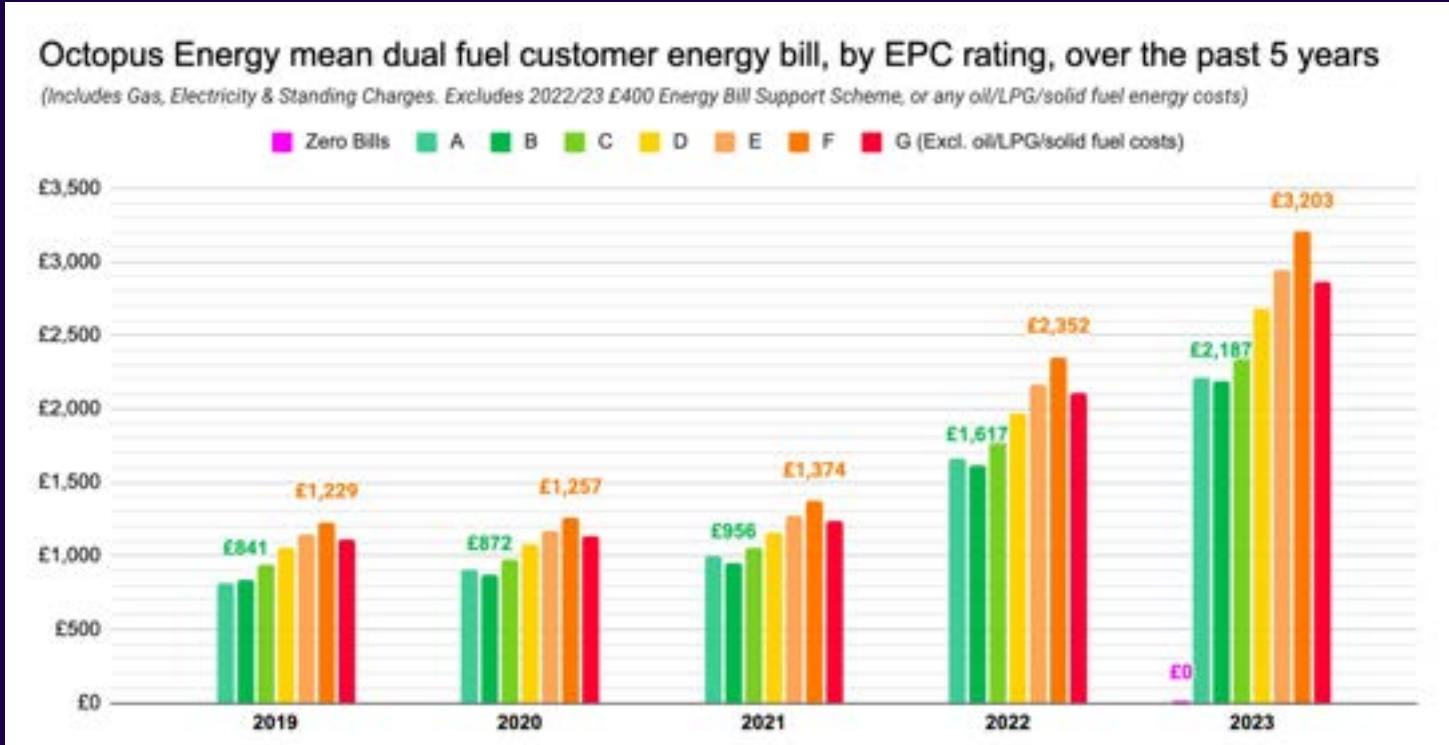


Source | Rightmove [Greener Homes](#) (2023). See also Santander [Green Homes Revolution](#) (2022).



Source | Cambridge University, ThinkThree (2024)

Better EPC rated homes have lower bills – but there’s huge potential to go further



Source | Octopus Energy (2024)

Assessing Affordability

Affordability with a Perenna x Octopus Mortgage

Perenna will incorporate **Zero Bills** into its affordability assessment for any mortgage which is secured against a property guaranteed by Octopus as Zero Bills.

In addition, Perenna will offer a lower mortgage rate on that product, to reward customers for making a sustainable choice - this is our **Green Discount**.

The combination of the Zero Bills, and the Green Discount, means that customers with a **Perenna x Octopus Mortgage** can afford to borrow significantly more than other major lenders.



Equity joint venture for the development of four new retirement communities



Homes
England

we manage a portfolio of over 98 modern, purpose-built care homes.

Greener Homes Alliance

Our new partnership with Homes England

We are providing discounted development finance to support housebuilders in the UK to build high quality energy efficient homes achieving a SAP score of over 85, equivalent to an EPC of B and above.

- Homes that achieve a SAP score of 92 and above (EPC A) will receive **2% discount** on interest rate
- Homes that achieve a SAP score of 85 and above (EPC B) will receive **1.25% discount** on interest rate
- Benefit from initial free of charge, expert advice from sustainability consultants McBains and Octopus Energy



NewArch Homes is a registered provider of social housing.

We are regulated by the Regulator for Social Housing to provide affordable homes for those who may be unable to afford to buy or rent one on the open market.

Our goal is to build homes to high quality and energy efficiency standards. This means that our homes cost less to heat, and that the ongoing operation of our homes has a lower impact on the environment.

NewArch

Building homes and communities for people who need them most



NewArch Homes is funded through long-term investment from investors who are motivated to deliver good quality housing. This investment is managed by Octopus Investments Ltd, who also manage NewArch Homes.



octopusenergy



SHERBRO
ALLIANCE
PARTNERS



octopus
energy



- Initial project will see up to five wind turbines built with solar and battery storage to accelerate the roll-out of renewable energy

SIKA STEVENS
Co-founder, Sherbro Alliance Partners

We're starting off with a pilot program on Sherbro Island City



Today, 7 out of 10 people in Sierra Leone don't even have electricity.

and we're planning to build the first West African smart city.



octopusenergy

Eclipse Power Networks - Octopus IDNO, microgrids & grid balancing



Why choose an IDNO?

A traditional Distribution Network Operator (DNO) is limited to a geographical part of the UK. An independent DNO – like Eclipse Power Networks – can operate nationwide. We can also be more flexible in the way we interpret the standards set by DNOs – many of which vary from region to region.

Unlike DNOs we can also pay you an Asset Value when you join our network. In other words, we buy the electricity network that you install in your development and manage it from then on. A DNO is legally barred from paying you anything for your assets.

Octopus SAVING SESSIONS



Get paid to use less at peak times this winter

Cutting down on energy at **certain times of the day** can have a bigger impact on the planet, the energy system, and your wallet.

With Saving Sessions, we pay you to use less power.

Battery powered Emirates Stadium



Over 103 games have been played using sustainable energy to power the stadium



octopusenergy



Centre for Net Zero

Powered by Octopus Energy

Our **access to tens of billions of customer data points** gives us an unparalleled insight into the real behaviours of people and businesses.

**FOUNDED BY
OCTOPUS ENERGY**

**GROUNDING IN
REAL-WORLD DATA**

**OPERATED
AUTONOMOUSLY**

**PIONEERING RESEARCH TO MAKE
THE FUTURE ENERGY SYSTEM
A REALITY.**

Powered by Octopus Energy.

We **set our own research agenda** and operate on a not-for-profit basis.



octopusenergy



octopus electric vehicles

Save your team up to 40% on brand new electric car with salary sacrifice

Help your business improve your team's engagement and retention and attract new talent all while meeting your sustainability goals and saving on National Insurance.

It's free to join and easy to set up. You can get going in as little as 2 weeks.



Over 2,600 schemes now live and counting...



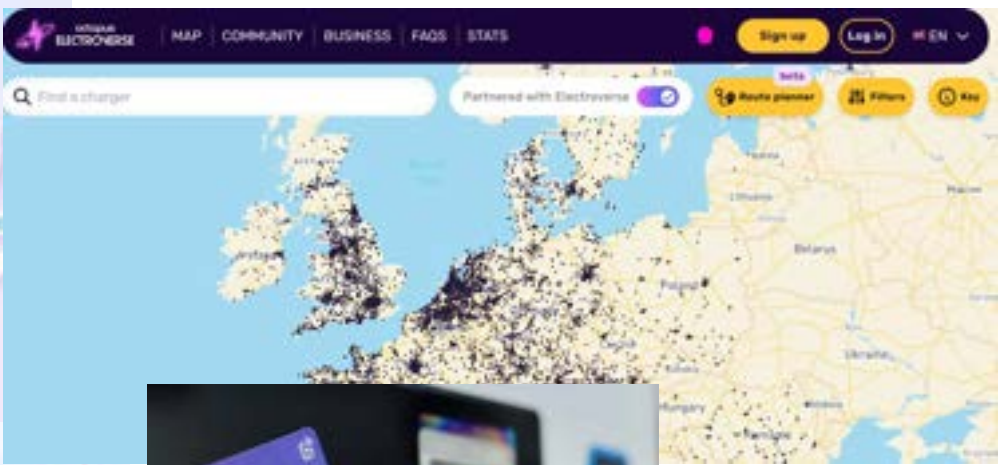
Electric car leasing from Octopus EV

The whole EV package. Car, charger, energy.



octopusenergy

Octopus Electroverse - you don't have to be a customer!



Electroverse gives you one-tap access to 502,852 public chargers across the UK & Europe.

Join for free today!

Sign up in 30 seconds



We also invest in bigger energy projects too...

We're one of the largest investors in solar energy in Europe and a fast-growing investor in wind energy too



£5.8bn
The global portfolio of assets we manage.

3.3GW
Our assets are made up of over 240 large scale and over 4,500 small scale energy projects.

2.2m
Homes powered each year by the renewable assets we manage.



Repowering

We're finding ways to produce as many green electrons as possible to help the UK ditch gas for good.

Our latest plan has the potential to create enough new power for hundreds of thousands of homes a year, without having to start a single new turbine project from scratch...

Octopus Energy Generation will refurbish up to 1,000 of the turbines by the e.

Let's build more wind

Plots for kilowatts!

Help bring about the future of UK energy and security by telling us about where we can build a turbine on your land.

Register your interest in 60 seconds



1 in 10 solar farms in the UK are managed by Octopus!



Investing £3b in green hydrogen for heavy industry

Octopus Energy and Legal & General make £70million investment into ground source heat pump business - The Kensa Group



And support communities too to do the same...

Welcome to the
Octopus
Fan Club,
Halifax!

You could save half
on your electricity
when the wind blows



octopusenergy



Glastonbury's 'biggest fan': UK festival gets an eye-catching 28 metre wind turbine



KensaUtilities
ESTABLISHED 2009

Heat the Streets

Low carbon alternative
to the gas network

Making people-powered energy a reality

youunity
COMMUNITY ENERGY

Energy producers | Take Action | Funding | Community Power Tools

energising
community
energy



octopusenergy

Octopus Fan Club

Currently for postcodes: BD22, CF81, DN31, DN32, DN33, DN34, DN35, DN36, HX2, LN11, LN12, LN13, NP24, PE24, PE25 and YO43



octopus
FAN CLUB

20%

off your unit rate whenever
your turbine is spinning
and you're using electricity

50%

off your unit rate when the
wind picks up and the green
electrons are really flowing

100%

renewable energy from
your local fan



ECO4 Scheme



Who is it for?

There is a very strict set of eligibility criteria for the scheme and customers need to be in receipt of certain benefits to be eligible.

Customers that in receipt of the following benefits qualify (as long as their home is applicable for improvements)

- Income-based Job Seekers Allowance
- Income-related Employment and Support Allowance
- Income Support
- Pension Credit either Savings Credit or Guarantee Credit
- Working Tax Credit
- Child Tax Credit
- Universal Credit
- Housing Benefit
- Child benefit where the occupants meet the below income thresholds*

What is the ECO scheme?

The Energy Company Obligation (ECO) scheme is a government energy efficiency program to help reduce carbon emissions and tackle fuel poverty in the UK. Energy Suppliers are obligated to take part in the scheme to improve the ability of low-income, fuel-poor and vulnerable households to heat their homes.



Thank you!

Love & Power

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