

Fiona Howarth

CEO - Octopus Electric Vehicles



octopus
electric vehicles

octopus energy group

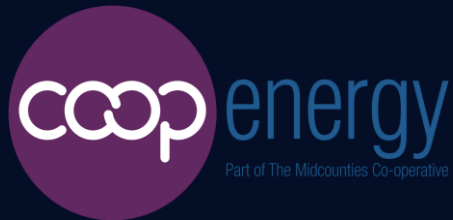
octopus energy

octopus energy
for business

octopus
electric vehicles

octopus renewables

octopus energy
services



M&S ENERGY



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We make it easy to switch to electric transport



The cars
(including
financing)

**Renewable
energy tariffs**
for EV drivers

**Smart
charging**
for your EV

Expert support
for every step

BIEE discussion

- Recap the challenge we're facing
- Share what we're seeing in the EV market today
- Hypotheses around challenges to going electric asap
- Explore if this is just short term - and does it matter?
- What about the grid?

What's the context?

BBC Sign in Home News Sport Weather iPlayer

NEWS

Home | Coronavirus | Brexit | UK | World | Business | Politics | Tech | Science | Health | Family & Education

Science & Environment

Climate change: IPCC report is 'code red for humanity'

By Matt McGrath
Environment correspondent

🕒 9 August | 💬 Comments

in 🔍 Search UK edition ▾

The Guardian
For 200 years
News website of the year

'Climate crisis is here' says Biden in week of storms, floods and wildfires

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Within 30 years, Central London projected to be underwater



COASTAL RISK SCREENING TOOL

**LAND PROJECTED TO
BE BELOW ANNUAL
FLOOD LEVEL IN 2050**



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PLUS big impacts at a local level - today!

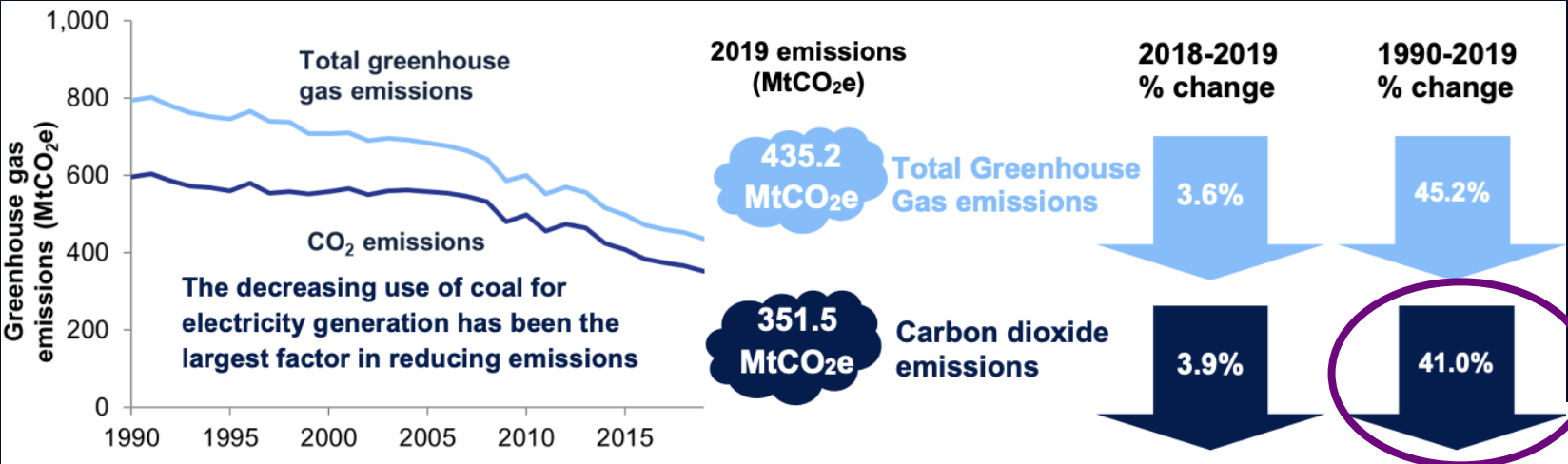


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The challenge

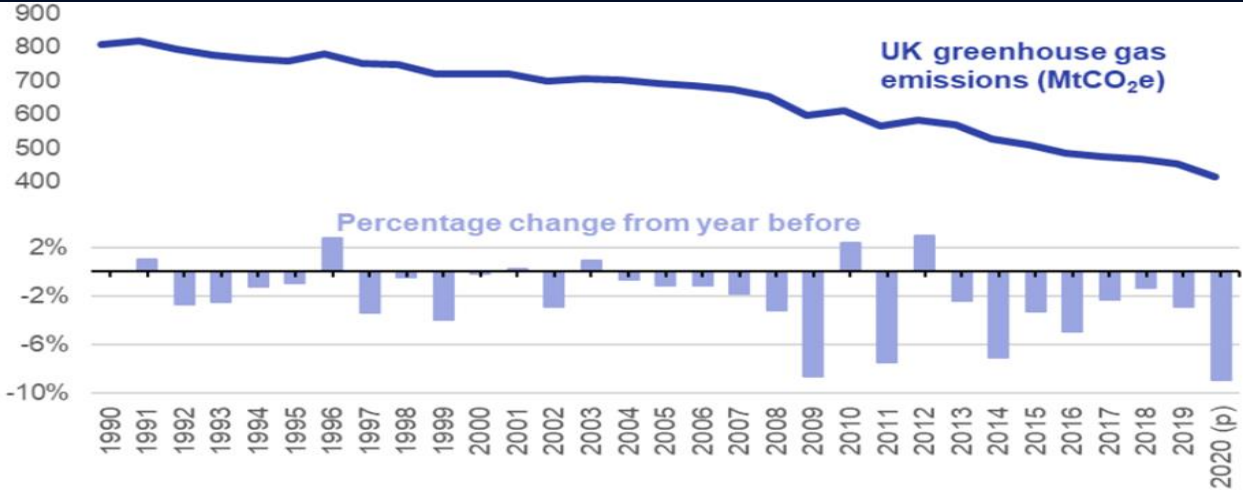
60% reduction in emissions
from surface transport sector
by 2030

Carbon from transport down just 5% 1990-2019



	2018-2019 % change	1990-2019 % change
Energy supply (including power sector)	↓ 8.4%	↓ 62.8%
Business	↓ 1.9%	↓ 42.1%
Transport	↓ 2.8%	↓ 4.6%
Residential	↓ 1.8%	↓ 16.7%
Public	↑ 0.5%	↓ 40.1%

Carbon from transport down 23% 1990-2020



2019-2020
% change

1990-2020
% change

Total greenhouse gas emissions

8.9%

48.8%

Carbon dioxide emissions

10.7%

46.4%

Energy supply
(including power sector)

2019-2020
% change

↓ 11.9%

1990-2020
% change

↓ 67.4%

Business

↓ 8.7%

↓ 46.8%

Transport

↓ 19.6%

↓ 22.5%

Residential

↑ 1.8%

↓ 13.5%

Public

↓ 2.0%

↓ 42.2%

Electric cars have got really good...

Tesla Model 3



Nissan LEAF



Vauxhall Corsa-e



Tesla Model X



Jaguar I-PACE



Audi e-tron



... and some great vans now too



Nissan e-NV200
Acenta 40kWh



Peugeot
Professional 75kWh SWB



Maxus
e-DELIVER 9 LH 72kWh

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*Range as per manufacturers brochure; accurate as of 18th April 2021;
subject to eligibility and credit approval. Any prices shown includes VAT and are subject to change and will be impacted by changes in law, regulation, tax or duty beyond our reasonable control.

We asked 500 people: “What’s putting you off going electric?”

49%

said

cost

35%

said

**not enough
chargepoints**

30%

said

**they don’t go
far enough**

Source: Octopus EV research google survey Apr 2021; n= 500, UK adults

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Total cost of ownership & incentives make EVs stack up

“Why joining the electric car revolution could save you £1,500 a year”

October 2018

The Telegraph

Ford Focus vs. Nissan LEAF

- Up to 90% fuel saving
- Up to 70% saving on servicing & maintenance

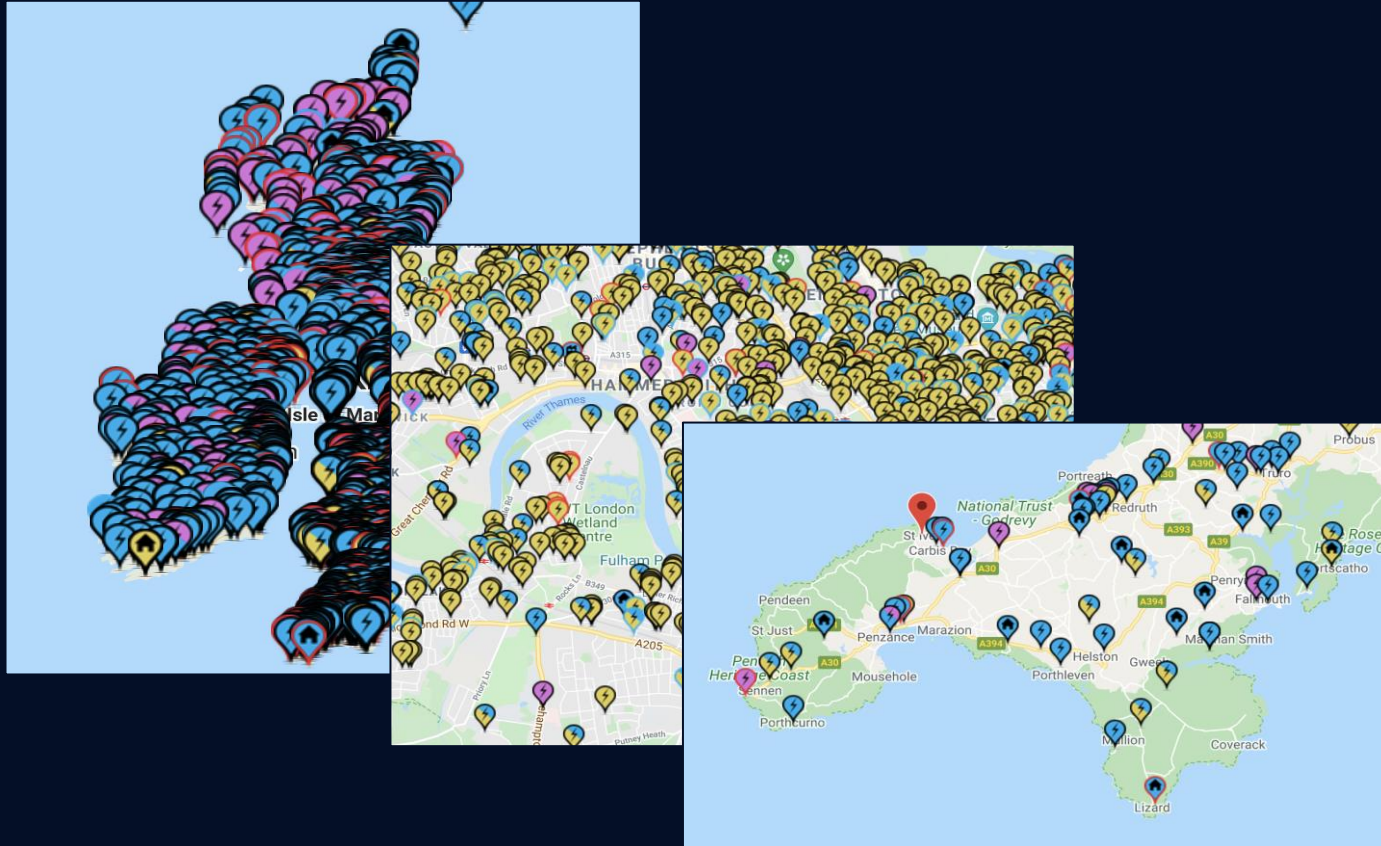
“Salary sacrifice makes EVs cheaper than petrol”

July 2021


THE SUNDAY TIMES



Perception doesn't match for charging



>16,100

public charging locations in the UK
*Up from 11,700 in July 2020
vs. 8,400 petrol stations*

72%

UK vehicle drivers have
off-street parking,
so can charge at home

Source: Zap-Map 6th September 2021;
PWC *"Charging ahead! The need to upscale UK electric vehicle charging infrastructure"*,
April 2018

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So what is stopping us? Hypotheses...

Demand is outstripping supply

- >12 month lead times for some cars & most vans
- Leaseplan said >80% of the order book electric

Without EV to sell ->

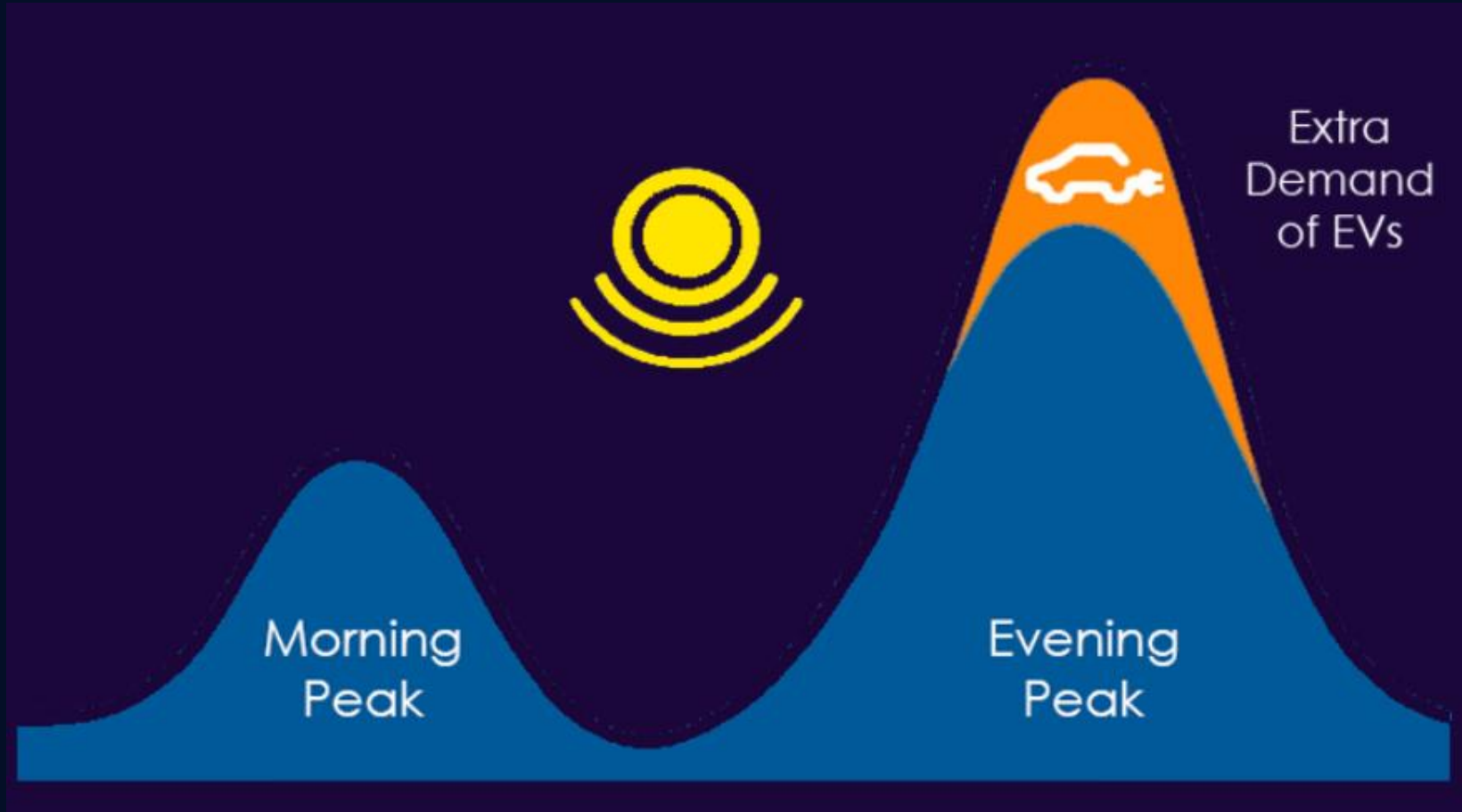
- OEMs / dealers don't invest in training etc.
- Incentives are more oriented towards ICEs

Industry is supply led -> we need electric cars made

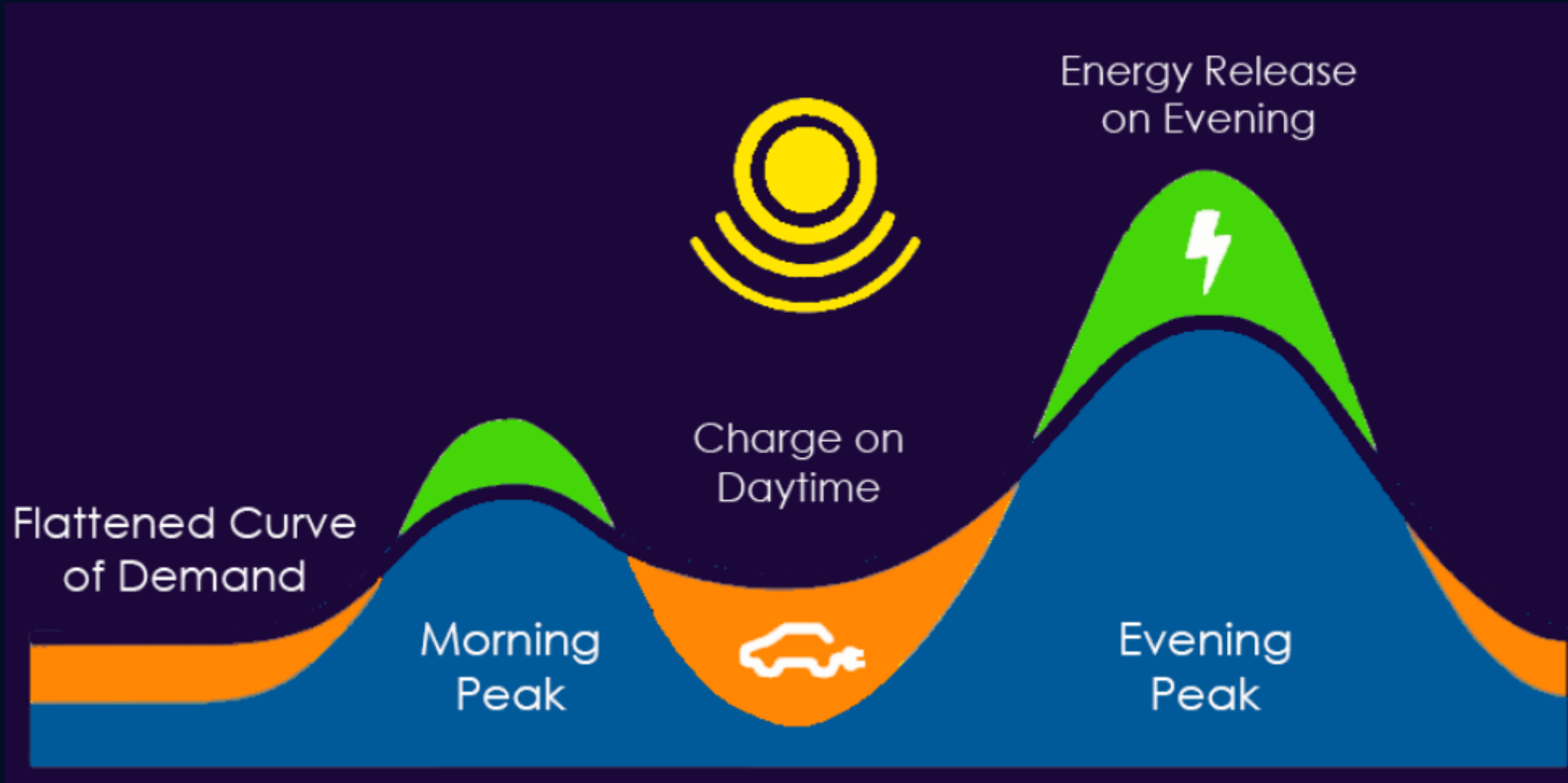
Hypothesis: What is stopping them making more EVs today?

1. EVs cost more to make -> lower margin
2. Lower maintenance costs -> lost revenues & impacts dealers
3. Making the change takes investment & may not have money
4. Stranded assets & jobs
5. Semiconductor shortage
6. Supply chain

What about the impact on the energy system?



Dynamic tariffs, smart charging & Vehicle to Grid (V2G)



Thank you

Find me on LinkedIn:
Fiona Howarth



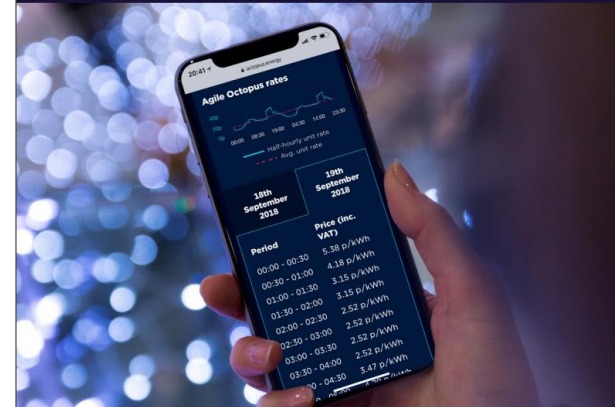


Octopus Go

Overnight pricing
specifically for EV
drivers

5p per kWh
between
12.30 and 4.30am

Octopus Go An EV Driver led tariff



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We offer time-of-use pricing that reflects costs



AgileOctopus

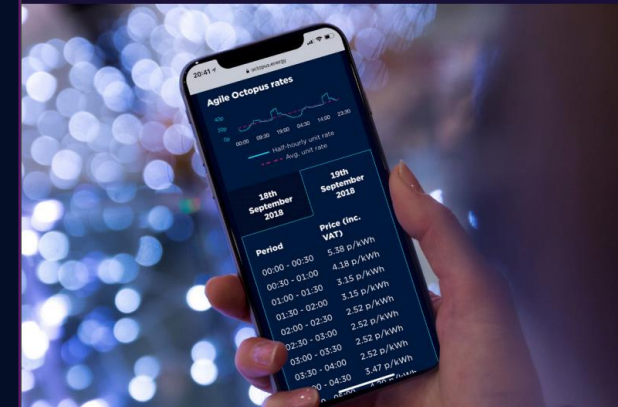
Half-hourly pricing that reflects cost

Pricing release day before at 4:30pm

APIs available to enable 3rd party developments

Agile Octopus

A consumer-led shift to a low carbon future

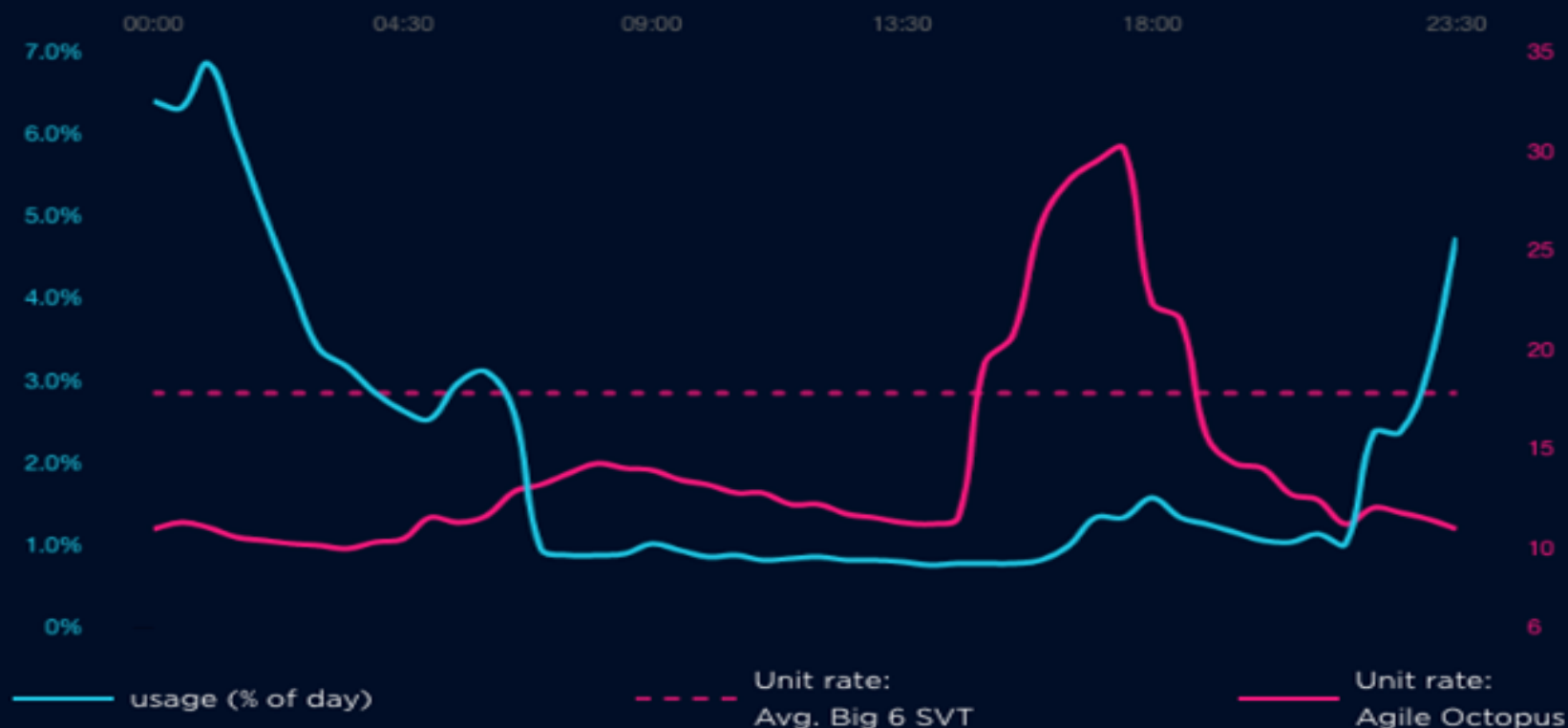


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Try it for yourself

Explore how shifting your electricity use could save you even more, using the profiles beneath the chart.



Half-hourly unit rates over the last 12 months, averaged across all regions (including VAT).

Select a profile to see how your costs change, based on when you use electricity

Family home

Working 9 to 5

Night chargers

Smart charging companies are integrating with us to make it easier



Ohme charger

Automatically charges
when AgileOctopus
is cheapest

Can retrofit with existing
chargers

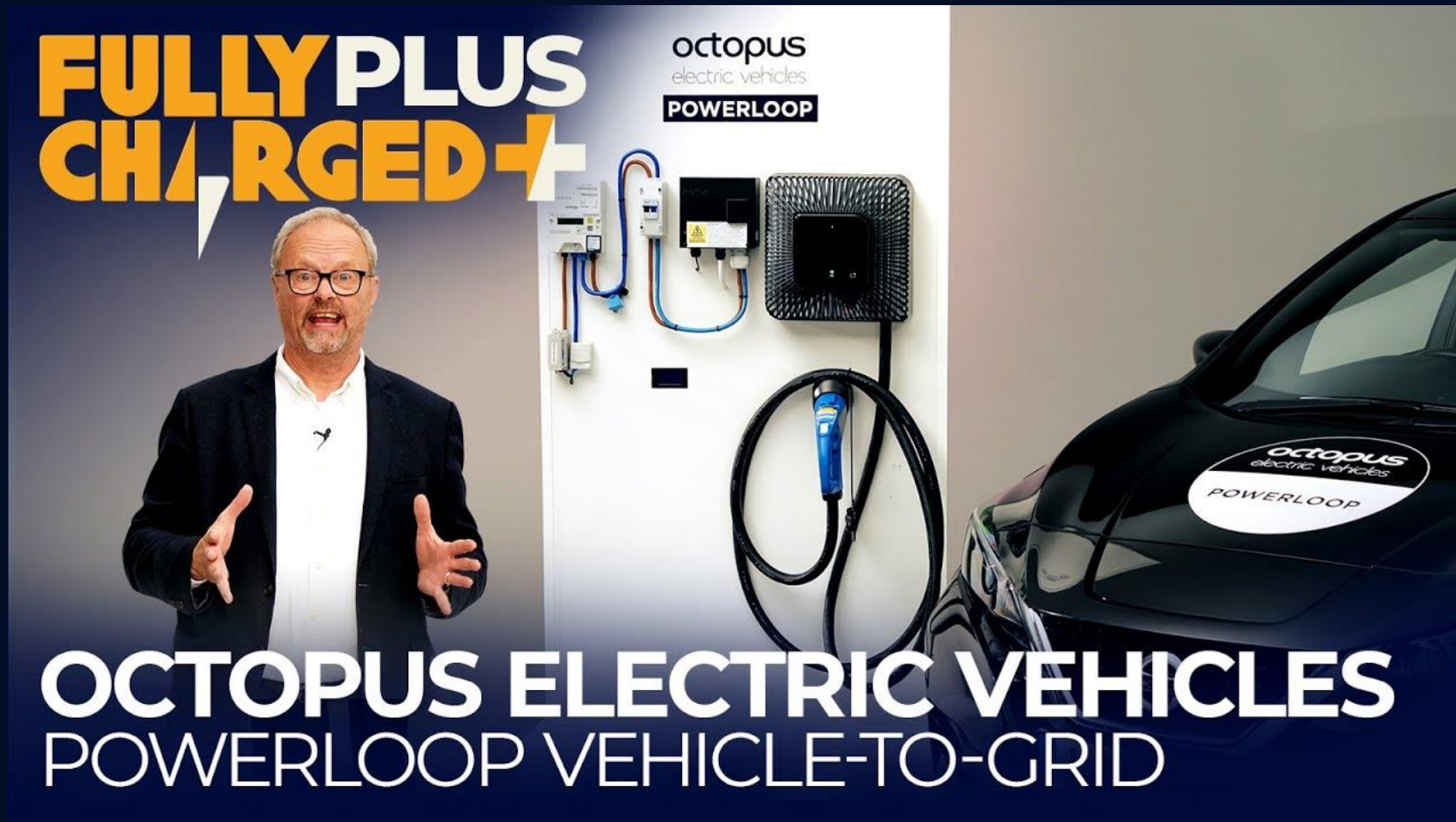
Can track charging at different
locations



from:



Powerloop is a large scale demonstration of Vehicle to Grid (V2G)



**FULLY PLUS
CHARGED+**

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POWERLOOP

OCTOPUS ELECTRIC VEHICLES
POWERLOOP VEHICLE-TO-GRID

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