

“You cannot be serious!”

Will EV infrastructure break the habits of a lifetime?

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Personal preferences – left to right...



...are we asking people to bend over backwards to love EVs...?



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...stock answers to my EV resistance...

“...but you can charge it at home...”

“...you can have a coffee or go shopping while you’re waiting...”

“...the rapid chargers only take 10 to 15 minutes...”

“...when vehicles are autonomous you won’t have to charge them at home...”

“...you’ll get used to it...”



It *looks* like EVs are on the march...

166,000

Plug-in Cars
Reg UK Aug 2018

5,500

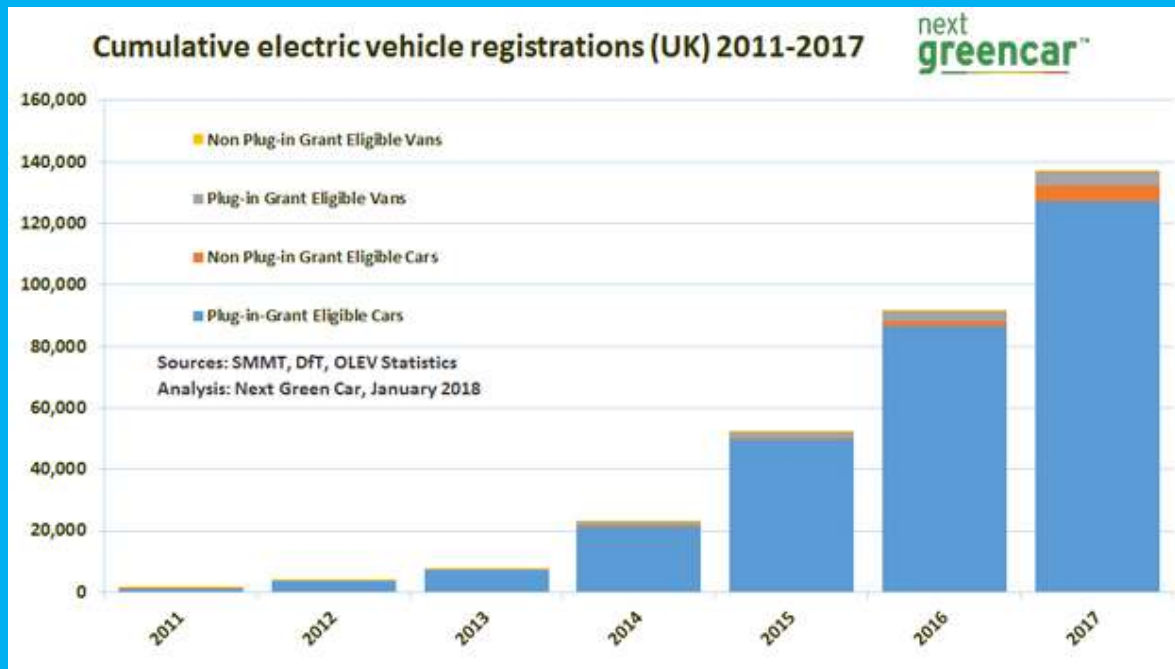
Plug-in Vans
Reg UK Aug 2018

77

Plug-in Models
Available Aug 2018

17,456

UK Charge Pts
Aug 2018 (Zap Map)



Source: www.nextgreencar.com

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...but it's surprising how un-E most EVs are – they need plugging and filling...

Vehicle category	Aug 2018	Aug 2017	% change	YTD 2018	YTD 2017	% change
Plug-in Pure electric	659	476	38.4%	8,980	9,030	-0.6%
Plug-in Other electric	3,322	1,243	167.5%	28,913	19,695	46.8%
Hybrid Petrol-electric	3,494	2,228	56.8%	52,861	42,257	25.1%
Hybrid Diesel-electric	14	21	-33.3%	286	492	-41.9%
Cars eligible for the Plug-In Car Grant	3,568	1,605	124.2%	33,792	25,491	32.6%
Total new cars registered	94,094	76,433	23.1%	1,571,986	1,640,241	-4.2%

Source: www.smmmt.co.uk

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...the existing UK vehicle recharging infrastructure works pretty well though...



- 8422 filling stations¹
- 31.3M cars registered²
- Takes about 3mins to fill a car from empty
- Private sector production and distribution model
- Number of filling stations <1/3 of that in the 1970s¹
- Complaints...?

1. UKPIA 2018 Statistical Review.
2. RAC Foundation [online].

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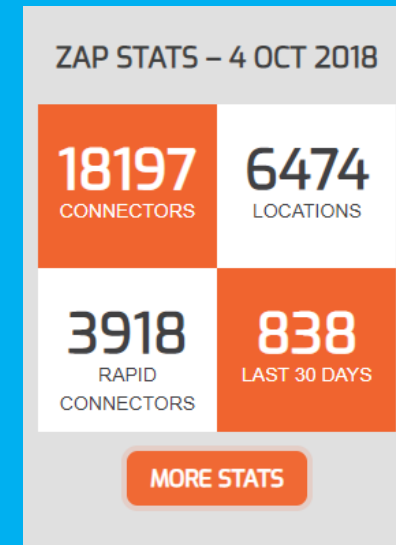
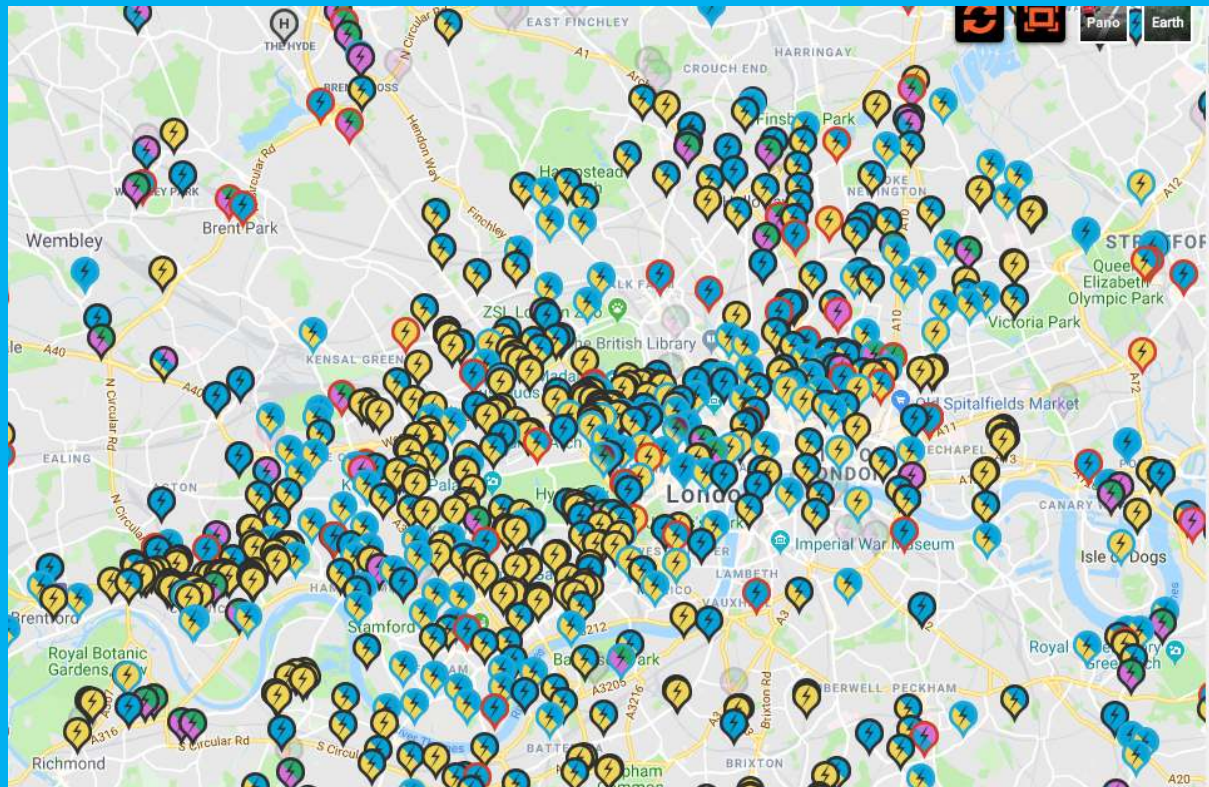
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“What if batteries took only 3 minutes to recharge to full capacity?”

...but in the meantime...seriously...?



...will increasing EV charging points in London reduce car usage in London...?



London has only four petrol stations within the central congestion-charge zone.¹

Graphics source: www.zap-map.com

1. The Economist – August 2015

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**Cheaper running costs +
'Help to Buy' EV policies =
More EV infrastructure +
More cars on more road space?**

Funded by who?

**...and that's pre-infrastructure and
environmental costs elsewhere in the world...**





“...top tips...” ...decisions, decisions, decisions...

- “...‘future proof’ your installation for an upgraded car you may one day purchase.”
- “...move to a deal that has the lowest price per kWh but a higher standing charge, as you will become a heavy user...”
- “...plan longer journeys carefully, they needn’t be stressful...websites.. telling you what type [of charger] it is and whether it’s currently working.”
- “...using a public charge point controlled by an app, **make sure your mobile phone reception is good enough to receive data**...a problem in...places with a lot of people...”
- “EV owners are generally friendly...”
- “...some internal-combustion engine car drivers still park in EV charging spots...**there are Twitter and Facebook pages dedicated to shaming offenders**...”

Source: www.autoexpress.co.uk February 2018

...but hang on! Maybe EVs can be recharged in 3 minutes...



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...and maybe they can help to declutter streets...



So, is EV sales growth worryingly outstripping the provision of EV infrastructure?...

...or is EV sales growth worryingly outstripping the development of sustainable, user centric EV technology?

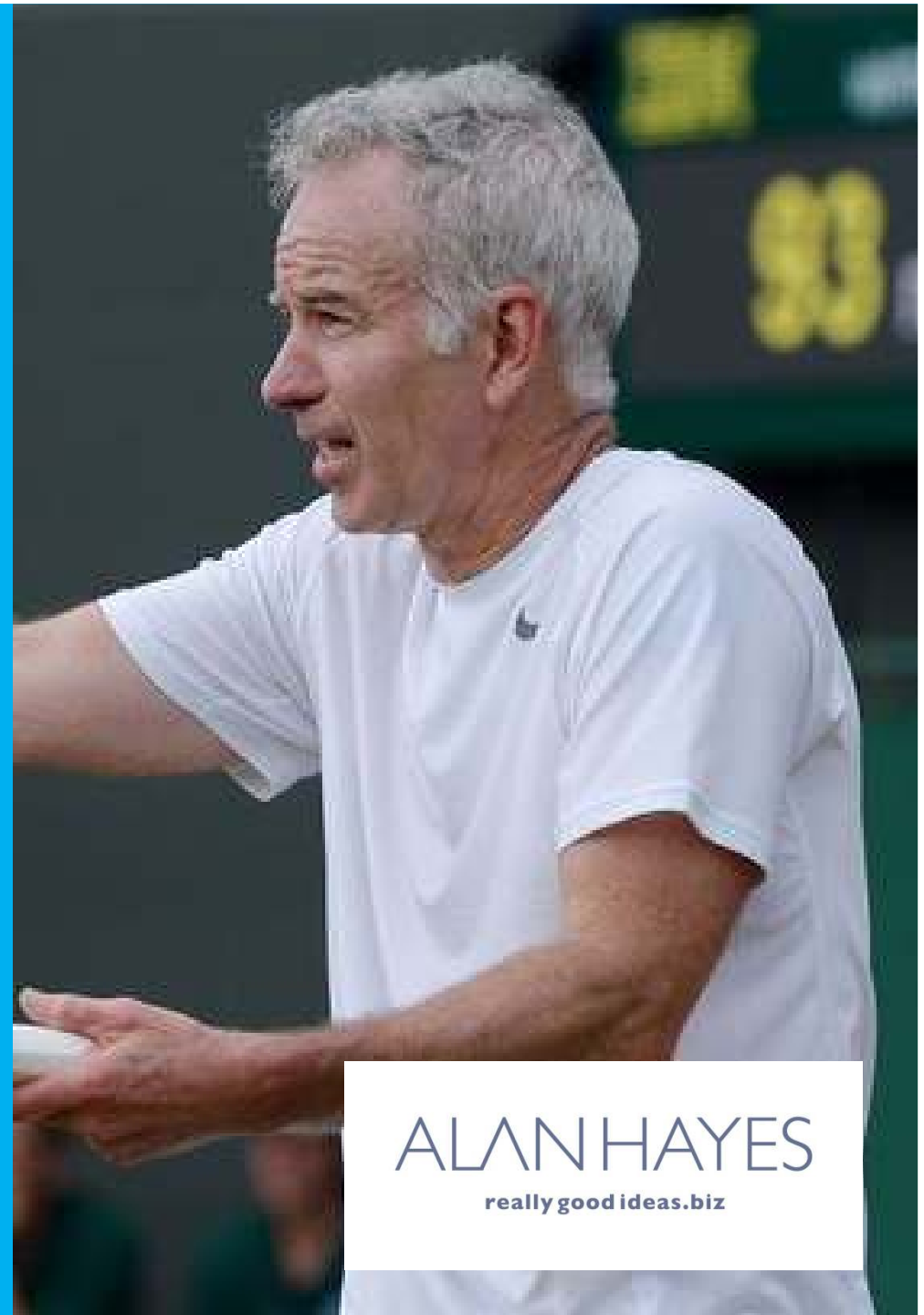
Will EV infrastructure break the habits of a lifetime?

“losses loom larger than gains”
(Kahneman & Tversky, 1979)

“Jonathan Haidt said in another context,
“The emotional tail wags the rational
dog.”

Daniel Kahneman – Thinking Fast & Slow

**...it depends. If you pay people
enough. Maybe the choice has
gone.**



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