



# The forecourt of the future

How electric vehicles will shape the industry



**OC&C**  
Strategy consultants

uncommon sense™

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Fuel station forecourts have been a fixture of our urban landscape and highways for decades, a welcome port of call on a long journey or a convenient spot to quickly refuel in the middle of school runs and supermarket shops.

But anyone paying attention to the rise of electric vehicles (EVs) on our roads may wonder whether the forecourt will have a place in the landscape of our future.

We believe it has, albeit not in an identical format to how we experience them today, and indeed, forecourts will face strong competition from a range of other locations to recharge EVs. Yet, our research indicates that the likely decrease in forecourt footfall will take time to become significant and does not necessarily mean operators will see their profits decline in a similar way.



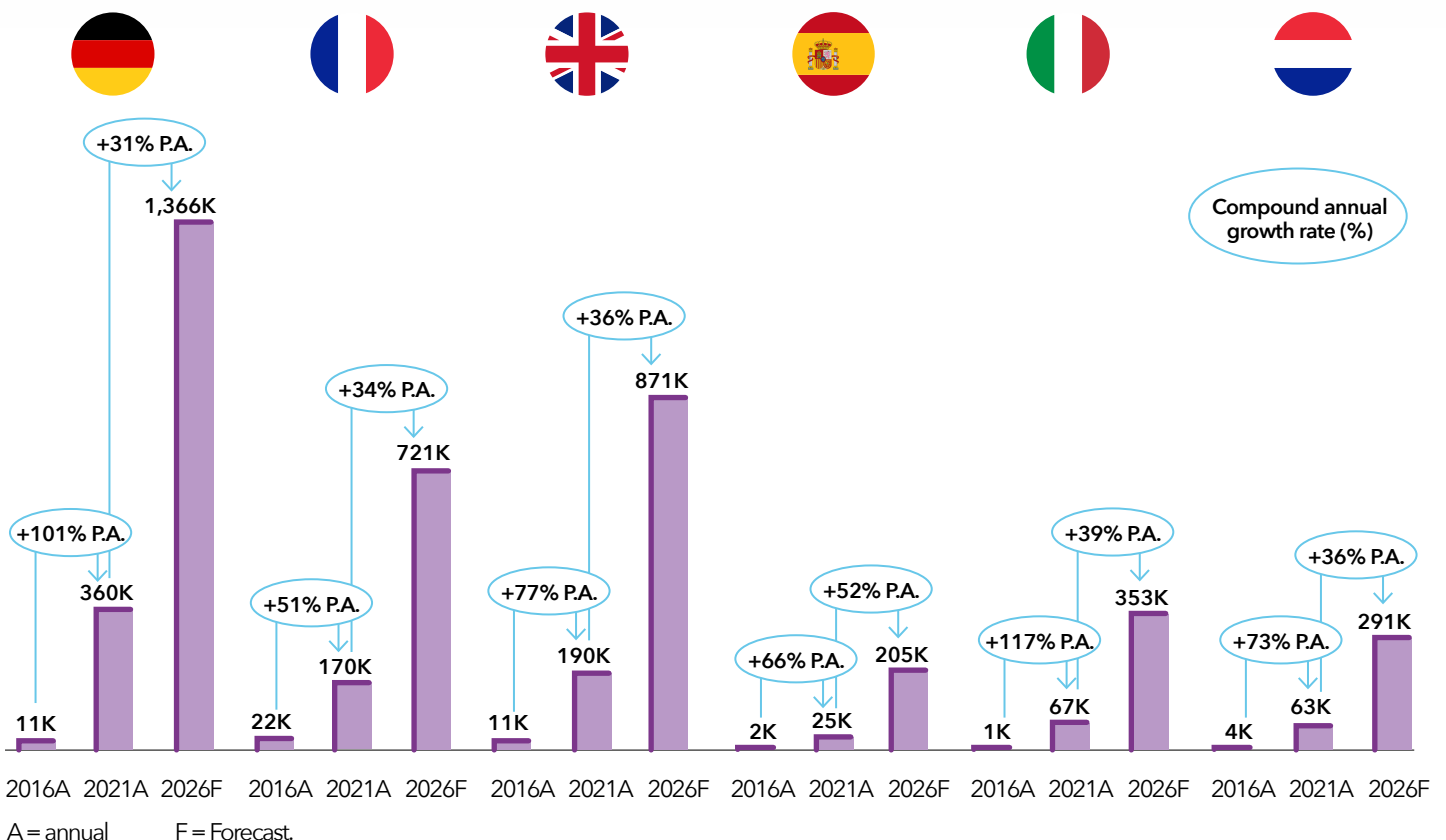


# The race to net zero

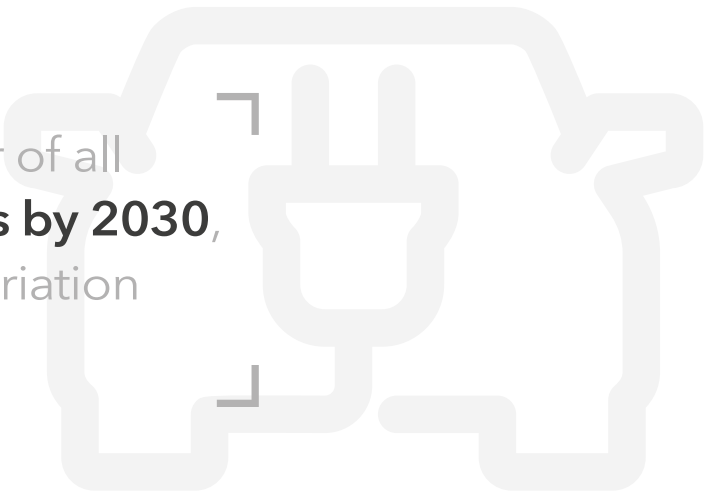


Aside from during the Covid-19 pandemic, EV vehicle ownership has been steadily rising for several years, and will only accelerate as European nations develop charging infrastructure and make progress towards their net zero commitments.

TOTAL ANNUAL EV CAR SALES (EX PHEV), SELECTED EUROPEAN COUNTRIES, 2016 - 2026



Source: IEA; OC&C analysis



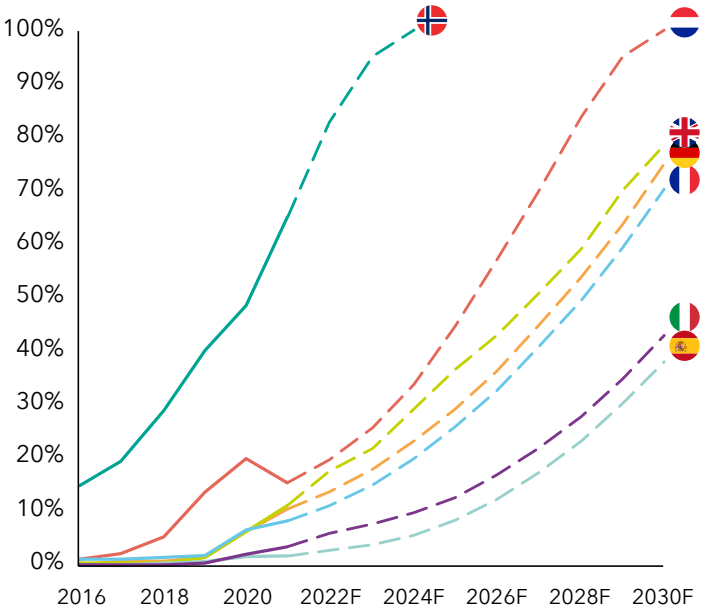
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It's easy to overestimate the effect of EV adoption on the total car fleet. We estimate around a quarter of all cars across Europe will be EVs by 2030, but there will be significant variation between countries. For example, in the Netherlands, which is already far advanced with its charging infrastructure, we estimate around 35% of all cars will be EVs versus Italy and Spain where we expect EV penetration to be around 10%.

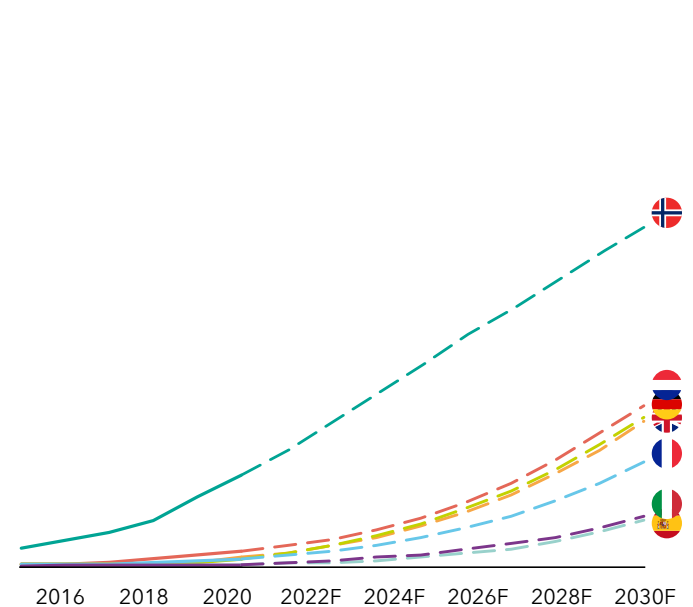
This means as many as 75% of car owners will still need petrol and diesel from forecourts, and these are likely to be supplied at much higher margins than at present.

#### DEVELOPMENT EV SALES (EX PHEV) IN EUROPE, BY COUNTRY, 2016-2030F

% of new passenger car sales



% of total passenger car fleet<sup>1</sup>



Source: IEA; OC&C analysis



# Fuel beyond 2030

Nevertheless, European fuel volumes are forecast to slowly decrease until 2030 by around 1 to 3% per annum, and beyond 2030 the pace of decline begins to accelerate significantly.

For those making the transition to electric today, the primary concerns are the purchase cost of an EV, alongside range and access to charging points.

For the latter concern, European nations are already rising to the challenge of creating adequate charging infrastructure.

Today, the majority of EV charging happens at home, where it's convenient and inexpensive.

But there is an inevitable limit to the volume of vehicles which can be charged this way. The majority of all homes across the EU have no access to a driveway for home charging, and while on-street charging infrastructure is being developed, it also has a natural limit based on the number of possible locations and people's access to them.

Consequently, we estimate the share of people charging at home will drop from circa 60% today to 40% by 2030, precisely because future EV adopters will not have the option to install a private charging plug.

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# ACROSS EUROPE, IT IS EXPECTED THAT PUBLIC CHARGING INCLUDING "ON ROUTE", WILL GAIN SHARE FROM "AT HOME" CHARGING IN THE FUTURE

Drivers of Where People Will Charge in the Future



## At home

2020 Share of Charge



c.60%

Share Evolution to 2030



Drivers of Change

- ✓ Cheapest and most convenient form of charging for those with access to off-street or private parking.
- ✗ As adoption increases, those in shared multi-dwelling homes will be challenged by limited access to private parking.



## At Work<sup>2</sup>

2020 Share of Charge



c.15%

Share Evolution to 2030



Drivers of Change

- ✓ Investment in workplace charging schemes is expected to continue. Each scheme's role will depend on individual countries' government policies.



## On Street

2020 Share of Charge



c.10%

Share Evolution to 2030



Drivers of Change

- ✓ Continued landgrab expected, with infrastructure roll-out moving at pace, as seen by Ubitricity.
- ✗ Challenging supplier economics and a weaker consumer proposition. Slower charging and safety concerns depending on the distance from home may constrain longer-term adoption.



## Destination

2020 Share of Charge



c.10%

Share Evolution to 2030



Drivers of Change

- ✓ Charging infrastructure at "Destination" locations (e.g., supermarkets) will expand as these locations use EV charging as a traffic driver for their core business.
- ✗ Capacity constraints will likely see destination locations focus on less powerful charging technology i.e., rapid, not ultra-rapid charging.



## On Route

2020 Share of Charge



c.5%

Share Evolution to 2030



Drivers of Change

- ✓ Rollout of ultra-rapid charging infrastructure at "on route" locations (fuel forecourts) is accelerating, supported by significant government investments.
- ✓ Supplier economics of ultra-rapid chargers are more attractive.
- ✓ Ultra-rapid chargers represent the most attractive charging proposition to consumers, particularly for unplanned or "distressed" missions.



Share gain of on route presents an opportunity for forecourts to offer public, fast-charging sites, with two key areas for investors to note:

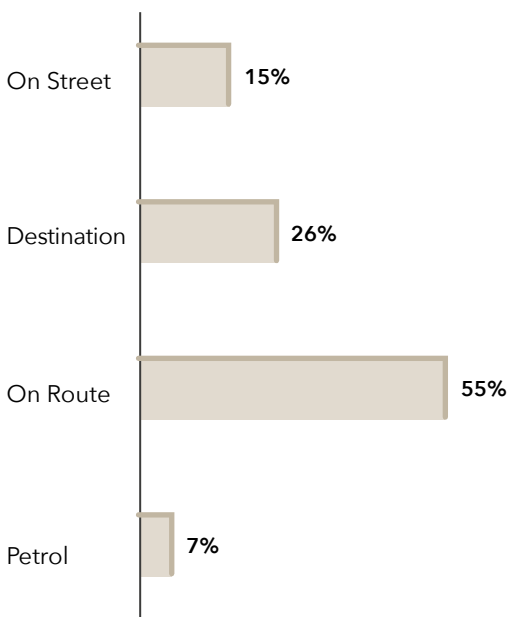
# 1. Greater **margin growth**

As fuel volumes decline, it's likely that fuel margin percentages will increase. We saw precisely this during the Covid-19 pandemic: as volumes declined, the industry reacted by increasing its margins.

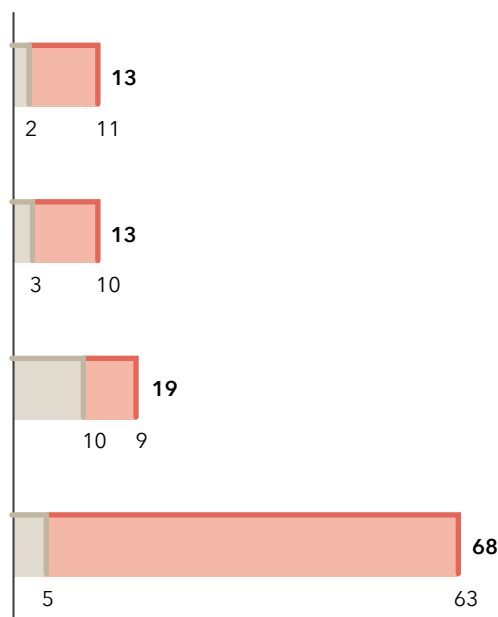
But the margins on electricity at super-fast and ultra-fast charging sites are also higher. In absolute terms, fast charge electricity margins are two or three times higher than for fuel per refuelling stop.

## RECHARGING AN EV PROVIDES ~2X MORE MARGIN TO FORECOURT OPERATORS THAN REFUELLING AN ICE

**Estimated gross margin by location**  
%



**Estimated refuelling cost and margin by location**  
€ (ex VAT)



**Factor vs absolute fuel margin**  
x times



— Margin — Costs

Estimates based on pre-2022 price levels:

EV: 50kWh battery capacity | €0.41/kWh Charge rate 'on street / destination' | €0.60/kWh charge rate 'on route'

ICE: 45l fuel tank capacity, 90% of capacity refuelled, €2.12/litre fuel price

Source: Expert Interviews, Desk Research, OC&C analysis

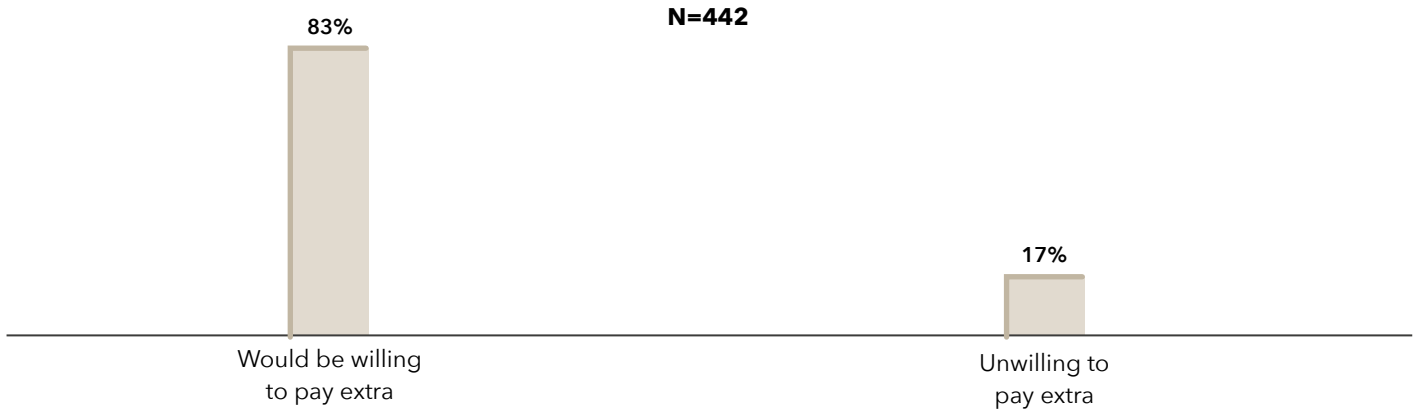
The advantage of charging en route for the consumer is speed. We found that 83% of consumers are willing to pay a premium for ultra-rapid charging.

**UK EXAMPLE: CHARGING AT HOME IS C.2.5X CHEAPER THAN "ON ROUTE", HOWEVER MOST CONSUMERS ARE WILLING TO PAY A PREMIUM FOR ULTRA-RAPID CHARGE**

Economics of Consumer Charging

**Willingness to Pay For Ultra-Rapid Charging<sup>3</sup>**

(% Respondents Charging at Petrol Stations, N=442)



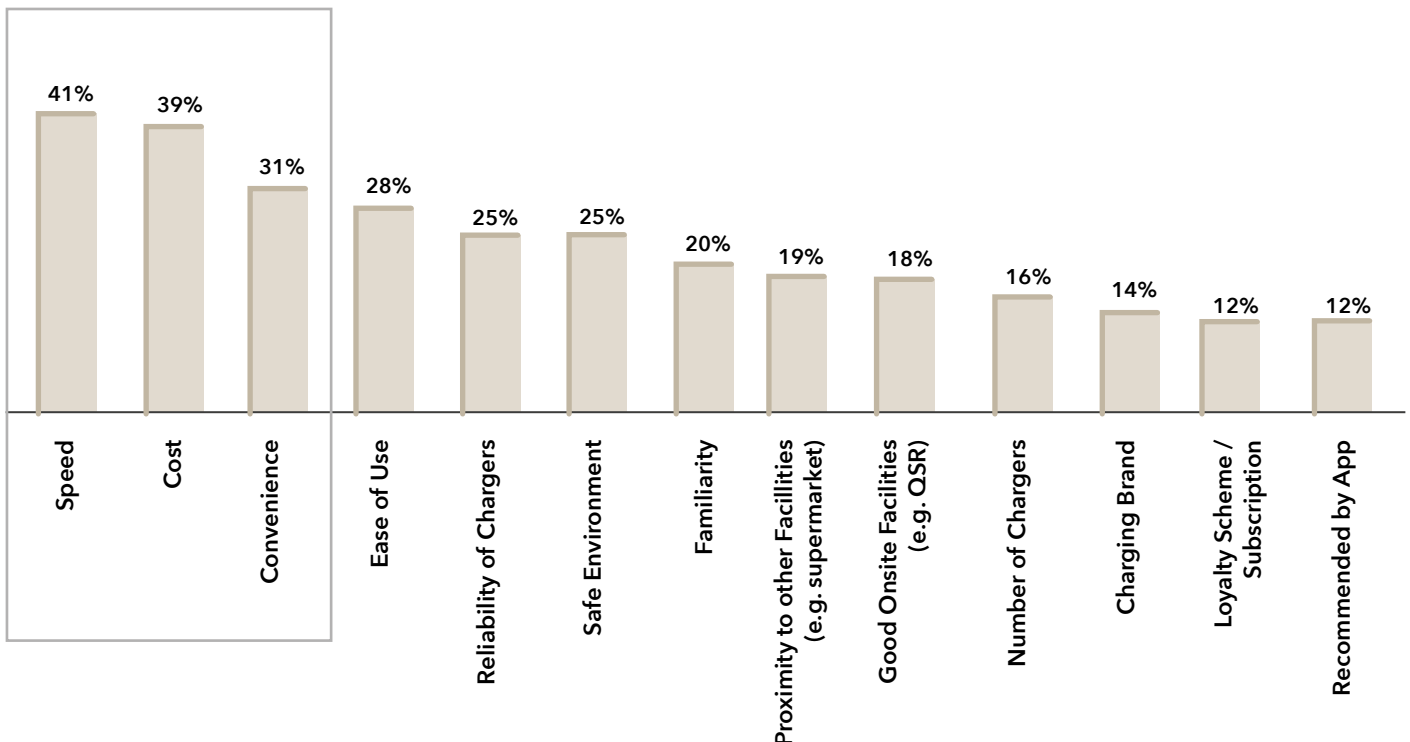
3. How much of a premium would you be willing to pay for ultra-fast charging compared to non-ultra-fast charging?

In the UK, EV drivers already prioritise speed over cost when considering where to charge their vehicle, with 41% of those we surveyed ranking it as their main consideration, followed by 39% for cost and 31% highlighting convenience as their primary concern.

**UK EXAMPLE: WHEN CHOOSING WHERE TO CHARGE THEIR EVS, DRIVERS CARE MOST ABOUT CHARGING SPEED, CHARGING COST AND LOCATION CONVENIENCE**

KPCs in Choosing Charging Location<sup>4</sup>, 2021

% Total Respondents Ranking in Top 3



4. Generally speaking, when you charge your EV, what are the most important criteria in where you choose to charge?

Source: OC&C EV Survey Jan 22, OC&C analysis.



## 2. Longer driver dwell time

In addition, even with ultra-rapid charging, dwell time for EV drivers is predicted to be three times that experienced by drivers of vehicles with internal combustion engines (ICE).



At present, the dwell time for an EV charge is between 30 and 40 minutes. In the future, we anticipate this will reduce to between 15 and 20 minutes, but this is still significant compared against the current dwell time of, on average, three minutes.

There's already evidence, that the longer dwell time drives higher non-fuel spend. 60% of EV drivers are more likely to spend on non-fuel items, compared to 40% of ICE drivers.

Our findings also show that on average EV drivers will spend at least double the amount too.

### UK EXAMPLE: IN ADDITION, EV CUSTOMERS WHO STOP TO CHARGE AT A FORECOURT SPEND 2-3X MORE ON RETAIL THAN CONVENTIONAL DRIVERS

Retail Purchasing Behaviour

	 EV	 ICE
% customers who transact into non-fuel	~60%	~40%
		X
Average food retail transaction value	€12-14	€7-8
	=	=
Average per visit food retail spend	€7-8	€2-3
		=
Implied gross profit uplift per visit, at 30% margin	€2-3	~€1

Estimates based on pre-2022 price levels

Source: OC&C Fuel Survey Jan 22, OC&C analysis.



# Five ways to futureproof forecourts

We see **five potential drivers** of value forecourt operators should consider now in order to prepare for the future.

## 1 Invest in new power sources

As EV charging and alternative fuels win consumer share in the coming years, the time to expand forecourt energy supply and infrastructure is now.



## 2 Develop retail 2.0

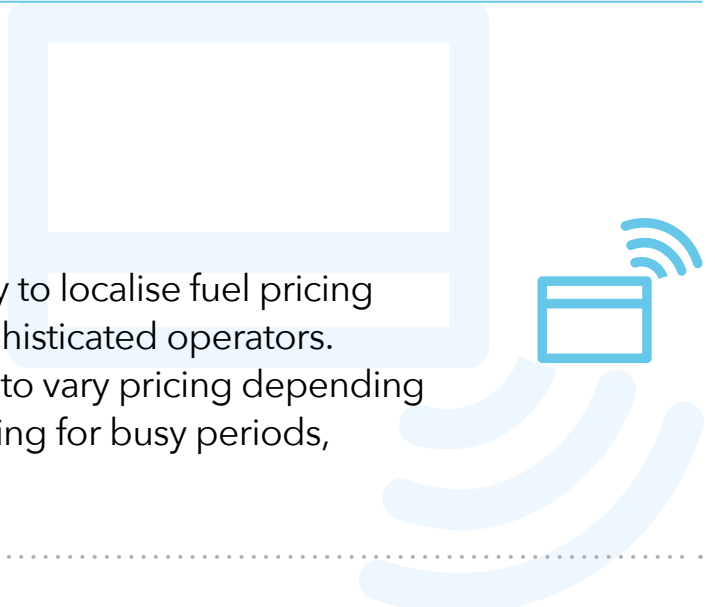
Longer consumer dwell times offer the opportunity to develop new retail propositions. These should be tailored to the forecourts' locations, as consumers on highways will have different needs and expectations to those who are charging in urban areas. For example, forecourts could add value for consumers (and increase revenue) with a range of services appropriate to each site's location such as click and collect, enhanced shopping experiences and ultra fast valet services.



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### 3 Optimise pricing


As is the case now, there will be opportunity to localise fuel pricing in order to outperform smaller and less sophisticated operators. With EV charging, there's also the potential to vary pricing depending on the time of day, for example, differentiating for busy periods, and thus creating additional margin.



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### 4 Look again at the network


Now is the time for forecourt businesses to rethink their service station offering - the balance between urban and highway forecourts for example, and the range of services available depending on site, usage and geography - and for investors to consider tailored investment (and divestment) decisions across their network. What makes a forecourt location attractive will change in an EV charging environment, and operators will need to recalibrate as a result.



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### 5 Reimagine the services on offer

Given the often prime positioning of forecourts, there's an opportunity to diversify the usage of their sites - for example, those situated in central urban areas could host dark kitchens for delivery services, creating an additional revenue stream for the owners of the site.



With clever reimagining and sound investment, the forecourt will not only remain a fixture of our future urban landscapes, but has the potential to offer plenty more for investors and consumers alike.

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