

The Consumer Experience of Charging Electric Vehicles

RESTRICTED



RingGo's Response to Minister Rachel Maclean MP's invitation for feedback and comment on the consumer experience of charging electric vehicles

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Our credentials in responding

RingGo is part of the BMW/Daimler global NOW mobility group, which offers parking and charging solutions via our PARK NOW and CHARGE NOW companies worldwide, both across Europe and worldwide.

Locally, RingGo is the most widespread and adopted phone parking solution in the UK, provided in over 450 towns and cities, by 140 local authorities: more than double the next nearest provider. Almost two thirds of London Councils offer the service, including the UK's largest (in terms of parking revenue) – Westminster City Council.

Elsewhere, RingGo is provided in most major cities across the UK, including Birmingham, Bristol, Edinburgh, Glasgow, Leeds, Manchester, Nottingham, Oxford, Plymouth, Reading and Portsmouth as well as many Borough, District and County Councils around the country. A number of private and rail operators across the country also utilise RingGo including C2C, Chiltern Railways, East Coast Mainline, Northern Railways, ScotRail and South-Western Railways.

Our experience of taking over 90 million parking payments per annum, in the UK alone, places us in an unrivalled position to comment on the best ways of merging parking and electric vehicle charging payments.

RingGo's innovative parking and payment solutions address multiple issues including sustainability, air quality, congestion, revenue and resources. Our portfolio includes services, such as our award winning Emissions Based Parking (EBP) and Electric Vehicle Charging, which drive the uptake of EV usage, as well as offering multiple payment channels, from standard phone parking, through RingGo Retail (PayPoint), Kiosk, Barrier / ANPR integration, RingGo Corporate and Corporate Journal Entry.

Finally, through our international NOW Group, we have operated one of the first and most successful multi-vendor parking platforms for over 20 years in the Netherlands, and in May 2019, successfully replicated this model in Paris. We manage the onboarding of each new vendor for the Netherlands and in Paris, we combine data from each of the three phone parking vendors, parking machines, permits and enforcement data in order to optimise traffic flows. We also provide powerful business intelligence, including utilisation information which helps reduce emissions during high pollution days via dynamic pricing.

Reducing barriers to preventing progress in EV charging

Through our own research and in tandem with our sister company, CHARGE NOW, we understand the needs and drivers behind electric vehicle usage, and the anxieties that lie behind the reluctance of many motorists to make the shift from petrol and diesel vehicles to EVs.

From our work supplying RingGo's Emissions Based Parking (which regulates and impacts the usage of particular vehicle types across several London Councils), we also understand that repetitive messaging impacts behaviour and therefore acts to support the local imperatives of improving air quality, the health of local residents, and employees to the area.

From our partnership with Go Ultra Low, we also fully understand the importance of normalising the experience of owning and charging an EV and through Emissions Based Charging and showing all EV charging points on the National Chargepoint Register on our apps, we are already driving and changing usage, so that buying and utilising an electric vehicle becomes the norm.

Our aim is to constantly highlight to Local Authorities, their residents, and visiting motorists that better options exist.

Steps towards improving customer experience when using the public electric vehicle charging network

Choice over payment methods

Our experience of offering mobile phone parking over the last 16 years, has led us to believe that motorists, primarily, want **choice** over the method of payment they use.

The suggested recommendation of providing a single channel of payment (just credit/debit card) therefore seems a retrograde step.

Moreover, with many charging stations not currently equipped with credit/debit card processing facilities, we would be concerned that plans to make this mandatory to improve consumer access would be a regressive step, adding significant capital expenditure burdens to charge point owners to retro-fit their charge points with these capabilities.

We would liken this to the advent of credit/debit card payments on Pay and Display parking machines in the UK, where the status quo has been cash-only payments since inception. Parking equipment owners, such as local authorities and other public bodies are faced with calls to 'improve accessibility' by providing hardware solutions for credit/debit card processing facilities, when what motorists *really* want is simply the ability to pay quickly and effectively without cash.

Most local authorities are now turning their back on expensive upgrade projects to bring card processing facilities to their P&D machine fleet, with many more choosing phone parking as the credit/debit card method, allowing them more freedom to realise cost savings by rationalising their hardware as cash usage continues to decline.

In terms of costs, we believe the cost of adding credit/debit card facilities to existing hardware is likely to be in the region of £1,500 per charge point, basing this on known costs for upgrading P&D machines that currently accept no form of card payment.

Retrospectively mandating these payment methods to be supported by EV charging hardware would add a significant unforeseen cost burden on EV charge point owners and manufacturers, with the ultimate costs likely to be passed onto the motorist in the form of a higher price per kw hour for electricity.

In addition, the nature of EV charging means it is normally a pay-as-you-go transaction where the motorist doesn't even know how long they need or want to stay at the point of sale. Such payments would therefore require a card pre-authorisation of the maximum stay/cost to the customer's account at the point of sale, with any un-used charges then credited back to the customer's account in 3-5 days. This is both confusing and unsettling to motorists who may notice the full amount paid from their credit card, believe they have been fraudulently charged and then wish to contact the EV chargepoint supplier to query the payment. In all likelihood, the majority of these calls will end up going to the car park supplier (eg the local authority), and adding to their burden on customer care. Such issues are avoided with the app-based or in-car transactions we see across the parking sector today.

In addition, use of app-based (car or smartphone) payments also enables access to discount and reward schemes, utilising account credit or stored transferable values that may have been accrued via other activities or 3rd party transactions. These would operate in a similar way to Nectar points, or localised schemes supporting the high-street. Most supermarkets promote 'spend £60 and get 5p a litre off your fuel'; which could become 'spend £50 on your local high street and receive 50% discount on your EV charge', for example. This type of scheme would be extremely difficult to manage via hardware dependent credit/debit card payments.

We would also like to highlight that whilst RingGo payments have been possible via credit and debit card since 2004, the introduction of our app payments in 2010 provided a step change in usage, which has increased ever since. We have followed every part of this evolution, from payment card to app, so know how revolutionary this process has been.

Over the last decade app usage has grown steadily and inexorably to the point where 70 per cent of RingGo payments are now made by this method.

Consumers like app payments for a number of reasons:

- Once card details are stored, there is no need to present or use a card each time you pay – you only need to enter the three digit security code – an easily memorable number – in order to make payment.
- Apps can be opened, quickly, easily and safely, on smartphones in seconds, with a tap of a button and a thumb or fingerprint. Research shows¹ that many younger people are now much more likely to fear leaving their phone at home than their wallet.
- Payments can also be made quickly and easily from the safety of your vehicle, rather than having to physically present a card and/or enter details each time at the machine.
- Given that a large percentage of EV charging is done overnight, and potentially on-street or in a local open or multi-storey car park, more vulnerable motorists (eg females; motorists with disabilities) are likely to feel unsafe having to present a physical card at a machine, late at night, especially when the process of card authorisation is far from quick. Our experience is that payments at remote terminals (eg contactless pay and display machines; fuel stations) can take up to a minute to be processed and authorised.
- The customer journey to EV charging is most likely to begin either in the vehicle via a smart phone (app) or the vehicle dashboard, with a search for an available charge point at a known cost per kwh. Requiring a customer to exit their vehicle to complete a cardholder present credit/debit card transaction breaks this holistic user journey.

Increasing availability of EV charging availability via peer to peer offerings

One other reason for not mandating how payments are made is that we foresee, in the very near future, a time when the reliability and resilience of the EV charging network is enhanced by opening up charging points via the P2P market. With the existing Workplace Charging Scheme and future plans to require all new-build homes to offer an EV charge point for each property – opening these charge points to the market, as has already taken place for parking, could play a key role in increasing network reliability and mitigating 'range anxiety'. This type of offering is likely to be facilitated via apps without any ability to take direct card payments.

<https://www.gov.uk/government/news/electric-car-chargepoints-to-be-installed-in-all-future-homes-in-world-first>

Integrating parking and charging payments for simplicity and ease of use

Enabling payments by app also eases the process of integrating different parts of the payment process. At the moment, making payments for EV charging is completely separate from making a similar payment for parking. This seems counterintuitive for a number of reasons.

- As highlighted above, motorists would far rather have a simple, integrated process which involves a single payment for both parking and charging.
- They would also far rather know, in advance, whether or not a charging space is available. Through our space availability algorithm and recent purchase of Parkling (an incubator set up to improve on-street mobility by providing parking prediction and availability information), RingGo recognises the importance of being able to find spaces quickly and easily, either in advance of a journey, or shortly before the point of parking. Combining the functionality to identify both an empty space for parking and for charging would seem intuitive, and lessen concerns about range anxiety.

¹ <https://www.forbes.com/sites/shephyken/2017/11/05/the-phone-is-the-new-millennial-wallet/>

Integrating payments for parking with charging to better utilise facilities

One major issue which local authorities and private parking operators struggle with currently, is how to ensure that EV charging point usage is optimised. With priority spaces close to the entrance of buildings, EV charging spaces are frequently abused, either by motorists with no requirement to use the facility; or by EV users who park up and leave their vehicle in the same spot for hours, blocking its use by other motorists.

In our opinion, such issues have to be addressed through better parking management, payment and enforcement structures.

Linking together the payment for parking and charging offers a simple means by which these “over-stays” can be minimised, particularly in peak demand spaces. The tariffs for parking can be regulated so that a standard EV charging period (say an hour) can be provided at a reasonable tariff, whereas anyone remaining in that space for several hours would pay significantly more. In this way, maximum utilisation of EV charging spaces can be encouraged. With a solution like RingGo and identifying the fuel type through the vehicle registration, there is also the potential to charge far more for non-electric vehicles and indeed simultaneously highlight to the owner that they should not be using this space.

Integrating payments for parking with charging also allows for dynamic pricing of tariffs to match customer demand, thereby helping local authorities and private operators realise the full value of their parking facilities and again encourage better behaviours in terms of utilisation. Councils could potentially set parking/charging prices higher at peak times, and reduce them at times of low demand. Alternatively, reduced fees during periods of low demand might incentivise customers to make use of empty or less utilised parking and charging spaces.

RingGo already has significant experience with demand based pricing via emissions and is therefore easily able to identify the fuel type of every vehicle that parks via the service.

Demand based pricing is likely to be controlled via the rate/tariff engine of the charge point platform, or aggregating service provider and could potentially be deployed based on a number of criteria:

- Cost price of electricity - most domestic suppliers already provide ‘off-peak’ tariffs aimed at owners of EVs, giving them a cheaper price per kwh overnight
- Charge point demand
- Idle Fees – used by the likes of Tesla’s supercharging network to surcharge customers who over-stay after they have reached 100% battery charge. This fee increases by 100% when all charging stations are occupied, as this means no other vehicles can charge at that location.

https://www.tesla.com/en_GB/support/supercharging

Finally, to note that in Paris, we already offer the ability to alter pricing on high pollution days. This type of variable tariff could easily transfer into the EV charging market.

Combining processes and information feeds to provide a single, open source of data

From our research, and again our sister company CHARGE NOW (DCS), we know that one of the current **major** barriers to entry for new users, is the confusing variety of EV charging and payment services. Integrating all these different solutions into one clear, “multivendor, find and pay” service (via an app), would seem to offer major advances building and developing this fledgling market.

With a centralised data deposit, intelligence, such as whether or not a charging point is operating currently, can be massively improved. The lack of such information is another significant source of frustration for EV drivers currently, as well as those supplying the service.

Developing and providing highly tailored, business intelligence dashboards for Operators is also considerably easier with a single source of combined data. These “at a glance” real-time representations of charging facilities in operation, provide

quick and easy monitoring, better and more efficient decision-making, and the ability to take more rapid action, when required.

With our experience of having built and delivered multivendor hubs, we know that developing such a central deposit of information - combining usage, utilisation and operational data, together with the associated BI reports required - can be challenging, but the benefits, particularly in terms of better operator understanding and provision of service to motorists, are enormous.

With suitably safe and secure onward provision of open source data, the opportunities for further integrating and extending use of this intelligence into other technologies and traffic management systems, are also maximised. So for instance, data could be provided to OEMs for integration within vehicle dashboards and offered through intelligent in-car solutions, such as Amazon's Echo Auto, as has been achieved with RingGo over recent months.

Additional points

RingGo engages regularly with our 140 local authority customers who are supported by our 8 dedicated Account Managers. We hear regularly about the challenges faced by local authorities, due to a lack of knowledge/expertise on the subject of, as well as lack of clear internal ownership, on the delivery of stated EV charging policies. Responsibility can vary widely from a parking function, to highways or environment, streets & markets or public realm.

We would strongly support any scheme aimed at reducing red tape and improving access to knowledge, expertise and the required funding for local authorities. We believe this would significantly enhance the rapid provision of charging points and through this the adoption of electric vehicles. The existing blueprint for a portal exists via the Workplace Charging Scheme which offers employers guidance and funding in support of EV charging infrastructure investment.

<https://www.gov.uk/government/publications/workplace-charging-scheme-grant-claim-form-for-installing-charging-equipment>

Finally, RingGo also works with several TOCs operating rail routes serving London and other parts of the UK, and one of the key issues they face is electricity grid infrastructure constraints relating to the historic nature of rail station construction. Rail commuters are likely to benefit significantly from the provision of EV chargers across the UK rail station network, with all-day parking common-place during weekdays, but we gather that in many instances, the supply of electricity to rail car parks is insufficient even for current requirements.

We are extremely grateful to the BPA for enabling us to express these views on EV charging to the Parliamentary Under Secretary of State for Transport and trust these comments are helpful.

Peter O'Driscoll
Managing Director for RingGo
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