

# Innovation in the tariff market

Discussion paper on how new tariffs can work better for people

**citizens  
advice**



# Introduction

Recent years have seen the introduction, and growth, of new and innovative tariffs in the electricity market, including tariffs designed for specific technologies like electric vehicles (EVs) or with smart-enabled time-of-use (TOU) pricing. In general, these tariffs make it cheaper for people to use electricity when there is less demand on the grid, or when the availability of renewable generation is high. Some smart-enabled tariffs also give people the opportunity to sell electricity back to the grid during periods of peak demand.

Alongside smart-enabled tariffs, there has been a recent increase in bundled products and services. This includes tariffs that offer the installation of an EV charger or a smart thermostat, or services such as EV free miles, where consumers are offered a number of miles as credit on their account or to use at public chargers.

Innovative energy tariffs and bundled options offer numerous potential benefits for consumers like lower prices, options that are tailored to their needs, or offers that simplify their experience. However, these offers also present new challenges.

People may find it difficult to compare these options and it could prove to be overwhelming. This could result in people choosing tariffs that are not suitable for their needs.

Public support will be essential as we transition to net zero<sup>1</sup> and new tariff models are just one area where people will be expected to interact with energy in new ways. Much of our recent research has explored these changes, and their impact on consumers.

Alongside smart TOU tariffs, we expect to see the growth of other forms of domestic demand-side response (DSR), which will allow consumers to be 'flexible' with how and when they use energy. These products and services can offer consumer benefits, but there are also risks that the government will need to understand and anticipate.<sup>2</sup> In many cases consumers will be expected to buy and install new smart appliances in their home, so it will be critical that we understand how we can help them to make informed choices about these products.<sup>3</sup>

Access to data on how and when people use energy will be critical to enable new products and models. It is essential that people have control over how and why their data is being used, as well as who can see it.<sup>4</sup> A data dashboard could increase consumer confidence when engaging with services derived from their data, and would also increase accountability for companies offering such services.<sup>5</sup>

Our vision at Citizens Advice is of a future energy market that is inclusive by design and recognises the essential nature of energy supply. The future energy market should facilitate and encourage innovation, be accessible by all and treat everybody fairly, regardless of their circumstances.<sup>6</sup> This means that everybody who wants to should be able to engage with smart-enabled tariffs, and be provided with the tools to support them in making the right decisions for them. In this report, we look at how the market is changing and what this innovation means.

# Our approach

## Our analysis took a 3-stage approach



### Tariff analysis

Our quantitative analysis is based on desk research by Citizens Advice.<sup>7</sup> We looked at energy supplier websites as the main source of information about the tariffs we analysed.

We gathered tariff quotes from all known supplier websites, between 11th and 14th December 2020. We searched for any EV or smart-enabled tariffs on these sites. We then cross-checked this against tariffs on comparison sites.<sup>8</sup> We excluded trial tariffs from the analysis.

The suppliers and their tariffs have been anonymised and the letters A-T represent individual tariffs. The tariffs keep the same letter throughout the report.

The appendices at the end of the report provide more detail on our analysis and calculations.



### Analysis of consumer cases

Citizens Advice regularly tracks and analyses contacts to our consumer service related to EV and smart-enabled tariffs, to gain insight into the kinds of problems people are experiencing. We also use Twitter to track the experiences of consumers, using a natural language processing programme called Method52.<sup>9</sup> Finally, we also looked at the experience of consumers on online EV-related forums.



### Interviews with stakeholders

We conducted 10 semi-structured interviews with a range of stakeholders, including academics, civil servants, third party intermediaries, and trade associations. Interviews lasted between 45-60 minutes, and covered a range of topics. The aim of the research was to seek input from a range of stakeholders, to better understand the implications of new innovative tariffs and services for consumer protections.

The interviews were wide ranging, and covered EV's, smart-enabled, and bundled tariffs. We also discussed third party intermediaries, such as bill splitters and comparison websites, in relation to future tariff models.

# The consumer journey is complicated

There are many potential benefits to new tariffs, however comparing them can sometimes be a complicated and daunting task. When deciding on an EV tariff, people need to consider choices based on their circumstances and preferences.

This includes whether or not the consumer is able or willing to have a smart meter installed, whether they have an EV and what type, and whether they have other technologies installed in their home (such as solar PV or heat pumps).

Bundled tariffs can give people additional benefits, but can also make it more difficult to compare. In order to choose the right tariff for them, people also need to have a realistic understanding of whether they are able to shift their energy usage (i.e. use energy when it's cheapest) and to what extent.

Many of the larger price comparison sites do not allow consumers to compare EV tariffs. Some smaller price comparison sites do, but it is not always clear how they get their data or what assumptions are made within the comparison.

Many price comparison websites do not provide a full market view, and don't show all of the tariff options available to consumers.



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· **Kavita buys an EV but is unsure**  
· **whether to change her tariff to an EV**  
· **specific one. She also has solar PV**  
· **installed at home. On an online forum**  
· **other members agree that it's**  
· **confusing: one member suggests that**  
· **she uses a spreadsheet to make**  
· **comparisons. Somebody suggests that**  
· **Kavita may be better off exporting her**  
· **surplus PV usage, rather than**  
· **diverting it to her car.**

EV forum post

## Key terms

### Smart-enabled tariffs

New and innovative tariffs enabled by the use of a smart meter, such as dynamic and static TOU rates. This does not include tariffs which are labelled as "smart" but do not have features enabled by a smart meter.

### EV tariff

A tariff which requires or is designed for an electric vehicle.

### Bundled tariff

Tariffs which offer added perks. This can be a bundled product or service, or a collection of services, such as 'free miles'. It does not include tariffs with vouchers or donations made to charities.

As well as having the right tools to compare new tariffs, it's important to consider some of the other assurances people might need to feel confident when choosing an EV or smart-enabled tariff.

Costly exit fees could put people off trying a new tariff, as they could face a high charge if they make the wrong choice. Similarly, choosing products bundled with certain technologies could leave consumers 'locked-in' to a tariff that might not suit them - particularly if their circumstances change.

A clear complaints handling process, alongside access to good quality and independent advice and redress could help give people the confidence to engage in these new markets.



**Ibrahim switched his account online to a new tariff, not realising that the tariff was for EVs. He does not have an EV and was being charged a more expensive rate, so decided to switch away. He's now received an expensive final bill, which he feels he shouldn't have to pay as it was not clear that it was an EV tariff.**

Call to consumer service



**Pete signed up with a supplier after specifically requesting a tariff that would be suitable for an EV. However, the supplier has placed him on the wrong tariff, and is now demanding more than £600 which they claim he owes them.**

Call to consumer service



**Sam used Twitter to try and get in touch with her supplier. She had switched to an EV tariff which included off-peak hours 4 months ago and had been setting her car to charge during those hours. However, her latest bill was really expensive and states that she has not been using any power overnight. She thinks there may be a problem with her smart meter.**

Twitter comment

# The consumer journey

## 1 Choosing a smart or EV tariff

### Options for comparing tariffs

- Comparison sites - but many popular comparison websites don't compare EV and smart-enabled tariffs, or compare all other tariffs on the market
- Supplier websites

### Difficulties and considerations when choosing the right tariff

- Choosing between one rate or 2+ rate tariffs.
- Bundling options - Home tech installation, EV free miles, EV charger installations, public charging discounts
- Time length of the contract
- Exit fees
- Can the consumer have a smart meter installed?
- Does the tariff include an exit fee? What is the length of the cooling off period?

### EV specific difficulties and considerations

- What type of EV do they have or do they intend to purchase one?
- Does the consumer have other energy-related products installed: solar panels, battery etc.

## 2 Using a smart or EV tariff

### Difficulties and considerations:

- Assessing suitability of tariff: regularity and accuracy of bills
- Potentially complex complaints handling process.
- Changing circumstances
- Unsuitable equipment

## 3 Access to advice and redress

### Difficulties and considerations

- Access to quality advice on EV and smart-enabled tariffs
- Potential for a complex advice and redress journey, particularly involving bundled products/services and multiple parties

# Analysing what's on offer for EV and smart-enabled tariffs

Our analysis identified 12 distinct domestic EV tariffs publicly available across the market, as of 14th December 2020.<sup>10</sup> This was an increase from 2 in August 2017 and 10 in September 2018.<sup>11</sup> We also identified 7 other smart-enabled tariffs.

## EV tariffs

Of the EV tariffs we looked at, where we could find contract length information, most were 12 months whereas one was 24 months. 4 of the 12 tariffs we analysed had exit fees. All of the tariffs we looked at which had an exit fee charged £30 per fuel, meaning it would be a charge of £60 for a dual fuel contract.

7 tariffs included some form of bundling in their offer. This included EV charger installation, EV “free miles” and reduced costs at certain public charge points. While bundled tariffs can be useful to consumers, it can also make it more complicated to compare tariffs. This is particularly the case where the methodologies for calculating bundle value varies from supplier to supplier. In the next section we look at this comparison problem in the case of EV “free miles”.

## Other smart-enabled tariffs

Alongside EV tariffs, we also identified 7 other smart-enabled tariffs, with a range of features. These included 2 dynamic TOU tariffs, which change daily or half-hourly, according to wholesale prices. Another TOU tariff offered 3 separate rates throughout the day, and separate rates on the weekend.

4 of the tariffs were designed to be used with specific technologies, including batteries, solar panels, and ground source heat pumps. 3 of these tariffs were bundled with the products as part of the tariff.

All but one of the tariffs was available in all UK regions. 6 of the tariffs did not have exit fees, while for 1 tariff we were unable to find this information. All of the tariffs were only available for payment by direct debit.



12

EV tariffs available up from 2 in 2017



7/12

EV tariffs included bundling



£60

Most common fee for tariffs with an exit fee

## EV free miles

6 of the EV tariffs we looked at offered “free miles” as part of the deal, which are paid as credits on the consumer’s account. The number of these free miles (where stated) varied between 850 and 8,000, while the value of the free miles varied between £30 and £200.

None of the EV tariffs we looked at were available to customers who are on a prepayment meter, and 2 tariffs were only available to consumers who owned a particular brand or model of EV.

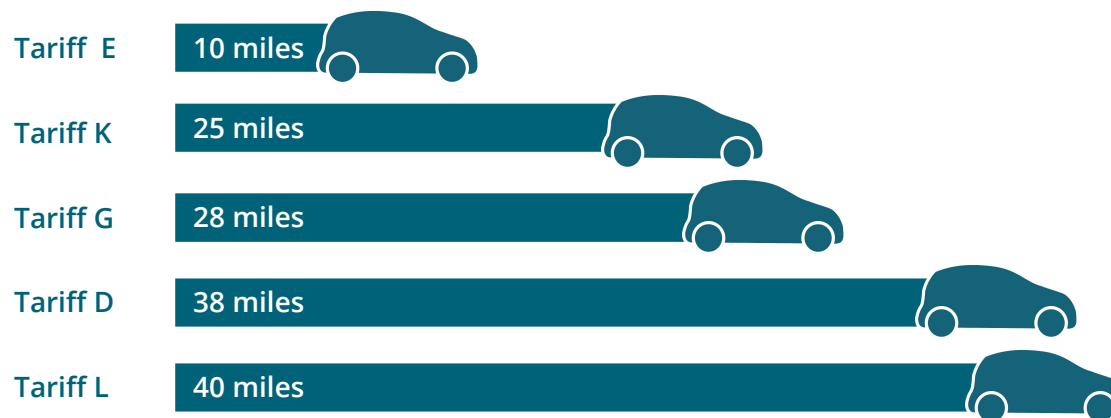
Some tariffs were dependent on consumers charging their cars during off peak hours. Most free miles were credited to the consumers account in regular intervals, although for 2 tariffs they were credited in one payment.

Each supplier used a different methodology to calculate the amount and value of their free miles. This depended on:

- the car model that was used to calculate the number of miles per kWh
- the efficiency assumptions that were made about that car
- the value per kWh.

## Some suppliers value their free miles more generously

Miles per £ assumptions in different free miles offers



Suppliers also differed in terms of the amount of information they provided, and how easily accessible the information was on their website. One supplier did not provide any details of the type of car they used in their calculation.

Free EV miles are a good example of the complexity that people can face when trying to choose an EV tariff. In some cases it is unclear what assumptions suppliers are making about how a consumer will charge or use their EV when they make these calculations. This could increase the chances of people making the wrong decision.

Generally, people are not used to thinking in terms of per kWh when it comes to fueling their car. EV miles may be a useful way of explaining this new market to consumers. However, if the information used to calculate these savings is inconsistent, unclear or unavailable, there is a risk that people will make the wrong decision.



## Load-shifting

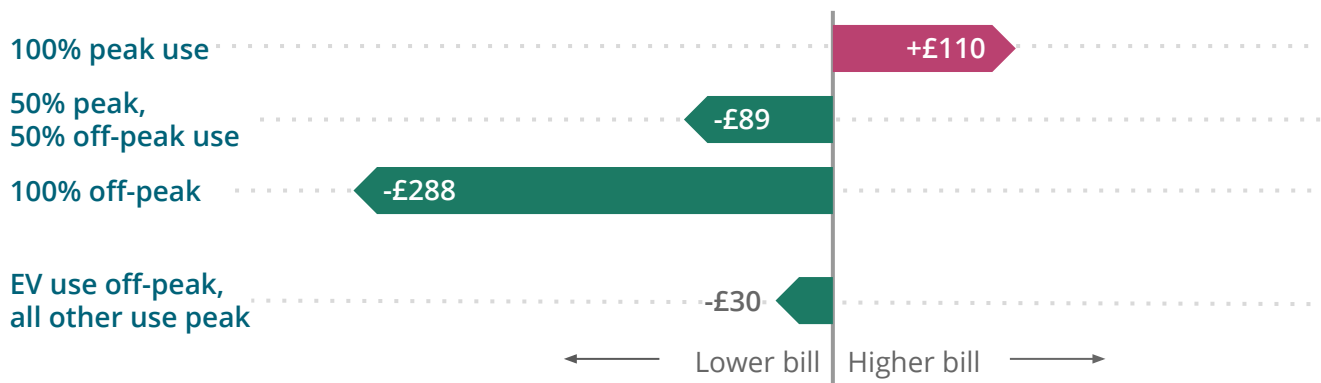
7 of the EV tariffs we analysed included periods of time when electricity is cheaper. All of these were 2-rate tariffs with an off-peak rate. The aim is to incentivise consumers to use energy at off-peak times, when there is less demand on the grid or there is excess renewable power available and use of the energy system is cheaper. Many of these tariffs have estimated savings, which are based on a consumer's ability to use more electricity when it's cheaper. However, not all people will have the same ability to do this.

We looked at one example tariff in order to understand how a consumer's ability to load-shift would affect their household bill. Tariff G is a 2-rate tariff with off-peak and peak electricity hours. Consumers are charged a lower rate if they use electricity during off peak hours.

A consumer's ability to shift their load to off-peak hours could significantly affect their annual bill. For example, a person with an electricity usage of 4,400 kWh could save £397.61 if they only used their electricity during off-peak hours, in comparison to only using their electricity during peak hours.

## Consumers can benefit from EV tariffs, but only if they shift their electricity use

Change in bills with a supplier's EV tariff compared to their standard variable tariff, under different use patterns



It is unlikely that somebody would be able to completely change their energy usage to off-peak hours. However, it might be possible to shift a large proportion of time when an EV is charging to off-peak hours, particularly for consumers using a smart charger. If an average consumer on Tariff G shifted their EV usage from peak to off-peak hours, they could save £139.65 a year.

The chart above looks at how a consumer's bill would differ on Tariff G, compared to the suppliers' standard variable tariff (SVT). This looks at 3 different usage patterns:

- All use at peak times
- Half of use at peak, half at off peak
- All use off peak

We also looked at a fourth scenario where:

- all EV charging is off-peak, but all other use remains at peak times.

An ability to switch consumption to off-peak hours will have a significant impact on a person's overall bill.

It is expected that a consumer's ability to change the times when they use most energy will lead to a cheaper bill. However, these differences underscore the importance of consumers having clear information about an EV tariff, to ensure that they are making the correct choice. They should also be able to exit the tariff easily if their circumstances change.

## Consumer protection implications and recommendations

We conducted a series of interviews with a range of stakeholders, including academics, civil servants, smart energy companies and trade associations. The aim of these interviews was to better understand the implications of new innovative tariffs and services for consumer protections, and to explore what measures could be put in place to protect consumers. In the first part of the interviews we discussed how consumers make informed choices around future tariff models. We discussed the pros and cons of two specific interventions:

- A standard methodology for outcomes such as offering EV “free miles”
- A standard methodology for comparing EV and smart-enabled tariffs

The interviews discussed specific areas of consumer protection, including how people might cancel an inappropriate tariff and complaints handling requirements. We also discussed the potential impacts and risks associated with innovative tariffs and services, for vulnerable and microbusiness consumers as well as asking specific questions on implications for export contracts and smart-enabled/EV tariffs.

### We discussed:

- **A standardised methodology for outcomes, like EV miles**
- **A standardised methodology for price comparison websites for EV and smart tariffs**
- **Exiting inappropriate tariffs**
- **Complaints handling standards**
- **Microbusinesses**
- **Consumers in vulnerable circumstances**
- **Smart export**

## **A standardised methodology for outcomes, like EV miles**

There was broad support for the idea of some form of standardised methodology for calculating EV miles. Stakeholders pointed to the importance of providing transparency for consumers, and making it easier for them to compare between deals.

At the same time, some interviewees expressed concerns that there could be adverse consequences depending on the type of standardisation that is adopted. Three stakeholders felt that a methodology that was too prescriptive and could become out of date if technologies change, which could inhibit innovation.

In terms of the actual calculation of EV “free miles”, interviewees pointed to a number of issues which were important to consider. Multiple interviewees pointed to the importance of striking a balance between methodologies which were accurate, and that were clear enough for consumers to understand. Others pointed to the importance of allowing some variation between calculations, to account for the differences in consumer circumstances.

One solution that was suggested, was to have a set of information that needed to be described in the methodology, rather than a defined methodology itself.

2 stakeholders pointed to the importance of claims on mileage per kWh being based on real-life averages, as opposed to outliers based on specific conditions. One felt that agreeing on a per kWh rate for free miles could be a starting point.

Interviewees disagreed on how to achieve a standardised approach. Some thought regulation would be appropriate, and also on the need for immediate intervention. Interviewees preferred some form of principles-based regulation, with some proposing the creation of a voluntary scheme to encourage best practice. One stakeholder felt it was too early to implement a standardised methodology, and that there should be clear evidence of harm before an intervention of this kind.

## **A standardised methodology for price comparison websites for EV and smart-enabled tariffs**

On the whole, interviewees raised more concerns about the idea of a standardised methodology for EV and smart-enabled tariffs for consumer comparison websites, than they did about standardising outcomes like EV miles. Some interviewees pointed to the range of consumer variables involved in calculating smart-enabled tariffs, which would make it difficult to compare across tariffs. Some interviewees were concerned that settling on a standardised methodology too early could prevent improved models being developed.

Several stakeholders told us that they would like to see comparison sites moving away from broad estimates and towards calculating tailored deals. Many agreed that access to the right data was key to allow this to happen. Several interviewees pointed to the importance of having access to accurate consumer data to make accurate comparisons. One stakeholder said that learnings from supplier data could be used to improve calculations, although another raised concerns around sharing data that could give others a commercial advantage.

One respondent raised concerns about using previous consumer usage data to calculate future savings, particularly as smart-enabled or EV tariffs might encourage consumers to shift their load.

In lieu of accurate data, one respondent suggested that there was an opportunity to standardise some of the assumptions that go into smart-enabled or EV tariff calculations based on consumer archetypes, similar to Ofgem's current TDCVs. One interviewee suggested that if comparison sites displayed the range of potential savings, as opposed to the average, this could help consumers to make more informed choices.

While most stakeholders were sceptical about the idea of a prescribed standardised methodology, many were positive about the idea of a principles-based approach which was focused on transparency and agreed assumptions. One interviewee felt that comparison sites should openly publish their methodology, including any assumptions used to calculate savings. Another stated that while methodologies could differ, it was important that terms and certain assumptions were standardised across groups. One respondent felt that comparison sites should not have to publish their methodology.

## Exiting inappropriate tariffs

Interviewees raised several concerns about the potential for exit fees to lock consumers into unsuitable EV or smart-enabled tariffs.

Interviewees pointed to the greater complexity of smart-enabled or EV tariffs, which could mean that people could make a decision that was wrong for them. Many stakeholders felt that consumers should be able to leave/exit a tariff if it was costing them more than they were expecting. However, some respondents also pointed to the specific designs of certain smart-enabled or EV tariffs, which might cause problems if consumers were easily able to exit arrangements. One example of this is a tariff which might change based on seasonal heating habits. One interviewee stated that if consumers were unable to leave a tariff without an exit fee and join another supplier, they should at least be able to move to a different tariff with their current supplier.

Interviewees felt that exit fees were more appropriate when it came to bundled tariffs, for example tariffs which include the installation of a smart home EV charger. One interviewer noted that these types of bundled tariffs were essential to consumers being able to install certain products into their homes, especially where they could not afford the upfront costs.

It was noted that suppliers would need a certain level of confidence that the cost of these products would be paid back over time.

There was broad agreement between interviewees, that where exit fees are used by suppliers, they should be reasonable. Several stakeholders said that they should be reflective of the cost to the supplier, for example, the consumer should pay off the difference between the cost of a charger installation and the amount that has already been paid off. One interviewee pointed to the importance of clear explanations of logic where exit fees were introduced for bundled products.

Beyond exit fees, a couple of interviewees raised the problem of interoperability, for example concerns that a certain EV smart charger would not work if a consumer switched tariff. One respondent who raised this concern felt that regulatory interventions should be designed to oblige providers to build in interoperability. Another respondent stressed the importance of consumers having clarity over the implications of interoperability when they enter a contract.

## Complaints handling standards

In terms of complex complaint handling involving multiple parties, there was clear consensus that customers should have a single point of contact to help resolve those issues. However, there was not complete agreement on who that first point of contact should be. One respondent felt strongly that the regulated supplier should manage the complaints journey, while another felt that it should not be the responsibility of the supplier. Some interviewees felt that the responsibility should lie with the party that marketed the bundle product.

The interviews also considered where responsibility should lie if there are multiple Ombudsmen involved in a complaints case. Several interviewees expressed doubt that the existing alternative dispute resolution (ADR) service for energy consumers would be able to deal with complex cases of this kind.

## Consumers in vulnerable circumstances

There was no clear agreement between interviewees over what protections are needed for people in vulnerable circumstances when it comes to smart-enabled, EV or bundled tariffs. Some interviewees felt that greater flexibility to exit unsuitable contracts would be important, including longer cooling off periods. Others emphasized the importance of clear information about tariffs and implications. Some stakeholders emphasized the importance of ensuring that people in vulnerable circumstances are not excluded from future models, including considering the risks of digital exclusion. Others pushed back against the need for any specific protections for vulnerable consumers on smart-enabled tariffs, arguing that there were already protections in place.



## Smart export

People will increasingly own assets which are capable of generating or storing energy, which they can then sell back to the grid. However, the interaction between different tariff offers and export schemes can be difficult to understand, making it difficult for consumers to pick the right offer. Consumers may also find it difficult to engage with their new tariff offers.

We asked interviewees whether they felt that consumers would need more support with the interaction between export rates and smart-enabled/EV tariffs. Of the interviewees who answered this question, they felt that it was currently too complex to compare. One interviewee who worked for a comparison site said that they did not compare using export guarantees, as this would be too complicated. One respondent told us that the Smart Export Guarantee (SEG) would be helpful to deal with this problem, while another felt that it had made it more difficult.

## Microbusinesses

Many stakeholders noted the potential for smart-enabled tariffs with microbusinesses, who may be more engaged with their energy usage, and be able to loadshift more than domestic consumers.

There was overwhelming support for microbusinesses to have free access to their smart meter data, as well as tools to help them understand their data.



## Conclusion

Innovation in the electricity tariff market is being fueled by rapidly changing technology, the government's net zero target and increasing digitisation around the home more generally. We're seeing a shift towards more outcomes based offers, technology specific tariffs, bundling of products and services across markets and incentives to change when we use electricity.

While the bundling of services and products can cut across markets, people may not be protected for services that fall outside of the supply licence. In its recent Energy White Paper, the government recognised the need to enable innovation and competition, while also protecting consumers, and have committed to assessing whether the current supply licence framework strikes this balance effectively.<sup>12</sup>

However tariffs are designed, it's essential that they are accessible to all, and that everybody is treated fairly, regardless of their circumstances. We've explored different protection mechanisms in this discussion paper because bedding in the right information, support and protections early could really help give people the confidence to engage as this market changes.

In this paper we've highlighted some of the ways tariffs are changing. The government intends to publish a new Smart Systems Plan in Spring 2021.<sup>13</sup> We welcome the focus on consumer protection as this is developed, and are keen to ensure that careful consideration of tariff design is considered as part of this.

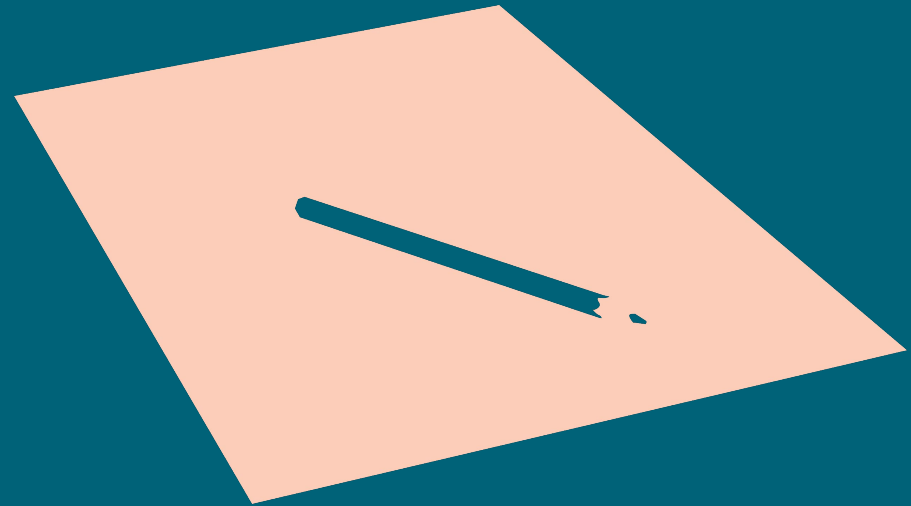
The focus must be on making the consumer experience clear, accessible and smooth, regardless of the growing complexity in the background. How we achieve this consistency is still up for discussion and this paper is the first step in exploring a number of different views. If you'd like to share your thoughts on any of the themes raised please email:

**[thomas.brookebullard@citizensadvice.org.uk](mailto:thomas.brookebullard@citizensadvice.org.uk)**



# Appendices

- A1** Key information on EV tariffs
- A2** Key information on smart-enabled tariffs
- B** Table showing variation in the way suppliers calculate free miles
- C** Notes on tariff analysis
- D** Notes on load-shifting analysis





## Appendix A1

### Key information on EV tariffs

Code	Bundled?	Contract length (months)	Exit fee	Payment options	Available in all regions?	EV required?	Off Peak hours	Total off-peak hours weekly
A	No	Not stated	None	Direct debit only	Yes	Yes	Single rate	Single rate
B	No	12	60	Direct debit only	Yes	No	00:00 to 05:00	35
C	No	12	60	Direct debit only	Yes	No	21:00 to 07:00 weekdays/ all day weekends	98
D	Yes	24	60	Direct debit only	Yes	Yes	00:00 and 07:00	49
E	Yes	Not stated	None	Direct debit or pay on receipt	Yes	Yes	NA	Single rate
F	Yes	Not stated	None	Direct debit only	Yes	Yes	Single rate	Single rate
G	Yes	12	60	Direct debit only	Yes	Yes	00:30 and 07:30	49
H	No	12	None	Direct debit only	Yes	Yes	00:30 and 04:30	28
I	No	12	None	Direct debit only	Yes	Yes	12:00am and 5:00	35
J	Yes	Not stated	None	Direct debit and pay on receipt	Yes	Yes	Single rate	Single rate
K	Yes	12	None	Direct debit and pay on receipt	Yes	Yes	Single rate	Single rate
L	Yes	12	None	Direct debit only	Yes	Yes	Single rate (with export)	Single rate
M	Yes	12	None	Direct debit or pay on receipt	Yes	Yes	00:00 - 07:00	49

## Appendix A2

### Key information on smart-enabled tariffs

Tariff reference	Bundled option	Contract length (months)	Exit fee	Payment options	Available in all regions?
N	Yes	12	No	Direct debit	Yes
O	Yes	Not stated	Not stated	Direct debit	Yes
P	Yes	12	No	Direct debit	No
Q	No	Not stated	No	Direct debit	Yes
R	No	12	No	Direct debit	Yes
S	No	Not stated	No	Direct debit	Yes
T	No	Not stated	No	Direct debit	Yes

## Appendix B

### Table showing variation in the way suppliers calculate free miles

Ref	Car model stated?	Number of free miles	Value of free miles	Payment schedule	KWh value	Unit rate information	Efficiency given	miles/kWh	Miles/pound assumption (£1 = x miles)	Pound/mile assumption (1 mile = x p)
D	Yes	5,000 <sup>14</sup>	£132	Monthly across a year	1,250	off-peak	Not stated	4.0	37.88	0.030
E	Not stated	2,000	£80	Monthly across a year	Not stated	Not stated	Not stated	Not possible to calculate	25	0.040
G	Yes	850	£30	1 payment (after 6 months)	Not stated	'UK national average unrestricted electricity unit rate of this tariff'	Not stated	4.425	28.3	0.035
K	Yes	1,200	Up to £120	Monthly across a year	Not stated	'Your current electricity rate'	0.30kWh/mile	Not stated	10	0.100
L	Yes	8,000	£200	1 payment (following sign-up)	Not stated	Not stated	0.30kWh/mile	Not stated	40	0.025
M	Yes	8,000	Not stated	Quarterly across a year	2000kWh	off-peak	Not stated	4.0	Not calculable	Not calculable

## Appendix C

### Notes on tariff analysis

We visited all known domestic supplier sites between 11th and 14th December 2020. We searched for any EV or smart-enabled tariffs.

Exclusive tariffs were not included in our analysis.

Some smart-enabled tariffs offer multi-rate and single-rate versions. These have been classed as a single tariff for the purposes of our analysis.

We have classified a tariff as an EV tariff if it is explicitly labelled as for EV drivers.

We have classified a tariff as “smart-enabled” if it depends on a smart meter to enable consumers to adjust how and when they use energy. This could be through TOU tariffs, or in conjunction with other smart energy products.

Tariffs labelled as “smart” that do not include any additional functionality have been excluded. Legacy TOU tariffs were also excluded.

Trial tariffs have been excluded from the analysis.

This still leaves an additional 360 kWh that the EV user would have to pay for from other charge points, a figure not included in the price calculations.

Usage = electricity total kWh X electricity per kWh rate) + (electricity standing charge X 365) + (gas total kWh X per kWh rate) + (gas standing charge X 365).

## Appendix D

### Notes on load-shifting analysis

The example is a dual fuel tariff, with a London postcode. According to Ofgem figures, the average household use 2,900 kwh if they are on a single rate meter tariff.

For the purpose of this report, we estimated the average electricity consumption of a household in Britain with an EV.

According to the National Travel Survey, the average mileage per car in the UK is 7,400 miles a year.<sup>15</sup>

The 2020 40kWh Nissan Leaf has an estimated real-world rate of 3.77 miles per kwh. <sup>16</sup>

If a typical vehicle covers the national average of 7,400 miles a year, the vehicle would use roughly 1,960 kWh (rounded down from 1,962).

Research shows people charge their cars at home 80% of the time (the rest at motorways, shopping centres, at work).<sup>17</sup> This means that 1570 kWh (rounded up from 1568) would be used to charge their EV at home.

This still leaves an additional 390 kWh that the EV user would have to pay for from other charge points, a figure not included in the price calculations.

Usage = (electricity total kWh X electricity per kWh rate) + (electricity standing charge X 365) + (gas total kWh X p/kWh rate) + (gas standing charge X 365).

# References

1. Citizens Advice (2020), **Zero Sum - How to prioritise consumer protections to ensure nobody is left behind on the path to net zero**
2. Citizens Advice, (2021), **Demanding attention - Managing risks with demand-side response, to improve consumer experience tomorrow**
3. Citizens Advice (2020), **Powering up or facing resistance? How people understand the benefits of smart appliances**
4. Citizens Advice (2020), **Clear and in control - Energy consumers' views on data sharing and smart devices**
5. Citizens Advice (2018), **Smart Metering Data Dashboard - Helping consumers see what their smart meter data is used for**
6. Citizens Advice (2020), **Setting out principles for a future energy market**
7. Full details on the methodology can be found in the appendices.
8. This included using tariffs collected by Comparison Tech, who manage the Citizens Advice **price comparison website**.
9. More information about method52 can be found **here**.
10. Trial tariffs were excluded in the analysis. There are a number of innovative trial tariffs that we expect to become widely available in 2021. This includes OVO's '**Drive Anytime**' "type of use tariff" and Octopus' "**Fan Club**" tariff.
11. Citizens Advice (2018), **Take charge - an analysis of the domestic electric vehicle tariff market**
12. BEIS (2020), **Energy White Paper - Powering our Net Zero Future**
13. BEIS (2020), **Energy White Paper - Powering our Net Zero Future**
14. 3,300 free miles for the single rate version of the tariff.
15. Latest available (2019) data:  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/729452/nts0901.ods](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/729452/nts0901.ods)
16. Based on real-world figures from EV database: <https://ev-database.uk/cheatsheet/energy-consumption-electric-car>
17. DfT (July 2019), **Electric Vehicle Charging in Residential and Non-Residential Buildings**

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Contributors: Tom Brooke Bullard, Jessica Collins, Rajni Nair, Pete Broad  
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