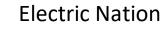


NEXT GENERATION NETWORKS

Communication and Engagement Report January 2019

Electric Nation







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Glossary

Abbreviation	Term
EV	Electric vehicle
EN	Electric Nation
WPD	Western Power Distribution
CRM	Customer Relationship Management
GDPR	General Data Protection Regulation
EOI	Expression of Interest
PIVDCS	Plug in vehicle demand management service



1 Introduction

This report details all participant communication and engagement updates for the Electric Nation project from November 2018 to January 2019. DriveElectric handles all customerfacing activity for the project. This includes: recruiting, qualifying, processing, and supporting the participants once the charger has been installed in relation to comms and hardware fault resolution. Furthermore, DriveElectric is responsible for communicating end-of-project information to all participants with this being the focus during this quarter due to the project completion on the 31st December 2018.

DriveElectric completed installations on the project during July 2018, the final installation figures and split between vehicle type and charger type is shown below:

	Final figures for Electric Nation recruitment/installation phase
Total responses	3156
Total EOI Sent	1268
Total EOI Received	955
Total Surveys sent	946
Total Approved	673
Total Installed	673
WPD Participants	14

Figure 1 – Final figures for the Electric Nation project recruitment/installation phase.

Row Labels	Crowd Charge	Greenflux	Grand Total
Electric only (BEV)	157	158	315
Plug-in Hybrid Electric Vehicle			
(PHEV)	135	138	273
Range extender (REX)	36	49	85
Grand Total	328	345	673

Figure 2 – Split of installed participants over the two systems, Crowd Charge and Greenflux and breakdown of vehicle type.

2 Customer Engagement

2.1 Overview of Customer Engagement

This quarter DriveElectric's main communication with participants was removing all chargers from demand management. Once this was completed, the support team decommissioned all chargers so that they operated as stand-alone chargers with the capability of charging at the vehicles' maximum charging rate, any time of day when plugged in.

To achieve this, a new 'project end' process was utilised and managed through the CRM database (Figure 3). Furthermore, project end information was distributed to all participants. This included charger warranty information, the new fault reporting process and general project end information. These communications with the participants are explained in more detail in this report.

2.2 Overview of Data Protection Strategy

DriveElectric continue to use Dropbox to store all participants' survey information, including photos, documents and participant agreements which were signed before the installation of their smart charger. DriveElectric enquired to ensure that Dropbox is compliant with the new GDPR regulations that came into force on the 25th May 2018; Dropbox was approved as GDPR compliant.

To protect participants' identity and sensitive information, all were assigned an 'ENXXXX' number when they passed the qualification process and moved onto their respective installer. This EN number is used when communicating or transferring data to project partners thus allowing the participants' sensitive information such as name, address and contact information to remain anonymous to all except for the partners who must have this information. DriveElectric, Impact Research and the installers are the only project partners who receive sensitive information. This participant information is stored on a secure database with DriveElectric; the installers and Impact Research data is stored and managed through Dropbox.

2.3 Overview of qualification

Throughout the project's recruitment and qualification stage DriveElectric has amended the process based on the participants' feedback and lessons learned. It has been key to the project's success that processes have been able to remain flexible and adaptable to changing circumstances. This has been vital in increasing the overall experience for the participant to ensure it is as fluid and efficient as possible. No amendments were made to the qualification process throughout November 2018 to January 2019 as all participants had already been qualified and their charge point installed.



3 Project End

3.1 Project end process

As the Electric Nation project was completed on the 31st December 2018, a new process was required to manage participants exit from the project. For the EN support team and DriveElectric to be able to manage this and give the ability to report progress to project partners, a new screen was added into the CRM database. This screen recorded information regarding status of removal from demand management, details of the status of their 'Project End agreement' and whether they opted-in to stay in contact with their PIVDCS supplier – Crowd Charge or Greenflux. This screen can be seen below in Figure 3.

PROJECT END PROCESS						
ORDER STAGE Project end status	STATUS	SENT	RECEIVED	Jiffy bag required		
PIVDCS EOI Extra research EOI	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	~				
Removed from DM	~					
End agreement	~	~		~		

Figure 3 – Project end process screen from DriveElectric's CRM database.

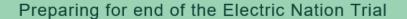
3.2 PIVDCS project end 'Expression of interest'

As part of the end of project process, a newsletter was sent to Greenflux and Crowd Charge participants asking if they would like 1) Electric Nation to pass their contact details to their respective PIVDCS supplier for them to offer demand management services in the future, if available and 2) to maintain communications with their charger. To be certain that the participant actively decided to 'Opt-in' and did not mistakenly sign up, a two-step 'Opt-in' process was utilised. Within the newsletter the participant had to first select the 'Opt-in' button which then processed them to a new screen where they had to enter an email address which they would like to be contacted on. Furthermore, participants were informed that they were able to unsubscribe at any point in the future.

Two expression of interest newsletters were utilised for all participants: one for Greenflux and one for Crowd Charge participants. Figure 4 below shows a snippet of the newsletter sent to Crowd Charge participants. Greenflux participants received an identical expression of interest newsletter to this.

The newsletter was sent to participants twice with approximately a 10-day gap between the first and second email. After enough time passed for the participants to 'Opt-in', the list containing their name, email address they submitted, and charger identification was passed to Crowd Charge and Greenflux.







Option to maintain communications with Crowd Charge and to be contacted regarding optional demand management services in the future

Crowd Charge (the company that provided smart charging services for your charger during the Electric Nation trial) would like to be able to offer you smart charging/demand management services in the future.

To be able to do this, they would like to maintain communications links with your charger (through broadband internet) - however smart charging will not be enabled until you agree otherwise, your charger will continue to charge your EV as and when you want to. While in this mode data collected about your charging transactions will be recorded and held by Crowd Charge, this data will not be shared with any third party without your consent.

Figure 4 – EOI to Crowd Charge participants. Greenflux's EOI was identical to this.

3.3 Demand management removal process

On the 18th December 2018, all participants were informed that their charger had had demand management services removed in preparation for the completion of the trial. This meant that, from this date, participants were able to charge their vehicles at their maximum charging capability (either 3.6kWh or 7kWh) from instantly plugging their vehicle in (or up to 15mins on the Greenflux system). This communication was emailed to all participants by DriveFlectric.

3.4 Charger decommissioning process

Once the participant had been removed from demand management the EN team had to decommission the APT chargers correctly so that they would be able to operate as a 'standalone' charger that would be free of any firmware faults. If the firmware is not updated to the correct version the charger's memory can get full thus 'bricking' the charging unit so that it is unable to charge.

APT chargers that are online were able to receive commands and subsequently be decommissioned successfully; however, any chargers that were offline/unable to confirm their firmware, the EN support team had to get in contact with the participant to ask them to re-instates their comms so the team could ensure the correct firmware was installed or to update the firmware. Participants' chargers that were offline were contacted by the support team via calls and email to request assistance in this matter. If after contact from the EN support team the charger cannot bring the communications online, the Tech Factory then schedule a site visit to manually reset the charger back to factory settings.

Participants that have not responded to the EN support team's correspondence to decommission their APT charger will be sent information on the cost that the Tech Factory will charge them in the future, once their charger faults and requires the teams' intervention. By this point DriveElectric, and the EN support team cannot be responsible for the participants' chargers' faults.

3.5 Charger fault reporting/managing process

As the Electric Nation project is complete, during January 2019 all participants were informed of the new process to report charger faults. Instead of the participants contacting the EN support team, they have been informed they must contact their installer directly who will record, manage and rectify the fault.

This communication was distributed via email to all participants and in the EN participant January 2019 Newsletter. This email contained contact details of their installer and their charger warranty document for their records.

3.7 Participant project end agreement

After DriveElectric established which participants had selected to remain in contact with their PIVDCS, or not, the EN support team was able to begin decommissioning the charge points and issuing the respective project end agreement. All participants are in the process of being sent a project end agreement – the variant of the project end agreement is dependent on the participant's comms history and decision to remain in contact with their PIVDCS, or not. Three variants of the end agreement have been created for both Crowd Charge and Greenflux with an example shown below in Figure 5. Participants were informed they must tick to indicate they have read the information points and sign it before returning in to the EN support team.

Unlike the participant agreement they received before their charge point was installed which they had to return before there charge point was installed, this end agreement has no incentive as the project is complete. Therefore, if participants do not return their agreement DriveElectric will not continue to chase.



By signing this agreement I confirm I understand and agree to the following:	Please tic	
1. I understand that the Electric Nation project end date is 31st December 2018		
I understand that I have not chosen to remain in contact with CrowdCharge regarding future smart charging services and that my charger and communication equipment will be disconnected from the CrowdCharge system.		
3. I understand that after the "project end date" the charger and communication kit becomes my property		
4. I understand that demand management will be removed from my charger on or before the "Project End date" - thus allowing charging of my vehicle at its maximum rate immediately from plugging in the vehicle (3.6KW or 7KW, depending on vehicle capability) - assuming that communications to my charger are active (if not, see 4.1)		
4.1.1 understand that I have to cooperate with the customer support team if my charger has lost communication in order to re-establish communications so that my charger can be taken out of demand management, including a site visit if communications cannot be established through telephone support.		
4.2. I understand, in the event that I do not co-operate with the customer support team to re-establish communications to allow my charger to be taken out of demand management, that the consequence could be that my charger may cease to work at some time in the future (owing to memory overload/loss of firmware). In this event Electric Nation will not be responsible for costs incurred in rectifying this issue.		
5. I consent to being contacted by Electric Nation or project partners after the "project end date" for research purposes, as set out in the trial participation agreement, and with regard to taking my charger out of demand management		
6. I understand that the final reports on Electric Nation will be available to view on the Electric Nation website by Autumn 2019		
7. I understand that the installer must provide warranty, for duration of three years minimum from charger installation date, providing parts and labour cover for all repairs arising during that period to be completed on-site at the customer residence.		
Future charge point faults:	\$15 \$15	
9. I understand that if my charger incurs a fault I should contact my installer directly to resolve the fault (contact details shown above) after the 'project end date', not the Electric Nation support phone number or email address	Tick to confirm	
9.1 I understand that in relation to points 4.1, 4.2, & 7 the Electric Nation support line number will not be answered after the 28th February 2019 and that I should contact the installer of my charger regarding faults.		
Charge point and communications decommissioning instructions:	5-0	
After the 31st December 2018: please carry out one of the following tasks below to disconnect your comms depending on what y installation method was (info on what your installation could be on the project end info document attached if you are unsure):	our	
<u>Wi-Fi receiver method:</u> Unplug receiver power and cable from the router; and either keep for future use, take to a recycling centre for recy return in the prepaid postage bag (when it arrives) and we will recycle for you. The ethernet cable from your CrowdCharge controller rem for future use.	Company Total Company	
Hardwired internet connection from charger/comms box: simply unplug the ethernet cable that is connected to your router, ethernet cable controller remains in place for future use.	from	
Power line carrier (PLC) bridge (plug in range extender) between controller and Broadband router; unplug the units and use elsewhere in ethernet cable from controller remains in place for future use	the home,	
Request pre-paid recycling envelope to return communications equipment (delete as required) No/Yes Wi-Fi / PLC bridge		

Figure 5 – Example text on a project end agreement distributed to all participants. Project end information and future charge point faults remained the same on all variants.

4 Marketing Phase

4.1 Website

This quarter the Electric Nation website was updated to show that the trial has been completed. This can be seen below in figure 6; other than this the website has not been updated.

THE ELECTRIC NATION SMART CHARGING TRIAL IS NOW COMPLETE

We will be busy in early 2019 analysing data, writing reports and organising events to disseminate project results. We will also be organising Workshops to discuss the commercial framework for providing smart charging services to Distribution Network Operators.

If you are interested in finding out more about the trial results, dissemination events or project Workshops, please submit your details here.

Figure 6 – Update to the Electric Nation website showing that the trial is now complete (official complete date 31st December 2018.)

4.2 Event Days

As the project has been completed, there were no events days during the quarter. DriveElectric and EA Technology are in conversation regarding dissemination activities and event days. However, plans have not been finalised yet.

4.3 Social Media

In relation to recruitment, social media are not used by DriveElectric due to the completion of recruiting the 673 participants. However, DriveElectric does use social media as a method for communicating and engaging participants if mentioned on Facebook or Twitter.

DriveElectric uses a monitoring system for Twitter via the company-wide internal instant messaging application. This means that DriveElectric receives a notification if any user mentions the Electric Nation tag. The EN team can then respond to the query in a timely manner; this also ensures that DriveElectric does not miss any interactions with any participants via Twitter.

This quarter there have been no major social media instances of customer dissatisfaction/complaints. Although the project has official ended, DriveElectric will continue to monitor social media channels and handle accordingly.

4.4 Participant Newsletter

During November 2018, DriveElectric issued a project newsletter to participants (and others who opted-in for marketing permission). This newsletter informed participants of the





following: to leave their charger and communication kit switched on, request to return any outstanding market research surveys and finally information regarding the release of the Crowd Charge and Greenflux update apps for Trial 3. Furthermore, this newsletter included initial findings from the Greenflux app usage. The November 2018 newsletter was distributed to 520 recipients with an open rate of 77.3%. The aim of these newsletter is to keep participants informed of project progress while also increasing engagement with the project on the lead up the dissemination activities, which are yet to be confirmed however, are likely to be during Summer 2019.

A project newsletter was also sent to participants on the 23rd January 2019. This contained information regarding decommissioning participants chargers, circulation of the final survey by Impact Research, a reminder that a reward for the Trial 3 app has been distributed to eligible participants and finally that participants must contact their installer directly for charger point faults. This newsletter was distributed to 518 participants with an open rate of 79%.

5 Installation Process

The final installation was completed in July 2018 so there is no update on installation process.

A summary of the complete installation process can be found in the Electric Nation Communications and Engagement Report July 2018.



6 Customer Management

6.1 Complaint/positive feedback

Process/Stage Process Stage	Irive Sales Process	EN No PIVDCS	<u> </u>	Open Date Source	24/10/2017	~
Stage	New	Installer	~	Loggedby	Adam Langford	
Complaint cat			<u> </u>	Record Manager	Adam Langford	Ţ
Details				^		
				Review date		~
odorus unusu				Days Open	182	
Advice given				Close Date		~

Figure 7– DriveElectric's complaint logging process.

Complaints and instances of customer dissatisfaction continue to be recorded under the rigorous standards required for businesses regulated by the Financial Conduct Authority. DriveElectric continues to use the above process with the CRM database to record, monitor and manage the complaint through to resolution. All complaints are logged and managed by Vicky Reed, Head of Customer Engagement. Positive feedback is also recorded within the complaint log.

The number of complaints DriveElectric received has remained at a low level this quarter. This is unsurprising as participant communication and engagement has decreased due to completion of the installation phase.

One complaint was received this quarter; the participant was unhappy that they were unable to be a part of Trial 3 thus not allowing them to gain an Amazon reward voucher. The participant was unable to be a part of trial 3 as their charger's communications were poor. DriveElectric attempted to contact this participant to explain the situation and offer a resolution, however, were unable to gain contact with the participant by phone as their number is not in use. Therefore, a follow up email was issued however there has been no response to date.

As the project is now complete DriveElectric is not anticipating receiving any further instances of dissatisfaction. However, DriveElectric will continue to record any instances and report accordingly. Any complaints or dissatisfactions DriveElectric receives that are of a serious nature are reported directly to Ricky Duke, WPD's Project Manager for the Electric Nation Project.

6.2 Customer support line

The customer support line remains to be the contact for all EN participants to communicate with the EN support team. Contact details for the support line are placed on the front of





each charger upon installation. The support line offers 24/7 fault reporting with faults logged with the DriveElectric team during office hours and an external recording company for out of office hours. The out-of-office-hours messages are instantly forwarded to the EN team. Then, if an urgent fault requires action DriveElectric can respond to the participant to help diagnose the fault and inform the participant of the next steps.

During December 2018/January 2019, all participants were informed that if they suffer a charge point fault the new process is to contact their installer directly who will record, manage and resolve the fault as per the OLEV guidelines for 3-year maintenance support. On the EN support line, a digital receptionist will explain the process and list the contact details of all the installers, so they are able to contact them directly. An option will remain on the EN support line to speak to a member of the DriveElectric team in the instance that a participant does not understand the process or who their installer was.



7 Fault logging and management processes

7.1 Fault recording process

All reported faults and enquires are logged within DriveElectric's CRM database. This allows each fault to be managed and assigned to the relevant team for resolution while also monitoring the progress of the fault (Figure 8). When the fault is fixed, if possible, the learning is re-used and communicated to the installers or comms team to reduce the likelihood of the fault re-occurring. This learning is entered into DriveElectric's weekly long-term fixes fault report, which is then distributed to the relevant party if the learning is applicable.

This quarter the fault management screen with the CRM database has not been updated. Figure 8 below shows the final version of DriveElectric's fault management screen.

As the project has concluded, DriveElectric will no long be recording, manging or resolving faults. Participants will be directed to contact their installer directly if they suffer a charge point.

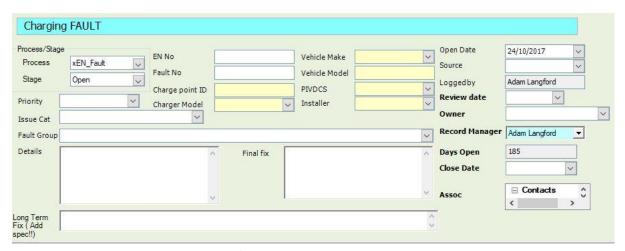


Figure 8 – DriveElectric's fault logging/management process.



8 App engagement

8.1 Crowd Charge

The Crowd Charge app which used a simulated time of use (ToU) tariff was distributed to all participants, subject to them meeting the eligibility criteria this quarter.

Participants were informed via email that their app has been updated and their starting balance was £10. Then, based on CrowdCharge's simulated ToU tariff, when the participant charged outside of the peak demand period, they would earn a reward, thus building on the £10 starting balance. Alternatively, if the participant charged during the period that the simulation registered electricity was expensive (during likely peak electricity demand during 16:30-20:00), the participant's total would reduce. The participant's total was not able to go negative which would mean they owed money; thus the participant was unable to lose out by participating in Trial 3.

Participants were sent updated user instructions explaining the incentives update and a ToU explanation document which detailed information on how the reward feature operates; Figures 9 and 10 respectively below show this.



Figure 10 – Crowd Charge user instructions (Trial 3).



The Crowd Charge web-app update ToU explained

The updated Crowd Charge smart charging app utilises a simulated Time of Use (ToU) tariff. A ToU tariff is an electricity tariff where the price of a unit of electricity (kWh) varies throughout the day, where electricity is likely to be cheapest out of the peak period time in the late afternoon and early evening.

The ToU tariff Crowd Charge are using is <u>simulated</u> based using real world electricity prices, and electricity tariffs that are gradually beginning to appear on the market as Smart Meters are rolled out across the UK.

Importantly, this simulated tariff does not replace your energy supplier or tariff that you currently have; you do not need to change electricity supplier to make use of the updated app and start building your reward up. The cost you normally pay your electricity supplier will remain un-changed, this updated app does not affect your EV charging cost as this is a simulated trial.

Inputting your journeys into the journey planner on the app will allow Crowd Charge to manage your charging to ensure you have enough charge at your scheduled departure time and also at the cheapest rate possible to increase your rewards using the simulated tariff!

This simulated tariff attempts to illustrate how subscribing to a time of use tariff, now or in the future, could save EV drivers a good deal of money – if they choose to charge their EV at certain times of day, or more to the point not charge their EVs in the late afternoon and early evening (peak UK demand period).

This is similar to, but slightly more sophisticated than, Economy 7/Economy 10 electricity tariffs which many will be familiar with, where electricity prices are lower at night than during the day. If you are already on such a tariff, then you may well be aware of the benefits of overnight charging.

The way your reward will work:

- Electric Nation will give you an initial £10 shopping voucher (Amazon or similar) as a reward for participating in this part of the project
- Then, for every unit of "cheap" electricity (according to our simulated tariff) you use to charge your EV we will add to this reward
- But, if based on your journey planner entries you charge when electricity is "expensive" we will take money
 off your reward for each unit of electricity you use to charge you EV
- If you always charge using "expensive" electricity (according to our simulated tariff) your reward could pass zero and show a negative display on the app — don't worry! We will cap your loss at nothing (£0.00) and will not be asking for money from you, despite it showing a negative cost.

Figure 10 – Crowd Charge app update explanation document (Trial 3).

8.2 Greenflux

All Greenflux participants were informed that Trial 3 begun during October 2018, and that their app would update automatically on a staggered roll-out over a few weeks. They were also informed they were able to earn a financial reward from this update and that the Greenflux app allowed participants to interact with the app to control their charging preference (cost optimizing/time optimizing/balanced).

After Greenflux's Trial 3 period, which lasted approx. 6-7 weeks, a snapshot of the participant's total reward balance was recorded on the 17th December 2018 (this coincided with the same time demand management was removed from all chargers in preparation for



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the project's completion.) This reward value was then distributed to participants during w/c 21st January 2019.

9 Learning reference communications process

Throughout the project DriveElectric continue to assess, analyse and update processes with the aim of enhancing the customer's overall experience on the project. Furthermore, DriveElectric reviews processes based on feedback from participants as this can be the most valuable. All learning points and process updates are detailed within the Communication and Engagement reports and the TRL learning log.

It is important that all project partners, and especially DriveElectric being the customerfacing partner, record not only processes that would be done differently, but also process that have worked effectively and contributed to the success of the project as these could be re-used in future WPD innovation projects.

