Energy Networks Innovation Process

Project Closedown Report Document

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Project Title (*This cannot be changed once registered*)	Project Reference
Customer Led Electric Vehicle Early Registration (CLEVER)	NIA_SSEN_0062

Funding Licensee(s)	Project Start Date
Scottish Hydro Electric Power Distribution Southern Electric Power Distribution	April 2022

Project Duration	Year
8 months	2023

Nominated Project Contact(s)
Tim Sammon, Innovation Programme Delivery Manager at SSEN

1. Scope

The scope of CLEVER, under this NIA funding application, is to deliver a Research POC to determine the feasibility of securing further DNO involvement to progress to Technical POC, Minimum Viable Product, and fully working Product.
The project consists of the following three phases:

Phase1 – DNO workshops
DNO workshops will be held to understand which data is essential and which is desirable for the purposes of consumer led EV and Heat Pump registration.

Phase 2 – LCT owner engagement
Primary research and prototype testing with EV drivers and Heat Pump owners to understand what they are willing and able to offer in terms of EV, ChargePoint and Heat Pump data, and in return for what incentive/s, and by what means. A feedback loop will ensure that the knowledge gained from the respective stages is fed back into each other respectively. This will help optimise knowledge and reporting on what may or may not be feasible going forward to Technical POC (Technical POC being outside of the scope of this project).

Phase 3 – Reporting and recommendations
Written report and presentation on the workshops and research learnings and outcomes to enable an informed decision to be made on the feasibility of progressing to the Technical POC stage under a new initiative.

2. Objective(s)

The primary purpose of the Research POC is to validate the CLEVER project hypotheses:
-EV and Heat Pump owners are willing and able to provide the requested information.
-The information available from EV & Heat Pump owners is usable and valuable to the DNOs.

The project objectives are:

-Identification of data requirements from both DNO and LCT owner perspectives to inform a future Technical POC to enable consumer led LCT registration and ongoing updates
-Identification of incentives required in return for consumer data input
-Identification of data input processes
-Delivery of a Research Proof of Concept to determine viability of a consumer-led approach to LCT registration
-Opportunity assessment to consider the viability of wrapping vulnerability registration and support into the (future) Technical POC project

3. Success Criteria

The project will be deemed successful if it meets the following criteria:
The CLEVER project hypotheses (below) has either been validated or refuted:
•LCT owners are willing and able to provide the requested information
•The information available from LCT owners is usable and valuable to the DNOs

Specific success criteria would be:
-Knowledge capture and recommendation reports as a result of the DNO workshops and primary LCT owner research -Delivery of a Research POC that recommends a pathway to Technical POC (or otherwise)
-Opportunity assessment report to determine viability of wrapping vulnerability registration into next steps (Technical POC)

4. Performance compared to the original project aims, objectives and success criteria

Details of how the Project is investigating/solving the issue described in the NIA Project Registration Pro-forma. Details of how the Project is performing/performed relative to its aims, objectives and success criteria.

Project Customer Led Electric Vehicle Early Registration (CLEVER) is testing the appetite of Electric Vehicle (EV) drivers and Heat Pump (HP) owners to participate in a consumer led Low Carbon Technologies (LCT) registration process in support of increasing visibility of EV and Heat Pump proliferation on the LV network. For the purposes of this report EVs and HPs are collectively referred to as LCTs.

Currently, DNO notifications for EVs and HPs are managed via the Energy Networks Association LCT notifications and application processes. Customers and installers can also contact the DNO directly, where they will be provided with guidance, advice and the relevant documentation that should be completed as part of any LCT installation. These forms are generally paper based or electronic documents, but steps are being taken by the DNOs and broader industry to digitalise these processes and improve customer experience, data capture, quality, and ease of use.

It is understood that the notification and application processes are not always followed to cover one hundred percent of installs and that generally this is due to a lack of awareness of the installation requirements. This presents issues for DNOs from both a historic perspective i.e. which LCTs or equipment have been installed in the last 10+ years, and also in the future i.e. low penetration of install notifications create even larger gaps in data and asset locations.

The CLEVER project highlights customer attitudes, knowledge, and experiences of the LCT notification process as well as gaps in understanding or a lack of clarity on customer, installers and industry roles and responsibilities.

Summary of findings;

EV drivers are willing to charge flexibly, and many have already switched to LCT-friendly tariffs…

The research has evidenced that most EV drivers currently charge their vehicle several times a week or more, with 2 in 5 preferring to charge overnight.
On acquiring their LCT, 2 in 5 EV drivers with home charge points and almost 1 in 3 HP users changed to a tariff more suited to their technology, the majority of participants doing so to save money on their energy bill. While financial considerations appeared to be the main motivation, younger and more environmentally minded participants in the sample were the most likely to change tariff. Of those that changed their tariff, two thirds had notified their DNO of the installation.
There is further potential for the uptake of flexible charging tariffs and behaviours amongst EV drivers. Three quarters said they would be willing to charge flexibly, and an additional 1 in 5 would consider it depending on peak and off-peak timings and the potential cost savings.

Most LCT adopters do not notify their DNO of the installation: Younger and more environmentally motivated individuals were more likely to notify…

Less than half of the survey sample said they had informed their DNO about having either a heat pump or EV charging point installed at their property. This was significantly less than the almost 3 in 5 that informed their electricity supplier. Just over 2 in 5 notified both their DNO and supplier.
EV users were slightly more likely to notify their DNO than HP users, however, given the relatively small HP sample achieved, these rates could be viewed comparably. The route taken to notify did differ significantly between these two groups, with two-thirds of HP users notifying via their supplier or installer compared with half of EV users.
Very few differences in data sharing attitudes or preferences were identified between EV and HP users in the quantitative research. However, younger and more environmentally motivated participants appeared more willing to share data. These findings are supported by the qualitative engagement, where higher levels of willingness on the part of environmentally motivated EV drivers to advise their DNO of a charging point installation were found.

LCT adopters do not know they need to notify their DNO: A simple lack of awareness and a poor understanding of why it might be necessary underpin this…

The biggest barrier to DNO notification is a lack of awareness that it is required. A third of participants were not aware they should inform their DNO. Whilst technically separate issues, awareness of the need to notify one's DNO overlaps somewhat with understanding the role of the DNO in the electricity distribution landscape.
Of those who didn't inform their DNO, over a quarter saw no reason to, and some noted the lack of contact with their DNO. But participants who were aware of how sharing their installation data benefits DNOs and the wider community were more likely to notify. With no direct relationship with their DNO, many household customers are unaware of a DNO's purpose and responsibilities within the network. Therefore it could be assumed that a lack of awareness of the need to notify may be underpinned by this unfamiliarity about DNOs and their role, and this was evidenced in qualitative engagement sessions with both EV and HP customers.

An opportunity to educate on the role of the DNO and promote the importance of notification…

Customer engagement has identified an opportunity to inform and educate household customers on the existence and role of the DNO as well as the need and rationale for informing them upon acquiring LCTs such as heat pumps and electric vehicle charging points. Qualitative insights suggest that customers are likely to be responsive to the type of messaging that informs them on the impact of an increasing number of LCTs on the low voltage network and the negative effects of DNOs being unaware of these installations. Participants in the research would not wish to be the cause of electricity supply interruptions or 'blackouts', especially as the risk has been highlighted recently in the media.

An appropriate mechanism for notification is required: Webforms were preferred and there is scope for installer-led and supplier-assisted notification…

Successful data capture will rest on having a suitable mechanism and process to enable customers to provide the data. While quantitative research did not find a strong consensus over whether customers would prefer to notify their DNO or energy supplier, deep exploration of this topic in qualitative engagement suggested that there was a clear preference for sharing notification data with the energy supplier. The principal reasons cited were the existence of a contract, an ongoing relationship and the ability for the customer to readily contact their supplier. It was also noted that having the energy supplier facilitate this process may reduce the amount of

information points customers would need to provide. Participants appreciated that there may be practical restrictions on suppliers sharing customer data with a DNO.
A webform that can be both completed and submitted online was the preferred choice for providing information. LCT suppliers or installers handling the notification was also often raised as an ideal solution, rather than the burden being on the customer. An app-based approach was not preferred.

Willingness and ability to notify: Assure, incentivise and provide practical guidance…

Once there is awareness and understanding of the important to notify DNOs, the barriers shift to customers being willing and able to share their personal and technical data with DNOs.
Willingness encompasses trusting their DNO; being assured that their data will be stored securely, used in a way that is congruent with the DNO's role and purpose, and that processing is understood by the customer. Participants are most willing to share data they know without needing to look up, and data of a non-personal or identifying nature. Willingness is also very much driven by the benefits to the customer of providing their data. Financial incentives as well as insightful information, e.g., suggestions on LCT-appropriate (or flexible) energy tariffs or energy saving hints and tips – especially if these were to be tailored to individual customers' consumption behaviours – may be useful here.
Customers who are willing, need to have access to and an understanding of the information being requested – the ability component. This includes understanding what is required, where it can be found and the format in which it should be given. In this research, participants struggled to provide technical data on their LCTs even when they said they were able and willing. Many of the responses given by participants in both quantitative and qualitative research didn't match the required data formats.

With an open communication channel there is evidence that changes in LCT circumstances will be notified, although customers notifying at contemplation stage is unlikely to happen…

There is mixed evidence of participants' willingness to update the DNO via an app in the event of a change (or potential change) in LCT circumstance. Survey participants showed a general willingness to notify of a change in circumstance and a potential future change in their LCT setup (that is, at contemplation stage). However, qualitative engagement suggested that notifying the DNO at contemplation stage is unlikely to occur, even if many would be willing to use the app to update LCT circumstances in the event of an actual change.

5. Required modifications to the planned approach during the course of the project

The Network Licensee should state any changes to its planned methodology and describe why the planned approach proved to be inappropriate. Please confirm if no changes were required

The project was extended for 4 months due to difficulties in locating and surveying heat pump customers.

6. Lessons learnt for future projects

Describe how the project (methodology, stakeholder engagement etc.) changed, or provided opportunities, from your expectation at the start of the project and therefore could be useful for a future project. In addition, please discuss the effectiveness of the research development or demonstration undertaken.

It was found on the project that it was extremely difficult to locate heat pump customers and engage with them on the research. It highlighted the limited visibility that we had as a DNO of heat pump customers and the wider industry visibility. The market research company engaged on the CLEVER project had to extend their field work portion of the project in order to resolve this and increase the number of heat pump customer response. For future projects we would highlight the need for a smaller sample group and approaches that would lead straight to participants rather than field work.

7. The outcomes of the project

When available, comprehensive details of the Project's outcomes are to be reported. Where quantitative data is available to describe these outcomes it should be included in the report. Wherever possible, the performance improvement attributable to the Project should be described. If the TRL of the Method has changed as a result of the Project this should be reported. The Network Licensee should highlight any opportunities for future Projects to develop learning further.

Below is a summary of the main outcomes, lessons learnt and opportunities for further exploration; for the full set of learnings, please see the final report.

Readiness to share is influenced by a number of factors but particularly by age.

Barriers
Fear around data security, personal data being shared with third parties for marketing/sales, lack of transparency around data how the data will be used and why it will be useful, and concerns around passive data collection were all raised by participants during the focus groups.

Enablers
Participants felt more comfortable sharing their personal data with a reputable organisation or organisation which they already have a positive relationship with. Government organisations and regulated industries fell within this group. Participants were also more likely to share personal data if there were benefits to them such as rewards or savings, or if they felt they had sufficient control over their data and how it is used.

General data sharing attitudes
Focus group participants held a variety of positions when it comes to data sharing. Readiness to share is influenced by a number of factors but particularly by age, with younger participants exhibiting a greater willingness to share their personal information. However, these younger participants are more likely to query the security of their data from a technical perspective; are robust IT systems and protocols in place to protect my information?

Older participants' reservations may be accounted for by concerns over data sharing with third parties and fears that their data might be used for marketing purposes. Further, having known a society that is not data-led, older participants showed a higher level of discomfort when being asked for personal information other than by trusted organisations; the government and those operating within regulated industries. There was no evidence that the type of low carbon technology (LCT) adopted influenced general attitudes towards data sharing.

Barriers to data sharing
Focus group research was able to identify a number of factors that inhibit participants from sharing their data. Although this was raised as a broadd topic, that is not specific to sharing information with DNOs, there are learnings for DNOs wishing to capture data on household customers' LCTs.

Concerns over the security of their personal data, as well as anxieties over data sharing, were front and centre in participants' minds. Further, participants would think twice if they were being asked for large volumes of information or were required to share information that was not in keeping with the reasons for data provision. Some were concerned about the passive collection of data from digital devices, and how such information might be used by those with access to it.

8. Data Access & Quality Details

A description of how any network or consumption data (anonymised where necessary) gathered in the course of the Project can be requested by interested parties. Please include a link to the publicly available data policy.

For information how to request data gathered in the course of this project, see Network Innovation Competition (NIC) and Network Innovation Allowance (NIA) Data Sharing Procedure at https://ssen-innovation.co.uk/innovation-strategy/.

9. Foreground IPR

A description of any foreground IPR that have been developed by the project and how this will be owned.

N/A

10. Planned implementation, recommendations or next steps

Please describe the next steps to implement this innovation project. What policies and standards need to be updated or created as part of this implementation.

The CLEVER project complements work by the UK Government which recently launched the Automatic Asset Registration (AAR) Programme, which is offering funding for solutions to replace the manual registration of small-scale demand, generation and storage assets. The final report was disseminated to those working on this project along with virtual dissemination sessions to enable the learning from CLEVER to be implemented in the AAR programme.

11. Other comments

N/A

12. Standards Documents

Identify any industry standards that may require updating due to the outcomes or understanding developed from this innovation project. If no standards will need to be updated, please state - not applicable

N/A