Questions and Answers from Webinar 2 “Making LV network data openly available”

During the “Making LV network data openly available” webinar participants were able to submit questions about the OpenLV project to a panel. Answers were given to as many questions as there were time to answer in the webinar. The questions that were asked are listed below, together with answers to these questions.

Questions and Answers

Question	Answer
Questions Answered During Webinar	
Will any of the substation data be shared online for academics to access and integrate into their own research?	People are increasingly looking to adopt the paradigm of presumed open data. WPD has industry leading project regarding this, developing a data sharing assessment to review existing data and see the extent this can be shared with third parties without legitimate security or privacy concerns. This has been done on the OpenLV data set. WPD are looking to share this very soon. Some refinement to the data set is still necessary, but it will be available on a public facing website very soon. Answer provided during webinar by Sam Rossi Ashton (WPD) (50:20)
Are you or the developers planning on hosting third party apps on LV-CAP? If so, how will it work?	Proving during the project that technically you can deploy lots of different apps on the same platform. We also heard in today's webinar about the hunger from organisations, academics and communities themselves for using LV data. EATL are exploring commercial models, exploring models not too dissimilar to AppStore idea seen by the likes of Google and Apple. Clearly it has been shown that you can have lots of different apps from different vendors acting on the same platform. Looking at how as part of the VisNet product how we can deploy multiple applications to the same program. We see an open platform becoming increasingly important in the future. Answer provided during webinar by David Roberts (EATL) (48:30)

Is the CSE web app publicly available to view?	Yes it is. This is a way people can get hold of data if they have e.g. an academic study, that they want to work on. The web address is: https://openlv-cse.uk/ On there are the community organisations involved in the trials, and the graph sets that were setup. You can view existing graphs for a specified time period. Answer provided during webinar by Bridget Newbery (CSE) (51:33)
Why are community groups interested in using this technology for flexibility business models? Why not just connect renewable generation?	From the communities we worked with this is about diversifying their business models. In the absence of the feed in tariff it becomes difficult to have a business case for small scale generation. Flexibility can be a key way for communities to capture more of the value that is within the energy system. As we are seeing with DNO flexibility markets, local level flexibility is an underrepresented area which communities can help bring forward. This data can really help communities to do this, especially if there is an absence of smart meter data. Answer provided during webinar by Ky Hoare (Regen) (52:42)
What future potential do you see for communities to get involved to support the development of next-generation grid solutions?	With regards to WPD specifically, WPD have concluded a call for innovations solutions from community organisations which are being reviewed. There were approximately 20 ideas, some of which will be taken forward into project. Answer provided during webinar by Sam Rossi Ashton (WPD) (53:45)
What future potential do you see for communities to get involved to support the development of next-generation grid solutions? (Continued)	The data can also be used for awareness raising to help with getting local buy in. It can also be used for planning, for example in how much solar could be installed or for planning electrical vehicle charge points. Answer provided during webinar by Bridget Newbery (CSE) (54:38)
Will you be using the data to help justify cost of wider Open LV rollout? And will this data and analysis be available to us?	Detailed work on this was carried out during the project (SDRC5). Reports are available on the website looking at the implications of UK wide rollout of this technology. Business case information is available in these reports also. Answer provided during webinar by David Russell (EATL) (55:45)

Will you be using the data to help justify cost of wider Open LV rollout? And will this data and analysis be available to us? (Continued)	From WPD's perspective, the project has highlighted how useful this data can be. Consequently, WPD are rolling out the equipment needed for this solution across a wide area of WPD's network. Answer provided during webinar by Sam Rossi Ashton (WPD) (56:00)
Will you be using the data to help justify cost of wider Open LV rollout? And will this data and analysis be available to us? (Continued)	Looking at the broader markets, the need for monitoring is growing fast. All UK network operators are currently pushing for this and are starting to deploy this at scale. Things have moved on quickly in a short time period. Additionally, the Energy Data Task Force, with their presumed open approach for data links with how communities and other stakeholders use this data. There is clearly a need for this data and over the next year it is very likely a significant amount of monitoring will be installed on LV networks with open data being made available on the back of that. Answer provided during webinar by David Roberts (EATL) (56:31)
What are the main learning points from the business trials?	We observed development research in organisations is very finite. Companies really wanted to see commercial proposition of the app would be, before this resource was committed. Answer provided during webinar by Paul Morris (Please see SDRC4 for further details) (EATL) (57:42)
What else is on WPD's innovation road map moving forward?	WPD historically annually publish innovation strategy. Forward plan is now also published annually. This sets out priority areas for future innovation projects moving forward. Project set out to adhere to at least one of these priority areas which are 1) Decarbonisation and net zero. 2) Heat. 3) Transport. 4) Customer and consumer vulnerability. 5) Data. WPD have just closed NIA call for ideas for Consumer vulnerability. There is a big innovation project called OpenNow which is a big innovation project, further details are available on WPD's innovation website. Answer provided during webinar by Sam Rossi Ashton (WPD) (58:15)

Question Not Covered In Webinar	
I note the comments that the system was dependent on Mobile Network coverage. Was mobile Network connectivity used to demonstrate the 'proof of concept' and if this were to be rolled at as an operational capability would alternative connectivity solutions be required?	There is no reason why other communication methods cannot be used but whichever method selected must be cyber secure. The rational followed by the Project is explained in SDRC2.2
Can you share basic architecture of the system?	Detailed architecture information is available from the SDRCs available at the OpenLV website. See in particular SDRC 1 section 3, available here.
How will this solution integrate to Active Network Management solution taken up by some DNOs?	An app can be put on the platform that completely integrates with the system. Apps can be used to monitor network data, control the network, and send signal back to network operators.
What regulatory changes would be required to allow local LV network loadings to be part of a time of use tariff?	If local LV network loading data is made publicly open then suppliers may choose to use this information in the formulation of specific cost reflective tariffs.
How did the project deal with challenges around GDPR and data sensitivity, especially in relation to residential connections to the smaller areas/LV substations, where simple aggregation of demand data would not suffice?	Substations were always monitoring feeders with 5 or greater customers such that it was never possible to determine specific customer information. Aggregation of demand data was always sufficient for this case. In a Business-as-Usual Use case data from units where GRPD may be an issue, data can be aggregated or flagged to prevent release.
What will the recorded data consist of and how will it be presented to the stakeholders? Will it be raw data as in Volts, Amps, Real / Reactive Power?	The recorded data will consists of the below data points. Data points per busbar: Voltage, Calculated Phase Current, Calculated Neutral Current, Power, Reactive Power, Active Energy, and Reactive Energy. Data points per feeder: Phase Current, Neutral Current, Power, Reactive Power, Active Energy, Reactive Energy, Phase Angle, Total Active Harmonic Content, and Total Reactive Harmonic Content.

	The data will firstly be available upon request and eventually hosted on a WPD data hub in accordance with WPD's digitalisation activity. Even Volts and Amps undergo a degree of processing (Volts for example is sampled at 6kHz and then a 200mS average is calculated to create mean, max, and min) but we still consider this to be raw data.
What type of data will be made available, and what is the granularity and accuracy?	Please see above answer for the type of data that will be made available for each secondary substation monitored within the OpenLV trials. The data has a 1% accuracy across the normal operating range of the system. Further information about these data points, including the reporting granularity is available from the Lucy Electric Gridkey MCU520 technical specification.
How can local areas and local authorities use the findings and data to better plan for Net-Zero at a local level?	The Method 2 (Community Engagement) aspect of the OpenLV project defined community benefit into three areas, all of which can assist with the journey to Net Zero: 1. **Transparency value** – Communities having access to OpenLV data means they can identify opportunities (such as Time of Use tariffs), assess and evaluate plans for distribution connected projects and investments. 2. **Engagement value** - OpenLV data helps build community knowledge on energy infrastructure, energy consumption, and how that consumption can be changed to reduce carbon emissions 3. **Flexibility value** – OpenLV data and functionality supports community level aggregation and coordination of community level demand-side response.

Will this data be made available through centralised platforms, such as Flexr? This is called "Open" data, however is there a license cost associated with this? This is related to a general industry understanding for Open and Closed data.	WPD plans to publish the data collected during OpenLV as part of its open data work. The further publication of this to centralised platforms is to be considered.
Have you audited the rest of the WPD network to understand how many substations might gain from installation of the platform, but which have space or communications constraints?	Due to the versatility of the OpenLV solution, most substations could benefit from deployment. This could then provide benefits in the form of monitoring data, autonomous network operations or other.