

ECP Meeting 1

14th / 15th August 2019

Objective- To understand how customers respond to the new VoLL and their perceptions of impact from different scale power cuts.

GROUP STRUCTURE (1½ HOURS):

| AREA OF DISCUSSION |
|----------------------------------------------------------------------------------|
| 1: Moderator Introduction (2 – 3 minutes) |
| 2: Introduction to Electricity North West (Q&A/Video – 10 minutes) |
| 3: Setting the scene: The last power cut occasion (10 minutes) |
| 4: Expectations of electricity supply reliability (10 mins) |
| 5: Reactions to VOLL (30 minutes) |
| 6: Understanding the real cost of power cuts to customers (leaflet) (25 minutes) |
| 7: Close (2-3 minutes) |

1. Moderator Introduction (2 – 3 minutes)

- Introduce yourself
- Explain that the research is being conducted on behalf of Electricity North West
- Explain purpose of discussion (*reliability of their electricity supply and the impact of power cuts*).
- Confidentiality is guaranteed, no right / wrong answers, interested in everybody's opinions, in as much detail as possible
- Explain moderator's role and set out 'rules' (speak loudly / clearly / not all together)
- Explain audio and video recording, one-way mirror and presence of observers
- Re-confirm the repeat nature of the ECP meetings- attendees will be expected to take part in at least one more group on date 28th / 29th
- Any questions?

Warm-up

EACH RESPONDENT WILL BE ASKED TO INTRODUCE THEMSELVES TO THE GROUP IN TERMS OF:

- Domestic: first name, who lives in their household and the last occasion they experienced a power cut.
- Commercial: first name, type of company and individual role and responsibilities within organisation.
- Experience of power cuts specific to their organisation (discounting their domestic experience of power cuts).

2. Introduction to Electricity North West (Q&A/Video – 10 minutes)

Moderator Info: This document/video contains:

- The structure of the UK electricity industry
- The role of Electricity North West versus that of a supplier.

ENSURE RESPONDENTS HAVE A COPY OF Q&A AND PLAY VIDEO: “Electricity North West: Who we are and what we do” <https://youtu.be/zCBmgMRFEGU>
4 minutes

ASK THE GROUP

- Overall impressions and thoughts
 - Probe on:
 - Understanding and clarity of the subject matter
 - Clarity on the difference between Electricity North West vs. suppliers and National Grid
 - Clarity as to what Electricity North West does (*does the panel understand it is Electricity North West that should be contacted in the event of a power cut?*)
 - Clarity on electricity bill charges (*DNO vs. supplier*)
 - Anything **confusing** / or that they didn't understand?

MODERATOR: acknowledge the importance of supplier bills and electricity charges; however, ask the group to **put this topic to one side for the remainder of the group.**

PAUSE / BREAK – ENSURE ALL RESPONDENTS ARE COMFORTABLE WITH THE STRUCTURE OF THE ELECTRICITY INDUSTRY AND ROLE OF ELECTRICITY NORTH WEST BEFORE MOVING ON.

3. Setting the scene: The last power cut occasion (10 minutes)

- Thinking about the last power cut you experienced...
 - Was it the first time you had experienced a power cut?
 - If not, how many others? Frequency/duration?
 - How did you first come to realise that the power was off? (*e.g. observed appliances turning off, returned home to find intruder alarms ringing out, having to re-set electronic clocks etc, family member notified you.*)
 - What was your first thought when the power went off?
 - Did you feel in any way vulnerable? Did you know what to do next?
 - Had you ever previously considered the possibility of a power cut and prepared for this eventuality (i.e. know where to find a torch?)
 - Did you speak to anyone, for instance your neighbour or a family member?
 - Did you report the power cut and did you know exactly who /where to turn to?
 - **Which organisation, if any, did you contact? Electricity North West?**
 - **How did you report the problem, ie telephone or website or did you reach out for information through social media?**
 - How long did the power cut last?

4. Expectations of electricity supply reliability (10 mins)

N.B. Dictionary definition of reliability: consistently good in quality or performance; able to be trusted.

Ask the group to contemplate what **reliability** means in the context of their electricity supply

SHOW SHOWCARD A

LIST DEFINITIONS ON A FLIP CHART

- **PROBE:** Frequency of power cuts
 - Probe as to **expectations**; at what frequency of interruption do they still consider their supply to be reliable? Are there **different levels** of reliability; if so, how would the group define them? (*If necessary, prompt is 1 power cut per year ok? How about 3? Or 5?*)
 - Would expectations be different if you moved from a rural location to city (and vice versa, *tailor according to group*)
- **PROBE:** Duration of power cuts
 - Probe as to **expectations**; if a power cut occurs, what duration is acceptable for the power to be off? Are there **different levels** of acceptability; if so, how would the group define them? (*If necessary, prompt is 1 hour acceptable? How about 3? Or 12?*)

- **PROBE:** Area affected i.e. Are the expectations of customers living and working in rural areas higher or lower than those living or working in urban areas. Should expectations be different?
 - Probe as to **expectations**; if a power cut occurs, does the scale of interruption affect acceptability? Does the length of interruption influence acceptability of scale of interruption? Are there **different levels** of acceptability; if so, how would the group define them? (*If necessary, prompt* is 1 hour acceptable if an entire city was affected? How about 3 for a village? Or 12, street?)
 - At these different levels/bands of reliability, how long would it be acceptable for power cuts last when they occur?
- Circumstances – do the conditions during which an interruptions occurs influence acceptability. Ie if you/the street/ the village/the town/the city receive prior notification that electricity had to be cut off to carry out essential work
- If you were not notified but realised that the entire region was affected by an extreme weather events ie storm/flood
- What if the entire area went off for no apparent reason – would this be perceived differently?

CHECK UNDERSTANDING BEFORE PROCEEDING

5. Reactions to VOLL (30 minutes)

Power cuts have financial and social impacts on customers, which vary by season, the time of day they occur, the type of customer i.e domestic and business; the particular type of household or business and the way different customers use electricity. These impacts are dependent on how frequently power cuts occur, how long they last, the type of support that is available to customers and the communities that are affected.

Electricity North West continually assesses all its equipment and often has to make difficult decisions about how it should priorities resources to upgrade or replace assets. These decisions are influenced by the risk of the equipment failing and the value of the power cut associated with the fault; the impact it has on in the people experiencing the power cut.

The electricity industry has established a monetary value which reflects the average loss of amenity/impact of a power cut. This figure attempts to replicate how much customers would value avoiding a power cut in a competitive market. This figure is known in the industry as '**The Value of Lost Load (VoLL)**).

This value is extremely important for distribution network operators (DNOs), such as Electricity North West because it is used to inform all investment decisions and network planning. This figure will become increasingly important as customers become even more reliant on electricity as we reduce our reliance on fossil fuels like gas and coal and use more renewable sources such as wind and solar, with the

addition of electric vehicles. These changes mean the network has to be more flexible than ever before, and demand will increase like never before. **SHOWCARD H IF REQUIRED**

CHECK UNDERSTANDING BEFORE PROCEEDING

Electricity North West have since conducted research to better understand the extent to which this value varies, depending on a household or businesses' circumstances and is now exploring how this information can be used both locally and at national level to help the electricity industry make better and smarter investments to meet customers' needs.

SHOW SHOWCARD B IMAGE

EXPLANATION FOR MODERATOR – READ OUT.

The **first column (Old VoLL)** shows how we value the risk of the power cut and its impact today, under the current system. This simply multiplies the average value of a power cut by the total number of properties that would be affected. As the two networks both feed 50 houses, the value is the same for both examples. (ie £72,000 if they lost power for 10 hours/once every 5 years for 40 years).

MODERATOR INFO: these figures are only an example and not representative

From our previous research, we know that businesses have a higher value of loss than domestic customers. However, households with an electric vehicle, those in rural areas (who may find it harder to access help than in urban areas), or those who pay a large portion of their income towards their energy bills, are likely to be affected more severely by a power cut. In this example we use a power cut of 10 hours as an example.

What we see here is a very simplified representation of two different electricity networks which both supply power to 50 houses. These are connected to two different substations. The composition of these two networks is quite different:

- The top example is an urban area and 20 of the customers are very low users of electricity.
- The bottom example represents a network supplying a diverse mix of customers:
 - 15 are rural, 20 are on very low incomes and struggling with fuel poverty
 - 15 are quite affluent and own electric vehicles.

The **second column (New VoLL)** shows what happens when we factor in a range of different values into our decision-making models, which are based on customer's dependency on electricity and the impact of outages. We arrive at some very different figures.

MODERATOR: PAUSE AND CHECK UNDERSTANDING OF SHOWCARD B

EXAMPLE: Let's assume that equipment at both substations needs to be replaced (because of its age and condition) to ensure both sets of customers continue to have a reliable supply of electricity. Now let's imagine that these two sets of customers have had a similar number of power cuts (because of

faults) in recent years and the likelihood of more power cuts is equally high because of the risk of the equipment failing. Where does ENW invest?

Now that we know enough about the people living in these households, and how they use electricity, to understand that they might value their electricity more, or less the average figure. ENW can use this information to enhance investment planning to priorities their investment to where most benefit can be delivered.

PROBE ON: Do respondents understand what VoLL is?

- Do you understand the problem ENW are facing in terms of prioritisation of investments?
- Check for understanding **SHOWCARD B** – what has changed when you consider the household information from old to new VoLL?
 - What do you think about the old VoLL?
- Do you understand why a new VoLL was calculated?
 - Agree/disagree
 - **PROBE ON:** Type of customer: Domestic/Business
 - **PROBE ON:** EVs, fuel poor, vulnerable, rural
 - Any thoughts on implication for power cuts and restoration of assets?

NEW VOLL FOR DOMESTIC AND SME CUSTOMERS

- Explain example on **SHOWCARD C**: This card shows us the kinds of customers who place a higher value on their need for electricity than the average. The second column gives us the value in £, while the second column shows us the % above the average. Do not worry too much about the numbers, they are just there as examples to show the differences e.g. off gas customers value electricity 5% more than average customers but not as much as those with electric vehicles who value it 25% more than the average across all customers. It is possible we would start using these kinds of values for investment planning in future, instead of treating all customers the same.
- Check for understanding of the example – what has changed when you consider these groups that under the new VoLL are seen to value electricity more?
 - What do you think about that?
 - **PROBE ON:** EVs, fuel poor, vulnerable, rural
 - Is fair/unfair?
- Under the new system some customers would have a lower VoLL – how do they feel about that?
 - Agree/disagree
 - Is fair/unfair?

6. Understanding the real cost of power cuts to customers (leaflet) (25 minutes)

STIMULUS: THE COST OF POWERCUTS TO CUSTOMERS LEAFLET

ENSURE RESPONDENTS HAVE A COPY OF AND HAVE READ LEAFLET (send in advance)

REFER TO PAGE 3 AND 4: Understanding the real cost of power cuts to our customers

REFER TO PAGE 3: Understanding the cost of power cuts to customers

- Reactions to this information?
 - Had they ever thought about how power cuts can affect different customers in many different ways?
 - How important is the time of day or the season in which it occurs?
 - When do customers **need** their supply the most?
 - How long could they reasonably cope without their supply
 - Does this vary by the time of day or the season?
 - Had they ever thought about customers becoming increasingly reliant on electricity in the future as we reduce our reliance on fossil fuels, start to drive more electric vehicles and use new technologies for heating our homes?

REFER TO PAGE 4: The problem - How the cost of power cuts is appraised by network operators

- Reactions to this information?

REFER TO PAGE 4: What is Electricity North West doing?

- Reactions to this information?

EXPERIENCE OF POWERCUTS

Thinking back to your last power cut you had, as we did at the start of the group, imagine if this was six hours long (**MODERATOR**: recognise some in all groups and worst served especially will probably have experienced longer).

What impact would this have on you/your household/business?

WRITE DOWN ACTUAL EXPERIENCES ON ONE SIDE OF FLIPCHAT AND PERCEIVED ON THE OTHER SIDE

- **PROBE ON**: heating, cooking food, battery for electricals, fridge, internet
- **BUSINESS**: contingency plan; leave building?, heating,

Now group these into large, medium, low and no impact to you as a group.

- Anything hard to place into a category?

DOMESTIC: Now please think about family members and those you know around your neighbourhood.

- What impact do you think a six hour power cut would have on them?
 - **PROBE ON**: Vulnerable family members; young children, elderly, medically dependent

SHOWCARD D, E, F AND READ OUT:

We are seeing more extreme weather events and these can severely disrupt power supplies. Last year the North West experienced a heat wave, the Beast from the East and five named storms.

- The Beast from the East (March 2018) brought subzero temperatures, strong winds and heavy snow. In this period, Storm Emma caused power cuts to around 23,000 homes and businesses.

- Storm Hector brought severe gales to the North West in June 2018 causing power cuts affecting 6,000 customers
- In December 2018, Storm Deirdre caused large scale faults in Cumbria and Lancashire when high winds and freezing rain brought down overhead power lines This left 9,000 properties without power.
- Storm Erik brought severe gales to the North West in February 19 and left 17,000 customers without power
- 4,200 homes were left without power in March 19 after Storm Gareth

In December 2015, a major flooding event in Lancaster left an entire city and around 100,000 people without electricity for more than 24 hours.

In these situations power cuts often affect a much wider area than flooded areas

So, what about if the entire city or region was affected?

SHOWCARD G

Are there any further problems you think you would encounter if the wider region was also affected?

- **PROBE:** Cannot go to a neighbor or nearby family member
- Pubs/shops/cafes nearby would also be closed
- Transport issues?
- Etc etc.

Are there any issues personal to you that would start to emerge during a longer power cut, affecting a large area?

How about if you live in a rural area, or an urban area? What different issues might occur in each of these cases?

- Or if you live alone?
- Have a family?
- Care for someone?
- Have limited mobility?

Following the Lancaster power cuts in 2015, a report was written to take note of all the impacts the power cut had on the community. These were the issues that the community faced:

READ OUT IMPACT CARDS FROM SORTING EXERCISE

1. Vulnerability of other systems (communications including landlines and mobile phones – unable to charge and no signal because power to the cell sites/transmitters down)
2. Households, businesses and transport (heating, lighting, cooking, lifts, water supply for some in high rise blocks, loss of freezer food after 24 hours, shops could not open and may also have lost stock stored in freezers, open shops were inundated with customers only able to pay in cash,

railway stations closed, buses cancelled, no traffic lights, no street lighting, petrol stations closed.)

3. Community (lack of information, no TV, internet, SMS, Social media, only FM radio which would require a battery operated radio and local stations unable to communicate with reporters, vulnerable customers such as those reliant on medical appliances and care homes seriously impacted)

Do any of these surprise you? Which ones? Why?

Does this change anything about whether you feel an interruption like this would affect you, your household or your community? Why? In what ways?

CARD SORTING IN PAIRS FOR THE FOLLOWING:

- Aware/knew this would happen vs unaware/had not considered this would happen

Then re-sort for....

- Would affect...me personally, someone I'm close to, no impact

What effect would these kind of impacts have on the whole community?

- Who would be most vulnerable now? (Think beyond most obvious – anyone that would not normally be considered vulnerable but might now need extra help?)
- Does the entire community become vulnerable?

What about those struggling with fuel poverty that don't have the means to make alternate arrangements? Think about losing the contents of your fridge/freezer contents or finding alternative meals out, and may not have transport, so may have no alternative than to sit it out?

- Thinking about these exceptional circumstances, and their increased frequency, do Electricity North West have a social responsibility to support the wider community to increase its resilience and ability to cope during long power cuts?
 - OR is this kind of long power cut an exception, and out of their control?
- Should others be expected to help too? Who? **PROBE:** Council, local charities, volunteer groups, churches etc?
- Should Electricity North West simply be offering good up to date information about the repair and advice about what to do during a power cut
 - OR should more practical assistance be provided. What kind of assistance?
- Should the kind of support change dependent on the size of the area and number of customers affected?
- Should tailored support (ie food vans) be available to everyone in the community or just those in greatest need

- You may never need to access this kind of support but other communities, ie those vulnerable to faults caused by extreme weather events may need assistance more often – with this in mind do **you** think that all customers' bill should be increased fractionally to cover these costs?
- Do you think that **most customers** would be prepared to pay a small subsidy to help those in need?

Having considered the likely consequences of a large scale, and lengthy power cut like the one that happened in Lancaster in 2015....

- How does that change your view of the variation in VoLL we discussed earlier?
- Probe for anyone or any community who should have higher/lower VoLL? Why?

Remembering that a proportion of your electricity bill goes towards the cost of a DNOs investments to ensure that **all** of its customers have a safe and reliable electricity supply; should VoLL be used when in decisions about investing to improve the resilience of communities that are likely to be more affected by extreme events than others?

7. Close (2-3 minutes)

- Any questions from attending colleagues?
- Reminder of date and time of next ECP
- Thank respondents & depart