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Domestic customer consultation research

Report prepared for:

NIE Networks

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Contents

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Overview

This section of the report summarises the feedback from the research with domestic customers.

The research consisted of:

- Twelve focus group discussions with domestic consumers; and
- 1,205 random sample face-to-face surveys representative of domestic customers

Feedback is structured under the following headings:

1.1 Views of NIE;
1.2 Experience of service delivery;
1.3 Communications;
1.4 Rating and prioritisation of service attributes;
1.5 Overall priorities.

1.1 Views of NIE

Summary of findings

- Across both stages (quantitative and qualitative) of research, it was evident that domestic consumers tend not to think about their electricity services unless they encounter a problem or have a query;
- While there is high awareness of NIE, knowledge of the specific role of NIE Networks is limited with many confusing the organisation with the supplier, Power NI;
- The quantitative survey findings highlight that over half (52%) would speak highly of the services provided by NIE and 3% would be critical. Two fifths indicated that they do not have a strong opinion of the services;
- Those most likely to be critical of the service are:
  - Those who have experienced more than one outage, and outages of over three hours in the last year;
  - Those located in rural areas;
- 86% agree that they are satisfied with the service provided and 2% disagree;
- 72% believe that NIE is striving to be more efficient and 2% disagree;
- 72% trust that NIE will be effectively monitored and 2% disagree.

In this section we explore the views and opinions of domestic customers relating to the services offered by NIE, perceptions of the organisation and the effectiveness of monitoring arrangements.

This section commences with an overview of the findings gathered from the qualitative research and then addresses the key quantitative survey findings.

1.1.1 Setting the context

Qualitative findings

Opinions of a range of public services

At the commencement of the group discussions participants were asked to reflect which aspects of government and public service are of most importance to them, which parts work well and which aspects could be improved. The aim of this part of the discussion was to identify if NIE was identified spontaneously as a good or poor provider of services.

Within all discussions health and education were foremost in participants' minds. These were viewed as the public services which have most impact of them personally and those which they hear about most often.

Other aspects of public administration that were mentioned spontaneously were public transport, roads, policing and justice, and local councils. Utilities tended to be less commonly referred to overall. A few reflected on electricity and deemed it a 'vital' public service, however, one which is generally taken for granted. Such participants did not mention NIE specifically, rather, comments reflected on the general provision of electricity, with little distinguishability between NIE and the suppliers.

"I don't think of electricity as a public service. It is just there. We take it for granted." (Craigavon)

"We can't survive without electricity. We need it 24/7." (Craigavon)

"It is essential, we take it for granted" (Enniskillen)

"It's a public necessity." (L'Derry)

Knowledge of and interaction with NIE

Upon probing it was evident that all had heard of NIE. In order to further assess participants' knowledge, particularly in relation to NIE's role as a distribution network operator rather than a supplier of electricity, preliminary questions assessed whom participants would contact in a range of scenarios (e.g. with a billing query; in a power outage; to arrange a meter reading; to arrange a connection etc.).

Across groups, several accurately indicated that they would contact NIE in the instance of an electrical fault, power outage, and to arrange a meter reading. A few, particularly males and those living in rural areas, were knowledgeable about the structure of the market. They spontaneously noted that NIE has ownership of the transmission and distribution network in Northern Ireland.

However, in some instances there was confusion about the role of NIE and the suppliers. Some remarked that NIE are the general 'providers' of electricity in Northern Ireland. Simultaneous comments comparing NIE with the suppliers and querying whom to contact in

relation to billing revealed a lack of differentiation in service provision. Confusion was particularly evident between NIE and Power NI. Despite later being informed of NIE's role, some struggled to 'grasp' how it differed from the suppliers. A few also suggested that NIE generates electricity.

"NIE produce electricity for the grid which other companies sell on." (Those who live in close proximity to pylons)

"They own the grid and sell it [electricity] *off." (L'Derry)*

"NIE do the same job as Airtricity. They provide electricity." (Craigavon)

"If I have a problem with my key card I am always told to contact NIE. They deal with all the faults." (Craigavon)

"If you have an emergency relating to your electricity, it's NIE you would call." (Rathfriland)

"I'd be less aware, I just look at it as a bill to be paid." (L'Derry)

It was apparent that level of knowledge was somewhat dependent on the amount of contact with NIE. Participants from urban areas tended to have limited interaction. Almost all indicated that they have had no reason to make contact with NIE, particularly as they have experienced few issues with their electricity supply. They struggled to remember the last time they had experienced a power cut. Some recalled NIE calling to take a meter reading, while a few others indicated that they have sent their reading in, however it was evident they were not sure whom the reading had been sent to.

Those in rural areas had experienced more frequent outages, however not all had contacted NIE. Some recalled contacting NIE in previous years, yet noted that the frequency of outages has decreased in recent times. Some were confident that the fault would be rectified and power restored expediently, therefore, indicated that they have had little necessity to contact NIE. Others relied on neighbours/other members of the community to make contact on their behalf.

"No issues these days in comparison to what it would have been like years ago." (Gortin)

"Power cuts used to be a part of everyday life." (Gortin)

"I would just wait it out, I think that's what most of us would do." (Future customers)

"I don't contact anyone anymore. You know that it'll be back on soon enough." (Rathfriland)

"I don't report it if the electricity is cut, I just wait for someone else to report it." (Knowledgeable consumers)

1.1.2 Opinions of NIE

Quantitative findings

We now turn to the findings of the face-to-face domestic survey in relation to views of NIE.

Respondents were asked a number of questions to capture their perceptions of NIE and ascertain the extent to which they are positive or critical of the services provided.

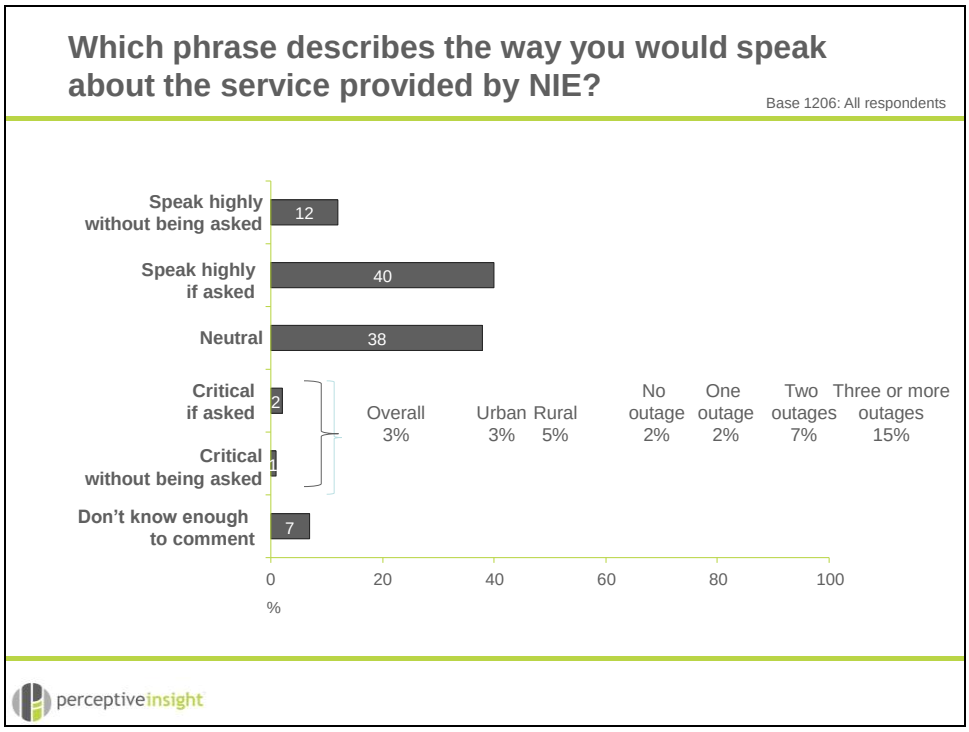
We asked four questions on consumers' general opinions of NIE, as follows:

- What phrase describes the way you would speak to friends and relatives about the service provided by NIE;
- Views on the efficiency of NIE;
- Views on the effectiveness of monitoring NIE; and
- Satisfaction with the service provided by NIE.

Advocacy of NIE's services

Few respondents (3%) indicated that they would be critical of the service provided by NIE, with only 1% stating that they would offer this opinion spontaneously. The majority of respondents reported that they would speak highly of the service provided by NIE (52%) while two fifths (38%) indicated that they would speak neither positively nor negatively about the services.

Figure 1.1.1: Views of NIE



Sub-group analysis revealed that males (5%), those aged 35 to 54 (5%) and those who consider themselves to live in rural areas (5%) were more likely to be critical of NIE.

Furthermore, customers who had experienced either a planned or unplanned electricity outage were more likely to be either critical of the services without being asked or critical of the services if asked. In fact, 0% of respondents who did not experience an outage at all would be critical of the service provided by NIE without being asked with only 2% of respondents reporting that they would be critical if asked. Meanwhile, those who experienced more than one planned outage (14%), those who experienced a planned outage lasting more than four hours (11%), those who experienced more than one unplanned outage (14%) and those who experienced an unplanned outage lasting more than three hours (13%) were more inclined to speak negatively of the service provided.

Table 1.1.1: View of NIE by experience of planned and unplanned outages

		Planned outages				Unplanned outages				Overview		
Which phrase best describes the way you would speak to friends and relatives about the service provided by NIE?	**Overall**	**One outage**	**> one outage**	**<4 hours**	**<4 hours**	**One outage**	**> one outage**	**<3 hours**	**>3 hours**	**Had planned outage**	**Had unplanned outage**	**No outages**
Base	***1205***	***154***	***82***	***113***	***101***	***160***	***99***	***184***	***65***	***244***	***265***	***821***
I would be critical of the services without being asked	1%	3%	5%	2%	5%	3%	6%	4%	5%	3%	4%	0%
I would be critical of the services if asked	2%	1%	9%	3%	6%	1%	8%	2%	8%	4%	4%	2%
I would be neutral towards the services	38%	33%	39%	35%	37%	24%	35%	26%	34%	35%	28%	41%
I would speak highly of the services if asked	40%	41%	37%	41%	40%	53%	38%	53%	32%	40%	48%	38%
I would speak highly of the services without being asked	12%	20%	9%	18%	12%	19%	9%	13%	20%	16%	15%	10%
Don't know enough to comment	7%	2%	2%	3%	1%	2%	3%	3%	2%	2%	2%	9%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Further analysis by household type suggests that customers with higher monthly electricity bills are more inclined to speak negatively of the service provided by NIE. 6% of customers who pay more than £70 per month are likely to be critical. This compares to just 1% of those who pay less than £30 per month. Those with children (5%) and who own their own home (5%) are also more likely to speak negatively with friends and relatives about NIE.

Opinion of NIE

Respondents were asked a number of questions to capture their perceptions of NIE and the way in which the organisation is monitored. Figure 1.1.2 illustrates the following points:

- Almost three quarters (72%) agreed with the statement that NIE is striving to become more efficient; while only 2% disagreed;
- The same proportion (72%) trust that NIE will be effectively monitored, 2% disagreed with this statement and 26% indicated that they either had no opinion or were not sure; and
- 86% agreed that they are satisfied with the services provided by NIE. This compares to 2% who indicated that they are not satisfied.

Figure 1.1.2: Opinion of NIE

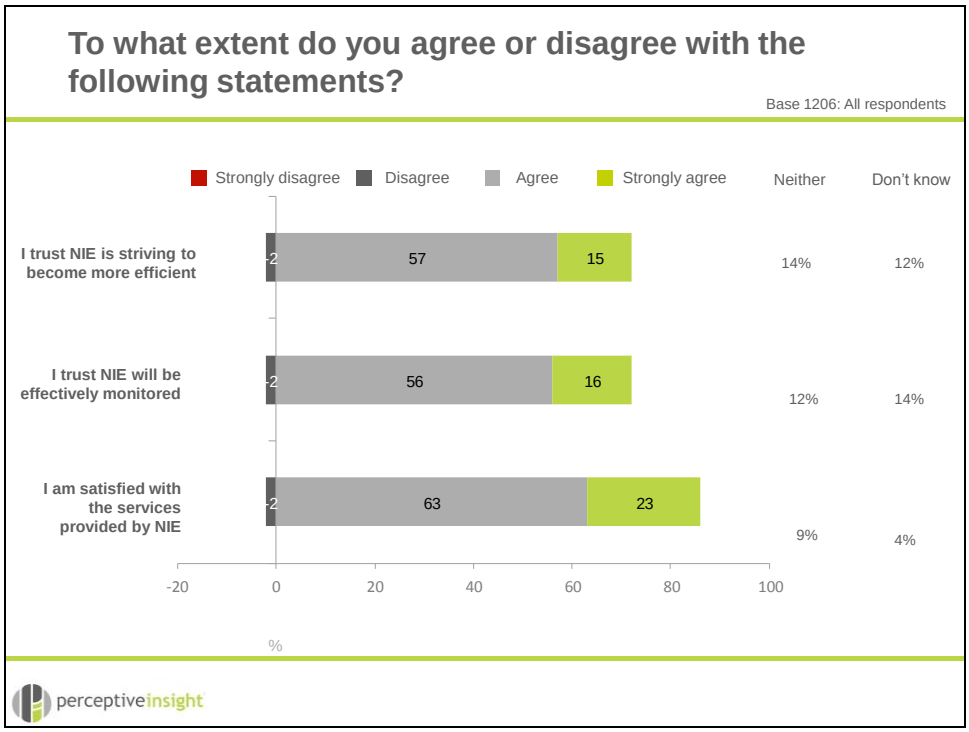


Table 1.1.2 analyses respondents' opinion and satisfaction with NIE by various demographic and household characteristics.

Table 1.1.2: Satisfaction with NIE services

I am satisfied with the services provided by NIE;		Base	Either strongly agree or agree	Neither agree or disagree	Either disagree or strongly disagree	Don't know	Overall
All respondents		1205	86%	9%	2%	4%	100%
Gender	Male	566	84%	10%	2%	4%	100%
	Female	639	86%	8%	1%	4%	100%
Age	18 to 34	201	77%	13%	1%	7%	100%
	35 to 54	403	85%	9%	2%	4%	100%
	55 plus	587	89%	7%	2%	3%	100%
Keypad meter	Yes	547	83%	10%	1%	5%	100%
	No	649	87%	8%	3%	3%	100%
Monthly bill	Up to £30	244	85%	8%	1%	6%	100%
	£31 to £50	485	86%	9%	1%	4%	100%
	£51 to £70	201	83%	11%	2%	3%	100%
	More than £70	196	88%	5%	6%	2%	100%
	Not sure	79	81%	10%	0%	9%	100%
Home Status	Own or mortgage	750	87%	8%	3%	3%	100%
	Rent private	188	77%	14%	2%	7%	100%
	Rent public	243	87%	7%	0%	5%	100%
Overview	Had planned outage	244	84%	8%	5%	2%	100%
	Had unplanned outage	265	85%	8%	5%	3%	100%
	No outages	821	85%	10%	0%	5%	100%

A number of findings become apparent from this additional sub-group analysis, for example:

- Customers aged 55 and above are more likely to strongly agree or agree that they are satisfied with the services provided by NIE (89%) than 18 to 34 year olds (77%) and 35 to 54 year olds (85%); although there is little variation by age for those who are dissatisfied.
- Those with a keypad meter installed are less likely to strongly agree or agree that they are satisfied with the service provided (83%) compared with those who do not have a keypad meter installed (87%);
- Respondents who rent privately are less likely to be satisfied with the service provided by NIE (77%) compared with those who own their house (87%) or those who rent publically (87%);
- Domestic customers with a monthly bill of £70 per month or more are more likely to be dissatisfied with the service provided by NIE (6%). In comparison, just 1% of customers who pay less than £30 per month are dissatisfied;

- Those who have experienced either a planned outage (5%) or unplanned outage (5%) are more likely to disagree or strongly disagree that they are satisfied with the service provided by NIE. In comparison, 0% of customers with no outages reported any level of dissatisfaction. In general, however, the percentage of customers who either strongly agree or agree that they are satisfied with the service provided from the planned outage, unplanned outage and no outage sub-groups remain high at 84%, 85% and 85% respectively.

1.2 Recent experience

Summary of findings

- One fifth of domestic customers told us they have experienced a planned power cut in the last 12 months, the majority of which encountered an outage on one occasion;
- While one in ten were unsure of the duration of the planned power cut, 43% stated that it lasted more than four hours;
- While 3% are not tolerant of any planned power cuts, one third (33%) would accept one outage, while 59% would allow two planned power cuts per year;
- The current method of informing customers of a planned power cut (i.e. notification card) is generally deemed sufficient;
- Less than one quarter (22%) have experienced an unplanned interruption in the last year, with outages more prevalent among those who live rurally (32%);
- Three percent have experienced more than two unplanned power cuts. This rises to 5% among those who live rurally;
- Of those who have unplanned outages, one quarter lasted over three hours. The duration of unplanned power cuts tended to be long for those living in a rural setting;
- It is noteworthy that 62% did not contact anyone when they experienced an interruption to supply. Around one quarter made in contact with NIE;
- Of those who have contact most reached as call handler (59%), with one quarter saying their call was to a tailored message or answering machine. Just 45 used the online method. Respondents were generally satisfied with the various methods of communication.

In this section we explore the extent to which domestic customers have had issues with the provision of their electricity services, with specific reference to planned and unplanned interruptions, and the contact that has been made with NIE over the past year.

We consider the findings from the focus groups and measure the extent of the issues through the quantitative survey.

1.2.1 Qualitative views and experience of electricity related issues

Qualitative findings

Experience of electricity related issues

Few of those who took part in the group discussions had experienced electricity related issues in recent times. As previously noted, almost all urban participants struggled to recall the last time they had experienced an unplanned power cut. One participant had been without power

for three days, however, commented that this was a rare incidence and expressed understanding that NIE had been under pressure to rectify the problem.

"I had a power outage last year. I contacted NIE and was told that it would be fixed in 24 hours but they were under too much pressure." (Those who live in close proximity to pylons)

While there was experience of power cuts in rural groups, this was viewed as being not a major problem, particularly when compared with previous years. One or two noted the impact that adverse weather has on continuity of supply.

"Years ago every household would have had a cupboard for candles. The electricity went out so often everyone knew what to do." (Gortin)

"The electricity is great now. We would very seldom have any issues." (Rathfriland)

"It doesn't take much to knock my electricity off." (Rathfriland)

"Mine would go off about twice a year." (Rathfriland)

"Up to about ten years ago the electricity would have been off and on again. Once they updated the pylons it wasn't an issue anymore." (Rathfriland)

A few knowledgeable customers had negative experiences of NIE connections through their work. Specific concerns related to delays in receiving connection costs.

"NIE could take six months to get a cost back to you when it should have taken them one month." (Knowledgeable consumers)

Power cuts - Perceptions of an acceptable level of occurrence

Perceptions of acceptability of power cuts varied dependant on circumstance. Continuity of supply was deemed more critical for those classified as 'vulnerable', i.e. the elderly, those with poor health, and those with babies/young children. Some of those from the critical care group noted the detrimental impact loss of supply has on their health and lifestyle. As such, they indicated that they could only manage a short-term power cut, lasting a maximum of one or two hours.

"I use a stair lift, in a power cut I wouldn't be able to get up and down the stairs. My independence is completely diminished." (Critical care group)

"It's important to think about people with families and especially with young children." (Critical care group)

"You wouldn't like to be off any more than a couple of hours. Especially if you have children or are elderly." (Craigavon)

A few considered loss of supply from an industrial point of view. They noted the detrimental impact on productivity and revenue, and consequently cited lower tolerance for longer power cuts.

"There's a difference between a factory, a house or a hospital in terms of how people will be affected" (Enniskillen)

"This is a farming community. Four hours would be the maximum amount of time that would be acceptable." (Enniskillen)

On the whole, there was unwillingness to commit to an 'acceptable' duration, however, there was general tolerance for an unplanned power cut lasting up to three or four hours with the point being made that there is a need for frequent updates in the instance of power cuts exceeding a few hours.

"Four hours, that would be ok. As long as you are updated." (Craigavon)

"Three hours isn't that long to be without power." (Future customers)

"I would be prepared to deal with a couple of hours." (Enniskillen)

A few commented that their tolerance is variable dependent on the time of day. For example, some noted that they would be less tolerant of a lengthy power cut in the evening time.

"The worst time for a power cut would be if you were making dinner. Or really any time at all if you have young children." (Gortin)

"During the day wouldn't be so bad. In the evening you couldn't do anything." (Critical care group)

"I wouldn't really be bothered by a power cut if it was shorter than 12 hours, and if it was at night then I wouldn't mind if it was longer." (Future customers)

Some noted NIE's achieved target of solving 89% of power cuts in three hours. They considered this to be impressive considering the extent of work involved in identifying a rectifying a fault.

"Considering the amount of work that needs to be done [to find and rectify a fault] *, three hours is very quick" (Ballymena)*

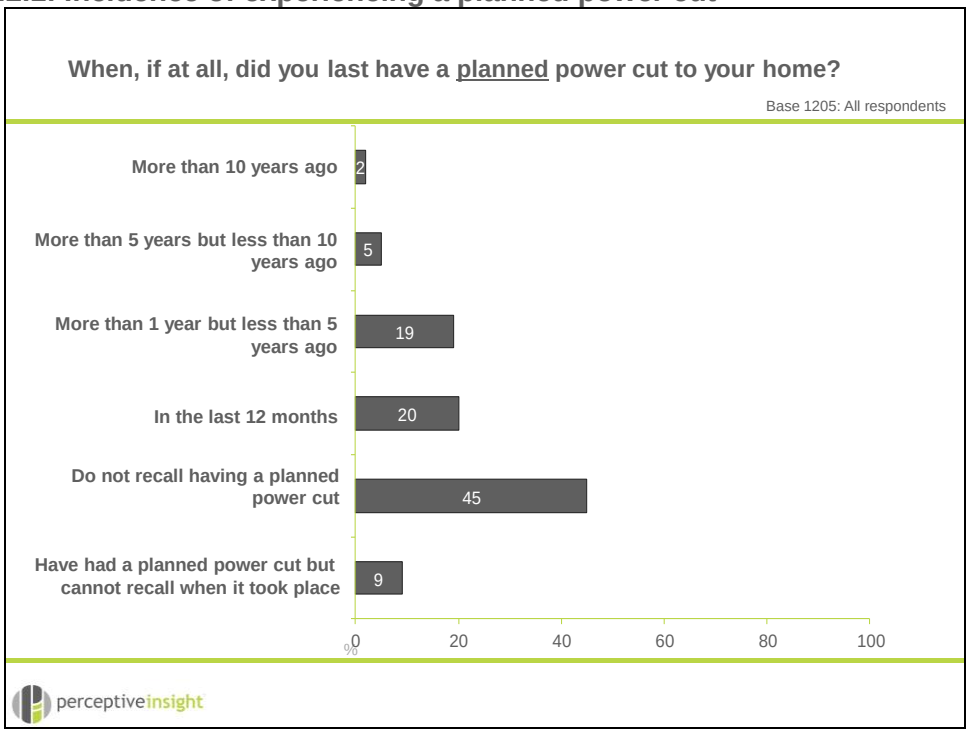
1.2.2 Quantitative measure of service interruptions

Quantitative findings

Incidence and experience of planned power cuts

Figure 1.2.1 reveals that 45% of customers surveyed do not recall having a planned power cut. Meanwhile, one fifth of customers (20%) report having experienced a planned power cut in the last 12 months.

Figure 1.2.1: Incidence of experiencing a planned power cut



Overall, 13% experienced just one planned power cut in the last 12 months. For 5%, this occurred on two occasions, for 1% on three occasions and 1% experienced a planned power cut on more than three occasions.

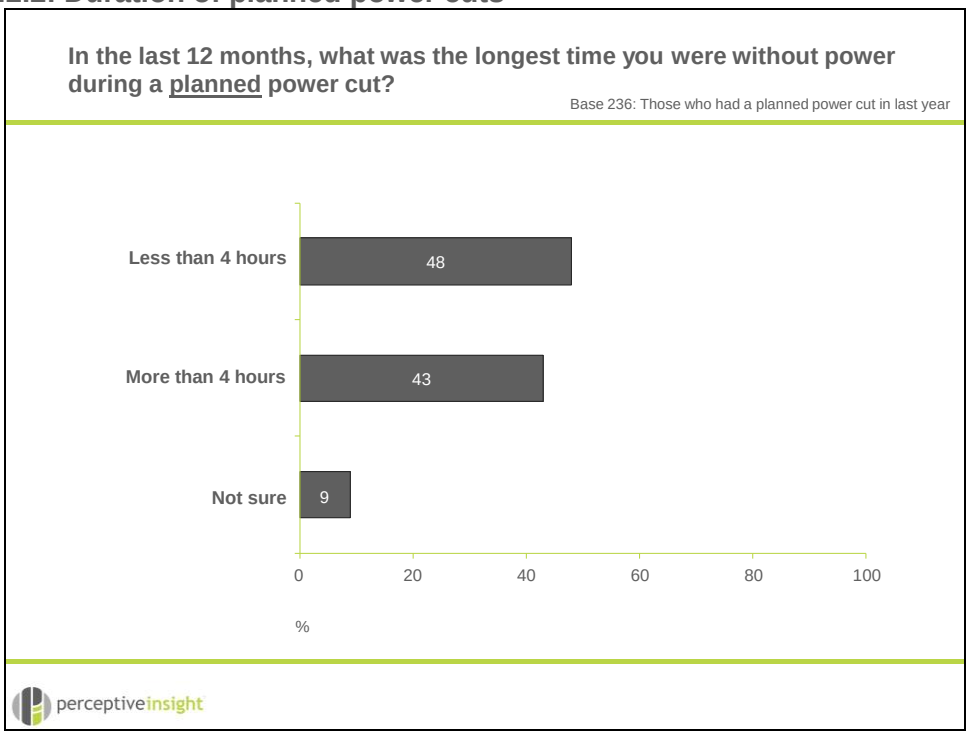
Those who live in rural areas are both more likely to have experienced a planned power cut in the last year and more likely to have experienced these cuts more frequently. One third of rural respondents (31%) experienced a planned cut in the past 12 months compared with just 14% of urban inhabitants. Similarly, as shown at Table 1.2.1, 12% of rural based respondents who had experienced a planned cut did so on two or more occasions. This compares to just 3% of urban customers.

Table 1.2.1: Frequency of planned power cuts by location

		Location	
Thinking about the last 12 months, how many times have you experienced a planned power cut?	**Overall**	**Urban**	**Rural**
Base (weighted)	***1,205***	***787***	***411***
None	80%	86%	67%
Once	13%	10%	19%
Twice	5%	2%	9%
Three times	1%	1%	1%
More than three times	1%	0%	2%
Not sure	1%	0%	1%
Total	*100%*	*100%*	*100%*

As exemplified at Figure 1.2.2 below, just under half of those who experienced a planned power cut (48%) reported that the incident lasted less than four hours, with 43% reporting that the cut persisted for more than four hours and 9% were unsure as to the length of the power cut.

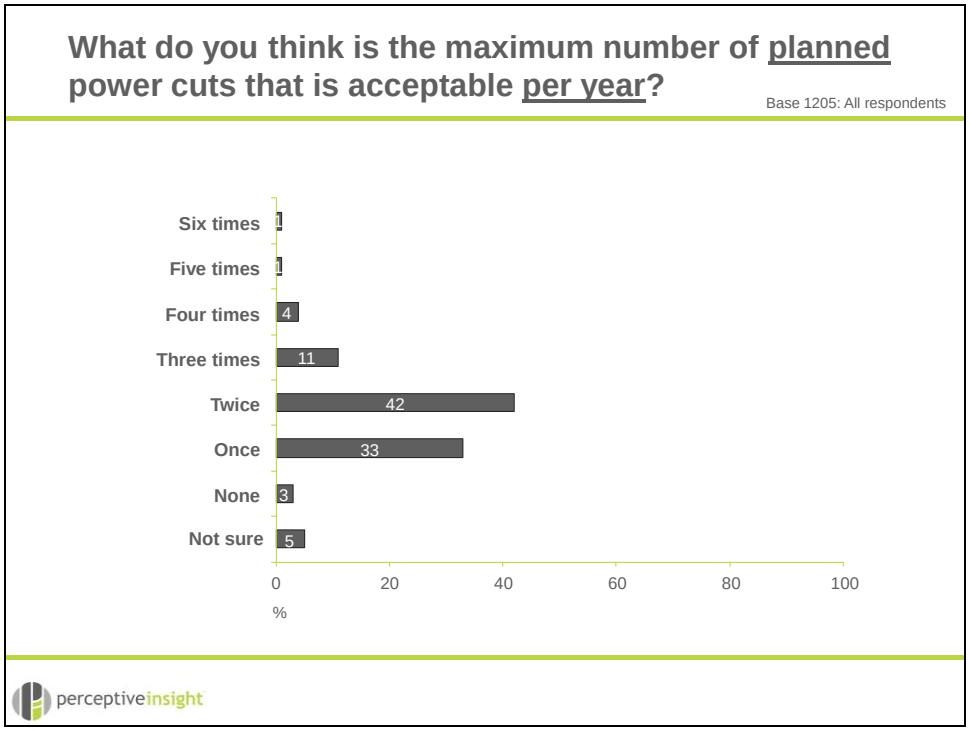
Figure 1.2.2: Duration of planned power cuts



Views on the maximum acceptable number of planned power cuts

Survey participants were asked what they deem to be a maximum acceptable number of planned power cuts per year. As outlined in Figure 1.2.3 below, just 3% believe that power cuts are not acceptable at all, while one third (33%) consider one outage to be tolerable. The majority are accepting of up to two power cuts (59%), while 17% would accept up to three outages.

Figure 1.2.3: Perceived acceptability of the maximum number of planned power cuts per annum



As shown at Table 1.2.2, tolerance for power outages is fairly similar across the key demographic breaks. The key differences are in relation to those with a disability and those who live in a rural setting, who are less likely to be accepting of two or more power cuts per year.

Table 1.2.2: Perceived acceptability of the maximum number of planned power cuts per annum by respondent and household characteristics

What do you think is the maximum number of planned power cuts that is acceptable per year to your home?		Children in house		Age			Disability in household		Location	
	Overall	Yes	No	18 to 34	35 to 54	55 plus	Yes	No	Urban	Rural
Base	1205	309 26%	880 73%	201 17%	403 33%	587 49%	273 23%	915 76%	786 65%	411 34%
None	3%	3%	3%	2%	2%	4%	4%	3%	4%	1%
Once	33%	31%	34%	31%	33%	33%	37%	32%	31%	38%
Twice	42%	43%	41%	36%	42%	43%	40%	42%	43%	39%
Three times	11%	10%	11%	13%	12%	10%	10%	11%	11%	11%
Four times	4%	5%	4%	4%	7%	2%	1%	5%	4%	5%
Five times	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Six times	1%	2%	1%	1%	1%	1%	1%	1%	1%	1%
More than six times	0%	1%	0%	0%	0%	1%	1%	0%	1%	0%
Not sure	5%	4%	5%	10%	3%	5%	5%	5%	6%	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Views on the acceptable duration of planned power cuts

Respondents were asked what is the maximum length of outage for a planned power cut that is acceptable. Few (4%) consider an outage of over eight hours to be acceptable, however 18% are accepting of a maximum power cut of up to eight hours. Two in five (40%) would accept an outage of up to six hours, while almost three quarters (73%) would tolerate an outage of up to four hours.

Additional sub-group analysis of the perceived acceptability of the maximum length of planned power cuts revealed varying responses based on a number of household characteristics. Table 1.2.3 below shows that those with a disability in the household are more inclined to suggest that a planned outage to electricity supply should last for a short time when compared with those households that do not have a disability. For example, 26% of households with a disabled resident think that just 0-2 hours would be considered reasonable. This compares to 19% of households without a disability.

Respondents to the survey who represented a household with children were less understanding of a lengthy electricity outage, with just over two fifths (41%) reporting that an outage of over four hours should be considered reasonable. In comparison, almost half (49%)

of respondents without children in the household would be comfortable with an outage of more than four hours.

Similarly, customers who reside in rural areas tended to be more understanding of a lengthier outage when compared to urban respondents. Almost half (48%) of rural respondents believe that an outage of over 5 hours should be considered reasonable, compared with just 36% of urban respondents.

Table 1.2.3: Perceived acceptability of the maximum length of planned power cuts

What do you think is a reasonable amount of time to be without your electricity supply to allow planned maintenance work to be conducted?		Disability in Household		Location		Children in House	
	Overall	Yes	No	Urban	Rural	Yes	No
Base	1205	273 23%	915 76%	786 65%	411 34%	309 26%	880 73%
Not sure	1%	0%	1%	1%	1%	0%	1%
Zero hours	1%	1%	1%	1%	-	1%	1%
1 to 2 hours	19%	25%	17%	20%	16%	17%	20%
3 to 4 hours	33%	27%	35%	35%	30%	33%	33%
5 to 6 hours	22%	18%	23%	21%	24%	23%	22%
7 to 8 hours	14%	15%	13%	10%	21%	14%	13%
9 to 10 hours	1%	-	1%	1%	1%	1%	11%
11 to 12 hours	3%	4%	3%	4%	2%	3%	3%
No reply	1%	0%	1%	1%	1%	0%	1%
Total	100%	100%	100%	100%	100%	100%	100%

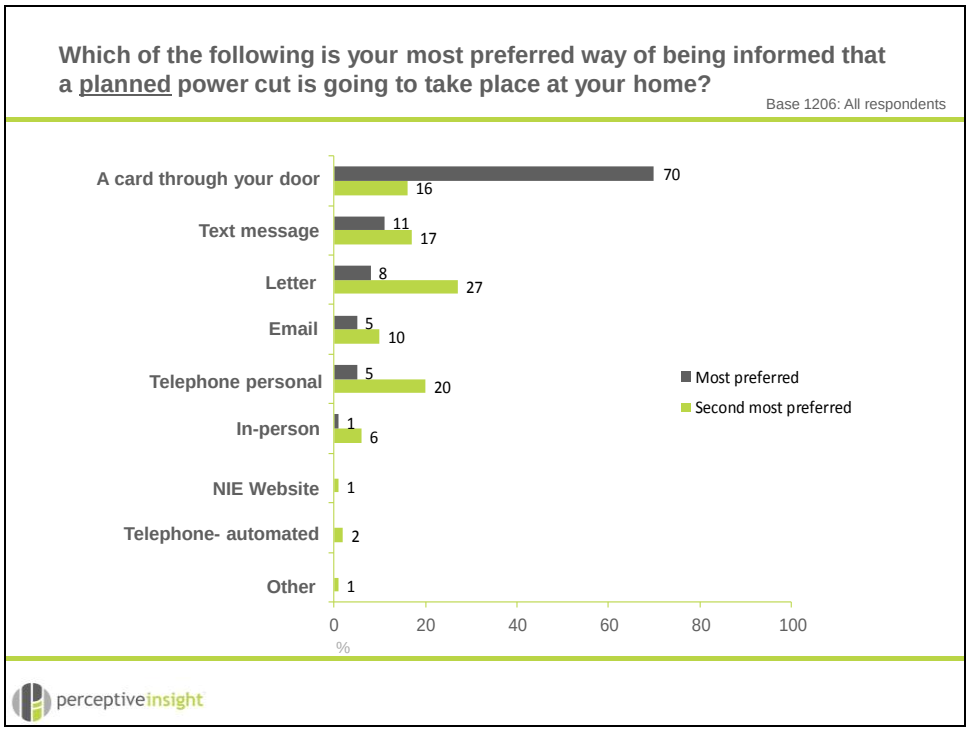
Communication methods from NIE in the instance of a planned power cut

The survey assessed the extent to which domestic customers perceive the current mode of informing customers of planned power cuts (i.e. via notification cards) to be acceptable. The majority (83%) agreed that this is an acceptable method of notification. 14% of respondents deemed this method to be unacceptable, while 3% were unsure.

When provided with alternative choices for communication, the majority of domestic customers (70%) noted that their preferred way of being informed that a planned power cut will occur would still be the notification card. Other notable preferred methods of contact would include a text message (11%) or a letter (8%).

When customers were asked about their second most preferred method of contact, a letter (27%) a personal telephone call (20%) and a text message (17%) were notable favourites.

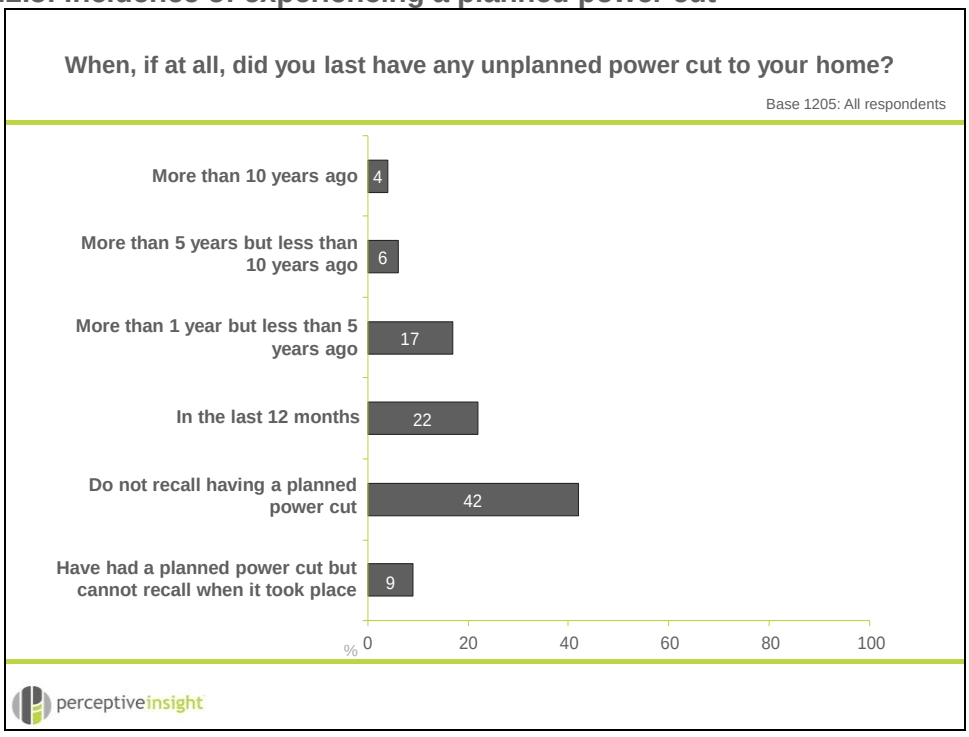
Figure 1.2.4: Preferred contact methods



Incidence and experience of unplanned power cuts

Over two fifths (42%) of domestic customers do not recollect having had an unplanned power cut. Less than one quarter (22%) recall experiencing an unplanned power cut in the past year, while 27% remember an unplanned power cut taking place over a year ago.

Figure 1.2.5: Incidence of experiencing a planned power cut



Perhaps not surprisingly, domestic customers who reside in rural areas are more likely to have experienced an unplanned power cut, and to have experienced these more recently than their urban counterparts. While 52% of urban based respondents do not recall having experienced an unplanned cut, this falls significantly to 22% for those in rural areas. Similarly, just 17% of respondents from urban areas have experienced an unplanned cut in the past 12 months. In comparison, 32% of rural respondents experienced an unplanned power cut over the course of the past year.

Table 1.2.4: Incidence of experiencing an unplanned power cut by location

		Location	
When, if at all, did you last have an unplanned power cut to your home?	**Overall**	**Urban**	**Rural**
Base	**266**	**786**	**411**
Do not recall having an unplanned power cut	42%	52%	22%
In the last 12 months	22%	17%	32%
More than 1 year but less than 5 years ago	17%	14%	23%
More than 5 years but less than 10 years ago	6%	5%	7%
More than 10 years ago	4%	3%	6%
Have had an unplanned power cut but cannot recall when it took place	9%	9%	10%
Total	**100%**	**100%**	**100%**

While the majority have not experienced a power cut in the last year (78%), 13% reported one outage, 5% two outages and 3% had more than two outages.

As well as being more likely to experience power cuts, analysis of the survey responses highlight that rural customers are more likely to experience unplanned power cuts both more frequently and for a longer period of time.

One in twenty (5%) of those who live in urban areas can recall having been affected by an unplanned power cut on more than one occasion in the last year. In comparison, 13% of rural dwellers can recall being affected on more than one occasion.

Table 1.2.5: Frequency of experiencing an unplanned power cut in the last year

		Location	
How many times have you experienced an unplanned outage?	Overall	Urban	Rural
Base	1206	787	411
Never	78%	83%	68%
Once	13%	12%	17%
Twice	5%	4%	8%
Three times	2%	1%	3%
More than three times	1%	0%	2%
Not sure	0%	0%	1%
Total	100%	100%	100%

Of those who had unplanned outages in the last year, one third (33%) where of a shorter duration lasting under 1 hour. 38% reported that their longest power cut was up to three hours, while one quarter had an outage of over three hours.

While only 19% of urban customers who had experienced an unplanned power cut could recall this lasting more than 3 hours, this increases to 32% in rural areas. Unplanned power outages of less than one hour were reported by 40% of urban respondents and just 25% of rural dwellers.

Table 1.2.6: Duration of unplanned power cuts in the last year

		Location	
In the last 12 months, what was the longest you were without power?	Overall	Urban	Rural
Base	259	133	126
Up to 1 hour	33%	40%	25%
1 to 3 hours	38%	39%	37%
3 to 10 hours	24%	18%	30%
More than 10 hours	1%	1%	2%
Not sure	4%	2%	6%
Total	100%	100%	100%

1.2.3 Contacting NIE in the instance of a power cut

Qualitative findings

Consumer contact trends during an electricity outage

Discussions revealed that few participants had reason to contact NIE as they have not experienced a power outage or problem with their electricity supply. Therefore they had generally little engagement with the company.

Comments suggested that there was some uncertainty about whom to contact in various scenarios (supplier vs NIE). Further, a few noted that they were not sure where to obtain a contact number for NIE, however, assumed it would be on their bill.

One or two had experience of the HVCA system. On the whole, it was deemed a useful mechanism. Such participants were satisfied with the information provided, and stated that it was an effective, accurate system. However, a small number from rural settings noted potential difficulty in the system interpreting localised accents and noted the importance of ensuring usability via the telephone keypad.

"I have used the HVCA system and it was quite useful. It told me how long I would be off." (Craigavon)

Some of the knowledgeable consumers reiterated challenges encountered with NIE through their line of work. Concerns were related to connections and length of time to receive information. One or two expressed frustration about information provision in an unplanned power cut.

"I found NIE very hard to work with. They were slow to respond and not willing to work with you." (Knowledgeable consumers)

"There is no such thing as customer service. Not enough communication and no one tells you when electricity will be back on." (Knowledgeable consumers)

"Response time and getting to the right person is very slow." (Knowledgeable consumers)

On the whole, customers lack awareness of the critical care register. Upon being informed, some noted that friends or family members could benefit from the service. Quite a few noted the benefits of the system and were satisfied to hear that vulnerable customers are prioritised during an interruption to supply.

"I wouldn't mind being off that bit longer if I knew somebody more vulnerable was getting the support." (Craigavon)

"You don't know yourself when you would need something like this so it would be good to be informed about the way the register works beforehand." (Rathfriland)

One participant commended NIE's customer service and the support received when experiencing a power cut upon release from hospital.

"I had a power cut the night I was out of hospital from having a baby. I rang up and they were great. They came out to check that I was ok." (Gortin)

Quantitative findings

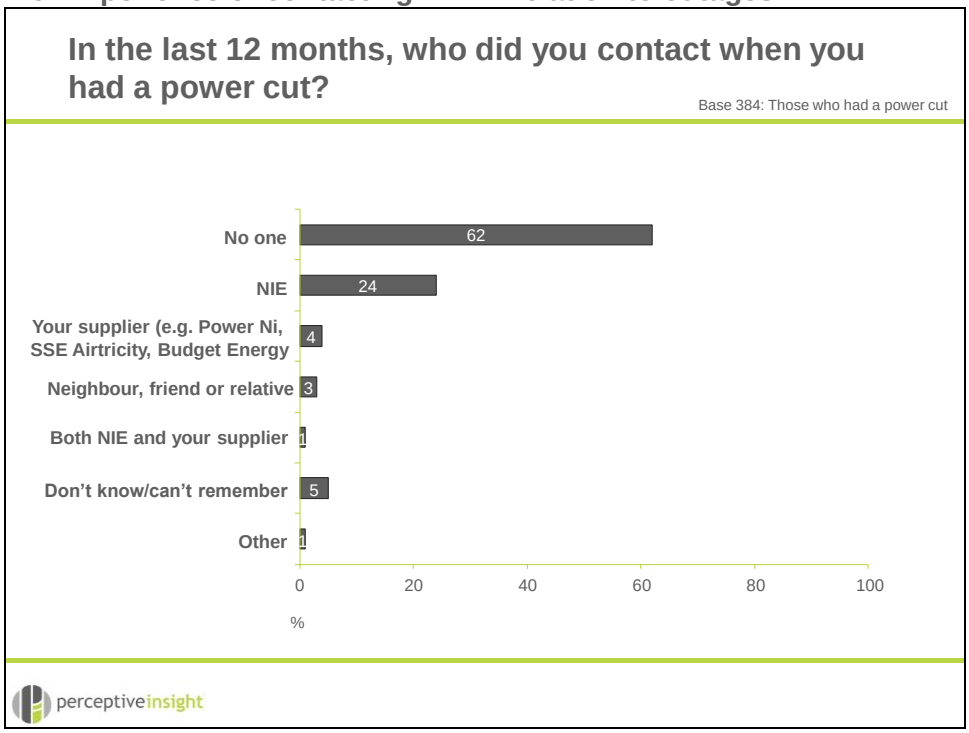
Consumer contact trends during an electricity outage

During the face-to-face survey with domestic customers, respondents were asked about their communication habits in the event of a power cut. This included questions on:

- The respondent's main point of contact during a power outage;
- The call handlers within NIE; and
- The respondent's level of satisfaction with any information they may have been provided with.

On the occasion, when a respondent had experienced a power cut in the last 12 months, the majority (62%) did not contact anyone. Meanwhile, 24% of respondents contacted NIE directly, 4% contacted their electricity supplier and 1% contacted both NIE and their supplier. A further 3% contacted friends, relatives or neighbours while 5% could not recall who they had made contact with.

Figure 1.2.6: Experience of contacting NIE in relation to outages

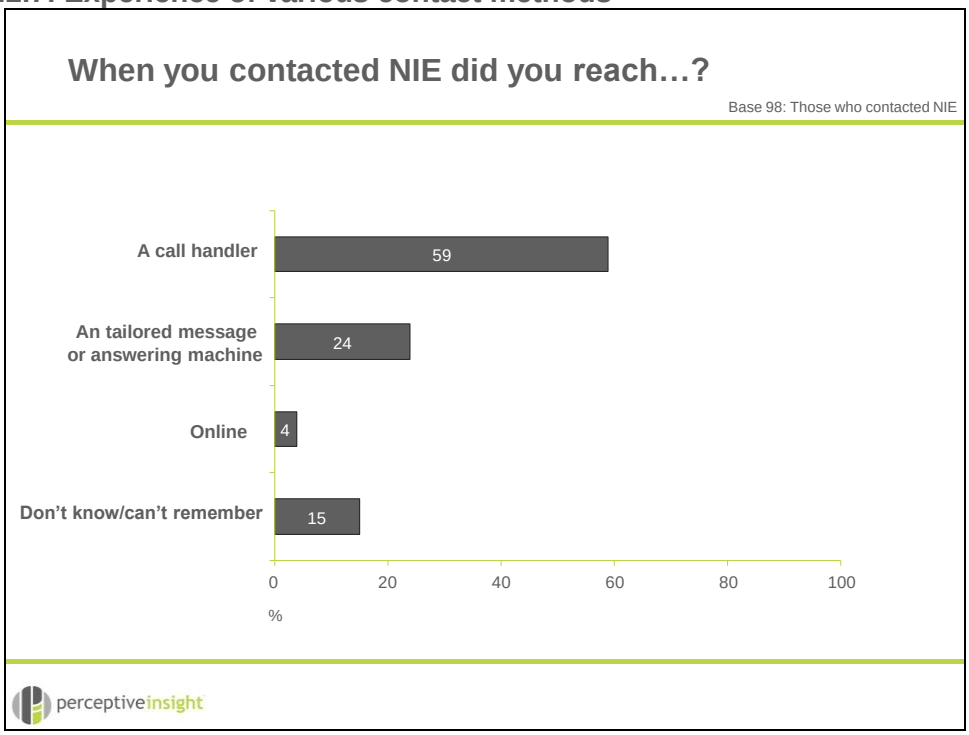


Sub-group analysis revealed that respondents aged 18 to 34 were least likely to contact anyone in the event of a power outage (75% did not contact anyone). Just 13% within this age bracket made contact with NIE, compared with 27% of those aged 55 or over.

Those from rural areas were more inclined to contact someone in the event of an outage. 28% of rural respondents reported making contact with NIE while 58% did not make contact with anyone (the lowest percent across each of our sub-groups).

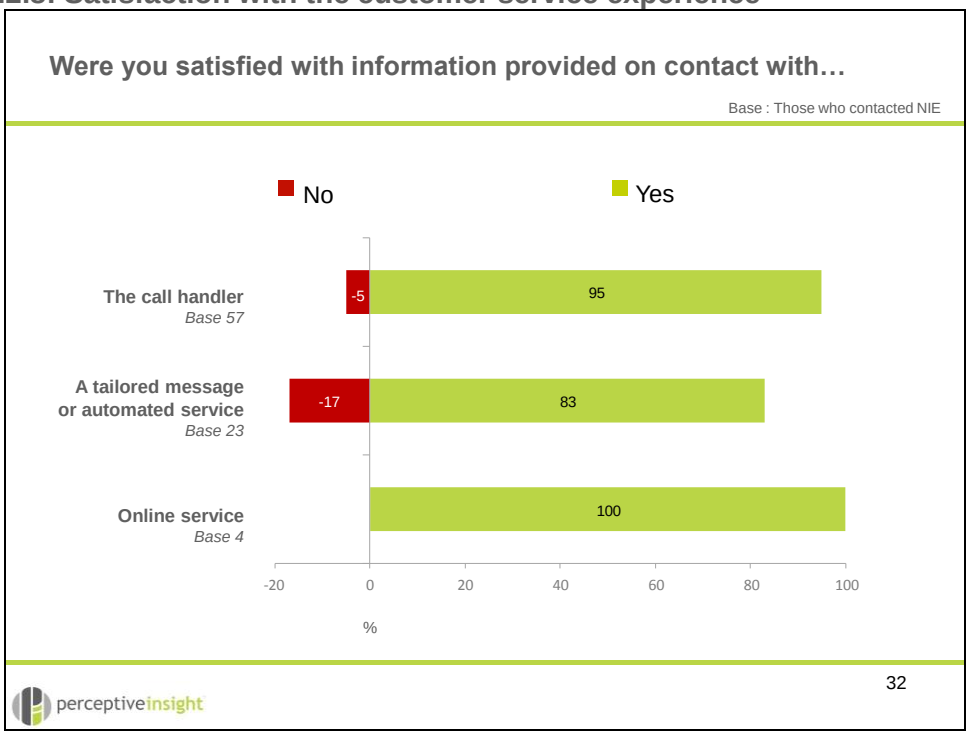
Of those respondents who contacted NIE, 59% engaged directly with a customer representative. Just under one quarter (24%) encountered a tailored message or answering service, whilst only 4% contacted NIE via online methods.

Figure 1.2.7: Experience of various contact methods



Domestic customers tended to be satisfied with the information provided on contact with NIE across all methods. As shown at Figure 1.2.8, although the base is low, 100% of respondents who visited NIE online reported that they were satisfied with the information provided. Those who were dissatisfied attributed this in the main to a lack of specific information provided.

Figure 1.2.8: Satisfaction with the customer service experience



1.3 Communications

Summary of findings

Consumers were asked to reflect on which communication channels they prefer for interaction with NIE.

- Domestic customers identified a clear preference for personal telephone contact in all interaction scenarios but particularly urgent matters. This is similar to the findings of the qualitative research with most domestic customers citing personal telephone contact as their preferred manner of contact;
- Younger customers are more willing than older customers to accept methods of communications which utilise more advanced technology;
- Domestic customers are more willing to use alternative modes of communication to receive follow-up information or at times of high call demand. In such instances, text message and email are the most popular alternatives to the personal telephone method;
- There is strong demand (68%) for a service that allows domestic customers to register their contact details to allow NIE to update them on power outages and other issues.

This section details participants' views on customer service. Firstly we consider the qualitative findings from the focus groups and then turn to the quantitative findings.

The survey covered the following questions in relation to preferred methods of communication:

- Which of these methods of communication you are most likely to use in the event of an unplanned power cut, which is not due to extreme weather?
- Can you tell me which of these methods of communication you are most likely to use in the event of a power cut, which is due to extreme weather and affects a lot of people?
- Can you tell me which of these methods of communication you are most likely to use for non-urgent queries, such as new connections, when there is no power cut?
- Following initial contact with NIE to report an issue, which of the following methods of communication are acceptable for NIE to keep you up to date?
- If the service was available, would you register your telephone number or email with NIE?

1.3.1 Customer service and communications

Qualitative findings

This section summarises the focus group participants' views on customer service.

A series of questions were asked to ascertain what is deemed good customer service, views on any interaction with NIE, and preferred methods of contact.

What does good service means to you?

Participants were asked to summarise what quality customer service means to them. They highlighted a variety of characteristics which they deem markers of quality customer service. Many cited the need for a personal service, with representatives who are empathetic, interested and willing to listen to consumers' complaints. A few expressed lack of tolerance for automated lines; however, it should be noted that only a few have experience of NIE's High Volume Call Answering (HVCA) system.

"Good customer service is having someone to talk to. I hate automated lines." (Craigavon)

"If you have a problem, someone who will listen." (Rathfriland)

"Someone who can give you a proper answer instead of a machine. And not someone saying 'I don't know'. It is ok if someone will find out and then phone you back with answer." (Rathfriland)

"It is important that, when you speak to someone, you feel like you are getting a result." (Enniskillen)

Communication was deemed to be key to good customer service. For some participants, quality service was about ensuring a dialogue between the business and the consumer. Many stressed the importance of keeping customers updated during an interruption to supply (planned and unplanned). The need for expedient provision of information was highlighted by many participants, particularly in the instance of an unplanned fault.

"To be able to speak to someone who will listen and can understand you" (Enniskillen)

"Speed and response time are very important" (Enniskillen)

"Quick and efficient." (Ballymena)

"Easy to contact and speedy to respond." (Rathfriland)

Participants revealed the nature of the information they require in the instance of a fault or power outage. Generally respondents wish to be informed of the cause of the interruption, how it will be resolved and a realistic time frame of when the issue will be rectified. Some commented that they would be able to tolerate lengthier power cuts, as long as they were informed that action was underway to resolve the situation.

"Keeping you informed about what is happening in both planned and unplanned power cuts. Telling you when planned power cuts are going to take place and for how long." (Ballycastle)

Several stated that they benefit from a local service. Some older participants commented on difficulty understanding customer representatives from outside Northern Ireland. Others recognised the benefit in speaking to somebody with local knowledge of the area.

"It would be helpful to speak to a local person." (Ballycastle)

"Someone who understands our accent and preferably who knows the local area." (Enniskillen)

"Speaking to someone who knows your area is reassuring." (Enniskillen)

"It's important to have an understanding voice at the end of phone and someone who can make out what you're saying." (Gortin)

Preferred methods for contacting NIE

Without exception, participants in the group discussions cited personal telephone call as the preferred communication channel in unplanned power cuts, both excluding and including severe weather events. They commented on how they wish to have the opportunity to speak to somebody directly, preferably somebody from an informed background with the ability to provide assistance and inform them of the scale of the fault. This was deemed important to provide reassurance and prevent isolation.

"If I did ring I would rather speak to someone than get an automated phone line." (Critical care group)

"Electricity is a necessity, it is good to have someone reassuring you at the end of the phone when it 'goes out'." (L'Derry)

"If there is an unplanned power cut, talking to an actual person is important. It is very frustrating dealing with an automated line." (Gortin)

However there was some acceptance that an automated service may be effective in times of high demand, such as during a severe weather event. Upon the provision of information relating to the HVCA system, most indicated that they would be satisfied if they encountered this service, provided there was accuracy of information.

"If there's a lot of people phoning in, I appreciate an automated service would be ok in that instance." (Ballymena)

Several, regardless of age, commented on a need for alternative, innovative technologies, particularly as they noted the potential evolving nature of communication up to 2022. Several noted that they use Facebook, and could see the merit in an NIE Facebook page which they could access to receive updates on planned and unplanned interruptions. Only one or two were aware that NIE has a Twitter account; they suggested that this requires manning as much as possible, particularly in a severe weather event.

"I would like to see NIE invest in new communication technologies." (Critical care group)

"Facebook would be good for updates. Not for complaints though." (Craigavon)

Quite a few queried whether NIE has a smartphone app. They indicated that they would be willing to use this to receive updates and also as a means of providing meter readings. Some noted the benefits of a GPS enabled app which could identify a customers' location, particularly in the instance of reporting a fallen power line.

"Do they have a smartphone app? That would be a great idea. People could enter their postcode for updates or use it to provide a meter reading." (Craigavon)

"A smartphone app would be good to find out what is happening, for updates." (Ballymena)

"A smartphone app is a quick way for people to see that whether a fault in their area has been logged. This would take the pressure off the telephone line. The phone could be then reserved for critical cases." (Ballycastle)

Several commented on the benefits of 'live' information in an unplanned power cut, either via text messaging or real time web information. Some felt this would be useful to track repairs and assess the impact to their own service.

"Text alerts would be good so you would know what's going on and what's going to happen." (Future customers)

"Texting would be a good way to communicate. I would be happy for NIE to text me to tell me there was a fault in the line and how long it was going to take them to fix it." (Critical care group)

"Live online chat, that's quick." (Ballymena)

"I would like to track to see what NIE is doing, for example be able to track the fault to see what is happening with it and see how quickly they are dealing with the problem." (Knowledgeable consumers)

Some noted difficulties in communications in a power outage. They highlighted that they are reliant on traditional methods, such as the landline telephone, in a lengthy power outage. Furthermore, the rural issue of limited mobile phone signal means that smartphone services are not an option for some customers.

"There are some difficulties around here because of phone signal, but a text message would work fine. A group text that would notify you when the power is meant to come back on" (Gortin)

"In an outage you would be reliant on the phone as there is no electricity." (Craigavon)

Further comments relating to customer service included the need for swift response in the use of all communication methods and the recommendation for a Freephone telephone service.

"A Freephone telephone number could be something to consider." (L'Derry)

"Need an immediate response regardless of platform." (Future customers)

Quantitative findings

The quantitative survey aimed to build upon the focus group discussions by delving further into the communication methods used by customers in a range of situations, including:

- An unplanned power cut, which is not due to extreme weather;
- A power cut, which is due to extreme weather and affects a lot of people; and
- For non-urgent queries, such as new connections, when there is no power cut.

Customers were also asked to provide their opinion on communication from NIE.

Contacting NIE

Survey respondents were asked to identify readily used modes of communication and their preferred methods for contacting NIE. A personal telephone call was consistently the preferred method of contact across a range of scenarios. In the event of an unplanned cut not due to extreme weather, 79% of respondents chose this method of communication. Similarly, 73% of respondents chose to contact NIE by telephone both in the event of a power cut which is due to extreme weather and for non-urgent queries.

Table 1.3.1: Methods used to communicate with NIE

	Overall		
Which method of communication are you most likely to use to contact NIE in the event of…	**An unplanned power cut, which is not due to extreme weather**	**A power cut, which is due to extreme weather and affects a lot of people**	**For non-urgent queries, such as new connections, when there is no power cut**
Phone – personal	79%	73%	73%
Phone – automated message	12%	13%	11%
Email	6%	6%	9%
NIE Website	7%	7%	6%
Text message	7%	7%	7%
Facebook	2%	2%	1%
Twitter	0%	0%	0%
Letter	-	-	10%
App	0%	0%	0%
Online live chat	2%	1%	1%
Other	12%	13%	8%
Total	**100%**	**100%**	**100%**

As outlined at Table 1.3.1 above, the methods of communication chosen by customers across the three event scenarios were generally consistent, with the vast majority of customers choosing to communicate by telephone. However, for non-urgent queries a distinct change in communication preferences was noted, with a higher percentage of customers reporting that they would be likely to communicate in writing. Indeed, no respondents reported that they would be likely to communicate by letter in the event of either an unplanned power cut which is not due to extreme weather, or in the event of a power cut which is due to extreme weather. This increased to 116 respondents (10%) for non-urgent queries. Similarly, a higher proportion of respondents indicated that they would be likely to respond by email for non-urgent queries (9%) in comparison to the 6% of customers who would be likely to use this method in more urgent circumstances.

Further sub-group analysis revealed that the preferred method of communication varies, particularly by age group (see Table 1.3.2).

Table 1.3.2: Methods used to communicate with NIE by age

Overall	Age		
Which method of communication are you most likely to use to contact NIE (average responses across three event scenarios)	**18 to 34**	**35 to 54**	**55 plus**
Phone – personal	60%	75%	81%
Phone – automated message	14%	12%	12%
Email	15%	7%	4%
NIE Website	14%	9%	3%
Text message	13%	9%	4%
Facebook	6%	1%	0%
Twitter	0%	0%	-
Letter	12%	7%	10%
App	0%	-	-
Online live chat	2%	2%	0%
Other	12%	6%	13%
Total	**100%**	**100%**	**100%**

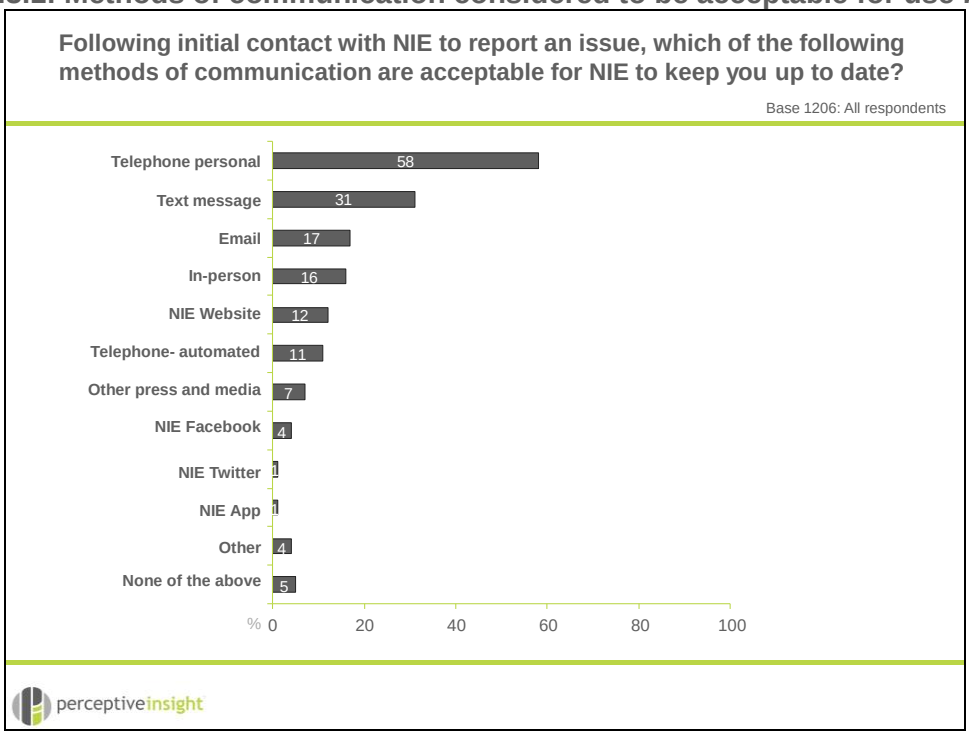
Perhaps not surprisingly, domestic customers aged 55 and over tend to prefer more traditional methods of communication. For example, on average, 81% of respondents aged 55 plus would choose to communicate with NIE by telephone, compared with just 60% of those aged 18 to 34. Meanwhile, respondents aged 18 to 34 tended to also select methods of communication which utilise more advanced technology. On average, 15% of 18 to 34 year olds selected email as a potential communication method; 14% selected the NIE website; 13% selected text message; and 6% selected Facebook. In comparison, just 4% of those aged 55 plus selected email; 3% selected the NIE website; 4% selected text message; and 0% selected Facebook.

Contact methods used by NIE

Respondents were asked to provide their opinion on which methods of communication would be considered acceptable for NIE to keep customers up to date. Figure 1.3.1 demonstrates the survey findings.

Over half (58%) considered a personal telephone call to be an acceptable communication method should NIE need to contact a customer. Other notable methods include text message (31%), email (17%) and communicating in-person (16%). Meanwhile, few participants felt that social media outlets were acceptable for follow up; with just 4% of respondents believing Facebook and 1% of respondents deeming Twitter to be acceptable.

Figure 1.3.1: Methods of communication considered to be acceptable for use by NIE



As with the preferred contact methods of customers, there was found to be a distinct difference in response by age. Again, those aged 55 plus were less likely to select communication methods that make use of more modern technology such as text message (21%); email (10%); the NIE website (6%); Facebook (1%); Twitter (0%) and the NIE App (0%). In comparison, 18 to 34 year olds would be more likely to consider these methods to be acceptable, with:

- **40%** of 18 to 34 year olds believing **text message** to be acceptable;
- **26%** of 18 to 34 year olds believing **email** to be acceptable;
- **21%** of 18 to 34 year olds believing the **NIE website** to be acceptable;
- **11%** of 18 to 34 year olds believing **Facebook** to be acceptable;
- **3%** of 18 to 34 year olds believing **Twitter** to be acceptable; and
- **2%** of 18 to 34 year olds believe the **NIE** app to be acceptable.

Registering with NIE

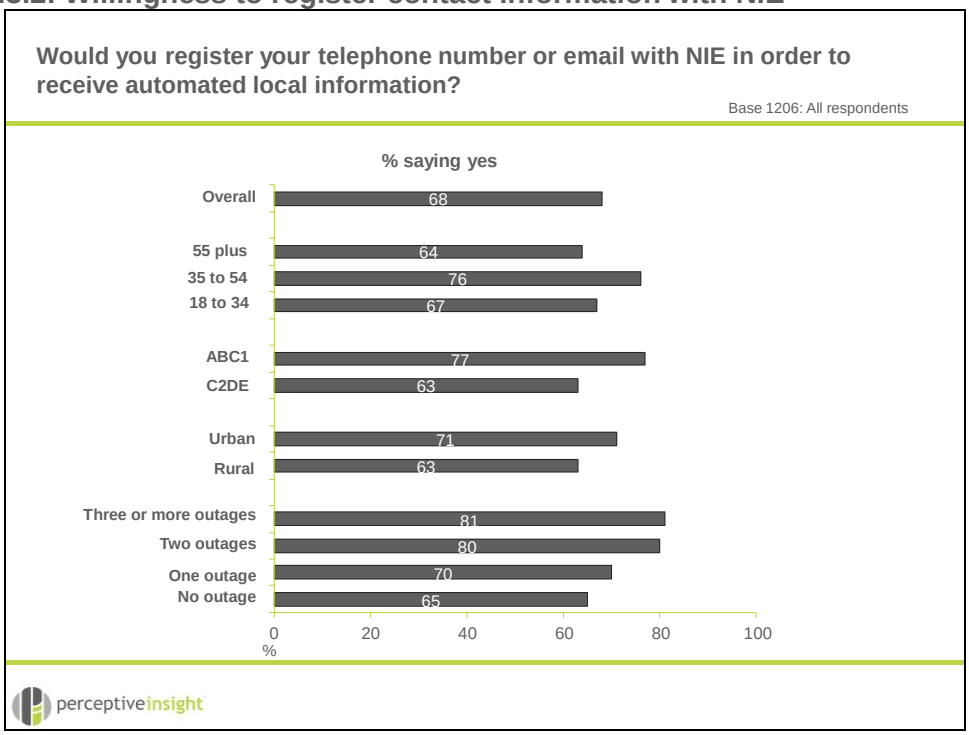
Domestic customers were asked whether they would register their telephone number or email address with NIE should this service be made available. Overall there was a positive response, with 68% of respondents asserting that they would register their information.

Further sub-group analysis revealed insight into which type of domestic customer would be more likely to register their information with NIE.

- Customers aged 35 to 54 (76%) would be more likely to register their telephone number or email address with NIE than those aged 18 to 34 (67%) or aged 55 plus (64%);
- Those classed within the socio-economic group ABC1 (77%) would be more likely to register their details than those classified as C2DE (63%);

- Domestic customers who dwell in an urban area (71%) would be more likely to register their telephone number or email address with NIE than those who live in a rural area (63%);
- Respondents who have a keypad meter installed (70%) would be slightly more likely to register their information with NIE than those without (67%); and
- Those who have experienced more frequent outages are more likely to sign up for the service.

Figure 1.3.2: Willingness to register contact information with NIE



1.4 Rating and prioritisation of service attributes

Summary of findings

Domestic customers were asked to rate which aspects of service they consider require improvement. This was assessed using discrete choice experiment, the findings of which are detailed in a separate report. As a separate exercise respondents were asked the extent to which they would support a range of future investments. These are presented under the headings of dealing with power cuts during normal weather conditions, strengthening the network to cope with extreme weather, and special investments for the future.

Dealing with power cuts during normal weather conditions

- Similarly to the qualitative research with domestic customers, limiting both the frequency and duration of power cuts are viewed as equally important improvements, with the majority fully supporting this type of future investment.
- Fewer domestic customers (39%) stated they would fully support an increase in the number of options for communicating with customers during power cuts.

Strengthening the network to cope with extreme weather

- The majority (94%) expressed high support for investment in this area, with 58% stating they would give this their full support.

Special investments for the future

- Of the three areas assessed, domestic customers expressed lower levels of support for special investments for the future, however:
  - 38% fully support investing in trials to support renewable technology connecting to the electricity network;
  - 36% cited that they would fully support investment in the undergrounding of overhead lines in urban areas; and
  - 36% cited that they would fully support investment in the undergrounding of overhead lines in tourist areas/areas of natural beauty;

On the basis that NIE is planning ahead for the next six to seven years, one of the objectives of both the qualitative focus groups and the quantitative survey was to ascertain what customers think their priorities should be for future investments.

Three main areas for which NIE wanted to obtain a domestic viewpoint included:

- Dealing with power cuts;
- Making the network stronger to cope with extreme weather; and
- Undertaking special investments for the future.

During the quantitative survey, participants were shown 18 hypothetical choice cards showing various options for investment. Each choice card displayed the current situation as well as two alternative improved options with different costs in the form of an annual increase in the participant's electricity bill. Respondents were then asked to select their favourite option (while considering their own household budget and the impact any additional changes may have).

The quantitative analysis and reporting of the choice card exercise was undertaken by Professor George Hutchinson and Dr Alberto Longo from the Environmental Economics team at the Gibson Institute, Queen's University, and the findings are reported in a separate report.

As such, the following sections detail the qualitative findings relating to investment preferences, the rating and prioritisation of service attributes as well as selected quantitative analysis to ascertain why the respondent selected particular options, what they would be willing to pay to implement their selected changes and what standard of service they would deem acceptable in light of their willingness to pay.

1.4.1 Customer investment preferences

Qualitative findings

The following section summarises the key themes arising from group discussions and stakeholder workshops relating to priorities for investment.

Participants were provided with contextual information relating to each aspect of service, and the improvements which could be made with medium and high investment. Participants were then asked to consider where they would 'place' the investment. The rationalisation for the 'trade-offs' are considered in the following sections.

Dealing with power cuts during normal weather conditions

Participants were asked which area relating to 'dealing with power cuts' was important to them for future investment. As part of a task to facilitate the 'trade off' discussion they were provided with 20 'chips' as an indication of the budget that is available to improve service provision and asked to distribute the budget to the areas that they felt required the greatest levels of attention.

The following table illustrates the distribution of chips made by each group and the total number of 'chips' attributed to each area of service relating to 'power cuts'.

Table 1.4.1 illustrates that groups attributed a similar number of chips to the 'number of people experiencing power cuts' and 'customers at higher risk'. Perhaps not surprisingly, in most instances those from rural areas tended to place more chips in 'customers at higher risk'. Some urban groups also prioritised this area, whilst others shared the investment fairly evenly. On the whole, the 'average duration of power cuts' received lower levels of investment.

Table 1.4.1: Investment on 'dealing with power cuts' by group

	Group	Number of people experiencing power cuts	Average duration of power cuts due to faults on the network	Customers at higher risk of power cuts
1	Gortin	6	4	10
2	L/Derry	10	7	3
3	Enniskillen	5	6	9
4	Rathfriland	10	5	5
5	Future customers	7	3	10
6	Ballymena	10	5	5
7	Ballycastle	10	0	10
8	Bangor	5	4	11
9	Craigavon	4	1	15
10	Living near pylons	10	0	10
11	Critical care	6	4	10
12	Knowledgeable	7	0	13
	Total	**90**	**39**	**111**
	Average	**8**	**3**	**9**

In the following paragraphs we detail the rationale behind the trade-offs that were made in relation to power cuts.

It should be noted that not all stakeholder groups engaged in the 'trade-off' exercise for each service area. Therefore, an overview of their prioritisations within the 'chip' exercise is not included. However, where applicable, stakeholders' rationalisations for investment are integrated throughout this section.

Number of people experiencing power cuts due to faults on the network

Trade-offs relating to unplanned power cuts were based on the number of customers affected and the frequency with which they are affected.

As previously noted, most perceive that they do not experience many power cuts, therefore indicated that they are satisfied with the current level of service. Others suggested that a 1 in 6 chance of experiencing a power cut was not sufficiently high to warrant significant investment.

Some 'weighed' up the benefits of investing in reducing power cuts for the 'general population' as a whole, rather than those at higher risk only. Some deemed it a worthier investment to improve service for up to 14,000 customers, rather than one or two thousand at higher risk. Others queried whether those at greater risk may also experience improvement by investing

in the 'overall number of people affected by power cuts', and therefore considered dual benefits in investing in this area of service.

"Improving service for 14,000 people. That is a big improvement and would help a lot of people." (Craigavon)

"If you reduced power cuts overall that would help out high risk customers as they too would have less power cuts." (Critical care group)

"Spend the money on upgrading the network overall, high risk customers are only a small portion." (Knowledgeable consumers)

"The money goes further in this area compared to the trying to invest in reducing the average duration of power cuts." (Gortin)

Average duration of power cuts due to faults on the network

Discussions revealed that the average duration of power cuts is important to customers. In earlier discussions, most cited tolerance for a power cut lasting a few hours. Some commented on frustration and anxiety in the case of longer power cuts.

"The number of power cuts is not as big an issue as the actual length of time. This impacts on how much it actually affects you." (Bangor)

"The longer the power is off the more anxious/annoyed you get." (Critical care group)

However, very few have experience of 'lengthy' power cuts. Many considered the average duration of 1 hour and 27 minutes, and deemed this to be fairly reasonable. Furthermore, there was general agreement that the medium and high investment options do not yield a significant difference from the status quo. Subsequently, suggested improvements of 4.5 minutes and 9 minutes were not key influences to investing in this attribute, particularly when considering the potential improvements in the other areas of service.

"There is not a lot of gain there for high investment [duration]'' *(Enniskillen)*

"The duration one isn't important. If you are off for 2 hours you may as well be off for 2 hours 15 minutes." (Craigavon)

"Nine minutes less of a power cut just doesn't seem worth it.'' (Ballymena)

"The reduction of minutes is not overly convincing." (Rathfriland)

"Spend it efficiently there is no point in saving 9 or 10 minutes. Save for on-going maintenance." (Knowledgeable consumers)

"High investment for 9 minutes. That's nothing compared to 20% of high risk customers." (Those who live in close proximity to pylons)

Customers at higher risk of power cuts

Considerations relating to those at higher risk were primarily influenced by the current situation facing these customers. Quite a few deemed eight power cuts in 18 months to be unacceptable. They considered this relative to the average incidence of power cuts on an overall basis (one in six) and thus deemed it a worthier investment to assist those experiencing a higher number of power cuts.

"That is really high. Eight power cuts in 18 months." (Craigavon)

"You couldn't really justify helping any other group than those who are getting more than eight power cuts." (Those who live in close proximity to pylons)

"I wouldn't like to live somewhere I was getting power cuts all the time." (Ballymena)

Some pointed out that rural customers are most susceptible and more likely to be worst served by provision in the local area. For example, they noted that urban residents can avail of local facilities e.g. nearby restaurant/café in the instance of an unplanned power cut. Contrastingly, they reflected on the isolation facing rural residents. Some also perceived that, in a large-scale power cut, urban residents are in an advantageous position as the power will be restored more quickly.

"The city is reconnected first because there are more businesses and hospitals which have priority." (Knowledgeable consumers)

"I don't believe that urban areas should be prioritised over rural areas." (Knowledgeable consumers)

A few knowledgeable consumers were concerned that the situation facing 'at risk customers' would be likely to deteriorate without investment. Others noted the positive impact that investment can make in reducing the number of customers at risk.

"Invest in rural customers and higher risk customers. If you don't invest it is going to get worse." (Knowledgeable consumers)

"You reduce the number who are high risk to almost half." (Rathfriland)

While a few consider that power cuts are 'part and parcel' of rural living, others noted that those in rural settings deserve the same level of service as their urban counterparts. One or two queried whether higher risk customers are compensated for frequent power cuts.

"People living in rural areas are paying the same amount for their electricity so they have a right to get help." (L'Derry)

"People who live in high risk or rural areas deserve a working service as they are paying the same as people who live in a city. They should not have to put up with so many power cuts" (Bangor)

"The people who are high risk, do they get compensated on their bill?" (Ballymena)

Other issues to consider – who are the vulnerable customers?

The issue of vulnerability was frequently mentioned by both domestic customers and stakeholders when making trade-offs relating to power cuts. A variety of characteristics were mentioned when discussing vulnerable groups. These incorporate those who require electricity for health related purposes, including both long term and 'transient' needs (i.e. those recently released from hospital), as well as hospitals and nursing homes. Furthermore, domestic customers also identified those who live in remote rural settings and thus are more prone to isolation. Some rural customers noted that they have challenges with mobile network and 3G coverage, and thus, are less well served by mobile phone provision.

The following comments reflect the above points and emphasise the criticality of supply to some customers.

"I would be at a loss, I use a nebuliser and would not be able to get to sleep." (Critical care group

"It's important to think about those who are most vulnerable in society, nursing homes or even elderly people living at home alone." (Gortin)

"Investment should be targeted to people who would be most affected by power cuts; the most vulnerable in society such as very young children and the elderly, and those who repeatedly have to suffer through power cuts." (Future customers)

Strengthening the network to cope with extreme weather

Discussions relating to network resilience commenced with questions to assess the perceived frequency and impact of extreme weather on the electricity network.

Overall, there was strong agreement that the frequency of severe weather events is on the rise, and that the situation has deteriorated in the past few years. There was particular mention of increased incidences of flooding and high winds.

"They say that severe weather is to become more frequent so you would think more investment would be needed" (Ballymena)

"Severe weather is definitely becoming more frequent." (Rathfriland)

"In the last few years the weather has gotten worse." (Craigavon)

All noted the potentially 'devastating' effect of severe weather events on the electricity network, with some recalling the impact of extreme weather on the electricity network in previous years (1998, 2010, 2013). Others cited severe weather as an underlying factor in most unplanned power cuts.

"In 1998 the storm just after Christmas hit, and people were put out of their houses. This was a turning point for the improvement of emergency weather response." (Gortin)

"You only hear about power cuts when it has been really bad weather." (Craigavon)

On the whole, discussions revealed the sentiment that NIE should be prepared for the impact of extreme weather. Some noted that severe weather affects the electricity network more than it should. A few compared the resilience of Northern Ireland's electricity network to that of countries which are accustomed to extreme weather, and assumed the latter to be superior. Some noted the merit of a preventative versus reactionary approach to dealing with the impact of severe weather.

"Extreme weather events seem to affect our electricity more than they need to." (Critical care group)

"There are countries, like Canada, which get more severe weather than us and they deal with it much better." (Knowledgeable consumers)

"The issue is that we don't really get seasons here. You never know what weather you're going to get. I suppose NIE just has to prepare for the possible worse case scenarios." (Gortin)

"In bad weather you expect them to be prepared for it so it doesn't take so long to come back on." (Craigavon)

Perceptions of an acceptable time to be without power in a severe weather event

Some recognised the challenges facing NIE in locating and rectifying a fault in a severe weather event, and consequently expressed more tolerance for longer power cuts. However, participants struggled to come to consensus on a 'reasonable' length of time to be without power; views on acceptable duration varied from a couple of hours to 12 hours, while several commented that acceptability is dependent on the severity of the conditions.

"There would be some degree of sympathy and understanding in cases of severe weather as there potentially would be difficulties facing the engineers." (Those who live in close proximity to pylons)

"In severe weather it is much more acceptable to have your electricity off for a wee bit longer, but after three hours you would start to ask questions." (Gortin)

"It really depends, if there is bad weather outside, you would be more tolerant." (Gortin)

"In severe weather conditions, a power outage of 24 to 48 hours would be acceptable, although four hours ideally." (Enniskillen)

"24 hours would be acceptable to wait in bad weather conditions because you know that NIE are doing the best they can and there are obvious places that would need to be prioritised." (Future customers)

Interestingly, some expressed less tolerance for a lengthy power cut in severe weather. Concerns related to lack of heating and being able to 'keep warm'. Others reiterated the importance of meeting the needs of vulnerable customers.

"It is more understandable [to be without electricity for longer in a severe weather event]. *However, you are more anxious in case it is cold and you don't have any heat." (Craigavon)*

"In colder weather people would be anxious to get their electricity back on." (Rathfriland)

Prioritisation of service areas in the case of extreme weather

Similar to the activity conducted in relation to power cuts, participants were asked which areas of service relating to network resilience to extreme weather were most important to them for future investment. All agreed that investment is required to increase network resilience to severe weather, with several noting the 'knock on' impact in reducing the overall number of power cuts. When considering the areas of service, trade-offs focused on the likelihood and impact of the various weather conditions on the electricity network

Table 1.4.2 illustrates that groups were more inclined to invest in flooding (total: 110 chips). Whilst fewer chips were placed on ice accretion and high winds overall, the level of investment placed in both areas was fairly consistent.

Table 1.4.2 Investment on network resilience to extreme weather by group

	Group	Ice accretion	Flooding	High winds
1	Gortin	2	10	8
2	L/Derry	3	11	6
3	Enniskillen	2	4	14
4	Rathfriland	4	9	7
5	Future customers	4	11	5
6	Ballymena	4	10	6
7	Ballycastle	2	10	8
8	Bangor	6	9	5
9	Craigavon	8	10	2
10	Living near pylons	10	8	2
11	Critical care	8	6	6
12	Knowledgeable	8	12	0
	Total	**61**	**110**	**69**
	Average	**5**	**9**	**6**

Ice accretion

Participants were generally unfamiliar with ice accretion, and whilst informed that it has affected the network three times in the last five years, it was perceived it to be less of a risk in Northern Ireland compared to flooding and high winds.

"I think you need to protect the substations from flooding. When was the last time there was ice accretion?" (Craigavon)

"Ice accretion would not really be an issue around here and it doesn't seem to happen that often elsewhere." (Gortin)

There was less consideration of the impact of ice accretion, which again appeared to stem from lack of familiarity of the phenomenon. Although there was recollection of power outages due to ice accretion in 2010 and 2013, nobody in attendance had been off long enough for it to have had a severely detrimental effect[1]. There was generally less consideration of the fact that some customers had been without power for up to five days.

"The most recent severe weather that caused a power cut for me was the 2013 snow. And I don't think it was off for too long." (Future customers)

The group from Gortin were able to recall the impact of severe weather on the network in 1998. However, they were of the perception that service had improved drastically since then.

"Boxing day in 1998 we had a terrible storm, the electricity went off and people were put out of their houses for 14 days. Since then there has been so much improvement to the electricity network." (Gortin)

Some were influenced to place higher investment in flooding and high winds as they perceive that such occurrences can happen at any time of the year, while ice accretion was considered a winter event.

"Ice accretion will only occur in the winter." (Craigavon)

"You might only have three months of the year when that might happen." (L'Derry)

However, a few took cognisance of the increasing incidence of ice accretion in the last few years and cited the need for investment. One or two knowledgeable consumers noted the cost implications in repairing faults to the network if it did occur. Therefore, they saw merit in investing to prevent the risk of ice accretion.

"More needs to go into ice accretion. If you don't put much it is going to have a large impact." (Craigavon)

"If ice accretion is going to get more common investment should be made here." (Ballymena)

"Issues associated with ice accretion are much more expensive and could happen anywhere." (Knowledgeable consumers)

There was consideration of the fact that ice accretion is more common in rural, less populous areas. There was some concern that these areas are already more vulnerable and experience the highest number of power outages.

[1] One person reported a power outage lasting three days (participant living in close proximity to pylons, Belfast)

"Rural areas suffer much more especially in the snow." (Knowledgeable consumers)

"Ice accretion has become a more common issue in the last few years. I think this has to be recognised by NIE and measures taken to ensure vulnerable areas aren't at risk. In cold weather it is much more dangerous to have a power outage." (Those who live in close proximity to pylons)

However, others deemed it a priority to place investment in areas where more people are at risk. They suggested that flooding is more likely to impact the network for people living in urban areas.

"Flooding is happening much more frequently, especially in Belfast." (Knowledgeable consumers)

Flooding

Group discussions in relation to extreme weather revealed most concern about the impact of flooding on the network. Feedback appeared to stem from greater awareness and experience of flooding, both on a personal basis and through recollections of those affected via the media. It was deemed the greatest problem overall and perceived to be the weather event which has adversely impacted on most people.

"Flooding is the biggest problem." (Ballycastle)

"Flooding has affected a lot of people." (Craigavon)

"Flooding would do the most damage." (Ballymena)

"Money should be set aside for flooding as the impact is largest." (Ballymena)

Some were of the opinion that the risk of flooding is on the increase, and therefore action needs taken to reduce the risk.

"Flooding is an increasing risk. It is happening more often." (Knowledgeable consumers)

"Flooding affects so many people, this is a main issue that needs to be tackled. Every year it is getting worse." (Gortin)

Several commented on the implications of flooding. They were of the perception that any damage to the network due to flooding would be costly and time consuming, both to assess the extent of the damage and to undertake repairs. When considering the investment required, some took into consideration the number of people (50,000) who are supplied from substations deemed to be at risk of flooding.

"Flooding would take the longest as they have to wait until it dries out so they can find the fault." (L'Derry)

"I would have concerns that a flooded substation would cause power cuts to a lot of people." (Those who live in close proximity to pylons)

Some noted the media attention given to flooding. It was suggested that NIE would be strongly criticised in the instance of an event which had not be prepared for.

"Every year the news talks about the same areas being flooded and every year they talk about fixing it." (Gortin)

High winds

Similar to flooding, all had experience high winds. Participants reflected on the common nature of high winds, therefore considerations for investment in this area focused on the likelihood and the fact that all parts of Northern Ireland are at risk. Participants noted that high winds occur all year round, regardless of seasonality.

"High winds are an issue across Northern Ireland and are the main issue here." (Enniskillen)

"High winds would be very common." (Rathfriland)

"The North Coast and places such as Coleraine would experience strong winds more frequently than other areas." (Knowledgeable consumers)

"High winds are definitely an issue around this area. And happen all year round." (Gortin)

"Wind can affect us at different times of the year too." (Ballymena)

A few weighed up the cost/benefits of increasing network resilience against high winds. They considered it a worthwhile investment as they perceived it would be less costly to protect against compared with ice accretion and flooding. Others suggested that they required more information on the number of customers at risk before prioritising it above other weather conditions.

"Wind requires less investment but would make a substantial enough change." (Those who live in close proximity to pylons)

"It is important to know how many customers are being affected by high winds." (Ballycastle)

Special investments for the future

Environmental impact of the network

During group discussions, participants reflected on the environmental impacts arising from the electricity network. Several mentioned the impact of renewable energies on the network and spontaneously noted the rising incidence of solar panels, wind generation etc. A few have installed renewable energies on their property/premises. Although most were positive about the increasing incidence of 'green' energy, one or two of those who have installed solar panels queried the cost benefits of installation.

"I am not sure that the 'pay off' for installing renewable energies is worth it." (Enniskillen)

There was some concern amongst younger participants about the environmental impact of cutting down trees.

"Tree cutting occurs too often, we're meant to try to preserve trees and the wildlife that live in them." (Future customers)

"The environmental impact of cutting down trees has to be considered." (Future customers)

Participants were again provided with 20 priority points and asked to allocate them among various aspects of environmental services, including reducing NIE's energy consumption footprint; undergrounding overhead lines, and bird fouling.

Table 1.4.3 illustrates that, with the exception of bird fouling, groups were inclined to place fairly equal levels of investment in the environmental attributes.

Table 1.4.3 Investment in environmental impact of the network

	Group	Reduce NIE's energy consumption	Undergrounding overhead lines in AONB/tourist sites	Undergrounding overhead lines in urban areas	Resolving bird fouling issues
1	Gortin	8	4	6	2
2	L/Derry	20	0	0	0
3	Enniskillen	4	7	8	1
4	Rathfriland	4	5	9	2
5	Future customers	4	9	6	1
6	Ballymena	2	6	6	6
7	Ballycastle	7	6	6	1
8	Bangor	4	7	8	1
9	Craigavon	2	4	14	0
10	Living near pylons	8	8	2	2
11	Critical care	7	5	6	2
12	Knowledgeable	12	8	0	0
	Total	**82**	**69**	**71**	**18**
	Average	**7**	**6**	**6**	**1**

The following paragraphs provide an overview of the trade-offs made by participants when deciding upon environmental attributes.

Reduce NIE's energy consumption footprint

On the whole, some were surprised to learn about NIE's energy consumption, with a few expressing particular surprise at its mileage. Some provided suggestions to reduce the miles

'clocked up' by NIE staff. For example, one group recommended a text facility to enable customers to send in their own meter reading.

"We phone our meter reading in. Or we could text it. That would save someone coming out." (Craigavon)

Nevertheless, many perceived it to be a corporate responsibility to reduce NIE's energy consumption footprint. Some did not view it as a priority issue compared with other service attributes.

"They have to deal with the main issues first and their carbon footprint just doesn't seem to be one of their main issues." (Gortin)

"Why does the customer have to pay for increased efficiency?" (Knowledgeable consumers)

It should be noted that, in the absence of interest in other environmental attributes, some placed most investment in this area. Discussions revealed general apathy amongst such participants, they did not have a strong opinion on NIE's energy consumption overall.

Undergrounding overhead lines

There were two attributes for consideration in relation to undergrounding overhead lines:

- Undergrounding overhead lines in Areas of Outstanding Natural Beauty (AONB) / tourism sites;
- Undergrounding overhead lines in urban areas.

General comments about undergrounding were related to improved resilience, with less focus on the aesthetic benefits. While a few suggested that pylons are unsightly, they indicated that the visual impact of the 11kv network is not sufficiently displeasing to warrant investment for undergrounding.

"The visual effect of pylons…these need put underground." (Knowledgeable consumers)

"Pylons are unsightly." (Ballycastle)

"Just because it looks better doesn't seem like reason enough to put the lines underground." (L'Derry)

"I've never looked at a line and thought that it was ugly. What would annoy me more is if a road was blocked because of digging it up." (L'Derry)

The few who expressed concern about the visual impact were primarily focusing on overhead lines in AONB. There was much less consideration for the visual impact of overhead lines in urban areas.

"Underground lines around tourist sites would be very important. The visual impact of them is huge." (Knowledgeable consumers)

Comments revealed that the perceived primary benefit of undergrounding is in relation to resilience and functionality. Many queried whether underground lines would be more durable and thus cost effective in the long term, particularly if there is a reduced need for ongoing maintenance. They were of the perception that underground lines would lead to less faults, especially as a consequence of severe weather.

"Overhead lines should be put underground. That would stop a lot of people worrying." (Critical care group)

"There will be particular savings with regards to maintenance costs if underground lines were introduced." (Ballycastle)

"You would imagine there would be less problems if they are kept underground with regards to repairs. You would imagine that the underground lines would last longer." (Critical care group)

"It would be a 'one-off' large payment if investment was put into underground lines." (Enniskillen)

"I think the undergrounding would be a really good idea. That would help with the storms and floods." (Craigavon)

However, some expressed concerns about undergrounding overhead lines. They noted the expense involved in undergrounding compared to replacing 'like with like', and therefore queried the cost/benefits of this investment.

"We are paying for this no matter how you look at it and it's a lot cheaper to fix a cable up in the air." (L'Derry)

"The introduction of underground lines seems to fix a lot of the issues. But it is whether the cost to install them is much greater than the benefit for customers." (Rathfriland)

A few were concerned about digging up roads. Others queried the difficulty in 'getting to' and rectifying faults if they are underground.

"But if there is a fault you have to dig it all back up again." (Craigavon)

Comments relating to the resilience of underground lines tended not to distinguish much between urban areas and AONB. Thus, both attributes received relatively equal levels of investment. There were some who placed greater onus on undergrounding overhead lines in AONB as they suggested that this would attract more tourism to the area.

"An investment into protecting Northern Ireland's landscape is an investment into tourism." (Those who live in close proximity to pylons)

Others could not see the point in undergrounding in tourist areas. Some felt it should be the responsibility of the tourism provider:

"I wouldn't put anything on lines in tourists areas going underground." (Ballymena)

"I think putting underground lines in tourist areas is a waste of money." (Ballymena)

"Surely you would have to dig up that area of natural beauty to put them underground." (L'Derry)

Some indicated that there are more practical benefits in undergrounding in urban areas as people live in these localities, and therefore would benefit from improved service due to reduced interruptions.

"Urban areas should be considered before areas of beauty because people actually live here day in and day out." (Rathfriland)

"I would put more on undergrounding in urban areas. It is more practical as more people live in urban areas." (Craigavon)

Resolving bird fouling issues

Whilst recognised as a 'nuisance' and frustrating for those affected, nonetheless few deemed bird fouling a priority issue. Some suggested that 100 complaints did not justify investment, and that it would better placed in areas impacting larger numbers of people.

"100 complaints doesn't appear to be a major issue." (Those who live in close proximity to pylons)

"Bird fouling does not seem like a major issue as there were only 100 complaints in three years. I feel like money spent here would only benefit a small minority." (Future customers)

"Bird fouling is not a big enough issue. It does not affect a lot of people." (Ballycastle)

"If you are affected by bird fouling and underground lines were introduced it would seem like value for money. If you weren't affected by bird fouling then it would seem like a waste." (Those who live in close proximity to pylons)

Some argued that little can be done to solve the problem. However, a few others suggested that undergrounding in urban areas would have a dual benefit as it would ensure a positive reduction on bird fouling.

"We have ruled bird fouling out. They can't do anything about it." (Craigavon)

"I'm not so worried about bird fouling, there doesn't seem like there is a lot that could be done." (Critical care group)

"Underground lines in particularly affected areas would significantly reduce this problem." (Critical care group)

"When complaints of bird fouling are made, the areas most affected could be targeted and the power lines put underground." (Ballymena)

Future strategy

The final area presented to customers related to future strategy. Specifically, there were two areas under consideration:

- Sustainability, with a focus on forward investing to enable a low carbon economy.
- Investing in stronger infrastructure to support the growth of the NI economy.

In contrast to other areas of consideration, this area did not include 'trade-offs'. Rather, participants were asked a series of questions relating to each area of service and the discussions were recorded.

Initial views

Domestic groups provided mixed reactions to the concept of future strategy. It was evident that some groups struggled to identify with the concept and the connotations of this type of investment. Nonetheless, almost all believed that NIE should be undertaking measures to forward plan for the future.

"It should be a priority to invest in the future." (Critical care group)

"Future strategy should be a priority going forward. It needs to be." (Bangor)

Sustainability

Overall, customers cited support for forward investing to help enable a low carbon economy There was general recognition that low carbon technologies are 'on the rise' and, for several, 'the way forward'.

"To benefit from new sources of electricity, changes to the infrastructure need to be made. The Utility Regulator can't deny that NIE should spend money on it." (Bangor)

However, a few queried the cost/benefits of this type of investment, particularly if the predicted demand does not manifest. It was evident that this viewpoint was influenced to some extent by the perceived lack of demand for electric vehicles. Therefore, some noted the importance of evaluating trends to ascertain demand prior to extensive investment.

"The electric charging points are not being used at all. There are not enough electric cars in the area." (L'Derry)

"It's important to trial plans before major investments are made. Electric cars are an example because they are not used enough. They aren't promoted enough." (Gortin)

Investing in stronger infrastructure to support the NI economy

The concept of 'power parks', where stronger backbone infrastructure is put in place which would enable NIE to provide additional capacity to meet business demand, was generally perceived to be an area which NIE should not consider in isolation. Customers suggested that, in order to assess the need for this type of investment, NIE must undertake extensive planning alongside other governmental bodies/policy makers.

"It doesn't specifically need to be NIE funding, there should be a joint approach. NIE has a part to play." (Knowledgeable consumers)

"NIE should not invest in power parks. They should not take on this decision on their own. Government has to have a role." (Bangor)

"Government and NIE need to work together so that NIE are sufficiently informed about where there is need." (Bangor)

Some noted the risk in forward investing if the demand does not arise and reiterated the importance of 'joined up' planning.

"It's a big gamble, you would need to guarantee that businesses are going to actually come to Northern Ireland." (L'Derry)

In terms of who should fund this type of investment, several were opposed to the idea that it should come from the 'customer purse'. Some thought that the government should fund the investment, while others recommended that businesses take some financial responsibility.

"If it is a big business, they should pay for it. They should receive an allowance towards the cost and if it is exceeded, pay the extra." (Craigavon)

"Businesses should have to pay half and NIE pay the other half for this investment." (Critical care group)

Some of the knowledgeable consumers suggested that the consumer would inevitably fund this investment regardless of which public agency takes responsibility.

"The consumer will have to pay at the end of the day." (Knowledgeable consumers)

Despite such concerns, several customers noted the benefits to the Northern Ireland economy arising from this type of forward investment. A few were of the opinion that the current lack of capacity is stifling businesses from coming to Northern Ireland. Some noted the lack of economic activity in rural areas in particular. Others reflected on employment benefits arising from this type of investment.

"A certain amount of investment needs to be made because that creates jobs." (L'Derry)

"We need to encourage local businesses to come to local areas. Investment is far more likely to be put into places like Belfast and L'Derry. If there was the power capacity for businesses here, maybe they would come." (Gortin)

1.5.1 Prioritisation of service areas

Qualitative findings

Participants were asked which service aspects, (dealing with power cuts, network resilience to extreme weather, environmental impact of the network, future strategy, customer service), they would prioritise overall for investment.

Across most groups, there was willingness to invest more in network resilience to extreme weather. Several readily prioritised this as the area most in need of investment and suggested it is where most benefits will arise in terms of network performance. A relatively similar proportion considered the importance of investing in future strategy.

The table below outlines the final prioritisations made by groups, while the paragraphs that follow further explore the rationale behind these investments.

Table 1.5.1: Overall prioritisation of service aspects

	Group	Dealing with power cuts	Network resilience to extreme weather	Environmental impact of the network	Customer service	Future strategy
1	Gortin	4	8	2	4	2
2	L/Derry	8	7	-	3	2
3	Enniskillen	4	4	2	4	6
4	Rathfriland	2	6	6	1	5
5	Future customers	3	5	3	1	8
6	Ballymena	4	5	3	2	6
7	Ballycastle	3	3	3	2	8
8	Bangor	3	8	5	1	3
9	Craigavon	6	6	2	2	4
10	Living near pylons	5	7	4	2	2
11	Critical care	4	4	5	2	5
12	Knowledgeable	2	5	2	4	7
	Total	**48**	**68**	**37**	**28**	**58**
	Average	**4**	**6**	**3**	**2**	**5**

Consistent with previous trade-offs, feedback relating to overall priorities focused on the areas which would have 'multi-faceted' benefits. Many suggested that investment in resilience to severe weather would ensure better network performance and fewer power cuts.

"Invest to prepare for severe weather." (Ballymena)

"Extra support is needed for when severe weather hits. We have to be prepared. We weren't last time." (Rathfriland)

"Preparing for extreme weather will reduce power cuts." (Future customers)

"The priorities need to be looking for problems and fixing them. Target areas known for bad weather." (Gortin)

"Invest a modest amount in future development but stronger infrastructure needs to be a priority. The network needs to be made sustainable first." (Knowledgeable consumers)

Some noted that continuity of electricity supply is central to NIE's performance and the extent to which it is perceived favourably by its customer base. Therefore, they were of the perception that investment in reducing power cuts would ensure improved customer service overall.

"By investing in power cuts and network resilience, this will inevitably improve customer service." (Craigavon)

Others noted the need to invest in future strategy. Comments were made in the context of ensuring a robust network which can meet the evolving demands of a low carbon technology. There was lesser focus on NIE's role in investing in stronger infrastructure to support the growth of the NI economy as participants deemed this to be an area which is not for NIE to tackle in isolation.

"In reality NIE would have to invest in the future." (Knowledgeable consumers)

The prevention and expedient resolution of power cuts was mentioned by many. Some reiterated the need to improve service for those at greater risk. Others re-emphasised that they are generally satisfied with the current situation as they have experienced few power cuts, and thus deem this area to require less investment.

Customer service was deemed integral to NIE's business operation. A few commended NIE's current level of customer service and therefore queried why investment is required. However, some placed investment in customer service to ensure continued performance and to enable alternative communication methods.

"You shouldn't have to ring up to report an issue. NIE should take responsibility." (Gortin)

"The customer needs to be kept happy. If changes are being made there needs to be understanding from the customers." (Gortin)

"Customer service is not an issue for NIE." (Future customers)

There was a lesser focus on environmental impacts overall. Those who placed investment in this area did so in order to ensure investment in undergrounding overhead lines.

"Putting lines underground should be a priority." (Ballycastle)

"If the network was more resistant to weather then there would be less cuts. Underground lines seem to avoid the problem." (Gortin)

While opinions were shaped in some way by consumers' own experiences, they often took an objective viewpoint, particularly in relation to the consideration of improving service for those most at risk. Decisions were often influenced by considering the impact on the consumer, in addition to the repercussions and potential benefits any investment could ensure for NIE. Overall, it appeared that participants took a considered approach to the investment exercises.

Quantitative findings

As aforementioned, the quantitative analysis and reporting pertaining to the choice card exercise and willingness to pay for future investment has been undertaken by Professor George Hutchinson and Dr Alberto Longo from the Environmental Economics team at the Gibson Institute, Queen's University; and is reported in a separate report.

However, to support their work a number of additional questions were asked in the domestic survey to gain further insight into the overall investment priorities of domestic customers. Firstly, participants were asked to scale their level of support for a number of suggested investment areas. The headline findings have been outlined at Table 1.5.2 below.

Table 1.5.2: Prioritisation of investments

Overall	Level of support					
How much would you support investments in each of the following areas? (Using a scale of 1 to 5 where 1 is no support and 5 is full support)	1 (No support)	2	3	4	5 (Full support)	Not sure
Limit the number of customers per year who are affected by power cuts over 10 hours in duration (about 5,000 customers per year)	2%	2%	14%	24%	54%	4%
Limit the number of households who are repeatedly affected by power cuts (about 12,000 customers experience 6 or more power cuts in 18 months)	2%	3%	13%	23%	55%	4%
Reduce the likelihood of power cuts during severe weather (by strengthening the network, protecting substations at risk of flooding, or reducing the likelihood of trees falling on power lines during storms)	2%	2%	13%	22%	58%	4%
Put overhead lines underground in urban areas	8%	10%	22%	16%	36%	8%
Put overhead lines underground in tourist areas/areas of natural beauty	7%	11%	21%	17%	35%	8%
Try out and test new equipment which could support the rising levels of renewable technology connecting to the electricity network	5%	9%	20%	20%	38%	8%
Increase the options for communicating with customers during power cuts	6%	10%	21%	19%	39%	6%
Total	100%	100%	100%	100%	100%	100%

More than half stated that they would give their full support (scale 5) for the following initiatives:

- Limiting the number of customers affected by power cuts over 10 hours in duration (54%);

- Limiting the number of households who are repeatedly affected by power cuts (55%); and
- Reducing the likelihood of power cuts during severe weather.

It is also notable that a high proportion of respondents also gave each of these initiatives a support level of four (24%, 23% and 22% respectively). As such, in each case, almost three quarters of respondents would deem a reduction in power cuts (duration, number affected and likelihood due to weather) to be of high level priority (support score of four or five).

Other investment areas, however, also gained a high level of support from survey participants. Over one third of respondents would lend their full support to:

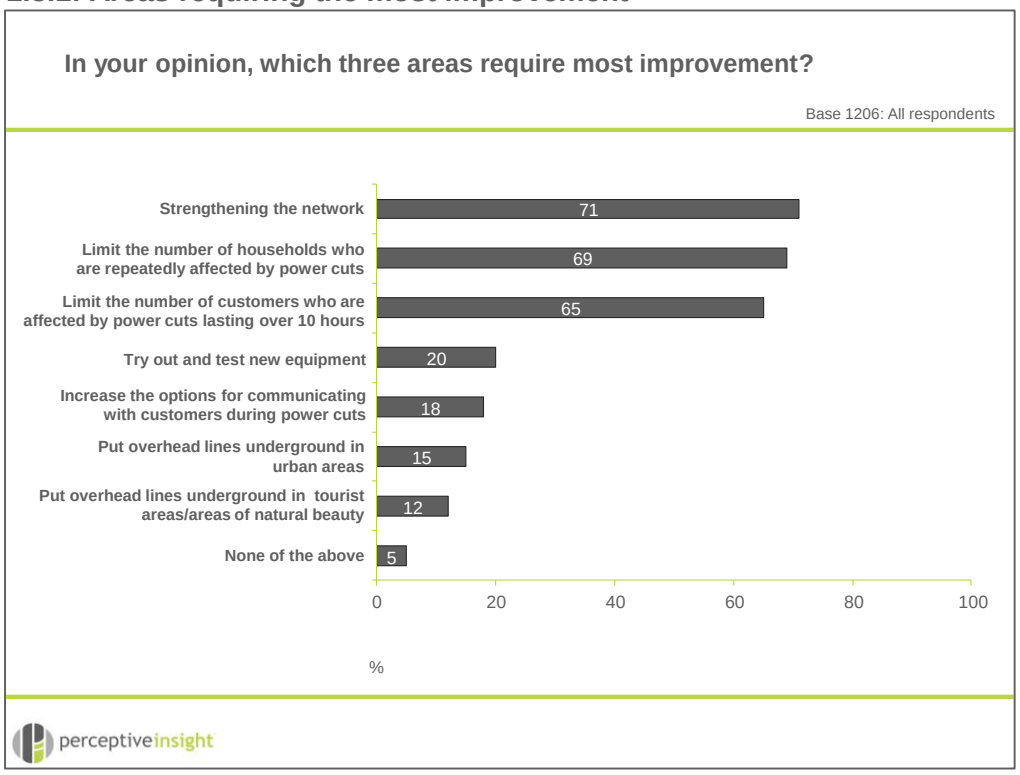
- Putting overhead lines underground in urban areas (36%);
- Putting overhead lined underground in tourist areas and areas of natural beauty (35%);
- Trying out and testing new equipment which could support the rising levels of renewable technology connecting to the electricity network (38%); and
- Increasing the options for communicating with customers during power cuts (39%).

However, public opinion on the prioritisation of these investment options is generally more mixed than the suggested investments to tackle power cuts. A total of 18% of respondents would deem putting overhead lines underground in urban areas, or in tourist areas / areas of natural beauty a low priority (support level one or two). Similarly, 14% of participants would lend no or little support to trying and testing new renewable technologies while 6% would offer little or no support to investment to increase the options for communicating with customers during a power cut.

Sub-group analysis of customer support of investment revealed that customers who experienced either a planned or unplanned power outage are more likely to support an investment strand that includes tackling the impact of power cuts. For example, 61% of respondents who experienced a planned outage and 58% of those who experienced an unplanned outage would lend their full support (score of five) to an initiative to limit the number of customers who are affected by power cuts over 10 hours in duration. In comparison, 51% of respondents who did not experience an outage would lend their full support to this investment. Similarly, 61% of customers who experienced a planned or an unplanned outage would lend their full support to investment to reduce the likelihood of power cuts during severe weather. This falls slightly to 57% of customers who had not experienced an electricity outage.

To verify the prioritisation of investment, customers were asked to provide their opinion on what potential investment areas require the most improvement. Again, respondents confirmed that their main priorities tend to include options that will ultimately reduce the number of power cuts for NIE customers. Strengthening the network prevailed as one of the top three priorities for 71% of respondents, while limiting the number of households repeatedly affected by power cuts (69%) and limiting the number of customers who are affected by power cuts for longer than 10 hours in duration (65%) were also notable priorities.

Figure 1.5.1: Areas requiring the most improvement



Again, customers who experienced a planned our unplanned outage were more likely to prioritise areas of investment which would tackle power cuts. However, sub-group analysis confirms that tackling power cuts remains a high priority regardless across the sample as a whole.

Appendix A: Demographics of sample

As part of the quantitative survey to determine customer views of NIE, respondents were asked a number of questions about themselves in order to verify that the sample was indeed representative of the population as a whole. As such, the tables below summarise the demographic characteristics of the survey respondents.

Table A.1: Gender

	Gender		
Gender	Overall (Base)	Male	Female
Count	**1,206**	566	640
Percentage	**100%**	47%	53%

Table A.2: Age

	Age									
Age category	Overall (Base)	18 to 24	25 to 34	35 to 44	45 to 54	55 to 59	60 t0 64	65 to 74	75 plus	Refused
Count	**1,206**	38	163	188	217	104	102	205	177	12
Percentage	**100%**	3%	14%	16%	18%	9%	8%	17%	15%	1%

Table A.3: Occupation

	Occupation						
What is the occupation of the chief income earner in your household?	Overall (Base)	AB	C1	C2	DE	Unsure	Refused
Count	**1,206**	159	333	259	440	0	15
Percentage	**100%**	13%	28%	21%	36%	0%	1%

Table A.4: Current status

	Current Status							
Which of the following best describes your current status?	Overall (Base)	Working full-time	Working part-time	Looking for employment	Retired	Looking after home	Student	Other
Count	**1,206**	435	125	62	395	127	5	57
Percentage	**100%**	36%	10%	5%	33%	11%	0%	5%

Table A.5: Household size

	Number of people										
Including yourself, how many people live in your household?	Overall (Base)	One	Two	Three	Four	Five	Six	Seven	Eight or more	None	Refused
Count	1,206	346	425	203	147	61	14	3	1	0	6
Percentage	100%	29%	35%	17%	12%	5%	1%	0%	0%	0%	0%

Table A.6: Number of children in household (under 16 years old)

	Number of children										
How many of those living in your household are children under the age of 16?	Overall (Base)	One	Two	Three	Four	Five	Six	Seven	Eight or more	None	Refused
Count	1,206	141	127	30	7	2	1	0	1	881	16
Percentage	100%	12%	11%	2%	1%	0%	0%	0%	0%	73%	1%

Table A.7: Number of children in household (under 5 years old)

	Number of children							
How many of those children are under the age of 5?	Overall (Base)	One	Two	Three	Four	Five	None	Refused
Count	1,206	94	36	2	0	1	1060	13
Percentage	100%	8%	3%	0%	0%	0%	88%	1%

Table A.8: Disability status

	Long term disability			
Does any member of your household have a long term disability which affects their normal day to day activities?	Overall (Base)	Yes	No	Refused
Count	1,206	273	916	17
Percentage	100%	23%	76%	1%

Table A.9: Electricity dependency

	Dependent on electricity			
Is any member of your household dependent on electricity for healthcare needs?	Overall (Base)	Yes	No	Refused
Count	**1,206**	74	1118	14
Percentage	**100%**	6%	93%	1%

Table A.10: Awareness of NIE Customer Care Register

	Awareness			
Before speaking with me today, were you aware that NIE has a Customer Care Register for people who are vulnerable?	Overall (Base)	Yes	No	Refused
Count	**1,206**	147	1057	2
Percentage	**100%**	12%	88%	0%

Table A.11: Membership of NIE Customer Care Register

	Membership			
Is any member of your household on the Customer Care Register held by NIE?	Overall (Base)	Yes	No	Refused
Count	**147**	14	132	1
Percentage	**100%**	10%	90%	1%

Table A.12: Home status

	Do you or your family…					
In relation to your home, do you (or your family)….	Overall (Base)	Own it outright or are you buying it with a mortgage	Rent privately	Rent from the Housing Executive or a Housing Association	Other	Refused
Count	1,206	751	188	243	11	13
Percentage	100%	62%	16%	20%	1%	1%

Table A.13: Location

	Urban/Rural						
Do you consider the place where you live to be in an urban or rural location?	**Overall (Base)**	**Urban**	**Semi-rural**	**Rural**	**Remote-rural**	**Not sure**	**Refused**
Count	**1,206**	787	191	191	29	8	0
Percentage	**100%**	65%	16%	16%	2%	1%	0%