



Respond: An Innovative Proposition?

Prepared by Impact Utilities

9 March 2016




Customer engagement will enable us to take
Respond to the market, optimise the proposition
and then trial the method



“The Method enables a market for the provision of a FLC service”

Engaged
Customer Panel



Formulate
campaign
materials

 **Completed**

Customer Survey
(Pre-trial)

Establish appeal of
the commercial
proposition



 **(Almost)
Completed**

Customer Survey
(Monitoring)



Qualify customer
experience

2016

→ Good news!!!

Interim analysis of the customer survey responses **proves** the hypothesis that the **Respond method enables a market for the provision of an FCL service**



A target market has been identified of customers from **non-manufacturing industries** and those who are **able to constrain their motor or generator** without significant impact (operational/ productivity) for up to 10 minutes.



A total of 82 I&C demand and DG customers across GB participated in the customer survey during October 2015 to January 2016



91
interviews
(7th March 2016)

A suitable individual identified and emailed the survey electronically
n= 303 in total.

Telephone screened to ensure the **organisation** (or the organisation to which they provide an electricity service) **met key criteria to provide a FCL service**

Electricity North West provided customer data
n= 1639 in total

Initial analysis conducted on responses from 82 I&C demand and DG customers across GB October 2015 – January 2016



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Bringing energy to your door



52%

Manufacturing



48%

Other industries

43%

It **is essential** that electricity is available to us 24/7



50%

High capacity (>940 kW)



50%

Low capacity (<940 kW)



72%

in ENW region



23%

Other region

5% Don't know



27%

10 min constraint **would have** significant operational impact or loss in productivity

4%
Other

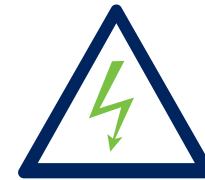


26%

10 min constraint would have **no significant operational** impact or loss in productivity

29%

Generator and Motor



44%

Motor only



27%

Generator only

The customer survey assessed appetite to engage in FCL service contract, and at what price



Back ground

Industry classification.
Largest single AC rotating machine or the largest combination of rotating plant connected to a common circuit breaker.
Implications of the equipment being constrained (disconnected) for up to 10 minutes.

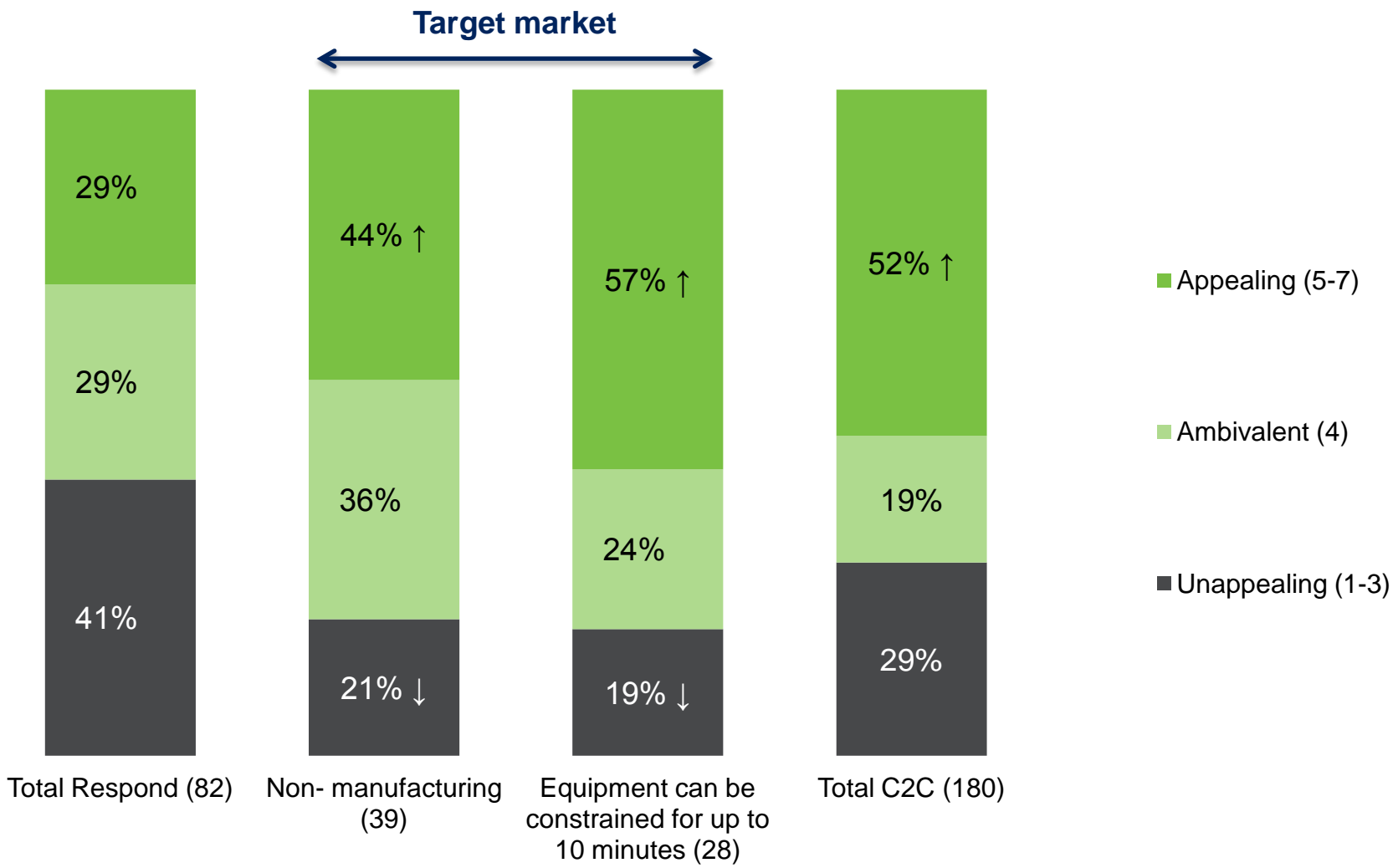
Introduction FCL service concept

Video, analogy, frequently asked questions (FAQ) document and a concept board.
Perceptions, appeal, organisations likelihood to consider take up, drivers and barriers.

Stated Preference Exercise

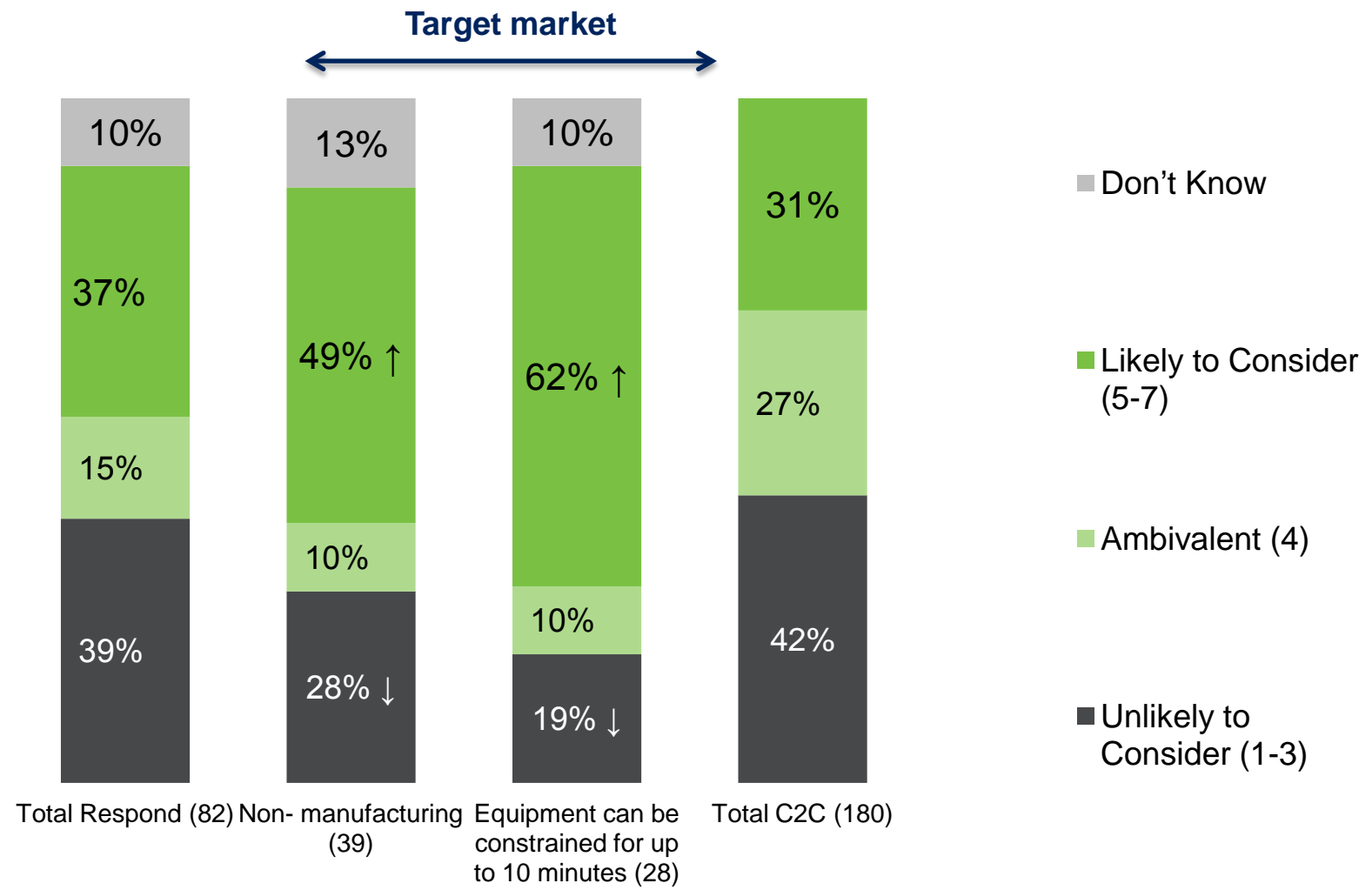
Customers selected a preferred option from a pair of possible FCL service contract scenarios (x12)
Optimum price point, payment method and contract length derived.

Overall appeal of the FCL service is relatively low at a total level... however significantly higher amongst the 'target market'



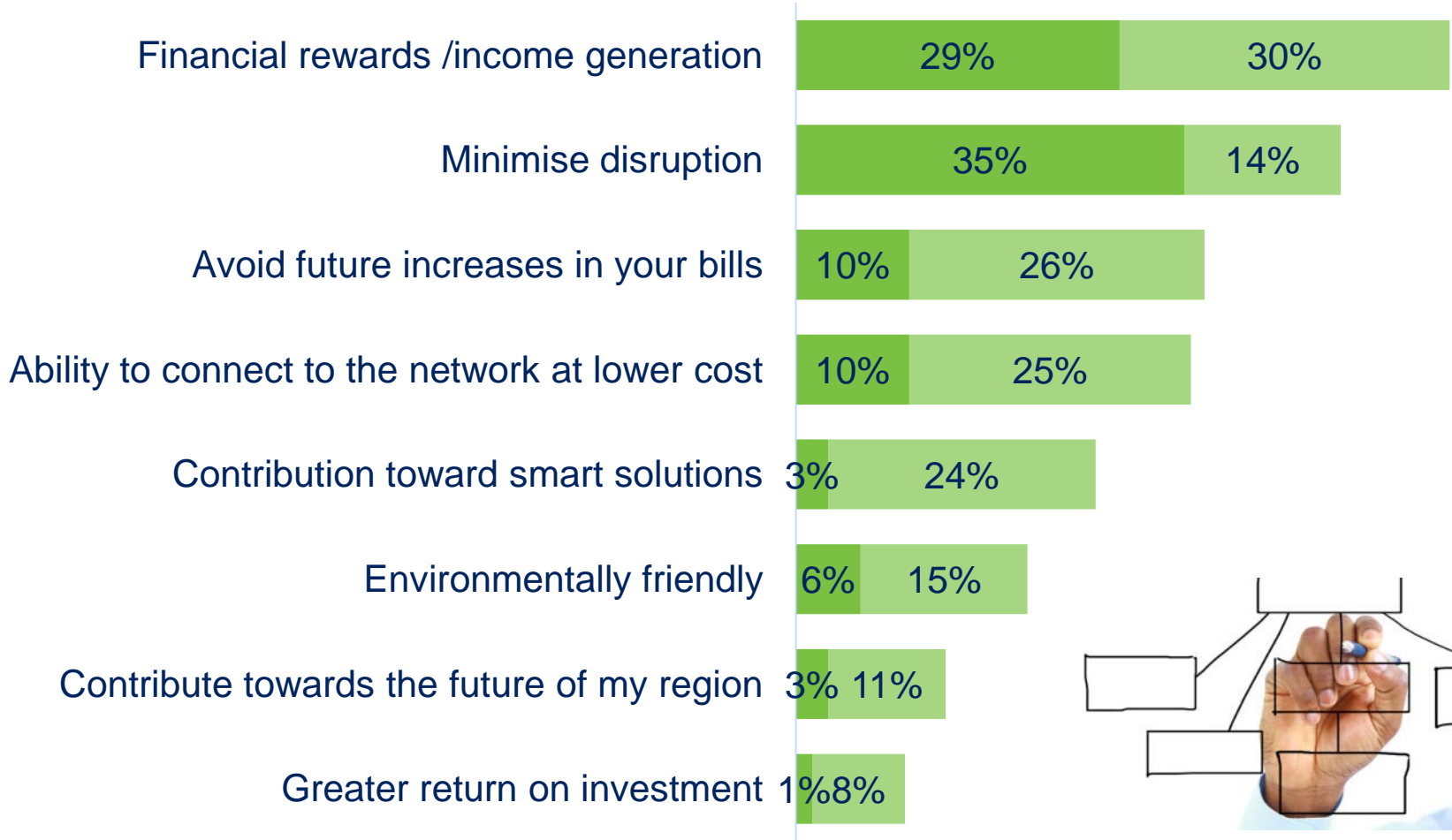
Q17 Overall, how **appealing** do you find this new Respond FCL service concept for your organisation?
 Please use a scale of 1 to 7 where 1 is 'not at all appealing' and 7 is 'very appealing'?

37% indicated that they would recommend their organisation considers an FCL service agreement (prior to financial reward information)



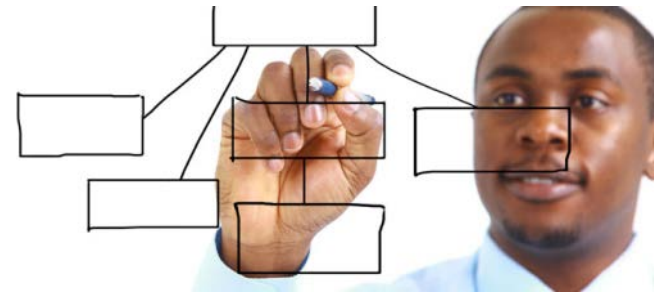
Q19 You may not have responsibility or influence in your company's commercial/contractual decisions. However, given what you know about the new Respond FCL service concept so far, how likely would you be to recommend that your organisation **considers opting into a new commercial contract**. Please use a scale of 1 to 7 where 1 is 'Not at all likely' and 7 is 'Very likely'

Financial rewards are the most influential driver of indicative take up, with minimised disruption to the electricity network also important



■ Highest ranked benefit

■ Top 3 ranked benefits



Concern over disruption to business productivity and losses/waste arising from the constraint of a generator or motor is the biggest barrier to providing an FCL service



Disruption to business processes and losses/waste



Immediate impact on machinery



Lost productivity



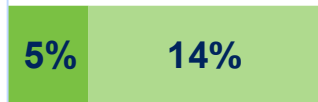
Securing senior/board approval



Need further information



Ability to agree contract terms



■ Highest ranked barrier

■ Top 3 ranked barrier



Q16 Thinking specifically about your organisation's generator / CHP or rotating motor, what do you perceive the main barriers/risks to your company of signing up to the new electricity Respond FCL service concept, if any?

The trade-off exercise introduced indicative pricing structures and asked customers to choose between a series of 12 pairs of contracts



The Respond FCL service ‘contracts’ were constructed from the following components:

Type of contract	PPE (pay per Pre paid event)							
	1	2	3	4	5	6	7	8
Maximum number of events (constraints to equipment) in one year								
Length of contract (years)	1 year	2 years	3 years					
Level of financial reward	90%	95%	100%	105%	110%			

To evaluate the appeal of different contract options, a base case scenario was applied, against which all variants could be benchmarked:

Base case scenario

- One year contract
- Maximum of one of event per year
- Rate paid by contract – 100%
- Pre-paid (fixed per contract retainer, paid in advance)/Pay as you go - payment per event PPE payment methods.

Factors involved in calculating financial rewards



- The base price point was established using a calculation based on Ofgem's Quality of Service Incentives (QUOS) schemes figure.
- A £ value was calculated for a 10 minute constraint per MW of demand or generational capacity
- These are the constants used in the price calculation:

Technical factor	Figures
Number of ENWL customers	2.4M
ENWL winter max demand	4.2GW
Max demand per customer	1.75kW
1 customer interruption	£12.34
1 customer hour lost	£17.81

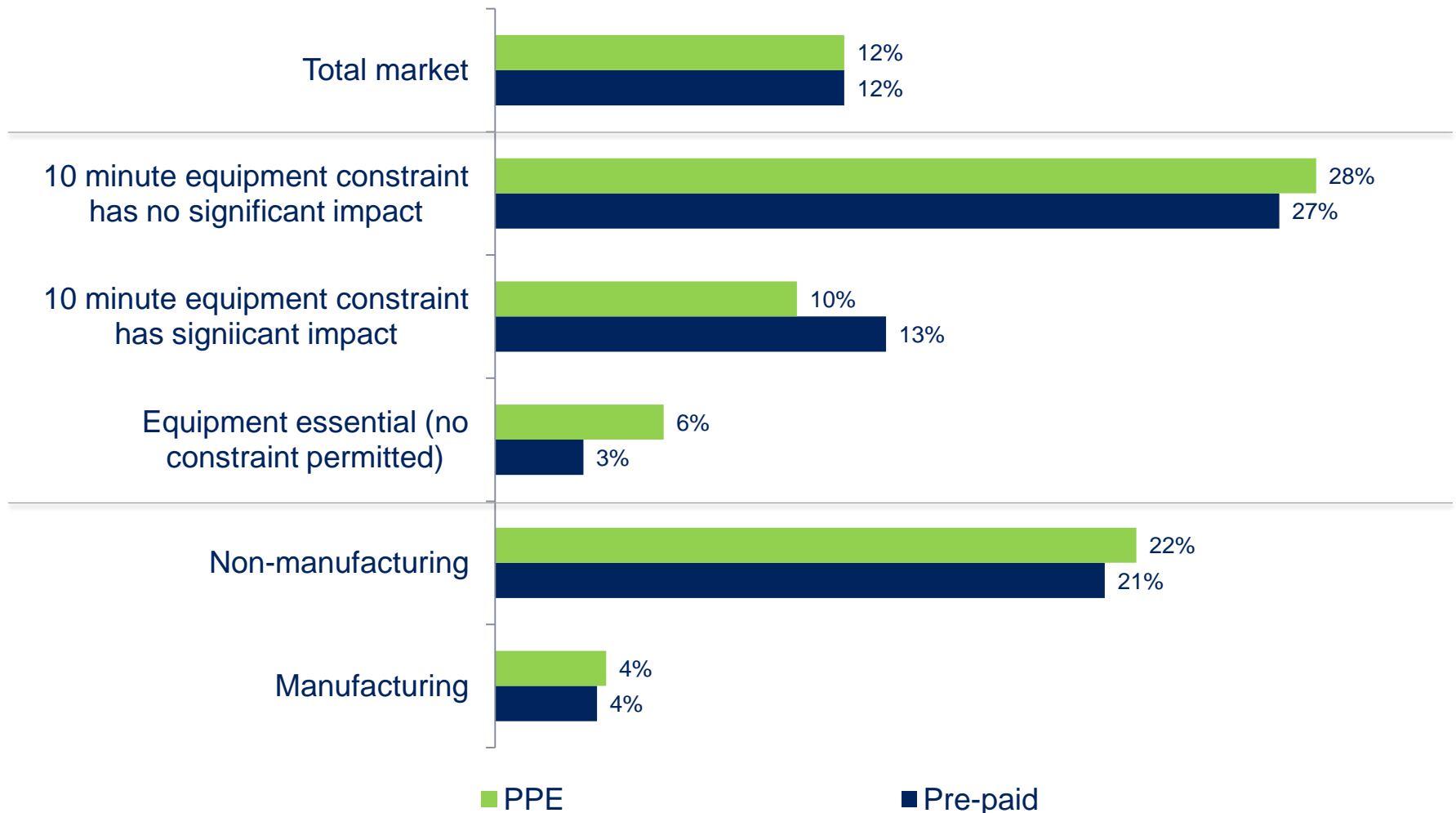
- $(\text{Size of manageable demand kW} / 2 * \text{Value of a} | \text{£2kw/h} * \text{Duration/Restart time} / 60) * \text{Number of times it can be used in a year}$
- Payment options presented to respondents were based on the size of relevant equipment they had specified earlier in the survey, on the basis of contribution to fault current.

Take up of the FCL service is significantly higher amongst the target market



Stated Preference Analysis :

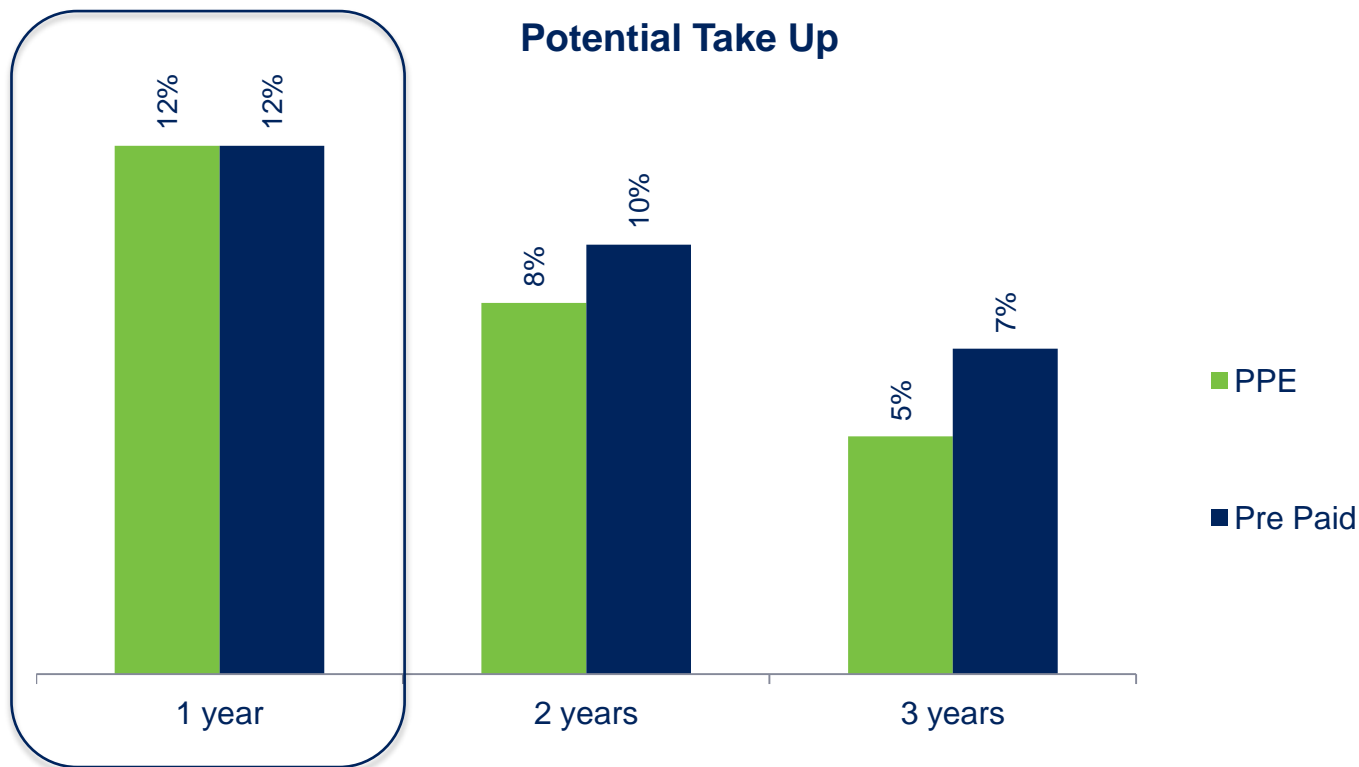
Take-up of FCL service - base scenario



The optimal duration for an FCL service contract is likely to be one year



Stated Preference Analysis : Take-up of FCL service by length of contract

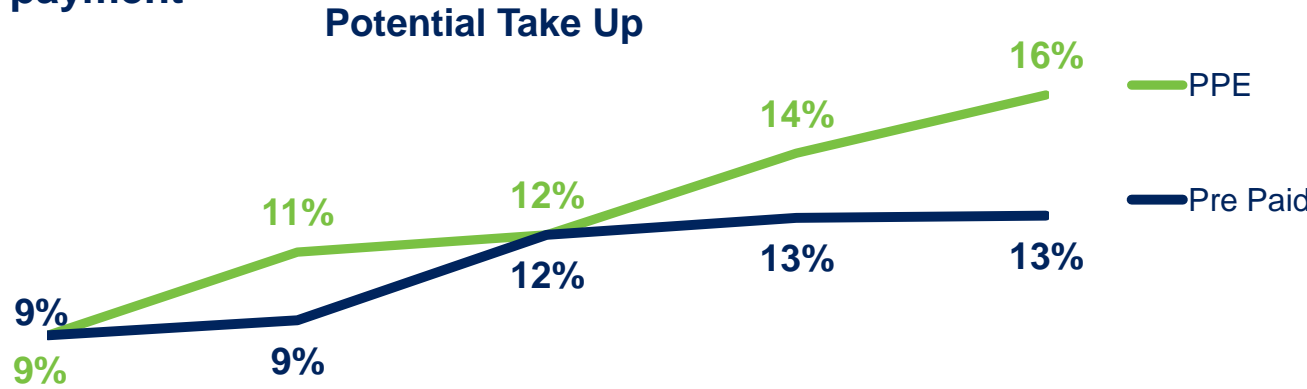


- 1 year contract, Maximum of 1 of event (constraints to equipment) in one year, Rate paid by contract – 100%, Only one contract available

Significant gains in take-up can be achieved by offering increased PPE financial rewards (+10%)



Stated Preference Analysis : Sensitivity to value of payment



- 1 year contract
- Maximum of 1 of event (constraints to equipment) in one year
- Rate paid by contract – 100%
- Only one contract available

	90%	95%	100%	105%	110%
PPE (per event per annum)	£3,334	£3,519	£3,704	£3,890	£4,075
Pre Paid (per event per annum)	£1,667	£1,760	£1,852	£1,945	£2,037



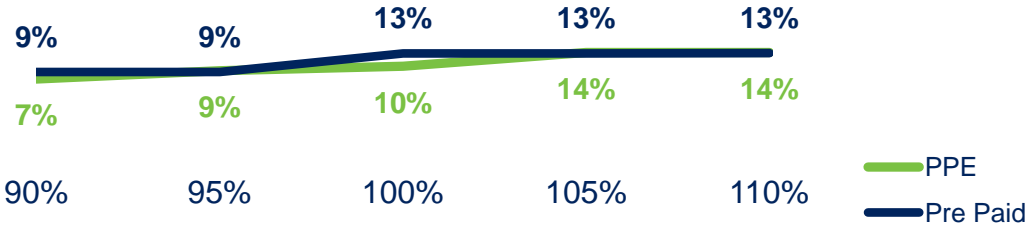
Take-up reaches 34% amongst the target market if offered PPE at 110% for one year



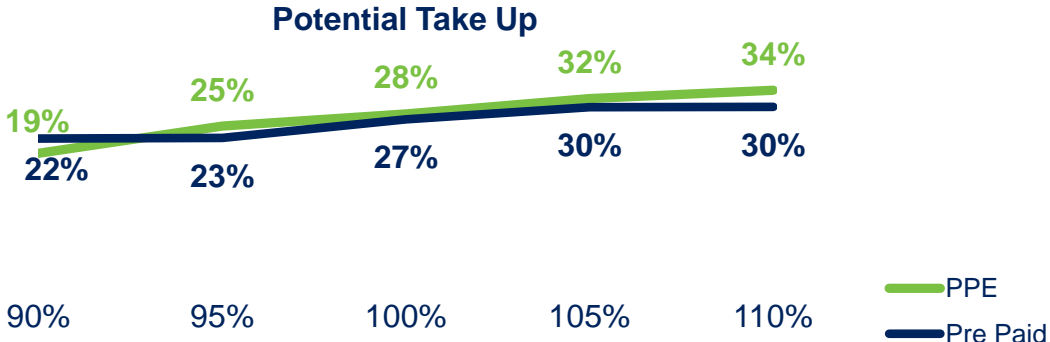
Stated Preference Analysis :
Sensitivity to value of payment

Potential Take Up

CHP/Motor 10 minute constrained significant not Ok
Base size: 22



CHP/Motor 10 minute constrained significant Ok
Base size: 21



- 1 year contract
- Maximum of 1 of event (constraints to equipment) in one year
- Rate paid by contract – 100%
- Only one contract available

Further information requirements of individual customers are influenced by the nature of their organisation and their specific processes



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Tailored information

Site specific and equipment specific information is needed for potential users to come to a conclusion.

Constraint of equipment

Will there be notice of the supply being cut off and going back on? How long would this be? What times of day/ year would this occur if needs be?

Financial Rewards

How are they calculated? Do they depend on frequency and length of faults?

Installation, maintenance and equipment

Who would look after the equipment installed to make Respond possible? What costs could this have?

Benefits of proposition

Questioning the risk and whether the benefits outweigh the risk to the company and the equipment. What does Respond do for the company?

Damage to equipment

Some equipment needs turning on steadily or with engineers present, rather than via a 'on/off' method which may cause damage. What would be the process for switching back on?

Q32 If you were to have a face to face or telephone meeting with Electricity North West to discuss the FCL service and commercial contracts in more detail, what would be your main questions/queries?

Examples of questions for ENW



“Would the generators be serviced and any ancillary equipment be looked after by yourselves or would the contract still fall to us?”

“Quantification of existing risks associated with supply to the site and the future development of increasing load requirements in the area.”

“What's in it for us? I understand why but what would we gain as a company.”

“Is this just switching off our generator and not a full power outage? How do you switch it off for ten minutes, without doing damage?”

“Need to understand the impact on our plant by interruptions, also the likelihood and frequency of the interruption”

“As a hospital we would need a better understanding to how it would work and how much control we would have.”

“Every site has different constraints, and times for the disruption to any plant on site.”

“Would the 10 minute constraint/stop be instantaneous (due to a fault condition elsewhere) or would there be an early warning?”

“What would be the risks to us - e.g. would it increase the risk of us losing our main electricity supply by suddenly switching off the CHP plant?”

“How have you calculated the payments when the "cost" and therefore the return for each potential participant will vary enormously?”



Q32 If you were to have a face to face or telephone meeting with Electricity North West to discuss the FCL service and commercial contracts in more detail, what would be your main questions/queries?

Interest in finding out more about Respond



54%
would like to know
more about
participating in the
Respond FCL service
trial

80%
of the overall sample
would like to receive
the results and data of
the Respond FCL
survey



Next steps



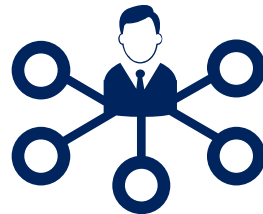
Continuation of quantitative survey to maximize response rates

Refined communication materials tested with reconvened ECP

Contract developed and trialed with up to 5 participants

Comprehensive customer survey report published May 2017

Contract templates & commercial arrangements developed, published May 2018





Thank you for listening.



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