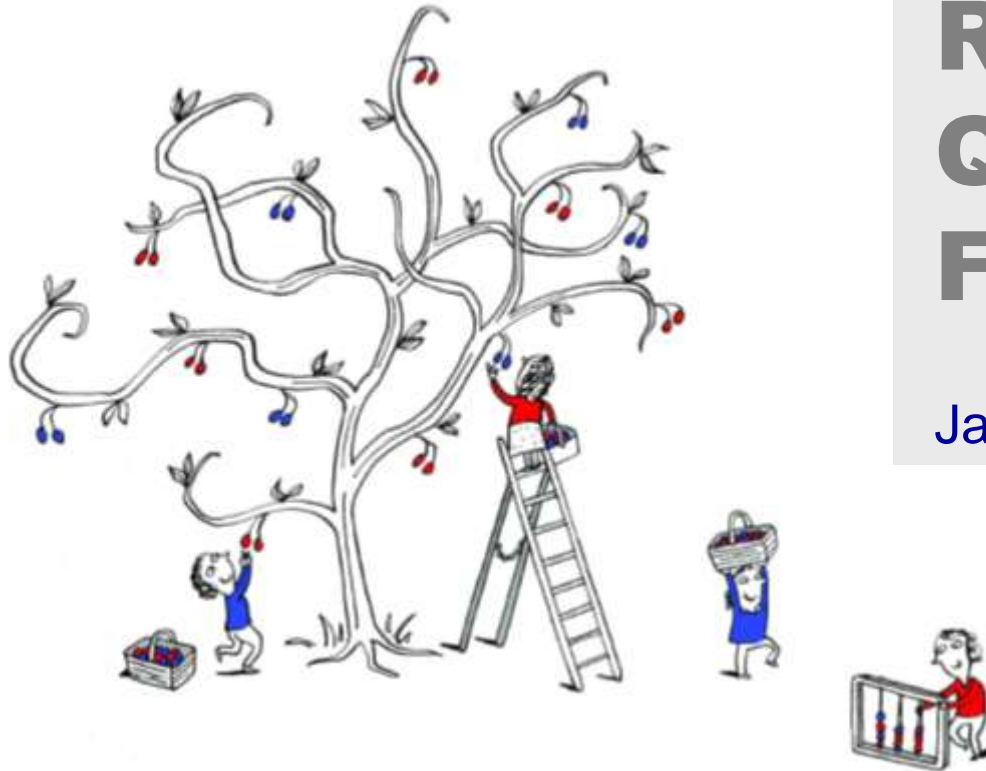


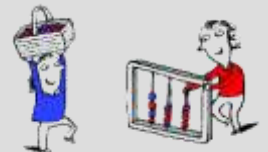
Central London Investment Research: Quantitative Findings

January 2013



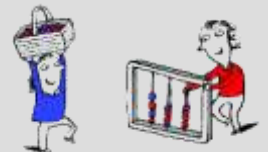
Agenda

- Objectives
- Approach
- Prioritisation & Willingness to Pay Findings
- Appendices – Background Findings



Study Objectives

- UK Power Networks is required to consult with customers and other stakeholders in preparing their business plans
- Research is therefore required to ensure that UK Power Networks' business plan takes into account customer priorities and the value placed on the elements that make up the plan
- Specifically, research was required to identify whether there were any differences in willingness to pay amongst Central London business customers (Central London was defined as located in the West End, the City and Canary Wharf)



Approach

Two key elements to the research...



50 pilot interviews
with business
customers



200 mainstage
phone-post-phone
SP interviews
with business
customers

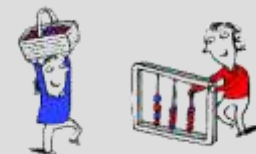
Pilot interviews undertaken between 29 October and 9 November 2012; mainstage interviews were undertaken between 19 November and 7 December 2012.



“Ideal” Quotas vs Quotas Achieved

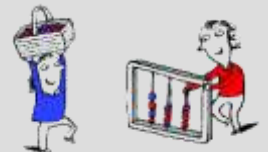
Size	Target	Achieved
Small/Medium (<250 employees)	100	177
Large (250+ employees)	100	23
Total	200	200

- It was recognised that there may be insufficient sample available to achieve anywhere near 100 interviews with businesses with 250+ employees; this proved to be the case
- Large businesses were consequently redefined as those having an annual electricity bill of greater than £8000; the sample distribution was then as follows:
 - SMEs (electricity bill <£8,000): 118
 - Large (electricity bill £8,000+): 82

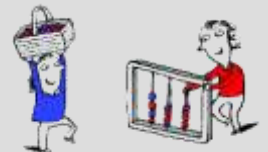


Questionnaire

- Structured to include:
 - Background, contextual questions
 - Stated preference (SP) exercises:
 - 3 lower level & 1 packaged exercise
 - Contingent Valuation (CV) & follow up questions
 - Key demographics
- Average duration was 23 minutes
- Piloted through 50 interviews
- Respondents were sent (by email, fax or post) show material to refer to during the interview (explanatory information about services tested and the SP choice experiments)

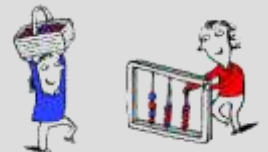


Stated Preference Methodology



Summary of Design & Analysis

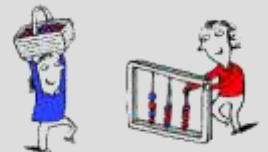
- Stated preference was designed & analysed by Accent using a programme called Biogeme:
 - the attributes tested (as shown in subsequent slides) were those found to be priorities to customers in previous qualitative research
- 3 lower level exercises and 1 packaged exercise; 4 choice sets for each, 6 choice sets for the package:
 - all respondents had a copy of their customised choice sets in front of them when they were interviewed as well as showcards explaining the context – ie current situation for each service tested
- Prior to analysis responses were removed where:
 - bill values did not seem realistic
 - respondents who chose the same option for the four choice sets presented (known as non traders)
- The relative values of all attributes were derived from the lower level exercises and scaled by the package exercise/CV questions



Attributes & Levels Tested:

Exercise 1

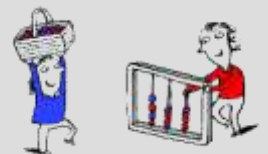
- **Timescale for provision of quotations for high voltage new connections work:**
 - *Within 35 working days (base)*
 - Within 25 working days
 - Within 20 working days
 - By date agreed with customer
- **Time of any new connections work:**
 - *As now, ie work undertaken in normal business hours (08.00-17.00) (base)*
 - As now, ie work undertaken in normal business hours (08.00-17.00) and in the evenings
 - As now, ie work undertaken in normal business hours (08.00-17.00) and in the evenings and at weekends
 - Work is undertaken within a banded time, ie morning or evening in normal business hours, evenings or at weekends
- **Contact for any new connection work:**
 - *As now, telephone or e-mail to general call centre (base)*
 - Phone or email contact via dedicated new connections call centre
 - Phone or email contact via a named project coordinator
 - All contact through an on-line web portal
- **Type of new connections service offered :**
 - *Standard service, with UKPN defining what they will do and what activities remain the responsibility of a customer's developer or contractor (base)*
 - A menu of services available from UKPN allowing the customer to choose who completes which elements of the work
 - All elements of the work completed by UK Power Networks



Attributes & Levels Tested:

Exercise 2

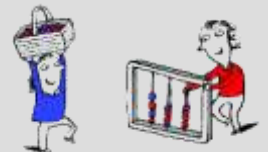
- **Investment in infrastructure to enable UKPN to detect loss of supply:**
 - *No investment (base)*
 - Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises
- **Investment to enable greater uptake of electric vehicles:**
 - *No specific infrastructure investment (base)*
 - Investment in infrastructure required to support take up of electric vehicles
- **Restriction to electricity supply in times of peak demand:**
 - *With no impact to business customers (base)*
 - With a recognition of the impact of any loss of business
- **Investment to enable uptake of distributed generation eg CHP, solar panels etc:**
 - *No specific infrastructure investment; use traditional network investment as needed (base)*
 - Investment in infrastructure to support uptake of distributed generation technologies



Attributes & Levels Tested:

Exercise 3 LPN

- Frequency of power cuts (over 3 mins) - average number:
 - 1 every 36 months (base)
 - 1 every 42 months
 - 1 every 48 months
- Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected
 - Within 60 minutes
 - *Within 20 minutes (base)*
 - Within 10 minutes
 - Within 5 minutes
- Information during a power cut:
 - *Information available on contacting call centre (base)*
 - Information available on contacting call centre plus provision of automatic text messages to registered customers with details of power cut and updates
 - Information available on contacting call centre plus provision of automatic update calls to customer from call centre and follow-up call when power cut over
 - Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc
- Contingency service:
 - *Customer responsibility for any back-up services (base)*
 - Provision of generator hire e.g. for an event
 - Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems



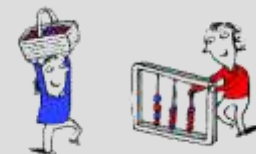
Example of a lower level choice set

Looking at Choice Card B1, which Option do you prefer, A or B?

	Option A	Option B
Investment in infrastructure to enable UKPN to detect loss of supply	Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises
Investment to enable greater uptake of electric vehicles	No specific infrastructure investment	Investment in infrastructure required to support take up of electric vehicles
Restriction to electricity supply in times of peak demand:	With a recognition of the impact of any loss of business	With no impact to business customers
Investment to enable uptake of distributed-generation e.g, CHP, solar panels etc:	Investment in infrastructure to support uptake of distributed-generation technologies	No specific infrastructure investment; use traditional network investment as needed

1. Option A

2. Option B



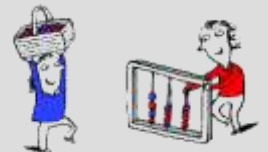
Example of packaged choice set

Now turn to Choice Card P3. Which Option do you prefer, A or B?

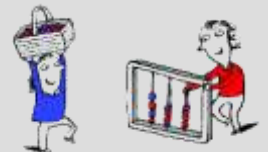
	Option A	Option B
Timescale for provision of quotations for high voltage new connections work:	Within 35 working days	By date agreed with customer
Timing of any new connections work:	As now, is work undertaken in normal business hours (08.00-17.00)	Work is undertaken within a banded time in morning, afternoon or evening in normal business hours, evenings or at weekends
Contact for any new connections work:	As now, telephone or e-mail to general call centre	All contact through an on-line web portal
Type of new connections service offered:	Standard service, with UKPN defining what they will do and what activities remain the responsibility of a customer's developer or contractor	All elements of the work completed by UK Power Networks
Investment in infrastructure to enable UKPN to detect loss of supply	No investment	Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises
Investment to enable greater uptake of electric vehicles	No specific infrastructure investment	Investment in infrastructure required to support take up of electric vehicles
Restriction to electricity supply in times of peak demand:	With no impact to business customers	With a recognition of the impact of any loss of business
Investment to enable uptake of distributed generation e.g. CHP, solar panels etc:	No specific infrastructure investment; use traditional network investment as needed	Investment in infrastructure to support uptake of distributed-generation technologies
Frequency of power cuts over 3 mins - average number:	1 every 48 months	1 every 36 months
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers:	Within 5 minutes	Within 60 minutes
Information during a power cut:	Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc	Information available on contacting call centre
Contingency Services	Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	Customer responsibility for any back-up services
THE CHANGE IN YOUR ELECTRICITY BILL IN THE 8 YEARS FROM 2015 TO 2023 to provide the service quality above The new bill level will also apply in all later years	Decrease of £2.25 each year for 8 years, from £1,000.00 in 2015 to £982.00 by 2023	Increase of £5.63 each year for 8 years, from £1,000.00 in 2015 to £1,045.00 by 2023

1. Option A

2. Option B

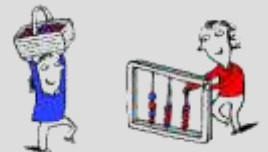


Stated Preference Findings: Customer Priorities & Willingness to Pay



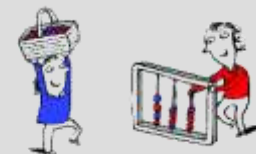
Summary of Central London Business Findings

- The research identified willingness to pay amongst businesses located in central London for the majority of improvements; there was also some willingness to accept a deterioration in service levels
- Willingness to pay ranged from a 0.65% increase in their distribution bill by 2023 for the lowest valued service level to a 3.5% increase for the service level valued most highly
- Overall willingness to pay by 2023, as a proportion of the average distribution bill, was 20.09%



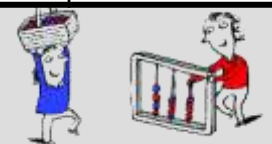
Central London Business Customer Values: Exercise 1

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)	Indexed coefficient
Timescale for provision of quotations for high voltage new connections work	Within 35 working days	0.0000	0	
	Within 25 working days	0.0284	3.49	1.00
	Within 20 working days	0.0443	5.29	1.56
	By date agreed with customer	0.0652	7.02	2.30
Timing of any new connections work	As now, ie work undertaken in normal business hours (08.00-17.00)	0.0000	0	
	Work undertaken in normal business hours (08.00-17.00) and in the evenings	-0.0033	-0.38	
	Work undertaken in normal business hours (08.00-17.00), in the evenings and at weekends	0.0081	0.98	
	Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	0.0392	4.62	
Contact for any new connections work	As now, telephone or e-mail to general call centre	0.0000	0	
	Phone or email contact via dedicated new connections call centre	-0.0080	-0.79	
	Phone or email contact via a named project co-ordinator	0.0055	0.62	
	All contact through an on-line web portal	0.0042	0.41	
Type of new connections service offered	Standard service, with UKPN defining what they will do and what activities remain the responsibility of a customer's developer or contractors	0.0000	0	
	A menu of services available from UKPN allowing the customer to choose who completes which elements of the work	0.0194	2.19	1.00
	All elements of the work completed by UK Power Networks	0.0332	3.75	1.72



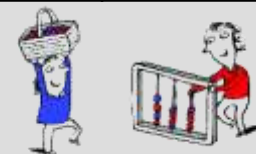
Central London Business Customer Values: Exercise 2

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)
<i>Investment in infrastructure to enable UKPN to detect loss of supply</i>	No investment	0.0000	0
	Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	0.0956	11.65
<i>Investment to enable greater uptake of electric vehicles</i>	No specific infrastructure investment	0.0000	0
	Investment in infrastructure required to support take up of electric vehicles	0.0388	4.91
<i>Restriction to electricity supply in times of peak demand</i>	With no impact to business customers	0.0000	0
	With a recognition of the impact of any loss of business	0.0177	2.44
<i>Investment to enable uptake of distributed generation e.g, solar panels etc:</i>	No specific infrastructure investment; use traditional network investment as needed	0.0000	0
	Investment in infrastructure to support uptake of distributed-generation technologies	0.0399	5.11



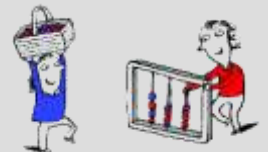
Central London Business Customer Values: Exercise 3

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)	Indexed coefficient
Frequency of power cuts over 3 mins - average number	1 every 36 months	0.0000	0	
	1 every 42 months	0.0191	1.2	
	1 every 48 months	0.0517	5.34	
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers	Within 60 minutes	-0.0261	-1.3	
	<i>Base: Within 20 minutes</i>	0.0000	0	
	Within 10 minutes	0.0716	4.58	1.00
Information during a power cut	Within 5 minutes	0.0920	5.54	1.29
	Information available on contacting call centre	0.0000	0	
	Information available on contacting call centre plus provision of automatic text messages to registered customers with details of power cut and updates	-0.0143	-0.72	
Contingency Services	Information available on contacting call centre plus provision of automatic update calls to customer from call centre and follow-up call when power cut over	0.0037	0.18	
	Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc	0.0263	2.35	
	Customer responsibility for any back-up services	0.0000	0	
Contingency Services	Provision of generator hire e.g. for an event	0.0179	1	
	Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	0.0490	5.04	



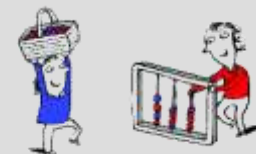
Central London Business Customer Priorities: Combined & Ranked

Levels	Factored coefficient	Indexed coefficient
Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	0.0956	5.41
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	0.0920	5.20
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	0.0716	4.05
Timescale for provision of quotations for high voltage new connections work: By date agreed with customer	0.0652	3.69
Frequency of power cuts over 3 mins - average number: 1 every 48 months	0.0517	2.92
Contingency services: Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	0.0490	2.77
Timescale for provision of quotations for high voltage new connections work: Within 20 working days	0.0443	2.50
Investment in infrastructure to support uptake of distributed-generation technologies	0.0399	2.25
Timing of any new connections work: Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	0.0392	2.22
Investment in infrastructure required to support take up of electric vehicles	0.0388	2.20
Type of new connections service offered: All elements of the work completed by UK Power Networks	0.0332	1.88
Timescale for provision of quotations for high voltage new connections work: Within 25 working days	0.0284	1.61
Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc	0.0263	1.49
Type of new connections service offered: A menu of services available from UKPN allowing the customer to choose who completes which elements of the work	0.0194	1.10
Restriction to electricity supply in times of peak demand : Recognition of the impact of any loss of business	0.0177	1.00



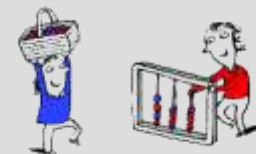
Central London Business Customer WTP

Levels	WTP in % in 2023
Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	3.50
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	3.37
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	2.62
Timescale for provision of quotations for high voltage new connections work: By date agreed with customer	2.39
Frequency of power cuts over 3 mins - average number: 1 every 48 months	1.89
Contingency services: Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	1.79
Timescale for provision of quotations for high voltage new connections work: Within 20 working days	1.62
Investment to enable uptake of distributed generation e.g, solar panels etc	1.46
Timing of any new connections work: Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	1.44
Investment in infrastructure required to support take up of electric vehicles	1.42
Type of new connections service offered: All elements of the work completed by UK Power Networks	1.22
Timescale for provision of quotations for high voltage new connections work: Within 25 working days	1.04
Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc	0.96
Type of new connections service offered: A menu of services available from UKPN allowing the customer to choose who completes which elements of the work	0.71
Restriction to electricity supply in times of peak demand : Recognition of the impact of any loss of business	0.65



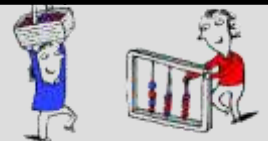
SME Customer Values: Exercise 1

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)	Indexed coefficient
Timescale for provision of quotations for high voltage new connections work	Within 35 working days	0.0000	0	
	Within 25 working days	0.0284	2.44	1.00
	Within 20 working days	0.0407	3.45	1.43
	By date agreed with customer	0.0649	4.77	2.28
Timing of any new connections work	As now, ie work undertaken in normal business hours (08.00-17.00)	0.0000	0	
	Work undertaken in normal business hours (08.00-17.00) and in the evenings	-0.0032	-0.27	
	Work undertaken in normal business hours (08.00-17.00), in the evenings and at weekends	0.0055	0.46	
	Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	0.0407	3.35	
Contact for any new connections work	As now, telephone or e-mail to general call centre	0.0000	0	
	Phone or email contact via dedicated new connections call centre	-0.0016	-0.1	
	Phone or email contact via a named project co-ordinator	0.0156	1.21	
	All contact through an on-line web portal	0.0178	1.22	
Type of new connections service offered	Standard service, with UKPN defining what they will do and what activities remain the responsibility of a customer's developer or contractors	0.0000	0	
	A menu of services available from UKPN allowing the customer to choose who completes which elements of the work	0.0187	1.39	
	All elements of the work completed by UK Power Networks	0.0358	2.79	



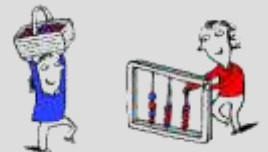
SME Customer Values: Exercise 2

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)
<i>Investment in infrastructure to enable UKPN to detect loss of supply</i>	No investment	0.0000	0
	Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	0.1116	8.85
<i>Investment to enable greater uptake of electric vehicles</i>	No specific infrastructure investment	0.0000	0
	Investment in infrastructure required to support take up of electric vehicles	0.0560	4.71
<i>Restriction to electricity supply in times of peak demand</i>	With no impact to business customers	0.0000	0
	With a recognition of the impact of any loss of business	0.0292	2.7
<i>Investment to enable uptake of distributed generation e.g, solar panels etc:</i>	No specific infrastructure investment; use traditional network investment as needed	0.0000	0
	Investment in infrastructure to support uptake of distributed-generation technologies	0.0506	4.3



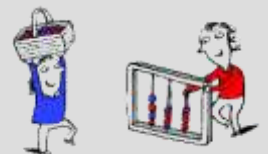
SME Customer Values: Exercise 3

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)
Frequency of power cuts over 3 mins - average number	1 every 36 months	0.0000	0
	1 every 42 months	0.0136	0.66
	1 every 48 months	0.0665	4.8
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers	Within 60 minutes	-0.0326	-1.07
	<i>Base: Within 20 minutes</i>	0.0000	0
	Within 10 minutes	0.1011	4.29
	Within 5 minutes	0.1094	4.57
Information during a power cut	<i>Information available on contacting call centre</i>	0.0000	0
	Information available on contacting call centre plus provision of automatic text messages to registered customers with details of power cut and updates	0.0057	0.2
	Information available on contacting call centre plus provision of automatic update calls to customer from call centre and follow-up call when power cut over	0.0197	0.68
	Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc	0.0242	1.6
Contingency Services	<i>Customer responsibility for any back-up services</i>	0.0000	0
	Provision of generator hire e.g. for an event	0.0456	1.89
	Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	0.0628	4.49



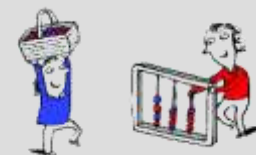
SME Customer Priorities: Combined & Ranked

Levels	Factored coefficient	Indexed coefficient
Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	0.1116	3.93
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	0.1094	3.85
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	0.1011	3.56
Frequency of power cuts over 3 mins - average number: 1 every 48 months	0.0665	2.34
Timescale for provision of quotations for high voltage new connections work: By date agreed with customer	0.0649	2.28
Contingency services: Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	0.0628	2.21
Investment in infrastructure required to support take up of electric vehicles	0.0560	1.97
Investment to enable uptake of distributed generation e.g, solar panels etc	0.0506	1.78
Timescale for provision of quotations for high voltage new connections work: Within 20 working days	0.0407	1.43
Timing of any new connections work: Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	0.0407	1.43
Type of new connections service offered: All elements of the work completed by UK Power Networks	0.0358	1.26
Restriction to electricity supply in times of peak demand : Recognition of the impact of any loss of business	0.0292	1.03
Timescale for provision of quotations for high voltage new connections work: Within 25 working days	0.0284	1.00



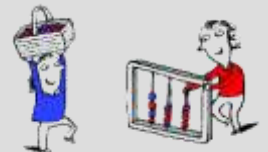
SME Customer WTP

Levels	WTP in % in 2023
Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	3.60
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	3.53
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	3.26
Frequency of power cuts over 3 mins - average number: 1 every 48 months	2.14
Timescale for provision of quotations for high voltage new connections work: By date agreed with customer	2.09
Contingency services: Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	2.03
Investment in infrastructure required to support take up of electric vehicles	1.81
Investment in infrastructure to support uptake of distributed-generation technologies	1.63
Timescale for provision of quotations for high voltage new connections work: Within 20 working days	1.31
Timing of any new connections work: Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	1.31
Type of new connections service offered: All elements of the work completed by UK Power Networks	1.15
Restriction to electricity supply in times of peak demand : Recognition of the impact of any loss of business	0.94
Timescale for provision of quotations for high voltage new connections work: Within 25 working days	0.92



Large Businesses Customer Values: Exercise 1

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)	Indexed coefficient
Timescale for provision of quotations for high voltage new connections work	Within 35 working days	0.0000	0	
	Within 25 working days	0.0250	2.36	1.00
	Within 20 working days	0.0434	3.99	1.73
	By date agreed with customer	0.0590	5.11	2.36
Timing of any new connections work	As now, ie work undertaken in normal business hours (08.00-17.00)	0.0000	0	
	Work undertaken in normal business hours (08.00-17.00) and in the evenings	-0.0037	-0.33	
	Work undertaken in normal business hours (08.00-17.00), in the evenings and at weekends	0.0109	1.03	
	Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	0.0347	3.15	
Contact for any new connections work	As now, telephone or e-mail to general call centre	0.0000	0	
	Phone or email contact via dedicated new connections call centre	-0.0141	-1.12	
	Phone or email contact via a named project co-ordinator	-0.0040	-0.34	
	All contact through an on-line web portal	-0.0092	-0.7	
Type of new connections service offered	Standard service, with UKPN defining what they will do and what activities remain the responsibility of a customer's developer or contractors	0.0000	0	
	A menu of services available from UKPN allowing the customer to choose who completes which elements of the work	0.0169	1.66	
	All elements of the work completed by UK Power Networks	0.0285	2.55	



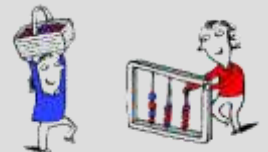
Large Businesses Customer Values: Exercise 2

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)
<i>Investment in infrastructure to enable UKPN to detect loss of supply</i>	No investment	0.0000	0
	Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	0.0780	7.57
<i>Investment to enable greater uptake of electric vehicles</i>	No specific infrastructure investment	0.0000	0
	Investment in infrastructure required to support take up of electric vehicles	0.0210	2.1
<i>Restriction to electricity supply in times of peak demand</i>	With no impact to business customers	0.0000	0
	With a recognition of the impact of any loss of business	0.0062	0.66
<i>Investment to enable uptake of distributed generation e.g, solar panels etc:</i>	No specific infrastructure investment; use traditional network investment as needed	0.0000	0
	Investment in infrastructure to support uptake of distributed-generation technologies	0.0273	2.79



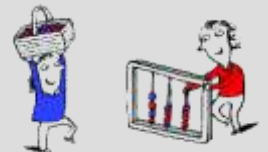
Large Businesses Customer Values: Exercise 3

Attribute	Levels	Factored coefficient	T-Stat (Robust = 1.95+)
Frequency of power cuts over 3 mins - average number	1 every 36 months	0.0000	0
	1 every 42 months	0.0344	1.05
	1 every 48 months	0.0430	2.4
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers	Within 60 minutes	-0.0231	-0.66
	<i>Base: Within 20 minutes</i>	0.0000	0
	Within 10 minutes	0.0537	1.98
	Within 5 minutes	0.0990	3.28
Information during a power cut	Information available on contacting call centre	0.0000	0
	Information available on contacting call centre plus provision of automatic text messages to registered customers with details of power cut and updates	-0.0494	-1.32
	Information available on contacting call centre plus provision of automatic update calls to customer from call centre and follow-up call when power cut over	-0.0229	-0.6
	Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc	0.0310	1.43
Contingency Services	Customer responsibility for any back-up services	0.0000	0
	Provision of generator hire e.g. for an event	-0.0325	-0.89
	Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	0.0411	2.33



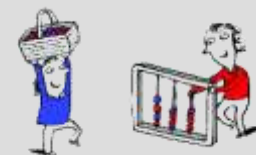
Large Businesses Customer Priorities: Combined & Ranked

Levels	Factored coefficient	Indexed coefficient
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	0.0990	4.72
Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	0.0780	3.72
Timescale for provision of quotations for high voltage new connections work: By date agreed with customer	0.0590	2.81
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	0.0537	2.56
Timescale for provision of quotations for high voltage new connections work: Within 20 working days	0.0434	2.07
Frequency of power cuts over 3 mins - average number: 1 every 48 months	0.0430	2.05
Contingency services: Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	0.0411	1.96
Timing of any new connections work: Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	0.0347	1.65
Type of new connections service offered: All elements of the work completed by UK Power Networks	0.0285	1.36
Investment to enable uptake of distributed generation e.g, solar panels etc	0.0273	1.30
Timescale for provision of quotations for high voltage new connections work: Within 25 working days	0.0250	1.19
Investment in infrastructure required to support take up of electric vehicles	0.0210	1.00

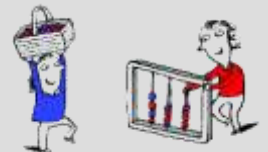


Large Businesses Customer WTP

Levels	WTP in % in 2023
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	4.52
Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	3.56
Timescale for provision of quotations for high voltage new connections work: By date agreed with customer	2.69
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	2.45
Timescale for provision of quotations for high voltage new connections work: Within 20 working days	1.98
Frequency of power cuts over 3 mins - average number: 1 every 48 months	1.96
Contingency services: Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	1.88
Timing of any new connections work: Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	1.58
Type of new connections service offered: All elements of the work completed by UK Power Networks	1.30
Investment to enable uptake of distributed generation e.g, solar panels etc	1.25
Timescale for provision of quotations for high voltage new connections work: Within 25 working days	1.14
Investment in infrastructure required to support take up of electric vehicles	0.96

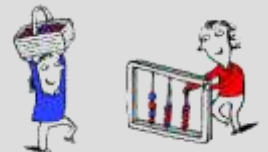


Comparison with all London (ie LPN) results



Business Customer WTP: Central London VS all LPN

Levels	WTP in % in 2023 Central London	WTP in % in 2023 LPN
Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises	3.50	2.39
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	3.37	n/a
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	2.62	n/a
Timescale for provision of quotations for high (Central) / simple, low (LPN) voltage new connections work: By date agreed with customer	2.39	1.57
Frequency of power cuts over 3 mins - average number: 1 every 48 months	1.89	1.09
Contingency services: Provision of back-up services to customers e.g. regular testing of customer-owned generators and systems	1.79	0.94
Timescale for provision of quotations for high (Central) / simple, low (LPN) voltage new connections work: Within 20 working days	1.62	n/a
Investment to enable uptake of distributed/micro-generation e.g. solar panels etc	1.46	1.89
Timing of any new connections work: Work is undertaken within a banded time ie morning, afternoon or evening in normal business hours, evenings or at weekends	1.44	1.19
Investment in infrastructure required to support take up of electric vehicles	1.42	1.10
Type of new connections service offered: All elements of the work completed by UK Power Networks	1.22	n/s
Timescale for provision of quotations for high (Central) / simple, low (LPN) voltage new connections work: Within 25 working days	1.04	n/a
Information available on contacting call centre plus provision of additional information services such as real-time information on internet, use of social media, customer service staff 'knocking on doors' etc	0.96	n/s
Type of new connections service offered: A menu of services available from UKPN allowing the customer to choose who completes which elements of the work	0.71	n/s
Restriction to electricity supply in times of peak demand : Recognition of the impact of any loss of business	0.65	n/a

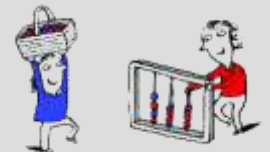


Summary of priority and key WTP differences by location – Central London VS all London

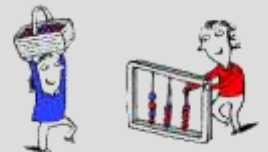
- Highest priorities:

- Investment in infrastructure to detect loss of supply from individual and small premises
- Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes
- Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes
- Timescale for provision of quotations for high (Central) / simple, low (LPN) voltage new connections work: By date agreed with customer
- Frequency of power cuts over 3 mins - average number: 1 every 48 months

	Central London	All London
Investment in infrastructure to detect loss of supply from individual and small premises	3.50% ¹	2.39% ¹
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes	3.37% ²	n/a
Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes	2.62% ³	n/a
Timescale for provision of quotations for high (Central) / simple, low (LPN) voltage new connections work: By date agreed with customer	2.39% ⁴	1.57% ⁴
Frequency of power cuts over 3 mins - average number: 1 every 48 months	1.89% ⁵	1.09% ¹⁰

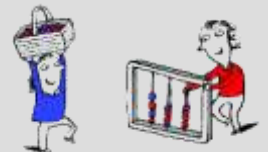


Overall Summary



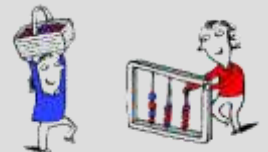
Summary: Overall, SME and Large Business Customer Priorities and WTP

	Overall	SME	Large
<ul style="list-style-type: none"> Investment in infrastructure required to enable UKPN to detect loss of supply from individual or small groups of premises 	3.50% ¹	3.60% ¹	3.56% ²
<ul style="list-style-type: none"> Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 5 minutes 	3.37% ²	3.53% ²	4.52% ¹
<ul style="list-style-type: none"> Urban customers: For power cuts longer than 3 minutes, time to restore 80% of affected customers: Within 10 minutes 	2.62% ³	3.26% ³	2.45% ⁴
<ul style="list-style-type: none"> Provision of quotations for high voltage new connections work: timescale/date agreed with customer 	2.39% ⁴	2.09% ⁵	2.69% ³

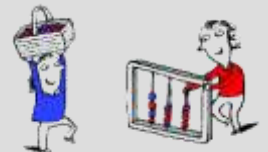


Overall Summary of Priorities & WTP

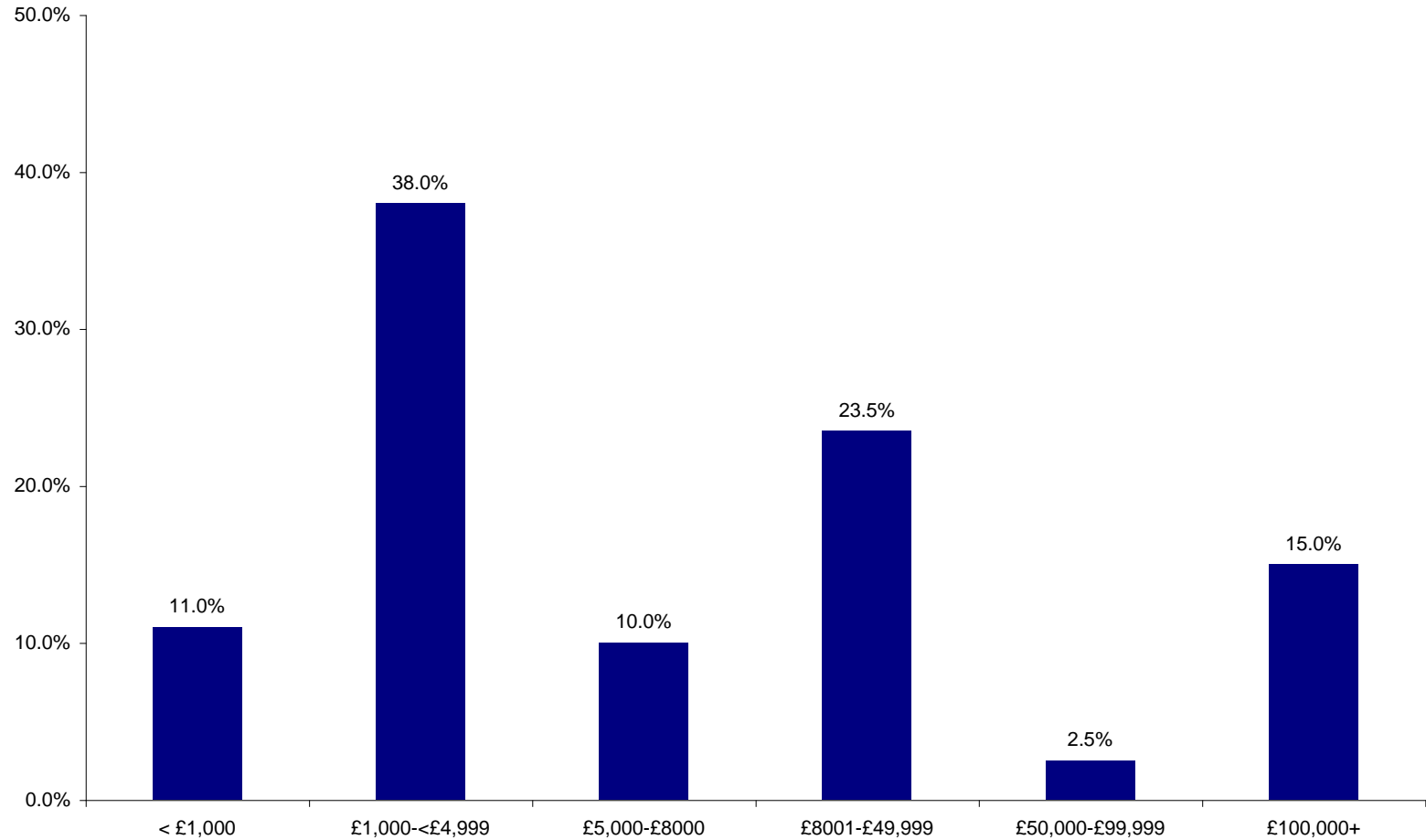
- Central London business customer priorities are:
 - Investing in infrastructure to detect loss of supply
 - Reducing the time to restore 80% of affected customers following a power cut
 - Being able to agree the date for quotations for high voltage new connections work
 - Reducing the frequency of power cuts
- Large Central London business customer had a particularly strong desire to invest in:
 - Reducing the time to restore 80% of affected customers following a power cut from within 20 to within 5 minutes
- Average WTP by 2023 is:
 - Overall : 20.09%
 - SME: 20.24%
 - Large businesses: 19.71%
- With one exception (investment to enable uptake of distributed generation) WTP is higher amongst Central London business customers than LPN business customers as a whole; overall LPN customers were WTP 18.0% and Central London customers were WTP 20.09%



APPENDIX A – Background Findings

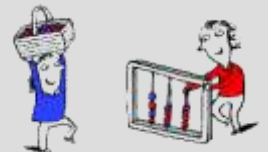


Annual Bill Size

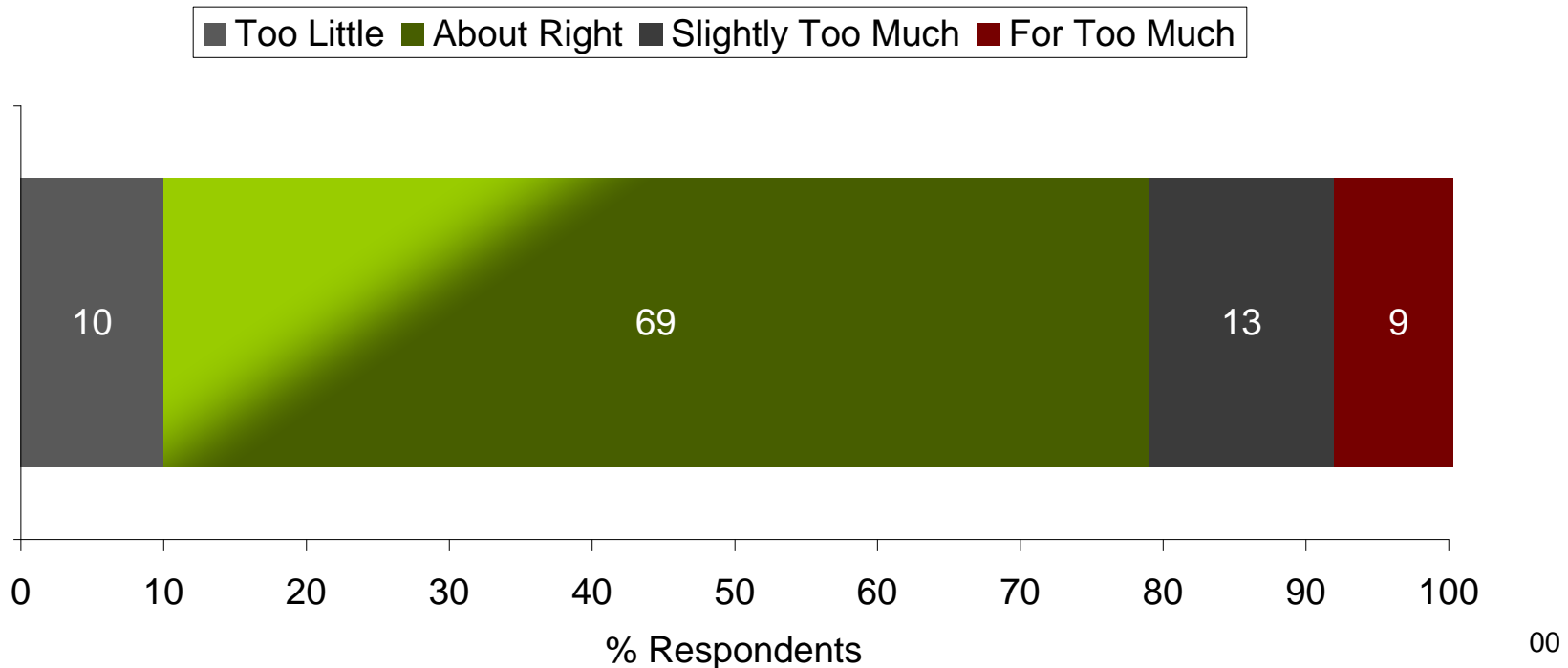


Base: all respondents –200

Q7. Annual bill size

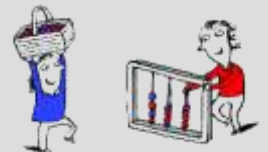


Nearly 7 in 10 feel the amount paid to the distributor is “about right”

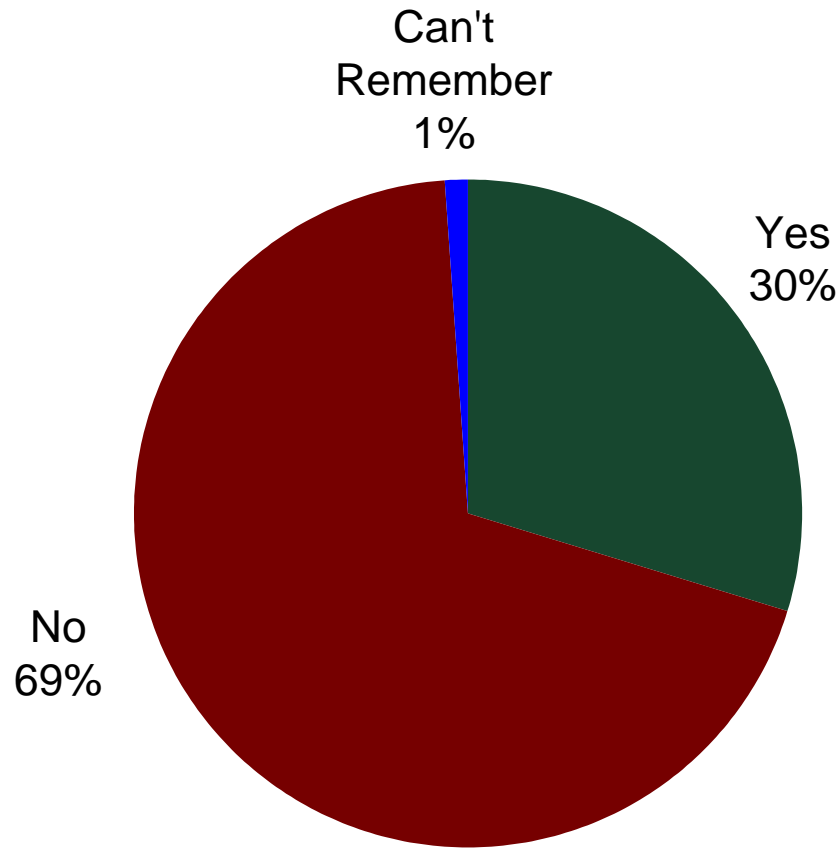


Base: all respondents - 200

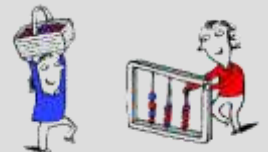
Q11. Given what we have told you about the role of the distributor, how do you feel about the amount that goes towards your distributor? Is it..



3 in 10 businesses have experienced an unplanned cut in the last year

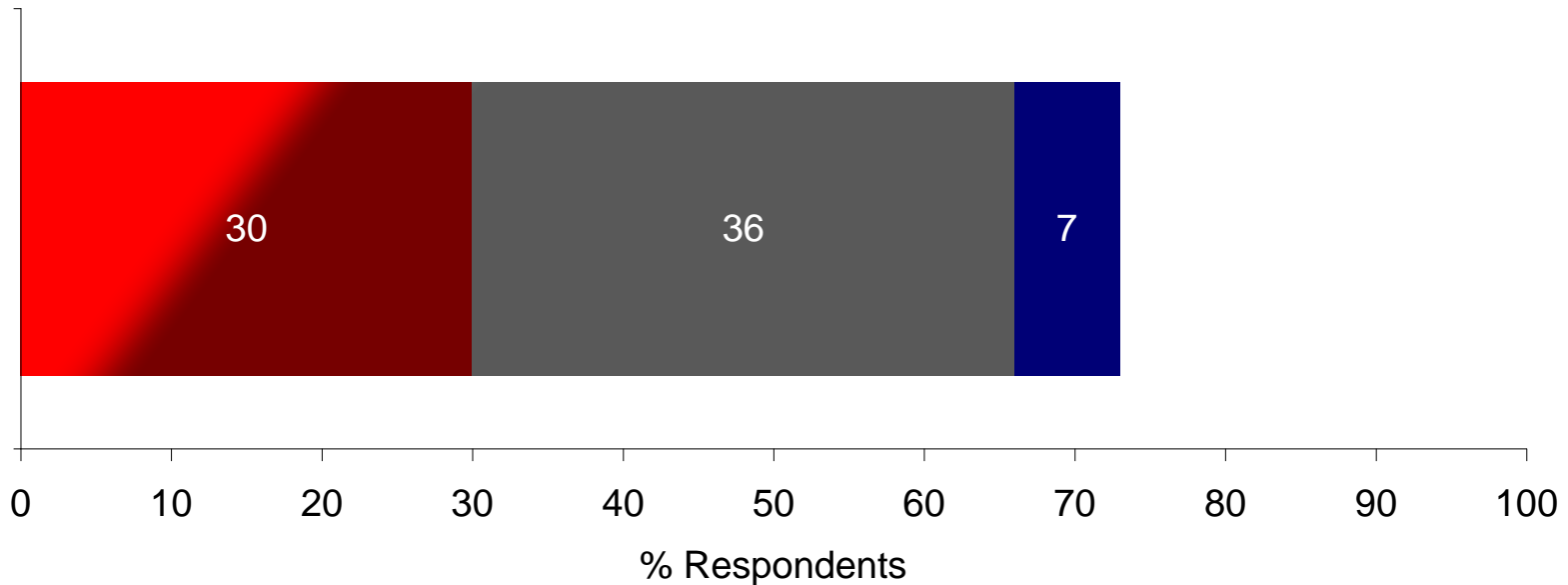


Base: all respondents - 200



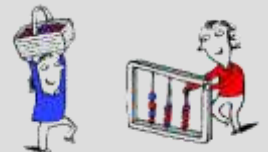
Two thirds have experienced an unplanned cut in the last 5 years

■ In Last Year ■ In Last 5 Years ■ In Last 10 Years

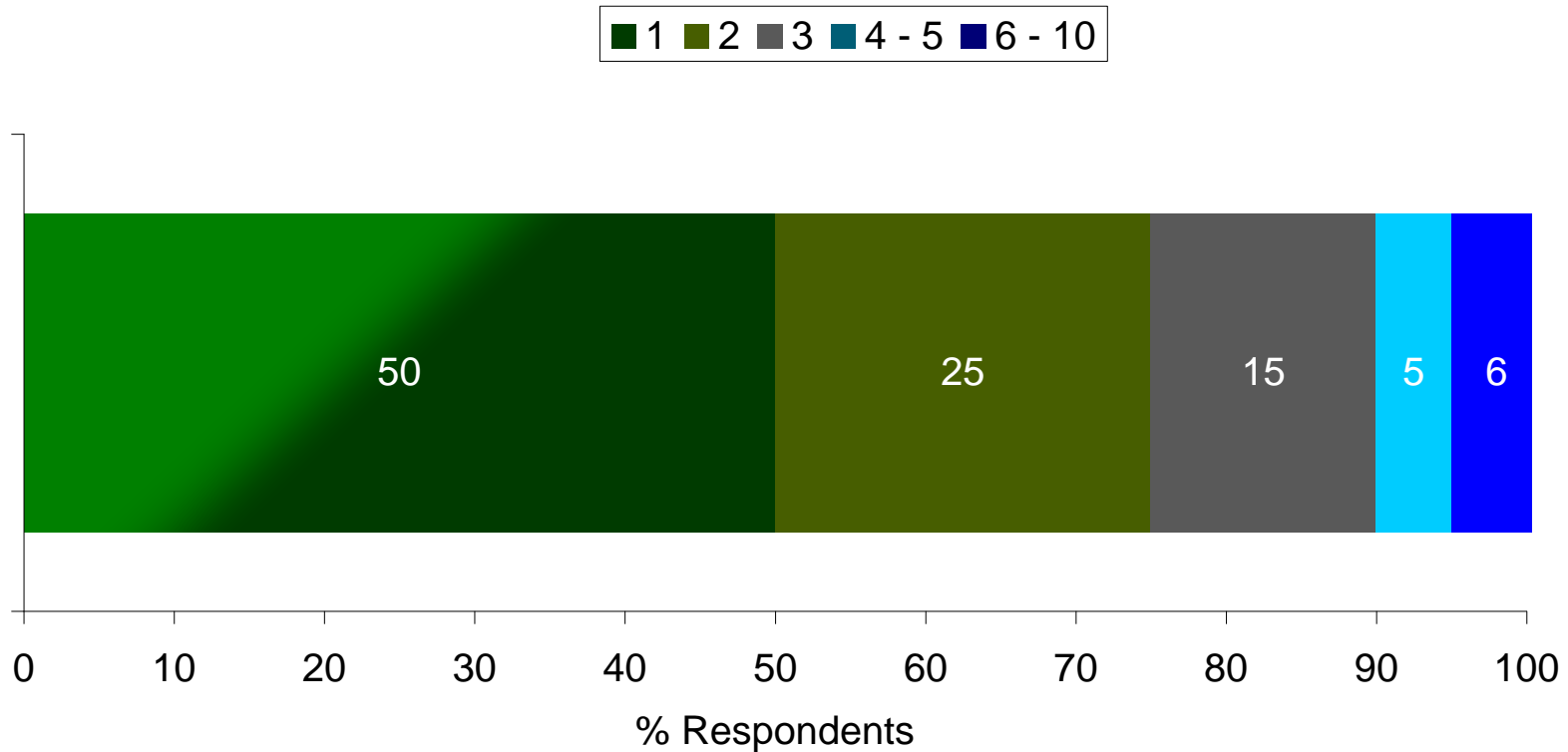


Base: all respondents – 200

Q12/13/14. Has your business experienced any unplanned power cuts lasting more than 3 minutes (that is, any that you were not warned about) at this site in the last year/in the last 5 years/in the last 10 years?

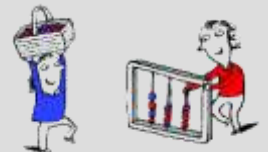


Most who had encountered an unplanned cut had experienced one or two

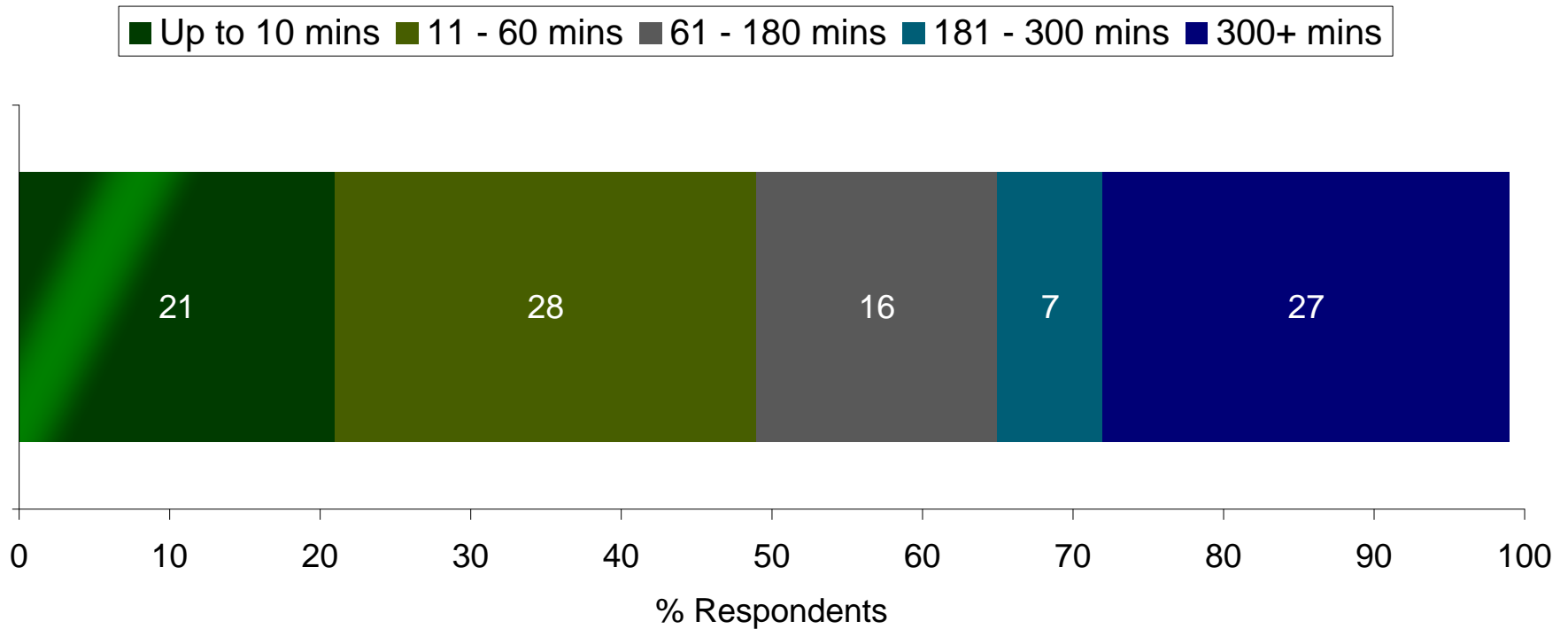


Base: all respondents whose organisation has experienced any unplanned power cuts lasting more than 3 minutes in the last 1/5/10 years – 114

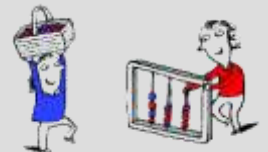
Q15. How many of these unplanned cuts have you had in the last (1/5/10 year/s) at this site?



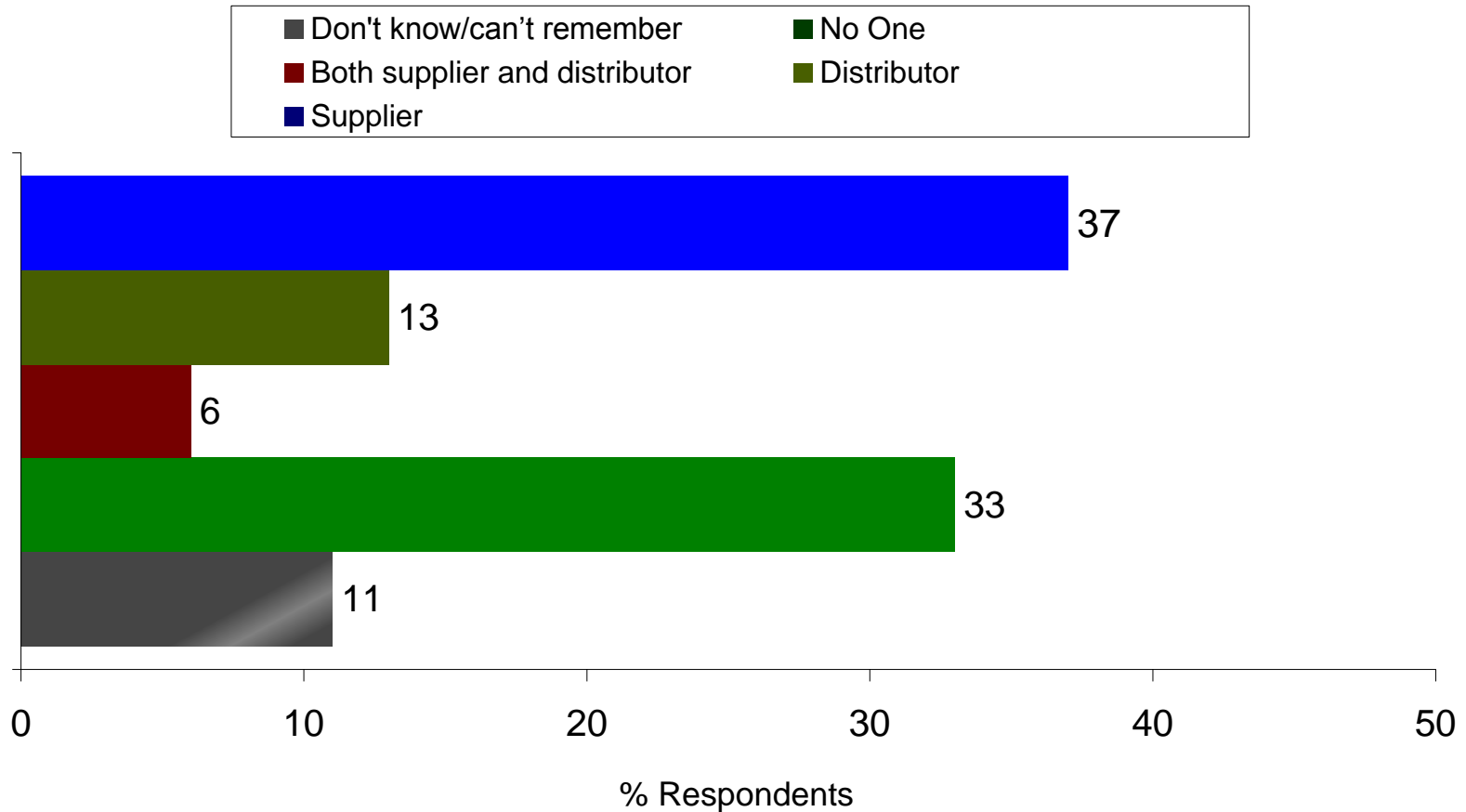
Nearly half of respondents' last unplanned cuts lasted an hour or less. For a quarter of businesses, their cut lasted 5 hours or more



Base: all respondents whose organisation has experienced any unplanned power cuts lasting more than 3 minutes in the last 1/5/10 years – 114

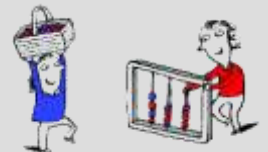


Over 4 in 10 contacted their supplier when they experienced a power cut; half this number contacted their distributor; one third did not contact anyone

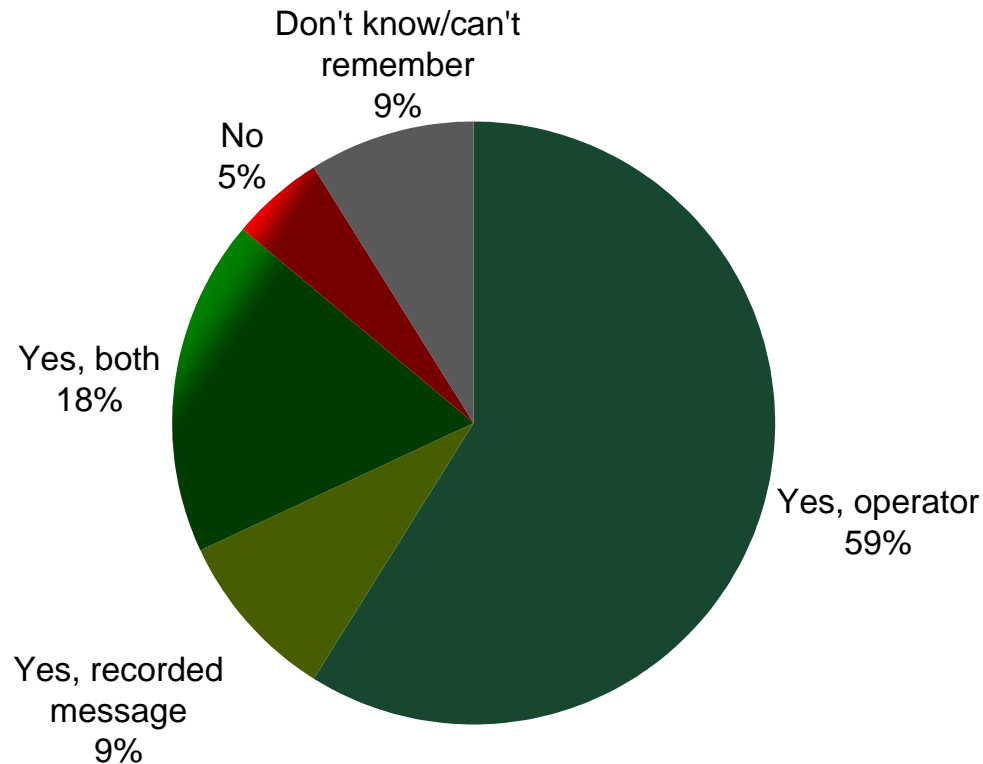


Base: all whose business experienced any unplanned power cuts lasting more than 3 minutes at this site in the last 1/5/10 year(s)– 114

Q17. Who, if anybody, did you contact on the last occasion your business experienced a power cut?



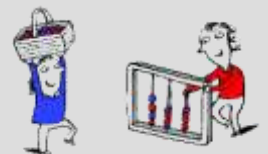
The vast majority got through to their distributor when they contacted them about the power cut, most to an operator



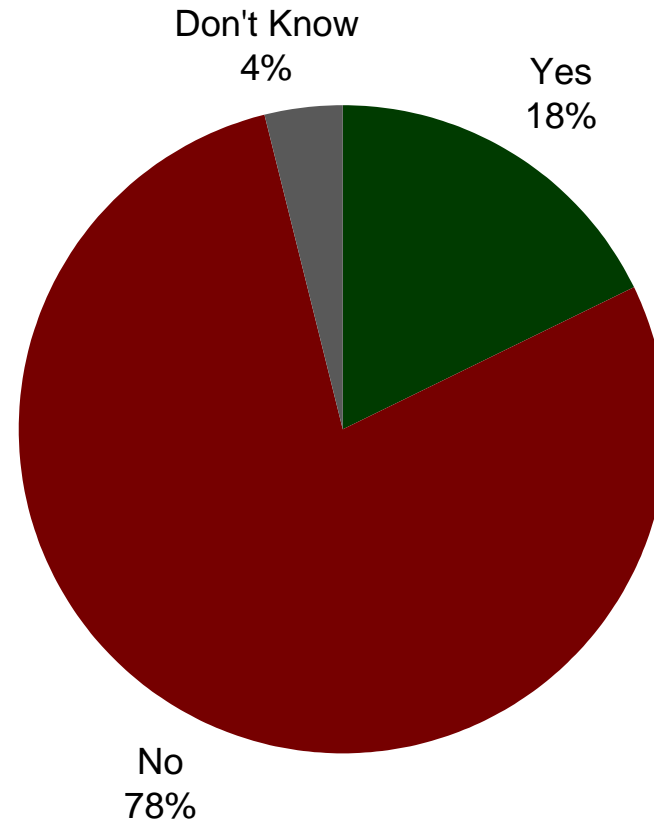
- Of the 19 respondents who got through to their distributor, eight in ten got all the information they wanted.
- Over half described the information they received as “very” or “quite” accurate.

Base: all who contacted their distributor on the last occasion their business experienced a power cut – 22

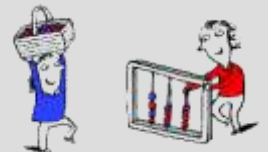
Q18. Did you manage to get through to either an operator or a recorded message at your distributor?



Less than one in five businesses said their distributor had contacted them during an unplanned power cut

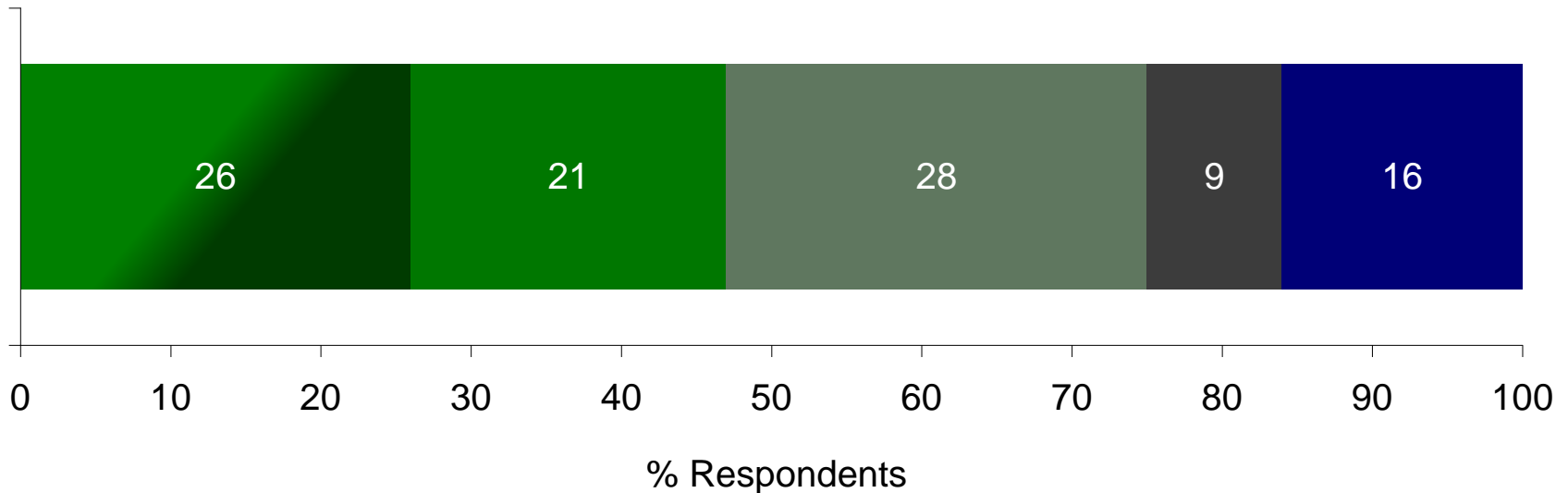


Base: all who contacted their distributor on the last occasion their business experienced a power cut – 114

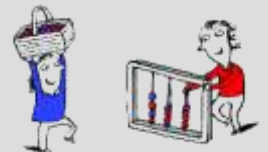


Most businesses would like contact from their distributor during an unplanned cut

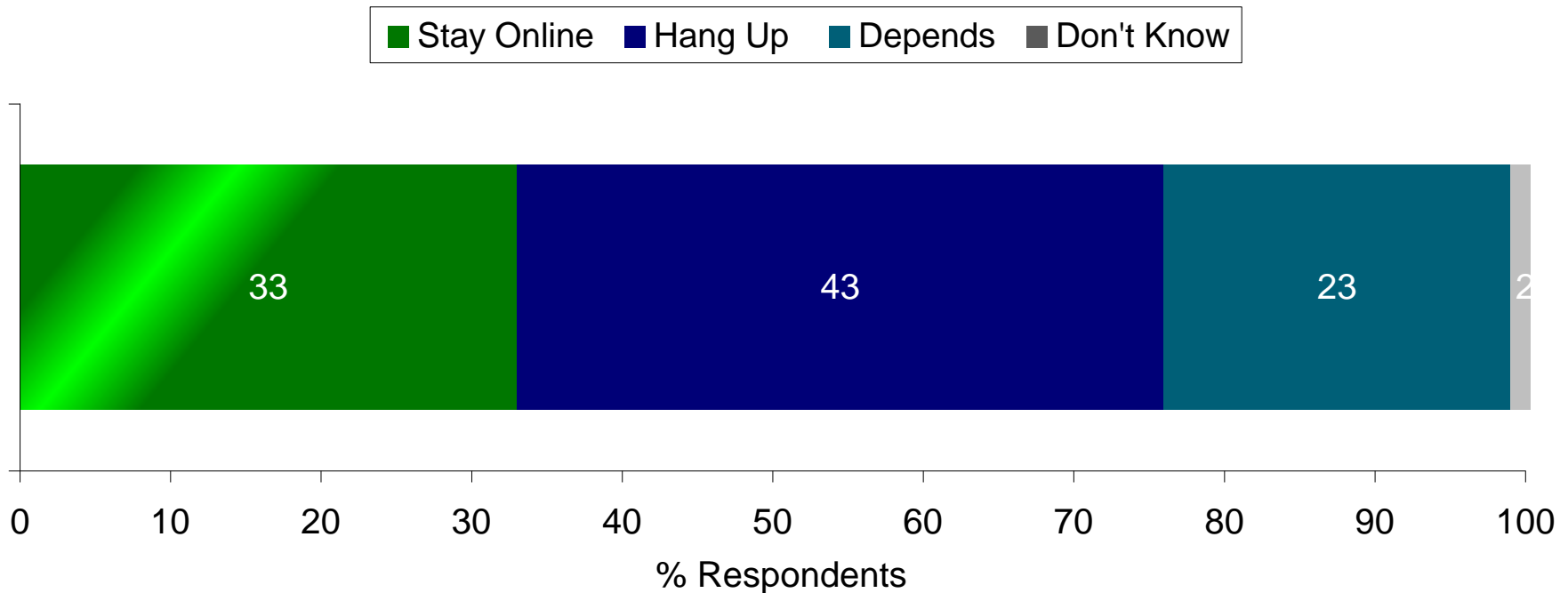
■ Yes, would like call ■ Yes, would like text ■ Yes, would like both
■ Yes, would like email ■ No, neither



Base: all respondents – 200

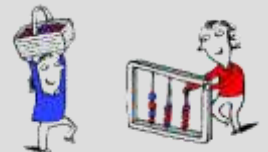


One third would stay on the line after hearing a recorded message about a cut

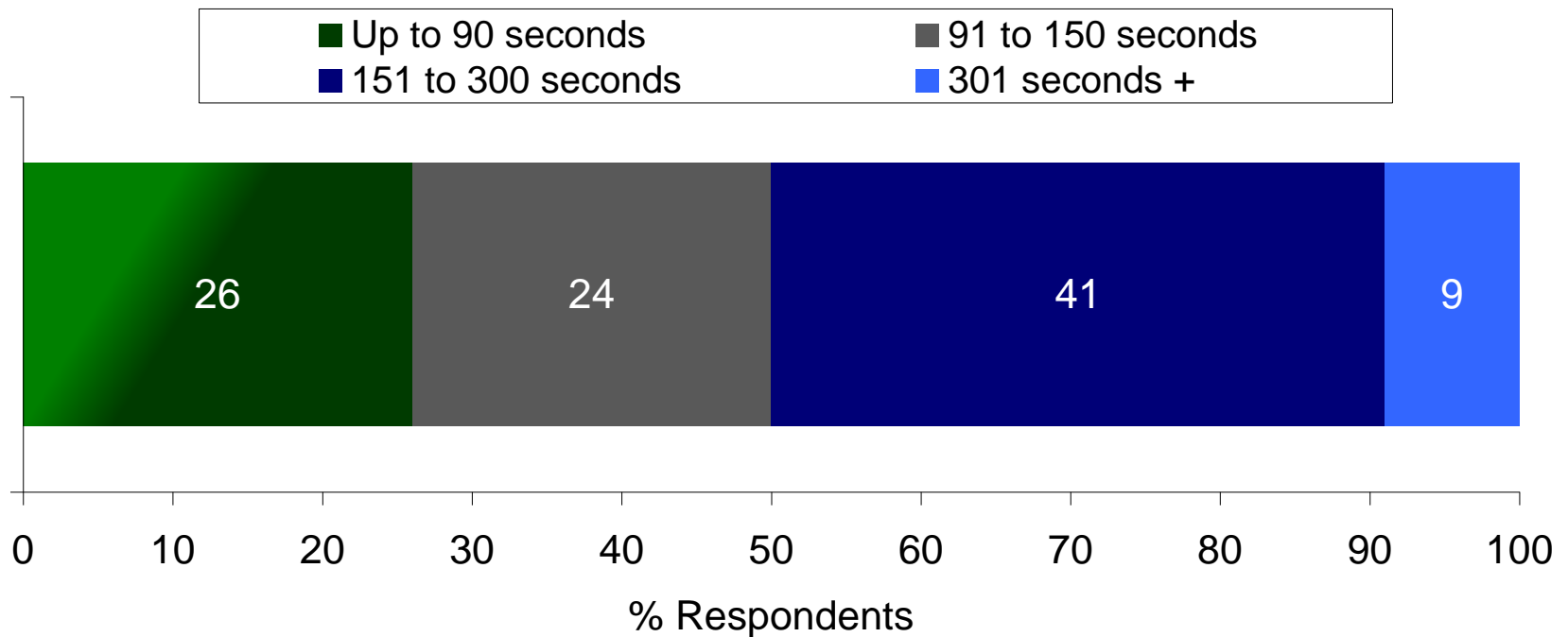


60% of those who said “it depends” said it depends on the information in the message

Base: all respondents –200

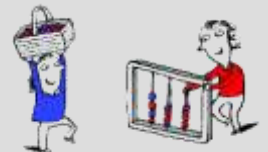


Two in five are happy to wait between 2.5 to 5 minutes after hearing a recorded message to speak to an operator

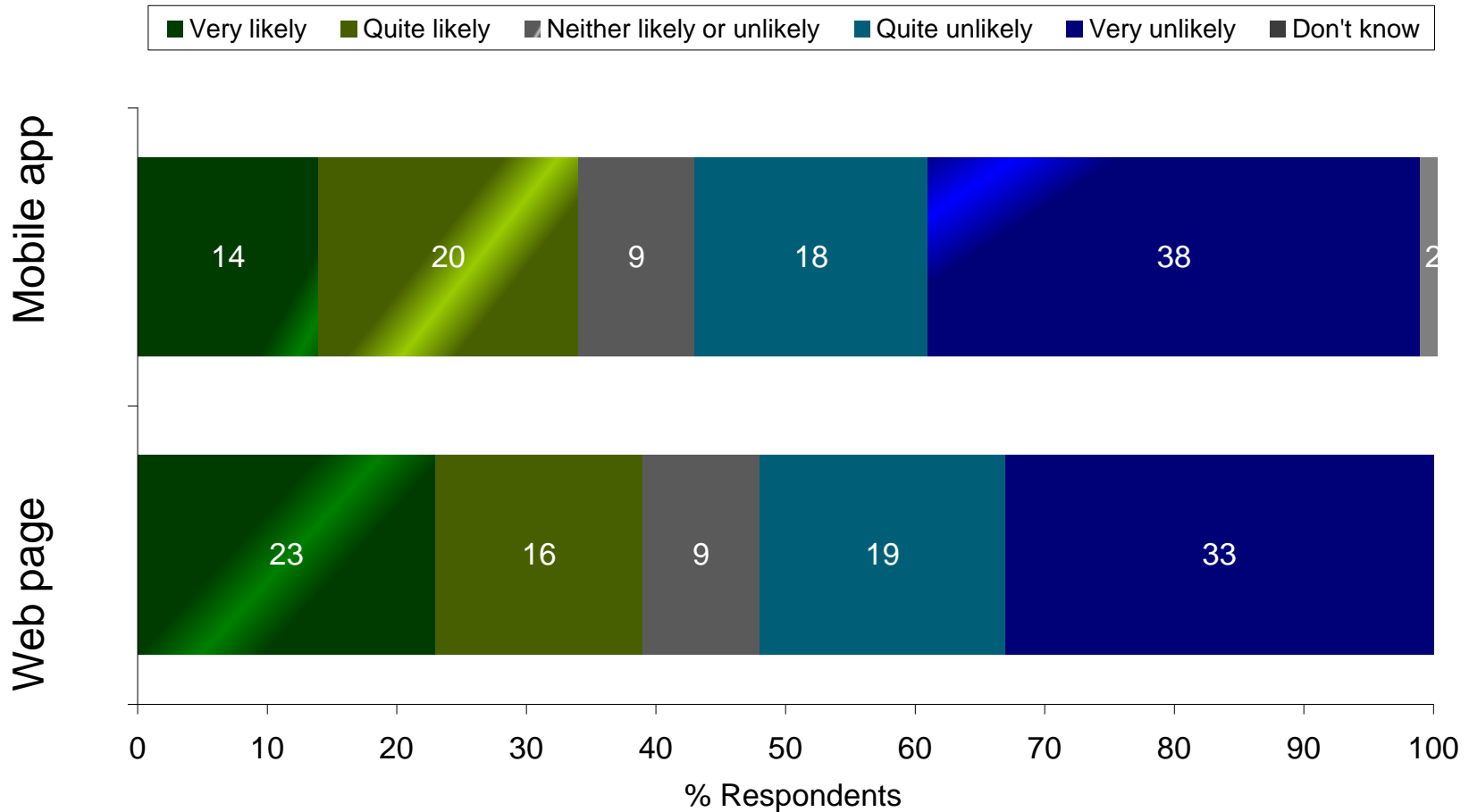


Base: all respondents who prefer to stay on the line after listening to a recorded message – 112

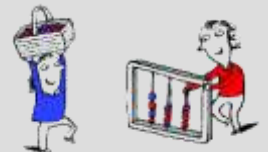
Q24. What is an acceptable time to wait to speak to an advisor after hearing a recorded message?



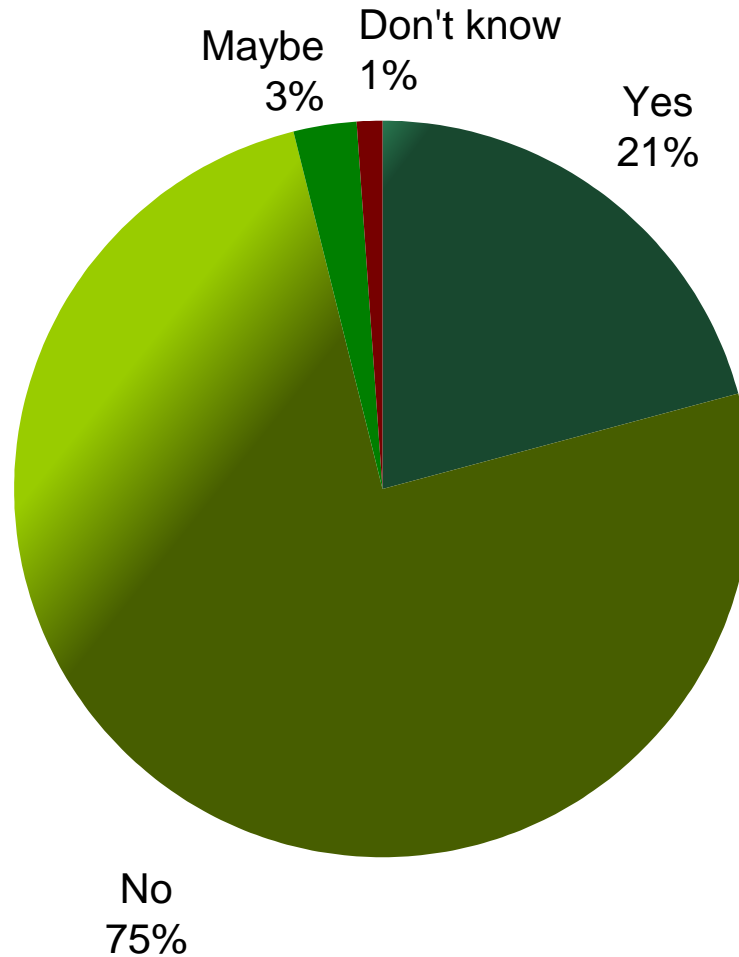
Businesses are more likely to visit a web page than a mobile app in the event of a cut



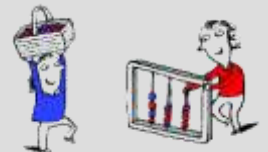
Base: all respondents – 200



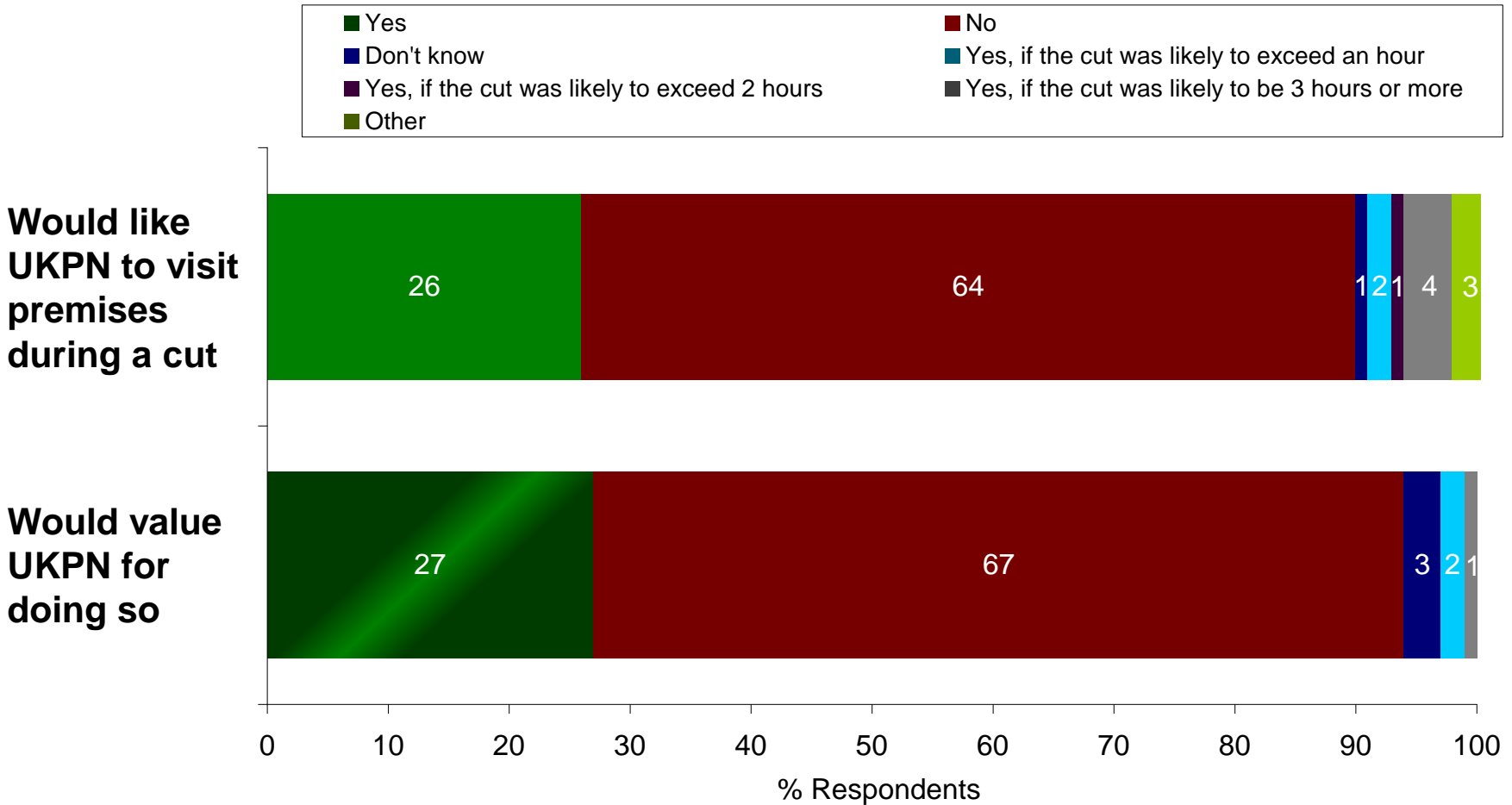
There is little interest in receiving updates about cuts via social media



Base: all respondents – 200



There is low interest in UKPN visiting premises during a cut, and UKPN would gain little value for doing so

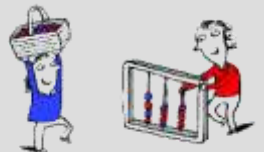


Base: all respondents – 200

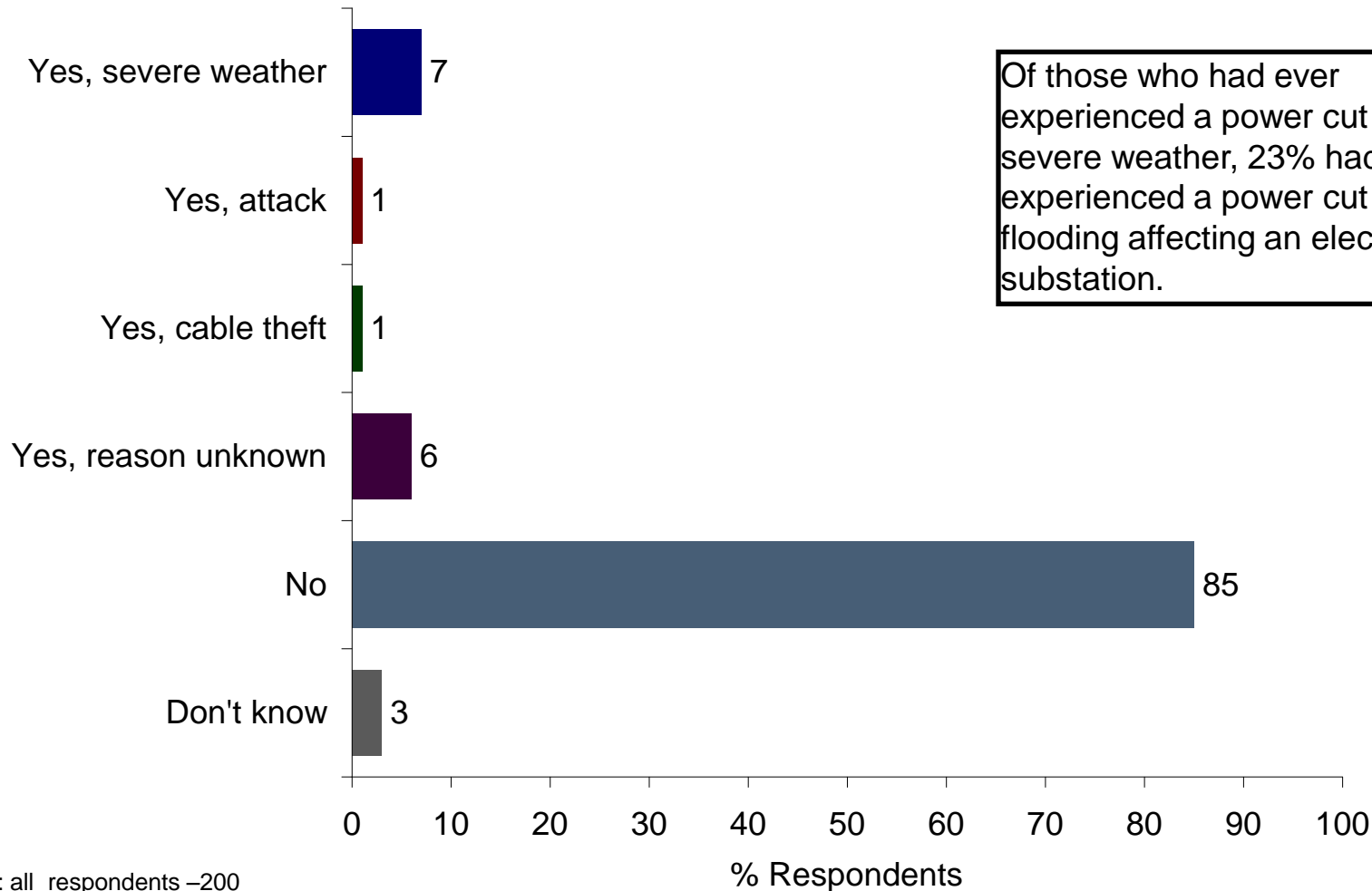
Q27. Again, thinking about the event of a power cut, when a cut occurred would you like staff, or an engineer, from UK Power Networks to come to your premises and explain the reason for the fault?

Q28. Would you value them doing so once the power was restored?

slide 52

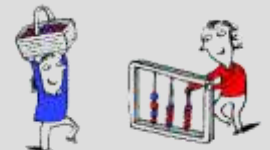


Most respondents have never experienced a power cut due to severe weather, emergency or an unforeseen event



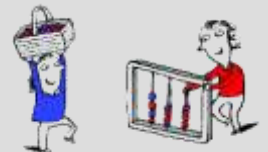
Of those who had ever experienced a power cut due to severe weather, 23% had experienced a power cut due to flooding affecting an electricity substation.

Base: all respondents –200

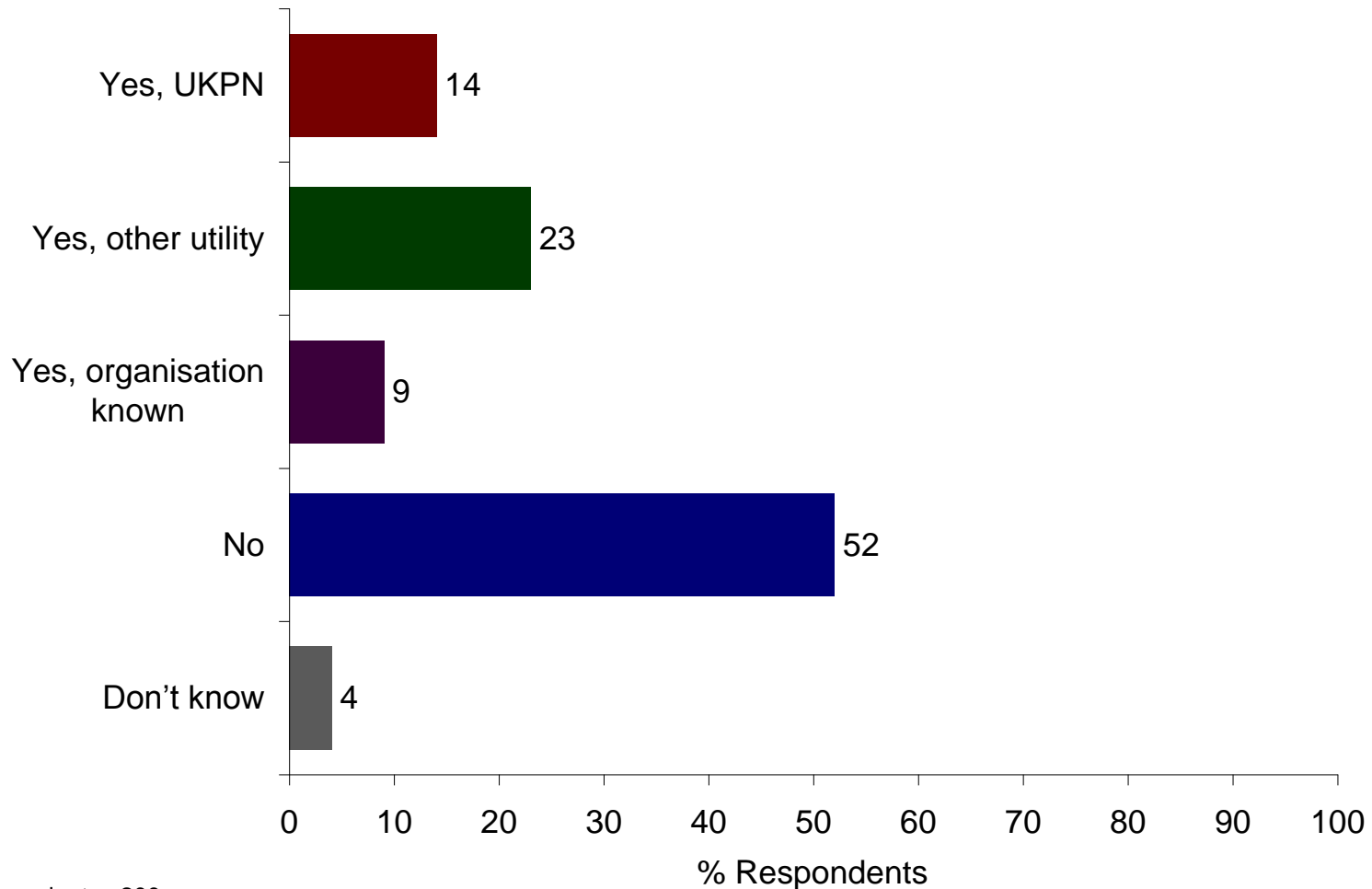


Over half of respondents contacted their distributor as a result of this event

- Of those who had experienced a power cut due to severe weather, attack or cable theft, over half (56%) contacted their distributor.
- 5 of the 14 who contacted their distributor claimed their distributor dealt with the fault “very well” or “quite well”.



Nearly half (46%) had been inconvenienced by roadworks caused by UKPN/another utility

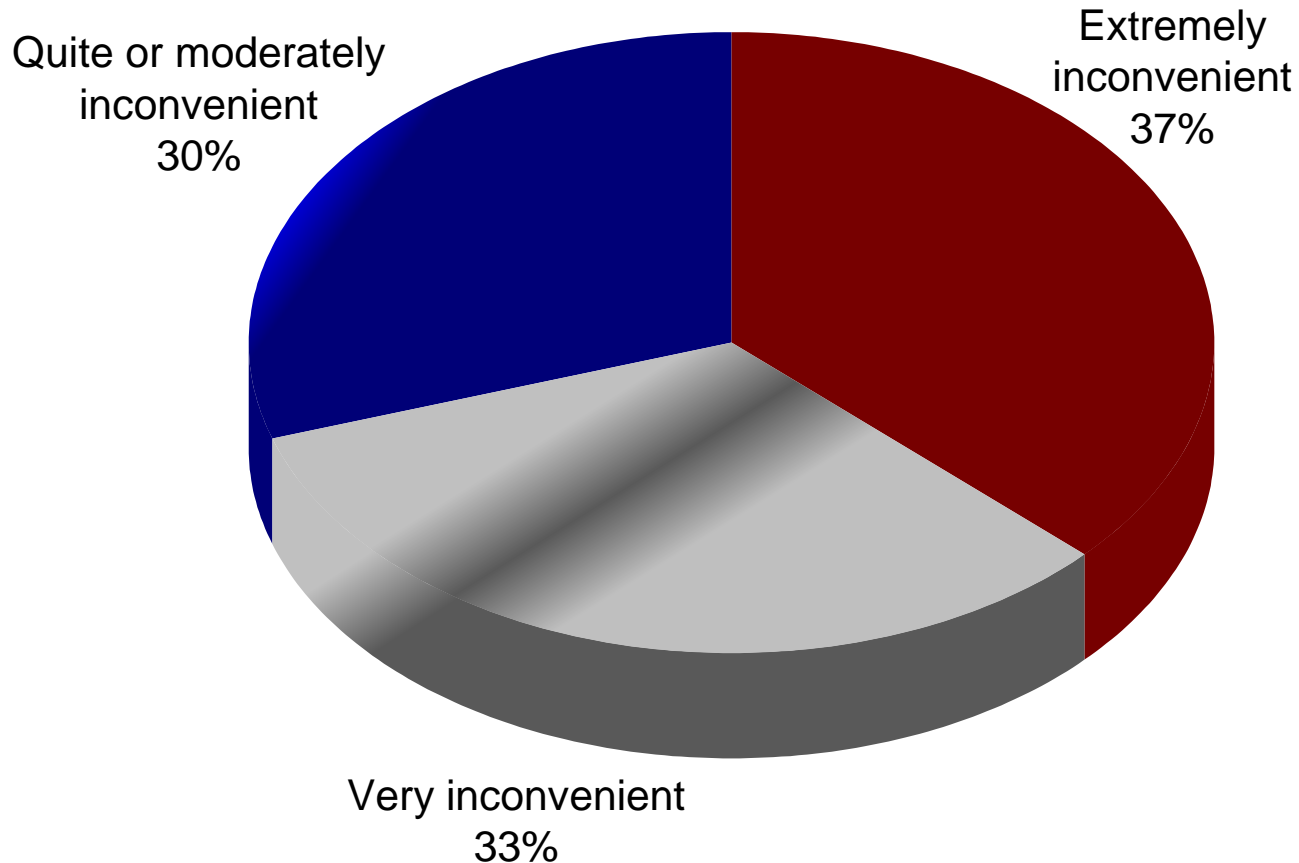


Base: all respondents –200

Q33. Has your business ever suffered inconvenience as a result of roadworks caused by UK Power Networks or another utility (ie your water company)?



Over one third of those who were inconvenienced were severely impacted

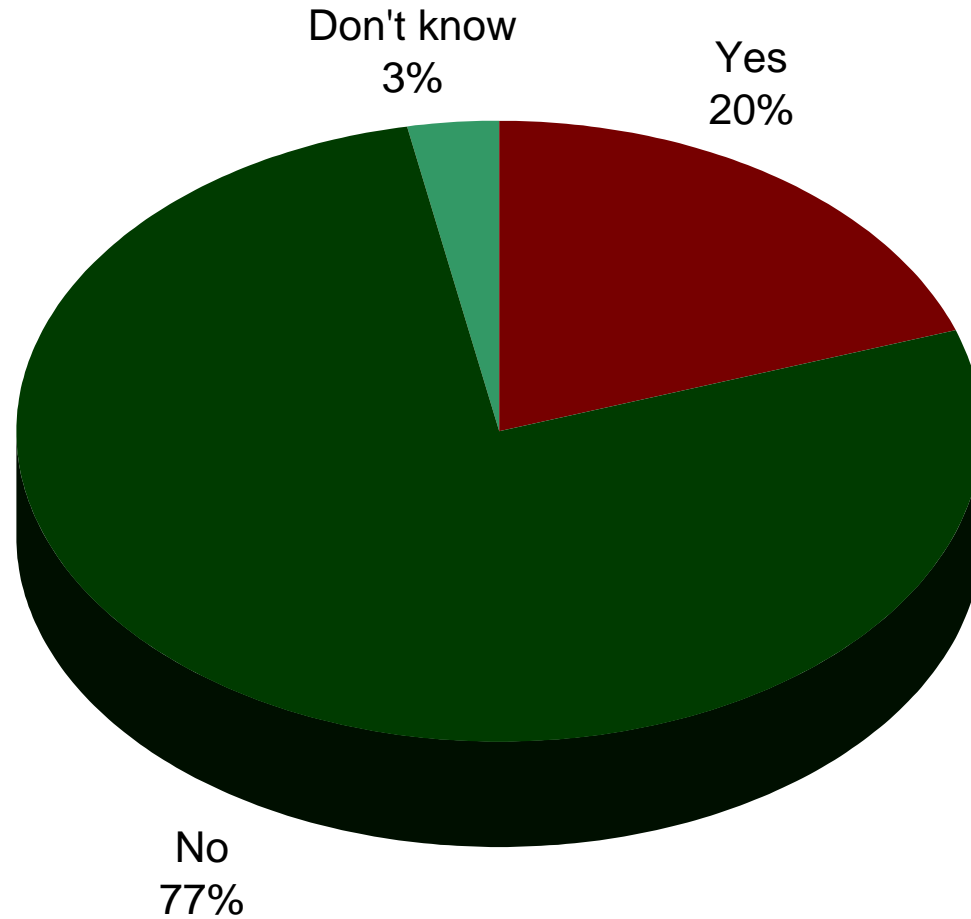


Base: all respondents whose business suffered inconvenience as a result of roadworks caused by UKPN or another utility – 89

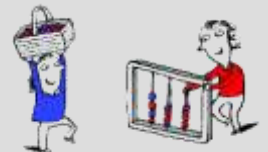
Q34. How inconvenient was the work to your business? Please use a scale of 1 to 3, where 3 is extremely inconvenient and 1 is quite, or moderately, inconvenient



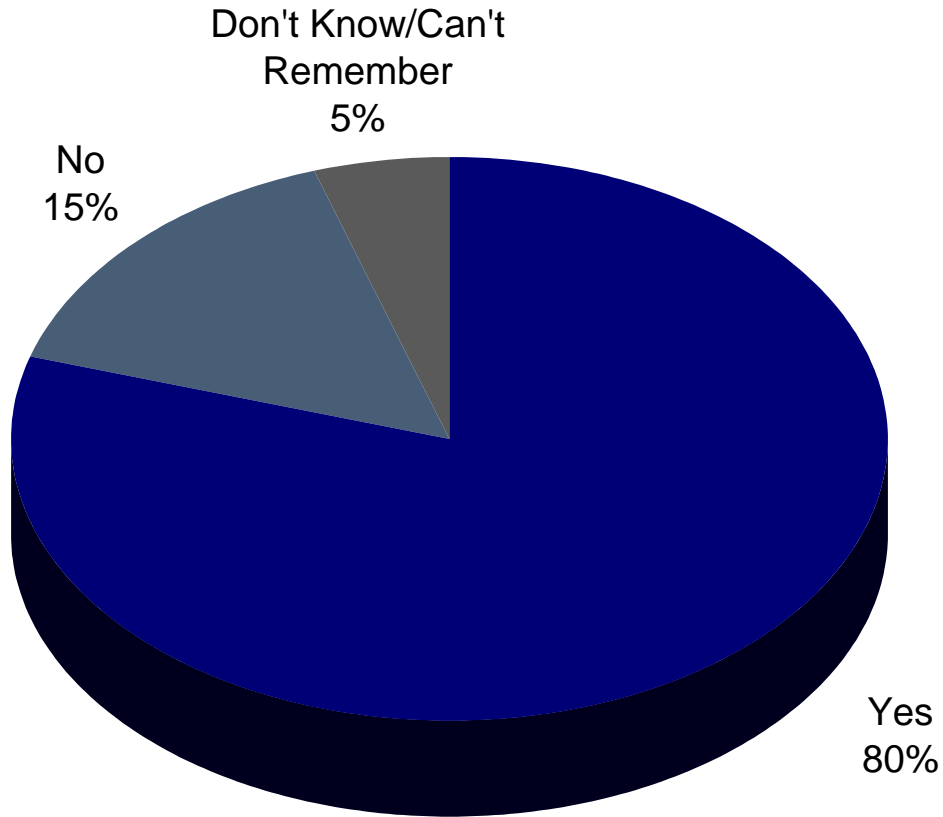
One in five businesses have contacted their distributor for a quote for a new connection



Base: all respondents – 200

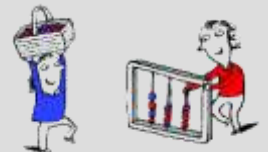


The distributor completed the new connection work for four out of five businesses



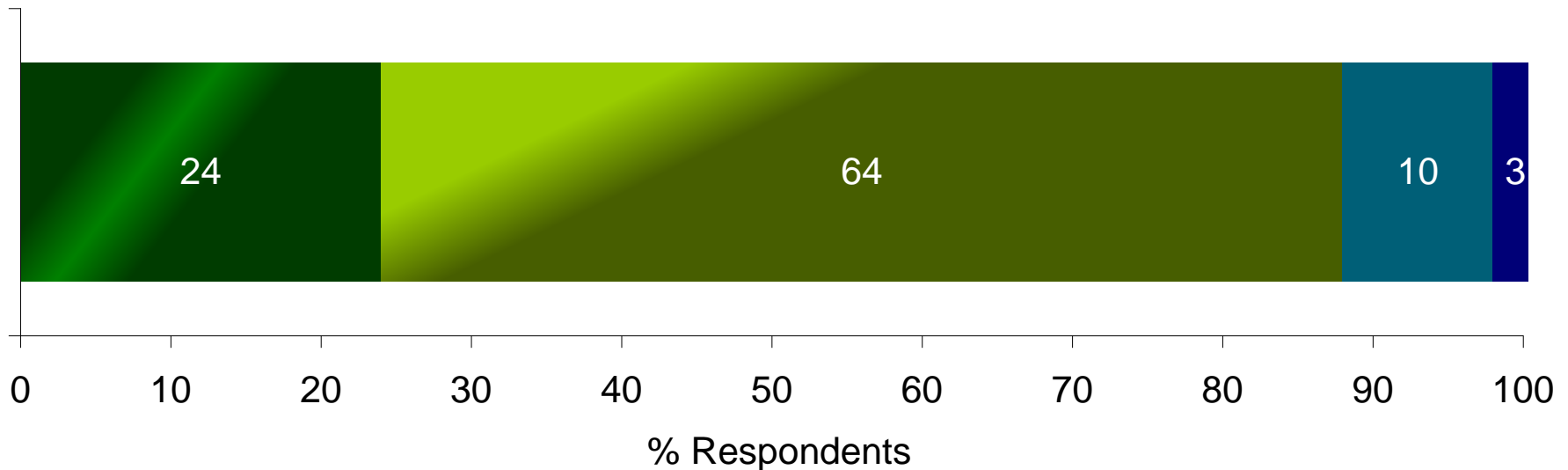
Base: all whose organisation had to contact their distributor to get a quote for a new electricity connection – 39

Q36. And did they undertake the new connection for you? ie was the work completed?



Most categorise their organisation as “quite green”

- I think we are very green; we care about the environment: we use energy efficiently and recycle whatever we can
- I think we are quite green; we care about the environment, but we could recycle more and do more to reduce our energy use
- We are not very green; we take some, but not much, interest in the environment
- We are not at all green; we don't care about the environment, other things are more important



Base: all respondents – 200

