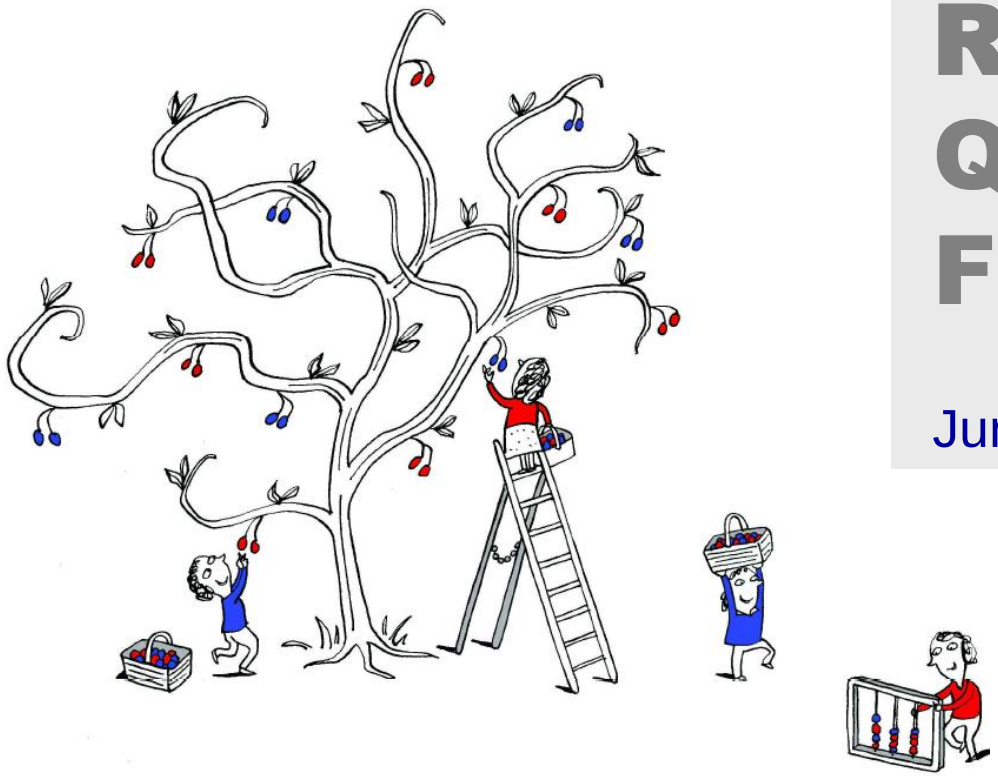
WPD Price Review WTP Research – Quantitative Findings

June 2012



WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales

Accent

Agenda

- Context
- Key findings
- Key recommendations

Research context

A comprehensive programme of research

To inform future investment strategy

WESTERN POWER DISTRIBUTION
Serving the Midlands, South West and Wales

Deriving . . .

Willingness to pay values

Customer priorities for investment

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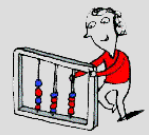


Four key elements to the research

Across WPD's four licence areas

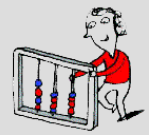
8 deliberative focus groups
Domestic customers

8 tele-depth interviews
Business customers

1200 Phone-post-phone SP interviews
Domestic customers

400 Phone-post-phone SP interviews
Business customers

This presentation relates to the findings from the 1200 domestic and 400 business telephone interviews undertaken between 2 May and 11 June 2012.



Domestic quotas & achieved sample

Segment	Target	Achieved
Area		
WPD South West	300	316
WPD South Wales	300	303
WPD East Midlands	300	298
WPD West Midlands	300	291
Age		
18-44	Min. 440	360
45-64	Min. 360	529
65+	Min. 280	319
SEG		
ABC1	Min. 620	611
C2DE	Min. 470	565
TOTAL	**1200**	**1208**

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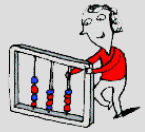
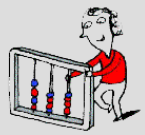
The domestic data presented here has been weighted to match the overall profile of the UK population by age, in turn weighted by the bill payer profile. Census data was used. The weights used were 18-44: 40%; 45-64: 34%; 65+: 26%.



Business quotas & achieved sample

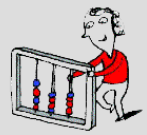
Segment	Target	Achieved
Area		
WPD South West	100	128
WPD South Wales	100	105
WPD East Midlands	100	86
WPD West Midlands	100	107
Size		
Small	Min. 100	276
Medium	Min. 100	68
Large	Min. 30	82
TOTAL	**400**	**426**

NOTE: business data includes pilot data to enhance overall sample size, as no significant changes were made between the pilot and mainstage

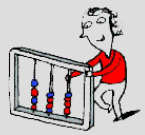


Questionnaire

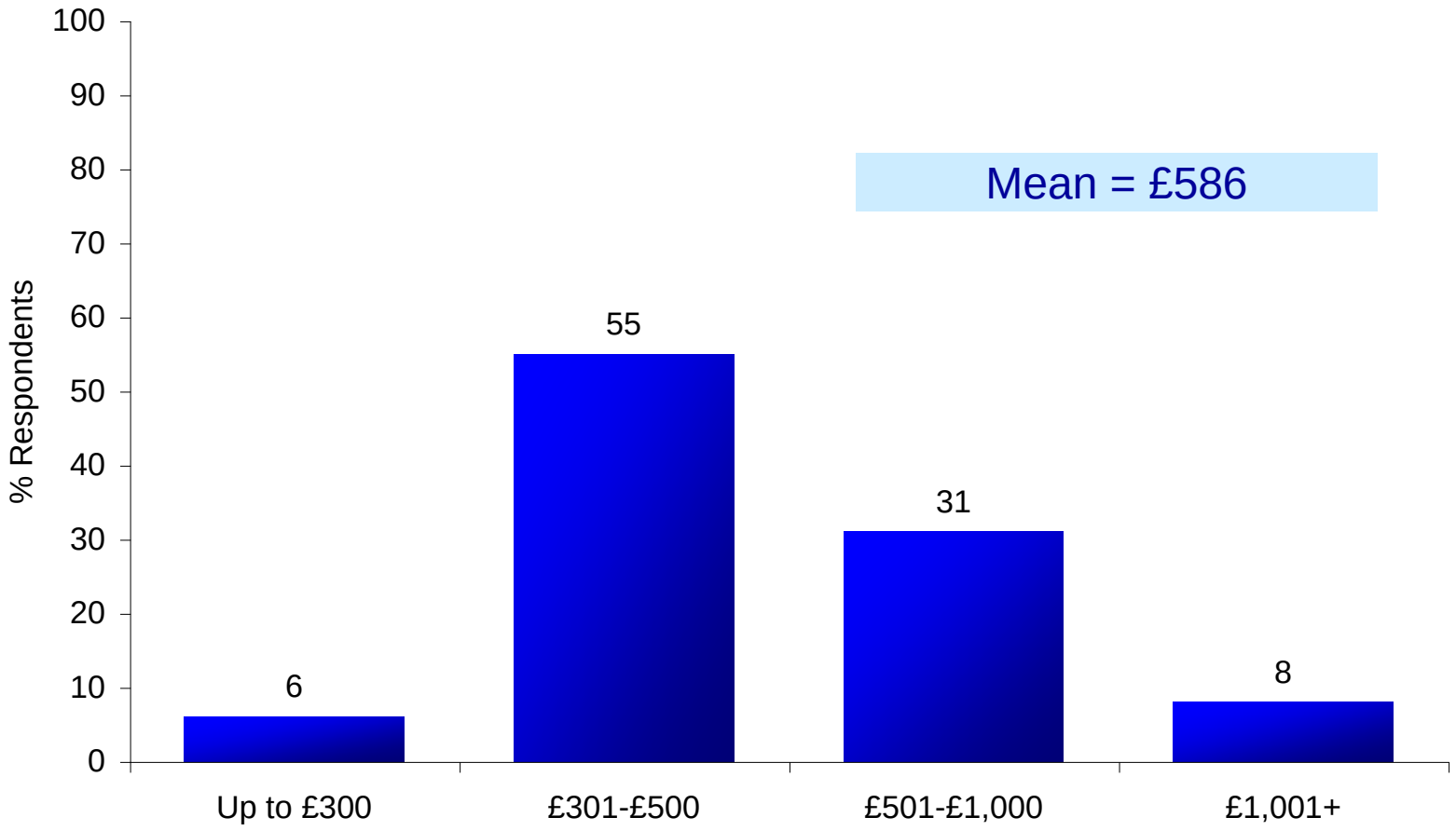
- Structured to include:
  - Background, contextual questions
  - Stated preference (SP) exercises:
    - 3 lower level & 1 packaged exercise
  - Contingent Valuation (CV) & follow up questions
  - Key demographics
- Average duration was 25 minutes
- Piloted through 52 domestic and 50 business interviews
- 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)



Key Findings – Context

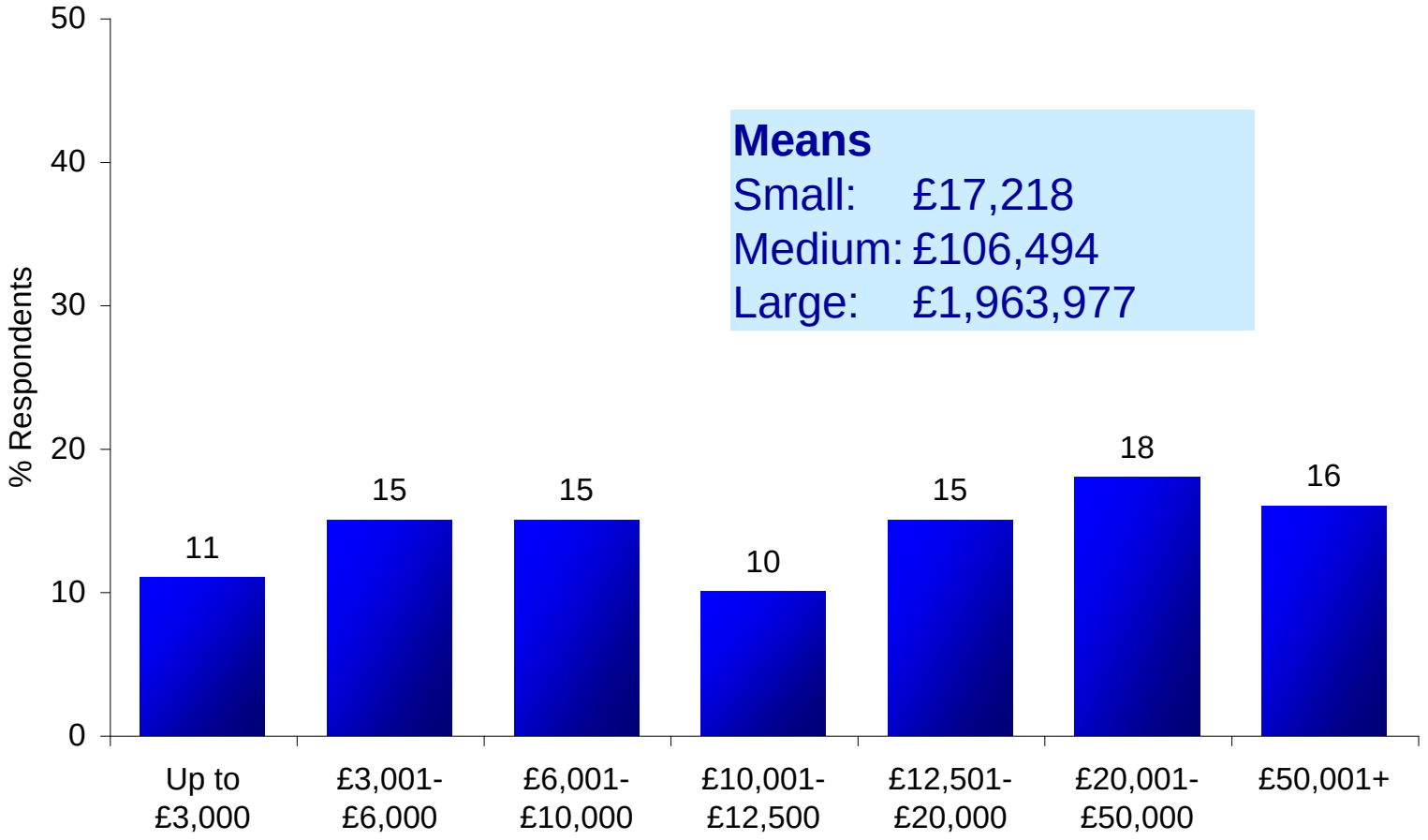


Domestic Bill Sizes



Base: all respondents – domestic: 1208

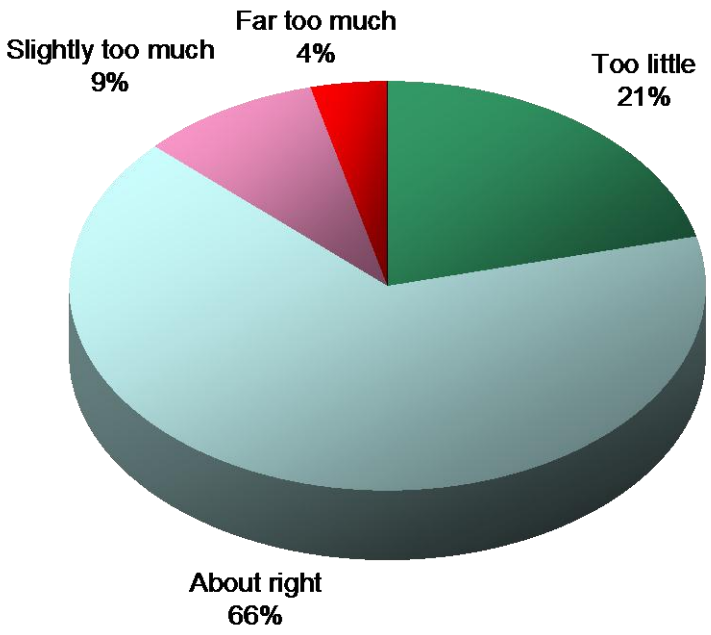
Business Bill Sizes



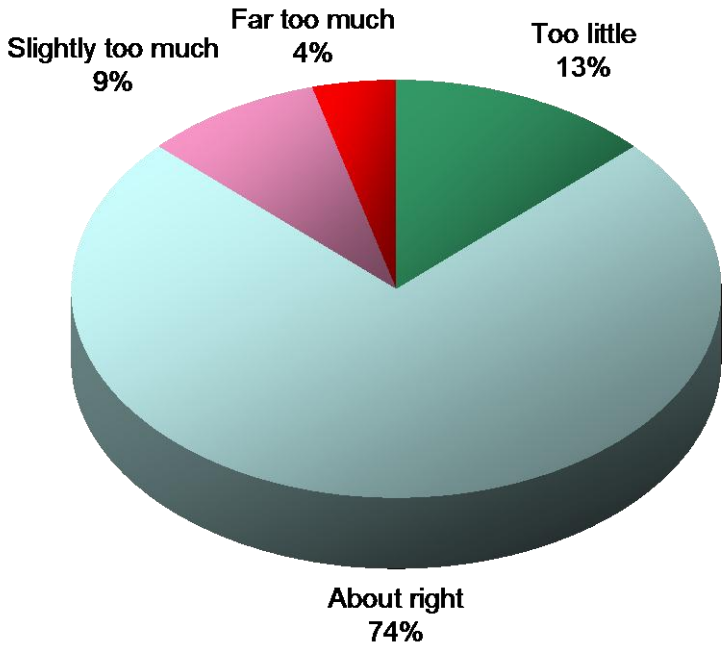
Base: all respondents – business: 426

Attitudes Towards Bill Size

Domestic

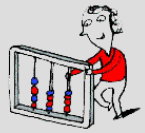


Business

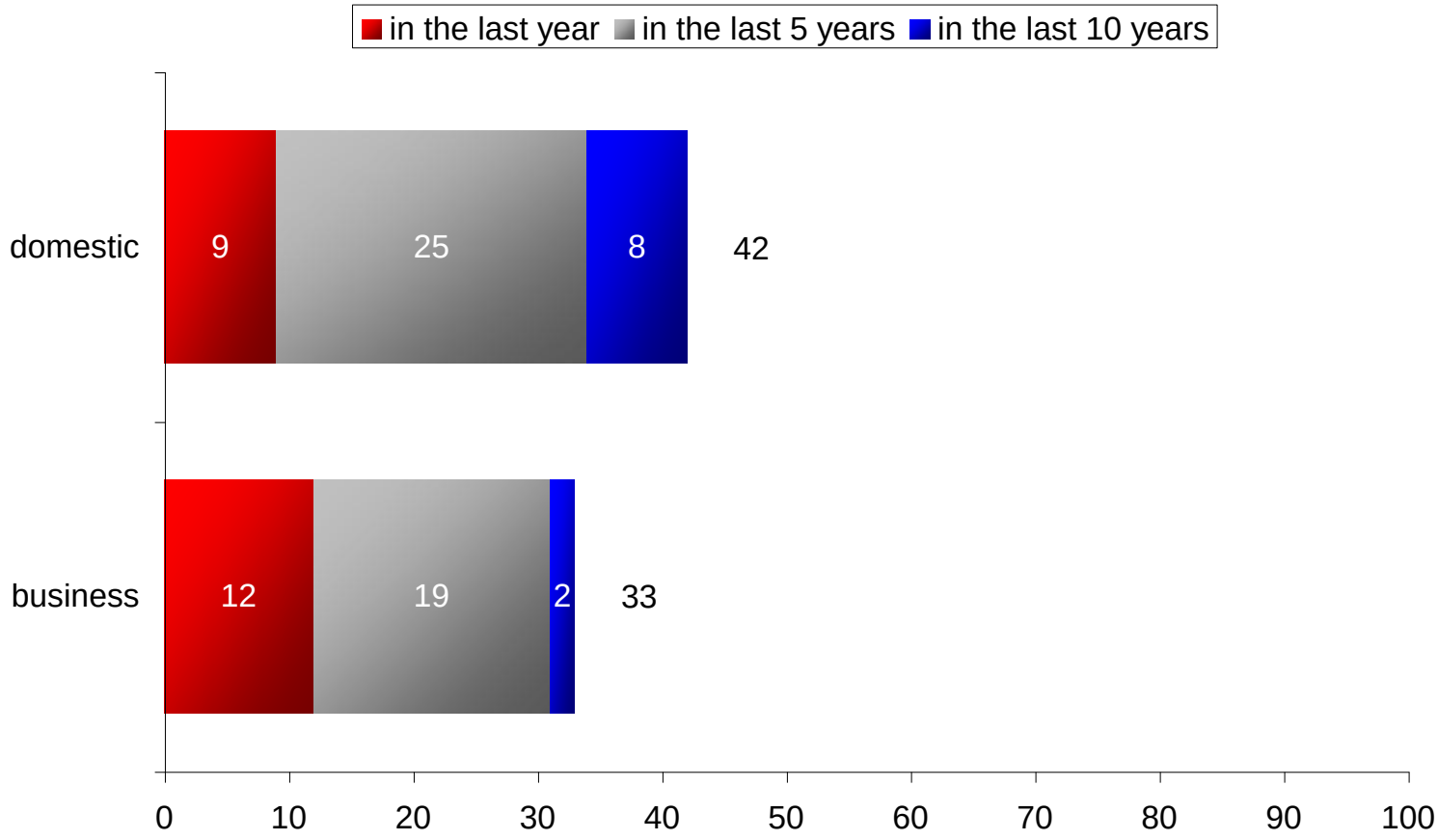


Base: all respondents – domestic: 1208; business: 426

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..



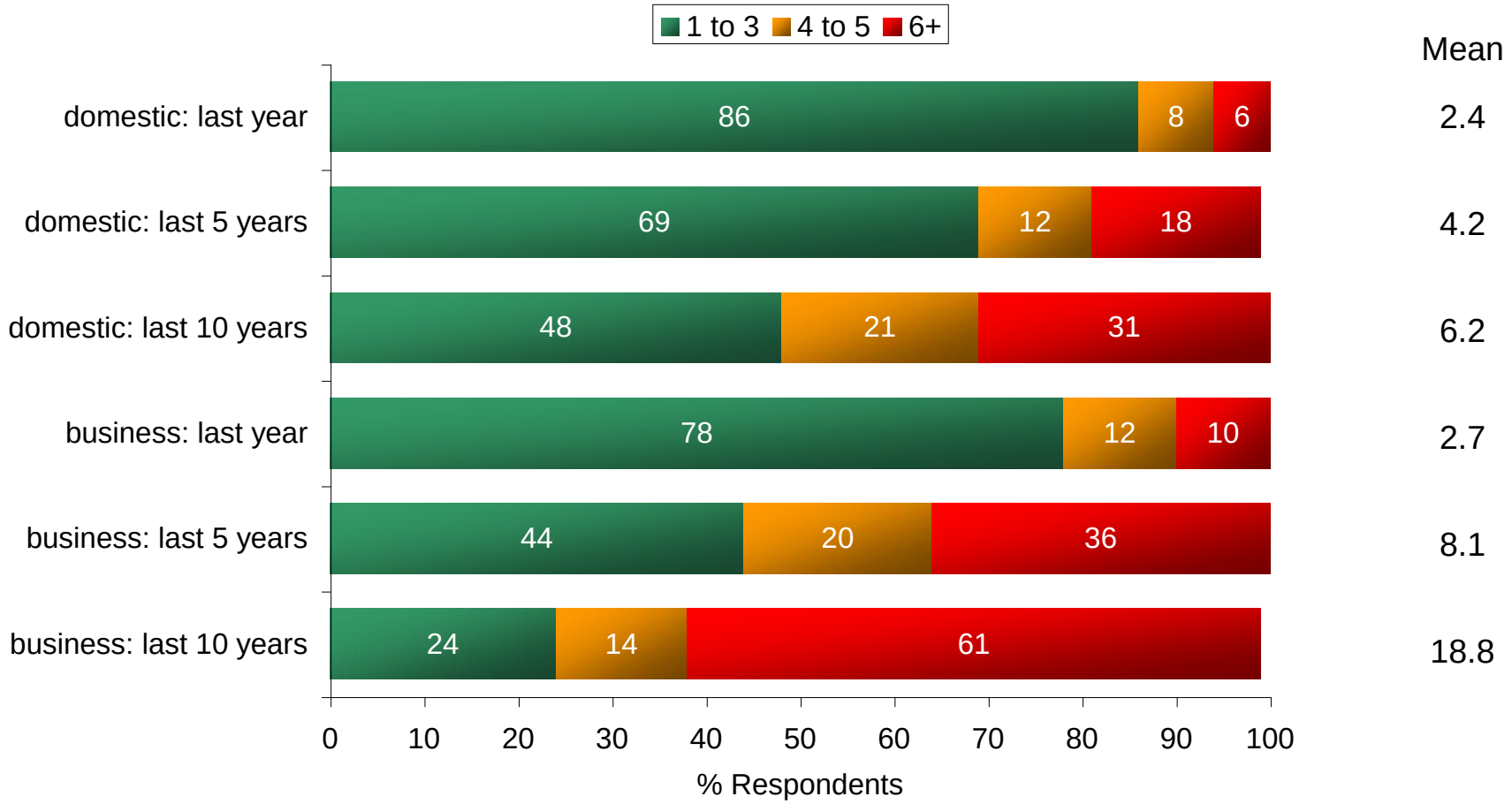
Experience of Cuts in Last 10 Years



Base: all respondents – domestic: 1208; business: 426

Have you experienced any unplanned power cuts lasting more than 3 minutes in the last year?...5 years?...10 years?

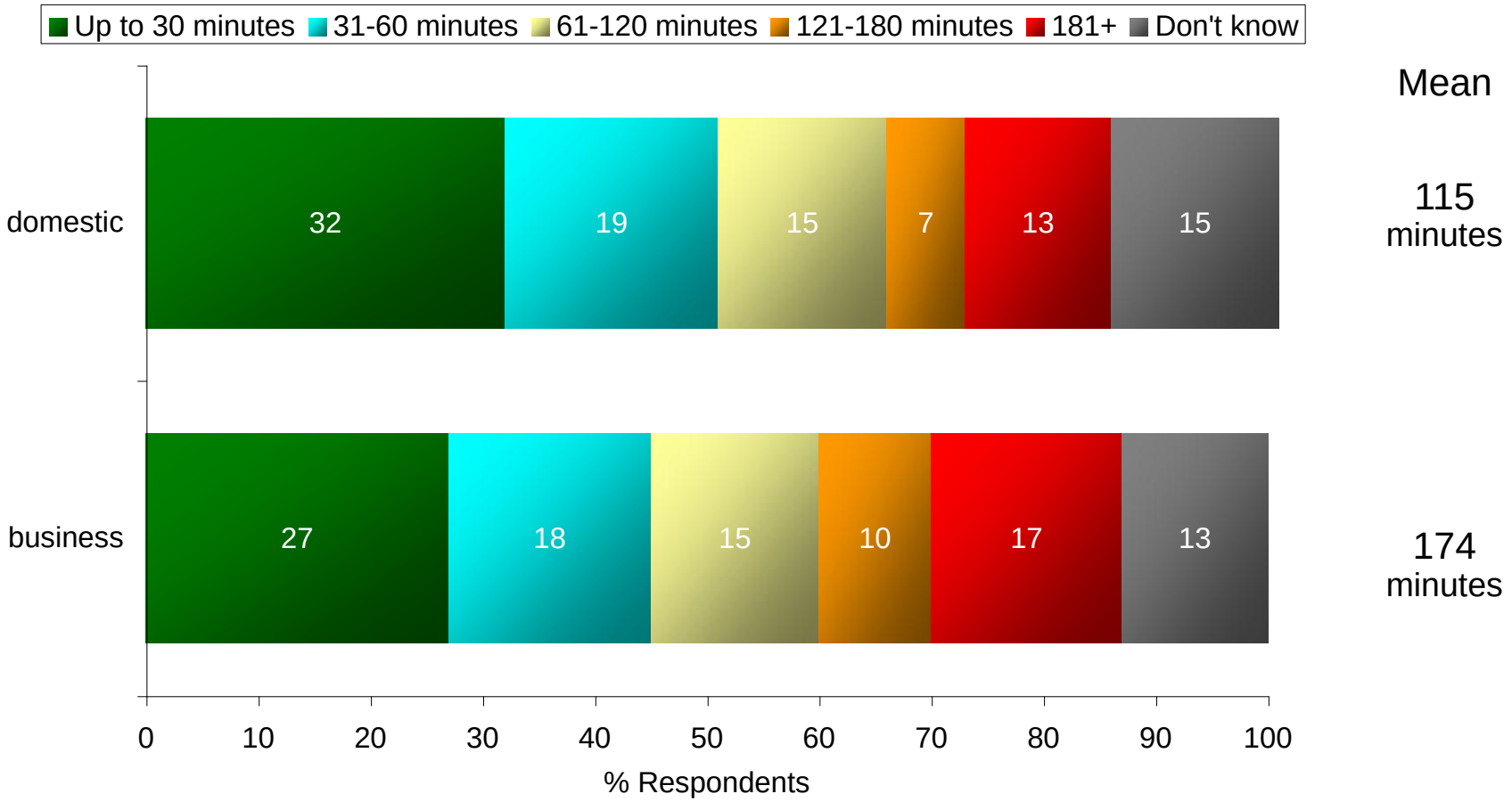
Number of Cuts Experienced



Base: all who had experienced a cut – domestic: 741; business: 278

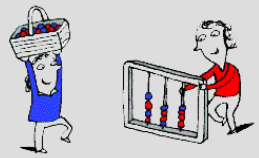
How many of these unplanned cuts have you had in the last year? …5 years?...10 years?

Duration of Most Recent Cut in Excess of 3 Minutes



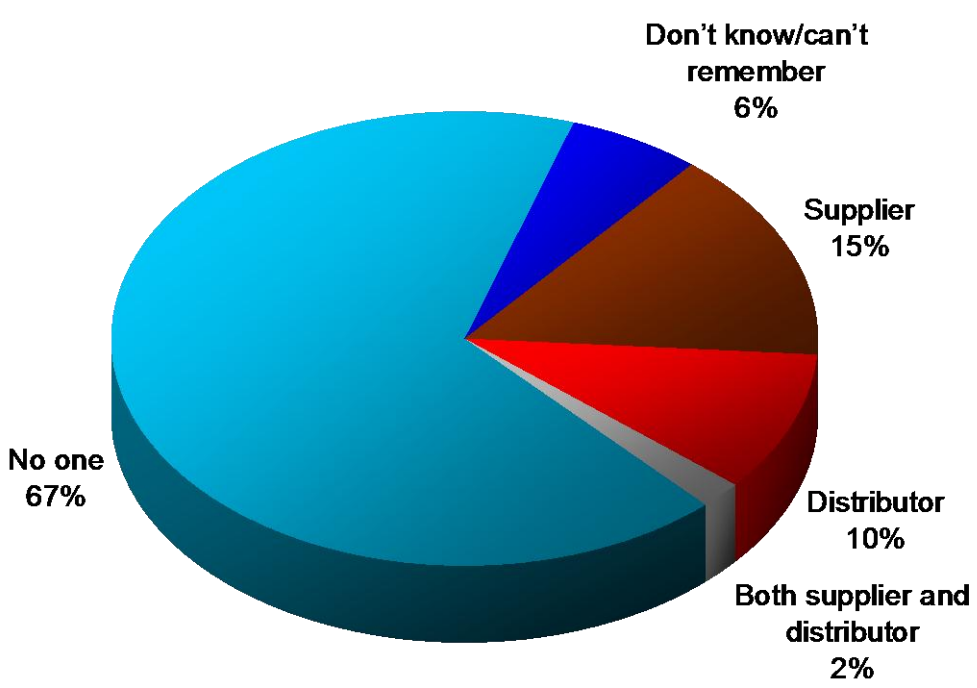
Base: all who had experienced a cut – domestic: 741; business: 278

On the last occasion that you had an unplanned power cut in excess of 3 minutes, how long did it last?

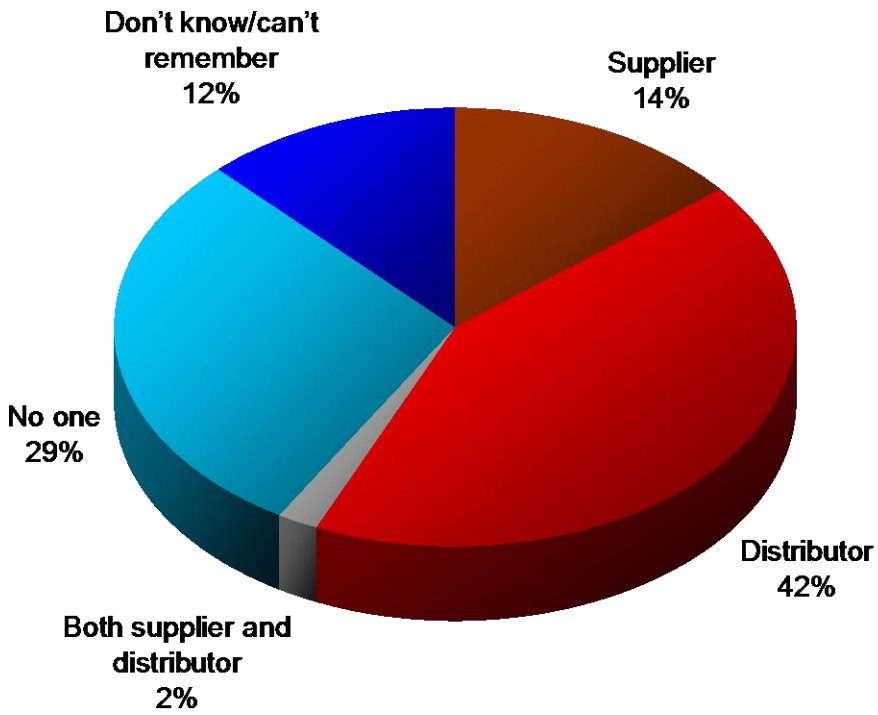


Who They Contacted On the Occasion of the Power Cut

Domestic



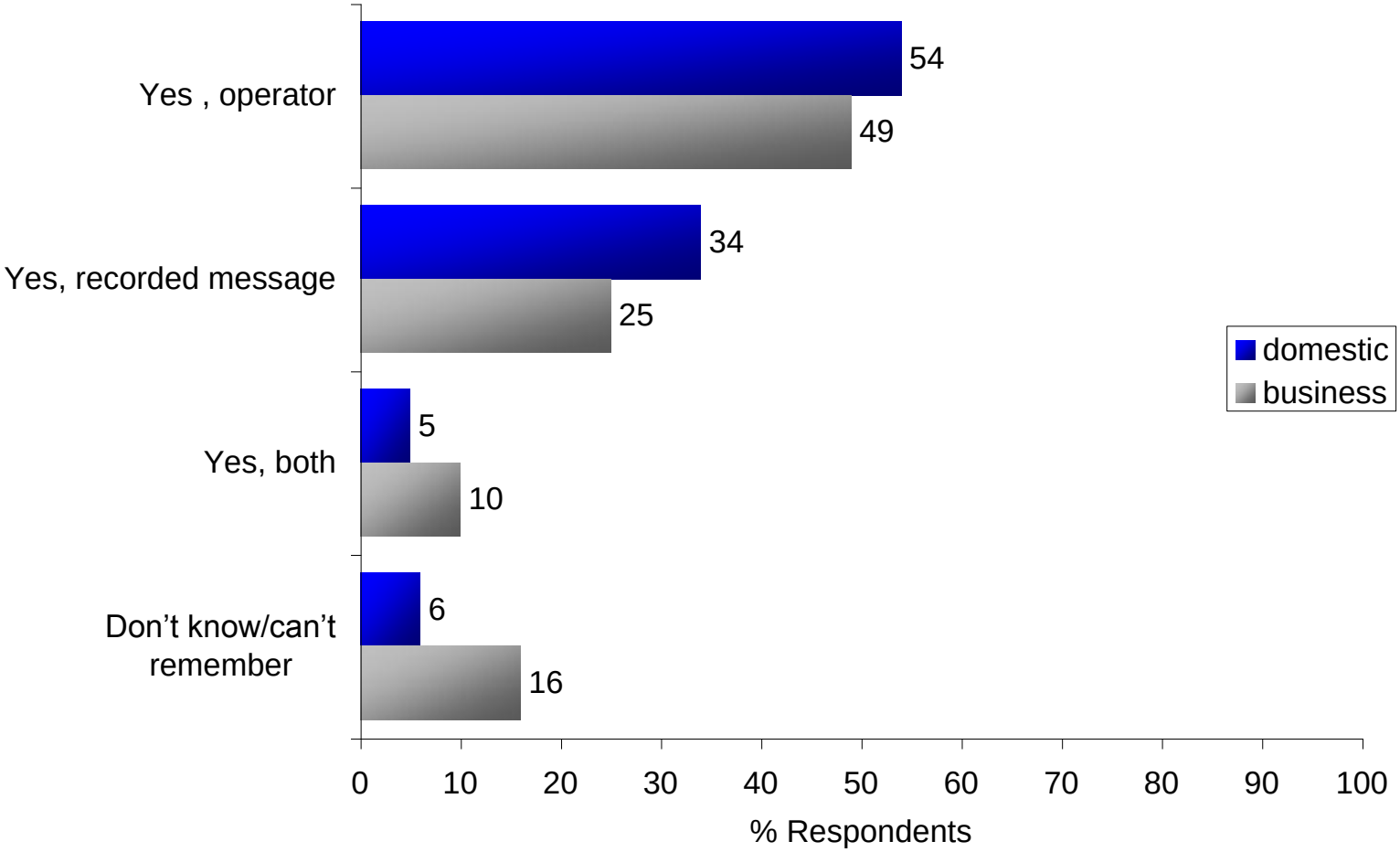
Business



Base: all who had experienced a cut – domestic: 741; business: 278

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

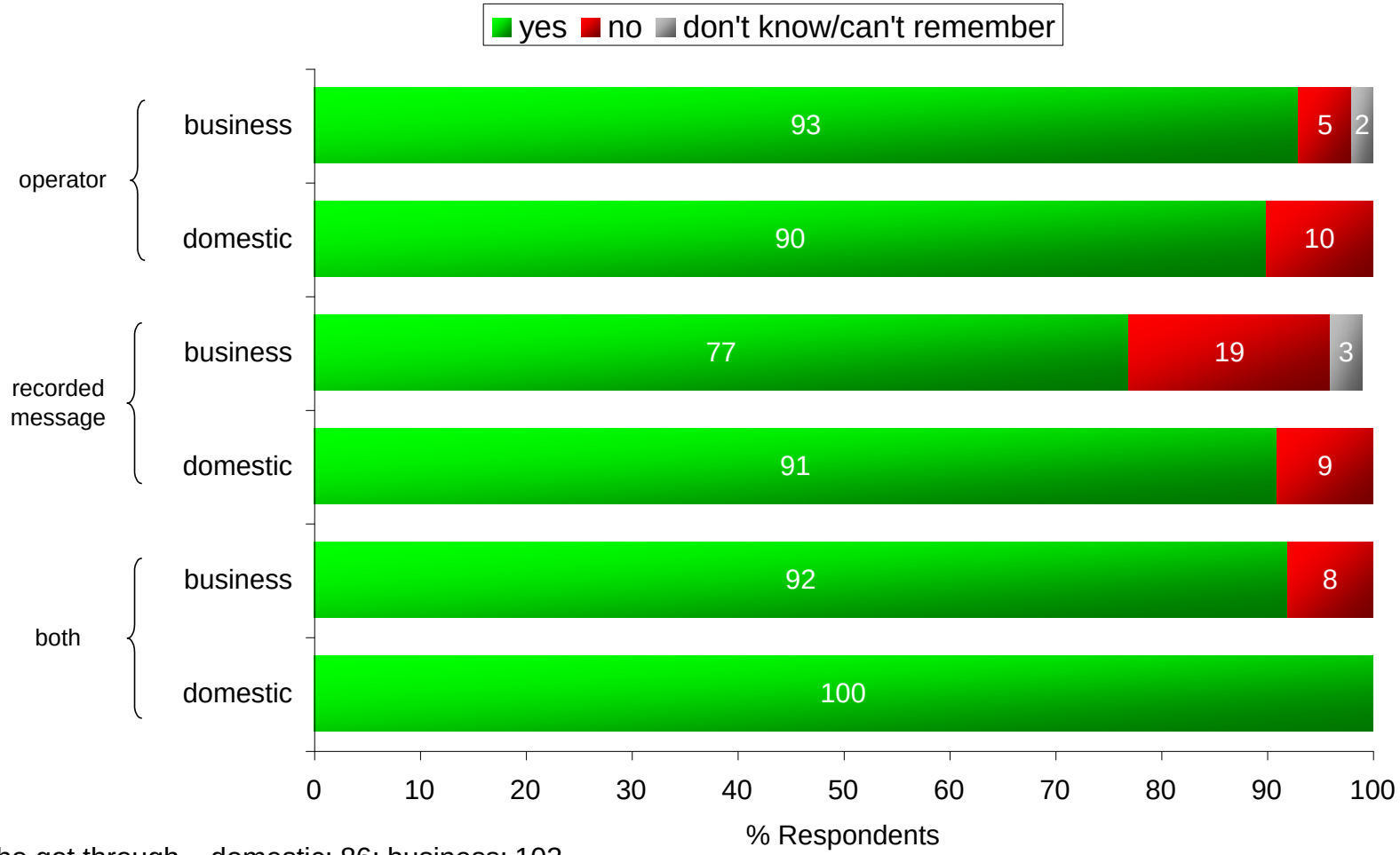
Whether They Reached An Operator or Recorded Message



Base: all who contacted their distributor – domestic: 92; business: 122

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

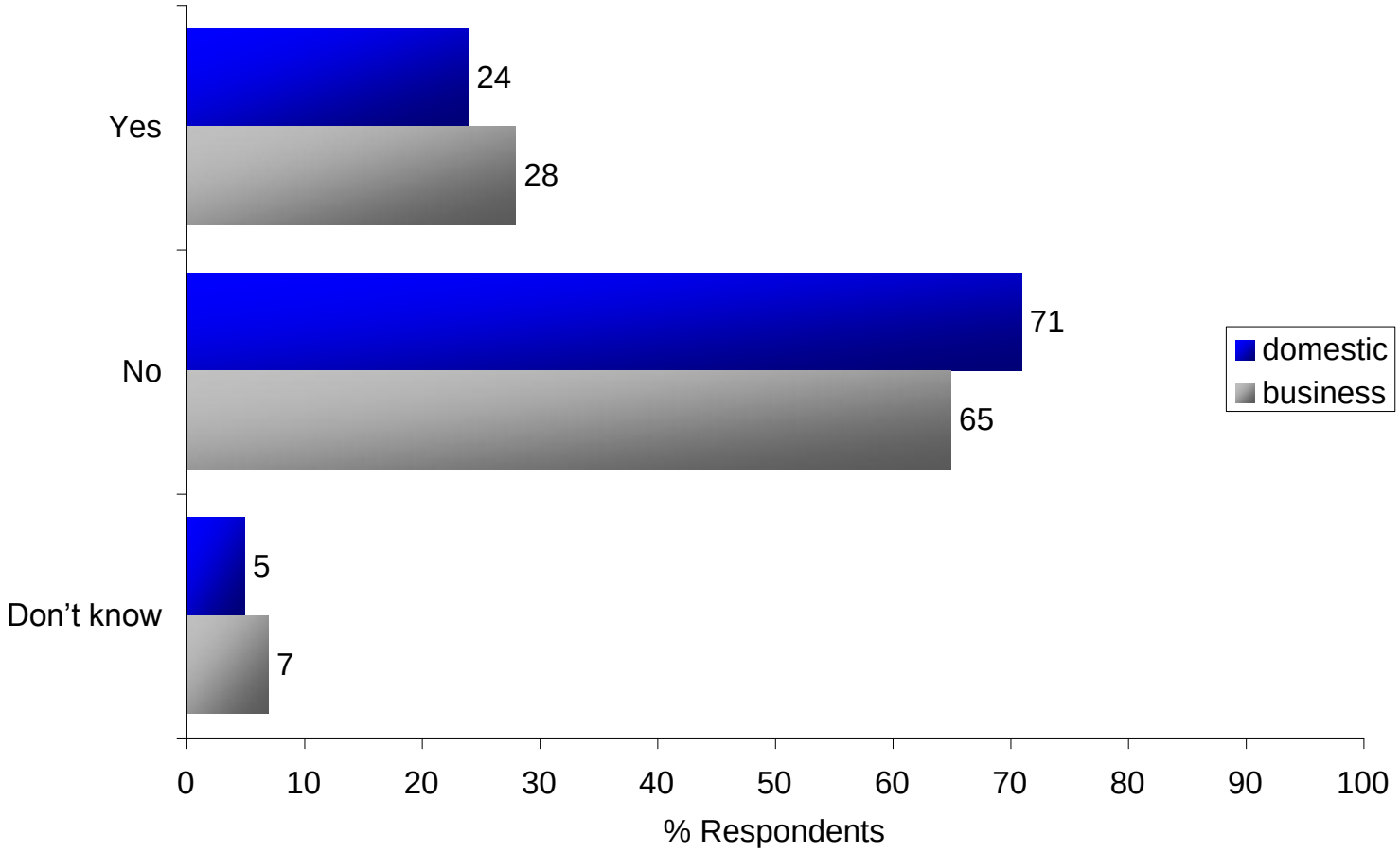
Satisfaction With Information Provided on Contact



Base: all who got through – domestic: 86; business: 103

Did you get all the information you wanted when you made the call to your distributor?

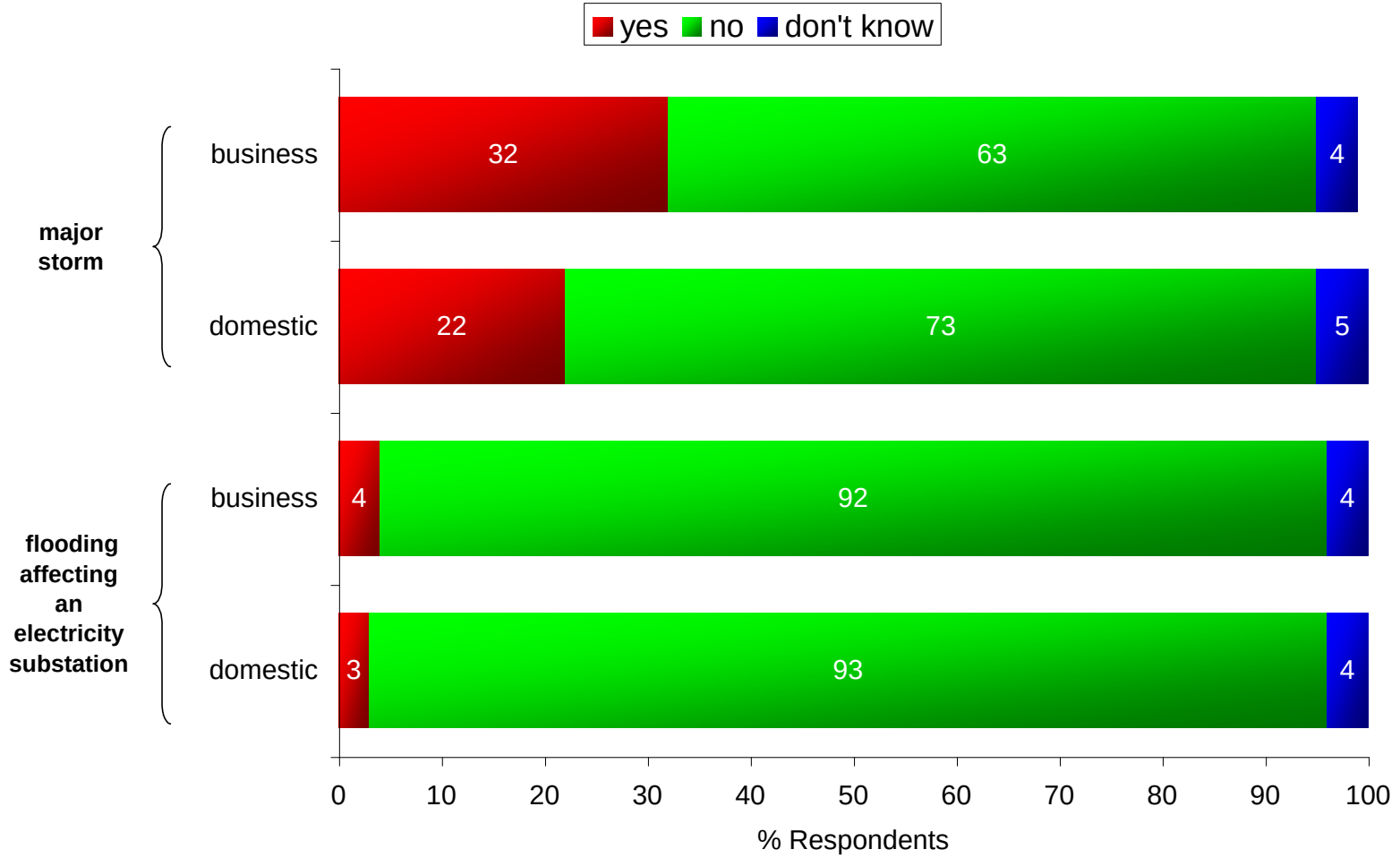
Proportions That Have Been Contacted by Their Distributor



Base: all who contacted their distributor – domestic: 92; business: 122

Has your distributor ever contacted you or called you back during an unplanned power cut?

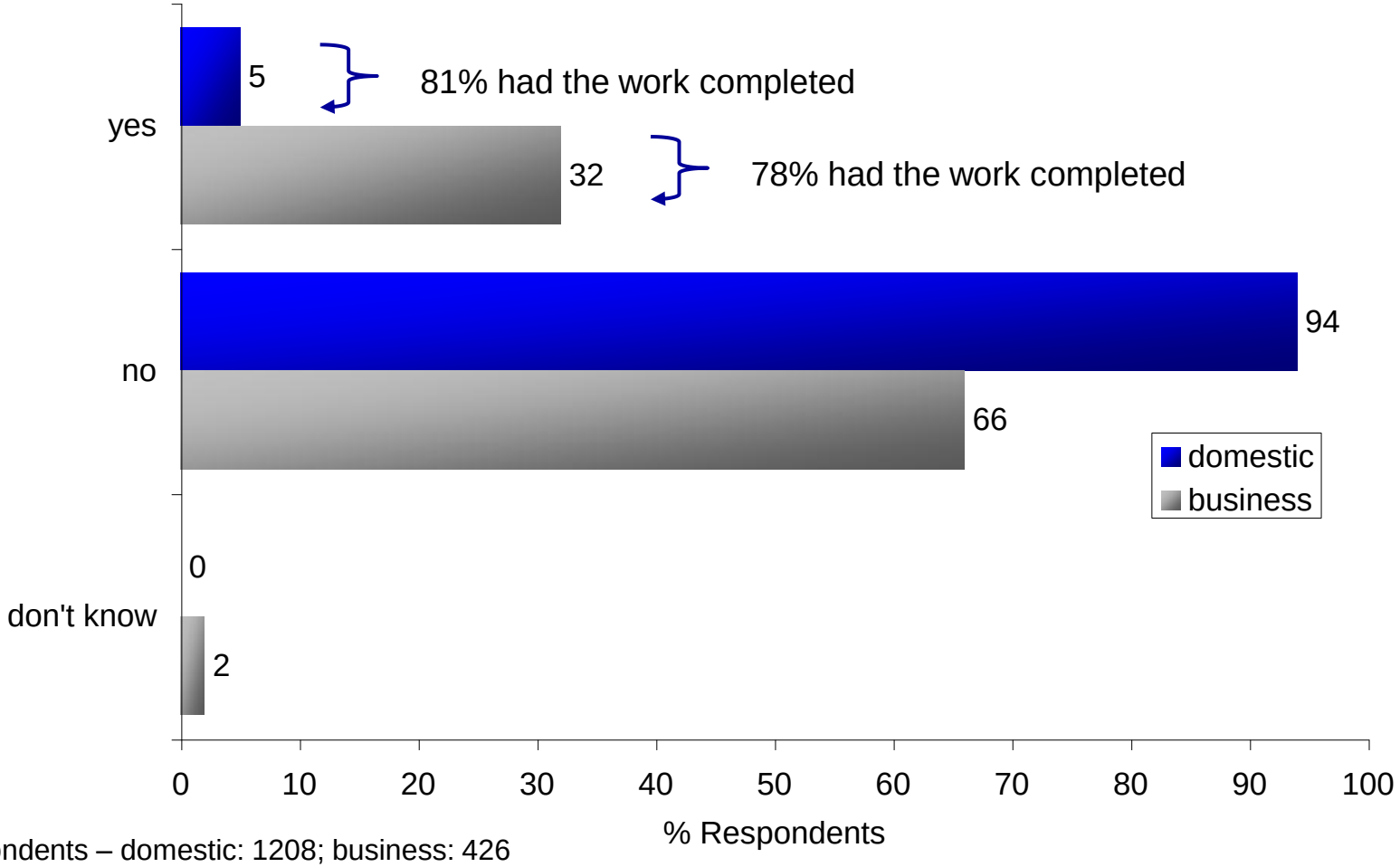
Experience of Cuts Due to Major Storms & Flooding of Substations



Base: all respondents – domestic: 1208; business: 426

Have you - or have any of your family or friends that live in your area – ever experienced a power cut due to a major storm?
Have you - or have any of your family or friends that live in your area – ever experienced a power cut due to flooding affecting an electricity substation?

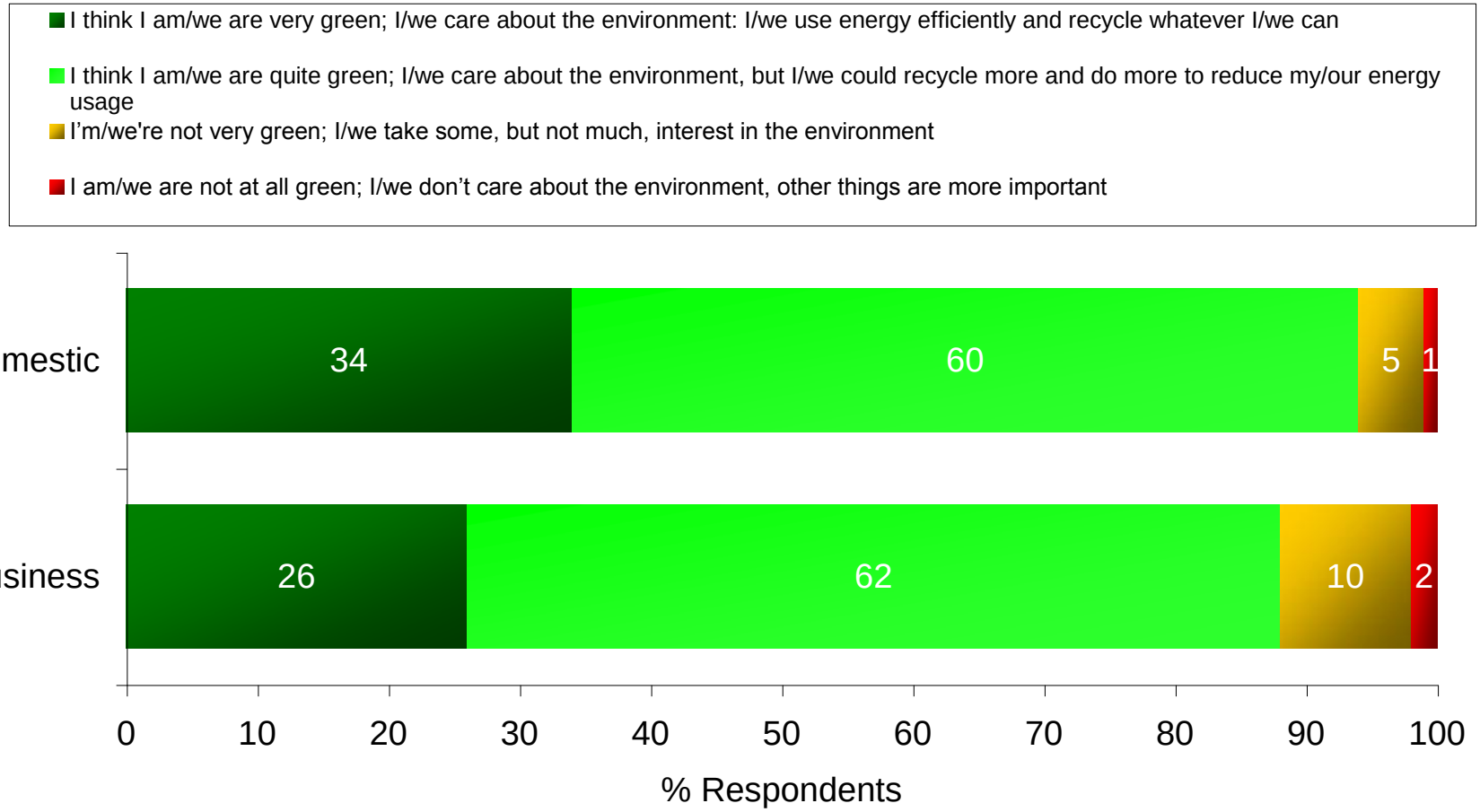
Experience of New Connections



Base: all respondents – domestic: 1208; business: 426

Have you ever had to contact your distributor to get a quote for a new electricity connection?
And did they undertake the new connection for you? ie was the work completed?

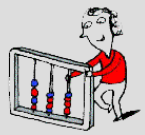
Perceptions of “Greenness”



Base: all respondents – domestic: 1208; business: 426

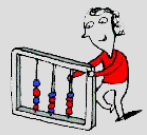
Which of the following best describes your/your business’s attitude towards the environment, or how “green” you consider yourself/your organisation to be?...

Key Findings – Priorities & Willingness to Pay



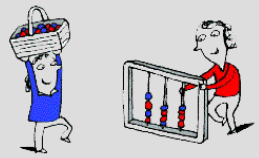
Determined Through Stated Preference/DCE Design & Analysis + Contingent Valuation

- 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 the qualitative research
  - attributes which were not taken through to the quantitative stage due to not being prioritised in the qualitative research included short term interruptions and protecting habitats & species
- 3 lower level exercises and 1 packaged exercise; 4 choice sets for each:
  - 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



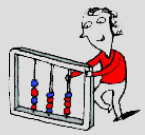
Attributes & Levels Tested: Exercise 1

- Frequency of power cuts (over 3 mins) - average number:
  - 10 in 10 years
  - 9 in 10 years
  - *8 in 10 years (base)*
  - 7 in 10 years
  - 6 in 10 years
- Average duration of power cuts over 3 mins:
  - 65 minutes
  - *60 minutes (base)*
  - 55 minutes
  - 50 minutes
- Number of customers experiencing 15 cuts or more:
  - 10,000 (base)
  - 8,000
  - 6,000
  - 4,000
- Number of customers experiencing 12-14 cuts:
  - 35,000 (base)
  - 28,000
  - 21,000
  - 14,000
- Communication improvements & innovation - methods of contact :
  - *Automated messages or telephone operators to respond to customer calls (base)*
  - Automated messages or telephone operators to respond to customer calls, plus call backs every hour to provide information updates
  - Automated messages or telephone operators to respond to customer calls, plus text messages to provide information updates
  - Automated messages or telephone operators to respond to customer calls, plus social media channels (e.g. twitter) to provide information
  - Automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e.g. live network information / power cut checking and reporting)
  - (Business only) Automated messages or telephone operators to respond to customer calls, plus a dedicated helpline for business customers



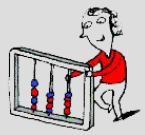
Attributes & Levels Tested: Exercise 2

- Network resilience to major storms - programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather:
  - *25 years (base)*
  - 20 years
  - 15 years
- Network resilience to flooding- number of customers no longer at risk:
  - *1,000,000 (base)*
  - 1,300,000
  - 1,500,000
- Restoration of supply- time allowed to restore supply before compensation available:
  - *18 hours (base)*
  - 12 hours
  - 6 hours
- Definition of worst served customers- number of cuts defining a worst served customer:
  - *15 (base)*
  - 12



Attributes & Levels Tested: Exercise 3

- Reducing oil and gas leaks from equipment - percentage equipment with highest leakage rates replaced:
  - *1% (base)*
  - 5%
  - 10%
- Undergrounding overhead lines in areas of outstanding natural beauty - Km undergrounded per year:
  - *5km per year (base)*
  - 15km per year
  - 30km per year
  - 60km per year
- Innovation to facilitate a low carbon economy (and meet UK carbon reduction targets) - low carbon technology investment:
  - *As and when required; not ahead of need (base)*
  - Ahead of need to support 104k solar panels, 184k heat pumps and 430k electric vehicles
  - Ahead of need to support 468k solar panels, 831k heat pumps and 747k electric vehicles
  - Ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles
- New connections (1) - time taken from first contact to completed connection :
  - *Small scheme: 30 days; large scheme: 90 days (base)*
  - Small scheme: 20 days; large scheme: 60 days
  - Small scheme: 10 days; large scheme: 30 days
- New connections (2) - communication channels for new connections:
  - Separate telephone number and point of contact at each stage
  - A single dedicated telephone contact number for connections customers
  - A single account manager, available by phone, through the entire process
  - A single account manager through the entire process, available by phone or by email if preferred
  - A single account manager through the entire process, available by phone or by email if preferred, with all information available online (applications, payments, job tracking etc on our website)

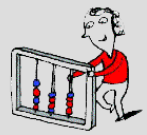


Example of a lower level choice set

Looking at Choice Card A1, which Option do you prefer, A or B?

	Option A	Option B
Frequency of power cuts (over 3 mins) Average number	6 in 10 years	10 in 10 years
Average duration of power cuts over 3 mins Average duration	55 minutes	60 minutes
The number of customers experiencing 15 cuts or more Number of customers experiencing 15+ cuts	10,000	4,000
The number of customers experiencing 12-14 cuts Number of customers experiencing 12-14 cuts	28,000	21,000
Communication improvements & innovation Methods of contact	Automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e.g. live network information / power cut checking and reporting)	Automated messages or telephone operators to respond to customer calls, plus call backs every hour to provide information updates

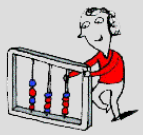
(•) 1. Option A ( ) 2. Option B



Example of packaged choice set

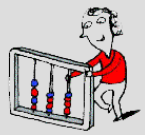
Choice Card P1

	Option A	Option B
Frequency of power cuts (over 3 mins) Average number	10 in 10 years	6 in 10 years
Average duration of power cuts over 3 mins Average duration	65 minutes	50 minutes
Number of customers experiencing 15 cuts or more Number of customers experiencing 15+ cuts	10,000	4,000
Number of customers experiencing 12-14 cuts Number of customers experiencing 12-14 cuts	25,000	14,000
Communication improvements & innovation Methods of contact	Automated messages or telephone operators to respond to customer calls	Automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e. g. live network information / power cut checking and reporting)
Network resilience to major storms Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather	25 years	25 years
Network resilience to flooding Number of customers no longer at risk	1,000,000	1,000,000
Restoration of supply Time allowed to restore supply before compensation available	18 hours	18 hours
Definition of worst served customers Number of cuts defining a 'worst served customer'	15	15
Reducing oil and gas leaks from equipment Percentage equipment with highest leakage rates replaced	10%	1%
Undergrounding overhead lines in Areas of Outstanding Natural Beauty Km undergrounded per year	60km per year	5km per year
Innovation to facilitate a low carbon economy (and meet UK carbon reduction targets) Low carbon technology investment	Ahead of need to support 926k solar panels, 895k heat pumps and 1.16m electric vehicles	As and when required; not ahead of need
New connections (1) Time taken from first contact to completed connection	Small scheme: 10 days; large scheme: 30 days	Small scheme: 30 days; large scheme: 90 days
New connections (2) Communication channels for new connections	A single account manager through the entire process, available by phone or by email if preferred, with all information available online (applications, payments, job tracking etc on our website)	Separate telephone number and point of contact at each stage
THE CHANGE IN YOUR ELECTRICITY BILL IN THE 5 YEARS FROM 2015 to 2025 to provide the service quality above The new bill level will also apply in all later years	No change £266.00 in 2015 to £266.00 in 2024	Increase of £0.66 each year for 5 years, from £266.00 in 2015 to £269.28 in 2024



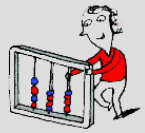
Domestic Customer Values: Exercise 1

Attribute	Description	Levels	Factored Coefficient	T-stat (robust = 1.95+)
Frequency of power cuts (over 3 mins)	*Average number of power cuts over 3 min*	Average number of power cuts over 3 min: 10 in 10 years	-0.021	-1.38
		Average number of power cuts over 3 min: 9 in 10 years	-0.077	-4.17
		Average number of power cuts over 3 min: 8 in 10 years	0.000	0.00
		Average number of power cuts over 3 min: 7 in 10 years	0.087	5.74
		Average number of power cuts over 3 min: 6 in 10 years	0.106	8.69
Average duration of power cuts over 3 mins	*Average duration of power cuts*	Average duration of power cuts: 65 minutes	-0.001	-0.07
		Average duration of power cuts: 60 minutes	0.000	0.00
		Average duration of power cuts: 55 minutes	0.132	9.76
		Average duration of power cuts: 50 minutes	0.083	5.65
Reduction in number of customers experiencing 15 cuts or more	*Number of customers experiencing 15+ cuts*	Number of customers experiencing 15+ cuts: 10000	0.000	0.00
		Number of customers experiencing 15+ cuts: 8000	0.079	4.69
		Number of customers experiencing 15+ cuts: 6000	0.118	6.18
		Number of customers experiencing 15+ cuts: 4000	0.189	16.89
Reduction in number of customers experiencing 12-14 cuts	*Number of customers experiencing 12-14 cuts*	Number of customers experiencing 12-14 cuts: 35000	0.000	0.00
		Number of customers experiencing 12-14 cuts: 28000	0.059	3.66
		Number of customers experiencing 12-14 cuts: 21000	0.177	11.65
		Number of customers experiencing 12-14 cuts: 14000	0.182	16.65
Communication improvements & innovation	*Methods of contact*	Automated messages or telephone operators to respond to customer calls	0.000	0.00
		Automated messages or telephone operators to respond to customer calls, plus call backs every hour to provide information updates	-0.008	-0.51
		Automated messages or telephone operators to respond to customer calls, plus text messages to provide information updates	0.091	3.80
		Automated messages or telephone operators to respond to customer calls, plus social media channels (e.g. twitter) to provide information	0.093	5.90
		Automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e.g. live network information / power cut checking and reporting)	0.058	4.53



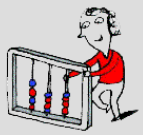
Business Customer Values : Exercise 1

Attribute	Description	Levels	Factored Coefficient	T-stat (robust = 1.95+)
Frequency of power cuts (over 3 mins)	*Average number of power cuts over 3 min*	Average number of power cuts over 3 min: 10 in 10 years	-0.037	-1.85
		Average number of power cuts over 3 min: 9 in 10 years	-0.110	-4.92
		: Average number of power cuts over 3 min: 8 in 10 years	0.000	0.00
		Average number of power cuts over 3 min: 7 in 10 years	0.081	4.28
		Average number of power cuts over 3 min: 6 in 10 years	0.124	7.39
Average duration of power cuts over 3 mins	*Average duration of power cuts*	Average duration of power cuts: 65 minutes	-0.038	-2.00
		Average duration of power cuts: 60 minutes	0.000	0.00
		Average duration of power cuts: 55 minutes	0.050	3.11
		Average duration of power cuts: 50 minutes	0.078	4.30
Reduction in number of customers experiencing 15 cuts or more	*Number of customers experiencing 15+ cuts*	Number of customers experiencing 15+ cuts: 10000	0.000	0.00
		Number of customers experiencing 15+ cuts: 8000	0.064	3.43
		Number of customers experiencing 15+ cuts: 6000	0.116	6.20
		Number of customers experiencing 15+ cuts: 4000	0.120	8.31
Reduction in number of customers experiencing 12-14 cuts	*Number of customers experiencing 12-14 cuts*	Number of customers experiencing 12-14 cuts: 35000	0.000	0.00
		Number of customers experiencing 12-14 cuts: 28000	-0.007	-0.34
		Number of customers experiencing 12-14 cuts: 21000	0.081	3.74
		Number of customers experiencing 12-14 cuts: 14000	0.122	8.60
Communication improvements & innovation	*Methods of contact*	Automated messages or telephone operators to respond to customer calls	0.000	0.00
		Automated messages or telephone operators to respond to customer calls, plus call backs every hour to provide information updates	0.012	0.45
		Automated messages or telephone operators to respond to customer calls, plus text messages to provide information updates	0.029	1.11
		Automated messages or telephone operators to respond to customer calls, plus social media channels (e.g. twitter) to provide information	0.027	1.05
		Automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e.g. live network information / power cut checking and reporting)	0.071	3.34
		Automated messages or telephone operators to respond to customer calls, plus a dedicated helpline for business customers	0.100	6.20



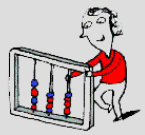
Domestic Customer Values: Exercise 2

Attribute	Description	Levels	Factored Coefficient	T-stat (robust = 1.95+)
Network resilience to major storms	***Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather***	Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 25 years	0.000	0.00
		Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 20 years	0.006	0.93
		Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years	0.075	20.06
Network resilience to flooding	***Number of customers no longer at risk***	Number of customers no longer at risk: 1000000	0.000	0.00
		Number of customers no longer at risk: 1300000	0.022	2.72
		Number of customers no longer at risk: 1500000	0.056	13.39
Restoration of supply	***Time allowed to restore supply before compensation available***	Time allowed to restore supply before compensation available: 18 hours	0.000	0.00
		Time allowed to restore supply before compensation available: 12 hours	0.056	7.36
		Time allowed to restore supply before compensation available: 6 hours	0.094	23.68
Definition of worst served customers	***Number of cuts defining a worst served customer***	Number of cuts defining a worst served customer: 15	0.000	0.00
		Number of cuts defining a worst served customer: 12	0.054	16.08



Business Customer Values: Exercise 2

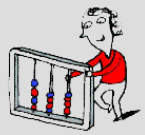
Attribute	Description	Levels	Factored Coefficient	T-stat (robust = 1.95+)
Network resilience to major storms	Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather	Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 25 years	0.0000	0.00
		Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 20 years	0.0284	1.81
		Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years	0.1300	14.10
Network resilience to flooding	Number of customers no longer at risk	Number of customers no longer at risk: 1000000	0.0000	0.00
		Number of customers no longer at risk: 1300000	0.0385	1.99
		Number of customers no longer at risk: 1500000	0.0833	8.95
Restoration of supply	Time allowed to restore supply before compensation available	Time allowed to restore supply before compensation available: 18 hours	0.0000	0.00
		Time allowed to restore supply before compensation available: 12 hours	0.0826	4.89
		Time allowed to restore supply before compensation available: 6 hours	0.1691	17.60
Definition of worst served customers	Number of cuts defining a worst served customer	Number of cuts defining a worst served customer: 15	0.0000	0.00
		Number of cuts defining a worst served customer: 12	0.0656	9.04



Domestic Customer Values: Exercise 3

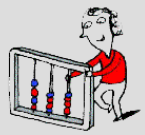
Attribute	Description	Levels	Factored Coefficient	T-stat (robust = 1.95+)
Reducing oil and gas leaks from equipment	***Percentage equipment with highest leakage rates replaced***	Percentage equipment with highest leakage rates replaced: 1%	0.000	0.00
		Percentage equipment with highest leakage rates replaced: 5%	0.121	4.73
		Percentage equipment with highest leakage rates replaced: 10%	0.145	15.53
Undergrounding overhead lines in Areas of Outstanding Natural Beauty	***Km undergrounded per year***	Km undergrounded per year: 5 km per year	0.000	0.00
		Km undergrounded per year: 15km per year	0.030	1.41
		Km undergrounded per year: 30km per year	0.137	6.25
		Km undergrounded per year: 60km per year	0.172	16.46
Innovation to facilitate a low carbon economy (and meet UK carbon reduction targets)	***Low carbon technology investment***	As and when required; not ahead of need	0.000	0.00
		Ahead of need to support 104k solar panels, 184k heat pumps and 430k electric vehicles	-0.024	-1.01
		Ahead of need to support 468k solar panels, 831k heat pumps and 747k electric vehicles	0.099	4.43
		Ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles	0.123	12.98
New connections (1)	***Time taken from first contact to completed connection***	Small scheme: 30 days; large scheme: 90 days	0.000	0.00
		Small scheme: 20 days; large scheme: 60 days	0.067	3.59
		Small scheme: 10 days; large scheme: 30 days	0.071	7.44
New connections (2)	***Communication channels for new connections***	Separate point of contact at each stage	0.000	0.00
		Separate point of contact at each stage, plus a dedicated contact number for connections customers	0.053	2.49
		Separate point of contact at each stage, plus a single account manager through the entire process	0.032	1.25
		Separate point of contact at each stage, plus a single account manager through the entire process and all communication by email if preferred	*0.087*	*4.11*
		Separate point of contact at each stage, plus a single account manager through the entire process, all communication by email if preferred and all information available online (applications, payments, job tracking etc on our website)	* *0.090*	*7.77*

* Note that this value incorporates the value of both communication by email and information available online; to determine the value and willingness to pay (WTP) for information online, the value and WTP for communication by email respectively must be subtracted; this has been done in the data shown in slides 36 and 38.



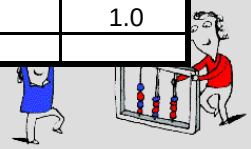
Business Customer Values: Exercise 3

Attribute	Description	Levels	Factored Coefficient	T-stat (robust = 1.95+)
Reducing oil and gas leaks from equipment	Percentage equipment with highest leakage rates replaced	Percentage equipment with highest leakage rates replaced: 1%	0.0000	0.00
		Percentage equipment with highest leakage rates replaced: 5%	0.1324	4.76
		Percentage equipment with highest leakage rates replaced: 10%	0.1213	9.97
Undergrounding overhead lines in Areas of Outstanding Natural Beauty	Km undergrounded per year	Km undergrounded per year: 5 km per year	0.0000	0.00
		Km undergrounded per year: 15km per year	0.0230	0.95
		Km undergrounded per year: 30km per year	0.1059	4.35
		Km undergrounded per year: 60km per year	0.1482	9.41
Innovation to facilitate a low carbon economy (and meet UK carbon reduction targets)	Low carbon technology investment	As and when required; not ahead of need	0.0000	0.00
		Ahead of need to support 104k solar panels, 184k heat pumps and 430k electric vehicles	0.0112	0.36
		Ahead of need to support 468k solar panels, 831k heat pumps and 747k electric vehicles	0.0911	3.13
		Ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles	0.0953	7.49
New connections (1)	Time taken from first contact to completed connection	Small scheme: 30 days; large scheme: 90 days	0.0000	0.00
		Small scheme: 20 days; large scheme: 60 days	0.0748	3.41
		Small scheme: 10 days; large scheme: 30 days	0.0862	6.96
New connections (2)	Communication channels for new connections	Separate point of contact at each stage	0.0000	0.00
		Separate point of contact at each stage, plus a dedicated contact number for connections customers	-0.0203	-0.78
		Separate point of contact at each stage, plus a single account manager through the entire process	0.0167	0.56
		Separate point of contact at each stage, plus a single account manager through the entire process and all communication by email if preferred	0.0439	1.81
		Separate point of contact at each stage, plus a single account manager through the entire process, all communication by email if preferred and all information available online (applications, payments, job tracking etc on our website)	0.0558	3.70



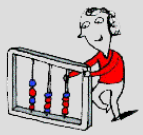
Domestic Customer Priorities: Combined & Ranked

Levels	Factored Coefficients	Index
Number of customers experiencing 15+ cuts: 4000	0.189	63.0
Number of customers experiencing 12-14 cuts: 14000	0.182	60.5
Number of customers experiencing 12-14 cuts: 21000	0.177	59.0
Km undergrounded per year: 60km per year	0.172	57.5
Percentage equipment with highest leakage rates replaced: 10%	0.145	48.2
Km undergrounded per year: 30km per year	0.137	45.6
Average duration of power cuts: 55 minutes	0.132	44.0
Low carbon infrastructure investment: ahead of need to support 936k solar panels, 895k heat pumps and	0.123	41.0
Percentage equipment with highest leakage rates replaced: 5%	0.121	40.3
Number of customers experiencing 15+ cuts: 6000	0.118	39.2
Average number of power cuts over 3 min: 6 in 10 years	0.106	35.5
Low carbon infrastructure investment: ahead of need to support 468k solar panels, 831k heat pumps and	0.099	32.9
Time allowed to restore supply before compensation available: 6 hours	0.094	31.3
General comms: automated messages or telephone operators to respond to customer calls, plus social media channels (e.g. twitter) to provide information	0.093	31.1
General comms: automated messages or telephone operators to respond to customer calls, plus text messages to provide information updates	0.091	30.3
Connections comms: separate point of contact at each stage, plus a single account manager through the entire process and all communication by email if preferred	0.087	29.1
Average number of power cuts over 3 min: 7 in 10 years	0.087	29.0
Average duration of power cuts: 50 minutes	0.083	27.7
Number of customers experiencing 15+ cuts: 8000	0.079	26.4
Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years	0.075	24.9
New connections completion timescale: small scheme: 10 days; large scheme: 30 days	0.071	23.6
New connections completion timescale: small scheme: 20 days; large scheme: 60 days	0.067	22.2
Number of customers experiencing 12-14 cuts: 28000	0.059	19.5
General comms: automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e.g. live network information / power cut checking and reporting)	0.058	19.3
Time allowed to restore supply before compensation available: 12 hours	0.056	18.8
Resilience to flooding - number of customers no longer at risk: 1500000	0.056	18.6
Number of cuts defining a worst served customer: 12	0.054	17.9
Connections comms: separate point of contact at each stage, plus a dedicated contact number for connections customers	0.053	17.8
Resilience to flooding - number of customers no longer at risk: 1300000	0.022	7.3
Connections comms: separate point of contact at each stage, plus a single account manager through the entire process and all information available online (applications, payments, job tracking etc on our website)	0.003	1.0
Average number of power cuts over 3 min: 9 in 10 years	-0.077	



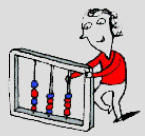
Business Customer Priorities: Combined & Ranked

Levels	Factored Coefficient	Index
Time allowed to restore supply before compensation available: 6 hours	0.1691	4.4
Km undergrounded per year: 60km per year	0.1482	3.9
Percentage equipment with highest leakage rates replaced: 5%	0.1324	3.4
Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years	0.1300	3.4
Average number of power cuts over 3 min: 6 in 10 years	0.124	3.2
Number of customers experiencing 12-14 cuts: 14000	0.122	3.2
Percentage equipment with highest leakage rates replaced: 10%	0.1213	3.2
Number of customers experiencing 15+ cuts: 4000	0.120	3.1
Number of customers experiencing 15+ cuts: 6000	0.116	3.0
Km undergrounded per year: 30km per year	0.1059	2.8
Automated messages or telephone operators to respond to customer calls, plus a dedicated helpline for business customers	0.100	2.6
Ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles	0.0953	2.5
Ahead of need to support 468k solar panels, 831k heat pumps and 747k electric vehicles	0.0911	2.4
Small scheme: 10 days; large scheme: 30 days	0.0862	2.2
Number of customers no longer at risk: 1500000	0.0833	2.2
Time allowed to restore supply before compensation available: 12 hours	0.0826	2.1
Number of customers experiencing 12-14 cuts: 21000	0.081	2.1
Average number of power cuts over 3 min: 7 in 10 years	0.081	2.1
Average duration of power cuts: 50 minutes	0.078	2.0
Small scheme: 20 days; large scheme: 60 days	0.0748	1.9
information / power cut checking and reporting)	0.071	1.8
Number of cuts defining a worst served customer: 12	0.0656	1.7
Number of customers experiencing 15+ cuts: 8000	0.064	1.7
Separate point of contact at each stage, plus a single account manager through the entire process, all communication by email if preferred and all information available online (applications, payments, job tracking etc on our website)	0.0558	1.5
Average duration of power cuts: 55 minutes	0.050	1.3
Number of customers no longer at risk: 1300000	0.0385	1.0
Average duration of power cuts: 65 minutes	-0.038	
Average number of power cuts over 3 min: 9 in 10 years	-0.110	



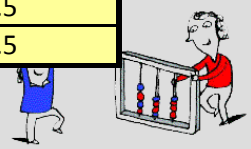
Domestic Customer WTP

Levels	WTP in £ in 2023
Number of customers experiencing 15+ cuts: 4000	£3.27
Number of customers experiencing 12-14 cuts: 14000	£3.14
Number of customers experiencing 12-14 cuts: 21000	£3.06
Km undergrounded per year: 60km per year	£2.98
Percentage equipment with highest leakage rates replaced: 10%	£2.50
Km undergrounded per year: 30km per year	£2.37
Average duration of power cuts: 55 minutes	£2.28
Low carbon infrastructure investment: ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles	£2.13
Percentage equipment with highest leakage rates replaced: 5%	£2.09
Number of customers experiencing 15+ cuts: 6000	£2.03
Average number of power cuts over 3 min: 6 in 10 years	£1.84
Low carbon infrastructure investment: ahead of need to support 468k solar panels, 831k heat pumps and 747k electric vehicles	£1.71
Time allowed to restore supply before compensation available: 6 hours	£1.62
General comms: automated messages or telephone operators to respond to customer calls, plus social media channels (e.g. twitter) to provide information	£1.61
General comms: automated messages or telephone operators to respond to customer calls, plus text messages to provide information updates	£1.57
Connections comms: separate point of contact at each stage, plus a single account manager through the entire process and all communication by email if preferred	£1.51
Average number of power cuts over 3 min: 7 in 10 years	£1.51
Average duration of power cuts: 50 minutes	£1.44
Number of customers experiencing 15+ cuts: 8000	£1.37
Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years	£1.29
New connections completion timescale: small scheme: 10 days; large scheme: 30 days	£1.23
New connections completion timescale: small scheme: 20 days; large scheme: 60 days	£1.15
Number of customers experiencing 12-14 cuts: 28000	£1.01
General comms: automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e.g. live network information / power cut checking and reporting)	£1.00
Time allowed to restore supply before compensation available: 12 hours	£0.97
Resilience to flooding - number of customers no longer at risk: 1500000	£0.97
Number of cuts defining a worst served customer: 12	£0.93
Connections comms: separate point of contact at each stage, plus a dedicated contact number for connections customers	£0.92
Resilience to flooding - number of customers no longer at risk: 1300000	£0.38
Connections comms: separate point of contact at each stage, plus a single account manager through the entire process and all information available online (applications, payments, job tracking etc on our website)	£0.05
Average number of power cuts over 3 min: 9 in 10 years	-£1.33
Total WTP	£25.90



Business Customer WTP

Level	% WTP in 2023
Time allowed to restore supply before compensation available: 6 hours	2.3
Km undergrounded per year: 60km per year	2.1
Percentage equipment with highest leakage rates replaced: 5%	1.8
Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years	1.8
Average number of power cuts over 3 min: 6 in 10 years	1.7
Number of customers experiencing 12-14 cuts: 14000	1.7
Percentage equipment with highest leakage rates replaced: 10%	1.7
Number of customers experiencing 15+ cuts: 4000	1.7
Number of customers experiencing 15+ cuts: 6000	1.6
Km undergrounded per year: 30km per year	1.5
General comms: automated messages or telephone operators to respond to customer calls, plus a dedicated helpline for business customers	1.4
Low carbon infrastructure investment: ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles	1.3
Low carbon infrastructure investment: ahead of need to support 468k solar panels, 831k heat pumps and 747k electric vehicles	1.3
New connections completion timescale: small scheme: 10 days; large scheme: 30 days	1.2
Resilience to flooding - number of customers no longer at risk: 1500000	1.2
Time allowed to restore supply before compensation available: 12 hours	1.1
Average number of power cuts over 3 min: 7 in 10 years	1.1
Number of customers experiencing 12-14 cuts: 21000	1.1
Average duration of power cuts: 50 minutes	1.1
New connections completion timescale: small scheme: 20 days; large scheme: 60 days	1.0
General comms: automated messages or telephone operators to respond to customer calls, plus real-time information on our website (e.g. live network information / power cut checking and reporting)	1.0
Number of cuts defining a worst served customer: 12	0.9
Number of customers experiencing 15+ cuts: 8000	0.9
Connections comms: separate point of contact at each stage, plus a single account manager through the entire process, all communication by email if preferred and all information available online (applications, payments, job tracking etc on our website)	0.8
Average duration of power cuts: 55 minutes	0.7
Resilience to flooding - number of customers no longer at risk: 1300000	0.5
Average duration of power cuts: 65 minutes	-0.5
Average number of power cuts over 3 min: 9 in 10 years	-1.5

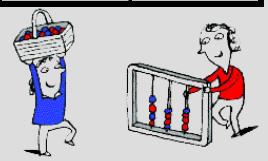


Overall WTP & Comparisons with Previous Study

- Average WTP by 2023 is:
  - Domestic: £28.08
  - Business: 23%
- Average WTP at the end of the 5 year period in the previous Ofgem study was:
  - Domestic (all excluding LPN): £27.23
  - Business (all excluding LPN): 15.3% (Small/Medium); 13.4% (Large)

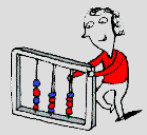
- There are few directly comparative levels between the two studies (and the time period covered was 8 years here as opposed to 5 years previously), but there are some that give a guide to differences between the two studies:

		Domestic		Business	
Current Level (s)	Previous Level(s)	Current WTP £	Previous WTP £	Current WTP %	Previous WTP %
Automated messages or telephone operators to respond to customer calls, plus call backs every hour to provide information updates	A telephone information line plus call backs to provide information updates	ns	1.06	ns	ns
Automated messages or telephone operators to respond to customer calls, plus text messages to provide information updates	A telephone information line plus text messages to provide information updates	1.57		ns	ns
Time allowed to restore supply before compensation available: 6 hours	Restoration of electricity supply as a result of problems not related to weather: guaranteed within 6 hours	1.62	4.29	2.3	6.5 (SM); 7.2(L)
Undergrounding overhead lines in Areas of Outstanding Natural Beauty: Km undergrounded per year - 60km	An ongoing commitment to underground overhead lines in areas of outstanding natural beauty and national parks for amenity reasons. 5% of overhead lines per	2.98	4.36	2.1	na
Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years	Number of customers affected by major storms: x customers on average in a year (20% less than now)	1.29	1.83	1.8	1.4 (SM); 1.1 (L)
Network resilience to flooding: number of customers no longer at risk - 1,500,000	Number of sites exposed to flood risk reduced from 1000 to 850 sites	0.97	1.32	1.2	0.5 (SM); 0.4 (L)
UK carbon reduction targets): ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles	Replace 10% equipment & vehicles with those using less polluting fuels	2.13	5.43	1.3	2.1 (SM); 1.7 (L)



Summary of Priorities

- Domestic customer priorities are varied but are strongly focused towards reducing the numbers of worst served customers, undergrounding & replacing leaking cables
- Business customer priorities also identify a strong desire to reduce the numbers of worst served customers and underground overhead lines, but with reductions in the number of cuts and in the point at which compensation applies being particularly important to them



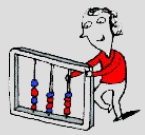
Top 10 Priorities

Top 10 priorities for domestic customers are:

1. Reducing the number of customers experiencing 15+ cuts to 4000
2. Reducing the number of customers experiencing 12-14 cuts to 14000
3. Reducing the number of customers experiencing 12-14 cuts to 21000
4. Undergrounding 60km of cables per year
5. Replacing 10% of equipment with highest leakage rates
6. Undergrounding 30km of cables per year
7. Reducing the average duration of power cuts to 55 minutes
8. Investing ahead of need to support 936k solar panels, 895k heat pumps and 1.16m electric vehicles
9. Replacing 5% of equipment with highest leakage rates
10. Reducing the number of customers experiencing 15+ cuts to 6000

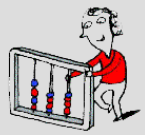
Top 10 priorities for business customers are:

1. Time allowed to restore supply before compensation available reduced to 6 hours
2. Undergrounding 60km of cables per year
3. Average number of power cuts over 3 min. reduced to 6 in 10 years
4. Reducing the number of customers experiencing 12-14 cuts to 14000
5. Reducing the number of customers experiencing 15+ cuts to 4000
6. Reducing the number of customers experiencing 15+ cuts to 6000
7. Replacing 5% of equipment with highest leakage rates
8. Programme duration to reduce likelihood that trees fall into strategically important overhead lines during severe weather: 15 years
9. Replacing 10% of equipment with highest leakage rates
10. Automated messages or telephone operators to respond to customer calls, plus a dedicated helpline for business customers

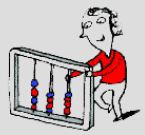


Summary of Willingness to Pay by 2023

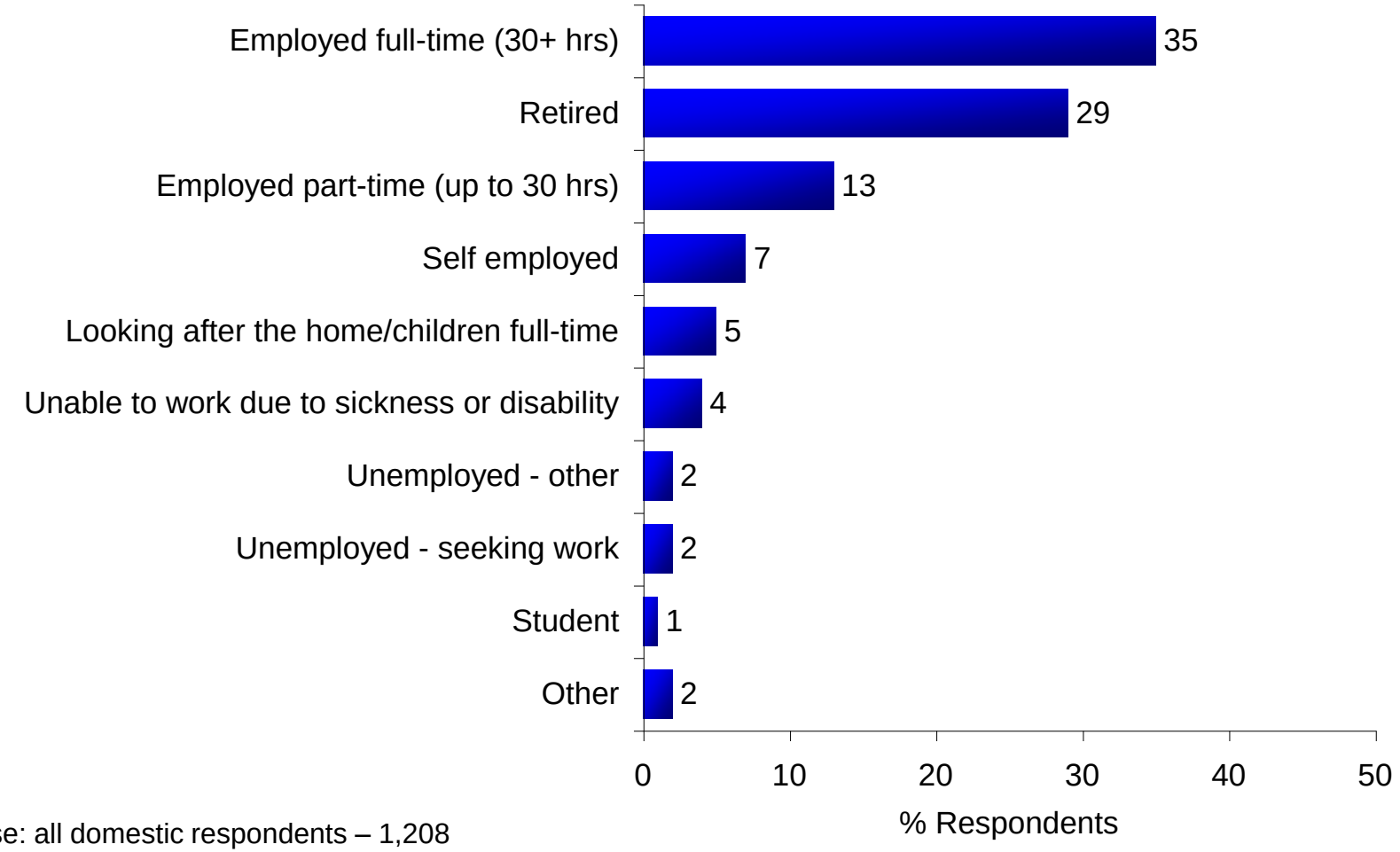
- Domestic customer willingness to pay for different levels of service ranges from £0.38 to £3.27
- There was some willingness to accept a deterioration of service (ie the average number of cuts going from 8 to 9 in 10 years) for a £1.33 reduction in the average bill
- Business customer willingness to pay for different levels of service ranges from 0.5% to 2.3%
- There was a willingness to accept deteriorations in service with respect to cuts (ie the average number of cuts going from 8 to 9 in 10 years) and duration (ie the average duration dropping from 60 minutes to 65 minutes) for a 1.5% or 0.5% reduction in bill respectively
- Bearing in mind the timeframe for this study was 8 years against 5 years previously, the results suggest a slight decline in willingness to pay amongst domestic respondents, but an almost identical willingness to pay amongst business respondents



Domestic Demographics



Domestic Employment Profile

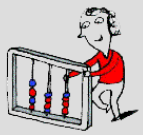


Base: all domestic respondents – 1,208

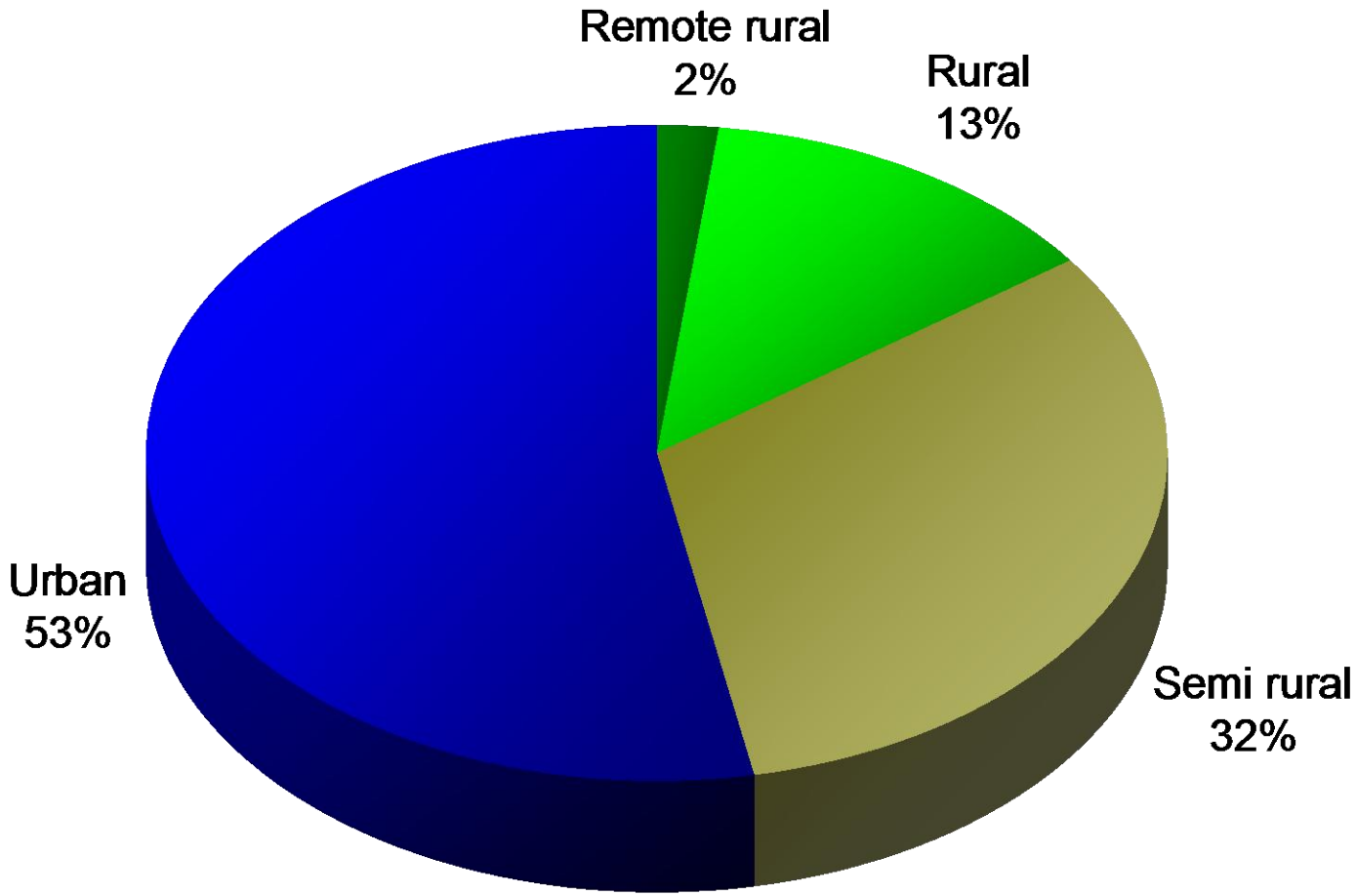
Domestic Household Structure by Age

Number of people in household aged…	up to 15 years	16-60 years	61+
None	67	25	63
1	14	20	20
2	13	38	16
3	5	10	*
4	1	5	*
5+	*	1	0

Base: all domestic respondents – 1,208

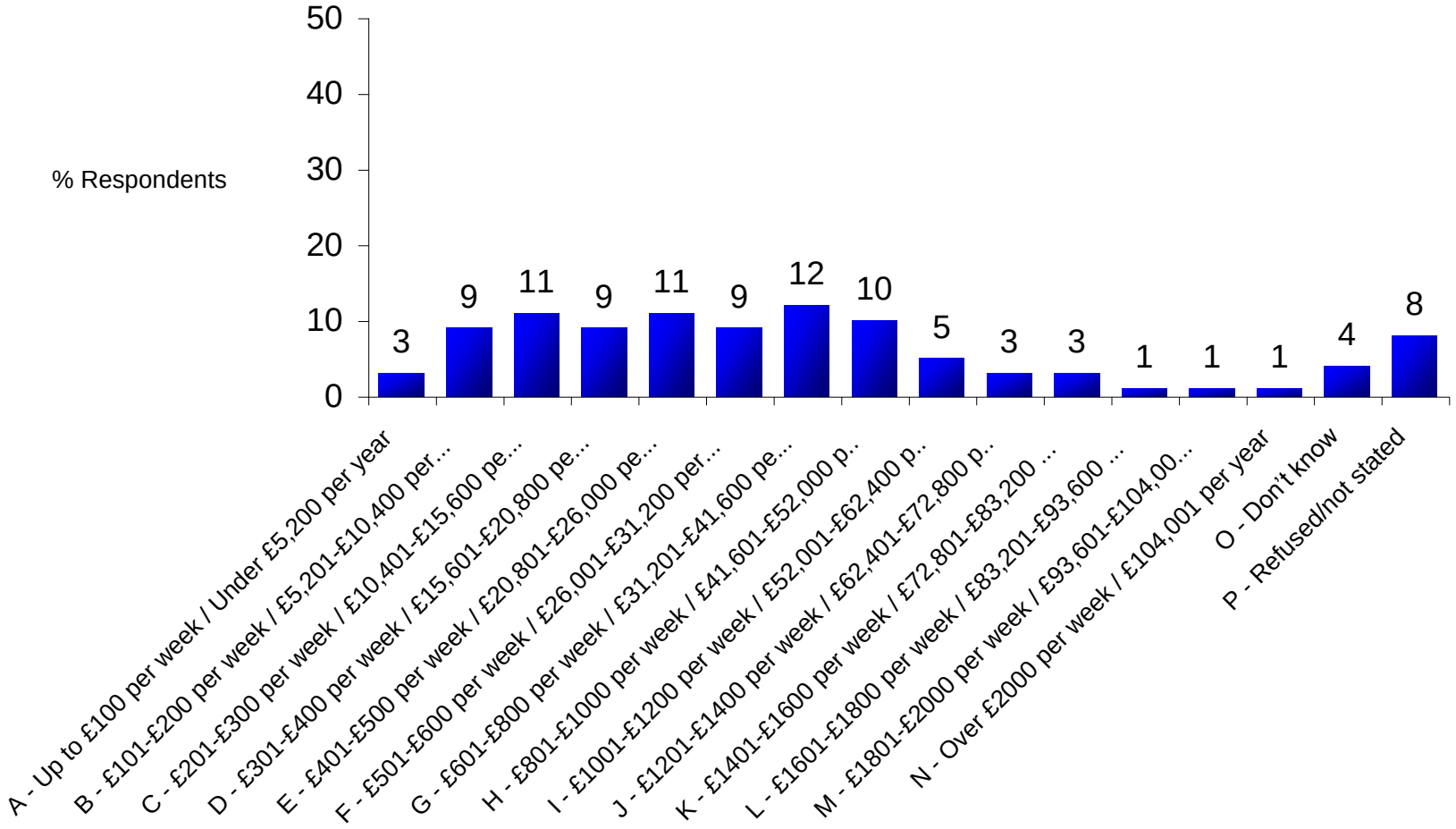


Type of Locations in Which Domestic Customers Live



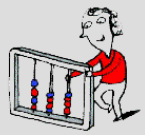
Base: all domestic respondents – 1,208

Domestic Customer Income Bands

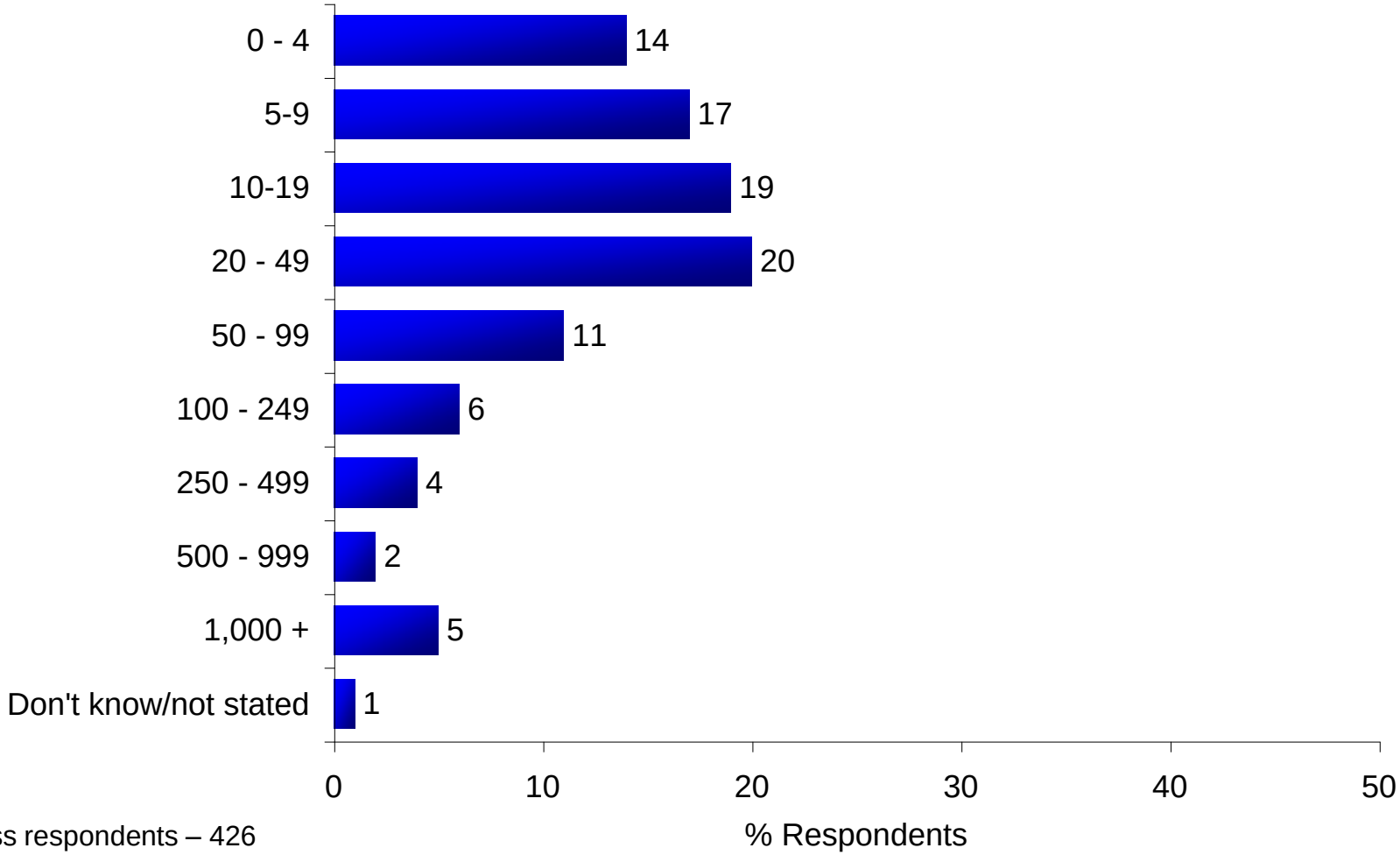


Base: all domestic respondents – 1,208

Business Demographics

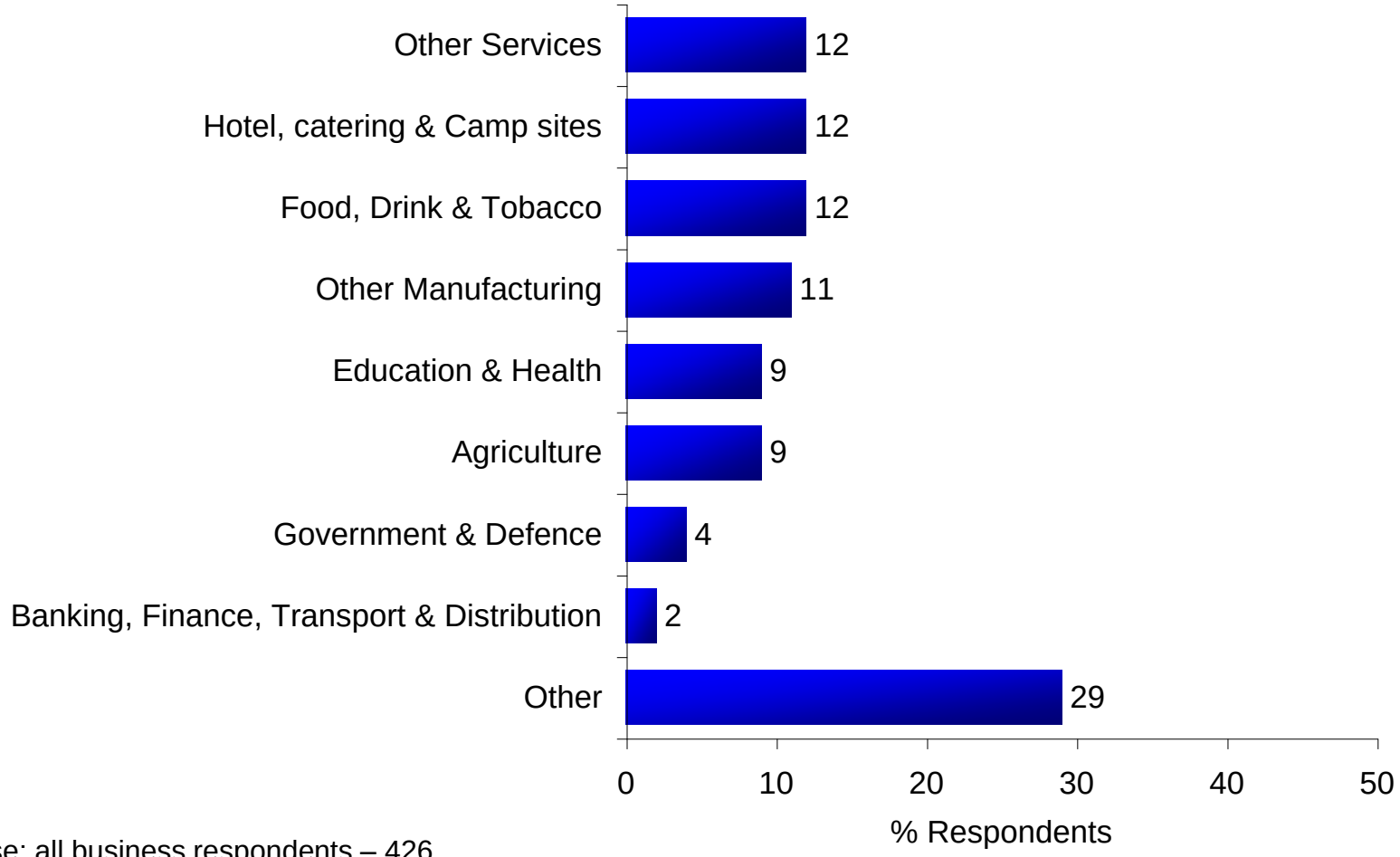


Number of Employees



Base: all business respondents – 426

Sector of Activity



Base: all business respondents – 426