



Survey of manufacturers off the mains gas grid

*Summary of key findings
November 2021*



CALOR

Contents

Foreward

1. Executive Summary

2. Research Findings in Detail

2.1 *Attitudes & Behaviour*

2.2 *Energy Sources Used by Manufacturers and Likelihood of Switching*

2.3 *Awareness, Usage and Perceptions*

3. Appendix

— *Research Method*

— *Research Method in Detail*

4. Why Calor?

Foreward

The manufacturing sector contributes £192 billion of output to the UK economy, making it the 9th largest manufacturer in the world. From automotive to food and drink, it is a pillar of UK industry.

But this output is driven by processes that are hugely energy-intensive and, according to 2018 figures, 12% of the UK total greenhouse gas emissions came from the manufacturing and construction industry.

As the UK Government target of 2050 to reach net zero carbon comes ever closer, the pressure on UK industry to make fundamental changes to become more sustainable has never been higher.

This challenge is even greater for rural manufacturers who are located off the mains gas grid, with more limited options available to them when it comes to green energy resources.

The 'Survey of manufacturers off the mains gas grid' commissioned by Calor seeks further insights into rural manufacturers and how they are responding to the climate emergency.

It's reassuring that almost half (42%) of the 202 manufacturers surveyed stated that sustainability was important to their organisation, and they were keen to make a positive impact on sustainability via their actions. A further 12% also saw green credentials as a commercial opportunity – saying that they felt it gave them a competitive advantage.

But for many manufacturing businesses the process of becoming more sustainable is still in the early stages, with only 20% of those surveyed having hired a Sustainability Director or equivalent. However, 40% of manufacturers who currently use oil as their main energy source said they were looking to switch in the next four to five years.

Whilst there is no 'one size fits all' it's clear that manufacturing has a vital role to play if we are to secure a more sustainable future for us all.

Making the switch to LPG can cut emissions by 16% compared to oil and is ideal for rural businesses. A move to LPG now can also help prepare businesses for a smooth transition to BioLPG and other environmentally friendly fuels in the future.



CALOR

Section One

**Executive
Summary**

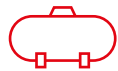


Executive summary - key headlines



Sustainability

- > The majority of manufacturers demonstrate a commitment to sustainability.
- > That commitment is often driven by commercial considerations, such as increasing customer satisfaction and longer-term cost savings.
- > Some steps have been taken to be compliant with sustainability commitments, although there is room for further action.



LPG

- > Two-thirds are aware that LPG could be used for manufacturing but less than half are aware that LNG could be used.
- > There is a lack of detailed knowledge of LPG and LNG.



Energy Sources

- > The main energy source used by manufacturers off the mains gas grid is electricity.
- > LPG is the main source of energy for 1% of manufacturers, although 10% cite LPG as a secondary source.
- > Other sources include gas oil / red diesel, renewables, solid fuel and oil, although none of these are widely used.
- > In the next 4-5 years, one in five manufacturers claim to be likely to change energy source – probably to renewables.
- > Energy consultants are likely to play a significant role in switching.



CALOR

Section Two

**Research Findings
in Detail**





2.1

Attitudes & Behaviour

Summary



The majority of manufacturers demonstrate a commitment to sustainability.



That commitment is often driven by commercial considerations, such as increasing customer satisfaction and longer-term cost savings.



Some steps have been taken to be compliant with sustainability commitments, although there is room for further action.



Attitudes towards sustainability

Around 3 out of 4 manufacturers off the gas grid demonstrate some commitment to sustainability.

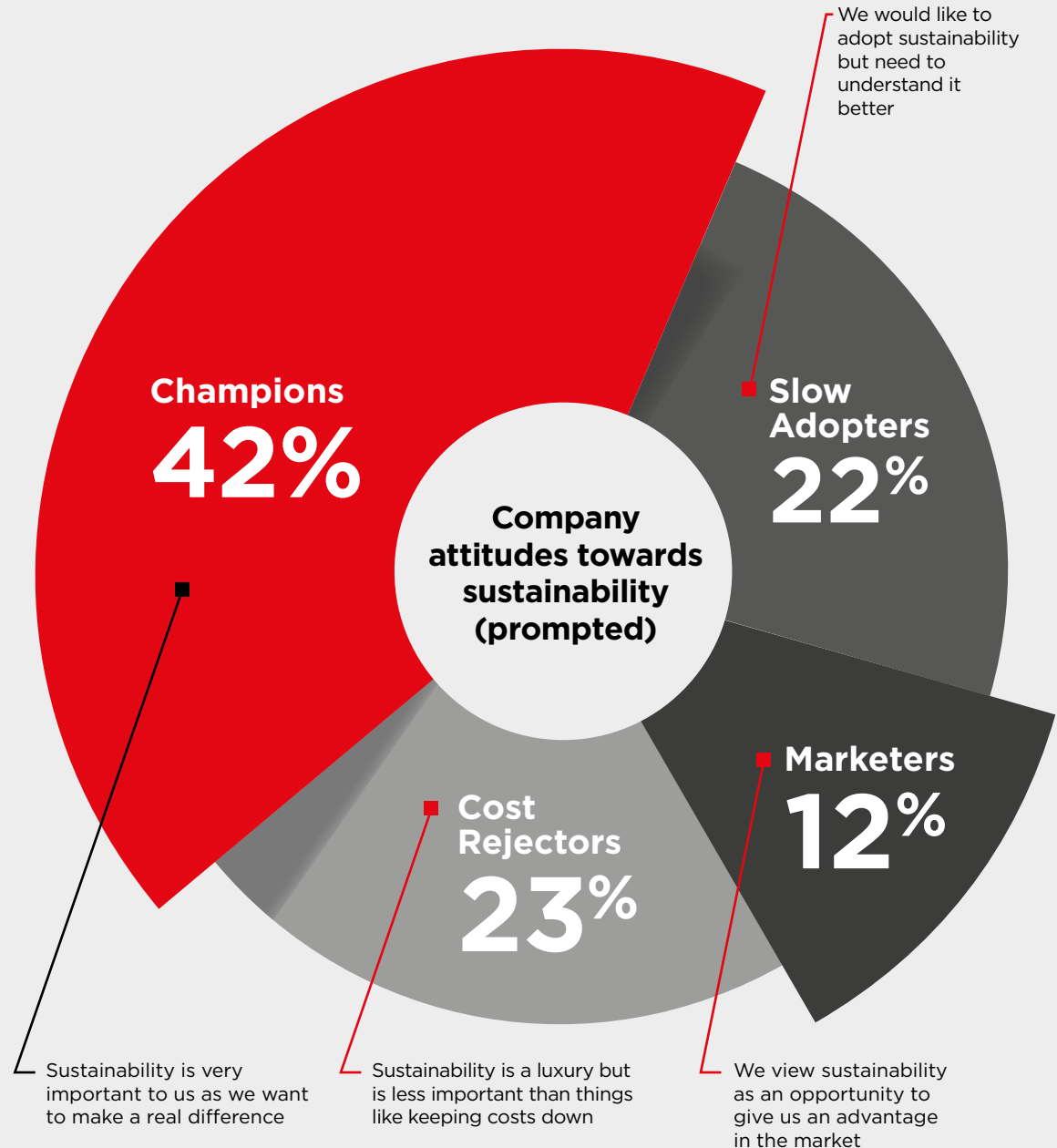
Manufacturers can be segmented into four main groups based on their attitudes towards sustainability:



Larger companies are particularly likely to be Champions, whereas smaller companies include an above average number of Slow Adopters and Cost Rejectors.

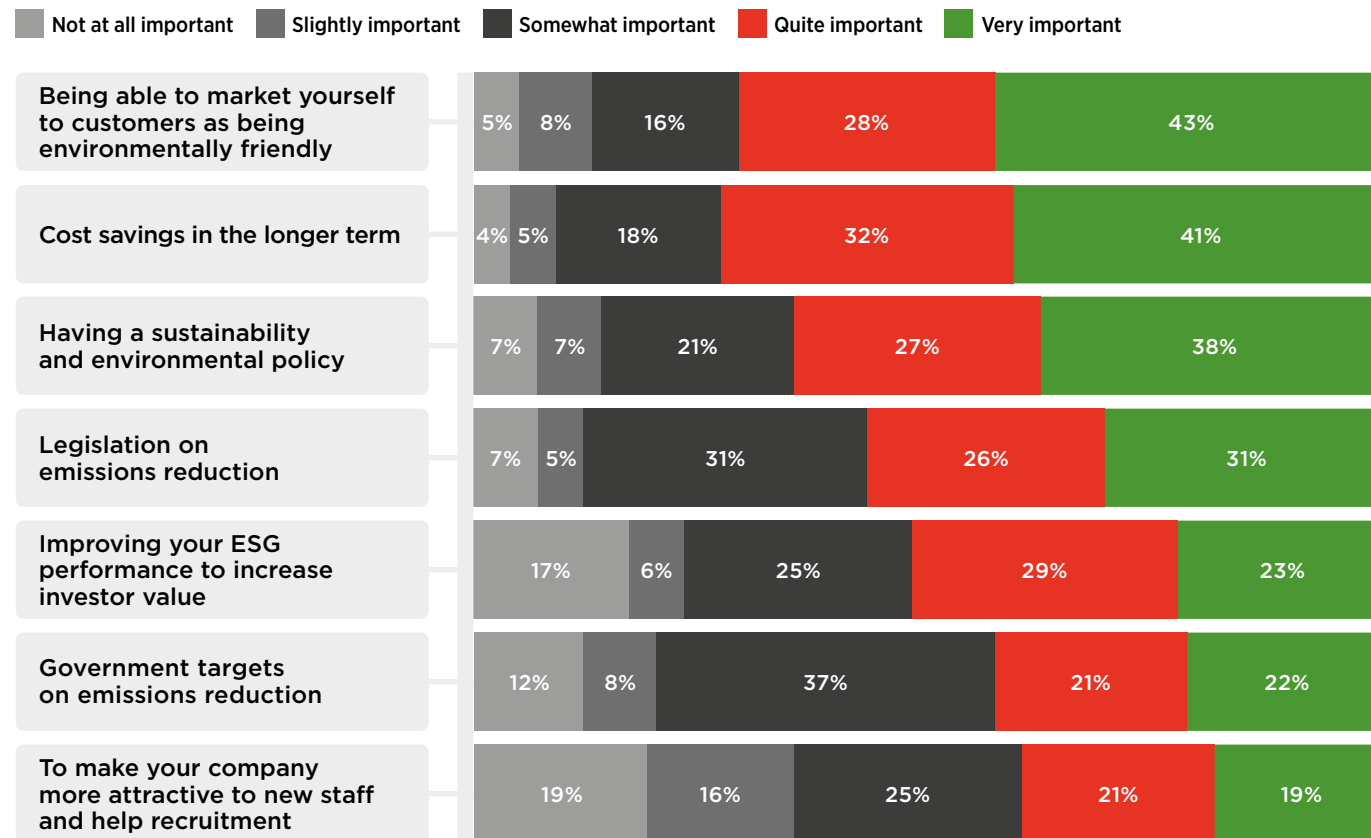
Food & drink processors are particularly likely to be Champions.

? Question: Which statement best fits your company's position when it comes to sustainability?
 Base: all respondents (n=202)



Drivers of approach to emissions reduction

Importance of key drivers



When probed for the factors influencing sustainability, the key drivers of manufacturers approach to emissions reduction tend to be commercial considerations – boosting marketing to customers and cost savings.

Having a sustainability or environmental policy is also a key driver.

Legislation and government targets are ‘hygiene’ factors rather than key drivers.

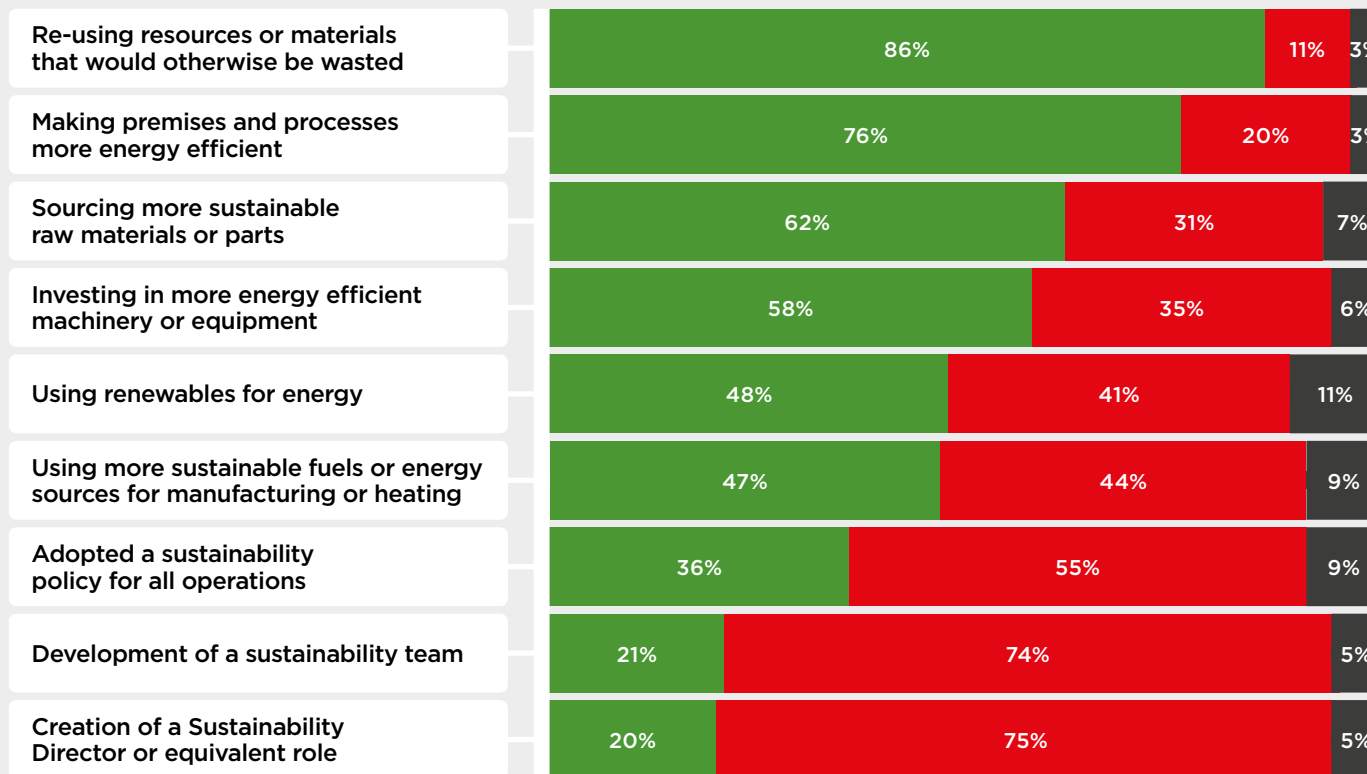
Sustainability is less important as a means of attracting new staff.


Question: How important are the following things in driving your company’s approach to emissions reduction?
Base: all respondents (n=202)

Steps taken to be compliant with sustainability commitments

Sustainability steps taken

Yes No Unsure



 Question: Which of these steps has your company taken to be compliant with your sustainability or emission reduction commitments?
Base: all respondents (n=202)

A number of positive actions have been taken to be compliant with sustainability commitments:

- The majority of manufacturers are re-using resources or materials hitherto wasted.
- Three-quarters have made premises and processes more energy efficient.
- Manufacturers are also looking to source more sustainable materials or parts and have invested in energy efficient machinery or equipment.

There is room for improvement (particularly among smaller companies):

- Only 36% have adopted a sustainability policy for ALL operations.
- Only 21% have developed a sustainability team.
- Only 20% have created a Sustainability Director role or equivalent.

Larger companies and those in the food & drink sector are particularly likely to demonstrate a commitment to sustainable practices.

Sustainability commitment in summary - differences by size and type of company

Sustainability position - by size and type of company

	All	Employees			Products manufactured				
		<25	25-49	50+	Building materials	Food & drink	Machinery	Metals & metal products	Other*
	%	%	%	%	%	%	%	%	%
Champions	42	38	57	55	32	51	43	36	55
Slow Adopters	22	24	22	10	36	19	14	19	18
Marketers	12	12	4	25	10	14	20	13	6
Cost Rejectors	23	26	17	10	22	16	23	32	21
Made premises more energy efficient	76	73	87	90	68	73	86	72	88
Use more sustainable energy sources for manufacturing / heating	47	44	48	70	44	59	40	43	52
Adopted sustainability policy for all operations	36	31	52	55	30	46	40	32	33

Larger companies are particularly likely to be in the Champions segment and to have taken steps to make themselves more sustainable e.g. making premises more energy efficient, using sustainable energy sources and adopting a sustainability policy for all operations.

Smaller companies are less likely to be Champions (a quarter are Cost Rejectors) and tend to have a less developed sustainability policy - they may need help getting up to speed.

In terms of product sectors, those in the food & drink sector (and those in the glass manufacturing and recycling sectors) are particularly likely to be in the Champions segment and to demonstrate a commitment to sustainability.

CAUTION: SMALL SAMPLE SIZES FOR SUB-GROUPS

*Manufacturers of plastic products, glass products, power generation



2.2

Energy Sources Used by Manufacturers and Likelihood of Switching

Summary



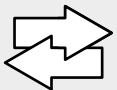
The main energy source used by manufacturers off the mains gas grid is electricity.



LPG is the main source of energy for 1% of manufacturers, although 10% cite LPG as a secondary source.



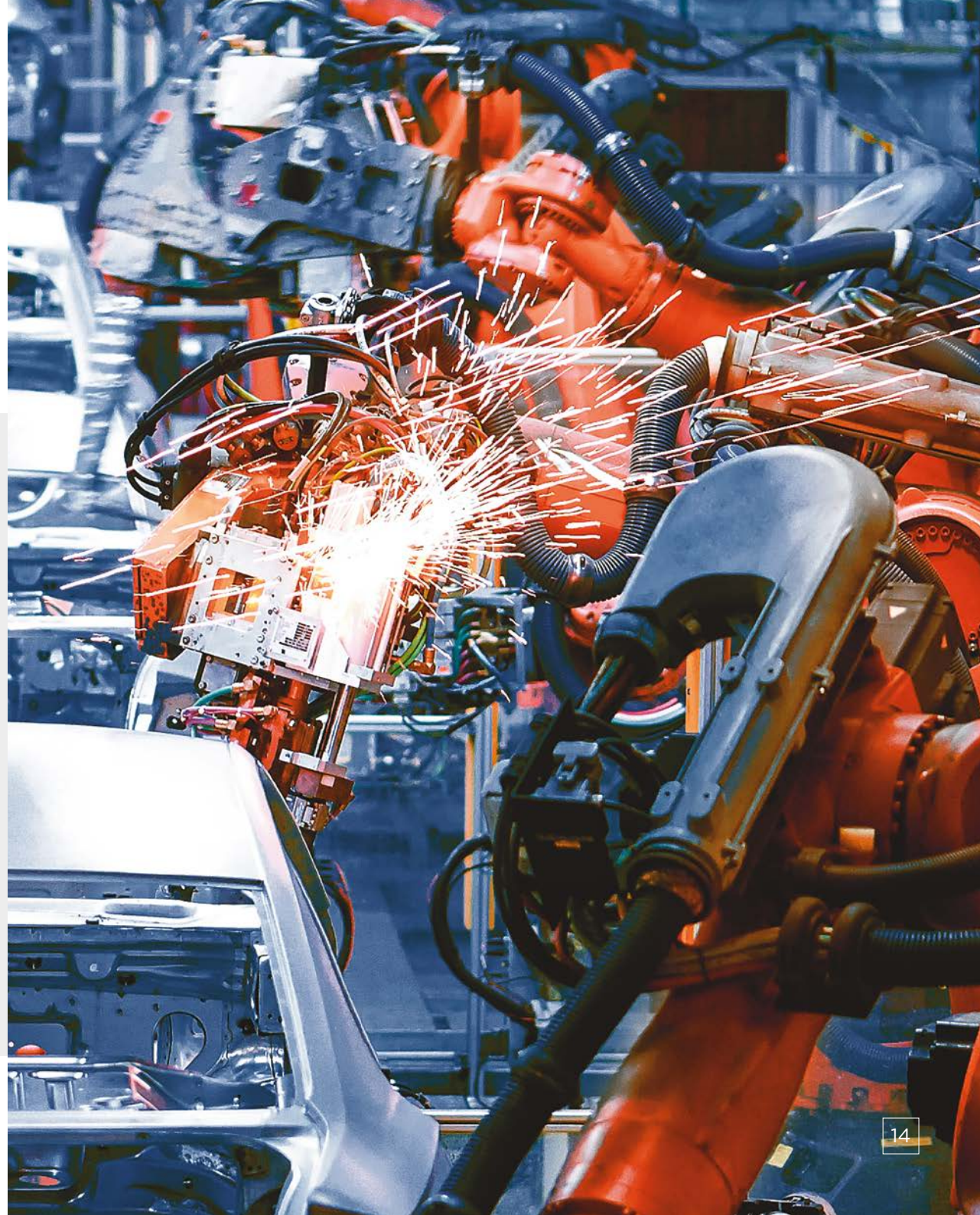
Other sources include gas, oil/red diesel, renewables, solid fuel and oil, although none of these is widely used.



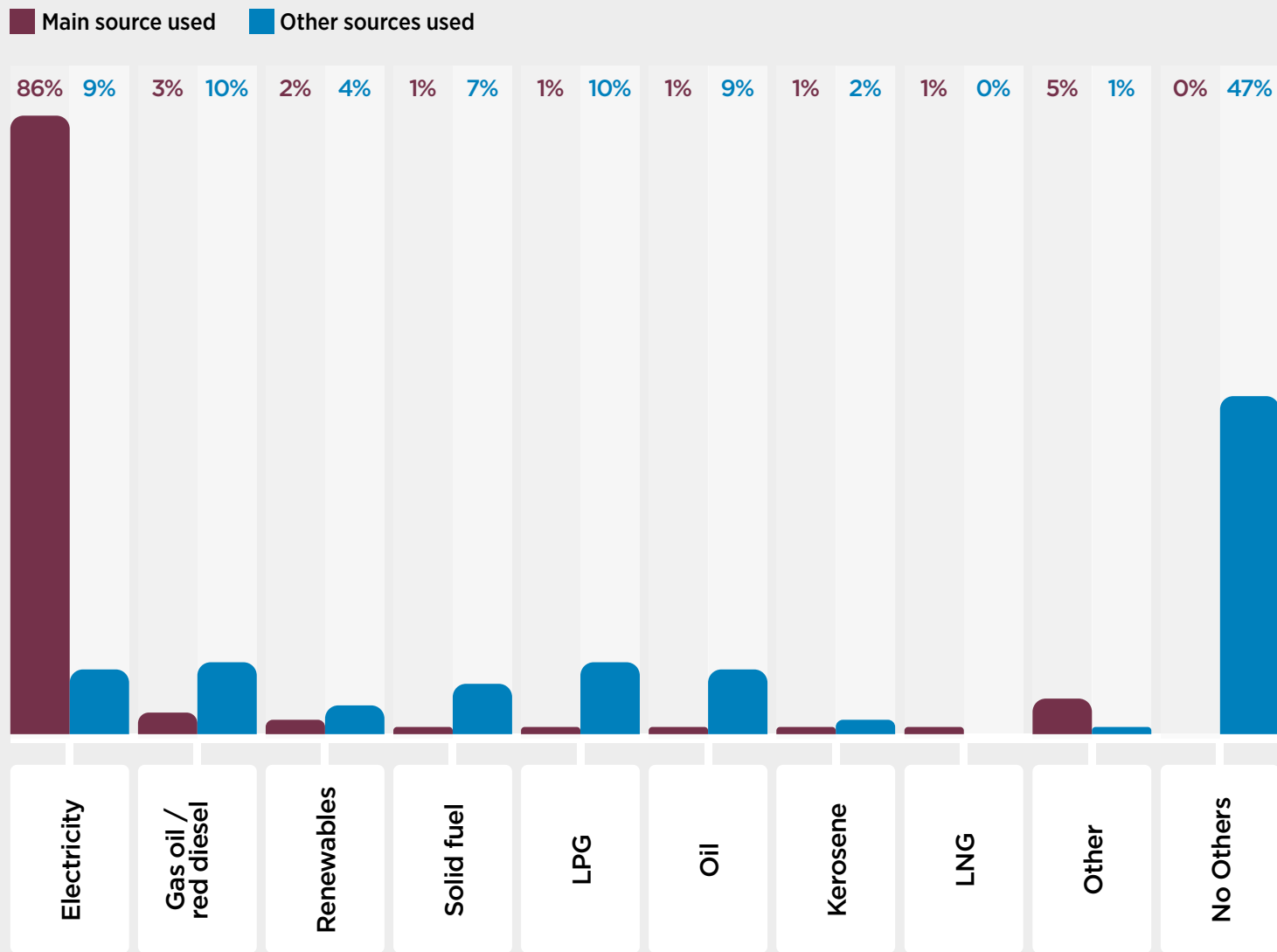
In the next 4-5 years, one in five manufacturers is likely to change energy source – probably to renewables.



Energy consultants are likely to play a significant role in switching.



Energy sources used



The main energy source used by manufacturers off the mains gas grid is electricity - *mainly used for the manufacturing process, lighting, heating premises, operating production lines and heating (as part of production).*

LPG is the main source of energy for 1%, although 10% cite LPG as a secondary source – *mainly for heating as part of production, the manufacturing process, heating premises and fork lift trucks.*

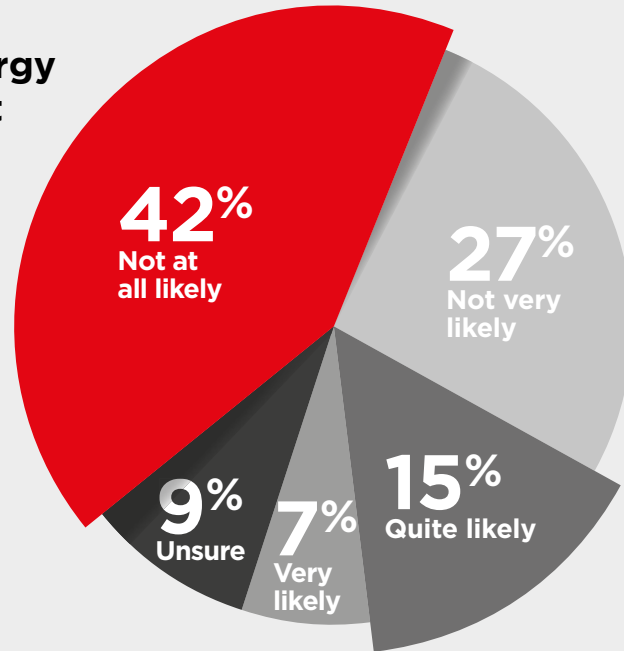
Other secondary sources include gas oil / red diesel, renewables, solid fuel and oil, although none of these is widely used – *these are mainly used for heating premises.*

Larger companies and those in the food & drink sector are particularly likely to use LPG.

Question: Which energy sources does your company use at this site?
Base: all respondents (n=202)

Likelihood of switching energy source

Likelihood of changing energy source in next 4-5 years

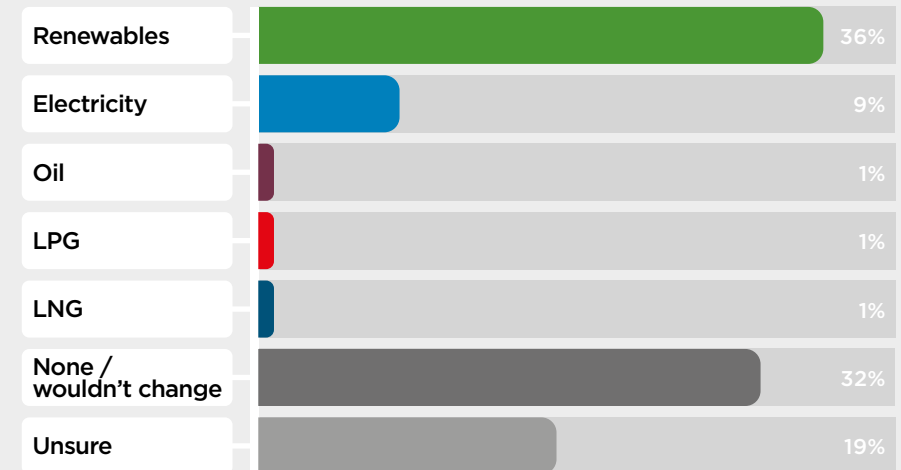


Manufacturers tend to be fairly unlikely to change energy sources used:

- 69% claim that they are unlikely to switch in the next 4-5 years.
- Only 7% are very likely to switch in the next 4-5 years, although a further 15% are quite likely to do so.
- Larger firms are the least likely to change the energy source they use.

? Question: In the next four to five years, how likely are you to change the energy source you use for heating or manufacturing processes?
Base: all respondents (n=202)

What source would manufacturers change to?



If they were to switch energy source, manufacturers would be likely to change to renewables*.

Reasons given are:

- More environmentally friendly / sustainable (33%)
- Most cost effective / cost saving option (24%)
- Large roof space available (13%)
- Geographical factors (13%)

? Question: If you were to switch energy source, what source would you be most likely to change to?
Base: all respondents (n=202)

*If they were to switch energy source, manufacturers would be likely to change to more renewable sources (such as wind, solar, BioLPG and rDME).

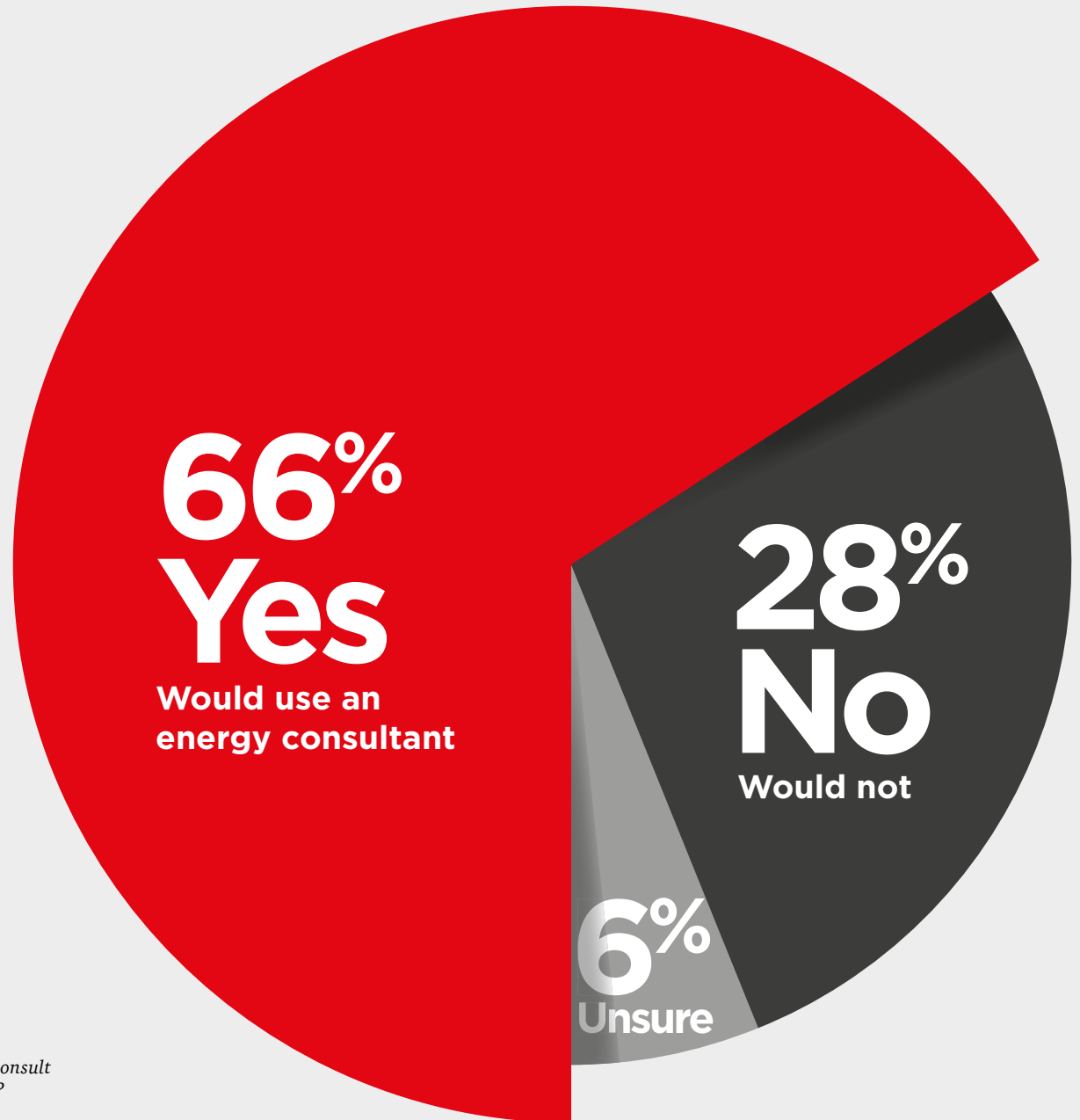
Use of energy consultant

Whether company would use an energy consultant

Two-thirds of manufacturers would use an energy consultant if they were changing the source they use.

Large and medium-sized companies are particularly likely to use an energy consultant, although even among smaller companies over 60% would do so.

Energy consultants are therefore a vital part of the decision-making process – with implications for Calor when addressing this market.



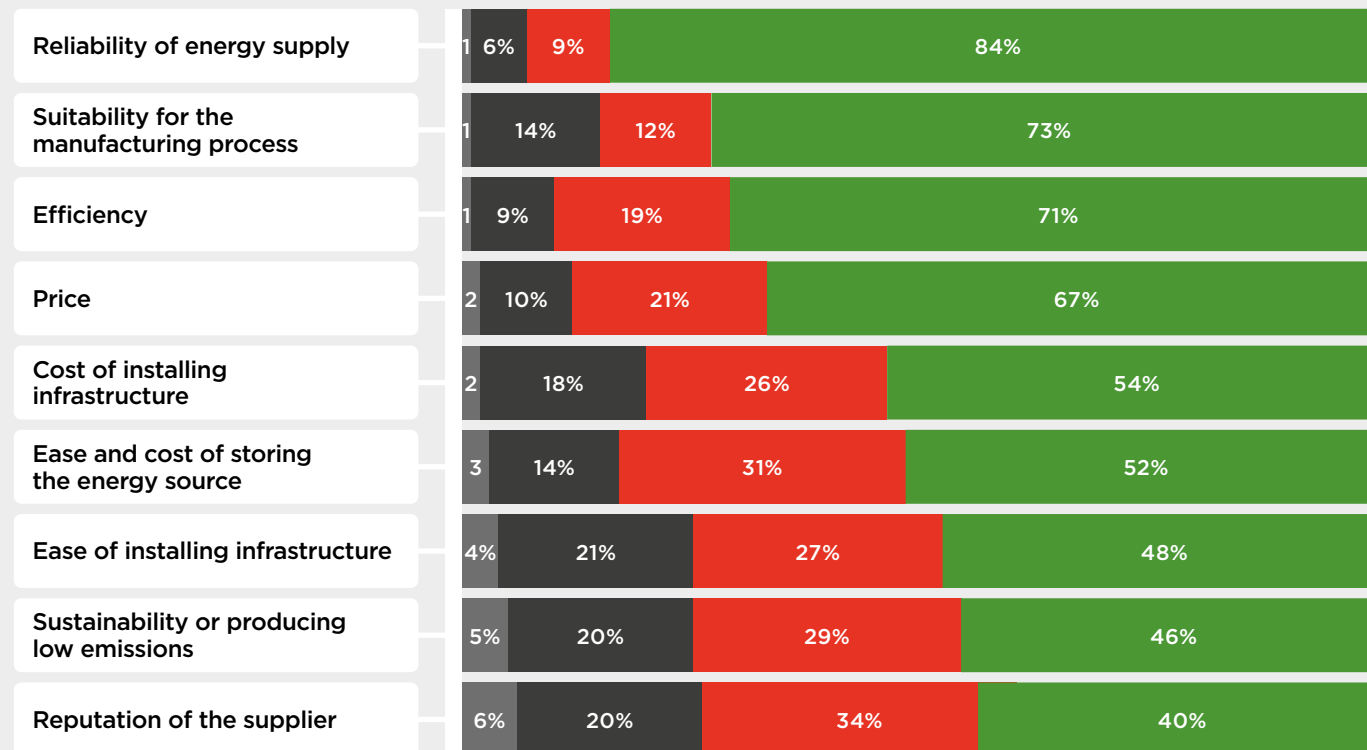
Question: If you were changing the energy source you use, would you consult an energy consultant for advice on the source that would suit you best?

Base: all respondents (n=202)

Key criteria for choice of new energy source

Importance of criteria

Not important
 Slightly important
 Quite important
 Very important



When selecting a new energy source, all these factors are important.

However, some criteria are more important than others.

The most important criteria for manufacturers are:

- Reliability of supply
- Suitability for the manufacturing process
- Efficiency
- Price
- Cost of installation and storage

Sustainability and supplier reputation are of relatively lower importance.



Question: How important are the following things in driving your company's approach to emissions reduction?

Base: all respondents (n=202)

Paying more for a sustainable fuel

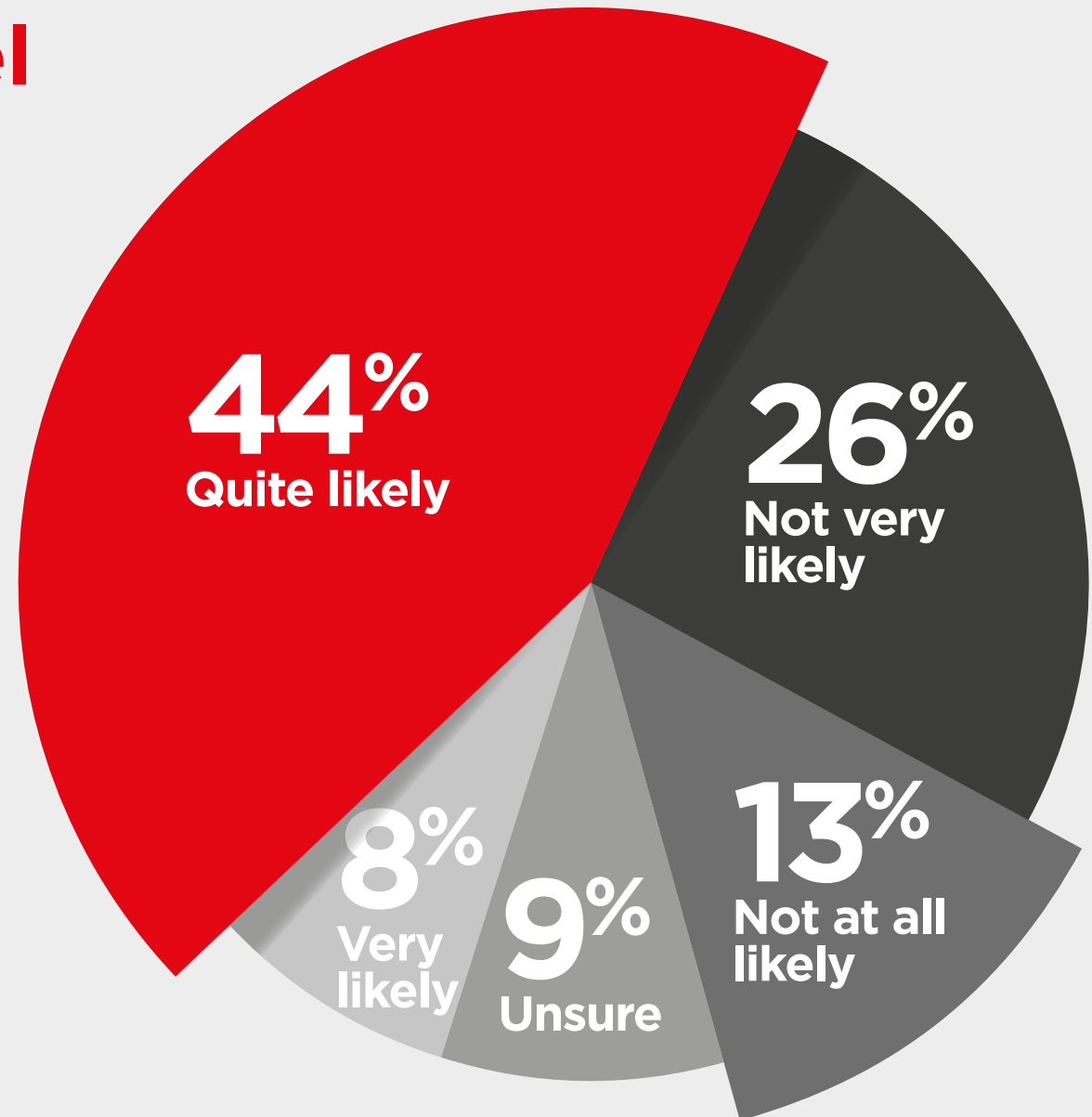
Likelihood of paying more for a sustainable energy source


Half of manufacturers would be likely to pay more for a more sustainable energy source.

Medium-sized and large companies and those in the food & drink sector particularly likely to do so.

However, willingness to pay more is fairly lukewarm, with only 8% very likely to do so, and 44% quite likely to.

Commercial considerations are therefore important in the decision making process.



 Question: How likely would you be to pay more for a more sustainable or environmentally friendly energy source?
Base: all respondents (n=202)

Energy use in summary - differences by size and type of company

Energy use - by size and type of company

	All	Employees			Products manufactured				
		<25	25-49	50+	Building materials	Food & drink	Machinery	Metals & metal products	Other*
	%	%	%	%	%	%	%	%	%
Use LPG	12	11	9	20	-	27	17	11	9
Use gas oil / red diesel	13	14	9	15	12	11	8	15	21
Use renewables	7	8	4	5	8	8	6	9	3
Likely to switch in the next 4-5 years	22	22	39	10	22	30	23	21	18
Would use an energy consultant	66	62	74	85	68	70	60	62	70
Likely to pay more for sustainable fuel	52	49	61	60	54	73	46	42	42
Price is very important in choice of energy	67	67	65	75	72	57	63	66	79
Sustainability / low emissions very important	46	44	52	55	50	54	43	38	45

Larger manufacturing companies are more likely to use LPG. However, they are less likely to switch energy source.

Medium and larger companies are more likely than small firms to pay more for a sustainable fuel, although price and sustainability are both important factors when choosing an energy source.

Small companies are the least likely to pay more for a sustainable fuel.

Food and drink manufacturers are particularly likely to use LPG, to switch energy source and pay more for a sustainable fuel.

*Manufacturers of plastic products, glass products, power generation

Energy use in summary - differences by segment

Energy use - by segment

	All	Sustainability position			
		Champions	Marketers	Slow Adopters	Cost Rejectors
	%	%	%	%	%
Use LPG	12	12	8	13	13
Use gas oil / red diesel	14	13	12	16	15
Use renewables	8	11	4	7	6
Likely to switch in the next 4-5 years	22	25	36	22	13
Would use an energy consultant	66	65	48	78	66
Likely to pay more for sustainable fuel	52	59	60	56	30
Price is very important in choice of energy	67	60	64	73	77
Sustainability / low emissions very important	46	65	36	44	19

Companies in the Champions segment are slightly more likely to use renewables, are particularly likely to pay more for a sustainable fuel and claim that sustainability is a very important factor in their choice of fuel.

Those in the Marketers segment are the most likely to switch energy source and are the most willing to pay for a sustainable source.

The Slow Adopters segment is the most likely to use an energy consultant.

Price is particularly important to Slow Adopters and Cost Rejectors – they want to be more sustainable but price remains a key factor.

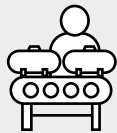
Cost Rejectors are particularly likely to put price above sustainability, and are the least likely to switch.



2.3

Awareness, Usage and Perceptions

Summary



Two-thirds are aware that LPG could be used for manufacturing and less than half are aware that LNG could be used.

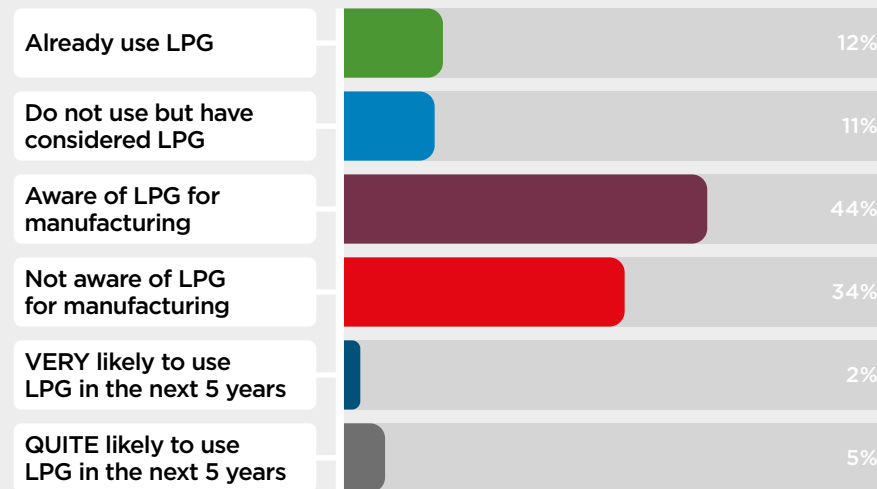


There is a lack of detailed knowledge about LPG and LNG as a source of energy for manufacturing processes.



Usage, awareness and consideration of LPG / LNG for manufacturing

LPG for manufacturing



LPG is used by 12% of manufacturers off the gas grid (in particular larger companies and those in the food & drink sector).

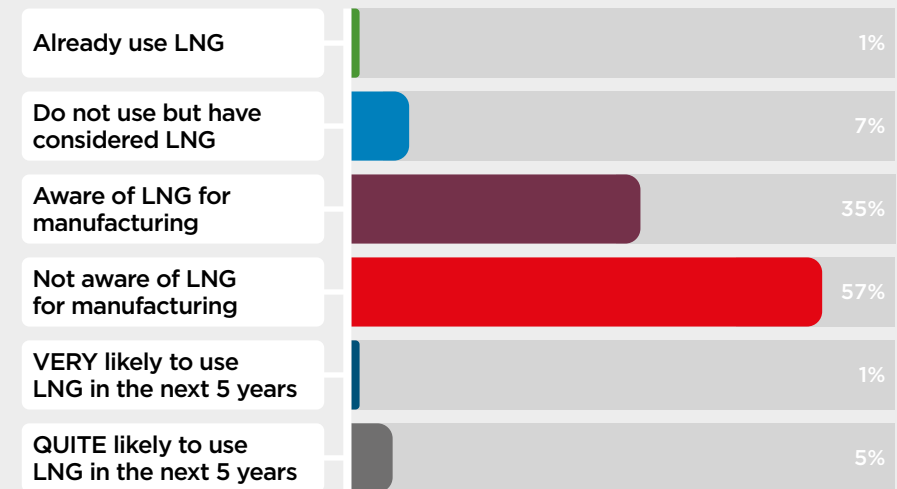
A further 11% have considered using LPG.

Of those who have not considered using LPG, 44% are aware it can be used for manufacturing processes.

Of all manufacturers, 7% claim to be likely to start using LPG in the next five years (only 2% very likely).

? Question: Were you aware that LPG can be used for manufacturing processes? Have you ever considered using LPG? In the next five years, how likely are you to start using LPG for heating or manufacturing processes?
Base: all (n=202)

LNG for manufacturing



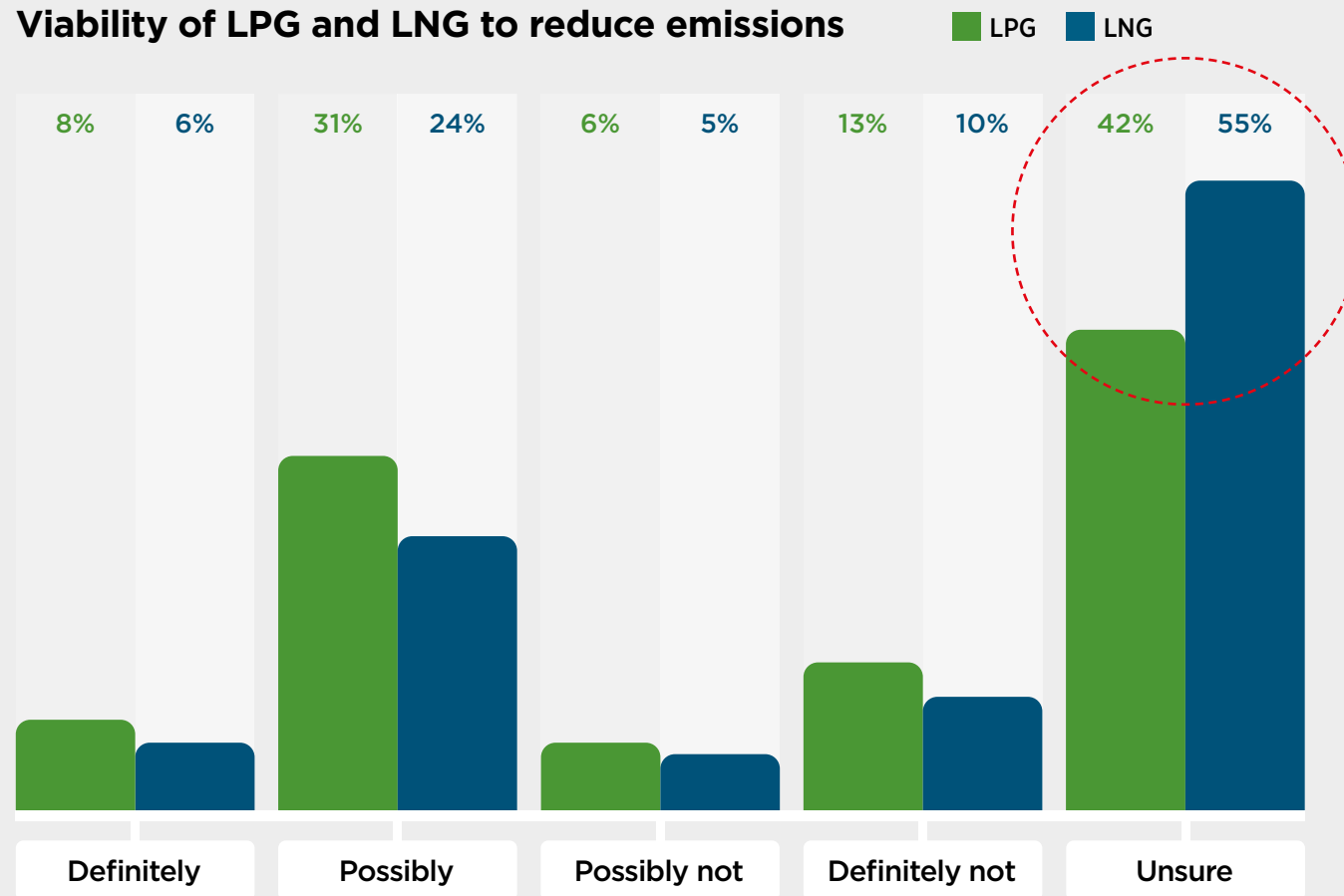
Only 1% claim to use LNG and a further 7% have considered doing so.

An additional one third are aware that it can be used in manufacturing – most are not.

In the next five years, only 6% claim they are likely to start using LNG (very likely).


? Question: Were you aware that LNG can be used for manufacturing processes? Have you ever considered using LNG? In the next five years, how likely are you to start using LNG for heating or manufacturing processes?
Base: all (n=202)

Perceived viability of LPG and LNG to reduce emissions



Again, the lack of knowledge about LPG and LNG is illustrated by perceived viability of these fuels in order to reduce emissions – most manufacturers are unsure.

Of those able to comment on their viability, most consider LPG and LNG to 'possibly' reduce emissions.

 Question: Do you think that LPG / LNG is a viable fuel in order to reduce emissions?
Base: all respondents (n=202)

LPG and LNG in summary – differences by size and type of company

LPG and LNG – by size and type of company

	All	Employees			Products manufactured				
		<25	25-49	50+	Building materials	Food & drink	Machinery	Metals & metal products	Other*
LPG	%	%	%	%	%	%	%	%	%
Currently use	12	11	9	20	-	27	17	11	9
Not used but considered	11	11	9	15	10	11	9	9	18
Not used or considered but aware of for manufacturing	44	45	43	35	48	41	37	53	33
Not aware of for manufacturing	34	34	39	30	42	22	37	30	39
Likely to start using in next five years	7	7	9	10	6	-	14	10	6
LNG	%	%	%	%	%	%	%	%	%
Currently use	1	1	-	5	-	3	-	2	-
Not used but considered	7	5	13	15	6	8	3	9	9
Not used or considered but aware of for manufacturing	35	33	48	35	34	35	46	36	24
Not aware of for manufacturing	57	61	39	45	60	54	51	53	67
Likely to start using in next five years	6	6	9	10	4	8	9	11	3

Larger companies are more likely to have used or considered LPG and (to a slightly lesser extent) LNG.

Smaller companies are less likely to be aware of LPG and (in particular) LNG as an option for manufacturers.

Food & drink companies are particularly likely to use LPG and demonstrate the greatest awareness of LPG as an option for manufacturing.

*Manufacturers of plastic products, glass products, power generation

LPG and LNG in summary – differences by segment

LPG and LNG – by segment

	All	Sustainability position			
		Champions	Marketers	Slow Adopters	Cost Rejectors
LPG	%	%	%	%	%
Currently use	12	12	8	13	13
Not used but considered	11	11	20	9	9
Not used or considered but aware of for manufacturing	44	45	44	36	49
Not aware of for manufacturing	34	33	28	44	30
Likely to start using in next five years	7	9	8	8	2
LNG	%	%	%	%	%
Currently use	1	1	-	-	2
Not used but considered	7	8	12	4	4
Not used or considered but aware of for manufacturing	35	39	40	24	36
Not aware of for manufacturing	57	52	48	71	57
Likely to start using in next five years	6	9	8	4	4

The Marketers segment is particularly likely to have considered LPG and LNG.

The Slow Adopters segment demonstrates low levels of awareness of LPG and LNG as an option for manufacturers.

Energy source characteristics – by type of fuel

Characteristics of different energy users

	All	Energy source used				
		Electricity	Gas oil / red diesel	LPG	Oil	Renewables
	%	%	%	%	%	%
Champions	42	42	39	42	40	56
Slow Adopters	22	22	25	25	30	19
Marketers	12	12	11	8	15	6
Cost Rejectors	23	24	25	25	15	19
Use more sustainable energy sources for manufacturing / heating	47	47	54	42	50	94
Likely to change fuel in the next 4-5 years	23	22	21	25	40	25
If changed, likely to change to renewables	36	36	29	42	45	44
Would pay more for a sustainable fuel	51	52	50	46	55	56
Considered LPG	11	9	21		15	38
Likely to use LPG in future	7	7	7		15	26

All manufacturers use electricity for manufacturing processes and heating – the use of other fuels is almost always as a secondary source.

So, for example, oil users are actually users of electricity and oil.

Nevertheless...

Oil users are particularly likely to be Slow Adopters.

They also demonstrate a high likelihood to change fuel in the next 4-5 years.

Oil users and gas oil / red diesel users demonstrate an above-average likelihood of considering LPG.

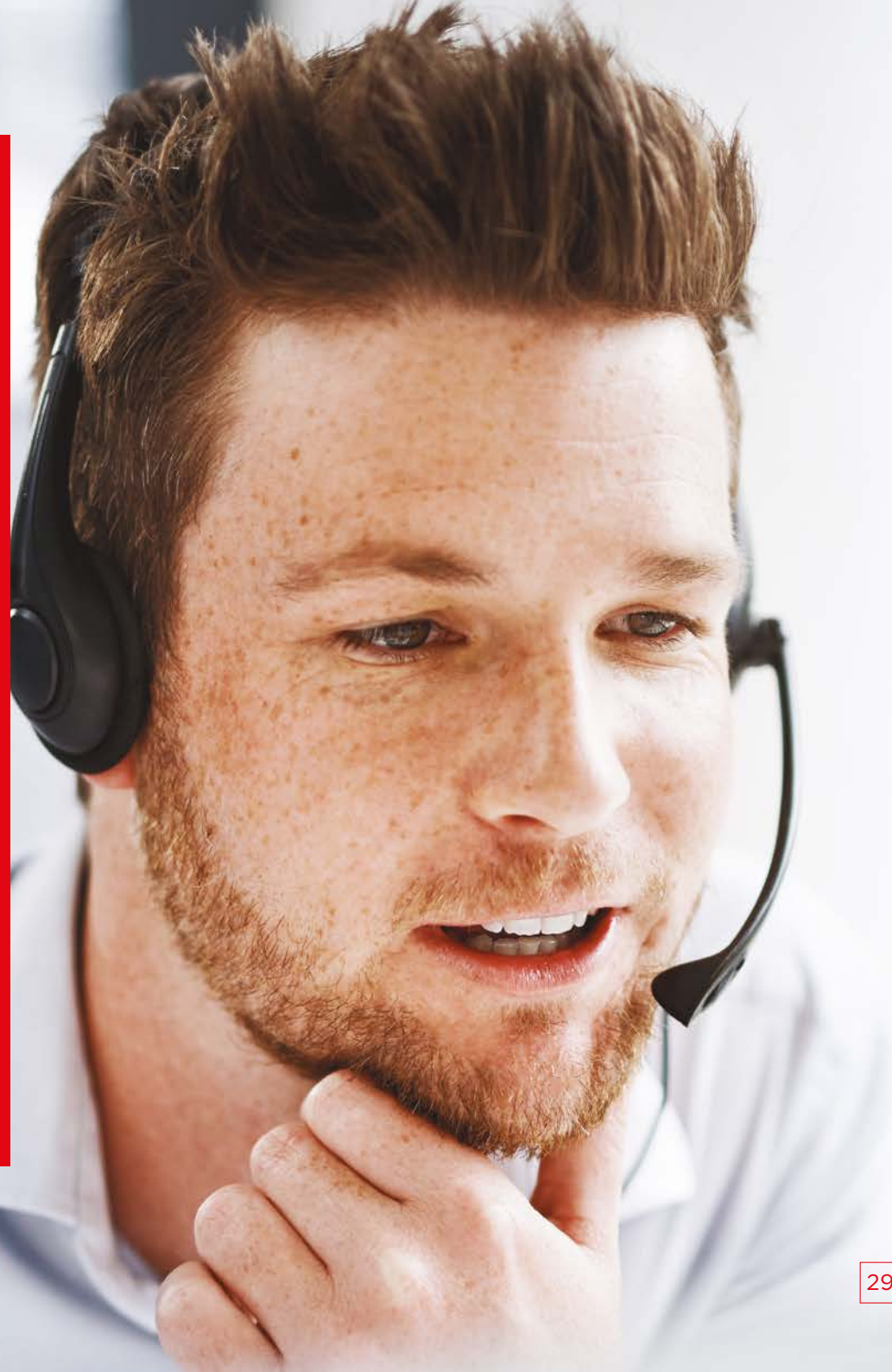
Those currently using renewables are also likely to consider LPG.



CALOR

Appendix

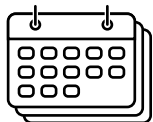
**Background,
Research
Objectives and
Methodology**



Research method



The survey comprises 202 telephone interviews with a cross-section of manufacturers located off the mains gas network.



Interviews were conducted in July and August 2021.



Respondents were decision makers for energy source used.

Survey sample profile

Sector	Interviews
Manufacture of building materials	50
Food & drink	37
Manufacture of machinery	35
Manufacture of metals and metal products	47
Other	33
TOTAL	202

Size band	Interviews
Under 25 employees	159
25-50 employees	23
51+ employees	20
TOTAL	202

Research method in detail

The survey comprises 202 telephone interviews with a cross-section of manufacturers located off the mains gas network.

A representative sample of manufacturers in key sectors was drawn from B2B databases and filtered against a list of off-grid postcodes. This provided a cross-section of manufacturers off the mains gas network.

Interviews were conducted by our sister company, Prevision Research, in July and August 2021.

Respondents were decision makers for energy source used: a Senior Director in smaller companies or an Operations Director, Factory Manager, Energy Consultant, Chief Engineer or Procurement Manager in larger companies.

Those who participated in the survey were offered a £20 donation (per respondent) to NHS charities as an incentive.

Survey sample profile

Sector	Interviews
Manufacture of building materials	50
Food & drink	37
Manufacture of machinery	35
Manufacture of metals and metal products	47
Other	33
TOTAL	202

Size band	Interviews
Under 25 employees	159
25-50 employees	23
51+ employees	20
TOTAL	202

Why Calor?



Calor's offering for the off mains gas grid manufacturing sector comprises:

- £ A reliable, cost-effective and highly efficient off-grid gas supply to power manufacturing processes
- 📄 Compliance with current environmental legislation
- 🔥[✓] A simple and expertly supported process to change

Manufacturers located off the mains gas grid may not be aware of this option.



If you would like to find out more about Calor's
Manufacturers off the Mains Gas Grid Survey simply
email contactcalor@calor.co.uk or call 01926 318 571.



CALOR