

# Fleet Manager Demand Survey

Prepared for

## Connaught Engineering

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# 1 Background

## 1.1 Introduction

This report has been produced by Conduit Partners to assess the market demand amongst commercial LCV users within the UK for hybrid engine technology. The report aims to provide independently validated empirical data to support a business plan for the rollout of the Connaught technology and provide some general measures for the appetite of UK fleet managers for carbon reducing technologies.

The study can be classified as primary market research as it is original and not based on any other studies in any way. The questions were designed by the author to establish the benefits, barriers to adoption, propensity to buy, demand attributes, market segmentation data and general opinion in order to validate the market opportunity for hybrid technology in the UK market.

## 1.2 Method

The survey was conducted online using web-based survey techniques. A population of 10,900 respondents was obtained from Greenfleet, being “opt-in” readers who had registered for Greenfleet periodicals and partner information. The database included tabular information for respondent name, respondent email address and respondent company. The data was cleansed and de-duplicated in order to provide a good quality sample and was uploaded to QuestionPro.com in order to be used as the sample and also to create an invitation to the survey.

An email was designed that included the logo of Connaught Engineering together with the Connaught Engineering address in the footer of the email as well as an unsubscribe link. The survey used a Connaught Engineering “from-address” and the contact name and company data from the Greenfleet database was used to personalise the invitation to the reader. The subject of the email was “Greenfleet reader - Fuel Savings with Hybrid Technology - Your opinion”, the text of the email read as follows:-

“...Dear [respondent name],

On behalf of Connaught Engineering we would like your opinion on the future of Light Commercial Vehicles (LCV's).

We would like to understand how you feel about some new, fuel-efficient hybrid technology geared at achieving annual fuel savings for LCV fleets in companies like [company name] from between 15% to 20% and saving carbon as you go.

The survey will take approximately 3 minutes to complete.

Please note that upon completion, you will be entered immediately into a Prize Draw to win a case of wine.

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. Your information will be coded and will remain confidential. If you have questions about the survey, you may contact Geoff Matthews on +44 (0)1554 748820.

Thank you very much for your time and support. Please start with the survey now by clicking on the Continue button below...”

### 1.3 Sample

The email invitation for the survey was sent at midday on Monday 18<sup>th</sup> January 2010. Fielding commenced immediately and by 5pm on the same day, approximately 80% of the 141 responses had been received with the remainder completed by Thursday 21<sup>st</sup> January. The overall survey statistics showed 212 email click-throughs and 141 survey starts and 120 survey completions. The average time taken to complete the survey was 6 minutes.

Based on a population of 10,900 email addresses and 141 survey starts, our confidence interval is  $\pm 8\%$  at a confidence level of 95%. In other words, any statistics quoted should be adjusted by 8% to give true statistical representation at 95% confidence.

## 2 Questionnaire and Frequencies

Following email click-through, the respondent was directed to a webpage entitled 'hybrid.questionpro.com' where the email invitation text was again repeated. When the respondent pressed the continue button, the survey proceeded as follows...

Please use the following scale to rate the benefits: 1 being not beneficial, 3 being somewhat beneficial, 5 being very beneficial.

How beneficial would an average fuel saving of 15% be to your organisation?

**How beneficial would an average fuel saving of 15 be to your organisation**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1 Not beneficial	3	2.1	2.1	2.1
2	2	1.4	1.4	3.5
3 Somewhat beneficial	21	14.9	14.9	18.4
4	22	15.6	15.6	34.0
5 Very beneficial	93	66.0	66.0	100.0
Total	141	100.0	100.0	

98% of respondents feel that an average fuel saving of 15% is beneficial. Based on 141 responses and the strong skew of the responses to a normal distribution, for this particular question we can be 99% sure to within +/- 3%. Clearly 15% fuel saving resonates with the respondents.

The survey then proceeded to ask how beneficial would the associated CO<sub>2</sub> saving be to their organisation, with the following responses.

**How beneficial would the associated CO2 saving be to your organisation**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1 Not beneficial	9	6.4	6.5	6.5
2	10	7.1	7.2	13.7
3 Somewhat beneficial	41	29.1	29.5	43.2
4	25	17.7	18.0	61.2
5 Very beneficial	54	38.3	38.8	100.0
Total	139	98.6	100.0	
Missing 0	2	1.4		
Total	141	100.0		

Again, the significant opinion of the respondents as a whole was that the CO<sub>2</sub> saving would be beneficial with 94% of the sample feeling this way. The survey then explored the respondents' feelings towards the driving experience and in particular the benefits of a smoother and more powerful drive to their organisation.

**How beneficial would a smoother and more powerful drive be to your organisation**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Not beneficial	11	7.8	8.1	8.1
	2	13	9.2	9.6	17.8
	3 Somewhat beneficial	56	39.7	41.5	59.3
	4	20	14.2	14.8	74.1
	5 Very beneficial	35	24.8	25.9	100.0
	Total	135	95.7	100.0	
Missing	0	6	4.3		
Total		141	100.0		

Again, the benefits of the drive follow a similar pattern with 92% of the respondents seeing the features as beneficial. However, we do see the spread of opinion becoming wider with a reduced proportion (26%) seeing the drive experience benefit as Very beneficial as opposed to 66% who see the fuel saving as Very beneficial. The survey then asked how beneficial would exemption of congestion charges be to their organisation, with the following results.

**How beneficial would exemption of congestion charges be to your organisation**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Not beneficial	52	36.9	36.9	36.9
	2	23	16.3	16.3	53.2
	3 Somewhat beneficial	29	20.6	20.6	73.8
	4	12	8.5	8.5	82.3
	5 Very beneficial	25	17.7	17.7	100.0
	Total	141	100.0	100.0	

37% felt that this exemption would be Not beneficial. Were we able to perform an accurate postcode analysis on the location of the fleet, we would expect to see some percentage of the respondents without any fleet in London. Taking this into account we would anticipate that most respondents who have a need to travel into London therefore see the exemption as beneficial.

Alongside the question pertaining to the benefits associated with CO<sub>2</sub> saving we also asked how interesting was the contribution towards their Carbon Reduction Commitment (CRC). The results are as follows.

**How interesting is this contribution towards your Carbon Reduction Commitment CRC**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Interesting	28	19.9	21.7	21.7
	Somewhat Interesting	48	34.0	37.2	58.9
	Not Sure	29	20.6	22.5	81.4
	Somewhat Uninteresting	5	3.5	3.9	85.3
	Very Uninteresting	19	13.5	14.7	100.0
	Total	129	91.5	100.0	
Missing	0	12	8.5		
Total		141	100.0		

60% of the respondents see the contribution as interesting whilst 19% saw the contribution as uninteresting.

We were interested to understand how the respondents would wish to fund such an investment program and accordingly we asked the respondents what they would consider an acceptable payback period for the technology.

**What would you consider an acceptable payback period for the technology**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6 Months	8	5.7	6.3	6.3
	1 Year	24	17.0	18.8	25.0
	18 Months	20	14.2	15.6	40.6
	2 Years	42	29.8	32.8	73.4
	3 Years	25	17.7	19.5	93.0
	4 Years	5	3.5	3.9	96.9
	5 Years	4	2.8	3.1	100.0
	Total	128	90.8	100.0	
Missing	0	13	9.2		
Total		141	100.0		

The mode response was 2 years being 33% of the respondents. The range 1-3 years represents 87% of the respondents' opinion regarding payback period.

Since hybrid technology is applicable to both cars and to LCVs, and since the respondents had fleets of cars as well as LCVs, we asked how interested they would be in applying this technology to cars as well as LCVs.

**How interested would you be in applying this technology to cars as well as LCVs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Interested	33	23.4	26.2	26.2
	Somewhat Interested	44	31.2	34.9	61.1
	Not Sure	24	17.0	19.0	80.2
	Somewhat Uninterested	11	7.8	8.7	88.9
	Very Uninterested	14	9.9	11.1	100.0
	Total	126	89.4	100.0	
Missing	0	15	10.6		
Total		141	100.0		

61% were interested in applying hybrid technology to cars whilst 20% were uninterested. Clearly the Connaught Engineering proposition has much wider opportunity than just the existing LCV version of the technology.

As a way of understanding demand uptake we asked what percentage of the respondents' fleet they thought would benefit from this type of technology.

**Roughly what percentage of your fleet do you think would benefit from this type of technology**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 25	38	27.0	29.7	29.7
	25 50	32	22.7	25.0	54.7
	50 75	38	27.0	29.7	84.4
	75 100	20	14.2	15.6	100.0
	Total	128	90.8	100.0	
Missing	0	13	9.2		
Total		141	100.0		

The results to this question are reasonably evenly spread across the quartiles with a very slight emphasis towards smaller proportion of the fleet rather than the majority of the fleet.

In order to understand the buying behaviour of the respondents, we asked which business model was most desirable in terms of purchasing the technology. The results are as follows:-

**For your company which is a more desirable business model in terms of purchasing this type of technology**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Outright purchase	56	39.7	44.4	44.4
	Leasing	70	49.6	55.6	100.0
	Total	126	89.4	100.0	
Missing	0	15	10.6		
Total		141	100.0		

56% of the respondents would prefer to lease the technology.

Possibly the most important question in any commercial research survey is that of the propensity to buy of the respondents once they have fully understood the concept. In this case, we positioned the propensity to buy question towards the end of the survey and phrased the question as "Overall, how likely would you be to use such a solution in your fleet?"

**Overall how likely would you be to use such a solution in your fleet**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	20	14.2	16.7	16.7
	Somewhat Likely	28	19.9	23.3	40.0
	Not Sure	49	34.8	40.8	80.8
	Somewhat Unlikely	13	9.2	10.8	91.7
	Very Unlikely	10	7.1	8.3	100.0
	Total	120	85.1	100.0	
Missing	0	21	14.9		
Total		141	100.0		

40% of the respondents were Likely to use the Connaught solution, or options like the Connaught solution, in their fleet. 19% were Unlikely and the remaining 41% were Not Sure. Not Sure was the mode response to this question and the later question on barriers to entry gives us further insight as to the reasons they may be Not Sure. Overall, the response to this question is skewed towards Likely rather than Unlikely. We would therefore suggest that demand should be good for this proposition. This combined with the astounding interest in the benefits of fuel saving suggests that such demand should indeed be strong.

We then asked another propensity to buy question, this time phrased as “Would you like to take part in a beta trial?”

**Would you like to take part in a beta trial**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	40	28.4	37.4	37.4
	No	67	47.5	62.6	100.0
	Total	107	75.9	100.0	
Missing	0	34	24.1		
Total		141	100.0		

37% responded Yes and again we would suggest that this represents a good result for demand and confirms that propensity to buy is high.

We then asked how long the respondent kept their vans for on average, with the following results.

**On average how long do you keep your vans for**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-3 years	22	15.6	20.2	20.2
	3-5 years	60	42.6	55.0	75.2
	5 years	27	19.1	24.8	100.0
	Total	109	77.3	100.0	
Missing	0	32	22.7		
Total		141	100.0		

55% of the sample said they would keep their vans between 3 and 5 years. This represents the mode and the distribution around the mode appears quite normal.

Finally, we asked what deployment policy the respondents would likely use whether for newer vans, older vans or both.

**Where would you be more likely to use the technology**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Newer vans	70	49.6	66.7	66.7
	Older vans	6	4.3	5.7	72.4
	Both	29	20.6	27.6	100.0
	Total	105	74.5	100.0	
Missing	0	36	25.5		
Total		141	100.0		

67% of the sample responded that they would be more likely to deploy the technology onto their newer vans and we would suggest that this uptake statistic should be modelled in any business plan demand forecasting.

Following a 'Thank You' message, the respondent was then redirected to [www.connaughtengineering.com](http://www.connaughtengineering.com) where they were able to read about the hybrid system. This concludes the survey frequency responses and questionnaire process.

# 3 Analysis

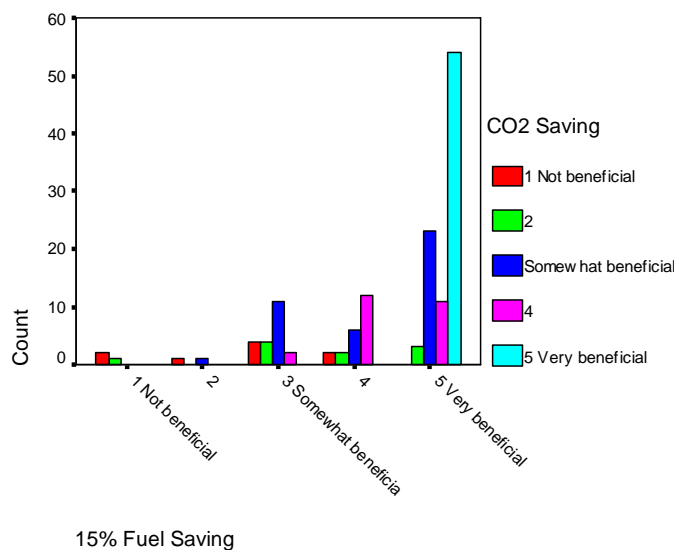
## 3.1 Customer Needs/Perceived Benefits

The following table shows the rankings of each benefit, sorted by descending means.

**Summary of Benefits**

	N	Minimum	Maximum	Mean	Std. Deviation
How beneficial would an average fuel saving of 15 be to your organisation	141	1	5	4.42	.942
How beneficial would the associated CO2 saving be to your organisation	139	1	5	3.76	1.227
How beneficial would a smoother and more powerful drive be to your organisation	135	1	5	3.41	1.205
How beneficial would exemption of congestion charges be to your organisation	141	1	5	2.54	1.495
How interesting is this contribution towards your Carbon Reduction Commitment CRC	130	1	5	2.53	1.283
Valid N (listwise)	123				

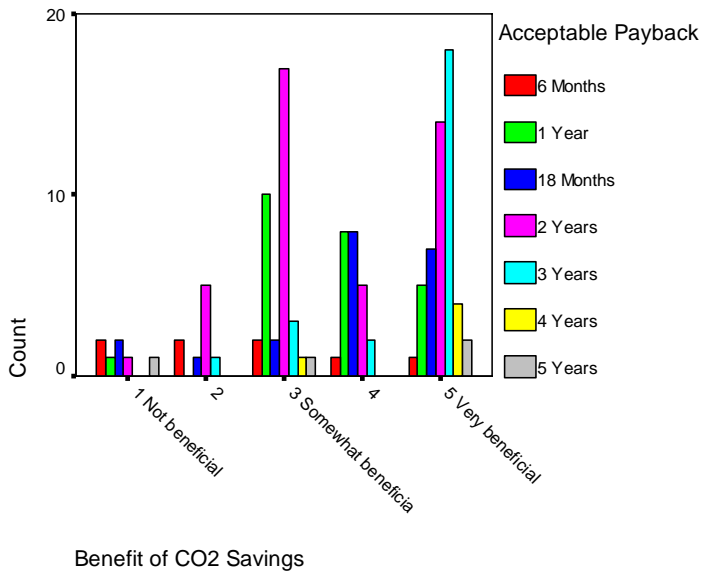
We can see that the fuel saving, when compared to the other benefits, is clearly the most important perceived need/desired benefit of this sample with a mean of 4.42 and the lowest standard deviation of .942. From a comparative perspective, this core need is the most salient and is the single need most likely to stimulate all stages of brand growth from awareness, to saliency, to consideration and finally to preference.



The cross-tabulation on the left shows the responses of the two questions about fuel savings and CO2 savings side by side.

The two variables are significantly correlated at the 0.01 level (2-tailed) or 99%. We can see how the benefits of CO2 saving verses the fuel saving is slightly less salient (pink and blue bars) but that overall both benefits are valued highly and that generally speaking, those respondents who value a fuel saving also value a CO2 saving.

This pattern of correlation also exists at the 99% level with fuel saving and the smoother, more powerful drive, with fuel saving and interest in the contribution to the CRC and also propensity to buy which is discussed later in the Analysis.

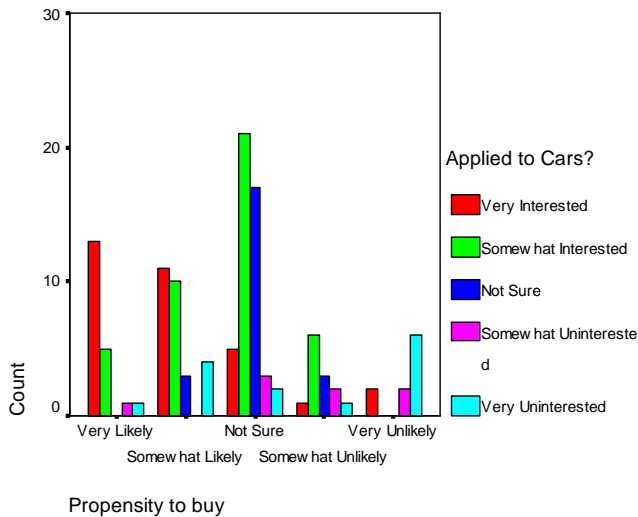


mode response is actually 3 years.

The opinion towards the CO2 saving benefits, was again highly correlated. Significant correlations (99%) existing between this variable and the variables representing fuel savings, a smoother more powerful drive, congestion charge exemption, interest in CRC contribution, payback period, propensity to buy and fleet size.

On the left we can see how payback opinions compare with opinions of the benefit of CO2 savings. In general we can see that those people who value the CO2 savings highly have a longer term view of payback above the mode response of 2 years. For the respondents who see the CO2 savings as Very beneficial, the

### 3.2 Demand Variance

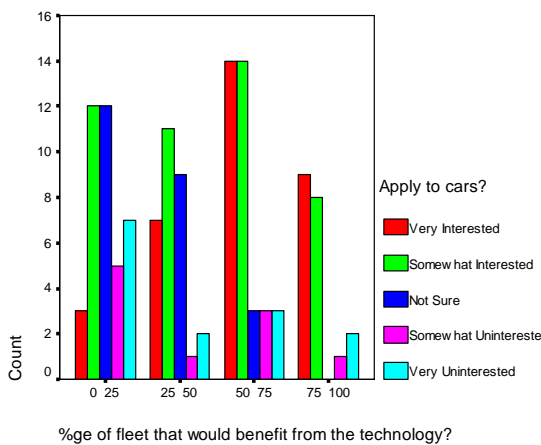
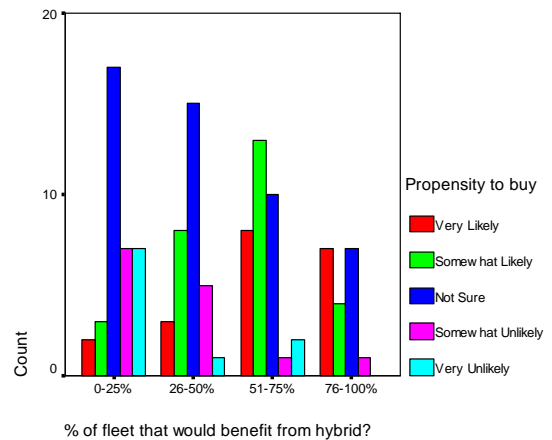


The answers to the question “How interested would you be in applying this technology to cars as well as vans?” was significantly correlated (99%) with interest in contribution to CRC, percentage of uptake in the fleet and overall propensity to buy.

The cross-tabulation to the left shows the relationship between interest in applying the technology to cars and propensity to buy as measured by the question “Overall, how likely would you be to use such a solution in your fleet?”. We can see that as interest in applying to cars increases, so too does propensity to buy. In other words, those respondents who are likely to buy are also interested in applying the technology to cars.

The answers to the question “Roughly what percentage of your fleet do you think would benefit from this type of technology?” was significantly correlated (99%) to interest in applying the technology to cars, overall propensity to buy and interest in a beta trial.

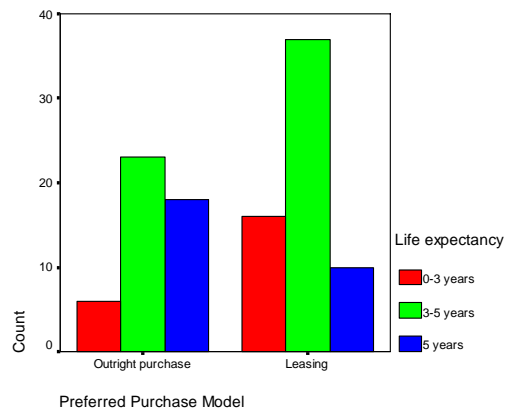
The chart to the right shows the uptake measure (% of fleet that would benefit) alongside propensity to buy where we see that, generally speaking, the uptake decreases as propensity to buy becomes less and vice-versa.



The chart to the left shows the uptake measure (% of fleet that would benefit) alongside the opinion on applying to cars. We see that, generally speaking, uptake increases in line with interest in applying hybrid technology to cars.

In other words, those respondents who would roll-out to the majority of their fleet are also interested in the application of the technology to cars.

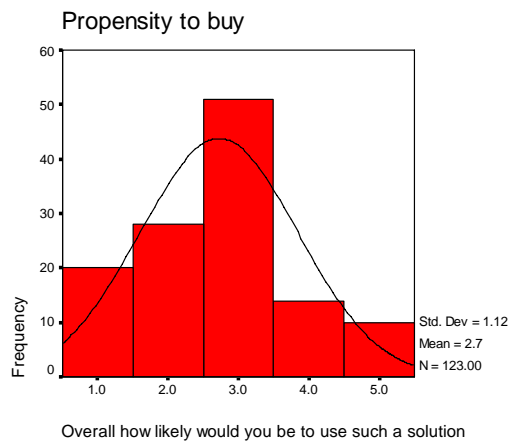
The responses to the question, “For your company, which is a more desirable business model in terms of purchasing this type of technology?” were significantly correlated (99%) to the responses to the question “On average how long do you keep your vans for?”. The chart to the right shows the cross-tabulation of the two variables where we can see that those who choose outright purchase are more likely to have a 5 year life expectancy than those who lease.



### 3.3 Propensity to buy

The variable “Overall, how likely would you be to use such a solution in your fleet” or Propensity to buy was significantly (99%) correlated to the following variables. The Pearson correlation coefficient is shown alongside the variable to show the strength and direction of the correlation.

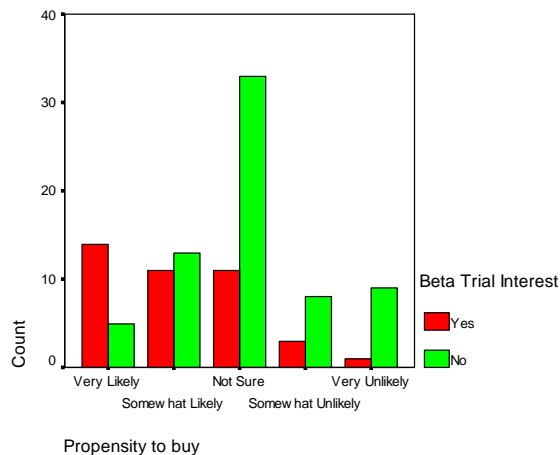
- Fuel saving (-.340)
- CO2 saving (-.334)
- CRC Contribution (.267)
- Application to Cars (.442)
- % Fleet Uptake (-.431)
- Interest in Beta Trial (.376)
- Fleet Size (-.257)



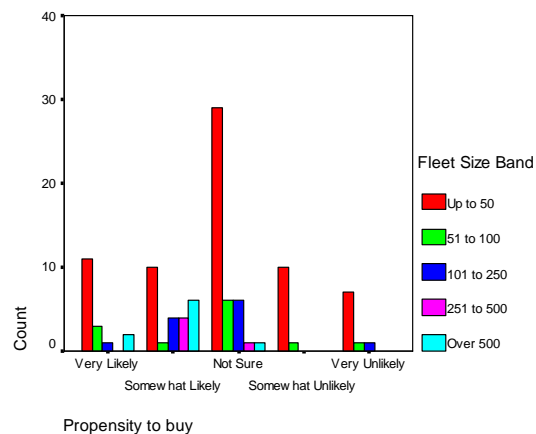
As such it is a highly correlated variable and buying patterns appear complex and vary by many factors. The propensity to buy frequency response range is quite normal in dispersion.

As can be seen from the histogram to the left, the skew of the distribution is towards Very Likely and Somewhat Likely (1.0 and 2.0) rather than Somewhat Unlikely and Very Unlikely (4.0 and 5.0).

The fact that propensity to buy is significantly correlated to interest in a Beta trial, which is another form of propensity to buy test, means that the results are normal and show predictable behaviour.



The chart to the left shows the cross-tabulation of propensity to buy and beta trial interest and we can see that beta trial interest rises with propensity to buy. The chart below shows the cross-tabulation of fleet size band and propensity to buy where we see that there is a slight inclination of the larger fleets (pink and blue) to have a higher propensity to buy.





## 4 Conclusions

The following set of conclusions pertain to the data illuminated in this report and taken from the Fleet Manager survey herein described.

- Interest in the fuel saving benefit of the hybrid proposition is the most salient benefit of all those presented and therefore represents the “hot button” in the Connaught Engineering IP. Trials that optimise this benefit are more likely to be successful, marketing materials that elevate this benefit are more likely to resonate with the target market and business roll-outs that are justified on this basis are more likely to be approved.
- Companies that value CO2 savings are more likely to find 3 years to be an acceptable payback period. In developing the Connaught market segmentation plan, finding those carbon aware customers will likely increase the chances of sales success, as the business case parameters will be more realistic and a return on investment case more compelling.
- Interest in deploying to cars is highly correlated to propensity to buy, CRC contribution and % of fleet uptake. This suggests that cars and not just LCV's really are an important element to a fleet manager and a parallel dialogue with OEM's to create licensing opportunities for cars is an important long-term aim in order to satisfy this identified need.
- Overall propensity to buy or demand shows a positive skew towards likely rather than unlikely. A significant proportion of the respondents surveyed (37%) are interested in beta trials. This is a good result and shows a depth of interest in the concept and a willingness to engage. The concept is therefore on a positive adoption cycle.
- Hand in hand with the good quantitative data on propensity to buy and the astonishingly high value placed on the benefits by the respondents, there are many different barriers to entry listed (see Appendix) in subjective terms. This high quantity of different “problem” factors will take time to address and will represent a challenge. Support by a Tier 1/OEM big brother may well be beneficial in this regard.