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**Advanced GCE**

**BUSINESS STUDIES**

Business Strategy

CASE STUDY

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The business described in this case study is entirely fictitious.

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**This question paper consists of 9 printed pages and 3 blank pages.**

## Flexible Energy Solutions (FES) Ltd

John Mayall had never really wanted to be a businessman. The explanation of how he had become Managing Director and Chairman of Flexible Energy Solutions Ltd (FES) is really the story of his life. A child of the sixties, John dropped out of reading electrical engineering at Cambridge University to seek an alternative life style. Not for him the conformity of a suit, company car and mortgage. Rather, he wanted to get in touch with his inner being, to focus on spiritual development instead of pursuing a relentless quest for yet more material possessions. So he felt there was more than a touch of irony to his current predicament. 5

John had just received a telephone call from a potential customer on the verge of placing a contract worth in excess of £260,000. Winning this order would be a major coup for FES, securing jobs and boosting 2006 turnover by 16%. The contract is for 65 speed sensitive road signs. The road sign market is one that FES has been targeting for some time. To say that it was important would be an understatement. Yet rather than jump for joy, punching the air in victory, John felt a deep sense of unease. The customer is Tofino Traffic Management UK (TTM). Colleen Allen, TTM's Purchasing Officer, had said the order was signed and sitting on her desk. Ms Allen implied it was only being held up by one thing. If John had understood correctly, the implication was that the order would be placed if FES were to add a payment of £10,000 for "consultancy services" to its invoice. No matter how many times John replayed the conversation in his head he could not get away from the feeling that a bribe was being demanded to secure the contract. Ms Allen's rationale was that it was a "win-win" situation. FES wins because it gets the business which would otherwise go to a foreign competitor, already willing to inflate its invoice; TTM wins because it gets an answer to a long term road safety problem; she wins because she had put in lots of unpaid overtime researching all of the options. 10 15 20 25

The whole conversation brought back to John the tensions he often feels, tensions between his deeply held ethical values and integrity versus the need to make money. Is this a deal too far? But if he turned it down how could he face his employees? As owner of FES does he not have a responsibility to provide work? No amount of ethical considerations would put food on his employees' dinner tables if he were to take the moral high ground. 30

FES was incorporated in June 1989. Prior to this John had run the business in a very informal way, not wishing to be tied down with lots of paperwork and bureaucracy. Rather, he made the occasional product for friends, allowing work to come to him rather than the other way around. It was soon after a friend, Mick Taylor, asked him to design and build a portable wind turbine to recharge the batteries on an electric fence, that the need for a more appropriate legal structure became apparent. Mick lent John enough for working capital to build the charger. This was paid as a deposit against the price of the charger. At Mick's insistence, and because of the need to be clear who owned what, John swallowed his dislike for formality and visited a local small business adviser in early 1989. That first order proved to be the catalyst for growth. Now, some 17 years later the business sells a variety of wind and photovoltaic (solar) chargers. The uses to which these chargers are put is almost limitless. FES products can be found on yachts and other marine applications, recreational vehicles, remote scientific logging sites, farms and remote residential buildings. In short, anyone who needs low wattage electrical power without access to a mains grid could be a FES customer, see Table 1. 35 40 45

**Table 1**  
**Percentage of sales revenue by type of customer**

	2005	2000	1995
Marine	38	49	62
Agriculture	10	12	15
Scientific	7	8	7
Road signs	9	0	0
Other	36	31	16

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That there might be a market for speed sensitive road signs was first suggested three years ago by Mick. Mick has found that joining fast moving traffic on the A6007 with an agricultural vehicle is a somewhat dangerous aspect of his job. What he wanted was a sign which would warn drivers to slow down as they approached his farm. After discussions with John, they decided what was needed was a sensor that, when it detected any one of Mick's vehicles, switched on a hazard sign on the A road. Several meetings with the local highways authority led to the eventual installation of an illuminated sign. The innovation was reported locally in the press, see Fig. 1, and it also attracted some regional media interest. The concept has been added to the FES product range of three different models of wind charger in the hope that other councils will place orders. Since the advent of competitive tendering many local authorities now contract out the erection of road signs to businesses such as TTM. FES Marketing Manager, Steve Thompson, believes the road sign market could be worth as much as £0.5m pa at ex-factory prices, and will rise by 4% pa for the next five years.

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John found setting a price for the road sign a real difficulty. He was aware of the need to price at a level low enough to interest the market. But he also needed to recover FES' development costs. A rough estimate of the one-off development costs would be £20,000. Other costs include materials and labour. Each wind charger requires about three hours of manufacturing labour and one hour of assembly. For costing purposes, John uses £25 per hour for labour, so covering overheads. The material cost of a charger is £80, of which £9 is an imported electronic component. A sign then takes a further two hours of assembly to fix the solar panels and electronic controls in place. These parts, of which the solar panels are the major element, cost a further £1,770.

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To cope with the increasing diversity in customers, FES now employs four people in marketing, see Table 2 and Appendix 1.

**Table 2**  
**FES Employment**

	2005	2004
Design and product development	4	3
Sales and marketing	4	3
HR and administration	2	2
Manufacture and assembly	14	12
Stores and despatch	2	2

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The most recent appointee specialises in web design, and as such FES is now self-reliant in this aspect of its marketing. The creation of the web site had an immediate impact on its sales patterns, see Table 3.

**Table 3**  
**Percentage sales revenue by distribution channel**

	2005	2004
Agent, UK	40	50
Direct, UK	20	5
Agent, Export	30	45
Direct, Export	10	0

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Steve finds it frustrating that he does not know exactly to what uses FES' products are put. The rise of direct sales has provided a welcome increase in profit margin because products are sold at retail price. At the same time there has been a corresponding increase in customer diversity. Not knowing who are FES' customers means that developing an effective marketing strategy is increasingly difficult. Analysing customer profiles for the sales through agents, who typically work on a 40% margin, is easier. Traditionally, the annual London Boat Show has been a major marketing opportunity. Further, it allows John to keep up to date with trends in the market and to assess his competitors' products. Immediately prior to the January 2006 show, a UK yachting magazine rated an FES product as winner in a comparative test. The test cited FES' product quietness, value for money and ability to generate useful charge even in relatively calm wind conditions. Two of FES' three largest competitors are UK based, whilst the other is based in America.

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John thinks he is an enlightened employer. FES was one of the first in the region to offer flexible working practices, something particularly appreciated by the staff in the manufacturing and assembly department. That FES had an almost family culture was one of the most satisfying aspects of being an employer. But two recent events have thrown John's feeling of satisfaction into doubt.

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The first was a letter from FES' insurers stating that employee liability cover would not be continued unless FES has documentary evidence of recent health and safety staff training. A suitable one day course to address this need would cost FES £150

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per employee. To John this spending is simply a waste of money. There have been no shop floor accidents in the last five years and the 'skills' being taught are ones that any sensible adult, and he regards all his staff as such, already has. John would rather give the money to his staff as an end of year bonus. As a reasonable employer, John feels that the increasing external interference in how he runs FES is a cost for which there is no return. 120

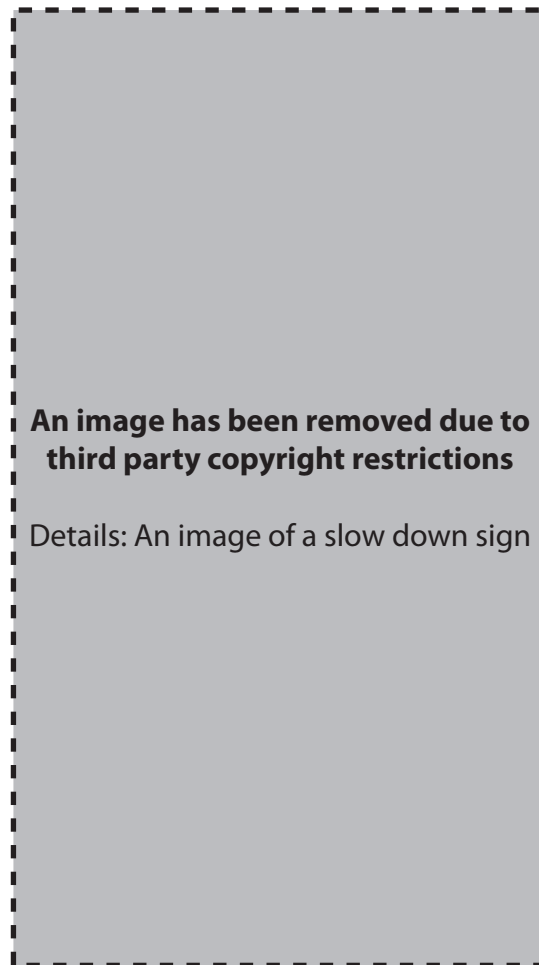
The second event centres on legislative changes concerning maternity, paternity and flexible working rights. These changes caused FES to appoint Matt Levy to manufacturing and assembly in late 2004. His appointment is intended to cover for staff absence when legal rights are exercised. All manufacturing staff are paid a starting salary of £12,000pa, rising by £500pa for each year's service, up to six years. For each employee FES adds an average of £2,500 employment related costs. Staff work a standard 48 week year, with four weeks paid holiday. The working week is 36 hours, including 90 minutes per day for rest breaks. 125 130

The increase in the salaries budget has placed the Sales department under pressure to produce a corresponding up-lift in revenue. Simply passing on the additional cost to customers is not an option, given the competitive nature of most of the markets in which FES operates. Indeed, for the last twelve months, Steve has been telling John of problems due to increased import penetration because of exchange rate movements. Steve's solution to this problem is radical: outsource manufacture. Steve recently told John, "We should do a Dyson. The added value in our products is your talent with electronics. It takes real skill to develop and design them. But, with the greatest of respect, any fool can then manufacture and assemble; it's not exactly skilled work after all. Instead of making components for wind chargers we should buy them in and then assemble. Think about it John. Think about the issues giving you stress. They're all to do with employees. As a reformed hippy you should see the way forward is to chill-out; outsource. Let someone in the Philippines, or wherever, have the stress. They can produce the components for wind chargers for about US\$70, that's roughly £40, delivered." 135 140 145

In 2005, FES' total output was the equivalent of about 86% capacity, see Appendix 2. John would like to see this rise a little. Although FES' bank manger keeps suggesting John should set some specific quantifiable objectives, John is not sure what he should be aiming for. Rather, he is worried that setting a target for output will only cause anxiety amongst his workforce. His view is that the business is doing all right, but he is aware some others do not feel the same. Mick, as FES' only other shareholder, would like to see a change in John's insistence that all profit is retained in the business. In contrast, John's view is profits should benefit everyone, not just owners. 150 155

Fig. 1

## Signs of the times



Motorists on the A6007 between Oakford and Upham can now feel safer. Smallshire County Council has just completed the installation of an environmentally friendly road sign near Laurel Bank Farm. The sign is powered by both the sun and the wind, ensuring its batteries remain fully charged at all times. SCC Officer, Michael Murphy, said the purchase of the state of the art sign had cost the county about £7,500. "Although this is nearly double the cost of a conventional speed reactive sign,

the Council, in fact, saved money by not having to dig up the road to connect it to power." He went on to say that the Council will be closely monitoring the incident record at the site. "If the sign helps to reduce incidents then others may be installed across the county. We are very excited about this innovation". All being well the new sign helps to save lives, saves the planet and also saves the beleaguered council taxpayer money. Truly a sign of the times.

Source: Oakford Oracle

**Appendix 1**  
**Employment details**  
**Manufacturing and Assembly**

Name	Appointed	Age	Marital Status	Dependents relatives	Unauthorised Absence, 2005	Notes
Georgina Applegate	4/90	45	Married	4	0	Head of section
Islam Abduljabbar	4/90	54	Married	3	0	
Charlotte Ayers	5/94	48	Divorced	3	2	Ex husband, Michael, works in Despatch
Liz Bugg	10/95	38	Divorced	6	3	
Alicia Rumsey	2/98	42	Married	2	4	
Alexa Kehoe	2/98	58	Divorced	2	19	
Annabelle Wang	9/99	26	Married	3	2	
Alice Gasson	9/00	36	Single	4	0	Designated First Aider
Joe Measom	1/02	21	Single	1	23	
Kenneth Ng	4/02	47	Married	2	5	
Robyn Hart	6/02	31	Single	1	4	Returned from maternity leave 3/06
Matt Levy	11/04	19	Single	0	5	Notification of paternity leave submitted 4/06
Kylie Bugg	6/05	23	Single	1	3	Daughter of Liz Bugg
Karen McDonald	2/06	19	Married	1	n/a	FES probation period ends 8/06

## Appendix 2

## Manufacturing and Assembly

Year	Quarter	Output
2002	1	900
	2	950
	3	950
	4	1000
2003	1	950
	2	1000
	3	1000
	4	1050
2004	1	1100
	2	1200
	3	1200
	4	1250
2005	1	1200
	2	1250
	3	1250
	4	1300
2006	1	1200



## Appendix 3

**Flexible Energy Solutions Ltd.**  
**Balance Sheets as at end of financial year**

	2005 £s	2004 £s
Fixed assets	212,711	198,078
Current Assets		
Stock	228,689	218,155
Debtors	180,181	233,293
Cash	164,445	124,259
	<u>573,315</u>	<u>575,707</u>
Current liabilities		
Creditors	190,434	246,675
Net Current assets	382,881	329,032
Total assets less current liabilities	<u>595,592</u>	<u>527,110</u>
Creditors due after one year		50,000
Net Assets	<u>595,592</u>	<u>477,110</u>
Share Capital (1)	4,500	4,500
Profit and loss account	591,092	472,610
Equity shareholders' funds	<u>595,592</u>	<u>477,110</u>

- (1) Authorised share capital 10,000 £0.50 ordinary shares  
 Mr John Mayall, 8000 shares  
 Mr Mick Taylor, 1000 shares





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