

# Our Green and Pleasant Land

Can UK business really afford a low carbon economy?



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# Our Green and Pleasant Land

Can UK business really afford  
a low carbon economy?

A study of 'green' equipment investment by British companies

Siemens Financial Services, November 2007





# Foreword

by Penny Shephard MBE, Chief Executive – UK Social Investment Forum (UKSIF)

A rapid move to a low carbon green economy is increasingly recognised as imperative for future British competitiveness in a carbon constrained world.

This report from Siemens Financial Services is a very timely and practical contribution to our understanding of both the progress of British business in making this move and the measures needed to accelerate change.

Over the last two years, we have seen unprecedented growth in awareness and concern about climate change in the UK. Now the debate is progressing to consider the most effective ways to address this major challenge and to monitor progress.

To me, this report contains much good news. It is impressive that over a quarter of firms are measuring their carbon footprint – a few years ago, the percentage would have been vanishingly small. Similarly, it is a good start that more than two in every five firms have implemented carbon emission reduction rules.

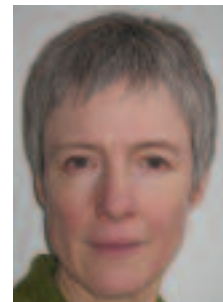
Of course, the future of our economy, our children and our communities demands that these percentages grow and that monitoring is backed up by

increases in practical action – particularly the move to ever more efficient equipment.

Earlier this year, the UK Social Investment Forum (UKSIF), with the assistance of the Carbon Trust, the Finance and Leasing Association and leading asset finance companies, produced the report ‘Green Opportunity: Accelerating the Financing of Low Carbon Assets’. The report highlighted the key role of asset finance in enabling British businesses to invest in low carbon business equipment.

This report reinforces UKSIF’s view of the importance of asset finance, with perhaps one of its most significant findings being that a quarter of British businesses say that they do not have the capital to replace existing equipment with environmentally friendly alternatives.

Equally, the report highlights that access to appropriate finance alone is not enough. It proposes a menu of practical measures for vendors, financiers and government to work together to address. I commend its proposals to you.



Penny Shephard MBE,  
Chief Executive - UK  
Social Investment  
Forum (UKSIF)





# Key Findings

**“No business operates in a vacuum and it is vital that we are alert to the huge changes that are taking place in the world. Climate change is without doubt the greatest challenge we face. The next few years will be critical if the UK is serious about establishing a low carbon economy and meeting its targets for reducing carbon emissions. As our report highlights business is starting to do its bit; but equipment manufacturers, financiers and government need to do more to bridge the all important affordability gap.”**

Jonathan Andrew, CEO, Siemens Financial Services

- » **A majority of companies measure some emission-relevant factors – power consumption (54%) and employee mileage (61%) – but only because these have an immediate impact on costs**
- » **A significant minority of firms (26%) also now measure their overall carbon footprint**
- » **41% of British firms have implemented carbon emission reduction rules in their organisation, and 37% have invested in low carbon/energy-efficient business equipment**
- » **For investment in low carbon/energy-efficient equipment to grow, 57% of firms say that the running costs must be the same or lower than standard equipment**
- » **Higher costs, lack of a clear return-on-investment (ROI) and limited product range are seen as the principal obstacles to growth in low carbon/energy-efficient equipment investment**
- » **A quarter of British businesses say they simply do not have the capital to replace existing equipment with environmentally friendly alternatives**
- » **Competitive pricing, greater availability of integrated financing options, and more widely applicable tax incentives are seen as critical to encouraging greater investment in environmentally friendly business equipment**



Jonathan Andrew -  
CEO, Siemens  
Financial Services



# Introduction

**On 30 October 2006, HM Treasury launched the Stern Review on the Economics of Climate Change. This independent review by economist Sir Nicholas Stern suggested that global warming could shrink the global economy by 20%. Yet taking action now would cost just 1% of global gross domestic product per year, the study claimed.**

The Stern Review marked a watershed in the international debate on climate change, in that it officially linked carbon reduction initiatives with long-term commercial benefit, rather than an organisation's collective will to 'do good'. At the time this work was released into the public domain, new data was also issued by the United Nations showing an upward trend in emission of greenhouse gases - a development for which Sir Nicholas said rich countries must shoulder most of the responsibility. The then Chancellor, now Prime Minister, Gordon Brown promised the UK would lead the international response to tackle climate change. In particular, he announced the creation of a new commission to spearhead British company investment in green technology.

More recently, former US president Bill Clinton took a leaf out of his political ally Al Gore's book as he endorsed the launch of a major study of large, global corporations' attitudes to climate change<sup>1</sup>. The 'Carbon Disclosure Project Report 2007, Global FT500' concludes that:

- » most companies have come to realise that climate change is going to have a major impact on their business; and,
- » many realise that there will be winners as well as losers.

But what is truly different about this report is that it is backed by a group of 315 of the world's largest investment houses with \$41 trillion under management - equivalent to three times the annual economic output of the US. The report is essentially a compilation of 1,300 reports from major international corporations revealing both what impact they are having on the environment, and what impact changes to the environment are having on their commercial operations. A number of these very large firms are investing heavily to try to reduce their carbon footprint, in order to cut back on costs that are forced higher by climate change.

But that does not mean a majority of companies see climate change as a factor affecting their business, the report points out. This finding is supported by a YouGov study for KPMG in the UK<sup>2</sup>, which found that a fifth of respondents deemed climate change "not a very important issue" for their business. Both groups surveyed said they needed more clarity from politicians on what was required from business in the battle to halt global warming. They said if the government created a stable legal framework, companies could plan ahead and investors could assess risk and opportunity.



# Investing in Green Processes and Equipment

In practical terms, there are two key initiatives that companies can take to reduce carbon emissions, and therefore their contribution to global warming. On the one hand, they can introduce internal disciplines to make sure that both organisation and staff reduce wastage, be it energy, water or consumables. On the other, they can re-invest in new plant, equipment and IT that is specifically designed to be more energy efficient and/or emit lower levels of greenhouse gases. Dr Garry Felgate, a director of the government-funded Carbon Trust, says that many companies can cut energy use by 30%<sup>3</sup>. He also highlights the need to buy more efficient

equipment; for instance the most modern compressed air equipment can be as much as 40% more efficient than older models.

However, we have already seen a significant proportion of businesses do not take climate change seriously. Of those who do, there is little or no research yet available which measures the level of positive action taken by the business community so far, despite the extent of corporate announcements around the issue<sup>4</sup>.

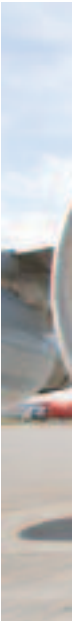
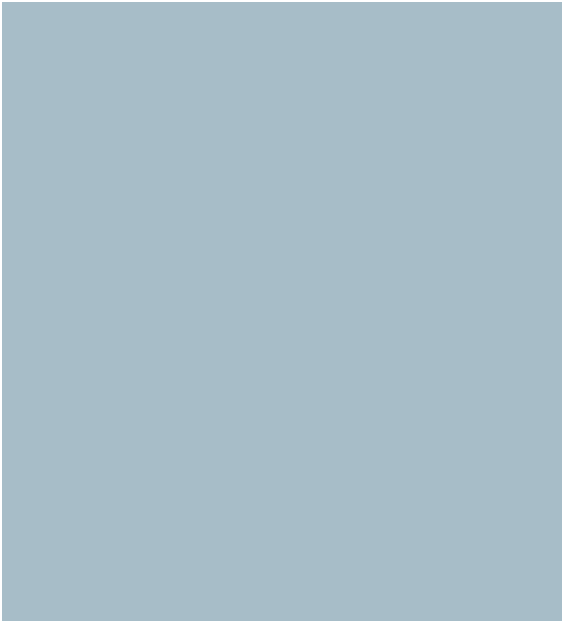
In order to gain a greater understanding of British businesses' attitudes and



behaviour towards environmentally friendly equipment investment, Siemens Financial Services commissioned research amongst a representative sample of over 500 firms in August 2007. The research sample sought representation from small (11-49 employees), medium sized (50-249 employees) and large (250+ employees) companies. Respondents were canvassed on three main issues: whether they monitored and measured aspects of their carbon emissions; what initiatives they had taken to reduce emissions; and what they saw as the obstacles to investing in environmentally friendly equipment upgrades.

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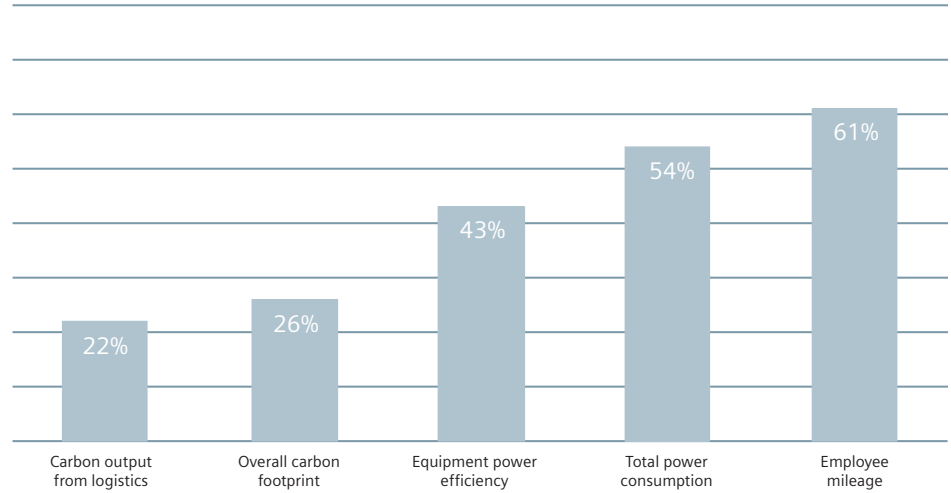
# The Research – Carbon Emissions and Measurement



In terms of measurement, survey respondents firmly indicated that the majority remained focused on practical metrics with a clear financial implication, i.e. an almost immediate and easily definable return, for the firm, including Employee Mileage (61%) and Power Consumption (54%). The proportion of companies measuring their specific

carbon footprint was very much in the (albeit significant) minority (26%), although the one-in-four proportion could be viewed as highly encouraging. The truly encouraging picture to emerge from these statistics, however, is that the most widely monitored metrics do both address the most significant and containable areas of carbon emission,

**fig 1. Measurement of emission-relevant factors**



Source: Siemens Financial Services



namely transport and equipment energy consumption. It is a moot point as to whether huge amounts of effort should go into encouraging a greater proportion of firms to invest in sophisticated carbon footprint measurement, or whether the existing metrics should first be harnessed in isolation and specific environmental initiatives associated with them for majority uptake.

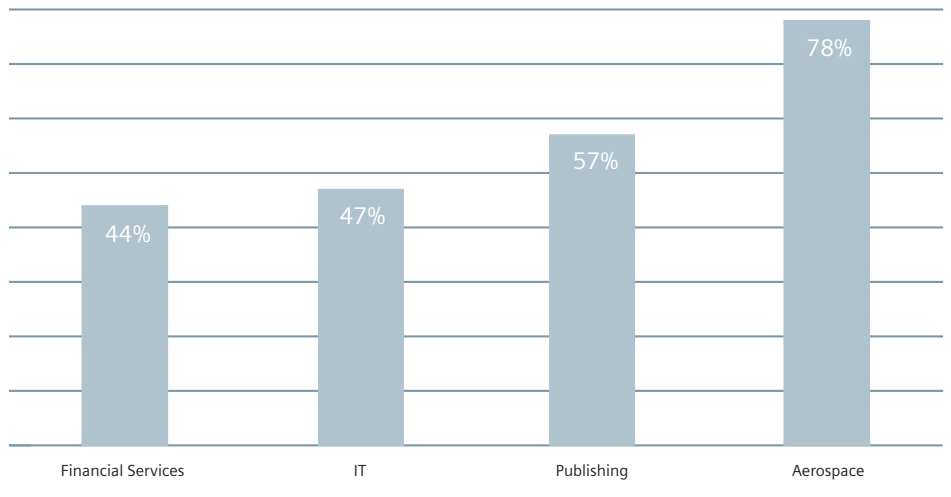
Interestingly, carbon footprint measurement varies widely between different business sectors, with some industries turning in figures as low as 10-15% (Education, Manufacturing, Hospitality). At the other end of the scale, high proportions measure overall carbon footprint in Aerospace (78%), Publishing (57%), IT & ICT (47%) and Financial Services (44%).

Uptake of emission reduction initiatives was shown by the survey to still be a minority affair. Two in every five firms have implemented carbon reduction rules amongst their workforce and operations. 37% of companies have

invested in low carbon equipment – a proportion which sounds encouragingly high, but the size of that investment is unstated. A quarter of firms have established a carbon emission reduction target (although these targets might be relatively modest, thereby leading to questions the desire to really improve) and just over a fifth of respondent

organisations have imposed low carbon standards on their suppliers. Analysis of the raw research data reveals that the cross-over between positive respondents to these questions is almost total – in other words, firms tend either to have a full set of carbon emission reduction initiatives in place, or none at all.

**fig 2. Top four sectors measuring overall carbon footprint**



Source: Siemens Financial Services

# Investment – Obstacles and Enablers

What, then, are the obstacles which are preventing the corresponding 63% of UK businesses from investment in low-carbon-emission equipment?

These may be summarised as: the difficulties in calculating a return on investment; perceived higher costs, and therefore affordability directly linked to an inability to associate costs to savings over time; perceived (we also suspect actual) lack of product range - availability and appropriateness; and finally, a cultural resistance, or lack of will, amongst some firms to try and relate climate change to their particular firm and its markets.

In response to these obstacles, the study also identified actions needed to overcome them. In brief, they are: a wider scale of tax incentives from government to encourage green investment; firm enforcement by regulators of legislation such as the EU's WEEE Directive<sup>5</sup>; greater efforts by equipment manufacturers to extend their green product ranges and integrate financing options into their offer,

creating a genuine ROI model; and educational effort from the finance sector and government about the financing tools available to make such investments more easily affordable and related to ROI.

The rest of this study examines the statistics that support this summary, and expand on the suggested actions which will make green equipment investment grow, thereby achieving the Prime Minister's stated ambition.

To look specifically at the study statistics, our research quizzed respondents about their perceptions of low carbon emission equipment and technologies and a number of key figures arose from their answers:-

- » 42% perceived environmentally friendly equipment to be more costly than the traditional alternative
- » 38% saw the range of available environmentally friendly equipment to be severely limited

- » 35% see no commercial advantage from investing in environmentally friendly equipment
- » 25% say that they simply cannot afford the capital cost of such investments

Clearly, a number of lessons are immediately apparent in these findings, not least that business will not invest unless there is a clear financial benefit or effect upon the customer/supplier relationship. Manufacturers and vendors have a critical role to play in developing a wider range of low carbon emission, energy-efficient products in their range. Such products cannot be widely marketed at a premium price over existing products unless a clear ROI is available, or they add significant value, or the low carbon/environmental aspects are recognized and priced accordingly against those that are not. This may make the whole low-emission scene of little interest to vendors. Yet the lesson of the last decade, especially in IT and hitech, has been of steady price erosion in most markets. Vendors may be wise to



invest in low-emission product range development in order to protect current price levels from eroding still further into the next decade.

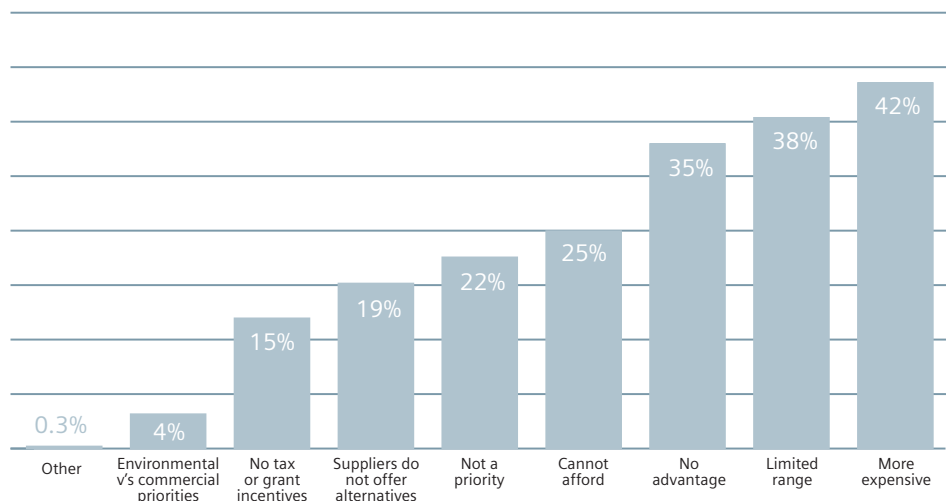
The general economic outlook also has a significant bearing on the issue of environmentally friendly equipment investment. Firstly, the IMF, in its latest report<sup>6</sup>, has opined that credit losses and the liquidity constriction experienced recently by major global and national financial institutions are slowing global expansion. Other authorities also see a modest slowdown on the horizon. PricewaterhouseCoopers<sup>7</sup>, for instance, has noted that UK GDP growth is projected to moderate slightly from 3.1% in the year to the fourth quarter of 2006 to around 2.75% in 2007 and 2.5% in 2008. In addition, although business investment growth strengthened significantly in 2006 and is expected to remain strong in 2007, the rate of growth is also expected to moderate in 2008.

It is important to highlight that this projection was published just before the

current credit crisis on the global markets, where a re-adjustment process is taking place with credit once again being priced more realistically to risk. In short, the availability of business credit – at least in terms of bank loans, is tightening, making it more difficult and/or expensive to replace existing equipment with a more environmentally friendly alternative. This in turn, means

that manufacturers and vendors of eco-friendly and energy efficient business equipment need to look for alternative methods of making their offering competitive with the traditional alternatives.

**fig 3. Main obstacles for investing in environmentally-friendly equipment**



Source: Siemens Financial Services



Some vendors are already taking steps to address the cost/affordability concerns expressed by respondents to this survey, by integrating asset financing options into their sales proposition and at Point-of-Sale (PoS). Asset finance, usually in the form of some type of leasing arrangement, allows companies to pay for the use of an item of equipment over a given period, rather than have to raise one-off capital to actually buy the equipment outright. This enables vendors and end users to clearly demonstrate the financial benefit of the asset in question against the cost over its useful working life. Currently in the UK, approaching 30% of all business equipment is financed in this way<sup>8</sup>. At the end of the financing period, some equipment can have a 'residual value' which the finance company may reflect by way of further discounts to the monthly payments. For the respondents to this research who said they simply could not afford to buy environmentally friendly replacement equipment, these methods of financing make such

investment affordable by spreading payments across several years, thereby easily linkable to potential savings.

Research by Siemens Financial Services earlier this year, confirms that equipment vendors have recognised the need to make their products more affordable in this way. According to this study, for instance, the proportion of European Information and Communication Technology (ICT) vendors offering integrated finance options has risen from 28% to 33% in the space of a year.

Alongside the incentive to invest in, and affordability of, low-emission equipment enabled by increasingly integrated financing options, tax inducements also have a role to play in increasing what our respondents call the 'commercial advantage' of such investments. Moves have been made by the Treasury to incentivise uptake in this way, but only across a limited range of equipment.

Enhanced Capital Allowances (ECAs) enable a business to claim 100% first-year capital allowances (FYAs) on their spending on qualifying plant and machinery<sup>9</sup>. There are three schemes for ECAs:

- » Energy-saving plant and machinery
- » Low carbon dioxide emission cars and gas/hydrogen refuelling infrastructure
- » Water conservation plant and machinery

This compares with the normal regime for small and medium-sized businesses, where they can claim 40% FYAs for their investments in most plant and machinery. This means that 40% of the cost may be written off against taxable income of the year in which the expenditure is incurred. When it comes to ICT, for a period of two years which commenced on 6 April 2006 small businesses are able to claim FYAs at 50%<sup>10</sup>.



# Affordability, Financing and Role of Tax Incentives

In addition to enhanced capital allowances for 'green equipment', government had earlier recognised the sheer affordability issue. Generally speaking, expenditure on plant or machinery for leasing, letting or hire does not qualify for first-year allowances. However, this rule was relaxed for expenditure incurred on or after 17 April 2002, on qualifying plant and machinery under the FYA schemes for 'green' technologies. Unfortunately (and it would seem somewhat contrary to the government's desire to encourage investment) this was rescinded in the 2006 Finance Act, on the dubious grounds that it provided an opportunity for tax avoidance. In reality the real issue was take-up, not avoidance.

The issue at stake, then, is not that HM Treasury has failed in the past to put tax incentives in place, but rather the need to restore the pre-2006 position, and the range of equipment to which these incentives can be applied needs to be clearly defined and extended. There is an

emerging range of energy-efficient, low carbon emission equipment available in fields as diverse as office equipment, IT, furniture, vending machines, telecoms, hospital equipment, commercial vehicles, plant and machinery, lighting equipment, and many more. Clear policy and guidance is needed to embrace all of these within the umbrella of ECAs.

However, some issues remain. Tax incentives – in the form of 100% FYAs for 'green' products – may easily be abused unless national standards are established to define what qualifies as 'green' equipment. Such definitions have been drawn up in terms of motor vehicles. But what about plant and machinery? What about IT? What about office equipment? A collaborative effort is again required from vendors, financiers and government.

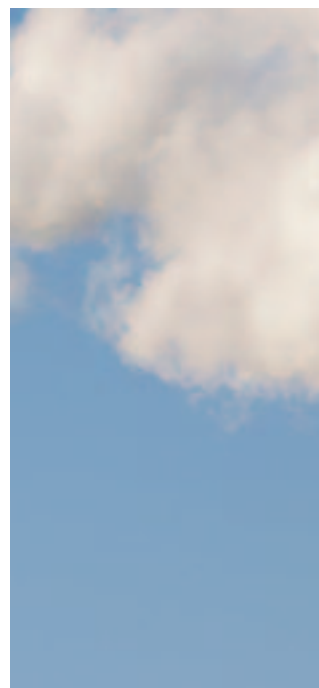
Finally, businesses cannot be expected to calculate their return-on-investment models on their own. It is critical that vendors and financiers get together in

order to present British business with an easy means of calculating – when financing options, tax-relief and energy savings are all added together – a tangible return on investment periods. The business community has already gone a long way down the environmentally friendly route simply on the strength of feelings of social responsibility and peer-pressure. Active initiatives, addressing hard business financials, are now needed to grow the country's green investment trends.

# Summary and Recommendations

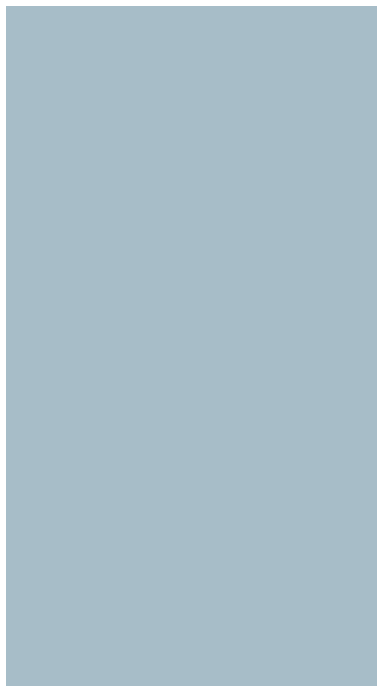
In conclusion, while 37% of British business has invested in energy-efficient, low carbon emission equipment, such investment remains a minority activity. Moreover, the scale of these investments is known anecdotally to represent too small a proportion of each company's total equipment investment. Further inducements to invest are needed, in terms of affordability and availability of product range, as well as financing options and tax-relief. Assistance with ROI calculations is also required. If businesses can demonstrate that a low carbon asset has a clear, realistic and achievable ROI when compared to

'dirtier' alternatives then they will start to go green. For this to happen joint action is required by equipment vendors, financiers and government alike, especially in an economic climate where the availability of business credit is tightening. Asset finance already occupies a growing role in making business equipment affordable for the majority of businesses, and so is likely to play a key part in the growth of environmentally friendly equipment investment.



# Methodology

Research was commissioned by Siemens Financial Services amongst a representative sample of senior directors at over 600 UK firms. Fieldwork was conducted by Ciao Surveys, part of the Greenfield Online Group of companies (Nasdaq: SRVY), during July-September 2007. Respondents were asked about their motivations for investing in low emission technology, as well as their views on the obstacles to such investments.



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- 10 Source: Winters Chartered Accountants

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