

Time to take energy efficiency seriously

The costs of energy and carbon-cutting legislation are making the case for energy efficiency more rewarding than ever before. And, as **EDF Energy** explains, in a more challenging economic climate, a lower cost base is not to be underestimated.

The most obvious driver for greater energy efficiency in business is simply the high cost of energy. Reducing the amount of energy used as a cost saving initiative promises better payback now than at any other time in the history of the privatised UK energy market. The wholesale cost of electricity is roughly four times what it was in 2001 when the wholesale market was shaken up with new electricity trading arrangements to introduce more competition among electricity generators. Then, according to Ofgem, thanks to a combination of greater competition and an oversupply of generation, wholesale electricity prices had fallen by 40% in the four years prior to 2001 and fell by a further 15% over the following 18 months.

How things have changed. The oversupply in generation that existed at the turn of the century is far less in evidence. The recent implementation of the Large Combustion Plant Directive to reduce sulphurous, nitrous oxide and dust emissions from coal fired power production means that roughly 10% of total generation capacity is living on borrowed time. Those plants that have not invested in emission reducing measures have only 20,000 operating hours left until mandatory closure in 2015. Many of the UK's ageing nuclear plants will also come to the end of their operational lives within the next ten years.

Fuel costs for generators have risen sharply too. Coal and gas, which account for 75% of UK electricity production, have both seen record prices this year, which of course directly impacts prices for consumers at home and in business. In many respects, the coal and gas markets take their lead from oil. Goldman Sachs, whose 2005 prediction of oil reaching \$100 per barrel came true in January, predicted this year that oil could

reach \$200 per barrel in the next two years, potentially even sooner.

So the indications are that those hoping today's high prices are a temporary blip may well be disappointed. Energy is now priced like a precious resource, requiring more efficient use than the cheaper commodity we were used to.

From option to obligation

Legislative incentives for more efficient energy use are growing too. 2001 was a landmark year on this count, with the

introduction of the first significant tax on energy explicitly intended to encourage greater energy efficiency in business, the Climate Change Levy (CCL). Although criticised as a blunt instrument, it's been very successful. The CCL is estimated to be delivering annual savings of 3.5MtC (million tonnes carbon) against a target of 2MtC, of the 60MtC or so that the business sector is responsible for.

Now two new schemes will make the energy performance of buildings and businesses much more public.

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The first is essentially an energy labelling scheme for buildings. It's called the 'Energy Performance in Buildings Directive' and came into force this year. It focuses on individual buildings and aims to achieve annual emissions savings of 0.6MtC by 2020 – around 0.5% of the UK's total CO₂ emissions today.

This scheme works by allowing the energy performance of buildings to be directly compared via two certificates based on design and use criteria. Energy performance certificates provide an energy rating from A-G, based on the design of the building, showing its current rating and what steps can be taken to improve its energy efficiency. The display energy certificates will show how well large public buildings are actually used and managed with an energy efficiency rating based on actual energy consumption.

The second scheme is called the 'Carbon Reduction Commitment'. It's essentially an emissions trading scheme with several measures to reward investment in energy efficiency. It is designed to target around 5,000 organisations in the commercial and public sectors that Defra defines as 'large and non energy intensive'. It is aiming for annual savings of 1.2MtC out of the 14MtC for which this sector is responsible, via energy efficiency rather than buying renewable energy or offsetting. That is a more substantial proportion of the 150MtC or so that the UK emits each year.

The scheme includes a few elements that some might find surprising. A key one is that Defra has already changed the carbon reporting rules so all electricity from the grid, including renewable energy, has the same carbon emissions factor. So the easy option of signing away your firm's carbon emissions with a renewable energy contract is not an option at all.

The scheme works by requiring participating firms to buy carbon allowances to cover their emissions from 'on site energy use' – basically any fuel use other than transport. These funds will be recycled based on the relative performance in reducing carbon emissions. A league table will be used to rank participants and determine their rebates. This league table will be published. It is hoped this will focus senior management attention on improving energy efficiency to ward off the risk to the company's reputation that may exist if its brands rank at the lower end of the table.

Establishing robust, thorough reporting mechanisms for energy use and carbon emissions will be critical. The real risk here is not the money at stake from the recycling of emissions allowances, but the penalties of being short of allowances come the time. The rules over which sites firms are responsible for, considering complicating factors such as landlords and subsidiaries, are complex and could well trip up those not prepared.

The scheme explicitly incentivises participants to install more smart meters on their smaller sites and also join the Carbon Trust Standard, formerly known as the Energy Efficiency Accreditation Scheme. Those that do will receive a boost to their rating in the league table and therefore a larger rebate. The Carbon Trust Standard may seem too onerous for many organisations, but the smart metering option should be an attractive option for many. Aside from the bonus to their league table ranking, these organisations will avoid the penalty of having to buy an additional 10% of carbon allowances for energy use based on estimated readings.

Get smart

The cost of smart meters has greatly reduced in recent years and for sites with a profile class of 05-08 in particular, they are now a very economical option. The Carbon Trust estimates a payback on metering investment of less than one year.

Many organisations that have already made the switch, particularly those with large numbers of sites, report significant reductions in administration because their bills are now based on regular accurate reads. That's because smart meters resolve the main obstacle for manual reads – site access for meter readers. Accurate bills equal certainty of energy costs. Smart meters also enable energy savings. The simple visibility of energy consumption makes people more efficient users. A field study of smart metering among small businesses revealed the visibility of energy consumption led to savings of 5% on average with a potential of up to 12%.

Given the EU's and the UK's desire to show leadership in cutting carbon emissions, further schemes to encourage energy efficiency may well follow. Defra's new carbon reporting guidelines mean signing up to renewable energy contracts to achieve zero carbon status is redundant. The rising cost of energy may have eased off recently but the days of cheap energy are probably long gone. So those organisations with good reporting mechanisms in place for energy use and carbon emissions will be far better placed to set targets and take action to cut unnecessary energy use. That means they will also be best placed to thrive in future. ■

Energy efficiency in practice

Recent research among 273 users of EDF Energy's energy efficiency toolkit revealed this resource pack to be a valuable aid.

90%
said it met or exceeded their expectations.

83%
had used or intended to use the toolkit to develop energy saving strategies.

24%
said putting toolkit actions into practice had already saved them money...

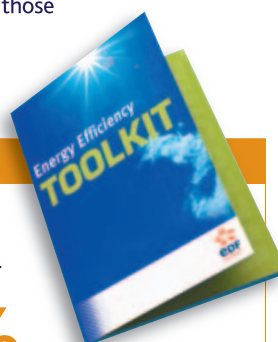
57%
... and more than half expected to see related savings.

40%
cited prohibitive costs or lack of budget.

44%
cited the challenge of changing behaviour of colleagues or management.

66%
pointed to significant barriers to their efforts to improve energy efficiency.

10%
saw time to implement change or monitor diverse sites as an issue.



Further information

EDF Energy
Website: www.edfenergy.com/largebusiness