

The Green Revolution

Between 2004 and 2009 the average energy bill – to provide heating, lighting and power to businesses - had risen by over 120%, and in 2009 alone bills rose by an average of 42% (Uswitch).

We discuss the causes of energy price increases, how the government's green agenda is impacting them, and how they can be better monitored and managed.

Causes of Energy Price Increases

Analysts attribute recent energy price increases to: the appreciation of the dollar relative to sterling, (which has offset the decline in oil prices since their peak in mid 2008), a rise in costs of energy distribution, and the additional charge levied by the power suppliers to support the governments 'green' initiatives; which have been added directly to customer's energy bills.

What is the CRC?

The CRC (Carbon Reduction Commitment), is a strategic, regulatory mechanism targeted at reducing the use of 'black energy' (oil and gas) by increasing its cost, while subsidising and promoting the use of 'green' energy (natural and recyclable energy e.g. solar, wind, and wood pellets etc) and technologies that improve the efficiency of traditional energy resources (such as fuel cells) or those that produce heat and power simultaneously (CHP's - combined heat and power units).

It is central to a tripartite group of regulations (including the CRC, the EU Carbon Trading Scheme and the Feed-In Tariff – see below) which collectively have two key aims:

- Firstly - to meet the U.K.'s Kyoto agreed target to reduce greenhouse gas emissions by 80% by 2050 in order to avoid the catastrophic cost of global warming events (estimated at \$9tril by the Stern Report – 2006)
- Secondly – and of direct economic significance - to reposition the UK's energy demand away from expensive imported black energy toward self sufficient green energy sources.

The CRC is a cost neutral mechanism that raises cash by enforcing fines on high energy users (currently those who consume more than 6,000 kwhours - roughly equivalent to an annual electricity bill of approx £500,000). The CRC also fines energy providers who generate too much carbon (measured in tonnes).

Who is Affected?

The current legislation covers over 20,000 businesses in the public and private sector including retailers, banks, and manufacturers as well as local authorities, municipalities, universities and hospitals, and importantly, power suppliers and generators.

Transport organisations and those companies providing dwellings are currently excluded but it is speculated that some form of control will be imposed sooner rather than later – The government is currently in consultation with the road haulage industry. Also, it is thought that other mechanisms may be designed to scoop revenue from these sectors, once appropriate mechanisms are found. Medium and smaller businesses will be affected.

How Will CRC Accomplish a Transition to a Green Economy?

Using simple price mechanism (raising energy prices) CRC encourages all users to reduce their use of black energy, while other mechanisms reward green energy users by:

- Subsidising the installation of energy efficient components e.g. LED lights, solar heating, photo voltaics etc - by providing interest free loans.
- Provide funds for the development of green technologies– by issuing grants.
- Provide revenues to those smaller organisations that generate electricity, by paying households and businesses to produce electricity via new technologies, which enable them to sell electricity units back to their energy provider via the National Grid. For example by installing new CHP's – combine heat and power units, - which generate electricity as well as acting as central heating boilers.

Over the next 15 years investment in UK green energy supplies will be over £233bn (Source: Ernst and Young) – as new waves of energy reducing technology are expected to eventually lower the UK's use of fossil fuels.

Strategic Significance

Governments consider the changes in the cost of oil and the \$ exchange rate when predicting the cost of running their economies. An accelerated economic growth pattern (particularly by larger economies) will, in turn, increase the global cost of oil, negating the benefits of economic growth, increase the cost of production for all countries, and applies inflationary pressure on prices and reduces consumer demand.

This translates into a double whammy for the 3PL's – as they are squeezed between rising energy costs and input costs, and the demands from their customers to reduce prices and improve service levels as they, in turn, face tough market conditions.

The speed and success of adopting new green technologies will not only reduce energy costs for individual users, but also will be critical in creating 'cash headroom' for consumers and businesses which will increase investment and consumption.

How Does CRC Affect 3PLs?

Raising Direct Costs

All energy users pay a surcharge to their energy supplier to support CRC, raising costs of production across the board. Therefore all unnecessary activity e.g. fork-lift truck movements, re-stocking and repacking due to error, returns involving extra vehicle trips and uneconomical use of the transport fleet etc. is financially penalised.

Producing less carbon equates directly to lowering costs it is estimated that one tonne of carbon emissions is equivalent to a cost of £200.00. (An average household produces between 6-12 tonnes of carbon per year).

Effect on Transport Industry

Organisations will be entered into a national league table and poor performers will be fined. Diesel fuel consumed by transport organisations is not directly affected by this scheme at the moment – but is subject to current discussion with the Dept of Transport, Defra, the Road Hauliers association and a number of transport companies. The position will become clearer over the next few months - 'speculation continues that transport will be included in due course'. (<http://www.greenfleet.net/content/view/718/8/>)

Vetting by Major Customers

In any event high value brands and Public Sector customers will request information regarding the suppliers 3PL's energy policy, and consider this as part of their supplier vetting process.

Conclusion

Consequently, good processes to control of the use of diesel fuel, and the efficient use of energy within the business generally, will (1.) influence supplier selection by key accounts (2.) reduce costs within the business (3.) avoid fines imposed by regulatory bodies.

Analysts are agreed that reductions in energy costs will only be achieved by (1) utilizing green technologies which make better use of both natural energy and improve the efficiency of use of 'black energy' and (2) changing mindsets and working practices in order to optimise the use of energy throughout the business.

The Role of Technology Providers

Information technology providers can help by providing systems and tools that:

- Ensure that errors are minimised to avoid unnecessary processing, stacking and repackaging of returns or repeated trips to rectify mis-deliveries.
- Manage just-in-time stocking processes to avoid unnecessary replenishment orders.
- Identify aged stock in order to minimise wastage of out-dated items.
- Automate electronic dispatch of documentation to avoid processing of paper based printing and mail.
- Streamline warehouse operations to optimize the use of plant (e.g. fork-lifts) by calculating the most efficient storage, picking and packing process
- Improve the management the vehicle fleet by optimising route schedules and identifying inefficient drivers that require re-training, extending the life of vehicles by minimising wear and tear and maintenance requirements and avoiding paper based processing (which is subject to error) by electronically relaying delivery and invoice data.

*Foot Notes

Electricity Price Comparisons

The UK's domestic and businesses are charged some of the highest rates in Europe (surpassed by Ireland and Spain) while French users are charged the lowest.

The Kyoto Agreement

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions. These amount to an average of five per cent against 1990 levels over the five-year period 2008-2012.

The UK and other EU countries have committed to an 8% reduction in greenhouse gas emissions by 2012 (based on 1990 levels). Source http://unfccc.int/kyoto_protocol/items/3145.php

The European Unions Emissions Trading Scheme (EUETS)

The EUETS is a market for the trading of 'Carbon Credits' which are earned by those organisations who have fallen under their emission caps allocated by the CRC scheme and sold (via auction) to those who have exceeded their permitted allocation. Additionally such organisations will also be fined. (note - Although the price of credits is fixed until 2012 (at £12) eventually natural market mechanisms will decide price levels).

As carbon emissions now carry a price tag, large polluters are seeking to invest in the development and sale of 'green' technologies or companies that have patents or processes to reclaim or recycle energy – in order to obtain carbon credits.

In setting these CAPS the government accounts for the capability of an industry to take up the potential advances in technology which can lower carbon emissions. The UK is currently in phase 2 of the plan is running until 2012 and has set an emissions cap of approximately two thirds of the 'business as usual' emissions ratings.

The UK's National Action Plan notes that the affected industries are relatively well insulated from international competition and therefore costs can be more easily burdened by consumers.

Sources - The UK's National Allocation Plan was issued in 2007 by the Dept of Environment and climate change http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/emissions/eu_ets/euets_phase_ii/phaseii_nap/phaseii_nap.aspxnt.

The Government Feed-In Tariff

What is the Feed-In Tariff?

The Feed-In Tariff allows small organisations, including businesses and domestic households (known as Micro Generators (MG's)), to generate and feed-back electricity to the national grid and receive a cash payment for the electricity generated. It is not a new concept and has been implemented in several countries including the US and Germany for several years.

In 2007 the German government estimated that the feed-in tariff directly contributed to a saving of 57mil tonnes of Co2, equivalent to £1.14bn worth of electricity.

Eligible technologies include wind, solar photo-voltaics (PV's), and domestic CHP (Combined Heat and Power units) although it is anticipated that other technologies will be added.

How will Micro Generators Benefit

MG's will receive the benefit of receiving a fixed payment from their electricity provider (Generation Tariff) for each unit generated by their own supply – this rate will be fixed for the first two years and varies depending on the method of generation. However once you have joined the scheme the rate will remain unchanged for 20 years (25 in the case of photo-voltaics).

Links – Learn More about the Feed-In Scheme

http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/feedin_tariff/feedin_tariff.aspx

Other Sources

*The CRC is Upon Us – Matt Davis – Sustainable FM, April 2010
Commitment Issues – Richard Scott (Eon) – Sustainable FM, April 2010
Turning Carbon Reductions into an Opportunity – Rebecca Fay (Carbon Neutral Company) – Sustainable FM
Transport Review Summary – Dept of Transport
What is the carbon Reduction Commitment – Dept of Energy and Climate*