

Dirty business



Executive summary

- Cutting corporate carbon dioxide emissions is becoming big business. The EU's cap-and-trade and carbon credits schemes, and the UK's Carbon Reduction Commitment, are all jacking up the price for companies of unsustainable operations.



CARBON TRADING HAS TAKEN OFF IN RECENT YEARS, AND WILL GAIN FURTHER IMPETUS FROM INITIATIVES SUCH AS THE CARBON REDUCTION COMMITMENT.

GRAHAM BUCK EXPLAINS.

The Dirty Man of Europe was the unenviable epithet attached to the UK for many years. Indeed, some organisations such as Greenpeace maintain that it is still deserved. Nonetheless, British businesses have been making serious efforts to clean up their act, spurred on by a combination of legislation aimed at reducing emission levels and higher energy costs that have made doing so good economic sense.

The government has set an ambitious target for cutting the UK's emission levels by 34% from their 1990 levels by the year 2020 and companies are keen to demonstrate they are doing their bit towards meeting this goal. Carbon capture and storage (CCS) technology has emerged as one of the most promising means of reducing the environmental damage caused by fossil fuel use, while the business world has seen the emergence of carbon trading as an incentive to reduce corporate carbon emissions.

A UN report identifies the international carbon trading market as a vital component in ensuring that future global climate targets are met. The report predicts that by 2020 the market will reach an annual worth of between \$2,000bn and \$3,000bn – compared with an estimated \$92bn last year when five billion tonnes of carbon were traded. A portion of these revenues is to be allocated to developing countries to provide them with access to green technology.

Carbon trading as a market mechanism to counter global warming dates back to 1989, although the basic concept goes back to the 1970s, when the US trialled the trading of sulphur dioxide and nitrous oxide emissions to tackle the problem of acid rain. The aim of carbon trading is to reduce the amount of carbon dioxide (CO₂) being pumped into the atmosphere. It represents an alternative to the imposition of individual carbon emission limits on countries or

companies and will give businesses the basic options of either spending to reduce their emission levels or paying another company to reduce theirs instead.

The development of the carbon trading market gathered pace after the signing of the Kyoto Protocol, which came into force in February 2005 and required industrialised countries to reduce their total greenhouse gas emissions by an average 5.2% from their 1990 levels within the next three to seven years.

The introduction of carbon trading in 2005 has changed the way in which the UK electricity industry operates, says Andrew Koss, head of corporate finance and investor relations at power generator Drax Group. Power plants generally dispatch their electricity based on the marginal economics of production, known as the "merit order", electing to run when their marginal cost is below the power price. This is based on the relative input order – for example, coal versus gas versus nuclear – and the efficiency of the individual plants within these categories. More efficient plants will generally run before the less efficient. Since 2005, generators have included the cost of carbon in their marginal economics calculation, with a high price of carbon having a more material impact on the relative economics of each plant.

CAP-AND-TRADE AND CARBON CREDITS There are two main carbon trading schemes. The first, cap-and-trade, imposes limits on emissions that can be traded between developed countries or between companies. Cap-and-trade schemes may be mandatory or voluntary.

The second scheme operates by means of credits from projects that can compensate or offset their emissions. The Kyoto Protocol's Clean Developments Mechanism (CDM) is one example of a carbon trading scheme, enabling industrialised countries to accumulate

SINCE THE ONSET OF RECESSION, THE TRADE IN COMPANIES SELLING THEIR SURPLUS CARBON ALLOWANCES HAS ENJOYED FURTHER STRONG GROWTH.

CO₂ was around €14, but the price would have to be around €25 before it became economical for coal-fired generators to switch to gas for producing electricity.

Since the onset of recession, the trade in companies selling their surplus carbon allowances has enjoyed further strong growth. Market analyst Point Carbon reports that global carbon market volumes rose by 124% in the first half of 2009 from a year earlier and was 22% higher in terms of value. Over the six-month period, an estimated 4.1 gigatonnes of CO₂ were traded, to give a market that has a current value of €46bn.

Figures for the EU's ETS are similar, with volumes of trade up by 140% on the first half of 2008 and values 29% higher. Point Carbon reports that the downturn has encouraged companies to sell their surplus allowances. Volumes have therefore risen sharply as many of Europe's depressed industry sectors sell their unused allowances; the price of surplus carbon allowances has actually fallen as a result.

Another recent report, which generally supports carbon trading as an efficient and cost-effective means of cutting greenhouse gas emissions, nonetheless suggests that emission reduction programmes in industrialised countries may be of limited value. The Global Carbon Trading report, commissioned by Britain's prime minister Gordon Brown, concludes that cutting emissions in developing nations tends to be cheaper than doing so in more affluent nations. A pound invested in a global emissions market can achieve a reduction in carbon emissions 40% to 50% greater than one confined to the UK only.

THE CARBON REDUCTION COMMITMENT In the UK, around 20,000 businesses will be affected by the Carbon Reduction Commitment (CRC) – a national scheme to address climate change and promote energy saving that is scheduled to launch in April 2010. CRC aims to reduce CO₂ emissions not already covered by climate change agreements and the ETS, by reducing the UK's carbon footprint and meeting the ambitious emissions reduction targets set when the Climate Change Act became law last November.

The declared aim of the CRC is to "encourage improvements in energy efficiency which can save organisations money", suggesting that the scheme could be optional. However, as government department Defra adds, the aim is "to generate a shift in awareness in large organisations especially at senior level and to drive changes in behaviour and infrastructure", which translates into financial penalties for companies that fail to comply with its guidelines. As part of the carrot-and-stick approach, Defra reckons that the energy-efficiency measures encouraged by the scheme will have saved participants around £1bn by 2020.

As an emissions trading scheme, CRC sets companies a financial incentive to be "greener" by placing a price on carbon emissions. Participants have to purchase annual allowances that are equivalent to their emissions. The overall emissions reduction target is achieved

emissions credits for financing projects in developing countries.

The EU, which also has targets for cutting carbon emissions (by at least 20% by 2020, and 80% by 2050), introduced its Emission Trading Scheme (ETS) at the start of 2005 as the world's biggest multinational, multisector greenhouse gas emission trading system. The ETS is a mandatory cap-and-trade scheme that requires Europe's heavy industries and power generators, as the continent's major emitters of carbon dioxide, to monitor and report annually on their CO₂ emissions and return an amount of emissions allowances to the government that represents each year's CO₂ output.

At its introduction, the ETS allocated to individual countries a fixed number of allowances to distribute across the industries covered by the scheme, thereby easing the transition to a fully traded carbon market. In the current phase (2008 to 2012), the number of allowances distributed to companies by national governments is lower than in the first phase (2005 to 2007). It will be lower again in phase three (2013 to 2020) when major generators such as Drax will have to purchase 100% of their allowances.

Coal-fired power stations are the EU's biggest producers of CO₂ emissions. Drax's eponymous power station in North Yorkshire is the largest coal-fired generator in Western Europe, supplying 7% of the UK's electricity requirements and emitting more than 22m tonnes of carbon annually. Europe's heaviest polluter is Poland's Elektonia Belchatow, with a yearly CO₂ output of nearly 31m tonnes; two German plants also exceed Drax's emissions.

Critics of the ETS say its prices pollution allowances too low. They point out that Germany has six of Europe's 10 most polluting plants, despite generous grants from the German government for green technologies such as solar energy. The recent ETS price for a tonne of



THE TYPICO MODEL DEMONSTRATES HOW REPORTING ON CARBON EMISSIONS CONNECTS FINANCIAL AND NON-FINANCIAL DATA TO SHOW THE VALUE AND IMPACT OF CARBON EMISSIONS ON A BUSINESS.

by limiting the number of allowances allocated to a group of participants. Within that overall limit, individual companies are encouraged to choose the most cost-effective means of reducing their emissions.

At Drax, Koss says that the group has made reducing its exposure to carbon a major strategic focus over the past few years. Its carbon abatement strategy has focused on two areas:

- reducing the carbon emissions of the existing plant; first, by improving the efficiency of its turbines through a £100m investment programme; and second, by increasing the amount of electricity produced through biomass to up to 12.5% of total output through the construction of an £80m co-firing facility

(burning coal and biomass together). These projects alone should reduce Drax's annual carbon emissions by 3.5m tonnes when fully operational in 2011 – the equivalent of taking one million cars off the road; and

- a joint development with Siemens Project Venture, announced in October 2008, to develop and operate three 300MW dedicated biomass-fuelled power plants in the UK.

"Both of these initiatives will not only help to reduce Drax's carbon footprint, but also go a long way towards helping the government attain its binding carbon reduction targets in 2020," adds Koss.

MANDATORY REPORTING According to PricewaterhouseCoopers, a likely next step will be the introduction by 2012 of mandatory reporting for a large number of UK companies on their carbon emissions. In anticipation of the move, PwC has developed a carbon emissions reporting model that brings together existing and anticipated reporting requirements of national and international regulatory bodies.

PwC has developed a fictitious UK-listed technology company called Typico, with operations in Asia and the US, as well as at home. The idea behind Typico is to help companies anticipate the likely carbon emissions reporting guidelines developed by Defra in partnership with the Climate Disclosure Standards Board and the Confederation of British Industry.

New guidance on what exactly companies will be expected to report was published by the government on 1 October. It addresses much of the confusion previously created by a proliferation of competing carbon reporting standards. Recommendations will follow on what a company should communicate through its report and accounts, and the expectation is that these requirements will be made mandatory in 2012.

The Typico model illustrates how to report corporate strategy, targets, performance and benchmarking. It also demonstrates how reporting on carbon emissions connects financial and non-financial data to show the value and impact of carbon emissions on a business.

One potential obstacle for multinationals is the disparity between different countries' carbon reporting requirements. While the future convergence of IFRS and US GAAP should help to rectify this, companies such as Tesco with operations in a number of countries would like greater harmonisation in the mean time, with a single method of measuring and reporting on their carbon emissions that can extend across their global operations.

Alan McGill, a PwC partner and member of its sustainability and climate change team, says that Typico gives companies an idea of what the future is likely to hold as to reporting their carbon footprint and will help them start thinking about how to address the issue. At the same time, they can broaden the review to include other sustainability issues such as water and waste.

"These other parts of the whole sustainability agenda are growing in importance, so companies need to consider the whole agenda and not focus solely on carbon," McGill suggests. "Some of the decisions that need to be taken will be tough, both for companies and also for the government and the public sector. Issues such as food miles must also be considered and the pros and cons of sourcing only locally sourced food. The rationale behind decisions will need to be clearly communicated."

Graham Buck is a reporter on The Treasurer.
editor@treasurers.org