

The background features a complex, abstract architectural structure with multiple overlapping, curved, metallic-looking elements that create a sense of depth and movement. The colors are primarily shades of grey and white, with a prominent red horizontal band across the middle.

# Carbon taxation and corporate behaviour

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We support our 147,000 members and 424,000 students throughout their careers, providing services through a network of 83 offices and centres. Our global infrastructure means that exams and support are delivered, and reputation and influence developed, at a local level, directly benefiting stakeholders wherever they are based, or plan to move to, in pursuit of new career opportunities. Our focus is on professional values, ethics, and governance, and we deliver value-added services through our global accountancy partnerships, working closely with multinational and small entities to promote global standards and support.

We use our expertise and experience to work with governments, donor agencies and professional bodies to develop the global accountancy profession and to advance the public interest.

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### FOR FURTHER INFORMATION

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This report summarises the breakfast briefing held by ACCA on 23 February 2012. The session looked at the role of carbon taxation in mitigating climate change and its value when compared with other market mechanisms.

## Presentations from the expert panel

The 2011 United Nations Climate Change Conference held in Durban (COP17) made crucial progress towards a legally binding international climate deal. As a result, national governments are now more likely than ever before to implement market mechanisms such as carbon taxes to curb greenhouse gas (GHG) emissions, especially from high-impact industries.

Nonetheless, gaining an understanding of how carbon taxation can address climate change is not straightforward, as an assessment of the relative costs and benefits of taxation has to be compared with a similar assessment of other market mechanisms that could be used. Such assessments must be undertaken in the context of each industry, the location in which it operates, and its national or international profile.

ACCA hosted an event on 23 February to explore the issues further. Three panellists – Dr Alex Bowen from the Grantham Institute on Climate Change and the Environment, Chris Sanger from Ernst & Young and Lloyd Fleming from Carbon Trade Exchange – presented on their respective areas of expertise to a multi-stakeholder audience. The following pages provide a summary of the key points made.

### ECONOMIC LOGIC

There is certainly an economic logic behind the pricing of GHG emissions necessary to create a carbon tax. As Dr Alex Bowen, of the Grantham Research Institute on Climate Change and the Environment, explained at the briefing, emissions are now accepted as an economic ‘bad’. Failure to control emissions will probably result in high costs, and even though these costs are likely to be incurred far into future, action to avoid them is necessary now, for example, by designing regimes that ‘internalise the externalities’ of doing business – in other words, adopting the ‘polluter pays’ principal.

Taxation is further supported by the nature of GHG emissions, which lend themselves to straightforward, elegant market solutions, as the damage done by a tonne of carbon is the same wherever it is emitted. As a result, associated taxation can be pervasive, can be applied to both production and consumption, and can therefore be very cost effective.

Nonetheless, as carbon emissions continue to rise – and rise sharply in some regions – a significant disjunction is emerging between current attempts at GHG emissions control, and what needs to happen.

### THE PANEL

- Chair: Chas Roy-Chowdhury, head of taxation at ACCA.
- Dr Alex Bowen, principal research fellow at the Grantham Research Institute on Climate Change and the Environment, part of the London School of Economics and Political Science. Dr Bowen was previously a senior policy advisor at the Bank of England and was seconded to work on the Stern Review of the Economics of Climate Change.
- Chris Sanger, partner and global head of tax policy at Ernst & Young, leads a team which advises clients in the UK and globally on how to effect policy change by strategically engaging policymakers. He is also a member of the Exchequer Secretary to the Treasury’s Forum of Tax Professionals.
- Lloyd Fleming ACCA, managing director – Europe, Carbon Trade Exchange. A lawyer by training, Lloyd is a former director of the ANZ Institutional Sustainability team.

If the world is to keep global mean temperatures below a rise of 2°C, then it is calculated that governments around the world have to enforce large cuts in carbon emissions of up to 50% by 2050 (and even larger cuts if action is delayed).

In this context, price signals have a valuable role to play. Studies of petrol pricing, for example, have shown that a 1% rise in cost can result in a 0.33% cut in demand, while also driving related innovation (shown in the rise of 'clean' versus 'dirty' patents) thereby generating long-term as well as short-term effects.

Whereas pricing petrol is relatively straightforward, determining a policy for pricing carbon has proved more complex than expected, as shown by the different approaches being undertaken around the world. Some governments link their carbon tax to personal allowances, but other regions – such as the EU – have gone for a 'cap and trade' policy that primarily affects business users. Hybrid policies also exist (as in Australia, which will be covered in more detail later in this report), as well as 'command and control' policies, such as those used to set emission standards for fleet vehicles. A key issue is, therefore, how to define the tax base, and whether it should include both producers and consumers – with the former much easier to identify than the latter.

In addition, how does a government create a tax policy that both reflects the international nature of the problem, and can work within an already established international carbon-trading market?

## TAXATION AS CONTROL

When addressing this issue, economists often prefer to see taxation as a control strategy, in contrast to 'cap and trade', which can be adversely affected by the volatility of quota prices (which logically should rise gently but which in practice do not) and which in turn leads to higher average abatement costs over time. Taxation also results in less administration, making it more cost-effective overall, and can be used to discourage the 'grandfathering' that can take place within a trading system, where credits are issued on the basis of past rather than current emissions.

Even so, economists also admit that tax systems can be very complex and can risk overshooting long-term cumulative emissions targets, which can prove very costly. In addition, cross-border disparities between tax regimes soon emerge as national policies are implemented, and tax systems also lack mechanisms for automatic transfer of credit to poorer countries that find it harder to decarbonise.

Putting a price on carbon emissions may be difficult, but choosing a tax rate is proving just as challenging. A number of different routes exist, including marginal social cost, marginal abatement cost, quota price, or a model-based 'shadow price'. Whatever route is chosen it must – as the CBI recently stated – demonstrate long-term credibility, flexibility and predictability.

All models show that the price of carbon will rise, but how high and how fast is debatable, and so pricing and tax policy must remain flexible.

Coherence is also essential. For example, in the UK, the taxation regime applied to gas use, both domestic and industrial, includes an implicit carbon tax ranging from zero for domestic users to £43.14 per tonne for gas used for industrial electricity generation; this compares with a figure of £246.33 per tonne for petrol used for transport. There is clearly an imbalance here, with taxes both too low and too high, more coherence is needed if similar policies are to remain credible when applied more widely.

It becomes clear, therefore, that if a realistic carbon taxation policy is to be established then key economic questions have to be answered. For example, given the fundamental price uncertainty of carbon, how can tax targets be set nationally and internationally, and a policy developed which can take account of economic downturns? How can international businesses such as aviation be brought into a tax regime? How can the current patchwork of climate change policies implemented around the world be made coherent? One solution, which could deliver essential policy credibility and consistency, is to establish a body analogous to the Bank of England's Monetary Policy Committee. If such a body were given control over carbon pricing, it could assess the various influences affecting the pricing decision, but do so openly and separately from government policy directives or lobbying.

## CAN CARBON TAXES MAKE A REAL DIFFERENCE?

Tax can be a valuable tool of social and economic policy and hence there is a need to consider the role for carbon taxes in UK, argued Chris Sanger, Global Head of Tax Policy at Ernst & Young, who also noted that businesses are now starting to listen properly to the climate change debate. Key drivers are encouraging this new mind set are:

- government regulation is starting to shape specific behaviours, from environmental laws to financial reporting guidelines,;
- cost reduction opportunities, especially linked to high energy costs, are becoming increasingly relevant;
- revenue generation opportunities are emerging, from new products and services, to new business models;
- and evolving stakeholder expectations are starting to have real commercial impact, whether customers, investors or the media,.

Together, these drivers have changed the landscape from one where, say 10 years ago, a small group of companies were active in the debate but only limited progress was being made, to one where the environmental messages are heard across business and received much more positively.

Carbon tax policy is therefore one of a number of potential government levers together with spending, regulation, information, and voluntary participation through codes of practice. Tax policy initiatives focus on incentives (such as reliefs, credits and market pricing mechanisms), higher burdens for higher carbon activities, and indirect taxes such as levies generated from carbon-based energy generation.

## TAX DESIGN CRITICAL

When faced with carbon-based taxation, the business response is to reduce carbon use or energy inefficiency, switch to lower-energy strategies, innovate, or offset. These responses can quickly lead to tangible changes such as resource-efficient buildings, plant or infrastructure, greater sourcing of sustainable raw materials, or a reduction in the resource intensity of the supply chain.

In practice, the effectiveness of any taxation policy is critically dependent on the design of each specific tax, and a good example of a highly effective tax was that levied by the UK government on regular unleaded petrol. As no levy was applied to the ultra-low sulphur alternative, an almost 100 per cent switch took place virtually overnight, with little or no disruption to consumers. This approach also demonstrates the value of targeting taxes at smaller, but very influential groups (in this case petrol retailers) whose actions can effect change among many millions of users.

Understanding whom to influence, and when, therefore becomes a critical element of a carbon-tax design, as does helping businesses understand how carbon taxes can affect their strategic decisions.

The tax director within an organisation is therefore set to play an increasingly important role, and may even – by default – become an organisation’s environmental champion. While the government’s challenge is always to raise the profile of any climate change initiatives and produce a joined-up result, so tax directors must aim to understand the wider picture and think of the best way to react.

For example, an organisation must be able to understand the real cost of what it is already paying in environmental taxes, and identify the opportunities for benefits or incentives, in order to close gaps at all levels and ensure that all benefits are captured. In this context, the role of the tax director will evolve to focus on four fundamental activities:

- the effective management of carbon and environmental tax burdens
- maintaining awareness of, and developing a proactive approach towards, available benefits and incentives
- communicating the benefits, across an organisation, of carbon tax efficiency, and
- active engagement in tax policy developments in ‘cleantech’ and climate change.

Currently, business displays significant inertia in its climate change response, but, as it now listens more closely to the climate change debate, an effective and efficient tax policy could stimulate even faster engagement with this issue, and encourage responses that represent real and positive change.

## THE AUSTRALIAN EXPERIENCE

Australia is soon to launch its own carbon-pricing scheme, and the development of this policy is setting an interesting precedent – one observed closely by many countries around the world. Giving some background to the policy, Lloyd Fleming, managing director – Europe of Carbon Trade Exchange, explained that Australia is taking the lead in this area as, even though it is a relatively small economy, it has one of the highest rates of carbon emissions per capita in the world, beaten only by the oil-producing economies of the Gulf States, and resulting from the use of the country's abundance of poor-quality coal to generate electricity.

There is a moral imperative to address this issue, recognised by the Australian government, but there is also an important political precedent on which to build, because the New South Wales GHG Reduction Scheme, introduced in 2003, was not only one of the first emissions-trading schemes, but is also now the world's second largest carbon market.

The shift from state to national policy has, not surprisingly, met significant opposition from vested interests in the energy industry, which are against carbon pricing. Nevertheless, policymakers have persisted, with the result that Australia's new Clean Energy Legislative Package is due to be launched later in 2012, and will comprise four key elements. Three of these, investments in land, investments in energy security and renewables, and support for business and households, provide a cushion for those affected by other parts of the policy, but the element of most interest across industry is the introduction of a carbon pricing mechanism (CPM).

The CPM will be introduced in two phases. During the first, fixed price phase, which will run for three years, no cap will be set on emissions, but no credits can be imported either. After this period, a flexible price emissions trading scheme will be introduced, with floor and ceiling prices linked to the international carbon price (helping businesses manage risks), while limited international

credits can be imported and unlimited permits banked. About 500 emitters – who between them are responsible for 60% of Australia's GHG emissions – will be affected by the CPM. These emitters primarily represent businesses in the coal, mining and waste disposal sectors. The CPM is not just a tax grab: money raised by the scheme will be recycled back into clean-energy projects.

When devising the CPM, policymakers were aware of the international implications for many of those businesses affected and so government compensation is available to offset any disadvantage experienced on the global markets. In addition, agriculture is deliberately left out of the policy, instead being controlled by a different policy incentive mix called the Carbon Farming Initiative. This land-based GHG emissions abatement scheme allows farmers and landowners to generate carbon credits, and also has fixed and flexible pricing phases.

It is important to acknowledge that, although Clean Energy legislation is clearly defined and now on track for full implementation, its development has been politically fraught. As a result, the scheme is now closely intertwined with other national tax reforms, which not only shifts tax focus away from income towards consumption, but also makes the policy much harder to repeal by subsequent governments. For example, as part of the compensation package, the tax-free threshold has been tripled and income tax cut for certain bands of wage earners. There are also moves to make the tax system more transparent, alongside upfront tax deduction and fuel credit schemes for businesses. The aviation industry does not currently receive fuel tax credits and so is exposed to the carbon price through any increase in excise, but it can opt into the CPM and most companies in the sector have done so.

The policymakers who have developed the Australian scheme have learnt from the problems resulting from the fixed scheme adopted by the EU, and have therefore employed strategies specifically designed to iron out volatility.

As a result, the Australian model is now of considerable interest to other non-EU nations and it may influence the development of other policies around the world.

## Debate and discussion

Following the presentations, members of the invited audience were asked to share their thoughts and questions with the panel, and the following key themes emerged. The discussion was chaired by Chas Roy-Chowdhury, head of taxation at ACCA.

### **The aviation industry poses specific problems for policymakers in that flights – and therefore the GHG emissions produced – are frequently international. How can this be addressed?**

One solution suggested by the panel is to establish broad global agreement to unwind earlier tax privileges while implementing environmentally based incentives, and there may be ways to unroll a carbon pricing mechanism that do not necessarily unsettle international trade. Perhaps the most obvious response is to create a global tax, although implementation can be complex. On the other hand, taxation country by country may encourage the industry to ‘move on’ and relocate in regimes yet to implement a similar tax strategy.

Another solution may be to tax the product (each specific flight), a strategy analogous to a banking tax that taxes the transaction and that is then knitted together across a multinational space in order to generate a single solution. Even so, it must be admitted that any debate regarding international airspace always becomes political, and it is understandable that in the EU, in particular, there is some frustration that this issue cannot be addressed more quickly.

### **How can business contribute to the debate as to whether climate change mitigation should be supported by a tax policy or by voluntary contribution?**

The panel again reiterated the potential role of tax directors in leading this debate, and in driving change through business by constantly repeating the message that a positive response to climate change is in the best interests of the organisation. Many organisations do not measure the full impact that tax levies have on their business, and some argue that when they do understand the full cost of compliance then they are likely to relocate away from regimes where environmental tax policies have been established, as mentioned above. Nonetheless, it is rare that the ‘tax tail wags the dog’. With relocation a significant decision, and one that may sit uneasily with stakeholders if done purely to avoid environmental responsibilities, it is probably the case that many organisations will simply abate internally.

It is important that business does engage with the debate, and thereby gains a greater awareness of how behaviour change might deliver a positive tax outcome.

For example, recent research, cited by the panel, shows that those organisations that reduce their carbon emissions do not necessarily experience reduced profitability or productivity, and this should act as a ‘wake up call’ for those organisations yet to fully address this issue. It is therefore becoming clear that leading companies have a better record in both environmental and energy performance – a ‘win win’ for those achieving this balance.

Some businesses are already taking a lead. In Australia, for example, major international mining organisation BHP has publically come out in favour of the new Clean Energy legislation. Tired of political uncertainty, and keen to acknowledge the fact that climate change is a global issue, BHP’s support (extremely welcome although unexpected) is helping set the agenda and enabling the company to gain a lead in the negotiations regarding international offsets.

**In the UK, carbon tax rates have not gone up in the last 10 years – does this imply that the government finds such taxes unpalatable?**

This could imply inertia rather than distaste, commented the panel, underlined by the fact that the UK government remains wedded to subsidies, which remain in place despite the current period of fiscal austerity. Policymakers are always wary of making big changes in areas where there would be vocal losers, and given the wide range of tax rises that could be made it is sometimes difficult to identify those areas that are the most damaging. As the primary objective is to stop the activities that are being taxed, however, perhaps the better approach is to remove subsidies?

**It took 10 years make radical changes in industry's approach to landfill, and only after a serious tax hike. How much time will be needed to stimulate real change in the energy sector?**

The panel admitted that there was no accepted timescale associated with energy use as success depends on the mix of taxes applied, and governmental attitude towards them. For example, a contradiction is emerging in the UK where petrol tax, noted even by the IFS as being remarkably high, has become a cash cow for the government, alongside congestion charges and road user taxes. If these taxes are there primarily to encourage environmental change, then the government must be transparent and not only admit that these taxes are unfairly high, but also accept that if the strategy is correct, then in future this revenue stream should fall.

Alternatively, some market-based schemes, such as the SO<sub>x</sub> (sulphur oxides) and NO<sub>x</sub> (nitrogen oxides) trading schemes in the US, have proved more effective than expected, but governments should also be careful not to 'shoot themselves in the foot'. This has been the UK government's recent experience with green energy tariffs, the surprising success of which resulted in revenue saving exclusions and changes that did little to encourage certainty about the future. This policy uncertainty, makes it even harder to estimate long-term timescales for behavioural change.

**How can an international understanding of the mechanisms underlying an effective carbon taxation policy be developed given current accounting uncertainties, and especially differing interpretations of liabilities and assets in the context of carbon?**

A global standard would be one answer, suggested the panel, but such a standard would be difficult to establish as it is hard to measure systems designed to stimulate specific behaviour rather than simply raise revenue. Nonetheless, environmental change does need to be measured effectively and in the meantime it is best to use rough assessments rather than give up completely. Accountants have an important role to play in this context, as they can work to quantify the financial benefits, as well as the environmental ones, that can result from carbon-abatement strategies.

**Figures from the International Energy Agency (IEA) show there is plenty of coal and oil available for extraction, but using all this energy would take us above the 2°C ceiling for acceptable global warming. Given that brown energy remains much cheaper than green, this poses a real dilemma for many businesses. How should they respond?**

The panel accepted that as there are plenty of fossil fuel resources, probably enough for the next 30 years, it is understandable that 'ordinary' business finds it hard to be concerned.

It is vital, however, that business understands that climate change is a long-term problem, and that any decisions taken now will significantly affect the eventual outcome.

It is not helpful that policy remains inconsistent in this area, but business can play an important role by teasing out these inconsistencies as part of its process of identifying longer-term policy direction.

Even so, the future is not entirely clear because one outcome of the current raft of environmental tax policies is to encourage innovation in the area of carbon capture and sequestration. As a result, many problems currently raising concerns may be addressed, and practical solutions found, with the result that the landscape may look very different 30 years from now. For example the outcome of the current raft of environmental tax policies is to encourage innovation in the area of carbon capture and sequestration is unclear.

**Is taxation enough on its own, or will regulation and other mechanisms always be necessary?**

The five main government levers used to change environmental behaviours are taxation, information, regulation, spending, and encouraging participation through voluntary codes and other non-compulsory activities. Experience shows that results depend on the mix of levers applied, but also that every scenario is different. The example, given earlier, of the almost immediate and universal switch to ultra-low sulphur petrol, was the direct result of specific taxation. In a parallel example, higher taxes applied to cigarettes in the UK did not, however, have as great an effect on smokers as the regulatory ban on smoking inside public places.

Policymakers must therefore be pragmatic and consider all the tools at their disposal. There will always be contexts where taxation alone will simply be inappropriate, such as the built environment (a major emitter of GHGs) where decision making is also guided by planning and development regulation, making taxation more complex. In this context, it is also important to note how difficult it can be to effect major behavioural change through tax. In Australia, for example, the abundance of land encourages low-density building, which public transport finds inefficient to service, thereby encouraging greater use of road traffic. Rules and regulations are needed if urban design is to reduce its carbon output, something that taxes alone would find difficult to effect.

**Given that climate change is a long-term issue, how can a consistent focus on environmental policy be maintained, in government, the media and among the general public?**

The impact of the Stern review has shown that reasoned interventions can have a gratifyingly significant effect. Events such as the recent COP17 meeting are also very helpful – in this case, even though hoped-for agreements were not reached, many countries actively put policies in place before attending the Conference so that they had ‘something to report’, and this is a benefit in itself. The work of bodies such as the UK’s Committee on Climate Change is vital in keeping professions continuously informed and, in the longer term, some environmental ‘excuse’ taxes, which reallocate resources towards low-carbon activities, can help sustain awareness of key environmental messages.

The history of environmental policy development is littered with examples of ideas proposed but then not carried out. There is a real danger, therefore, that any work done to sustain environmental commitment in the long term can be undermined if the rhetoric is maintained but policy initiatives are not.

**TECH-TP-CTCB**