

# Chapter 9

## Climate change: the political and business challenge

Peter Mandelson

The societal move to low carbon is clearly an issue that transcends – or should transcend — politics in the “party-political” sense. The scale of the social and infrastructural change that it will require here and across the global economy puts it in a class of its own as a problem that must engage parties across all serious parts of the political spectrum.

However, this does not mean that the politics of the transition to low carbon do not matter. In fact, the opposite is true. The need to capture the popular imagination, to generate a sense of popular urgency and endeavour make the move to a low-carbon society an intensely political problem. Because the transition to much greater resource efficiency will change our patterns of consumption and the way we do almost everything in our lives that involves the use of energy, it will inevitably have to engage people to break from established habits.

The great achievement of climate science and the green movement over the last two decades has been to establish the incontrovertible evidence for destructive and man-made global warming and to push the issue to the centre of mainstream politics. The danger is that the very starkness of the warning that has driven this growing awareness produces not public action for change but public resignation. The scale of the problem seems overwhelming to individuals. The immediate costs lie over the horizon, either literally in parts of the world distant to most Europeans, or in the future, where they can be easily discounted against the benefits of existing lifestyles or the costs of change. Contrary to its intention, the grim narrative of global catastrophe encourages many people not to act, but to believe that it is too late to act, or that their individual action can make little difference.

The only way to break this leap from awareness to resignation is to build a positive political story around the transition to low carbon. This is not to argue that we should minimise in public debate the huge changes that we will have to make as individuals in the way we consume resources, or pretend that the economic benefits of the transition are not likely to outweigh the costs of change in the short term. But the politics of climate change ultimately need to be rooted in a positive picture of change. In particular, alongside the obvious environmental benefits of action, we need to stress the potential economic benefits of change.

This is not simply a question of the long term. As powerful as it is, the argument of the Stern Report and others that action now will ultimately save our economies from the long-term costs of unchecked global warming is very abstract for a business or individual. Our focus must instead be on the immediate economic benefits of the shift to low carbon, especially for those economies that are able to capture the first mover benefits. The politics of climate change need to both stress the business benefits of the transition to low carbon, and actively seek to prepare companies and workers to compete for and benefit from the opportunities that will come from that transition.

This means seeing the transition to low carbon as a problem for industrial policy in the broadest sense. How does government work with market forces to create the economic incentives to change? How do we ensure that government sends clear, consistent and unambiguous signals that it is committed to change so that businesses can make their own investments? How do we ensure that the technologies required to enable the shift to low carbon are developed and commercialised with the necessary speed? How do we ensure that UK businesses are equipped to be in the vanguard of these industries and thus benefit from the transition here and elsewhere? In effect: how do we help build a positive politics of climate change by showing that the transition to low carbon has tangible, immediate business benefits? In this chapter I want to provide some preliminary answers to these questions. The rationale I will set out here underlies the Low Carbon Industrial Strategy that the government will publish in summer 2009.

## **The global market for low-carbon goods and services**

Although we inevitably focus on its costs, the transition to low carbon is also a significant economic opportunity. The global market for low carbon goods and services is already substantial and is projected to grow rapidly. Although estimates vary depending on what is counted as “green” goods and services, the global market for both has been estimated to be worth around £3 trillion, with prospects to grow by half that again by 2015 (Innovas, 2009). The United Nations Energy Program estimates that the global renewable energy sector alone employs more than two million people (UNEP, 2007).

We have legislated in the EU and in the UK in a way that will inevitably expand demand for low carbon goods and services. We have committed to binding targets for emissions that oblige us to reduce greenhouse gas emissions by 80% by 2050. We have committed to

biding EU obligations to provide a significant tranche of our energy through renewables by 2020. We have shouldered vehicle emissions targets that will require us to cut the contribution of transport to green house gas emissions substantially by the same date. As the measures required to meet these targets begin to bite, and as others adopt a similar approach, demand for low-carbon goods and services will increase substantially.

In principle, European companies are well positioned to benefit from this growing market, and Britain is a European leader in the sector. Low-carbon industries and their supply chains employ more than 880,000 in the UK and contribute around £107 billion to UK GDP. Even through the current downturn the sector is projected to maintain positive growth rates and by some projections could employ around 1.3 million people by 2015. As just one example, the UK's long coastline and considerable experience with offshore oil and gas extraction means that UK companies have the sophisticated engineering and maritime skills required for offshore wind and wave energy generation. Indeed, the Carbon Trust estimates that the wind energy sector alone could add 70,000 jobs and £8 billion in annual revenues to the UK economy by 2020 (HMG, 2009).

Although many of these strengths are in manufacturing, UK companies also have considerable expertise in environmental services such as low-carbon consultancy and carbon finance. The UK is home to the world's largest carbon trading market and accounts for 40% of the European market for low-carbon venture capital. The UK is also well placed to develop the software and the ICT services that will support the low-carbon economy. The British "green sector" is larger as a proportion of its economy than that of the US, Germany, France and Japan (Innovas, 2009).

These existing strengths are not an argument for complacency. While the global market for low carbon will continue to grow, others will also strive to replicate the UK's comparative advantages. Maintaining the comparative advantages of UK low-carbon businesses, and ensuring that the UK is among the best places in the world to start or develop low-carbon businesses will require:

- a clear regulatory framework that enables and encourages them to commit to long term investment;
- the necessary infrastructure to support a transformation of our energy and transport networks to low carbon;
- support for the research and development that underwrites experimental green technologies at the pre-commercialisation stage;
- a steady flow of venture or growth capital to low-carbon firms;
- a workforce equipped with the skills to handle new technologies and processes;

- where appropriate, incentives to drive demand for low carbon goods or practices.

I will look at each of these policy challenges briefly in turn. Although I will put them in an explicitly British context, they are equally relevant and applicable to the EU as a whole. They are collectively defined by the need for a consciously strategic approach from government, and a clear need for a partnership between the public and the private sector.

## **A strategic commitment to change**

Because the cost of investing in many low carbon technologies is, in many cases, very high, it requires a policy environment that is as coherent and stable as possible. The primary obligation for government is to commit to a strategic vision of the required transition in the UK and to stick to it. It has taken substantial steps in this direction by legislating binding obligations on the UK to reduce its green house gas emissions, the environmental impact of its transport fleet and the balance in its energy mix between renewables and other forms of energy generation. In principle, meeting these targets will require that every unit of output in the UK economy in 2050 will have to be produced using, on average, one tenth of the carbon used today. To meet our 2020 renewables targets, we will need to increase energy from renewable sources by nearly ten-fold. These legislative commitments are clear signals that enable companies to invest with greater confidence in technological solutions for meeting these targets.

However, a number of further government commitments have also been necessary to ensure the UK is in a position not just to meet its carbon emissions targets but also to maximise the business benefits of the shift to low-carbon. These all relate to areas where the costs of investment are prohibitive for the private sector without absolute clarity on long term government intentions, and where government policy has, until recently, been ambiguous or unsettled. Two significant commitments stand out. First, a clear commitment to Carbon Capture and Storage for coal-fired power stations. The government provided this in April 2009 when it announced that all future coal-powered energy generation in the UK must incorporate carbon capture technology, part funded. This commitment, along with public support for technology demonstration and support from the EU will create a clear incentive to test and develop the costly technology required to capture and sequester carbon emissions from coal-fired energy generation.

Second, a similar clear commitment to enabling a new generation of nuclear power stations in the UK. This was delivered in 2008 and has been reinforced since. In particular, the progress made to ensure energy companies pay for the waste and decommissioning costs of new power stations and the work underway to identify potentially strategically suitable sites have further clarified the future of nuclear power in Britain. Industry has responded positively and aims to have new power stations operating by 2017/2018. EDF have invested more than £12 billion with their purchase of both British Energy and NDA land at Bradwell. A RWE / EON joint venture has purchased NDA land at Wylfa and Oldbury.

Each new power station represents a considerable opportunity for it has the potential to be worth up to £2 billion to the economy and offer up to 9000 jobs (HMG, 2009).

## **The infrastructure of a green economy**

However, the viability of major low-carbon business investment hangs not only on the wider commitments of government to specific technologies but on the infrastructure that they depend on. While commercial incentives will produce some of this infrastructure – as it has for example in enabling the partial roll out of broadband digital communications – comprehensive coverage, delivered in such a way as to incentivise parallel private sector investment will require some facilitating role for government. The UK's energy grid is clearly critical in this respect. Large scale expansion of renewable and local energy generation will only be viable if the existing energy infrastructure is fully adapted to micro-generation and other energy sources. On top of almost £5 billion of investment already underway or planned for the next five years, the government expects to invest further in the grid's capacity to integrate new renewable generation from, for example, on and off-shore wind. National Grid has already identified scope to advance some new connections for Scottish renewables generation by a number of years. Adapting the national grid in this way is clearly a prerequisite for private sector investment in renewable energy generation in the UK.

A similar viability question relates to the UK's transport infrastructure, especially for low-carbon vehicles. Large scale deployment of electric or hybrid vehicles is clearly dependent on a basic infrastructure for charging them. While these technologies are still evolving, government must ensure that low carbon vehicle technologies are not made unviable solely because they lack the infrastructure to make them work. As part of the government's ultra-low-carbon vehicles strategy in April 2009 it announced £20 million in additional assistance for a small number of urban centres willing to take the lead in installing charging networks for ultra-low-carbon cars and vans (HMG, 2009b).

## **Supporting green innovation**

Government will also need to work with business to support the development of technologies like ultra-low-carbon transport before they reach the commercialisation stage. UK businesses, prior to the recession, were investing around £1 billion a year in low-carbon technologies, encouraged in part by an effective research and development tax credit system. However, the UK remains comparatively weak among developed economies on investment in research and development. Between 2008-2011 the UK government will fund around one and half billion pounds worth of low carbon research, development and demonstration. The largest tranche of this – £500 million – will be invested by the Technology Strategy Board, which has joint public-private programmes in place for developing low carbon vehicle technologies and low carbon aerospace technologies such as composites. In recognition of the increasing centrality of its role, in 2009, the government increased the TSB's funding by £50 million, drawing from the £750 million Strategic Investment Fund created by the 2009 Budget. As part of its ultra-

low carbon vehicles strategy it also expanded funding for the TSB's low-carbon vehicle demonstration scheme, ensuring that the programme will put almost 300 demonstration models on British roads over the next eighteen months. A number of other low-carbon technology demonstrator facilities, which are vital to testing the commercial viability of new low-carbon technologies, are also being considered for investments through the Strategic Investment Fund, where private sector support is not available.

## **Finance for low-carbon businesses**

This links to the wider question of access to the necessary finance to launch and develop low-carbon businesses. The UK has well developed venture capital markets, but there is good evidence that an equity gap exists in the UK and Europe for small capital injections of between £250,000 and £2 million (HMG, 2009c). This gap appears to be linked to the relative due diligence cost of making investments on this scale. This is, however, finance that can be critical to companies in very early development or at the first expansion stage. There is also some evidence that UK venture capital is retreating from the UK's regions (BVCA, 2007). Obviously the highly constrained credit environment of the banking crisis and a gradual economic recovery only exacerbate this problem. As a response the government is currently assessing options for developing a new public private investment partnership similar to the Industrial and Commercial Finance Corporation created after the Second World War. This would use public investment commitments to leverage private growth capital for innovative small firms, many of which would inevitably be in the low-carbon sector. Any new government initiative would build on the success of the eight small-scale Enterprise Capital Funds currently part-funded by the government and the £75 million Capital for Enterprise Fund established in 2008 to increase the supply of risk capital to innovative businesses through the downturn. In addition, at Budget 2009, the government announced that UK low-carbon firms stand to benefit from up to £4 billion in new capital lending from the European Investment Bank, either in the form of direct loans or intermediated bank lending. The government will act as a facilitator, bringing together developers, banks and the EIB.

## **Building a low-carbon workforce**

No green revolution in business will be possible without people with the necessary skills to manage new technologies and new processes. Within a decade, low-carbon skills will need to be fully embedded in the UK workforce. This will be especially important in manufacturing and construction, where an understanding of low-carbon processes will become part of the basic skillset. To make this happen the government needs to work with employers to stimulate demand for low-carbon skills, and to some extent to anticipate the growth in demand for low-carbon skills. As part of the *New Industry New Jobs* agenda the government has committed to developing with the UK's Sector Skills Councils and the UK Commission on Employment and Skills a new practical and analytical capacity to collect and deploy intelligence on skills needs in low-carbon sectors and markets quickly and effectively. This will be backed up by a new Skills Funding Agency that will ensure that the funding is available to rapidly develop skills to support low carbon industries (HMG, 2009c).

## Driving demand for low-carbon

Finally, where appropriate, government needs to be ready to act to drive market demand for the shift to low-carbon. Obviously, the government's various emissions targets will have this effect, as they will require increasing measures to raise the cost of carbon. However a number of targeted measures now to drive demand also make sense. The government has identified two initial areas for this. The first is encouraging both public and private organisations to invest in energy efficiency. While some incentives to do this already exist, especially the costs imposed by high or volatile energy prices, many firms do not prioritise energy efficiency either because they are unaware of the potential economic benefits, or unable, in the case of many SMEs to fund the initial outlay, especially in the current environment. The Carbon Trust and others have estimated the potential value of such energy efficiencies at more than £3 billion per year to the UK economy (HMG, 2009a). At budget 2009 the government committed a further £165 million to expand government loans to public sector organisations and small businesses to improve their energy efficiency. A further £200 million was allocated to expand public subsidies for the renovation of existing social housing stock and to drive up energy efficiency standards for new social housing. This is part of a wider government programme announced in September 2008 to retrofit the entire social housing stock of the UK to high standards of energy efficiency. Meeting the demand created by these various programmes will create a major incentive for the UK construction industry to develop the necessary skills in insulation, retrofitting, heating technologies and other forms of greater energy saving.

The other area where the government sees a key role for government in shaping market demand is in the low carbon vehicle sector. As part of its ultra-low carbon vehicles strategy in April 2009 the government announced £230 million to provide subsidies to consumers purchasing low carbon vehicles from 2011. The government is also using its weight in the market as a procurer to create demand for low carbon vehicles. The Department of Transport has launched a Low Carbon Vehicle Procurement Programme which aims to increase the introduction of electric and low carbon cars and vans into the public sector vehicle fleet.

## Conclusion: principles for a low-carbon industrial policy

This is a necessarily brief summary of some of the key policy decisions that will or are already shaping a positive business environment for low-carbon goods and services in the UK. They aim to ensure that UK companies have the necessary clarity and certainty to invest in change and access to the skilled workforce, innovation and science base, and finance to realise and commercialise low-carbon technologies and the huge array of support services that will underwrite a low-carbon economy. This kind of activist "industrial policy" for a low-carbon transition needs to be guided by three basic principles:

First it must be rooted in a **long term strategic approach** from government, recognising that certainty in government's own stable commitments to a low-carbon economy is critical to the confidence of businesses in investing in change and individuals investing in training or consumer choices. In sending these signals governments must ensure that their message is clear and consistent: infrastructure, planning and the full suite of government policies must all be aligned to the goal of facilitating low-carbon business investment and growth.

Second, we must be willing to **use the power of government to supplement the market** in certain ways if we are to make the transition to low-carbon quickly and effectively. At the most fundamental level this can mean intervening in the market to raise the cost of carbon in certain ways, and to a level that forces a genuine change in behaviour. It can also mean public sector interventions to ensure that Britain has the necessary infrastructure to support low-carbon technologies, that UK-based companies can draw on a quality science base and the resources to develop and commercialise low-carbon technologies, that Britain is training people with the required skills and that finance is available for viable low-carbon companies. None of these things will be provided by the market alone. Where appropriate, it will also mean government intervening in the market to generate demand that will accelerate the transition to low-carbon: support for consumers purchasing the first generation of ultra-low-carbon vehicles, government procurement programmes that increase demand for ultra-low-carbon vehicle fleets and assistance for businesses wanting to invest in greater energy efficiencies are all practical examples of how this can be done sustainably. Recognising this essentially pragmatic balance between the roles of the market and the state in driving the transition to low carbon is one of the keys to the politics of climate change.

Finally, government has a responsibility to **ensure that UK-based companies are equipped to compete for the new demand created by government climate change policies**. This means looking at the supply chain implications of its decisions to commit to renewables obligations, nuclear new build or greater energy efficiency standards. Where UK-based firms have the clear potential to compete to supply this demand, government should develop, in partnership with business, strategies for ensuring that funding for research and development, training for workers and finance for investment are available. This approach is part of the activist approach to equipping UK-based firms to compete in a globalised economy set out in the government's *New Industry, New Jobs* paper in April 2009.

Identifying, advocating and equipping ourselves for the potential business benefits of the transition to a low-carbon economy must be an integral part of a positive politics of climate change. Such an agenda is not an attempt to sidestep the very real questions about the sustainability of patterns of resource use or economic growth that climate change compels us to answer. It is certainly not to argue that climate change should be presented as cost-free to business or consumers: the economic costs of the transition

to climate change are real and patterns of resource use and consumption will have to change dramatically. The rising cost of carbon will — and indeed must — make many current business models increasingly expensive and untenable.

But these negative incentives for change can only be half the story. The level of public engagement that the politics of climate change will require must be built on a political narrative of opportunity as well as profound and even difficult social change. This is all the more important in the context of the current recession, where investment in the transition to low-carbon has the potential to play an important part in our economic recovery and renewal. Maximising these business opportunities will require a close partnership between the private and public sectors and a pragmatic approach to using both the dynamics of markets and the influence and capabilities of the state to drive change.