DELIVERING THE CLIMATE CHANGE ACT:
A MANIFESTO FOR A LOW-CARBON ECONOMY
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Climate change is one of the biggest challenges facing humanity and the planet. To avoid the worst impacts, economies around the world urgently need to reduce carbon dioxide (CO₂) emissions. Not only is this task affordable, it also presents major economic opportunities for countries determined to make the transition to a low-carbon economy. The UK is no exception.

The Government has shown leadership by introducing a Climate Change Act, a new law that Friends of the Earth has campaigned for since 2005. The Act will provide the UK with the framework to tackle climate change by setting out legally binding emissions targets and carbon budgets. For the Act to deliver on its promises, however, the Government must face, head on, a number of urgent questions.

Delivering the Climate Change Act: A manifesto for a low-carbon economy identifies the political and economic barriers to the UK becoming a low-carbon economy. It then sets out in detail a series of concrete actions the Government will need to take if we are to make this shift. It is a significant challenge, requiring political will and substantial changes to economic policy.

The first of the Government’s carbon budgets under the Climate Change Act is due in Spring 2009. With a strong strategy the UK could genuinely lead the world in stopping the worst of climate change, preventing colossal loss of life, and delivering a thriving low-carbon economy. With a weak strategy the UK will continue to drift, the Act will fail and the threats from climate change will increase. The stakes could not be higher.

This Manifesto shows that the way is possible if there is the political will. It demonstrates that for the Climate Change Act to be effective, Government must confront and address certain key issues in economic policy and reposition climate change as a top cross-government priority.

The diagram on the following pages outlines the key actions the Government must take to move the UK to a low-carbon economy.

The full report Delivering the Climate Change Act: A manifesto for a low-carbon economy can be found at: www.foe.co.uk/resource/reports/climate_change_manifesto.pdf
SETTING THE BUDGET

- Push for a global cap on carbon emissions based on the science
- Allocate fair share to UK
- Include all UK sectors in carbon budgets (including aviation and shipping)
- Ensure carbon budgets are based on actual UK emissions only (without importing credits or permits)

BUILDING BLOCKS FOR A LOW-CARBON BUDGET STRATEGY

GETTING MOMENTUM BEHIND THE BUDGET

- Make tackling climate change a top political priority
- Locate responsibility for carbon budgets in the cabinet office to ensure policy is integrated across government
- Introduce a new Golden Rule to the Treasury to create a clear framework
POLICY REFORMS TO DELIVER THE BUDGET

- Reorient public spending to reduce emissions and stimulate innovation.
- Drive low-carbon innovation through regulation and the setting of high environmental standards.
- Reform emissions trading to send the right price signals with a science-based cap, auctioning of permits and phasing out the reliance on imported credits.
- Use carbon taxation alongside trading to set a price floor for carbon.
- Modernise project and policy appraisal to make it compatible with carbon budgeting.

PRINCIPLES FOR DELIVERING THE BUDGET

- Commit to maximising economic benefits of moving to a low carbon economy.
- Commit to progressive and equitable carbon budget strategy.
- Integrate carbon budget strategy with local and regional goals.
DELIVERING THE CLIMATE CHANGE ACT

The Manifesto sets out four essential building blocks for ensuring the UK’s carbon budget strategy is placed firmly on the path to delivering a low-carbon economy.

1. First, and crucially the carbon budget strategy must set a clear goal. The strategy must aim to deliver the UK’s share of emission cuts that will keep global temperature increases below 2°C, above which is considered a dangerous level of climate change. To be coherent, the strategy needs to include all UK emissions – including those generated by aviation and shipping – and must not rely on offsetting by industry to meet targets. The Government can help by introducing separate sectoral strategies to bring down emissions, but no sector should be exempt.

2. Second, the climate strategy must be integrated with economic and social goals. The transition to a low-carbon economy could have both positive and negative effects. To maximise the positive effects and minimise the negative ones two principles need to be at the heart of the carbon budget strategy. 
   a) the move to a low-carbon economy should be progressive and equitable to minimise any negative impacts on the poor and most vulnerable in the UK.
   b) the carbon budget strategy should make the most of the massive economic opportunities the transition to a low-carbon economy presents, including financial savings from greater efficiency and the creation of new jobs through innovation. In committing to these the Government needs to make significant reforms to current economic policy if the strategy is to realise these opportunities.

3. Third, climate change must be put as high on the Government’s agenda as education, health and law and order. Integrating the wide range of new and existing policies across society and government needed to tackle climate change will only be achieved by making it a cross-governmental top priority. The Prime Minister has acknowledged that climate change is one of the biggest challenges facing humanity. He must now also introduce a third economic Golden Rule to tackle it.

4. Finally, the Government must use the full range of policy tools available to it. Four areas of policy need to be strengthened as a matter of urgency:
   - Set a strong carbon price through tightening emissions trading alongside carbon taxation
   - Boost technological innovation through higher environmental standards alongside a stronger carbon price
   - Increase the use of public spending to help households cut emissions through improving energy efficiency and reducing traffic.
   - Modernise the assessment of new policies and infrastructure projects to reflect the new carbon budgets.
INTRODUCTION

Tackling climate change is now a planetary emergency, requiring immediate action by all countries. It is still possible to take the necessary actions to avoid the worst effects. Such actions also present a major economic opportunity, with hundreds of thousands of jobs and major new industries and technologies associated with the transition to a low-carbon economy. The UK is in a position not only to take the lead on cutting emissions, but also to realise the opportunities from doing so.

The UK Government’s Climate Change Act is a major step forward in the fight against climate change. It will be the first national legislation anywhere in the world to set legally binding targets for cutting carbon dioxide (CO₂) emissions. These targets will be met through a series of carbon budgets, that will set out the amount of carbon that can be emitted by the whole economy over time, broken into a number of shorter budget periods.

Keeping within these carbon budgets and delivering on the UK’s targets will be a major challenge. It will require a new, coherent and comprehensive economic strategy across Government. The first of these carbon budget strategies will be set out at the Spring 2009 Budget. In the coming year, as the scope and content of this strategy are discussed, there are central questions which must be addressed if it is going to be effective.

A MANIFESTO FOR A LOW-CARBON ECONOMY

This Manifesto sets out four essential building blocks for ensuring the UK’s carbon budget strategy is placed firmly on the path to delivering a low-carbon economy.

1. SET A CLEAR GOAL
1.1. Set an overall goal based on the science and the UK’s responsibilities
1.2. Include all sectors, and set out their responsibilities
1.3. Ensure the budget is about UK emissions
1.4. Make clear what is not included in the strategy

2. INTEGRATE THE CLIMATE STRATEGY WITH ECONOMIC AND SOCIAL GOALS
2.1. Progressive, equitable strategies
2.2. Maximise economic benefits

3. GIVE THE STRATEGY PRIME POLITICAL IMPORTANCE
3.1. Make the strategy a governmental priority
3.2. Locate the strategy in Cabinet Office
3.3. Create a new Golden Rule for Treasury

4. SET OUT CLEAR ECONOMIC REFORMS SO THAT LOW-CARBON DECISIONS BECOME THE NATURAL OPTION
4.1. Clarify the role and purpose of carbon pricing
4.2. Reform the use of emissions trading
4.3. Reform the use of environmental taxes
4.4. Increase use of high standards to drive improvements
4.5. Increase use of government spending to drive improvements
4.6. Make project and policy appraisal compatible with carbon budgeting
4.7. Integrate the national strategy with local and regional policy
The Climate Change Act will provide the legal framework for the UK to tackle climate change. The strategy to deliver it will need to be crystal clear about its end goal. To be coherent, it must also define what is included and excluded from the long-term emissions reduction targets and shorter-term carbon budgets. There are four key factors to achieving this:

1.1 Set an overall goal based on the science and the UK’s responsibilities
1.2 Include all sectors, and set out their responsibilities
1.3 Ensure the budget is about UK emissions
1.4 Make clear that the strategy does not include:
   - Reducing the UK’s carbon impact abroad
   - Dealing with unpreventable climate impacts
   - Cutting emissions of other greenhouse gases

1.1 SET AN OVERALL GOAL BASED ON THE SCIENCE AND THE UK’S RESPONSIBILITIES
Both the EU and UK Government have defined the goal of action on climate change as keeping global temperature increases below 2°C. A 2005 report for the Government by the UK Meteorological Office defined a rise in global average temperatures of 2°C or more as a dangerous level of climate change. The targets and budgets established under the Climate Change Act must reflect this overarching goal.

The critical issue in keeping temperature rise under 2°C is cumulative emissions – the build-up of emissions over a period of time, not total emissions in any particular year. Carbon budgets address this by setting out the amount of carbon that can be emitted by the whole economy over decades, for example 50 years, broken into a number of shorter budget periods.

The UK’s share of a global budget for 2°C, under the differentiated responsibilities commitment set out in the United Nations Framework Convention on Climate Change (UNFCCC), will be announced by the UK’s independent expert Committee on Climate Change by the end of 2008. However, the national carbon budget for the period 2000-2050 will be in the region of 4.6 giga-tonnes of carbon (GtC).

Whether we stay within budget depends on what action is taken over the next 10 years. This period will take up the lion’s share of the total budget. The urgent need for decisive action now to reduce emissions means that:

The initial Climate Change Act strategy (currently due at Budget 2009) to meet the first two five-year budgets must include strong additional measures to cut emissions.

If slow progress is made, steeper cuts will be needed in future budget periods. These will be far more costly further down the line for a number of reasons: efficiency gains save money; innovation to reduce the price of low-carbon and more...
efficient technologies will have been slower; the economy may be even more locked in to carbon-intensive infrastructure; extremely rapid, forced cuts are more likely to cause recession; and the costs resulting from climate impacts are dependent not just on the final stabilisation level but also on the pathway to it.

1.2 INCLUDE ALL SECTORS, AND SET OUT THEIR RESPONSIBILITIES

It is neither scientifically credible nor will it be economically effective to design budgets which omit key sectors. The UK’s contribution to international aviation and shipping must be included in the budgets and targets from the outset.

Although carbon budgets and targets set the overall goal, they do not set out which sectors will need to make which cuts within these budgets. Already, almost all individual sectors, or the government departments responsible for them, are arguing that more cuts should be made elsewhere, for a variety of reasons. Although such claims may have some merit, it is also clear that the sum of all sectors must deliver the required cuts.

There needs to be a comprehensive strategy, which very clearly sets out the responsibilities of each sector in delivering on overall carbon budgets. For each sector, a strategy is needed to manage the transition.

1.3 ENSURE THE BUDGET IS ABOUT UK EMISSIONS

It is possible that the Climate Change Act could allow emissions reductions by other countries to count towards the UK’s carbon budget. This would be a mistake. The prime purpose of the Climate Change Act is to reduce the UK’s emissions. Allowing purchases of credits from abroad might mean that short-term costs are cheaper, but there are major negative, medium to long-term implications.

First, the need for increasingly steep global cuts will mean such purchases are likely to become more expensive as overall caps bite. Economies that have relied on this strategy to accommodate carbon-intensive infrastructure and lifestyles will be locked in to levels of emissions that are increasingly expensive and difficult to cut.

Second, the alternative path of cutting emissions in the domestic economy to stay within budget offers genuine economic opportunities. Improving energy efficiency and investing in new low-carbon markets and technologies will stimulate innovation and, as the Government’s Stern Review on the economics of climate change says, has the potential to “trigger a new wave of growth and creativity in the global economy”.2 Buying our way out of our responsibilities would delay the UK’s transition to becoming a genuine low-carbon economy, and make it more likely that the UK loses out to other countries in these new, global opportunities.

Finally, buying our way out of emissions cuts would also drastically diminish the galvanising effect that real action would have on developing countries.

There are two main ways in which emissions reductions outside of the UK could be counted towards the UK’s carbon budget. First, the Government itself could purchase credits from abroad if it was going to miss its carbon budget. This option should be explicitly ruled out in the Climate Change Act. Second, and of immediate concern, emissions reductions outside of the UK could be counted towards the UK budget through the European Union Emissions Trading Scheme (EU ETS).

Under the EU ETS emissions allowances are distributed to various industry sectors in each member state, which added together equal the scheme’s cap. If operators emit more than their allowance, they can buy permits from industries in other EU countries currently emitting less than their national quota and who have surplus to sell. They can also purchase credits, which allow them to offset their extra emissions through clean-technology schemes in developing countries. At the moment, only the quota allocated to UK industries covered by the EU ETS is counted in the UK’s official emissions figures, not the actual emissions from these industries, which are in fact higher due to the purchasing of additional permits and credits from overseas.

In measuring progress towards budgets, the actual emissions from the UK sectors in the EU ETS should be counted rather than the number of permits allocated. If only allocations are included, the incentive to develop further policies to cut emissions in those sectors will be lost. For instance, there would be no incentive to introduce policies to promote renewable electricity, and the decision to expand Heathrow
or build a new generation of coal-fired power stations would have no effect on the UK’s carbon budget. In addition, if the UK uses bought-in credits to counteract the effect of new carbon-intensive developments, then there will be additional political pressure in future negotiations on the EU ETS to set even weaker caps. EU ETS caps are already too weak without additional pressure from the UK in this direction.

This is not to diminish the importance of the EU ETS – it is perhaps the most important single mechanism to cut carbon, and is in urgent need of reform to ensure it does so (see section 4.2). Instead, the EU ETS should be seen as a driver for the UK and others to find ways to cut emissions, not as a mechanism for protecting sectors within it from the policies required (alongside trading) to deliver within a carbon budget.

The strategy needs to be clear that the carbon budget will be based on the UK’s actual emissions, without the aid of permits and credits.

1.4 MAKE CLEAR WHAT IS NOT INCLUDED IN THE STRATEGY
The Climate Change Act will provide the foundations for building a low-carbon Britain, but there are three significant issues it will not tackle:

REDUCING THE UK’S CARBON IMPACT ABROAD
The carbon budgets will require an economic strategy for the UK’s emissions. However, other aspects of UK policy have a major impact on emissions elsewhere in the world, for example, through the lending practices of UK financial institutions, the investment and other decisions of UK listed corporations, and the UK’s advocacy role in international institutions such as the IMF, WTO, World Bank and United Nations Framework Convention on Climate Change (UNFCCC). These impacts do not greatly affect whether the UK meets its own carbon budget, but clearly have a major impact on the overall global goal of tackling climate change. The UK needs to develop a separate, linked strategy for tackling its carbon impact abroad.

DEALING WITH CLIMATE IMPACTS
Although the worst impacts of climate change can still be stopped, there will be some unavoidable impacts of climate change. The UK will need to develop and deliver a strategy for adaptation to limit these negative impacts. These include greater flooding risk and the increased severity and frequency of extreme weather events, such as droughts and storms. Such a strategy can only mute the impacts and cannot solve the problem of climate change but it can reduce the human, economic and environmental costs of the impacts that our emissions to date will cause. Key areas for such a strategy will include major infrastructure decisions, greater foresight in planning, and technology policies.

CUTTING EMISSIONS OF OTHER GREENHOUSE GASES
Although CO₂ is the most important greenhouse gas we have to deal with, emissions of other gases, such as methane and HCFCs, also require cuts, as they represent around one quarter of the total contribution to climate change. Strategies for these gases are easier to draw up and their use is less pervasive across the economy. However, they cannot be ignored.
This section of the Manifesto sets out two key principles that need to be at the heart of the carbon budget strategy. First, the move to a low-carbon economy should be progressive and equitable and, second, it should maximise the economic benefits such a move presents.

Action to tackle climate change could have an impact on almost every sector of society, in both positive and negative ways. Therefore, climate change policy must be designed to integrate with other government goals, for example with efforts to reduce poverty.

If climate change is treated as an isolated environmental issue it is more likely that the social and economic opportunities of the shift to a low-carbon economy will be lost. It will also make the transition more difficult and politically unpopular.

2.1 PROGRESSIVE AND EQUITABLE STRATEGIES
Tackling climate change in the UK is largely an ethical imperative to protect future generations and the poor in other countries, who will be hit hardest by climate change. However, it has major ethical implications for the UK too.

DIRECT IMPACTS OF CLIMATE CHANGE
While the worst damage can be prevented, many climate change impacts like flooding will increase due to some warming being inevitable. The impact of this will disproportionately affect the poorest and most vulnerable people in the UK.

Adequate funds must be set aside for measures that both prevent and react to the impacts of climate change. Strong strategies are needed to minimise the impacts on the poorest and most vulnerable.

IMPACTS FROM TAKING ACTION
The shift to a low-carbon economy will also significantly change how we heat our homes, the ways we travel, and the products we buy. It will alter the cost of goods and services, with some becoming more expensive, others less so.

The Government has a major role to play in ensuring that these changes occur in a way that protects people, especially those on low-incomes. In particular, policies on transport, food, electricity and heating must be carefully designed to ensure that everyone can affordably heat and light their home, buy good quality, healthy food and easily reach essential services such as schools, hospitals, work and shops.

Policies that affect price should be implemented in packages (for example with spending measures), so that any negative impacts on marginalised groups are minimised and that overall the impact is progressive.

Providing for such basic needs is easily achievable, so long as the full range of policy options are used, but it requires joined-up policy making across government departments. For instance, policies that determine the location of health services should not require people to travel further.

Policies on carbon need to be integrated with those designed to provide for basic needs.

An integrated approach to tackling fuel poverty and climate change

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<th>Overall impact on climate change</th>
<th>Verdict</th>
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<td>Increases income of older people</td>
<td>Increases emissions</td>
<td>In conflict</td>
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<tr>
<td>VAT on fuel</td>
<td>Increases fuel bills, makes fuel poverty worse</td>
<td>Reduces emissions</td>
<td>In conflict</td>
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<td>Energy efficiency</td>
<td>Reduces cost of heating homes</td>
<td>Reduces emissions</td>
<td>Delivers on both fuel poverty and climate change</td>
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Policy goals must be integrated to prevent damaging and unnecessary conflicts between social and environmental objectives. Such conflicts are unfortunately quite prevalent today. Take, for example, housing policies designed to tackle fuel poverty, which also impact on climate change. The current focus is overwhelmingly on extra winter payments for vulnerable people rather than improved energy efficiency for their homes. Conflicts like these need to be identified and dealt with by the strategies for the Climate Change Act.

Policies on carbon should not make other environmental problems worse. Carbon-cutting policies need to be designed to ensure that one problem is not simply swapped for another. For example, increasing the use of biofuels can have major negative impacts on people in developing countries, on global and local food prices and on biodiversity. Increasing the use of nuclear power, and the nuclear waste generated from it, would transfer a massive and unacceptable legacy of environmental contamination and risk onto future generations for thousands of years.

2.2 MAXIMISING ECONOMIC BENEFITS

The transition to a low-carbon economy is a massive economic opportunity as well as a significant economic challenge. Implementing the right suite of policies to effect the transition will create a dynamic, successful economy for the 21st century.

Economies are continually developing and often undergoing structural change. Successfully tackling climate change – with the required leap in efficiency and shift to low-carbon energy – will lead to structural change, creating new markets and boosting innovation. Economies that embrace this period of change will reap the benefits.

There are four main benefits to the UK of making the shift to a low-carbon economy early and determinedly:

**BENEFITS FROM NEW OPPORTUNITIES**

Markets for new low-carbon technologies and processes are already substantial, growing fast and represent major opportunities for businesses, sectors and nations. Recent research found that the global market for emissions reduction could be US$1 trillion cumulatively over the next five years and over US$2 trillion per year by 2050. Employment patterns will shift in response to this sea change in the global economy.

Sir Nicholas Stern concluded that there will be a “prolonged period of strong growth in markets for low-carbon energy technology, equipment and construction”. The global renewable energy generation market alone is worth US$38 billion and grew 25 per cent in 2005. It already provides jobs for 1.7 million people globally across design, manufacture, sales, installation and maintenance.

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These massive opportunities are not restricted to manufacturing and construction. The financial sector is already benefiting from opportunities in tackling climate change through corporate and project finance, auditing and trading. Thanks in part to the UK creating its own emissions trading scheme a year before the EU, London gained early mover advantage and is now regarded as the hub of the international carbon market.

However, this UK success story is the exception rather than the rule. The UK lags well behind leaders such as Germany, Japan, Denmark, India and the US in realising the economic benefits of switching to a low-carbon economy. The gap is best illustrated in the development of renewable energy. The UK has about 40 per cent of the EU’s wind, yet only 10 per cent of the installed capacity of Germany. It now generates 14 per cent of its electricity from renewable sources, compared to just 2 per cent in the UK, and employs 214,000 people in the sector. The UK has significant wave energy resources, an established marine engineering sector and an academic track record in wave power technologies, yet it is countries like Portugal that are leading the way in developing industry clusters around wave power.

**SAVINGS THROUGH EFFICIENCY GAINS**

Throughout the economy, costs can be reduced by increasing the efficiency with which energy and raw materials are used, both of which contribute to tackling climate change.

By expanding the use of best practice alone, the UK economy could make savings of £2-3 billion through waste minimisation, industry in just one summer could save £570 million through simple energy-saving measures, and cut its water costs by 30 per cent.

Some savings have already been stimulated by regulations that demand companies and others measure their emissions or waste
more accurately – or even for the first time – such as those that accompanied the Climate Change Levy and Landfill Tax.

RIDING THE WAVE OF INNOVATION
Stern sees the stimulation of climate-related innovation as a potential “trigger for a new wave of growth and creativity in the global economy”. The message from the EU’s carbon reduction and renewable energy programme (Towards a Low Carbon Future or “EU 20:20”), is that innovation will create thousands of new businesses, millions of new jobs, and the chance for the EU to become a world leader in future technologies and services. The UK’s Corporate Leaders Group on Climate Change, believes that we can be on “the crest of this wave”, ensuring “first-mover advantage in these massive new global markets”.7

For the UK to benefit, Government needs to set tight carbon budgets, alongside policies on energy efficiency and renewables, to create confidence among industry and investors.

SECURING ENERGY SUPPLIES AND REDUCING RISK
Energy and raw material prices are rising. Oil prices in particular are high and unpredictable. The UK is also running out of North Sea oil and gas and we are becoming increasingly dependent on supplies from volatile regions of the world. All these factors present increased economic risk. Taking early, clear and determined action to reduce our use of oil and gas will cut this risk and provide greater energy security.

Five essential reforms are needed to embed climate change policy into government economic strategy:

- **Immediately modernise the Government’s productivity strategy to include resource and energy productivity alongside labour productivity.**
- **Focus innovation policy much more on low-carbon technology and skills.**
- **Deal with competitiveness concerns of vulnerable sectors through sector specific action and not by weakening overall policy.**
- **Take a long-term, broad view on cost-effectiveness.**
- **Address market failures.**

The UK economy is a high-carbon economy. This is reflected in the structure and operation of markets. In making the transition to a low-carbon economy, new policies will continually confront market failures that favour high-carbon options. The Government must commit to consistently rooting these out. Failures may concern:

- Tax, for example, tax on energy saving materials may be greater than tax on energy
- Regulation, such as weak incentives for smart metering
- Information, where problems may include poor labelling and lack of accreditation schemes
- Difficulties in accessing capital, such as poor loan and grant schemes.

Seeking to promote cost-effectiveness is entirely correct. However, existing market failures currently make some actions more expensive than others. Address the market failure and the relative order of cost-effective measures changes. Government must avoid taking a static view of cost-effectiveness as risks missing out on longer-term savings and creates lock-in to existing, high-carbon technologies. For example, renewable microgeneration technologies struggle to attract investment because they fall outside the Government’s current mechanism for supporting the generation of renewable electricity. The introduction of an alternative mechanism, called a feed-in tariff, which guarantees a price for renewable electricity produced, would make the technology far more cost-effective.
GORDON BROWN and senior ministers have said that climate change is one of the biggest challenges facing humanity. As former Prime Minister Tony Blair put it: “There is nothing more serious, more urgent or more demanding of leadership.”11 The Stern Review says that climate change demands an urgent global response. As argued in the previous section, the transition must be managed in a way that strengthens the economy and protects people. This will require the integration of a wide range of new and existing policies across society and government. To meet these responsibilities effectively, tackling climate change needs to be a cross-governmental top priority.

Embedding climate change as a top level priority will have three additional benefits:

First, at an individual level, a major element of the climate challenge is in overcoming psychological barriers. People need to be convinced that the transition is possible and that their actions are part of a greater effort. Government damages its ability to convince people when it is seen to water down its own commitments, or find ways to avoid taking action. With government taking a lead, individuals are more likely to take action or respond positively to government exhortations to do so.

Second, one of the main factors in getting the necessary participation of developing economies like China will be if they believe mature industrial economies like the UK can decarbonise. Global agreements will be much easier to broker with the UK setting an unwavering lead, in action as well as rhetoric.

Third, for the business sector, certainty and clarity about the end goal and the journey to it are essential. Businesses repeatedly cite transparency, credibility, consistency and certainty as being critical factors in enabling them to take long-term investment decisions.12 Business will be more confident with long-term, top-level commitment.

Two structural reforms will be needed to embed climate change as a priority issue:

**Locate the strategy in the Cabinet Office**

The policies and programmes to deliver climate change will come from different government departments, most importantly HM Treasury; Transport; Environment, Food and Rural Affairs; Communities and Local Government; and Business, Enterprise and Regulatory Reform. Policies from other departments, such as Health and Defence, also
have large climate impacts. The strategy needs to be co-ordinated by Cabinet Office to ensure that policy integration occurs. It will be far harder to achieve integration if only one department leads the strategy.

**Establish a new economic Golden Rule for the Treasury**

Tackling climate change will need to become a key strategic objective of each of the five main departments above, the most important of which is the Treasury with its key responsibilities for all taxation and spending.

The rationale given by Gordon Brown for the first of his two economic Golden Rules – on borrowing to invest – is: “Effective economic policy could only be possible within an institutional framework that commanded market credibility and public trust”. The conclusion was that a framework for economic policy was needed “based on clear policy rules… and an openness and transparency not seen in the past”. Similar clear institutional frameworks are needed to tackle climate change.

Treasury should now introduce a third fiscal rule: “The sum of all fiscal and spending policies will contribute to ensuring that our growth keeps us within our agreed five-year carbon budgets”.

As a central element of each Budget, the Chancellor should set out detailed assessments of progress on these carbon budgets, and the effects of all policies on them. Pre-Budget reports should set out interim progress and an assessment of whether policies require strengthening.
4.1 CLARIFY THE ROLE AND PURPOSE OF CARBON PRICING

The Stern Review is clear that a strong carbon price will be needed across the UK economy, and eventually internationally, to meet the challenge of climate change. The purpose of the carbon price is to deliver cuts in emissions according to carbon budgets and overall climate goals. The price of carbon must be determined by the size of the carbon budget, which in turn must be defined by the science.

The same happens directly in emissions trading schemes where the scheme’s cap is used to determine the price of emissions. However, in many cases, the Government is currently using the price of emissions to determine the cap, which is the wrong way round. This has occurred, for example, in appraisals of major infrastructure projects like airport expansion, where the climate cost of each project is calculated on a case-by-case basis and included within the overall project costs. Once the emissions have been paid for, the project can go ahead without consideration to the overall carbon budget.

This is a crucial difference in approach, which runs counter to that advocated by Stern. Seeing the carbon price as simply an additional cost, and a way of internalising the externality, fails for two reasons: this approach does not recognise overall carbon budgets, and it is impossible to monetise many of the impacts of climate change. As such, damage cost figures are gross underestimates and an extremely poor guide for effective policy making.

With this goal clear, there are major roles for both emissions trading and environmental taxes to help reduce carbon emissions.

4.2 REFORM THE USE OF EMISSIONS TRADING

The advantages of emissions trading are that it sets an overall cap on emissions and allows markets to find the most cost-effective means of staying within that cap. Internationally, emissions trading schemes will also be far easier to implement than systems for taxation.

The EU emissions trading scheme (EU ETS) is currently the most important of these trading systems. It will have a major role to play in delivering emissions reductions in line with the UK carbon budget, affecting as it does the investment decisions of UK sectors in the scheme, such as the power generation sector and the chemical industry.

EU ETS is currently acting as quite a weak driver for low-carbon
innovation and energy efficiency. Phase 2 of the scheme, which runs from 2008-2012, has improved on the earlier learning phase by tightening the cap and raising the carbon price, but it is still not up to the scale of the challenge. At the earliest, it will be Phase 3 of the scheme (2013-2017) before EU ETS is a strong enough policy instrument.

The EU ETS needs to be strengthened in four key areas:

- Make the emissions cap for Phase 3 of the EU ETS consistent with the scientific consensus on cuts needed to prevent a temperature rise of 2°C. Current proposed emissions caps are set too high.
- Bring in other previously excluded sectors in EU ETS at the earliest possible date, starting with aviation and shipping.
- Make a rapid switch to the auctioning of permits, where operators pay for the permits they need, rather than the current system where permits are allocated for free on the basis of how much operators have polluted in the past, known as “grandfathering” Phase 2 of EU ETS allows operators to auction 10 per cent of their allocated permits. The Government should now lobby hard for 100 per cent auctioning in Phase 3 for three key reasons: The system would be less bureaucratic and inefficient without the current wrangling over allocation levels; auctioning would create revenues for other climate measures; and it would remove the current market failure whereby low-carbon entrants to the scheme are put at an economic disadvantage due to zero allocation of permits.
- Phase out the current reliance on imported credits. Allowing operators to buy credits from emissions reduction projects in developing countries – imported credits – creates barriers to innovation and investment within the EU. Any credits that are imported should be only from countries with mandatory caps to guarantee emissions reductions. They also need to meet the Gold Standard to ensure the impacts in exporting countries are positive.

4.3 TAXATION

CARBON TAXATION

Carbon taxation has a crucial role to play alongside emissions trading in helping the UK meet its carbon budgets. There are three key reasons for this.

Providing price signals

For sectors and activities outside emissions trading, taxation can provide a necessary price signal, as is the case for road fuel. Taxation works best for complex and diverse sectors such as the domestic sector. Emissions trading is more appropriate in sectors where there are clear information flows, and in which a smaller number of participants operate, as is the case with the most polluting sectors such as power generation. To set the right price signal, Government needs to clear about which activities are more appropriate for taxation than trading.

Setting a price floor

Current uncertainty over the carbon price – a result of the weak EU ETS cap – is leading to lower investment in medium and longer-term low-carbon projects. A carbon tax can operate to provide a price floor to reduce uncertainty and allow investors to be more confident that a robust, predictable and credible policy framework is in place. Taxation can be used in this way to strengthen the effectiveness of the price signal for sectors within the EU ETS. This is case with the UK’s Climate Change Levy, which already operates in tandem with the trading scheme.

Addressing weaknesses in the EU ETS

Today’s EU emission trading cap does not reflect climate science. This means that as the EU ETS moves into Phase 3, it is likely the cap will be set at a weaker level than the forthcoming UK carbon budget. As a consequence, polluters within the EU ETS will be asked to contribute disproportionately less than sectors outside of the scheme. Previous Phases have also seen permits handed out for free, leading to some of the largest polluting sectors, notably power generation, making windfall profits. In the medium-term, taxation can again be used to strengthen the effectiveness of the price signal for sectors within the trading scheme (with the auctioning of permits being used correct it in the long-term). This weakness could be addressed, for example, if the Climate Change Levy was reformed to tax fuels according to their carbon content.

Government should consult immediately on how taxation can deal with these three, linked issues.
ENVIRONMENTAL TAXATION
The way Government approaches environmental taxation more broadly also needs reform.

The Government currently raises around £28 billion from a variety of green taxes, mostly in the road transport sector. Yet the proportion of the total taxes from pollution has fallen since 1997, and stands at around 8 per cent of all tax. This is despite government policy to shift the burden of taxation from “goods” such as employment onto “bads” such as pollution.

Another political difficulty has been that green taxes, with the exception of the Climate Change Levy, have been announced in isolation, rather than as part of a tax reform agenda, enabling opponents to label such measures stealth taxes. Opinion polling shows that green tax shifts – increasing taxes on pollution and cutting taxes on people and jobs – are politically more popular than green tax rises. One recent poll found 77 per cent of people in favour of such a shift, with only 9 per cent opposed.13 This is consistent with numerous other polls in the past two years.

The Government should set out and deliver an environmental tax shift strategy that aims to:

● Increase environmental taxes to 20 per cent of the total tax take by 2020.

● Introduce a carbon tax across the economy that provides a floor for the carbon price and so reduces risks for investment and further encourages innovation.

● Recycle most of these increased taxes back to people, through cuts in other taxes such as VAT, national insurance contributions and income tax.

● Invest some of the revenue in compensatory packages. This would ensure that environmental and social gains are maximised. For example, some revenue from increased road fuel duty should be spent on ensuring all people have access to a decent, safe affordable alternative to driving.

● Promote efficiency across the economy through integrated land-use planning and infrastructure development that reduces transport demand and resource use.

Despite these benefits and opportunities, political barriers concerning regulation need to be overcome. There has been an attempt by some politicians and industrial representatives to push the Better Regulation debate toward a de-regulatory agenda. Often pessimistic cost estimates of proposed regulation are put forward to support their case. However, the vast majority of these views consistently and significantly over-estimate costs and ignore cost-savings, which are often greater, for the reasons set out above.16

Some business groups, think tanks and government bodies have recently begun to champion the economic and environmental case for higher environmental standards, based on a considerable body of evidence. For example, the German Federal Ministry notes that the current form of the Better Regulation debate “runs the risk of dismissing opportunities for ambitious standard setting and innovative policy approaches in the member states”.17

Support for higher standards has also come from the UK:

● The Aldersgate Group, a coalition of environment agencies, NGOs, think tanks and industry
representatives, makes the case that higher environmental standards will underpin future economic prosperity.\textsuperscript{18}

- The Stern Review suggests that the systematic over-estimation of the costs of new environmental regulations is, in part, a consequence of the failure to account for innovation, stimulated by regulations, reducing the costs of compliance.

- The Government's Davidson Review on the implementation of EU legislation agreed that: “It is sometimes beneficial for the UK economy to set or maintain regulatory standards which exceed the minimum requirements of European legislation”.

- The Government’s Lisbon strategy also sees good regulation playing “a vital role in correcting market failures, promoting fairness and increasing competition”.

Government needs to be unequivocal in its support for higher environmental standards and so remove the political barrier to modern regulation playing a vital role in cutting emissions.

4.5 INCREASE USE OF GOVERNMENT SPENDING TO DRIVE IMPROVEMENTS

Taxes, trading and regulations have a major role to play, but the Stern Review is clear on the need for other interventions too, such as government investment. Stern cites the “major difficulties in financing through capital markets", and the role for major increases in levels of public spending on, for example, R&D support and deployment incentives to overcome market failures.

Increased public spending would also signal to a sceptical public that the Government is serious about tackling climate change. It is the "greatest challenge" we face, and yet less than 0.2 per cent of total government spending goes on it, less than on running the National Lottery.\textsuperscript{19} Greater sums still are spent on policies that make climate change worse, such as building new and wider motorways.

Government funds are always tight, and face many competing priorities. Yet, public funds are routinely found for issues deemed important or in the national interest, like the war in Iraq, saving Northern Rock, or funding the Olympic Games. Climate change is perhaps our most urgent priority, and heavily increased government spending is an essential part of the policy mix to tackle it. Funding could come from a number of sources, for example: by cutting carbon-intensive public spending, from EU ETS auction revenues, straightforward increases in public spending, or issuing climate change bonds. The sources of revenue are not currently lacking, but the political will to get them.

There are three key areas in need of heavily increased government investment.

DOMESTIC ENERGY EFFICIENCY

The domestic sector accounts for 27 per cent of emissions and the poor state of the UK housing stock is a major barrier to tackling climate change. It is also the cause of widespread misery with millions unable to afford to adequately heat their home.

The solution to the twin problems of poor performing homes and fuel poverty is a massive programme of energy efficiency. However, there are many barriers to this, such as people’s lack of access to financial capital, as well as pitfalls – policies need to be carefully integrated to ensure there are no regressive effects. In this context a mix of policies is needed, including tough standards and financial help for local authorities to improve the worst performing homes (F and G rated), and tax rebates for people installing energy efficiency measures.

Government should create a one-off £5 billion fund to kick-start a massive programme of energy efficiency and to help tackle fuel poverty. It should commit to funding of at least £1 billion a year subsequently.

TRANSPORT

Transport is a major contributor to climate change. Given this and the rising price of oil, the priorities in the transport sector are to reduce the need to travel, to improve the quality of alternatives to motoring, and to improve the energy efficiency of vehicles. These measures would have the twin benefits of cutting carbon and saving people money.

Improving alternatives will require major capital investment, yet transport spending is still dominated by billions of pounds for carbon-intensive road building and widening schemes, justified by contentious cost-benefit analyses (see section 4.6). These schemes do not solve the UK’s congestion crisis, they worsen climate change, and are a major waste of public funds.
Government needs to make a large-scale spending shift into schemes and policies that reduce traffic and encourage modal shift. Savings of £1.8 billion a year from a reduced roadbuilding programme should be used to transform the quality, affordability and availability of public transport and provide safe walking and cycling conditions. This would bring many knock-on advantages to people’s quality of life and the economy, as outlined by Goodwin: “The essential feature of transport policy in our time is the robust improvements that can be made by reducing traffic levels for reasons other than emission control. These include relief of congestion, greater efficiency of use of transport networks, improved quality of movement and access to activities and opportunities, improved social inclusion, improved commercial success in city centres, reduced accidents, better fitness and health, expenditure savings on expensive infrastructure and maintenance, reduced local environmental damage, more productive use of scarce land and other resources, and reduced nervous tension and stress.”

RENEWABLE ENERGY
Renewable energy is vital to tackling emissions from electricity generation. From a very low base, its use is expanding rapidly as the technologies become cheaper and more efficient, and the range of applications grows. As well as measures that address market failures and the need to embed emissions reduction into planning policy, public spending has a key role to play in helping the UK realise the economic and environmental benefits of renewable energy.

The energy sector has always relied on some public spending for research and development, and support for the deployment of new technologies. The development of nuclear power in particular was financed from the public purse. Publicly financed R&D now has a crucial role to play in bringing forward a portfolio of renewable energy technologies and stimulating greater private sector investment. However, global energy R&D spending has fallen with fuel prices (post the fuel price shocks of the 1970s), and the International Energy Agency suggests governments should now at least double their spending. Given the technological challenge of developing a low-carbon economy Stern refers to this as “an appropriate first step”.

Spending to increase the deployment of renewables will also help overcome lock-in to existing technologies and current market failures. The feed-in tariff, for example, overcomes both problems, in which operators of renewable energy technologies of all sizes are guaranteed a minimum price. It has already been established in many European countries.

Stern calculates that deployment incentives need to increase significantly – by two to five times current levels – just to keep CO₂ concentrations to the high level of 550 parts per million CO₂ equivalent (which has an 80 per cent probability of exceeding a 2°C rise). These figures apply only if proper carbon pricing policies, such as trading and taxation, are also established.

Government should commit to a five-fold increase in public spending on R&D and the deployment of renewable technologies at the next Comprehensive Spending Review. The increase in funding can be met by a combination of re-directing existing spending, and using income from the Climate Change Levy and the auctioning of emission permits.

PROCUREMENT
The other critical aspect of spending is the Government’s own procurement policy. Government spends an estimated £120 billion a year on goods and services. Central government is responsible for two fifths of this, while local government and the NHS are also big spenders. Estimates suggest the public sector is responsible for up to 7 per cent of UK emissions.

Public sector procurement can be re-orientated to tackle climate change in numerous ways, including heating, electricity generation, building construction and refurbishment, transport vehicles and fuels. Modernising public procurement in this way would not only cut emissions directly but also provide domestic markets for low-carbon technologies and services, which will bring down prices and stimulate innovation.

4.6 MAKE PROJECT AND POLICY APPRAISAL COMPATIBLE WITH CARBON BUDGETING
Climate change is currently accounted for in government policy appraisals by assigning a monetary value to each tonne of CO₂ emissions. The total climate costs are then weighed up with all...
the other costs against the benefits of the proposed policy to reach a decision. Otherwise known as the “shadow price of carbon” (SPC), the value currently assigned to a tonne of emissions is £25 tCO₂ (2007).

There are three central problems with this approach’s compatibility with the Climate Change Act.

It ignores carbon budgets
If each project or policy appraisal is considered in isolation from what needs to happen across the whole economy, emissions resulting from all appraisals together could easily mean that total UK emissions rise. This would not be compatible with the Government’s requirements under the Climate Change Act that overall carbon in the economy is capped.

It underestimates damage caused
The value assigned to a tonne of CO₂ is always an underestimation of the damage caused to the climate as many of the impacts aren’t or can’t be monetised.23 This is either because they are too uncertain (will the Greenland ice sheet melt, and if so, when?), not monetised (what is the cost of relocating millions of environmental refugees?), or non-monetisable (what is the monetary value of the Amazon rainforest?). Uncertainties around the figures for the cost of carbon are so great that one peer reviewer for the Department of the Environment, Food and Rural Affairs has said that they have “neither a robust central estimate nor a plausible upper bound… the policy usefulness of such a concept with such characteristics is effectively zero”.24

It doesn’t account for changes in the future
Appraisal compares a proposed policy with a business-as-usual trajectory many decades into the future. This is a flawed approach because, now more than ever, it is not realistic to assume, for example, that the price of oil will stay constant for decades to come. The future is too uncertain to assess policy against future predictions of what might happen, it is better to assess policy against what governments want to happen.

To combat these problems, four major reforms of the appraisal system are required:

- Assess appraisals against preferred trajectories – in other words, government targets – rather against business-as-usual futures. This gives a far better sense of whether a proposal goes with the grain of government policy or not.
- Deal with the reality that some things cannot be traded off in appraisal. In the same way that other areas of policy take non-tradable values into account, for example, in medical ethics, or the requirements for basic safety of homes, toys or vehicles.
- Change appraisal to take into account the requirement that overall, economy-wide carbon will now be tightly capped. Two reforms are needed here:
  - Introduce a presumption in favour of carbon-reducing projects (see section 4.7).
  - Policy guidance needs to be rewritten to encourage policy makers to seek win-win outcomes against governmental objectives, such as public service agreements and other targets, rather than the maximum benefit by summing all monetised costs and benefits. This requires much stronger guidance on the use of appraisal techniques such as multi-criteria analysis.
- Create a dynamic link between policy appraisal and the carbon budget strategy. Currently a clear division exists between government policies that aim to cut carbon, and those policies and projects with other aims, which increase carbon emissions. To stay within the carbon budget, government needs a method of creating a dynamic link between the two. In the simplest terms, if the Government decides to go ahead with an important policy or project, for example in health, but this increases carbon emissions it will need to tighten its carbon-cutting policies to stay within the carbon budget. It will then implement a policy from the carbon-cutting category, which the Government will no doubt rank according to their cost-effectiveness. The most expensive measure in the budget will have a cost of £X per tonne of carbon (tC). If a proposal in the carbon-creating policy category is then given the go-ahead and emits YtC, then the dynamic link proposed here would require a revision of the carbon budget strategy such that the next cheapest, non-implemented climate measures are brought into the strategy, to deliver an equivalent Y tonnes of carbon cuts. This would also have the effect of increasing the guide carbon price slightly above £X tC. This link would ensure that policies and projects outside the strategy do not end up busting the carbon budget.
4.7 INTEGRATE THE NATIONAL STRATEGY WITH LOCAL AND REGIONAL POLICY

Many decisions affecting carbon emissions occur at the local authority level, for example in whether or not to grant planning permissions, or what sorts of developments to promote. Government should put in place new statutory duties on local and regional authorities to reduce CO₂ emissions within their geographical area in line with the annual ranges, carbon budgets and targets within the Climate Change Act.25

Also, while national policies on areas like tax and spending will be determined by central government strategy, decisions at a local and regional level will be heavily dependent on guidance, such as is included in planning policy statements. This guidance must be part of the overall climate strategy and revised accordingly.

A duty needs to be placed on the Secretary of State to consider climate issues in National Policy Statements in line with the provisions of the Climate Change Act, strategy and carbon budgets. Requirements to report on how this had been achieved should also be put in place.

It will be extremely difficult for the UK to meet its carbon budgets in later periods if long-lived, carbon-intensive developments are given the go-ahead in the next few years. For this reason we propose the following:

That national, regional and local planning decisions, and in particular the work of the new Infrastructure Planning Commission apply a presumption in favour of developments in a sector, which are consistent with the carbon trajectory required for that sector, to keep to the UK’s overall carbon budget, and a corresponding presumption against developments which are not consistent with these trajectories.

This would introduce a very strong incentive (which does not exist at present) for developers to come forward with proposals with low-carbon profiles. If such proposals, rather than their carbon-intensive counterparts, were to come forward and be adopted, bureaucracy in government would also be reduced. The alternative would be that every time a carbon-intensive proposal was given the go-ahead the overall carbon budget strategy would need revising in order to find equivalent, extra carbon cuts.

The presumption in favour would give a clear direction of travel, but its detailed implementation would need to provide safeguards for other environmental and social concerns.

The general principle of updating guidance and frameworks to ensure integration with the Climate Change Act needs to be applied across the major local and regional decision-making processes. For example, the guidance provided by the Treasury setting out criteria against which regions should determine how to spend Regional Funding Allocations (RFAs) for transport should include a requirement to be consistent with the carbon budgets in the Climate Change Act.
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