Better Regulation Commission

Regulating to mitigate climate change

a response to the Stern Review

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Introduction

The Stern Report makes an overwhelming case for the existence of climate change, the potential economic impact, and the costs and opportunities associated with moving to a low-carbon economy. I hope that the work of Sir Nicholas Stern means that we can now move on from debating the validity of the science, towards establishing the economic framework required to move to a low-carbon economy.

We are pleased to see the Government is moving ahead with its climate policy, both internationally and domestically, with the proposed Climate Change Bill, and Energy White Paper which has carbon reduction as one of its main objectives. However, we recognise that facing up to climate change will represent a significant challenge for decision-makers. As the Better Regulation Commission (BRC) we feel that, more than ever before, crafting the correct regulatory system will be essential. The issue is urgent but at the same time long-term. The costs of inaction have been made patently clear but the regulatory solutions are not all immediately obvious and the costs of hasty, inappropriate action may be high. The BRC has prepared a review of the regulatory implications of the Stern Report, followed by seven tests for climate policy that we commend to the Government.

The **review of the regulatory implications of the Stern Report** seeks to summarise the key arguments and regulatory pointers of the Report and, most importantly, makes a number of recommendations that we feel will ensure that future policy-making will be built on a firm foundation.

The **seven tests for better climate change regulation**, we believe, set basic but essential standards to policy makers as they meet the complex challenges of climate change. We recommend that Government adopt these tests:

- Ensure climate policy is consistent with a healthy UK economy
- Government must develop and act consistently with a climate change strategy; avoiding piecemeal announcements
- Test policy against a carbon price benchmark
- Carbon policy choices must be efficient; don't do things twice
- Keep administrative costs to a minimum
- Do not use climate change as a justification for other policy goals
- If it isn't working, change it

We intend to evaluate government performance against these tests periodically, beginning with the first anniversary of the publication of the Stern Report in Autumn 2007.

Rick Haythornthwaite
Chair of Better Regulation Commission

Seven tests for better climate change regulation

The BRC originally established five principles which can be used in the development of good regulation: proportionality; accountability; consistency; transparency; targeting. Climate change carries particular challenges, and we have identified some specific tests which will need to be met in order to fulfil those principles.

1 Ensure climate policy is consistent with a healthy UK economy

We must find a way to be 'green and grow'. Climate policy must not be seen as undermining the economy, or it is likely to fail with far reaching consequences.

2 Government must develop and act consistently with a climate change strategy; avoiding piecemeal announcements

Knee-jerk regulatory responses to the climate change challenge and announcements of measures in a piecemeal fashion should both be avoided. A strategic approach to climate change should always be apparent. New initiatives should be evidence-based, add value to the existing climate programme and make clear which market imperfections they are seeking to resolve.

3 Test policy against a carbon price benchmark

Climate change policies must be backed up by robust analysis of the cost per tonne of carbon saved. Value for money assessments of policy-measures must be consistently applied across Departments.

4 Carbon policy choices must be efficient; don't do things twice

Government must carefully assess the appropriate level of intervention, and avoid 'double-banking' carbon whereby emissions are counted twice under different initiatives.

5 Keep administrative costs to a minimum

Government must take full account of the administrative costs and burdens which could result from specific climate initiatives, and seek the most efficient course of action.

6 Do not use climate change as a justification for other policy goals

Policy-makers must avoid using climate change as a justification for measures which have other motivations.

7 If it isn't working, change it

Climate change is a new challenge and it is likely that some early measures will prove to be ineffective, or outdated. Policy-makers should be alert to these occasions and act to remove or update redundant regulation.

BRC recommendations

Ideally, in order to control the extent of green-house gas emissions, there needs to be an effective international market in permissions to emit carbon with the total volume each year consistent with the pre-agreed path. Such a market would enable emission reductions to take place wherever in the world this can be done most cheaply. It would also allow the 'social cost of carbon' to be set in market conditions over time and the resulting carbon price could then be allowed to feed through the supply chain to the final user.

A price for carbon in the absence of a global market

Recommendation 1: that by September 2007 the Government should publish their understanding of the pros and cons of the alternative ways of ensuring carbon emissions are priced to reflect the damage they cause identified in the Review, including the level in the supply chain at which these should be placed, and taking into account that it may be necessary for several instruments to be imposed on the same sector. In doing so they should take into account the effect on final prices and demand, the likely administrative burden, the potential for avoidance and for double-counting, any cost of living or distributional effects, the potential for unintended consequences and any international consequences.

Recommendation 2: that by September 2007 the UK Government publish an updated view of the appropriate future path of the price of carbon for use in the UK, given the likely path for total global emissions over time based on a broadly acceptable view for the overall stabilisation target.

Recommendation 3: that by September 2007 the UK Government should put in place measures to ensure policies to tackle climate change have an agreed methodology to estimate the costs and benefits relating to the damage caused by carbon emissions across the globe today and in the future.

Issues relating to energy efficiency and innovation

Recommendation 4: that by end-2007 all UK Government departments and other public sector concerns should have developed and implemented a plan for investing appropriately (that is, to the extent implied by the estimated future path of the price of carbon) in public sector energy conservation. This will set an example to the wider community.

Recommendation 5: that by end-2007 all relevant UK Government departments and public sector concerns should cooperate in publishing an assessment of the existing regulatory framework relating to energy efficiency issues, seeking inconsistencies in regulations and standards etc. and unnecessary hurdles, and should set in place appropriate regulation and standard-setting, possibly involving several instruments being imposed on the same sector, given the likely future path for the social cost of carbon.

Recommendation 6: that by end-2007 the UK Government publish an assessment of the role it might take in identifying and dealing with market imperfections relating to the three stages of the innovation process (research/invention, development and diffusion) in the light of the likely future path of the price of carbon, with a view to bringing forward a portfolio of low carbon technology.

The seven tests

Recommendation 7: that the Government adopt the seven tests of climate regulation.

Part 1 – Regulating to mitigate climate change: the Stern Review

Section 1 – Introduction

According to its Preface, the Stern Review (henceforth the Review) set out to provide a report assessing, among other things: "the economics of moving to a low carbon economy, focussing on the medium to long term perspective, and drawing implications for the timescales for action, and the choice of policies and institutions"[1]. The Better Regulation Commission is concerned about the design of policies and the choice of institutions and their implications for the effectiveness and burdens of the UK regulatory system.

Starting with a summary of the current state of play regarding the science of climate change, the Review then sets out the economics of climate change. Within the document there is a large amount of material about how best to regulate to mitigate and adapt to the effects of global warming. It is an excellent document; it is succinct and clear, it spells out the science and the economics and it takes into account likely political issues. We see no need to question its analysis or conclusions.[2]

The BRC's purpose in writing this paper[3], therefore, is to summarise what actually needs to be done to achieve the objective of cutting back on greenhouse-gas emissions related to energy and to recommend a course of action that should enable the UK Government to implement policy regarding climate change using well-designed regulation. In this context, regulation means anything from education and the purveying of information through to prescriptive state regulation including the creation of markets and of appropriate incentives. In fact, of course, the UK Government is already well started on the design of regulation in this area, and many of our recommendations are already work-in-progress.

This section of the paper is in four parts:

- a framework for climate change regulation;
- reducing demand for carbon-intensive goods and services
- targeting energy efficiency; and
- developing low-carbon technologies.

It is worth noting that the Stern Review is primarily about the global situation; actions taken by the UK on its own will have a negligible effect on global emissions (this is, of course, true of all but the largest countries)[4]. But if we are to influence international activities we will need to earn credibility by indicating our willingness to invest in mitigating emissions and demonstrating how such a policy can best be designed.

1 Preface, page i.
2 This is not to say that all the details of the Review's assumptions are indisputable. For example it adopts a pure time discount rate that many experts would regard as inappropriately low and this inevitably has implications, particularly for the timing of the response to global warming. But the analysis taken as a whole is excellent.
3 We have done our best to ensure that the material in this paper that comes from the Stern Review is reproduced correctly and without bias, and to reference the relevant parts of the Review.
4 Although through trade we have some effect on production, and therefore emissions, elsewhere.

Section 2 – A framework for climate change regulation[5]

The scientific evidence on the causes of climate change, which is summarised in the early part of the Stern Review, establishes that in the longer term excessive greenhouse-gas (GHG) emissions are likely to have very harmful, albeit uncertain, effects both on the world today and on future generations.

However, in economic terms, the extent of such emissions is the result of a form of market failure. They arise because of a classic economic problem known as an 'externality' which is frequently encountered in the environment sector: those who produce the emissions are bringing about climate change because they do not face the full consequences of their actions themselves. Their decisions regarding emissions are therefore not efficient in the economic sense.

The main thesis of the Review is that the global costs of responding purposefully to this market failure and adapting to its effects on climate would not be excessively great if effective action is started today, preferably at the global level. But if delayed, these costs could escalate at an alarming rate.

The ideal way in principle of handling any harmful externality is to ensure that the people responsible for it (in this case those causing the emission of GHGs of which carbon is a major component) have to pay the full social cost of their actions. The impact they are causing needs to impinge directly upon them.

Given this understanding of the problem, as the Review concludes, the best and cheapest way to reduce these emissions is to establish a price for carbon emissions that broadly reflects its social costs[6] and then to ensure that this is the price all carbon emitters pay. This would mean that the price of anything that required the emission of GHGs would increase in order to reflect fully the damage they cause. Governments will generally wish to ensure that the manner in which this price increase is achieved enables corresponding reductions in the prices of those goods and services that are economical in their use of carbon emitters to reduce the effect on standards of living and minimise distributional effects.

If relative prices were to change in this way there are three areas in which people's behaviour would change:

- consumers would switch their spending towards less GHG-intensive goods and services;
- enterprises would develop and make more use of low GHG technologies; and
- people in both the public and private sector would take up more of the options available for increasing the efficiency with which GHG-related products are used.

However, because the impact of carbon emission is an externality, a free market will never spontaneously give rise to the imposition of such a price. Instead, there has to be

5 Draws mainly on Chapter 14 of the Review.
6 There are ambiguities in the definition and measurement of this on a global basis.

government intervention at the national or international level.[7] One approach would be to create and sustain a market in carbon permits at some point in the supply process so that the cost of the permits results in a rise in the prices of the relevant goods and services. Another would be to ensure, by imposing taxes and regulations, that all carbon emitters are exposed to an appropriate carbon price, explicitly or implicitly respectively.

To deliver reductions in emissions globally and at least cost, there needs to be a common global price signal across countries and across sectors. Emission reductions will then take place wherever in the world and in whichever sector they are cheapest: for if the marginal cost of reduction is lower in country A than in country B, or in sector C than in sector D, then abatement costs could be reduced (and economic efficiency increased) by doing a little more reduction in country A or sector C, and a little less in country B or sector D.[8]

The key question in designing a carbon mitigation strategy therefore concerns how best to ensure that all carbon emissions are priced to reflect the full cost of the damage they cause. We address, in Section 3, the issue of how this can best be done. Stern notes that there are also economic issues that need attention relating to the efficient use of GHG-related products and to the innovation process. We address the regulation issues relating to these in Sections 4 and 5. However, dealing with these would not solve the problem of global warming in the absence of an appropriate price imposed on GHG-emissions.

Section 3 – Reducing demand for carbon-intensive goods and services

3.1 A path for global emissions over time[9]

The Review stresses the fact that abatement of emissions should take place up to the point where the benefits of further emission reductions are equal to the costs of achieving that abatement. This will ensure that emissions stabilise at the appropriate level in the long term. It follows that if a global system could be set up in which the price of carbon[10] reflects the marginal social costs associated with its emission then, in ideal conditions (that is, in the absence of other market failures), the appropriate adoption of carbon-saving activities would automatically deliver the required abatement.

Whereas immediate agreement on a precise stabilisation goal is not needed, the Review advises that Governments should work towards early agreement on a global stabilisation target range for the stock of greenhouse gases in the atmosphere and on the implications of this for the path of global emissions over time.

As carbon concentration in the atmosphere rises towards the long-term level implied by the stabilisation target, the damage at the margin caused by further emissions – the social cost of carbon – will inevitably increase. This means that the appropriate price of carbon

7 There is a general consensus that voluntary approaches would never be enough to solve the problem.
8 Burtaw (1996) estimated that emissions trading under the US Acid Rain Program saved 50% of the costs compared to command and control.
9 Draws mainly on Chapter 13 of the Review.
10 In the rest of this paper we deal with regulation concerning emission of carbon. It needs to be borne in mind that similar requirements apply to other greenhouse gases.

will rise over time. This is likely to be an important feature of the regulatory framework that needs to be put in place to combat climate change. People in both the public and the private sector will need to take a view on the likely future path of the price of carbon when taking investment decisions regarding long-lived capital.

In the rest of this section we examine the implications for regulation of what the Review has to say about how to achieve the objective of imposing an appropriate price on carbon emissions, and make recommendations about how the UK Government might approach the design of such regulation.

3.2 Alternative ways of generating a carbon price[11]

The three main ways in which a carbon price can be generated are:

- by allocating permissions to emit carbon to all those causing the externality and setting up an infrastructure that allows them to trade these permissions within an appropriate cap on the total emissions;
- by government determination in the form of taxes; and
- through the implicit taxes implied by direct regulation.

The Review discusses the pros and cons of the two approaches in Chapter 14. It compares the economics of risk with the economics of cost. It says that in the short-term, taxes may be useful as they can incorporate information about abatement costs, while in the long-term, a cap on emissions is appropriate because that is what we are trying to target. This cap, in the long-term at least, should be set to generate a price that is in line with the social cost of carbon. However, the Review recognises that trading schemes are useful for other reasons in the short-term, such as their ability to compensate for sunk-costs through the free allocation of permits, which taxes cannot do. However, this creates its own issues – such as windfall profits.

In order to influence investment decisions and consumer behaviour appropriately, investors and consumers need to believe that, whatever the mechanism by which a carbon price is imposed, this imposition of a carbon price will continue into the future. The best way to create confidence that the policy is viable is to build in predictable and transparent revision rules from the start. In the case of either taxes or tradable permits, therefore, there needs to be a set of clear revision rules in order that the latest scientific information on climate change and improvements in our understanding of abatement costs can be taken into account. They will need to be clear, credible and predictable over long periods of time, so they might involve something like the resetting of parameters once every five years.

An important potential factor is the effect on public finances. Carbon taxes automatically raise public revenues (enabling a reduction in other taxes if appropriate). Tradable-quota schemes will only raise public revenues if firms have to purchase their quotas from government and the revenue is not automatically returned to them. The price the company charges will reflect the costs associated with the marginal unit sold, and

11 Stern discusses the approaches in Chapter 14 of the Review.

therefore include the cost of the permits. This may create competitiveness problems. Also, because the company is not paying for the permits needed for all the other units sold, it may make windfall profits at the expense of its customers who face a higher price than would otherwise have been the case.

In addition, there can be very substantial distributional differences between the taxes and tradable permits.

3.3 Towards a global carbon price[12]

An international market in permits, such as the European Emissions Trading Scheme (ETS), is a very powerful tool in the framework for addressing climate change at an international level. The Review explains that such a scheme is likely to be better at achieving consistency across the pricing of carbon in the participating countries than attempts to harmonise taxes.

Ideally, there needs to be an effective international market in permissions to emit carbon with the total volume each year consistent with the pre-agreed path. Such a market would enable emission reductions to take place wherever in the world this can be done most cheaply. As well as delivering a predetermined cap on emissions, it would allow the 'social cost of carbon' to be set in market conditions over time and the resulting carbon price could then be allowed to feed through the supply chain to the final user.

A trading scheme will introduce a global basis for carbon pricing which applies across countries, so it avoids risking the leakages associated with changing patterns of trade or the relocation of factories and other carbon emitting establishments from places with high carbon costs to those with lower ones, and without imposing competitiveness implications between participating countries and regions. Once they have signed up to the Kyoto Agreement countries will have an incentive to join such a market as it will enable them to achieve their target more cheaply. Further, if there is a robust international framework, this will greatly enhance the credibility of national goals for emissions reductions.

Thus, whatever scheme is put in place within different countries, the benefits of some form of international trading scheme are indisputable, and the EU ETS has now become the centrepiece of European efforts to cut emissions. There is the prospect of this forming links with other trading systems around the world, and making use of the Clean Development Mechanism, which allows industrialised countries to invest in emission reducing projects in developing countries as an alternative to emission reductions in their own countries.

The international situation is in a state of flux, with some countries clearly leading the development of climate change policy, and other countries being less enthusiastic. But in any case, the structure of the third phase of the ETS, beyond 2012, is currently under debate. Broadening the scope of the scheme to include more gases, more countries and

12 Draws on Chapter 14 and Section 15.3 of the Review.

international credits would tend to lower costs and reduce the volatility of the price.[13] Clarity and predictability about the future rules and shape of trading schemes will help to build confidence in a future global carbon price. This is an opportunity to set out a clear, long-term vision to place the scheme at the heart of future global carbon markets.

3.4 A carbon price within the UK[14]

Without an effective international emissions-quotas market covering the entire range of emission potential and effectively setting a consistent global carbon price which then proceeds to affect prices throughout the supply chain, individual countries will need to draw on the range of alternative policy instruments as best they can. The Review emphasises the fact that different countries will choose different approaches.

In the absence of an effective global market each country will need to design a combination of taxes, tradable permits and regulation, and this can be made consistent with a view of the likely future path of the social cost of carbon. This will fill the gap until such time as a global market ensures consistent pricing of carbon across the globe.

Any particular country is likely to employ a range of policy tools. The Review explains how the characteristics of different sectors may influence the choice and design of the carbon-pricing instrument.[15] The underlying economic structures in which the emitters operate in sectors will differ, with implications for the attractiveness of using tax, trade or regulation instruments. Some of the relevant features of different sectors noted in the Review are the following:

- Transaction costs: where there is a large number of emitters, as with household heating or individual vehicles, the costs of administering and monitoring a trading scheme may be excessive. A simple carbon tax might prove to be more appropriate.
- Carbon leakage: if there are areas or types of company that are exempt from the need to buy permits or from a carbon tax, perhaps because of their small size or the sector in which they operate, then there is a risk that emissions-intensive activity moves to an area that is not subject to such a requirement. The risk depends on how easily these locational decisions are made in reality (for example, they may affect new investments rather than old sunk capital), as well as the importance of the cost of carbon emissions compared to other costs and trade-offs (eg. fuel, labour, closeness to markets, etc).
- Distributional impacts: depending on the market structure of the sector, the choice of policy instrument may have implications for the distribution of wealth. Thus whereas a tax-based system will tend to increase public sector revenue, allowing a cut in other taxes or an increase in public expenditure, the distributional effects of a permits system will depend crucially on the design of the system and may result in windfall profits for the companies involved.

13 Ideally, the scheme needs to cover all relevant sources of GHGs. Rebates may be needed to take account of carbon sequestration (if payments are made on the purchase of fuel and the emissions never reach the atmosphere), and adjustments may be needed if the carbon footprint of a fuel depends on its use (if carbon ends up being emitted in the form of methane, instead of carbon dioxide, this may increase the effect on global warming).

14 Draws mainly on Section 15.5 of the Review

15 See Chapter 15 of the Review.

- Existing frameworks: the existing policy framework in a country, along with the regulatory structures that operate, will inevitably influence policy choices.

3.5 Where in the supply chain should carbon be priced?[16]

If the carbon price is to be imposed by a variety of mechanisms within a country, it will be important to consider at what point in the supply chain it would be best to price carbon. If the "upstream" potential for emissions is effectively priced (for instance, at the power station or oil refinery), it will not be necessary to price "downstream" emissions as well (for instance, electricity use in domestic buildings or petrol in individual vehicles) for the carbon price will feed through automatically.[17]

Although there now appears to be general agreement that markets in emission permits should play a significant role in the development of a social cost for carbon, it is not yet clear at what level such a market should operate, to whom the permits should be allocated and who should be exposed to the price effects of the permits – as opposed to trading in the permits themselves. Permits could be allocated at a very high level – such as at the first change in process or ownership after the carbon is extracted from the ground – for trading in an international market (as might be the case with the EU ETS), at the individual person or enterprise level for trading domestically or at intermediate levels (as would be the case with the Energy Performance Commitment proposal). Where a market doesn't have full coverage, as with the ETS that doesn't, for example, cover gas used for heating purposes, some other measure will be needed to fill the gap (to ensure a level playing field between fuels) and a domestic carbon tax may be a better option than a domestic market. But whichever option, or combination of options, is chosen, it obviously important to ensure that there is no double-counting. The Government needs to take a view on this issue in order to design a regulatory framework for mitigating carbon emissions in the UK, and we understand that work is already underway at Defra on this question.

Whatever the sector involved, it will be important to ensure that a tax, trading scheme or combination of both results in an appropriate social cost of carbon being passed on in price increases to the sector's customers. This may not occur for several reasons, including openness to international trade, high price elasticity of demand, as well as imperfectly competitive market structures. This could justify further interventions.

Recommendation 1: ***that by September 2007 the Government should publish their understanding of the pros and cons of the alternative ways of ensuring carbon emissions are priced to reflect the damage they cause identified in the Review, including the level in the supply chain at which these should be placed, and taking into account that it may be necessary for several instruments to be imposed on the same sector. In doing so they should take into account the effect on final prices and demand, the likely administrative burden, the potential for avoidance and for double-counting, any cost of living or distributional effects, the potential for unintended consequences and any international consequences.***

16 Draws on Section 15.5 of the Review.

17 Calculating the carbon value of every good or service could be many times more difficult than imposing a carbon tax at the appropriate point in the chain of production.

3.6 An interim measure

It may be many years before the social cost of carbon is set in an effective global market, such as might develop in time from the ETS. In order to influence behaviour and investment decisions in a consistent way across the world and across the sectors of individual economies, an estimate of its likely path over time is needed.

This price path, like the agreed path for total emissions, would need to be subject to transparent revision rules. It would be used to inform the level at which a carbon tax should be set, and as the implicit carbon price in decisions about regulatory initiatives.[18]

Ideally, there needs to be international agreement on the likely future path of the price of carbon, given the agreed path for total emissions over time and the stabilisation target. This would inform the level at which any taxes are set and enable appropriate regulation to be designed. In the transition to such an agreement it would be useful for the UK Government to update its own view.[19]

Recommendation 2: ***that by September 2007 the UK Government publish an updated view of the appropriate future path of the price of carbon for use in the UK, given the likely path for total global emissions over time based on a broadly acceptable view for the overall stabilisation target.***

3.7 A carbon price path for regulatory impact assessment[20]

Inevitably, it will be a while before there is a carbon price that operates effectively in the UK economy, actually having an influence on decisions relating to public sector initiatives and private sector projects. In the meantime an administered price is needed to fulfil this purpose, at least in the case of public sector decisions.

Examples of the use of such a path for the price of carbon would include investments by the public sector in major capital assets, such as airport runways (where a prediction needs to be made of the future demand for flights given that in five or ten years time there may be an effective price of carbon that influences the cost to the potential traveller).[21]

Recommendation 3: ***that by September 2007 the UK Government should put in place measures to ensure policies to tackle climate change have an agreed methodology to estimate the costs and benefits relating to the damage caused by carbon emissions across the globe today and in the future.***

18 Such as whether the government should regulate regarding the type of technology to be used for electricity generation, rather than leaving it to the private sector, or whether there should be investment in expanding UK airport facilities.
19 The Government's view on this has been available on Defra's website since 2004.
20 Draws on Section 15.2 of the Review.
21 The guidance for Impact Assessment on the Defra website already contains a recommendation that a monetary value be assigned to any change in emissions.

Section 4 – Targeting energy inefficiency[22]

4.1 Introduction

Establishing well-functioning carbon markets (section 3) will provide incentives for households, firms and public sector establishments to reduce their emissions and will expand the options available for doing this. But there are market failures and barriers in many relevant markets, resulting in significant untapped potential for increased energy efficiency in buildings, and in the transport, industry, agriculture and power sectors. This section looks at how the UK Government might best approach these obstacles to energy efficiency.

Governments across the world have been attempting to find effective ways of improving energy efficiency for many decades. Success has been limited. Where energy use is only a small proportion of costs most people are not prepared to put in the effort required to make the relatively small, though genuine, net savings.

The Review sees private investment as the key to transforming the efficacy of energy-using markets. One role for government intervention is, therefore, to change people's notions of what constitutes responsible behaviour in this area. Another is appropriate investment in public sector energy conservation, as this will set an example to the wider society as well as reducing emissions and supporting innovation.

Beyond these, as the Review says, government policy on energy efficiency should generally be to tax negative externalities rather than subsidising desirable outcomes (although there may be cases in which direct financial support is desirable), and it should directly address the sources of market failures and barriers wherever possible.

4.2 Market failures

According to the Review, the potential for increased energy efficiency is very substantial. Behavioural change by individuals in relation to their housing, transport and food consumption decisions could deliver significant reductions in emissions.

It has always been difficult to explain the low take-up of energy efficiency opportunities as a rational response to investment under uncertainty. It is normal to expect that investment decisions by either consumers or companies, would balance the financial costs against the expected benefits, but this is not the case where energy efficiency is concerned; investment opportunities are not taken up in spite of the fact that they appear to be highly cost-effective. A credible long-term path for the carbon price is more likely to send a clearer signal of what is in companies' or consumers' interests than any amount of government exhortation.

There may be hidden financial and other transaction costs; sound, accurate and convincing information may not be available; motivational factors may create barriers. One issue is the "landlord/tenant problem", where the landlord would pay for the

22 Draws on Chapter 17 of the Review.

investment but it is the tenant that benefits from it so the landlord has little incentive to make the investment. Restricted access to capital (where the costs must be met upfront while the benefits are spread over a long future period) may be an issue.

The Review points out that, although it is generally best to tax negative externalities rather than subsidising preferred outcomes where market imperfections or barriers are preventing the free market from producing a desirable outcome, the provision of loans, subsidies and tax rebates can sometimes be appropriate policy responses.[23] This may be the case if there is lack of access to capital, if new technology is subject to economies of scale (pump-priming) or if there is potential for wider benefits.

4.3 Encouraging responsible behaviour[24]

The people who make the decisions that could lead to a reduction in carbon emission are individuals who are responsible for initiating heating, lighting, transport and other energy intensive activities both in the private and the public sector. The role of government is to facilitate this process and to remove market failures (in relation to both energy efficiency and innovation) wherever possible.

The Review stresses that a general understanding of the causes and consequences of climate change needs to be promoted. Better comprehension of the wider implications of their choices can prompt people to take responsible actions, which might include 'offsetting' as well as changes in behaviour.

Action by government, at central and regional levels, is important both because of its demonstration effects and because it sets a good example – provided it is based on rational calculation of the effect on carbon emissions and takes into account administrative and other costs. The Review notes that there is wide-spread potential for cost-effective energy conservation across government and state owned buildings. However, like the private sector, the public sector is subject to capital constraints, information failures, landlord-tenant problems, and institutional and behavioural barriers.[25]

Recommendation 4: ***that by end-2007 all UK Government departments and other public sector concerns should have developed and implemented a plan for investing appropriately (that is, to the extent implied by the estimated future path of the price of carbon) in public sector energy conservation. This will set an example to the wider community.***

4.4 A role for government intervention[26]

The Review points out that although regulatory measures are often less flexible than market mechanisms, they can be the most efficient option where there are market imperfections. They include such things as: direct regulation, minimising transactions costs, setting mandatory standards, and information policy. The Review stresses the fact

23 Subsidies may an inefficient option because of a lack of additionality – take-up of the subsidy by households or firms who would anyway have invested.
24 Draws on Section 17.7 of the Review.
25 The Government has committed to go carbon neutral by 2012 and reduce its emission by 30 per cent by 2020.
26 Draws on Sections 17.3 to 17.5 of the Review.

that regulatory mechanisms should always be tested against the price of carbon to ensure that they are appropriate.

Direct regulation may involve vetoing the use of inefficient or polluting technologies (eg. CFCs). The regulatory mechanisms that deal with transmission and distribution losses and leakages may need to be rebalanced. There may be barriers preventing the transmission of energy efficiency incentives through the supply chain that need to be dealt with using regulation.

Planning regulations are relevant to dealing with climate change, both because they can create transaction costs that prevent the implementation of energy efficiency measures, and because they may have implicit standards that may be inappropriate for mitigating climate change. Further, land-use planning needs to be coordinated with infrastructure development in order to reduce transport demand. Government implementation of independent reviews, such as the Barker Review of Land Use Planning and the Eddington Transport Study, both published in December 2006, needs to be consistent.

Performance standards relating to energy use imposed on appliances and road vehicles have generally proved effective. They encourage the availability and uptake of energy efficient goods and can result in the removal of poorly performing goods from the market. These need to be reconsidered in the light of the expected future path for the social cost of carbon. Once a credible path for the price of carbon is established, some prescriptive sectoral regulation is likely to become redundant and be repealed.

Well-designed information policy can stimulate market innovation and competition in environmentally friendly goods and services and can reduce the transaction costs associated with investments. Labels that allow people to make comparisons between competing goods on the basis of their operating costs and environmental impact reduce transactions costs and lead to more rational purchasing decisions. Real time electricity and gas displays could, subject to a proper cost-benefit analysis, be made mandatory to help households and firms cut back on inefficient energy use. Gear-shift indicators help motorists maximise fuel efficiency.

Inevitably, there are areas in existing regulation where there are inconsistencies and unnecessary hurdles preventing the uptake of energy efficiency measures. One example concerns the implications for carbon emissions of contracting to purchase green electricity, and the effect of such contracts on eligibility for the climate change levy and the rebates associated with it.

Recommendation 5: ***that by end-2007 all relevant UK Government departments and public sector concerns should cooperate in publishing an assessment of the existing regulatory framework relating to energy efficiency issues, seeking inconsistencies in regulations and standards etc, and unnecessary hurdles, and should set in place appropriate regulation and standard-setting, possibly involving several instruments being imposed on the same sector, given the likely future path for the social cost of carbon.***

27 In the UK there is a multitude of bodies responsible in one way or another for energy efficiency. These include the Energy Saving Trust, the Carbon Trust, Energywatch, Ofgem, and the Office of Climate Change.

28 We understand that these issues are being considered in the context of the forthcoming Energy White Paper.

Section 5 – Developing low-carbon technologies[29]

One of the ways in which climate change can be mitigated involves switching to lower carbon technologies. Most development and deployment of new technologies is undertaken by the private sector. The role of government is generally to provide a stable framework of incentives.

The Review explains that the power of market forces should be the key driver of innovation and technical change. Indeed, if the greenhouse-gas externality was the only market imperfection, and if there was a fully credible carbon price path for the period relevant to an investment, then this should be enough to encourage effective technologies to develop. But there are market imperfections relating to innovation generally and there are also specific imperfections to innovation in the climate change area.

This means that a case can be made for supporting the development of new and existing low-carbon technologies in some key sectors. Market forces may need to be supplemented with direct public support for R&D and, in some case, policies designed to create new markets may be needed.

The Review notes a number of market imperfections that relate to innovation generally, and others that relate to imperfections in the climate change sector in particular. For example:

- Lock-in: costs often fall as production increases, and this tends to lock-in existing technologies and prevent the take-up of new technologies;
- Pump-priming: new technologies may not become cost effective until significant investment has been made;
- Spill-over: innovation may produce benefits ('knowledge spill-over') that are used by others external to the firm involved. This externality means that innovation will be under-supplied;
- Uncertainty: lack of certainty about the future path of the price of carbon will reduce the incentive to innovate;
- Innovations in the transport sector are likely to be held back because of the need for refuelling networks.

Other areas where there are features that might create barriers preventing emissions-reducing technology being deployed include the intellectual property regime and the range of planning and licensing regulations.

The Review follows Schumpeter in identifying three stages to the innovation process: research/invention – the first practical application of an idea; development – the initial commercial application; and diffusion – the spreading of the technology throughout the market. There is potential for government intervention in each element of this process.

29 Draws on Chapter 16 of the Review

Recommendation 6: ***that by end-2007 the UK Government publish an assessment of the role it might take in identifying and dealing with market imperfections relating to the three stages of the innovation process (research/invention, development and diffusion) in the light of the likely future path of the price of carbon, with a view to bringing forward a portfolio of low carbon technology.***

At the research/invention level, Governments generally give financial support to the education and training of scientists and engineers and there may be a case for an expansion in this expenditure.

Public sector direct funding of R&D in the climate change sector could be increased. Such funding needs to take into account the activities of private sector firms, as these are likely to have a better understanding of the market. The public sector can also fund private sector R&D, for example, through competitive tendering and by contracting to purchase new products. There may also be a case for funding demonstration projects, to prove viability and reduce risk, or for providing deployment support to fund the learning required to bridge the gap between pure research and the technologies ready for commercialisation, or the capital needed until payback starts, when hopefully a project becomes self financing.

Policy options for helping firms to benefit from successful innovation include fiscal incentives (reduced taxes on bio-fuels, or investment tax credits), grants for demonstration projects, tradable quotas, such as the UK Renewable Obligation, and subsidy of infrastructure costs (eg. adjusting networks to accept new technologies).

Section 6 – Conclusion

If the UK Government is to implement policy to mitigate climate change in the light of the findings of the Stern Review, then it is a matter of concern for the Better Regulation Commission that the policy is designed in a manner that constitutes good regulation. The Stern Review provides an excellent foundation for this work.

In this paper the BRC has extracted from the Review the implications for what needs to be done and what is the best way to do it. We have then set down and recommended action on the first steps that need to be taken in order to ensure, as far as is possible, that the UK proceeds in a manner consistent with well-designed regulation.

Part II – Tests for UK Carbon policy

The seven tests

The BRC originally established five principles which should be used in the development of good regulation: proportionality; accountability; consistency; transparency; targeting. Climate change carries particular challenges, and we have identified some specific tests which will need to be met in order to fulfil those principles.

We set out below the seven tests that we believe will be critical for determining the quality of the UK regulatory response to Climate Change.

I. Ensure climate policy is consistent with a healthy UK economy

We must find a way to be 'green and grow'. Climate policy must not be seen as undermining the economy, or it is likely to fail with far reaching consequences.

Domestic policy has to be about global leadership. The UK is responsible for around 2% of the world's greenhouse gases, and we must recognise that we can have the biggest impact as an international champion. In terms of what the UK can achieve domestically, we must be realistic and ensure that the measures we implement to reduce carbon emissions make economic sense and prove that a healthy low-carbon economy is achievable. Acting alone will have little effect: global collective action is likely to be impossible without nations such as the UK demonstrating local commitment and considering how national policy can increase the incentives for international action.

We must find a way to be 'green and grow' as Stern put it. Climate policy must not be seen as undermining the economy, or it is likely to be doomed to failure. It will fail to retain the confidence of the UK population and, critically, fail to convince the global community that action is possible and affordable.

The UK has played a leadership role in the early stages of international climate policy and should continue to do so. All UK climate regulatory initiatives should be consistent with the overall aim of establishing a functioning international carbon market.

II. Government must develop, and act consistently with, a climate change strategy, avoiding piecemeal announcements

Knee-jerk regulatory responses to the climate change challenge and announcements of measures in a piecemeal fashion should both be avoided. A strategic approach to climate change should always be apparent. New initiatives should be evidence-based, add value to the existing climate programme and make clear which market imperfections they are seeking to resolve.

Climate change is a long term issue and actions taken to fulfil tactical agendas such as the need to be seen to be doing, or announcing something are likely to do more harm than good. This Commission has long advocated the need to regulate in a way which achieves clearly defined objectives in a cost-effective manner, and climate change

demands such rigour more than ever. An 'at any cost' approach could have a profoundly negative effect on the economy and on public commitment to climate change measures.

Although still under development, emissions trading regimes are already having an effect with businesses often acting in anticipation of higher future carbon prices. We must encourage the development of these regimes, giving them the necessary support and space to succeed. We should avoid rushing the introduction of additional measures until the full potential of existing schemes is fully tested and realised. New policies, when deemed necessary, should clearly add value to the existing climate programme and it should be clear which market imperfections they are seeking to resolve.

A critical aspect of thinking and acting strategically is the style and content of communication on climate change issues. The Tyndall Centre[30] has highlighted dangers of over-hyping the risks of climate change, leaving people with a sense of being powerless against the magnitude of the phenomenon rather than being more aware and willing to participate. Poor communication could also result in a clamour for immediate and comprehensive action, cornering Government into making commitments which are not necessarily in the long-term interest.

The Climate Change Programme 2006[31], is intended to deliver the Government commitments under the Kyoto Protocol. However, more needs to be done to ensure that each individual initiative is properly integrated into the whole. Since the Stern report was published there have been over 10 announcements by different government departments on climate-related initiatives which raises concerns about the strategic coherence of the programme. We believe that it is time for the government to take control of the regulatory approach to climate policy, and move to a more consistent and strategic footing across Government.

III. Test policy against a carbon price benchmark and in terms of their contribution to other goals

Climate change policies must be backed up by robust analysis of the costs and benefits. Value for money assessments of policy-measures must be consistently applied across Departments.

It will be important to distinguish between policies which are primarily carbon reduction measures, and those which also have other objectives. Policies with primary objectives other than carbon reduction, should be assessed on those first with potential carbon impacts considered a secondary benefit. Climate change policies that are cost effective on the primary objectives alone should be introduced first. To do this Government should therefore agree a methodology for climate change policies which enables cost and benefit to be assessed for carbon and on other grounds.

Stern estimates that it could take 10–20 years to establish fully functioning, universal carbon pricing[32]. Emissions trading is in the early stages, nationally and regionally, and an international framework is yet to be established. In the absence of an international carbon

30 Tyndall Briefing Note No 16, November 2005
31 http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/ukccp/pdf/ukccp06-all.pdf
32 Stern Review: the economics of climate change xix

price signal, interim measures to change behaviour will be necessary, whilst supporting the development of a market. Crucially, these measures will need to be assessed against relative carbon benefits and value for money. Government should therefore establish a methodology to assess climate change policies which clearly sets out costs and benefits.

Costing carbon for impact assessments in the UK is not new, but it is an inexact science. The Government Economic Service working paper 'Estimating the Social Cost of Carbon Emissions' sets out a range of prices over time. In 2000 the cost was suggested as an average of £70/tC with a range between £35 and £140. Regulatory impact assessments use these figures where appropriate, however it is optional, with no compulsion to do so. Although there is a tacit agreement to use the range calculated in the working paper, it provides a wide scope and anything from £35 to £140/tC has been used. This inconsistent pricing raises questions over the ability to compare the value of projects which aim to reduce carbon. In future, value for money assessments of policy-measures should be consistently applied across Departments.

A high cost threshold for carbon does not mean that if a proposal has merit beyond reducing carbon and its primary motive is to achieve other objectives, it should automatically be rejected. However, policy justification must be transparent.

Stern estimates that the annual costs of stabilising at 500-550ppm C02e to be around 1% GDP by 2050 indicating the order of spend which may be necessary globally. Climate stabilisation will not be cost free, and in order to ensure it remains economically supportable we must spend no more than is necessary. At a national level, a key part of maintaining this discipline will be the ability to compare the cost effectiveness of different policy measures, so that if there are two instruments with the same outcome, the one which represents the best value will always be chosen.

IV. Carbon policy choices must be efficient; don't do things twice

Government must carefully assess the appropriate level of intervention, and avoid 'double-banking' carbon whereby emissions are counted twice under different initiatives. Overlaps and conflicts with different regulatory regimes should be resolved.

Emissions trading lies at the heart of mitigating climate change and the various schemes now in operation across the world are at the very early stages of development. We are confident that early problems will be overcome, and fully support the establishment of an international market in emissions as the primary mechanism for carbon reduction. The existing trading schemes are already having a beneficial effect in influencing investment decision making.

As we have already discussed, an international market derived carbon price will not be available in the short term to stimulate necessary changes in behaviour. Therefore interim measures will be required, in the form of trading, taxes, regulation or other less formal instruments. When implementing these measures, policy-makers must be clear that they are interim measures, should facilitate international trading, and that they must not lead to double-banking of carbon. Double-banking means counting the reduction of a particular measure of carbon twice, perhaps because two initiatives overlap in their objectives.

In developing emissions trading as the main tool for emissions reductions, it is important to recognise that if trading is working effectively 'upstream', it should minimise the necessity to legislate 'downstream'. If emissions are capped upstream (eg by EU ETS) then further regulation downstream will not save additional emissions. However, there may other reasons for downstream regulation and Government must be clear about why additional instruments are needed and their interaction.

It is not only national legislation which will form part of the UK approach to climate change, but EU instruments as well. As always, there are risks of overlaps during the development of the UK and EU climate programmes. It would be timely to establish whether there are already examples of double banking of carbon between EU and purely national initiatives, and how new policy will fit into the existing landscape.

In order to achieve this Government should undertake a 'mapping' exercise of existing climate instruments, from all Departments. As well as investigating the double-banking of carbon, it should review the conflicting effect of different regulatory regimes and suggest ways to resolve them. There is little point in having carbon reduction measures which are frustrated by the objectives of other policies. For example; the requirement for increased safety measures in cars which simultaneously adds to their weight and so undermines achievement of goals to improve fuel efficiency; or higher standards of water quality treatment which tend to be very energy intensive. The current Climate Programme must go further in ensuring that the existing stock of policy is assessed for overlaps, inconsistencies and conflicts. This should be reviewed on a regular basis, and the simplification process and Legislative Reform Orders should be used to remove legislation which becomes outdated.

Local government is putting forward climate measures which should also adhere to the tests set out in this document. Local engagement and action is vitally important for achieving climate goals. However, they must be compatible with initiatives set nationally and internationally, and not add another layer of bureaucracy for its own sake. It is important that local, as well as national initiatives, are effective in achieving their goals and ensuring value for money.

V. Keep administrative costs to a minimum

Government must take full account of the administrative costs and burdens which could result from specific climate initiatives, and seek the most efficient course of action.

The costs of regulation can be divided into policy costs and administrative costs. The policy cost refers to the amount involved in achieving the objective whereas administrative costs cover information requirements involved in such activities as record keeping, reporting and enforcement. Following the 2005 BRC report 'Less is More', key Government Departments have pledged to reduce administrative burdens by 25% across all Departments by 2010 and to simplify policy burdens. These are net targets and therefore include all new legislation.

Awareness of the administrative costs of legislation is high, and minimising them is crucial in all areas of policy, including climate change. Although there is currently much public

support for addressing climate change, imposing legislation with over-complex administration could undermine that goodwill.

Assessing the merits of instruments by comparing the relative costs of saving carbon emissions during regulatory impact assessment, should enable a comparison of the administrative costs. Designing appropriate interventions will help to keep the administrative costs down. When proposing new initiatives these issues should be given due consideration, and the best value option chosen. For example, setting up emissions trading schemes necessitates a certain amount of record keeping, reporting and enforcement. It is likely to be more efficient for a large company, used to dealing with regulation, to comply compared to, say, a small enterprise or individuals. It may be less administratively complicated and therefore cheaper, for smaller enterprises, or individuals to reduce their emissions through other methods.

VI. Do not use climate change as a justification for other policy goals

Policy-makers must avoid using climate change as a justification for measures which have other motivations.

It is not easy to separate climate from other benefits of regulatory measures. It cuts across many areas of policy, for example the Energy White Paper will address several issues, including climate change. However, Government should be transparent when justifying policies, making their motivation explicit. Public trust could be easily lost if measures are presented as environmentally beneficial when they are not.

VII. If it isn't working, change it

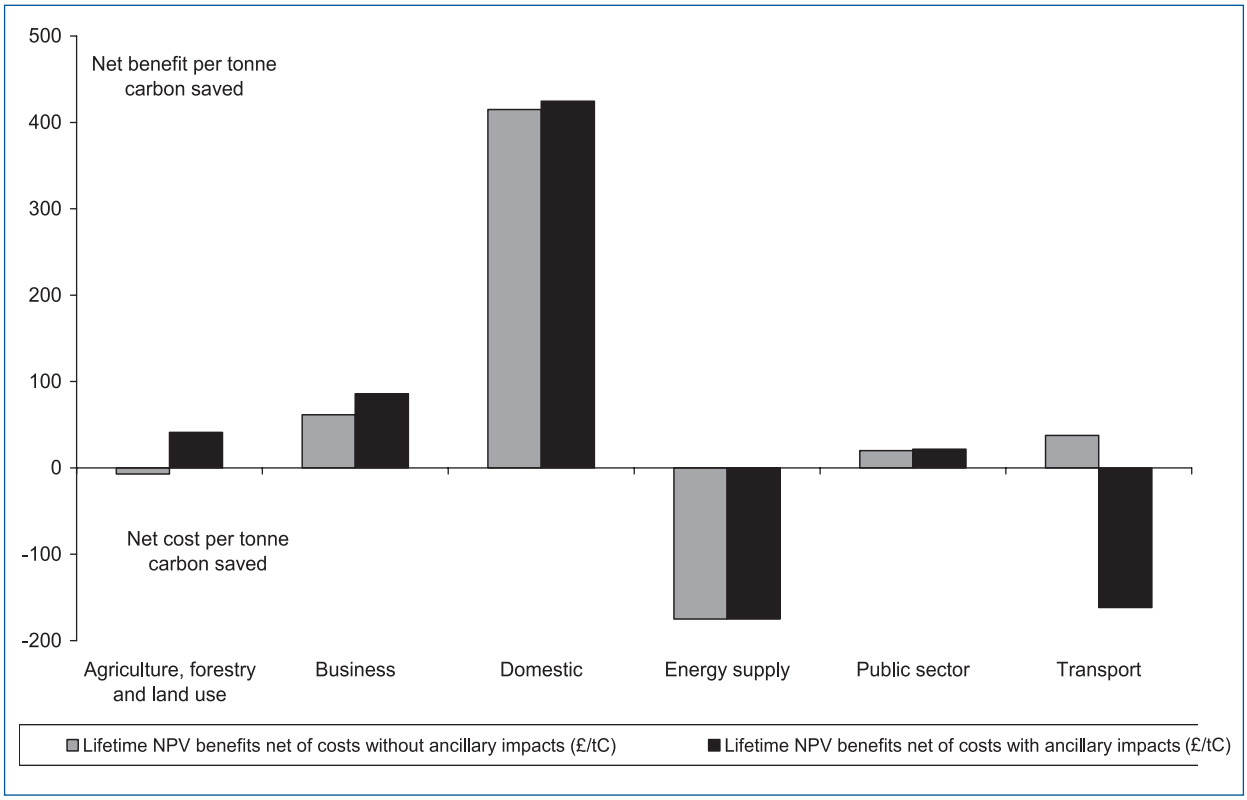
Climate change is a new challenge and it is likely that some early measures will prove to be ineffective, or outdated. Policy-makers should be alert to these occasions and act to remove or update redundant regulation.

One of the difficulties in addressing a new area of policy is recognising that early instruments may well need to be updated, or replaced as new information becomes available or when the desired effect is achieved. The Stern report strongly underlines the necessarily time-limited nature of climate initiatives in the progress towards a functioning carbon market. As some climate policies have been in place for over ten years throughout europe Government is already faced with this challenge, both nationally and at the EU level. As well as developing new initiatives, it will have to be bold where reforms are needed, and constantly review the value of existing programmes.

Recent research by DEFRA[33] has shown that the costs and benefits of different measures contained within the current climate programme vary. It did not examine the impact of the EU ETS. The report used £70 as the social cost of carbon, and calculated the amount of carbon saved as per tonne CO2 equivalent. Seven of the climate change programme initiatives were found to deliver two-thirds of the carbon savings. Cost effectiveness varied between these policies, some actually resulting in a net cost.

33 Synthesis of Climate Change Policy Evaluation, April 2006. DEFRA

Cost effectiveness (benefits net of costs per tonne of carbon saved), by source (£/tCe)



As this initial review of the climate change programme indicates, there are likely to be some hits and some misses in developing cost-effective measures to mitigate climate change. Government must ensure that policies are kept under review, and act to remove those which do not represent value for money. As indicated earlier, the simplification process and Legislative Reform Orders would be useful tools in achieving this outcome.

What is happening today, and how does it measure up to our tests?

The UK is already responding to climate change through international agreements, EU and national regulatory frameworks. A UK climate change programme was initiated in 2000 (relaunched in 2006) in order to meet the Kyoto reduction target, and has consisted of a mix of tax, trading and regulation. The UK has also been part of the EU Emissions Trading Scheme which was inaugurated in January 2005.

Climate policy is progressing rapidly. Nationally, there is a proposal for a Climate Change Bill, and an expected White Paper on energy, which will have reducing carbon emissions as one of its main objectives. At the EU level discussions on an energy policy for Europe are also concerned with climate policy, and the EU ETS is developing. There are many other initiatives in the pipe-line which are in various stages of development, which is why we believe that a more strategic approach to climate policy is needed across Government, and when negotiating in Brussels, based on our 'good climate regulation' tests. We have looked at some examples of initiatives in different areas to illustrate how the tests could assist decision-making.

Implementation of EU initiatives: energy performance certificates for buildings

Energy performance certificates for buildings are being implemented as part of the transposition of a 2002 Directive[34]. The certificates will contain energy and carbon emissions ratings for homes. The Government have consulted on this issue and a regulatory impact assessment is currently being produced.

This initiative stems from an EU Directive, but it needs to be implemented in a way which takes into account the context of UK climate policy. The Directive contains certain requirements, but the transposition process should still adhere to our tests for climate measures.

Impact assessments on regulation which is being transposed from EU Directives should in general contain information showing how the measure fits into the UK climate 'map', particularly where Government is seeking to go beyond the minimum measures laid down in the Directive. Establishing the cost per tonne of carbon saved would enable us to understand whether energy performance certificates represent cost effective carbon saving.

The Directive requires certificates to be produced at least every ten years. The Department for Communities and Local Government is considering requiring a certificate to be produced whenever a property is marketed. For rented housing this is likely to be a 6–20 month interval. Having to renew certificates more frequently than required by the Directive is likely to increase costs to the householder, and it is very unclear how this additional activity will help to increase the energy efficiency of buildings. Such an increase in administrative burden needs to be justified in terms of its contribution towards achieving the aims of the legislation. Otherwise the potential benefits of increasing the energy efficiency of buildings could be subsumed by debate over the unnecessary costs

34 Directive 2002/91/EC of the European Parliament and Council of 16 December 2002 on the energy performance of buildings.
35 http://www.planningportal.gov.uk/uploads/code_for_sust_homes.pdf

surrounding it. This could be avoided by ensuring that the objective is achieved through the least burdensome method.

It is as yet unclear if there are going to be overlaps with UK measures, such as the Code for Sustainable Homes[35] and energy efficiency commitments which require electricity and gas regulators to achieve targets to improve domestic energy efficiency. Having a clear 'map' of UK climate instruments would make it easier to see if the proposal meets the UK climate objectives as well as where overlaps in regulation and 'double-banking' might be predicted to occur. It would also assist in the negotiation process in Brussels, enabling this to be raised before agreement is reached on a measure.

Transposition is the last step in the EU legislative process, and the overall policy direction has already been set during negotiations at the EU level. In general the UK should use its influence in Brussels to apply these tests at the EU level.

UK Government Policy: zero carbon homes

Government recently announced that all new homes would have to be zero carbon in terms of their energy use by 2016. This would not only include heating and lighting but also use of electric appliances within the home. Under the current UK climate programme, households are subject to a number of regulatory instruments aimed at improving energy efficiency. This means it will be extremely important that new measures do truly add value and to understand where existing measures are being re-packaged or extended in order to avoid overlaps. Having used Stern as a justification for this programme, new measures should be based on the regulatory principles established by that report.

A consultation document has been issued in order to establish an evidence base for this proposal. Although stating the reasons for the initiative it does not clearly set out its place within the UK climate programme and specifically which market failures it is seeking to address. The regulatory impact assessment (RIA) uses £70 per tonne in 2000 prices as the social cost of carbon. However, it also uses the upper end of the scale £140 per tonne as sensitivity analysis, on the grounds that the Stern report suggests that a higher figure might be appropriate. The Stern report comments that there are assumptions in the review which would raise the implied social cost of carbon compared to the DEFRA figures, but is not specific about by how much. This reinforces the need for a consistent application of the social cost of carbon in regulatory impact assessments, to enable comparison of proposed instruments.

Zero carbon homes focuses on achieving zero carbon energy use (net) for all new homes by 2016, with intermediate targets. There are already several initiatives which exist in order to encourage better domestic energy efficiency including; the energy efficiency commitment, energy performance certificates, retail sector voluntary schemes which aim to promote energy efficient electronics products, and information through bodies such as the energy savings trust. Not only should there be an analysis of potential overlaps in regulatory objectives, but also where double-banking of carbon may occur. According to the RIA no alternative options have been considered at this stage. Whilst there is analysis

35 http://www.planningportal.gov.uk/uploads/code_for_sust_homes.pdf

of the benefits of saving carbon, comparison with other instruments would provide a more in-depth picture.

UK Announcements: personal carbon trading

Personal carbon trading has been suggested as a way of getting individuals to restrict their carbon use. It is in the very early stages of development as an idea, and has been floated as a possible new Government policy. Following public debate, policy should be tested against good regulatory principles, and judged accordingly.

Trading schemes are generally seen as a good way of allowing choice in how emissions are reduced but could be extremely complicated at the individual level. How will individuals calculate emissions associated with particular activities? Who will be involved, and will individuals be able to manage trading? Overall, how would such a system be administered cost effectively?

Apart from the feasibility questions, individual carbon trading could lead to overlaps and double-banking of carbon. We have already mentioned that there are several programmes in existence to encourage domestic energy efficiency, and further measures planned.

How would individual carbon trading be integrated? If regional emissions trading between companies is expanded, is there a need to establish it at the individual level, or could the carbon emissions be captured more effectively elsewhere?

Private Sector initiatives: green electricity tariffs

Private sector initiatives could also benefit from our tests.The National Consumer Council recently carried out research on green electricity tariffs provided for domestic consumers[36]. It found that some companies were claiming additional environmental benefit from consumers switching to green tariffs whereas, in fact, they were only meeting existing legal requirements. The legal framework relating to promoting renewable electricity includes the Renewables Obligation which adds around £7 per year to domestic household bills. According to the NCC research, some suppliers are not making it clear to consumers that their electricity bills automatically support renewable electricity in this way, even without a specific green tariff. Also, there is potential for the system to effectively count the 'greenness' of electricity twice, a situation which the NCC feels may lead consumers to think they may be making a greater contribution than they actually are.

Conclusion

For all these examples our tests would provide a framework of analysis ensuring consistency across policy areas. Used as a check-list they would help to ensure that all the relevant questions are asked. Responding to climate change will not be easy, but it must be effective, and our report aims to contribute to that goal. We will revisit these issues again and take stock in the Autumn of 2007.

36 Reality or rhetoric? green tariffs for domestic consumers, Virginia Graham, National Consumer Council 2006. http://www.ncc.org.uk/responsibleconsumption/green-tariffs.pdf

Annex A

About The Better Regulation Commission

The Better Regulation Commission was formed in January 2006. We are an independent body which monitors and challenges the UK government's regulatory activity and provides advice on how to regulate better. We aim to improve legislative outcomes and, at the same time, to reduce unnecessary burdens on citizens, business and the public sector.

The Commission is non-political. All of our members are unpaid volunteers, appointed by the Minister for the Cabinet Office for their individual skills and qualities and for their knowledge of the regulatory environment. Members come from a variety of backgrounds – small and large business, voluntary sectors, trade unions, local authorities, enforcement bodies and the professions are all represented. The Chair of the Better Regulation Commission is Rick Haythornthwaite.

The Five Principles of Good Regulation underpin our work:

- Proportionality – regulators should only intervene when necessary. Remedies should be appropriate to the risk posed and costs identified and minimised.
- Accountability — regulators must be able to justify decisions and be subject to public scrutiny.
- Consistency – government rules and standards must be joined up and implemented fairly.
- Transparency – regulators should be open and keep regulations simple and user-friendly.
- Targeting — regulation should be focused on the problem and minimise side effects.

Members of The Better Regulation Commission

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Annex B

We are grateful to individuals from the following organisations for their time and expertise.

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OFGEM

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