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PREFACE

The CRI is pleased to publish Research Report 18 on *Economic Regulators and Sustainable Development ~ Promoting Good Governance* by Ian Bartle and Peter Vass. The interview survey involved a wide range of organisations, covering regulators and the regulated, and we are grateful to all of them for their participation and contribution (the organisations are listed overleaf). Our research included a review of the academic and practitioner literature on the subject. The review complemented the survey, and has provided various theoretical and historical foundations for our interpretations and conclusions.

The report proposes a revised ‘standard model’ for the role and responsibilities of independent economic regulators. It is designed to promote better governance for the regulatory state in discharging the government’s commitment to sustainable development and in tackling climate change. It identifies the need for greater codification and institutionalisation of the principles and processes of good governance. The report sets out the reasoning for our conclusions, drawing on the evidence of our survey. Our conclusions are put forward for debate, and we would welcome comments on the report.

The views of the authors are their own, and do not necessarily represent those of the CRI or any of the organisations or individuals who participated in the survey or contributed to this research. In this regard we would like to gratefully acknowledge the financial support for the research which we received from the Office of Gas and Electricity Markets (Ofgem) and United Utilities plc.

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Peter Vass  
Director, CRI  
October 2006
PARTICIPANTS IN THE SURVEY

Interviewees and respondents

1. Office of Rail Regulation (ORR)
2. Civil Aviation Authority (CAA)
3. Office of Water Services (Ofwat)
4. Office of Gas and Electricity Markets (Ofgem)
5. Department of Environment, Food and Rural Affairs (Defra)
6. Department of Trade and Industry (DTI)
7. Department for Transport (DfT)
8. Better Regulation Commission
9. Sustainable Development Commission
10. National Audit Office (NAO)
11. Environment Agency
12. Chair of House of Commons Transport Committee
13. Consumer Council for Water
14. Carbon Trust
15. Energywatch
16. Passenger Focus
17. Sustainability First
18. UK Business Council for Sustainable Energy
19. Water UK
20. Railway Forum
21. Energy Retail Association
22. National Grid
23. United Utilities
24. Network Rail
25. Wessex Water
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POLICY OVERVIEW

In 2005 the government issued its sustainable development strategy, Securing the Future, and this set out that one of its five guiding principles was ‘promoting good governance’. There was no mention, however, of the role of the independent economic regulators in this strategy, notwithstanding the fact that new statutory duties had been placed on a number of them to make a contribution to sustainable development. At the same time there is the apparent conflict between applying the all-embracing idea of sustainable development, with its three pillars covering economic, environmental and social policy, as a duty for economic regulators who, it is commonly accepted, have a restricted range of roles and responsibilities within the regulatory state. Perhaps there was no real intention for the economic regulators to respond in any meaningful way to this duty, except at the margin?

This would, however, conflict with the government’s own better regulation agenda, which obliges policy-makers to consider the purpose of any duty or regulatory requirement. Unfortunately, there appears to be little pre-legislative guidance, such as a regulatory impact assessment (RIA), which explains in each case what the economic regulator might be expected to do in response to a statutory duty to make a contribution to sustainable development. It is not surprising therefore that we find that practice has varied, with Ofwat consulting to ask people what they think the new duty should mean to them (conclusions published October 2006), but Ofgem deciding not to consult, having decided what they think the duty means, and focusing specific attention on an annual publication on sustainability (the first report was published November 2006). ORR, which has had the duty the longest of the three, seems to have been less proactive, perhaps because it was not a priority given the rail crises of recent years. However, ORR has issued a consultation paper in October 2006 on their approach to the duty.

The results of our interviews confirmed the concerns over the potential conflict between the role of the independent economic regulators and such a general duty (and some saw it as an inappropriate duty). We also found that regulators have responded cautiously to the new duties (in part because they were continuing with, or had already decided to introduce, some policies related to sustainable development which were founded on pre-existing statutory duties or ministerial guidance – given also that the economic pillar is one of the three pillars of sustainable development). Nevertheless, there is evidence that new actions are being taken by the regulators which are making, and could increasingly make, a better contribution to achieving sustainable development. It depends, however, on addressing the other main finding of our research: first, that it is not clear what the government expected from the economic regulators with respect to the new duties, and, secondly, that the government needs to do a number of things to set a better context within which the economic regulators can fully contribute to sustainable development.

We do not conclude, therefore, that the new statutory duty has proved to be inappropriate and should be withdrawn, which would mean a reaffirmation of the ‘standard model’ of independent economic regulation. Our conclusion is positive, in that the new duties are worthwhile but to be made effective, both regulators and the government need to rise to the policy challenge, whilst ensuring that the core functions and benefits of independent economic regulation are not undermined. Both need to change their policies to ensure that there is a clear path from the vision of sustainable development to its implementation. To achieve this the government’s high level ‘macro’ policies for sustainable development (eg, an aggregate cap on greenhouse gas (GHG) emissions) have to be formally integrated with the many and varied ‘micro’ policies with
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which the government aims to achieve sustainable development. Formal integration requires rule-based control systems (an example is the inflation control regime) complemented by a coherent communications strategy so that the public and consumers understand the context and the role of the regulatory state.

We propose a revised ‘standard model’ for economic regulation where government has established a more integrated framework for the regulatory state, and where economic regulators can thereby engage more directly and actively with government policy-making, and with the public, over the development and realisation of sustainable development policies. The revised model is founded on a more integrated view of sustainable development policy – not as three separable pillars, but as three nested pillars which necessarily interact and overlap to some extent. Economic development and social policy are contained within the outer pillar of the environment and its constraints.

The regulators have a special position and the expertise which makes them an important resource. This could include more advice and debate in the public domain, scenario planning to assist in understanding government policy requirements and implications, and public communication and education. At the same time the core functions of independent economic regulation would, and must, be preserved. The evidence of how the economic regulators are beginning to respond to their duty to make a contribution to sustainable development suggests that this can be achieved.

The need for the revised model to be implemented and to succeed is made all the more pressing by the dangers of climate change – given governments must act and therefore need to harness all of the resources of the regulatory state to maximum effect in pursuit of the goal of sustainable development. In this case policies for ‘proactive’ adaptive management should replace ‘reactive’ adaptive management, and a clear operational path determined between the problem to be addressed and the means for its resolution. This requires a clear, long term profile of statutory caps on aggregate greenhouse gas emissions which are represented by tradeable emissions certificates applicable to, and tradeable between, all major GHG emitting sectors; a cap and trade system fully supported by a proactive Office of Climate Change.

The independent economic regulators

Specifically, the independent economic regulators need to address activities in three domains if they are to be better able to make a contribution to sustainable development. In short, it is to promote greater engagement with ministers and the public about policies and policy packages for sustainable development, whilst maintaining their independent role as economic regulators.

First, they have to ensure that their own regulatory activities are designed to achieve outcomes which are optimal in terms of the whole, not just their own regulatory sub-sector. If they are not empowered to achieve this, then they need to engage with those who are until the conditions are put in place to achieve an overall optimum. Otherwise we are condemned to second best. In particular they need to identify situations where market prices do not properly reflect external costs, and seek to ensure that their appraisals and regulations are based on prices that do. Hence, for example, appraisal of water leakage targets should build in the carbon costs of the cement in dams if they are to be an option for securing more water resource capacity. In transport, rail policy should be developed on the expectation that the government will act to internalise the external costs of road and air transport.

Second, they have to support policy development more generally by bringing their expertise to bear, either by policy analysis which can be used by government, or by developing coherent
scenarios of policy outcomes over time which can be used to provide a context for implementing specific, joined up policies. This work can help capture hearts and minds. The Stern report on the economics of climate change has set a context for exploring how economies might respond to the changing relative prices which would result from a comprehensive long term statutory cap and trade scheme, and the impact on consumer choices and lifestyles (30 October 2006, HM Treasury website). The Tyndall Centre has given some examples but the economic regulators are well placed to develop this work, to show how adapting to relative price changes (which economies have always done) is not about hair shirts but a reorientation of markets and choices to adapt and mitigate, all firmly based on the message that the polluter properly pays.

Finally, as an important part of the regulatory state, they have a role in communicating with the public, consumers and other organisations more generally, given the need to put over overall government regulatory policy via a number of channels. Two aspects are that policies should not be viewed in isolation, but as part of an overall package aimed at securing sustainable development, and that certain policies within the package are necessarily driven by entrenched principles, such as the polluter should pay. More effort could also be directed to communicating and regularly reinforcing the main strategic messages of sustainable development, rather than simply a plethora of detail (eg, do people clearly know what the main GHG polluting activities of transport are in terms of comparative emissions per person per mile, on average?).

The government: setting the framework

To give effect to this the government has to address, most importantly, the need to:

- entrench the economic principle that the polluter pays, such that the public should expect policies which aim for efficient, cost-reflective prices which fully reflect external costs;

- embed the precautionary principle as the appropriate policy context for dealing with uncertainty, such that proactive adaptive management policies can be put in place;

- recognise that affordability is not an economic principle but a political objective which needs to be taken into account in the development of policy programmes and packages for sustainable development in a structured way, such that distributional issues are considered in conjunction with (but not as an alternative to) consumers and producers having to face cost-reflective prices which fully incorporate external costs;

- establish a ‘whole of government voice’ in relation to policy development and implementation.

This involves tackling issues which have been part of the better regulation agenda for a long time (and often raised by bodies such as the OECD in its reports on regulatory policy and reform). The means include:

- ensuring that there is one lead co-ordinator, with the appropriate decision-making authority, where a policy programme, such as sustainable development, involves a range of parties and policy instruments.

- bringing together the various elements of a policy programme into coherent and communicable ‘policy packages’ to enable each part of the regulatory state to know how it fits into the whole, and thereby make its appropriate contribution, and to form the basis for communication with the public.
establishing impact assessments as envisaged by the Better Regulation Executive (BRE) in their current consultation document on RIAs as the main basis and information source for the development and implementation of policy packages.

creating a policy development environment which is iterative rather than one-way so that guidance is not seen as interference in independence but contextual in explaining the constraints which are properly the responsibility of ministers to establish. Necessary and effective engagement by independent economic regulators in the wider policy context of the regulatory state has been undermined by the letter of preserving independence rather than operating in the spirit of independence – one part among a greater whole.

harnessing the acknowledged expertise of economic regulators more effectively for wider policy development and dissemination.

encouraging the BRC and the BRE to address these higher level issues in relation to the design of the regulatory state and the better regulation agenda, most notably by examining whether overarching meta principles should be put in place to complement the existing five principles of good regulation and to develop a more complete, modern ‘constitution’ to help guide the operations of the regulatory state.

In effect, the government needs to focus on issues of codification and institutionalisation of the principles and processes of good governance in order to allow the economic regulators to be better able to meet their duties to make a contribution to sustainable development. Promoting good governance is a guiding principle of the government’s sustainable development strategy, and we hope this report can make a contribution to achieving it.

In this we are not advocating any ‘rebundling’ of the regulatory state. Independent economic regulation should be preserved, but the new duties to make a contribution to sustainable development have exposed, as our research shows, that policy integration necessary in the regulatory state is not working, and this will continue to be so until the governance means are put in place to ensure that policy integration can properly coexist with the separate institutional roles and responsibilities of the unbundled regulatory state.

The necessary institutionalisation and codification of governance principles and practice are part of the better regulation objective and a good governance strategy. Meta principles of coherence, objectivity, legitimacy and credible commitment can be given effect, supported by the on-going principles of good regulation and the entrenchment of policy principles such as the polluter pays principle and the precautionary principle. Such principles have already been articulated by the European Union in its sustainable development strategy, and in the government’s sustainable development strategy, but there is a gap between recognition and implementation in terms of policy development and its integration. It is this weakness that we have sought to address.

There needs to be a debate about how best to codify and entrench good governance with respect to both the regulatory state and the policy of sustainable development. It may be that there should be new duties on the economic regulators with respect to policies such as the polluter pays principle and the precautionary principle. Other approaches might achieve a better balance of coherence, transparency and accountability. In any event, the debate should be seen as part of carrying forward the better regulation agenda, whereby all regulators are expected to choose the right instruments for the job in hand – an imperative which applies equally to the design of the regulatory state as a whole.
1. INTRODUCTION: THE THEME, PROBLEMS AND QUESTIONS

Theme: sustainable development

The need for modern industrial society to be sustainable is widely recognised. The notion of ‘sustainable development’ has wide currency, its promotion is high on the agenda of many governments, governmental and non-governmental organisations. A whole raft institutions, policy ideas, programmes and instruments have been established and in force; many more have been conceived and are on policy agendas. At the international level, for example, the UN’s department of economic and social affairs has a Commission on Sustainable Development and there is the Intergovernmental Panel on Climate Change. One of the most significant international initiatives was the UN’s ‘Agenda 21’, a global action plan for sustainable development in the 21st century which emerged from the 1992 Earth Summit in Rio. At the national level in Britain there is the Sustainable Development Commission along with a number of other institutions associated with sustainability, such as the Environment Agency, Carbon Trust and Energy Savings Trust. The government’s national policy initiatives include the Climate Change Programme with the objective of reducing carbon dioxide emissions (a review of this reported in early 2006), the ‘Stern Review’, a major review of the economics of climate change led by Sir Nicholas Stern, the energy efficiency innovation policies and many more.1 2

Sustainable development in the World Commission on Environment and Development’s (WCED) classic definition is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (quoted from the so-called ‘Brundtland Report’ prepared within the framework of the UN).3 It can be thought of as protection of the environment (notably, but not only, the limitation of climate change) whilst maintaining economic development and acting against poverty. Also in the WCED’s definition sustainable development is not a “fixed state of harmony but rather a process of change” implying the need for a reorientation of institutions and governance processes towards sustainable development. Sustainable development is particularly relevant to utility sectors such as water, energy and transport as these have a high impact on the environment and have high economic and social significance. Policies to protect the environment include: command and control regulation of pollutants, taxation, market design, permit and obligation systems, eco-audits, green accounting, regulatory impact assessments, sustainability indicators and information reporting, the encouragement of voluntary codes of practice, education and information campaigns.

In recent years one new policy of particular relevance to the economic regulation of the utilities is a statutory duty on the energy, water and rail regulators to contribute to the achievement of sustainable development. The Energy Act 2004 (section 83, amending Gas Act 1986, Electricity Act 1989, Utilities Act 2000) states that the regulatory authority should carry out its duties in a manner “best calculated to contribute to the achievement of sustainable development” subject to the principal objective, the protection of the interests of existing and future consumers wherever appropriate by promoting competition (‘future consumers’ was introduced by the Utilities Act, 1 2

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2000, sections 9 and 13). The Water Act 2003 (section 39, amending the Water Industry Act 1991) introduces a similar duty to contribute to sustainable development on the water regulator, subject to the protection of the interests of consumers wherever appropriate by the promotion of competition (there is also a duty to contribute to sustainable development on the newly established Consumer Council for Water). Likewise the Transport Act 2000 (section 224, amending the Railways Act 1993) introduces a duty to contribute to sustainable development on the rail regulator (from July 2004 the Office of Rail Regulation following the Railways and Transport Safety Act 2003). This duty is in association with numerous other duties but unlike energy and water it is not subject to the achievement of other objectives. These duties have arisen from the government’s climate change and sustainable development programmes and the environmental and social duties already placed on the regulators.

The background to the legislation of the sustainable development duty can be understood in terms of the increasing concerns about sustainable development generally and, in the sectors, the increasing action of the regulators on environmental and social matters. In water, environmental requirements have been a significant input into investment plans in the industry since about 1990 and the price control reviews undertaken by the regulator. In energy, renewable electricity generation and efficient use of energy have been increasingly promoted by the government and regulators in the 1990s and 2000s. Sustainable and ‘integrated’ transport has been higher on the political agenda, particularly in the earlier years of the new Labour government elected in 1997. In the water and energy sectors there have also been concerns about affordability for low income groups and social action plans have been developed by the regulators. The pressure for the duty arose from the concerns of some that the economic regulators were excessively focused on the development of competitive markets and lower prices which can clash with sustainable development objectives, notably environmental protection. Nevertheless there was a degree of reluctance in government and the regulators about the introduction of such a duty which can explain the delay between the rise of concerns about sustainable development and the legislation of the duty.

Placing duties on economic regulators is part of the process of governance within the sectors. One of the five guiding principles of the government’s 2005 sustainable development strategy was ‘promoting good governance’. Also, as noted above, a reorientation of institutions and governance processes was integral to the Brundtland report in 1987. However, the role of economic regulators in the 2005 strategy was not mentioned, despite having new duties of sustainable development placed on them. We therefore ask: does a duty to contribute to sustainable development in itself contribute to good governance within the sectors? Are there any additional institutional processes and procedures which can be added or strengthened to augment the ability of regulators to contribute to sustainable development? The importance of these questions is reinforced by the ‘better regulation’ agenda which strives to ensure that regulation is developed in a way which is most efficient, effective, accountable and legitimate. When parliament imposed duties of sustainable development on the economic regulators it is natural to ask what its expectations were and how these aligned with the principles of better regulation.

Problems: sustainable development and economic regulation

Placing a duty to contribute to the achievement of sustainable development on independent economic regulators, however, presents a number of issues and difficulties. These relate to:

- the vague and contested nature of sustainable development;
- the need for policy integration;
- the institutional model of economic regulation, notably the need for independence and specialisation.

**Firstly**, a duty on a regulator is not a policy instrument in itself and, moreover, sustainable development is a vague and contestable concept which is susceptible to differing interpretations. Within the ‘unbundled government’ of the regulatory state, regulators only have limited competencies, there are many policy initiatives and instruments that the regulators have little influence over. Regulators do not have the power to develop and implement many of the particular policies for sustainable development. Regulators have limited control and responsibility over the wide range of possible policy instruments that can be deployed to promote sustainable development. In many areas the regulator has little power over policy-making and implementation (eg, taxation); in some areas its powers are limited to those of implementation and administration; in other areas the regulator has legal powers but insufficient resources. They do nevertheless have discretion over a range of regulations and other policies which can have an impact on sustainability. Regulators are not therefore just mechanistic and predictable means by which government policies are implemented.

A **second** difficulty is that policy integration is fundamental to sustainable development yet policy separation and sectoral specialisation are central features of the modern state. It is the integration of the three key dimensions of sustainable development – economic, environmental and social – which is particularly important. Sustainable development is a ‘cross-cutting issue’ which “implies creating a ‘triple bottom line’, that is, to take into consideration all economic, environmental and social aspects before making decisions” (OECD, 2002a, p10). This is different to, and possibly contradicts, the deeply embedded ‘single bottom line’ (economic/financial) of established decision-making. Cross-sectoral policy integration is also important, that is to ensure that policies developed in one sector do not clash with the policy objectives of another. However, the modern state has moved towards the ‘unbundled regulatory state’ involving the unbundling of policy and regulatory activities which has become central to regulation. The regulatory state has also added to the policy separation intrinsic to the departmentalisation of government. All of this creates difficulties in the setting of priorities which is another fundamental aspect of policy integration. Economic, environmental and social objectives can and often do clash and trade-offs are required. It is widely thought that these trade-offs are not susceptible to expert analysis: they are inherently political problems and as such should be made by democratically elected politicians in government rather than technocratic regulators.

The challenge of policy integration applies to all public administrative units not just the top level government departments. Standard procedures of decision-making in many lower level administrative units are normally centred on economic rationales, rather than the other two dimensions of sustainable development, and sometimes governmental rules exclude decision-making based on reasoning other than economics. Rao argues that systematic changes are required to legal and administrative procedures to achieve policy integration at all levels of

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government. Without this “there will be either a reluctance to incorporate the essential elements or a great degree of arbitrariness in their application, if not both” (Rao, 2000, p349).

In relation to sustainable development it has been noted in a report commissioned by the OECD, that there should be a clear and logical path from vision to action plan and institutional roles. This is in effect vertical policy integration, ie, macro visions, objectives and strategies should be closely connected micro policy and regulatory initiatives, such as those by economic regulators. The UK government’s sustainable development strategy, Securing the Future, noted that “by 2006 the government will issue clear guidance on how existing bodies with a statutory duty linked to sustainable development should take account of this strategy”. This is indicative of vertical policy integration, ie, the expectations of micro policy initiatives, such as those by the regulators, are clearly part of macro strategy and policy objectives. However, the strategy says nothing specific about the government’s expectations of the response of the economic regulators to its sustainable development strategy and the statutory duty placed on the regulators.

This raises a third difficulty about placing a duty on an independent regulator: the nature of the government-regulatory agency relationship and institutional models of economic regulation. Central to this is the extent of discretion and independence regulatory agencies have and the mechanisms by which government and legislators can control agencies. Forms of control can be broadly divided into ex ante which are imposed prior to the regulatory programme and implementation and ex post which are imposed during or after implementation. Ex ante controls in Britain, in addition to those specified in statute include ministerial guidance. Ex post controls include a wide range of mechanisms of accountability such as answering to ministers and parliament and information reporting requirements.

There are particular problems of agency discretion which are exacerbated when the requirements are new and vague: just what are agencies expected to do and how should they respond? Duties placed on agencies can help set boundaries but they are not always clear, there is often much space for discretion. Agencies might not always have the means or will to establish priorities to make bold initiatives. New requirements can provide “opportunities and headaches” for regulatory agencies; there are opportunities to develop new ideas and approaches but how should they behave with a new concept on the horizon? An example of the problem of discretion in the energy sector and the promotion of energy efficiency in the 1990s in Britain was the differing interpretations of the gas regulator Jim McKinnon and his successor Claire Spottiswoode (Owen, 2006, p2). In 1991 Mckinnon introduced an ‘E’ factor into the gas price control review to enable companies to finance energy efficiency projects. However, in 1994 Spottiswoode, the new regulator, raised concerns that the E factor was in effect a tax and thus should be part of the government’s fiscal policy.

The relationship between law and public administration is a particularly important aspect of discretion. The many different dimensions and aspects of legal rules and procedures can significantly affect the way administration by public bureaucracies and agencies is undertaken. Law formed in an effective way can give agencies the necessary discretion while ensuring they

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7 HM Government (2005), Securing the Future, Delivering the UK Sustainable Development Strategy, HMSO, Cm 6467, March, p156.
are well under control to achieve the required policy objectives. The precision or vagueness of law can significantly affect the way agencies operate. Too much clarity may restrict “potentially useful discretion” making it hard to implement policy flexibility (Feldman, 2003, p280). Excessive vagueness means rules may be difficult to implement in practice and may have little influence over day-to-day practice. The sustainable development duty has the potential to fall in the latter category. As will be seen, it is not well-defined nor does it have a universally accepted meaning which can critically affect its efficacy. There may of course be strategic reasons for specifying legal rules in such ways in order to attempt to influence the implementation of public policy in particular ways.

Models of economic regulation

The way that these difficulties and issues surrounding a sustainable development duty are addressed partly depends on the model of economic regulation adopted – ie, the expectations of the actions of the regulator. Three models of economic regulation and agencies have a significant impact on debates and conclusions about sustainable development and regulation.

First, a ‘standard model’ of economic regulation. In this model, specialist and independent economic regulators focus primarily on economic regulation (monopoly and promotion of competition). Objectives other than economic, such as sustainable development, are promoted by the economic regulator only indirectly. That is regulators operate within parameters set by government or other agencies. These parameters derive from clearly defined policy instruments (eg, taxes, emissions trading quotas, subsidies for sustainability and poverty policy), which are outwith the role and responsibility of the regulator. Within this model, the idea of placing a statutory duty on the economic regulator to contribute to the achievement of sustainable development does not seem appropriate.

A second model of economic regulation is a flexible or interactive model. While the economic duties remain primary, other roles which are closely related to the economic regulation in the sector are seen as legitimate for the regulator. An important underpinning principle of this is the difficulty of clearly separating economic regulation and its objectives from other regulatory objectives such as protection environmental and social equity. This model tends to reflect the actual practice of governments putting duties on regulators other than economic regulation. In this model a duty of sustainable development appears more appropriate. Difficult trade-offs between economic and environmental objectives can arise in the technical development of regulation. These trade-offs can have political implications. In a flexible model the challenge for regulators is to recognise this and to challenge government and other relevant agencies for clear guidance on how to make the trade-offs. Nevertheless, it can be asked whether an independent agency should have the level of discretion and uncertainty implied in the duty. A flexible working and productive relationship led by government departments with others on sustainable development might be possible and not really require a duty of sustainable development.

A third model of regulation is the sectoral agency model put forward notably by Dieter Helm. In this model one specialised agency focuses on all the key matters in a sector, notably economic, environmental and social. It has the advantage of policy integration and of sectoral specialism. Its disadvantage is that in the setting of priorities there will be many trade-offs not amenable to expert analysis and will require detailed guidance and advice from government. In the energy sector this might involve a merger of bodies such as Energy Savings Trust and Carbon trust with Ofgem, possibly also undertaking activities currently done by DTI and Environment Agency. In water it might involve a merger of Ofwat and the Environment Agency, while in rail it would
involve a merger of the DfT’s Rail Group (or the function of its predecessor, the SRA) and the ORR, a model which was proposed by Helm in the 2004 rail review.12

Questions and methodology

All of this raises a number of questions about economic regulation and sustainable development. How have the regulators responded to these new duties and what specific action have they taken? Within the unbundled regulatory state, is it appropriate to place a sustainable development duty on economic regulators and how can policy integration be achieved? What is the most appropriate institutional model of economic regulation which enables the objectives of sustainable development to be achieved while retaining the advantages of independent economic regulation? How do the actions of the economic regulators vis-à-vis sustainable development interact with that of other public bodies such as government departments (eg, DTI, Defra), other regulators (eg, Environment Agency), and advisory bodies (eg, Sustainable Development Commission)?

One of the primary questions of the study was to address how the regulators have responded to the sustainable development duty, but it should be noted that there are methodological and identification difficulties with this. The question implies that the new duty will have caused a change (or not) in the actions of the regulator and this is identifiable through research. However, statutory duties might not be mutually exclusive with other statutory duties (eg, the sustainable development duty might overlap with previous environmental or social duties). Also understandings of what is required by a particular duty might not be definitively determined or tested in court (and the constraints on judicial review mean rarely mean that a precise understanding is achieved). It is therefore possible that regulators were already undertaking actions under previous social and environmental duties which could be interpreted as appropriate for the new sustainable development duty. Another possibility is that in the build up to the imposition of the new duty regulators took action which in effect anticipated the new duty. Regulators might have therefore have properly responded to the duty but a step change in action after the duty came in force might not be observed. There are therefore problems with identifying the cause of action change and correlating that with time which affects the research methodology and the precision of the conclusions.

This report commences with a chapter on the background of sustainable development. It briefly reviews the recent history and how it has risen from the margins to the centre of the policy agenda. The chapter provides an outline the key issues involved in definitions and interpretations of sustainable development, governance and institutions at international and national level, policy integration and policy instruments. Chapter 3 focuses on the practice of sustainable development in the energy, water and rail sectors drawing on survey research. The next chapter provides an integrated interpretation of the roles of economic regulators and other governing institutions in relation to the sustainable development duty. The following chapter illustrates all this with the example of climate change and the final chapter concludes the report.

2. BACKGROUND: HISTORY, DEFINITIONS, INSTITUTIONS AND POLICIES

A brief history

Modern trends in sustainability and sustainable development can be traced to the 1950s and the developing science of ecology and its critique of the damage to the natural environment by industrial processes. The contemporary position can be understood from two ‘waves’ in the sustainability debate that have occurred since the late 1940s.13 The first wave was between the late 1940s and the late 1970s and focused on the damaging impact of various human activities on the environment and a critique of the modern technological and economic view that the natural environment constituted an infinite sink for unwanted waste and an infinite source of new resources. There were numerous key works in this period.14 Two of the most prominent were Rachel Carson’s Silent Spring (1962) which combined a specific critique of the damage to the environment of the pesticide DDT with a broader critique of modern industrial methods, and Limits to Growth (1972) commissioned by the Club of Rome which was a critique of conventional modern assumptions of unlimited economic growth and technological development and argued that the biophysical limits of human population and modern industry had been breached.15 Closely connected to these works was the emerging environmental movement in the 1960s and early 1970s and connected to the counter culture trends of the time. Greenpeace emerged in the late 1960s while Friends of the Earth was founded in 1971. At the same time ‘ecology’ political parties were founded, later to be known as ‘green’ parties. There were some successes, policy on the use of DDT for example was significantly changed, and a wide awareness of the issues developed, exemplified by the rise of the environmental movement.

Nevertheless the broad message for radical change remained very much marginalised. Carson’s ecological philosophy was portrayed by her opponents, notably those in the chemical industry and government, as mystical and sentimental, as anti-science and anti-progress. Many of the assumptions of the Limits to Growth book, for example, were strongly criticised, in particular the pessimistic neo-Malthusian views that underpinned it.16 The first environmental wave was seen as an elitist movement of the rich northern countries which did not address the concerns of the poor countries and was even seen as ‘pulling up the ladder’ and denying them the benefits of economic growth. Ecological well-being did matter to southern countries in the 1970s but they were also strongly concerned about social justice and economic development (Davison, 2001).

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ECONOMIC REGULATORS AND SUSTAINABLE DEVELOPMENT

This nascent interdependence of these key issues was one of the sources for the development of the second wave of sustainability and the emergence of the importance of ‘sustainable development’. Poverty, the developing world and the environment were central features of the UN conference on the human environment in Stockholm in 1972 (Dresner, 2002, p28).

The second wave of concern about sustainability emerged in the 1970s and became prominent in the 1980s and was characterised by the mainstreaming of sustainability, increasing concern about environmental damage and the rising profile of the notion of ‘sustainable development’. Despite the doubts about the limits to growth critique and the limited attraction of moral renewal and life style transformation, the awareness of environmental damage became more widespread (Davison, 2001, p15). In this period the scientific evidence of environmental damage grew significantly, such as the destruction of the ozone layer (Dresner, 2002, p36) and global warming, to the current position in which scientific opinion is almost united and the majority of leading politicians and the public accept the evidence.

The term ‘sustainable development’ was used in 1980 in the World Conservation Strategy and was a forerunner of the Brundtland report in 1987, a key milestone in sustainable development.17 The 1980 report defined sustainable development as “the integration of conservation and development to ensure that modifications to the planet do indeed secure the survival and well-being of all people” (Dresner, 2002, p30). The strategy, however, lacked political impact and was still seen as predominantly driven by Northern concerns about habitat preservation. In contrast the Brundtland report had a wide impact and has been described as a “brilliant political document” (Common, 1995, p3). The report, Our Common Future, was produced by the World Commission on Environment and Development set up by the UN General Assembly in 1983 (WCED, 1987). The report defined sustainable development as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. Despite, or because of its palpable vagueness it has been widely quoted and repeated and remains the key defining phrase on the UN’s Division for Sustainable Development’s website.18 In the years that followed the discourse of sustainable development became mainstream: key global economic institutions, notably GATT/WTO, World Bank and IMF adopted the language of sustainable development (Davison, 2001, p19).

A flurry of international activity followed: sustainable development and environmental protection became high international politics. In 1988 with increasing recognition of climate change, the World Meteorological Organisation and the UN’s Environment Programme set up the Intergovernmental Panel on Climate Change (IPCC). The most significant political event after the report was the UN’s Conference on Environment and Development (the so-called Earth Summit) in Rio de Janeiro in 1992. The outcome of this was a set of principles on sustainable development (the Rio declaration) and a detailed action plan known as Agenda 21 (Rao, 2000, pp10-15; O’Riordan and Voisey, 1998, pp31-34). The UN’s Commission for Sustainable Development was set up in 1993 to oversee Agenda 21. In the mid 1990s a wide ranging initiative to reduce greenhouse gas emissions led to the signing of the Kyoto protocol in 1997 (Dresner, 2002, pp50-54). In 2002 a World Summit on Sustainable Development took place in Johannesburg, ten years after the Rio summit. Despite all this, substantial progress has been slow. In mid 1997 it was admitted at the ‘Earth Summit II’ that there had been little progress in practical terms and very little of Agenda 21 had been implemented. Some countries, notably the US in 2001, pulled out of Kyoto accord while in 2002 similar divisions between developed and...
Definitions and interpretations of sustainable development: vague and contested

Definitions of sustainability and sustainable development abound. As noted above, the UN’s definition from 1987 Brundtland report is probably the most commonly used but the variety of definitions (see Appendix 1) give an indication of the vagueness and contestability of the concepts. The difference between the terms ‘sustainability’ and ‘sustainable development’ is one indication of the vagueness and lack of consensus. Although they are frequently used interchangeably, some see that sustainability ultimately gives priority to the environment while sustainable development gives priority to economic development (Dresner, 2002, p65). Usage, even interchangeable, is often not accidental: the kind of language used, although often ill-defined, is a discourse which can shape beliefs and behaviours (O’Riordan and Voisey, 1998 p9). The Agenda 21, for example, used the terms interchangeably, arguably because of the need to maintain the consensus that action is required on ‘sustainability’ and ‘development’ (Dresner, 2002, p65). There have also been differing understandings of the term ‘development’ with different emphases, for example on education and health versus material consumption and the levels of acceptable economic inequality (Dresner, 2002, pp68-70).

There are also different interpretations of sustainability and sustainable development with analyses couched in terms of varying levels of ‘strong’ and ‘weak’ sustainability (O’Riordan and Voisey, 1998, p16). Broadly, strong sustainability can be thought of as an ecocentric view of sustainability as opposed to a weak anthropocentric view (Rao, 2000, p70). The ecocentric tends generally to imply a reverence towards nature and the environment, but more specifically it focuses on their self-regenerative processes and natural resilience and particularly their limits. In contrast, the primary focus of anthropocentrism is human interests, goals and objectives. These two broad notions are, of course, not necessarily polar opposites: whatever view of sustainability one takes, the long term survival of humans is closely linked to the resilience of the environment in which they live. Appendix 2 has further detail on the varying interpretations of sustainable development.

Strong and weak notions of sustainability used here, it should be stressed, refer primarily to understandings of sustainability and sustainable development, not to strong or weak (or ‘hard’/’soft’) policy and regulatory instruments, though there are connections. They indicate the variety of aspirations and objectives often attached to sustainability and sustainable development and in so doing illustrate the difficulty of reaching definitional consensus, clarity of policy goals and agreement on policy instruments. The fundamental question at the heart of the debate of course is which form of sustainability is sustainable? (Davison, 2001). Is it the weak ‘ecomodernist’ model of continuing emphasis on economic growth and high consumption but with more efficient technology (what can possibly be termed the ‘cake and eat it’ model), or the strong ecocentric view in which big change in socio-economic model of growth and consumption is seen as essential.

The difficulty of definition and the variety of interpretations of sustainability and sustainable development is clear. Sustainable development is clearly a ‘contestable concept’, but is it also...
meaningless and should it be abandoned? Definitional clarity is of course an important aspiration but there is a strong argument that it should not be given up nor should contestability and vagueness be used as an excuse for inaction. As has been noted elsewhere, disagreement and confusion are inherent in social transformation (Dresner, 2002, p66). Widely agreed and rigorous definitions might not be possible but more important are interpretations and concepts that can help address issues, explain and prioritise objectives and policy ideas.

As the UK’s SDC notes “there will always be those who argue over the exact interpretation. However, it is important not to get bogged down in a definitional quagmire. There are enough common elements that most agree on as central to a sustainable development approach. Essentially this means that we can make progress towards a world where we seek to simultaneously progress economic and social and environmental goals and policies in ways that develop and maintain a good quality of life for us all and enable future generations to do the same”.

Governance, institutions and sustainable development

If the significant changes in technology, economy and society required for sustainable development are to be achieved, then big changes in the forms of governance are required. The extent of this of course depends on whether a strong or weak approach to sustainability is held. A strong view implies a major reorientation of governance and reconfiguration of institutions is necessary while a weak view implies some reform but at a less extensive level. Some notion of ‘differentness’ in governance is inherent in the notion of sustainable development as opposed to conventional development but there is little consensus on the magnitude of the differentness.

Sustainable development nevertheless poses significant challenges for established and emerging forms of governance. Traditional forms of governance and administration are set up on the basis of the separation of policy areas, notably between different ministries, and this has been accentuated by the ‘unbundled’ regulatory state. In addition, some theorists argue that modern governance involves a shift away from traditional notions of ‘top down’ government towards governance by self steering networks. This form of governance implies a weaker or ‘hollowed out’ centre dependent on interaction with myriad networks of public and private organisations. Although these modern notions of governance are contested, these disaggregated and distributed forms of governance pose a challenge for sustainable development which by its nature assumes a higher level of interdependencies across many political (local, regional and national) and sectoral domains compared to conventional development (Lafferty, 2004, p20). A key governance requirement widely seen to be necessary for sustainable development is ‘policy integration’, that is the integration of the three pillars of sustainable development: economic, environmental and social policy (OECD, 2001, pp49-51).

Vertical and horizontal dimensions of policy integration have been distinguished (Lafferty, 2004, pp204-208; OECD, 2002a, pp11-24). Vertical integration refers to the extent to which the objectives of sustainable development are integrated into all levels of the governance process in a particular sector from the highest ministerial level to the low level administrative units. The focus in many studies is mainly on the integration of different levels of national, regional and local government (OECD, 2002a, pp19-22). However, an important manifestation of vertical integration.

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PROMOTING GOOD GOVERNANCE

Policy integration (given the current project) is the integration of government policy in sectors such as water and energy with their regulation in independent regulatory authorities; this has had little coverage in the literature. It might be argued that the need for independence militates against strongly striving for vertical policy integration. However, it is recognised that vertical policy integration is crucial within different units of national, regional, and local government which also have independence and autonomy.

Horizontal policy integration refers to the integration of policy between sectors and policy areas. The challenges and the difficulties of horizontal policy integration are indicated in the following:

“Horizontal policy integration … ‘entails, of course, the negotiation of conflicts between environmental and other societal objectives; between different sectors pursuing alternative environmental objectives; and between the alternative possible consequences of specific environmental initiatives, that is the environmental ‘dilemmas’ where the consequences of one ‘solution’ create new and different environmental problems in another direction, often treated by economists as so-called ‘rebound effects’” (Lafferty, 2004, p207).

It can be imagined, for example, that major works for environmental protection in a sector such as water might involve significant increases in energy consumption (or other consumption of other materials) and thus have negative knock-on effects in the energy (or other) sectors. Another example of the challenge of horizontal policy integration is consumer policy and sustainable development. Traditional consumer policy (which remains the main focus of governments, the EU and many consumer organisations) is primarily concerned with helping the consumer consume as much as wished whereas sustainable consumer policy implies a control and possibly even a reduction in the level of consumption.24

The challenge of the effective governance of policy integration is compounded by the implication that it involves more than a mere balancing of various policy objectives. What is crucial is that the meanings, priorities and value hierarchies are clearly specified in the processes of governance (Lafferty, 2004, pp202-204). Priorities within institutions of governance are crucial when ‘push comes to shove’. A vague objective of balancing will not overcome the deeply embedded prioritisation of economic concerns in most advanced countries. This does not mean a (highly unrealistic) shift to always prioritising environmental objectives over others, but it does mean priorities (and processes for establishing priorities) and trade-offs have to be explicitly addressed within a reconstituted system of governance for sustainable development.

The governance challenge recognised by the OECD and others is that better decision-making focused on sustainable development is required at all levels of governance, including the international, national and sub-national (OECD, 2002a).25 Integrated sustainable development strategies, the specification of institutional roles and actions plans are seen as crucial. Sustainable development strategies contain decision-making procedures and processes that include vision and policy objectives and targets; values, principles and frameworks; action plans, institutional and procedural arrangements; and instruments to achieve the strategy (Dalal-Clayton and Bass, 2002, pp253-255). An action plan is a set of actions for achieving strategic objectives and targets. It can consist of existing actions and specify new ones and might suggest levels of priorities for different objectives and targets. Associated with an action plan is an

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institutional plan which covers the various institutional procedures and systems required to implement the strategy. Overall there should be “a clear and logical path from vision to action plan and institutional roles” (Dalal-Clayton and Bass, 2002, p255).

Strategies of sustainable development are not specified in a one-off act but require continual management and iterative processes of coordination and improvement. This multi-staged and faceted process can include (inter alia):

- establishing a secretariat or coordinating body responsible and with sufficient authority to manage the process;
- seeking political commitment for the strategy at highest level and secure a democratic mandate;
- ensuring broad based ownership by key ministries and agencies, civil society and the private sector;
- mobilising resources including skills and knowledge; management, legal and institutional; and financial;
- mapping out the strategy process include review mechanisms, identifying and resolving policy conflicts and ways to improve performance; and
- developing and improving coherence and coordination at all levels from the international to the sub-national and within and between sectors (Dalal-Clayton and Bass, 2002, p78).

**The UN**

The challenges to governance are exemplified in the most prominent global institutional processes of sustainable development: that of the UN. The UN has provided the institutional setting for many of the significant international meetings and agreements on sustainable development since the Brundtland report in 1987. The principles in the outcome of the Rio process in 1992 and the subsequent Agenda 21 involved challenges to established national systems of governance (Lafferty, 2004, p16) and demanded trans-border approaches. The UN’s Commission on Sustainable Development has played an important role in coordinating the Agenda 21 initiative since the early 1990s. There are also challenges to established norms and practices of pluralist democracy. The UN programme is based on two moral principles: the recognition of the primacy of scientific evidence and objectivity; second the need for political consensus at all levels. The potential clash of these two principles (either an authoritarian sustainability or a failed sustainability) inherent in this are evident in the Rio process itself. Although Agenda 21 and other UN initiatives did arise from political processes (eg, domestic politics, the actions of some NGOs), the details of the programme arose from a closed process from 1987-1992, they were not discussed at elections nor were many politicians nor many of the major groups who would be involved in implementing the programme (Lafferty, 2004, p18). There are institutions with more specific responsibilities at national level and the EU level.

**The EU**

Sustainable development and environmental policies have become significant aspects of EU governance and policies. There have been environmental actions plans, a sustainable development strategy and a clear attempt to embed policy integration within the policy-making process.26 Sustainability was first incorporated into an EU treaty in the Treaty on European

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Union in 1991 with the rather hesitant and ambiguous requirement to promote “sustainable and non-inflationary growth”. The Amsterdam Treaty in 1997 was more explicit; article 6 states that “environmental protection requirements must be integrated ... in particular with a view to promoting sustainable development”. This was followed in 1998 with an agreement at the Cardiff European Council to integrate environmental policy-making across a wide range of EU institutions and policy areas (the ‘Cardiff process’). Embedding policy integration has been a key objective of the European Commission’s ‘Sixth Environment Action Programme’ (2002-2012).

In 2001 the Commission’s first sustainable development strategy was launched by the European Council. At the heart of the strategy was an ambition to policy-making coherence and integration. This involved more informed policy-making which can for example increase the awareness of the possible need for trade-offs between contradictory policy objectives. Informed policy-making was to be promoted by the use of impact assessments for all major policy proposals. An objective of better policy-making was also to improve communication of sustainable development and mobilise individuals and business. In 2005 Commission undertook a review of the sustainable development strategy. The review recognised that, despite some improvements, many trends remain unsustainable and stronger mechanisms are required to ensure it all happens. Key high level ‘policy guiding principles’ (which were adopted by the European Council in June 2006), many of which amounted to a reaffirmation and restatement, included ‘policy coherence and governance’, ‘policy integration’, the ‘precautionary principle’, making ‘polluters pay’ (ie, ensuring prices reflect full costs to society), ‘involvement of citizens’ (eg, by promoting public awareness) and ‘involvement of business and social partners’ (fostering cooperation to ensure sustainable production and consumption).

It has been noted that the “EU’s awareness and recognition of sustainable development is remarkable” (Bomberg, 2004, p67). The initiatives have gone beyond those of many of the member states and it has clearly raised awareness of the policy challenges despite the lack of clarity and differing interpretations of sustainable development. Despite these achievements there are clear limitations. While there is recognition of the importance of integrating economic, social and environmental policies, the language is often about ‘balancing’ the different objectives of sustainable development rather than prioritisation. Evidence indicates that economic concerns remain much more deeply embedded within EU institutions and policy-making processes and little recognition in specific policy areas of potential conflicts between economic concerns and sustainability (Bomberg, 2004, pp67, 88-90). The ‘weak’ econocentric view of sustainability, for example, is clearly evident in recent statements of sustainable development: the Commission has proposed to “make a renewed Lisbon agenda our strategy for growth and jobs; allowing us to use the motor of a more dynamic economy to fuel our wider social and environmental ambition” (Commission, 2005b, p3).

**Britain**

Britain, along with many other countries, has made many reforms following the international initiatives of sustainable development led by the UN. Reforms have included the development of sustainable development strategies and institutional reforms. There are new arrangements at

27 http://ec.europa.eu/environment/integration/integration.htm
cabinet and ministerial levels to manage policy integration and the creation of specialised institutions (sometimes independent of government) to focus on policy integration and sustainable development strategies (OECD, 2002a, p19). Institutional reforms have not, however, led to new ministries with specific responsibilities for sustainable development. In Britain the first overall governmental strategy was set out in 1990 in the white paper ‘This Common Inheritance’ (O’Riordan and Voisey, 1998). This was an environmental strategy which included two ministerial committees, ‘green’ ministers in each department, departmental reporting and guideline documents.

The British government’s response to the UN summit in 1992 and the Agenda 21 was Sustainable Development: The UK Strategy (1994) which included a number of institutional developments. A governmental panel on sustainable development to advise the government was set up in 1995 along with the UK Round table on sustainable development, including a wide range of civil society organisations and a citizen’s initiative to foster educational, small-scale and local initiatives in sustainability. The Environment Act 1995 led to the formation of the Environment Agency in 1996 (merging waste, water and industrial process regulatory organisations) with the responsibility to achieve major and continuous improvements in the quality of air, land and water (OECD, 2002a, pp291, 297).

Governmental initiatives continued in the late 1990s and early 2000s. A key document was the 1999 ‘A better quality of life: a strategy for sustainable development for the United Kingdom’ which set out objectives and principles and included a set of about 150 indicators of sustainable development and a commitment to report on them annually. At about this time the government also introduced the Environmental Audit Select Committee to monitor government performance on sustainability and the environment and the role of green ministers was enhanced. In 2000 the government established the Sustainable Development Commission (OECD, 2002a). It was set up to advocate sustainable development across the UK and all sectors of society, to build consensus on the necessary actions and to move the agenda towards a practical one of implementation (House of Commons, 2002, p42). In 2005 the government proposed to expand the role of the Commission to become a ‘watchdog for sustainable development’; this role came into effect in April 2006.

In 2005 the government launched a new sustainable development strategy (HM Government, 2005) (see Appendix 3 for more details). A crucial factor of the strategy is ensuring it all happens: stronger and clearer forms of implementation and on the ground delivery together with monitoring of progress have been proposed. The importance of integrating environmental protection into all areas of policy-making is increasingly recognised and has become a central element of the strategy. The new strategy was also to reflect changes in governance in Britain, that is the devolved governments and regional and local changes. The strategy also notes the use of statutory duties on public bodies in relation to sustainable development (HM Government, 2005, p156). The strategy notes that some public bodies, such as the National Assembly for Wales and the Greater London Assembly, already have sustainable duties. The strategy noted that “by 2006 the government will issue clear guidance on how existing bodies with a statutory duty linked to sustainable development should take account of this strategy” (HM Government, 2005, p156). The government also noted that it would like to apply duties to new bodies when they are created and would consider applying a duty to existing bodies in significant areas.

32 http://www.sd-commission.org.uk/pages/watchdog.html
Assessments by many observers of the initiatives have, however, concluded that their effectiveness has been limited. In the early and mid 1990s although the Department of Environment did rise in profile, generally the initiatives were weak and ineffective: the ministerial committees met infrequently and the green ministers were low status and their green responsibility was one of many. There were some hard policy changes in the mid 1990s, such as the introduction of the landfill tax in 1996, but overall given the ambitions on sustainable development hard policy and institutional developments were limited (O’Riordan and Voisey, 1998, p165). By the late 1990s thus little more than lip service had been paid to policy integration; departmental isolationism remained the key feature of governance with the main focus on Department of Environment which, despite its increasing profile, remained one of the weaker departments. Sustainable development and policy integration, of course, are not and should not simply be the responsibility and role of environmental departments, a crucial indication of progress on sustainable development is the extent to which it is integrated into the work of a wide range of government departments. Undoubtedly the concept of policy integration (‘joined up’ government and policy-making) has begun to take hold in British government but it has proved very difficult to implement (OECD, 2002a, pp316-318). Cultural inertia has been identified as an important factor constraining implementation (exemplified most notably by the fuel price protests in 2000) but the need for more explicit sets of tools and methodologies for implementation, review and evaluation has also been recognised.

Policy instruments for sustainable development

There are numerous policy instruments which can be introduced and administered by governmental bodies (central or local government, regulatory agencies and others) for sustainable development. The overall objective of the policy instruments is to change behaviour in ways which are conducive to and compatible with sustainable development. Three broad categories can be distinguished:

• first, compulsion – mandatory obligation. A particular action or non-action is directly compelled by the state;
• second, incentivisation. Incentives, normally financial, are used to persuade behaviour change. Often referred to as ‘economic’ instruments;
• third, moral suasion. Education, information, voluntary agreements and other means are used to persuade changes in behaviour.

From a ‘hard’ perspective of behavioural change, the first would appear to be the most effective, as it compels action, while the third the least effective as it is dependent on voluntary action without tangible benefit. Conversely a ‘soft’ perspective would see moral suasion as the most effective as it internalises behavioural change – changing attitude as well as behaviour – while in the second and first behavioural change is more contingent; it depends on setting the right incentives (and knowing the behavioural functions of the individuals and organisations) and on effective systems of enforcement and compliance.

There is, both in principle and practice, a significant overlap between the categories. In principle it can be seen that compulsion and financial incentives might lead to moral suasion, ie, they could change attitudes as well as behaviours; conversely moral suasion might create a more favourable climate for the introduction of new compulsion and incentive measures which might be complied with more easily. In practice some specific instruments are combinations of more than one category. The emissions cap and trading system, for example, involves compulsion in the setting of the overall cap on the level of emissions. At the same time the trading element
clearly involves financial incentivisation. Subsidy systems can involve direct command – the state pays for and commands a certain activity – or they are more like incentive instruments, a subsidy is given to a private actor to voluntarily do something (eg, install insulation in a building to increase energy efficiency). Appendix 4 provides an outline of the range of policy instruments. They are not listed within the above three categories as they often do not fit easily into a single category.

A significant recent policy initiative is the EU’s emissions trading system which is illustrative of multi-level governance and the wide range of institutions and domains. Overall policy is set at the EU level but it is managed and implemented at national and regional levels. In Britain the lead government department is the Department for Environment, Food and Rural Affairs (Defra) which works closely with the Department of Trade and Industry (DTI) and the Treasury, Cabinet Office, Foreign Office and Department for Transport are also involved in high level decision-making. Implementation is a devolved matter thus the devolved administrations of Scotland and Wales are also involved in decision-making. The environmental regulators (Environment Agency, Scottish Environment Protection Agency, Chief Inspector (Northern Ireland) DTI for offshore installations) administer the system including permitting, monitoring, reporting and verification of emissions. The Environment Agency is the Registry Administrator for the UK.

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3. SURVEY: SUSTAINABLE DEVELOPMENT POLICY AND REGULATION IN PRACTICE

This chapter focuses on the practice of sustainable development in the energy, rail and water sectors, particularly related to the statutory duty on the economic regulators. The focus is specifically on the results of interview survey research undertaken with a range of interested parties across the three sectors in question (Appendix 5 summarises the survey results). One of the main objectives of the survey was to assess the impact of the duty on the actions of the regulators. As noted in the introduction, there is a methodological problem in assessing the impact partly due to overlaps with pre-existing statutory duties. This notwithstanding, and recognising the limits of precision, we believe the survey has been worthwhile in revealing changing actions of the regulators and the variety of perceptions and opinions on these changes from a range of stakeholders.

Interviewees included officials and representatives (past and present) of government departments, economic regulators and other governmental agencies, companies and industry association, and consumer bodies. The chapter commences with the rationale for the survey questions and a brief sketch of the recent initiatives of the government and regulators in each sector in relation to sustainable development. There then follows an outline and conclusion of the key points arising from the interviews.

Survey questions and their rationale

The central objectives of this research study are to assess the value of the duty, to consider whether it is meeting the expectations of the policy makers, and the analysis of how it fits with the unbundled regulatory state and independent economic regulators. What public bodies can and should do also relates to the nature of the body. It can be envisaged that effective governance requires that different organisations, such as economic regulators, standards regulators (eg, environment, health and safety), advisory bodies, executive agencies, devolved governmental bodies and central government departments, will carry out different functions and have different responsibilities. Figure 1 below indicates the various kinds of organisations in Britain which are related to sustainable development and utility regulation.

All regulators have what can be termed ‘direct’ regulatory activities. This involves the regulatory actions undertaken towards regulated entities which the regulator is empowered to do under law.

The regulator has control over range of regulatory policy instruments which include:

- certain forms of regulation of quantity, eg, the setting of price caps in price regulation;
- the amendment and in some cases the issuing of operating licences in particular sectors;
- voluntary commitments and agreements: the regulator can use its prominent position within a sector to encourage and persuade companies and their industry associations to adopt voluntary commitments and agreements;
- environmental accounting: regulators can persuade companies to reform their accounting procedures and the information they report. This information can possibly be used to
supervise the companies more effectively and add to the databases used for education and information; and

- regulatory impact assessments: this is a tool available to the regulator which can also assist in the process of educating and informing on the most appropriate policy instruments to adopt.

The regulator also has control over implementation and enforcement of certain policy instruments including the regulation of quantity, tradeable permits, initial licence conditions, property rights, poverty and consumer policy.

**Figure 1: Schematic of the various types of organisations and their key interfaces which are related to sustainable development and utility regulation**

The first question therefore is to find out the ways in which these direct regulatory actions have changed in response to the duty:

**Question 1.** How has the regulator responded to the imposition of the duty in terms of their direct regulatory activities?

Clearly what individual regulators in practice can do in response to the duty depends on their specific legal powers and resources. In many cases the regulator has little or no control of certain policy instruments mentioned in Appendix 4. Also there are some key categories of policy...
instrument which economic regulators have little control over and are normally exclusively set by government. These include:

- fiscal instruments: taxation, subsidies and grants. Almost always controlled by central government departments, though the actions of regulators can have an indirect effect of public money;
- basic parameters of regulation. The basic parameters of most policy instruments, such as regulation of quantity, tradeable permits, initial licence conditions, property rights, poverty and consumer policy are normally set by government. In some cases regulators might be granted some powers to vary these parameters, for example, via licence conditions.

However, one of the most significant resources a regulator has is its information base. Information and education could be used by the regulators to inform and educate the companies they regulate, industry associations, civil society, the public, other public administrative bodies and policy makers.

Information can particularly be used to inform, advise, recommend and even persuade governments and other public bodies to adopt better policies for sustainable development in a particular sector. This leads to a second question on how the regulators have responded to the sustainable development duty:

**Question 2.** Has/should the duty given/give the regulator more scope to advise and challenge government and other regulators on policy matters?

It can also be envisaged that information and education can be used towards the public and consumers, particularly about promoting more efficient and sustainable forms of consumption. Although this form of engagement is not generally seen as a traditional action by an economic regulator, regulators have undertaken research on consumers’ issues and communicated to the public about consumers issues in their sector. Thus, for example, in 2006 the communications regulator Ofcom published results of its research on the take-up of new technology by consumers.\(^{34}\) Also Ofgem has undertaken much work on retail price competition, consumer prices and the process and extent of switching suppliers, though much of the direct engagement with the public and consumers on this is undertaken by the consumer body, Energywatch.

We can therefore envisage that a possible response to the sustainable development duty is for the regulators to engage directly with the public and consumers on sustainability issues. Thus a third question on the actions and response of the regulators is:

**Question 3** Has/should the duty given/give the regulator more scope to engage with and communicate to consumers and the public on sustainability issues?

These three questions have focused on the actions of the regulator. The regulators, however, are set within a complex governance and institutional setting, known generally as the ‘regulatory state’. This is based on the ‘unbundling’ of key state activities, of which independent economic regulation has become significant. Figure 1 indicates the various kinds of organisations in Britain which are related to sustainable development and utility regulation.

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34 www.ofcom.org.uk/research/cm/consumer_engagement/
ECONOMIC REGULATORS AND SUSTAINABLE DEVELOPMENT

The situating of economic regulators within the institutions of the regulatory state and the actions of the various bodies on sustainable development leads to two further questions in relation to the duty on the regulators:

**Supplementary question/issue 1:** Should governmental guidance to regulators be more explicit about sustainable development? Likewise should departmental action plans on sustainable development be more explicit on the role of the economic regulator?

**Supplementary question/issue 2:** Given the cross-cutting and high level nature of sustainable development issues, is institutional fragmentation a major problem? Is there a case for integration or should institutional interfaces be changed and improved?

**Sectoral backgrounds**

The actions of the regulators on sustainable development are connected not only to the statutory requirements but also to the strategies and actions of the government department responsible and the pre-existing work by the regulator on sustainable development. There is little in the literature which specifies what government-regulator relations should be vis-à-vis sustainable development. Nevertheless the OECD and others argue that in relation to sustainable development there should be “a clear and logical path from vision to action plan and institutional roles” (Dalal-Clayton and Bass, 2002, p255). The government’s 2005 strategy ‘Securing the Future’ articulates the vision and how it is connected to action plans and institutional roles. The strategy specifies the requirement for action plans for all governmental bodies and governmental guidance for agencies. The strategy, however, makes no specific reference of the economic regulators and, with the exception of the Environment Agency, all public bodies with responsibilities for achieving the key indicators are central government departments. We can assume nevertheless that actions plans accompanied by governmental guidance are expected to be produced by the regulators, particularly those with a sustainable development duty.

**Energy**

In the energy sector there have been duties associated with sustainable development since the establishment of the electricity and gas regulators in the 1980s (Owen, 2004, 2006). The original legislation for electricity (Electricity Act 1989), for example, included duties to promote the efficient use of energy, to have regard to the effect on the environment and to promote the interests of certain kinds of disadvantaged consumers such as pensioners, disabled, those living in rural areas. In 1991 the so called ‘E factor’ was introduced by the gas regulator, James McKinnon, to enable the costs of some energy efficiency schemes to be passed through to the consumer. The use of the E factor expanded until the following gas regulator, Claire Spottiswoode, raised concerns that the regulator was in effect taking on the role of government policy-making and the schemes were significantly curtailed. The Utilities Act 2000 introduced the Energy Efficiency Commitment which was administered by the government. In the early 2000s the government issued more detailed social and environmental guidance to the regulator but initially resisted the idea of a sustainable development duty. It was, however, introduced in an Energy Bill in 2003 and in statute in the Energy Act 2004. The government, however, did not publish a regulatory impact assessment on the Energy Bill.35

35 According to searches in August 2006 of the DTI, Cabinet Office and Better Regulation Executive websites.
As part of the government’s general sustainable development strategy the DTI, the government department responsible for energy, published a sustainable development action plan in December 2005. Energy is one of the DTI’s main issue areas and a key area for sustainable development and therefore features prominently in the action plan. The plan includes a number of the DTI’s workstreams which are relevant to energy but makes no mention of the role of the energy regulator in the work. Guidance provided by the DTI (up to mid 2006) to the regulator on sustainable development issues (social and environmental guidance) was published in February 2004, prior to the sustainable duty entering the statute book.

Since the late 1990s social and environmental matters have been key areas of Ofgem’s work. In its corporate strategy and plan 2006-2011, there are separate sections on each of these themes. Since 2001 it has published annual environmental action plans and since 2000 social action plans. The 2005 environmental action plan noted that:

“The sustainable development duty builds on and strengthens our existing duties with regard to the environment. During the year, these have been subject to a reexamination by the Authority, under whose direction and governance Ofgem acts. After considering the legal and policy framework within which we must work, the Authority adopted a new approach to its environmental work. This clarifies and builds on the previous framework for taking account of the environment which was set out in the first Environmental Action Plan in 2001”.

For many years Ofgem has undertaken the promotion of environmental measures such as energy efficiency and renewable electricity generation (mainly by administering government led schemes). In recent years environmental measures have expanded to include eg, the promotion of smart meters and micro-generation.

The central feature of the social action strategy has been tackling the problem of fuel poverty. As well as the sustainable development duty Ofgem have a longer standing duty to have regard to the needs of the sick, elderly, those on low incomes and those living in rural areas.

The duty on Ofgem to contribute to sustainable development came in force on 5th October 2004. Although it can argued that there has been no significant change since the duty came into force as Ofgem already had social and environmental duties and significant ministerial guidance on these matters, Ofgem argues that it has had an effect. They argue that they have sought to implement the new duty culturally into their thinking. Their commitment is reflected in their structure because the environmental issues group is now placed at the heart of their markets division. They have a board committee led by Robin Bidwell who will be scrutinising the governance of the new duty. Their stated intention is to publish an annual report on sustainable development starting in 2006 (first report published November 2006). The report is expected to take the place of the annual reviews of the Environmental Action Plan (initiated in 2001), though the Social Action Strategy is expected to be updated on an annual basis. Significant developments in sustainable development include cable undergrounding, the promotion of renewable energy and distributive generation, registered power zones and increased penalties for losses.

36 DTI (2005), The DTI Sustainable Development Action Plan 2005/6, December.
37 DTI (2004), Social and Environmental Guidance to the Gas and Electricity Markets Authority, February.
40 Ofgem (2005b), Social Action Strategy, October.
ECONOMIC REGULATORS AND SUSTAINABLE DEVELOPMENT

Ofgem’s first sustainable development report is based on five themes each with two or three indicators. The themes and indicators are:

1. Managing the transition to a low carbon economy.

Indicators:
- greenhouse gas emissions from the energy sector;
- renewable electricity generation;
- electricity generation by combined heat and power.

2. Eradicating fuel poverty and protecting vulnerable customers.

Indicators:
- number of households in fuel poverty;
- competition and vulnerable customers;
- disconnection for debt.

3. Promoting energy saving.

Indicators:
- energy intensity;
- energy savings from the Energy Efficiency Commitment;
- gas and electricity losses.

4. Ensuring a secure and reliable gas and electricity supply.

Indicators:
- reliability of supply network;
- security and diversity of supply – market response;
- supply market performance.

5. Supporting improved environmental performance.

Indicators:
- other impacts of electricity generation;
- other impacts of gas and electricity networks.

There are also indications that Ofgem in striving to contribute to sustainable development is moving a little beyond its traditional direct regulatory activities (the regulation of companies). Its stated intention is to use the sustainable development report and the indicators “to engage in the wider debate and highlight where government and other organisations can take action to promote a more sustainable energy system”. One example of engaging in the debate is Ofgem’s submission to the government’s 2006 Energy Review in which, inter alia, it strongly supported the carbon cap and trading system to reduce greenhouse gas emissions but also suggested modifications and additions to the system to improve greenhouse gas reductions, eg, a long term carbon contract scheme in which companies committed to a long term reduction in carbon emissions in return for a payment from government.42 Ofgem have also attempted to engage more with consumers on energy consumption and efficiency. For example, in August 2006 they invited energy firms to take part in trials to obtain evidence on the extent to which better

information on energy consumption affects energy usage. This is part of the ‘smart metering’ initiative which could contribute to reducing greenhouse gas emissions and fuel poverty.43

Key documents on sustainable development in energy

DTI

Ofgem

Rail

The duty on the ORR to contribute to the achievement of sustainable development in rail specified in the Transport Act 2000 can be traced back to the 1998 white paper, A New Deal for Transport. Better for Everyone. A whole chapter (chapter 2) was dedicated to sustainable transport and the possibility of introducing a duty of sustainable development on the proposed Strategic Rail Authority was mentioned. Although there was no mention of putting such a duty on the ORR, it is clear that it arose from this context.

Despite the duty in the 2000 Act, up to 2005 the notion of sustainable development did not feature explicitly in the activities of the ORR nor in the broader discussions of rail regulation and policy. Between 2000 and 2005 the duty of sustainable development was not mentioned at all (no acknowledgement and no plans) in ORR’s corporate plans (variously named as operational plans, business plans, strategy etc) nor in its annual reports. Sustainable development was not mentioned in the statutory guidance to the rail regulator issued in September 2002 nor did it feature in reviews and analysis of rail regulation in the same period.44

Despite this, ORR argue that much of their work on economic regulation contributes to sustainable development.45 In essence, this involves setting up and consolidating a stable financial structure, improving incentives to enable the industry operate efficiently and effectively and, via track access agreements, improving the utilisation of network capacity. All of this is expected to encourage a modal shift from relatively heavily polluting modes of transport to less polluting rail transport. In addition, licence conditions have been modified to require licence holders to produce an environmental policy and there are contractual obligations on Network Rail and the train operators to mitigate environmental damage when it occurs.

43 Ofgem (2006d), £9.75m Trial to Improve Energy Information for Customers, August.
Despite these actions the statutory duty was not explicitly addressed for a period of about 5 years. One reason for this is that the introduction of the duty in the Transport Act 2000 was too late for it to have been substantially addressed in the periodic review (of track access charges) for control period 2 which commenced in April 2001. During the next review (2003 interim review) the industry was preoccupied by some more urgent and compelling issues. With the post Hatfield crisis, the collapse of Railtrack and its replacement by Network Rail, and the controversies surrounding the interim access charges review of 2003 and public funding the period was a particularly difficult one for the industry, regulators and government and policy makers. Another explanation is that it was tacitly accepted that rail is one of the most sustainable forms of transport. There was an implicit understanding that with efficient industry operation being a key objective of the rail regulator, sustainable development would indirectly be promoted.

In 2005, however, things began to change. The board of the ORR initiated a review of their statutory duties and realised a more proactive and explicit approach was required in order for it to be discharging its duties satisfactorily. As a result, ORR has initiated a work stream on sustainable development and in ORR’s 2006 corporate strategy contained the first substantial discussion of sustainable development:

“By comparison with other modes of transport, rail generally has a good record in terms of environmental impact and contribution to sustainable development. But it appears that in recent years rail has not improved in a number of key respects relative to other modes.

ORR’s public interest duties include requirements to have regard to the impact of the provision of rail services on the environment, and to promote sustainable development. Thus far we have largely discharged this duty by facilitating and encouraging the use and development of the network, through publication of environmental guidance, which feeds into licence conditions requiring companies to have an environment policy. ORR now intends to take a more proactive approach to its discharge of these duties, initially by:

• developing our reporting and assessment of industry environmental performance, and how it compares with other modes and comparable industries;
• reviewing the current industry arrangements (including licence provisions, ORR environmental guidance, and incentives) for facilitating and incentivising improved environmental performance; and
• participating in the railway industry, DfT and ORR initiative coordinated by RSSB, to define and implement the steps necessary to ensure the sustainability of the railway.

We seek to integrate environmental and sustainable development objectives more effectively into all our activities, and encourage the industry to do the same”.

ORR have also prepared a consultation document on how they can better respond to the duty, how it can contribute to the three pillars of sustainable development and help industry improve its performance (ORR, 2006a). ORR’s proposed objectives are: (i) to encourage the industry to better understand and measure its sustainable development performance, (ii) to encourage improvement of this performance, (iii) to promote best practice across the industry and, (iv) to ensure the ORR’s policies and practices further the UK’s sustainable development agenda (ORR,

2006a, pp15-16). In addition to the continuing effort to make the industry more efficient and effective there are a number new possibilities many of which have been developed in an industry group chaired by the Rail Safety and Standards Board (RSSB) in which the ORR are represented. Possible new measures include new key performance indicators and financial incentives to respond to them, the development of on-board electricity metering (and an electricity charging system directly connected to usage by the train operator), and the extension of regenerative braking (on electrically powered trains). In addition, the ORR expects that its conclusions on sustainable development will feed into the development of the government’s High Level Output Specification and White Paper on the future of the railways, both of which are expected in 2007.

The DfT published an action plan in 2005 on sustainable development in response to the requirement that all government departments produce such a plan. The role of the rail industry in contributing to sustainable transport is prominent in the action plan, but again, as in the energy sector, there is no mention of the role of the ORR in such a plan. In addition, the government to date has not published any guidance to the ORR which focuses on sustainable development so the ORR’s actions can only be based on its own judgements and interpretations of the duty and any private guidance it might receive from the DfT.

The government and the regulator have also been strongly criticised in 2006 by the parliamentary select committee on transport for their approach to rail fares, an issue connected to both the social and environmental pillars of sustainable development. The committee argue that they have done little to alleviate the problems of “a deeply fragmented and highly complex” fares’ structure which does not serve the interests of passengers. They argue that the government and train companies too often simply cite the record number of people travelling by train while not addressing passenger discontent which can threaten the long term development of socially and environmentally sustainable rail transport. The committee argued that the government needs to look at the regulatory framework and the power of the regulator vis-à-vis rail fares in order to create greater clarity for passengers.

Key documents on sustainable development in rail

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<tr>
<td>Sustainable development action plan for the Department for Transport. 2005/06.</td>
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<td>Climate change and transport. No date.</td>
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Water

The history of the involvement of the water regulator, Ofwat, in matters related to sustainability dates back to the early 1990s soon after Ofwat was established and the industry privatised. After years of under investment in the water infrastructure and as a result of UK and EC legislation on

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the water environment and quality of water, the industry was required to make huge capital investments (Owen, 2006). The extent of this investment for sustainable development is directly influenced by the regulator. This is because consumers contribute substantially to the investment via higher prices and the regulator sets caps on the level of these prices. This process became transparent in 1992 when the regulator issued a paper entitled ‘The Cost of Quality’ which became central to the ensuing debates in the 1990s on the extent of spending, financed by the consumer, on environmental improvements in the water industry.

An example of a specific action taken by the regulator prior to the sustainable development duty being in force which has environmental and social aspects is the approach to leakages.48 In 2002 Ofwat published a report with Defra and the Environment Agency on leakage targets which recommended the use of an ‘economic level of leakage’ which takes account of environmental and social costs as well as financial ones. In 2006 Ofwat decided to review the methodology for leakage targets and initiated a consultation.

The idea of a sustainable development duty for Ofwat arose in 2000 from an Environmental Audit Committee criticism of Ofwat for placing too much emphasis on the importance of lower consumer prices in comparison to the benefits from environmental investments (Owen, 2006). There were some doubts about the utility of a duty expressed by the water regulator, who felt sustainable development was primarily the responsibility of the government. However, after the Water Bill was published the water regulator was reported to have supported the idea (Owen, 2006).

A regulatory impact assessment (RIA) for the Water Bill was published in 2003. Although there was extensive discussion and analysis of the environmental provisions in the bill (for example on water abstraction), there was very little on the sustainable development duty on Ofwat and related guidance from ministers.49 The new sustainable development duty is mentioned as one of a number of “new regulatory arrangements ... expected to have an environmental impact” (Defra, 2003, p79). However, the duty itself is only mentioned: “the Authority and the Council [Consumer Council for Water] will both be given a specific duty to contribute towards the achievement of sustainable development, which will not affect their primary aims or purpose” (Defra, 2003, p80). None of the issues or problems of imposing such a duty on an economic regulator discussed in the introduction are mentioned or analysed.

The RIA says a little more on social and environmental guidance provided to Ofwat by the government, but it all amounts to little more than intent and expectation. It notes that “the government expects that any such guidance will help to secure an appropriate contribution by the Authority to the achievement of sustainable development objectives, and the proper integration of economic, social and environmental considerations in regulatory decision-making” (Defra, 2003, p80). And later notes that “whilst the specific action taken in furtherance of its duties will be a matter for the Authority to determine, it is expected that any new statutory guidance issued to the Authority will have a positive environmental impact in the form of greater coherence between the decisions he takes within this modified framework, and the policies of the Government (or the Welsh Assembly Government where appropriate) toward the environment in general” (Defra, 2003, p81).

Ofwat’s response to the duty has included a stakeholder workshop (November 2005) and a consultation document (February 2006). A position paper on its proposals is expected in Autumn 2006. In the workshop a number of possible regulatory policies were discussed including:

- reconciling long-term planning with the price review cycle. Ofwat’s role in implementing the polluter pays principle;
- encouraging cost-benefit analysis;
- water industry energy use;
- water efficiency;
- incentivising innovation;
- protecting vulnerable customers;
- increased meter penetration, including ‘smart’ metering;
- using innovative tariffs;
- sustainable development indicators;
- longer payback periods of sustainable development schemes: Is Ofwat providing the appropriate incentives for such schemes?
- a sustainable development condition in licences.

Ofwat’s consultation document published in February 2006 explains how they interpret the government’s five guiding principles of sustainable development. Ofwat note that they “aim to provide incentives to companies to deliver a world-class service that represents best value both now and into the long-term future. We see our goal of securing value in the broadest sense as key to delivering our sustainable development duty effectively” (Ofwat, 2006a, p2). Options for contributing to sustainable development are set out by Ofwat including:

- ensuring that the principles of sustainable development inform our policy-making;
- ensuring that our processes support our sustainable development duty.

And the report discusses:

- giving companies the right incentives to adopt good governance;
- ensuring that our consultation process allows stakeholders to understand, engage with us and influence our approach;
- influencing policy that affects the water industry in England and Wales where we have expertise and can add value to the debate;
- communicating effectively with the companies we regulate, our stakeholders and sharing good practice where appropriate; and
- measuring sustainable development. This includes considering the best way to report our own progress in contributing to sustainable development, and discussing how the water industry currently reports on sustainable development.

The government’s strategy document on sustainable development (Securing the Future, 2005) is seen by Ofwat as specifying the basic framework. However, neither this document, nor the more specific departmental action plan on sustainable development produced by Defra make any reference to the actions and expected actions of Ofwat. Defra’s action plan includes action plans for the executive agencies but is silent on economic regulators and sustainability (likewise

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DfT and DTI as noted above). Also despite the importance of social and economic guidance noted in the RIA above, by summer 2006 no such guidance had been published.52

Key documents on sustainable development in water

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<td>• Principal guidance from the Secretary of State to the Director General of Water Services 2004 periodic review of water price limits, guidance to Ofwat, 2004.</td>
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<td>• Sustainable development action plan, 2005.</td>
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<td>• Contributing to sustainable development – a consultation on Ofwat’s approach, February 2006.</td>
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Survey results: effects and responses

Direct regulatory action

Across the energy, rail and water sectors most interviewees noted that the regulators were willing to change and that they had increased the work done on sustainable development since the duty came in force. Several noted that Ofgem has increased the work done on sustainable development, mainly the environment, in recent years (since about 2000). The majority who commented on water regulation said that the consultation on sustainable development initiated by Ofwat in 2005 was fairly good; a clear improvement on actions in previous years. Issues being taken more seriously included assessing the environmental-economic costs and benefits of new investments.

In terms of a direct response to the duty the rail sector is the exception. All noted that ORR had done no work of significance on sustainable development up to about 2005 despite the duty coming in force in 2000. Sustainable development was seen as very low on the list of the rail regulator’s priorities up to 2004 because of the many difficulties in the industry. A tacit assumption that rail was one of the most sustainable forms of transport was also noted by several as a reason. However, since 2005 there has been some action on sustainable development by the rail regulator. Several noted proposals for increasing environmental sustainability such as regenerative braking (on trains powered by electricity), on board power metering, and the development of industry sustainable development indicators (particularly for Network Rail). Also noted was the possibility of internalising environmental costs in the access charges regime. This, however, is a particularly difficult issue for sustainable transport more broadly as on its own it could lead to higher rail fares and travellers using less sustainable forms of transport such as road or air.

However, many also noted that it was difficult to pinpoint any substantial and significant changes which have arisen in response to the duty. In energy, views were balanced about extent to which the Ofgem’s response was significant. Some said it was, while others said it can it only

52 Ofwat stated that such guidance will be produced in an iterative fashion between Ofwat and the government.
be described as significant relative to the very low consideration given to the environment in the
development of NETA in the late 1990s. In relation to water many noted that there was little of
substance which was new; some said it amounted to a ‘repackaging’ exercise and one said that it
was a disappointment. Some noted that there was little of substance on the impact of long term
investments (ie, 15-20 years and well beyond the normal regulatory control period of 5 years).

Generally it was observed that it is too early to draw firm conclusions on the effects of the duty
and the actions taken by the regulator. In energy and water the duty has only been in force for
about two years and the rail regulator has addressed the issue only for a similar length of time. A
problem, notably in energy and water, is that that much work on the social and environment
dimensions was already underway. Several noted that at best the duty can be considered to have
reinforced the pre-existing social and environmental work undertaken by Ofgem. One
interesting observation was that the CAA is now increasingly having regard to sustainable
development in its regulatory actions despite the lack of a sustainable development duty. This
tends to indicate that factors other than a statutory duty are impacting on the regulators vis-à-vis
sustainable development.

Relations with government

Across all sectors the majority said that regulators do advise and have close relations with
government, but this action cannot be clearly connected to the duty on sustainable development.
In energy, for example, issues have included carbon trading and caps in the energy review,
energy efficiency, the operation of European energy markets and grid charges in Scotland, some
of which are clearly related to sustainable development. In rail all interviewees said or implied
that the ORR had not made any representations or given any advice of substance on sustainable
development matters. The ORR has had a session with the Eddington Transport Study, a study
led by Rod Eddington which was initiated in 2005 by the Treasury and the Department for
Transport to provide advice on the long term links between transport and the UK’s economic
productivity, growth and stability. In water, the Water Savings Group set up by Defra was noted.
However, none of the interviewees said there was a clear connection between the sustainable
development duty and these actions by the regulator. The limited importance of the duty seems
to be reinforced by the example of the CAA which, without a sustainable development duty, has
discussed and advised government on the possible extension of the emissions trading system to
aviation, indicating that other factors can prompt advice and representations by regulators on
sustainable development. It should be noted, however, that this was prompted by the
government, and that it may have more appearance than substance as the detail of the design of
emissions trading systems can vary to such an extent that it is possible that their impact is
minimal.

Relations with consumers and public

Almost all interviewees commenting across all sectors said or implied that the regulators have
not become more proactive towards consumers and the public in relation to sustainable
development, nor have they engaged substantially with consumers and the public. Limited
actions which were noted by a small minority were Ofgem engaging with stakeholders on their
social action plan and Ofwat doing a little on water efficiency and working with CCW on some
consumer surveys. In neither case were these actions seen to be directly connected to the
sustainable development duty.
Survey results: opinions and interpretations

Direct regulatory action

In relation to all sectors the majority of interviewees noted that the duty is generally a good idea but the regulators can and should do more. In energy many noted that the culture of economic regulation was still too dominant in Ofgem and more should be done in response to the duty. This should be mainly in relation to the environment as some questioned whether it was appropriate for Ofgem to do much on the social dimension of sustainable development. In rail, the ORR could ensure better incentives are placed on Network Rail and the train operating companies (TOCs) to ensure ideas on sustainable development (eg, regenerative braking, on board metering) are developed, it can promote freight on rail more strongly and guard against industry complacency on sustainability. In water, Ofwat should create better incentives, reporting requirements and sustainable development indicators, and make clearer commitments to outputs and environmental constraints over the long term, ie, about 15 to 20 years rather than the normal 5 year control period. A minority did stress the importance of balance between the requirements of consumers (affordability) and capital markets with issues of water supply and efficient use.

Many interviewees across the sectors emphasised that the concept of sustainable development and the duty is vague and open to differing interpretations. They spoke of the need for much more clarity and direction from government and that the duty on its own is insufficient; other changes are required by the government. It is important that the duty is not symbolic, ie, a way of defusing political pressures and shifting responsibility from the government which is avoiding facing up to its responsibilities. For example, in rail some stressed that although the ORR can play a role in sustainable development, it has no powers over inter-modal transport issues which are crucial for sustainability in transport. The DfT should play a stronger leading role in inter-modal issues and transport.

A small minority argued that, while sustainable development is important, the duty is entirely unsuitable; economic regulators should focus exclusively on economic regulation while government and others introduce and implement policies for sustainable development. The duty distracted government from facing up to the main issues and challenges. In a similar vein it was also commented that there is not a case for a similar duty on the CAA in aviation: there is no pressure for the duty and the CAA is having regard to sustainable development without it.

Relations with government

Across the sectors generally there was a degree of caution about the extent to which regulators should engage with government on issues which are beyond their direct powers: there is a fine line between lobbying, which most consider inappropriate for a regulator, and close working with and advising government. A majority said that the regulators should inform and advise government on broader implications and effects of their actions vis-à-vis sustainable development. The importance for the regulators to engage with others on issues within their remit was stressed, also the economic regulators should work more closely together on sustainable development issues. This can include clearly highlighting the trade-offs between the various sustainable development objectives, provision of information and stimulation of debate.

In energy, several suggested that that Ofgem can and should do more, such as scenario modelling (of the effects of policies such as tighter carbon caps, higher renewable requirements). In rail, many said it would be worthwhile for ORR to inform and advise the government on implications and effects of broader transport policies on sustainable development in rail but the
scope for ORR was limited and the industry itself should be more proactive and put forward more united messages.

Across the sectors a smaller number, while not against this action, expressed much more caution. They noted that Ofgem should not be too proactive towards the government and that the big sustainability issues are highly political and the government should be the leader. ORR can inform and advise government but only on rail issues, intermodal issues are not within the ORR’s ambit, others, notably the DfT and Commission for Integrated Transport (CfIT) should lead on intermodal issues (though it should be noted that there has been tension between CfIT and the DfT, the former having one of its principal duties – to report on the progress of the ten year plan – withdrawn in 2003). It was also commented that there was little the ORR could do towards the government as it was more constrained by the 2005 Railways Act. In water, it was noted that the scope for Ofwat to do more in this regard is limited as most sustainable development issues stretch beyond the scope of economic regulation of the water industry. A stronger comment in this regard was made by a small minority who said that it was clearly not the role of the economic regulator to advise or inform government; its role is and should clearly be one of regulatory policy implementation.

Relations with consumers and public

A large majority across the sectors and those who commented on cross-sectoral issues made the same points: it is not the role for regulators to directly engage with the public and consumers while a minority stressed that it was not the role for regulators to engage in any significant way with the public and consumers. This role is more suitably undertaken by a variety of other public and private bodies. These include the government department, the Environment Agency, consumer bodies (Energywatch, Consumer Council for Water, Passenger Focus), the companies who face the consumer directly; other possible organisations include local government, Energy Savings Trust, Carbon Trust, and NGOs with an interest in sustainable development. It is not always clear, however, that these organisations see it as their role: Passenger Focus, for example, are not set up and funded to focus on sustainable consumption of rail, their role is more directly focused on the services and fares.

A minority, however, noted that the regulator can and should engage a little more with consumers. One possible way is to work more closely with a variety of public and private (intermediary organisations) who do have closer relations with consumers and the public, for example, on matters of efficient use of energy and increasing awareness of environmental costs as well as economic costs, or by information provision, ideas and advice. Another possibility suggested was that the ORR could play a limited role such as persuading the industry to send out more explicit and positive signals to the public about rail and sustainability.

Survey results: guidance and action plans

Overall across all sectors a majority considered that governmental guidance on sustainable development should be more substantial and explicit. The call for this was most notable in relation to the rail sector in which published governmental guidance to the ORR says nothing on sustainable development issues. Several noted, however, that the high level output specification (HLOS) to the ORR that the government intends to publish in 2007 will contain something substantial on sustainable development.

53 http://www.dft.gov.uk/stellent/groups/dft_about/documents/page/dft_about_610372-08.hcsp
A minority noted that the statutory independence of the economic regulators has a bearing on the extent and detail of the guidance which it is appropriate for government to give; guidance which becomes too detailed merges into governmental instruction which is contrary to independence. Interviewees making this point did not have any prescriptive solutions, other than stressing the need for awareness of the sensitivity about tensions between guidance and independence. A manifestation of this is the iterative development of guidance undertaken between the key government departments and the regulator. There were two contrasting views of this. One interviewee commented that the guidance to the energy regulator is not strong as it was watered down in negotiations between Ofgem, the DTI and Defra, while another stressed the importance of the iterative development of guidance to ensure it was not imposed on the regulators.

As noted above the government’s sustainable development strategy requires departmental action plans. The departments in question here, DTI, DfT and Defra, have produced action plans and these plans cover issues which are of relevance to the regulators but the action plans do not mention of what the role of the regulator might be. A large majority of those interviewed were unconcerned about this and stressed the importance of guidance to the regulators. One interviewee commented that the sustainable development action plans are not widely embedded across government departments and commitment to them is not strong. Although there are commitments to high political objectives, such as the reduction of greenhouse gas emissions agreed in Kyoto, this does not reflect through explicitly from high objectives, vision, strategy, action plans through to the requirements on lower level governmental bodies such as economic regulators.

Survey results: institutional integration and interfaces

In energy, almost all interviewees were against the idea of institutional integration, ie, the integration of the functions of all public or publicly supported institutions which are associated with energy. That includes Ofgem, the Energy Savings Trust and the energy functions within the Environment Agency. Most said that the way to overcome fragmentation was better coordination on sustainable development encouraged and led by the key government departments (the DTI and Defra) and the Sustainable Development Commission (though it should be noted that the current role of the SDC is not to lead in this way nor does it have the required resources). In terms of institutional roles and interfaces in energy it was suggested that the Environment Agency should play a more significant role in the regulation of infrastructure investments similar to its role in the water industry.

In the rail sector some interviewees noted that the Environment Agency played little role beyond environmental discharges and controls at depots. Given the EA’s duty to promote environmental protection and the impact of transport on the environment it was suggested that it should play a much more significant role. It was also suggested that the CfIT plays a more significant role in sustainable development and transport. In the water sector there was no call to merge Ofwat and the water functions of Environment Agency despite their close working and certain tensions between the two organisations.
Survey conclusions

*Effects of the duty*

The balance of responses to the survey questions indicated that there is little evidence of a substantial and significant change in the actions of the regulators which can be directly connected to the duty. Nevertheless all the regulators in question, including rather belatedly the ORR, have undertaken some action, albeit rather modest, on issues related to sustainable development. There is some connection to the duty though evidence suggests that the duty reinforced what Ofgem and Ofwat were already doing. This suggests that while the effects of the duty appear to be broadly positive the impact has been very limited.

While a clear majority of those surveyed were supportive of the duty, a small minority doubted whether it was appropriate to give an economic regulator a broad and vague duty such as that of contributing to sustainable development.

Although broad conclusions can be drawn, the responses to the duty have varied across the sectors. The most clear difference is that there was little response from the rail regulator in the first five years that the duty was in force, whereas Ofgem and Ofwat responded when the duty came into force. Specific sectoral circumstances can go some way to explaining this: in water and energy the response involved a continuation and reinforcement of existing actions, while in rail there were other preoccupations and the rail travel is also perceived as sustainable transport without any particular new regulatory or policy action. There are also cross-sectoral differences in the processes by which the regulators have responded. Ofwat is the only regulator to have launched a formal consultation on sustainable development including a workshop with stakeholders. It has also had the most transparent description of its response on its website. In contrast neither Ofgem nor ORR have indicated that they are going to undertake a formal consultation. Published material from Ofgem and ORR specifically on sustainable development consists of annual reports on sustainable development (first published in Autumn 2006 and stakeholders are invited to comment on them) and short statements in annual reports and strategy documents (though for a number of years Ofgem has undertaken significant work and published documents on the separate areas of social and environmental issues). Finally, another interesting cross-sectoral observation is that the CAA has undertaken some work, albeit modest, on sustainable development despite the lack of a duty, a further indication of the limited significance of the duty.

*Relations with government*

Survey respondents indicated that there was little evidence that regulators have significantly stepped up their actions in informing, advising, and even challenging government. It appears that the ambitions of the regulators have been limited in this regard. Regulators do nevertheless maintain close contacts with government and other key public organisations on a variety of issues including those related to sustainable development. While it can be argued that economic regulators should focus exclusively on economic regulation (and a small minority in our survey made this point), given the scope and cross-cutting nature of sustainable development, some respondents argued that regulators should inform, advise and even challenge government on the implications of regulatory policies which fall outside their remit. For example, if the ORR is considering internalising environmental costs, it should make it clear that this might have effects

54 www.ofwat.gov.uk/aptrix/ofwat/publish.nsf/Content/sustainable_development
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on overall transport use; effective pursuit of this policy by the ORR is dependent on broader transport policy changes.

Relations with consumers and the public

In this area there is no evidence of any change by the regulator as a result of the duty and the general consensus from the survey is that it seems to be the least appropriate area in which the regulator could and should be more active. Nevertheless a minority argued that regulators should have greater awareness of consumer and public issues in relation to sustainability and should work closer with other organisations which have closer relations with the public.

General

There was a clear argument from many in the survey across the sectors that the government should take a stronger lead on sustainable development, be clearer about the objectives of the duty, its expectations and how actions by the regulator fit into broader sustainability programmes. This is partly because there is a danger that the duty is seen as symbolic – a way of defusing political pressures. It is also because many of the big issues of sustainable development, most notably the emission of greenhouse gases and climate change, are beyond the powers and remits of the regulators to address in a comprehensive way.

This leadership directed to the regulators could be in the form of clearer guidance and departmental action plans on sustainable development that are more explicit about the contribution expected from the regulator. Again there is significant cross-sectoral variation in the guidance provided to the regulators. The most specific is the ‘social and environmental guidance’ provided by the DTI to Ofgem, although even that was not updated to specifically mention the duty of sustainable development which came into effect in 2004. In contrast the ORR to date has not been provided with any specific guidance related to sustainable development, though this is expected to change in 2007.

Given the lack of clarity of intentions, purpose and objectives it can be asked what are government’s expectations of the responses to the duty? Are they (i) clearly secondary to the main governmental policies on sustainable development, that is, they are good if they have an effect but they are not essential. We can look many of the proposals and actions of the regulators and see them as rather limited with uncertain overall benefits, such as smart energy meters or regenerative braking on trains. Possibly the limits of what the regulator can do (as opposed to implementing firmer government policies such as emissions trading or promotion of renewables) as a result of the duty are recognised and are clearly very secondary. These appear worthwhile pursuing but appear to be more on hope that something positive will result, rather than based on firm evidence that clear and measurable changes will occur.

Alternatively (ii) did the government expect the duty to contribute to a broader and more ambitious programme, notably the reduction of climate change gas emissions? This is possibly the case given that the government’s climate change programme 2006, includes some of the measures initiated by the regulators (eg, metering and billing) as contributing to its overall programme for reducing greenhouse gas emissions. However, the problem is that there is a lack of certainty that these measures will be successful and evidence of their quantitative effects. For example, the 2006 climate change programme noted a number of measures introduced in about 2000, all contributing towards a supposed 17.1 MtCarbon reduction by 2010 (HM Government, 2006, p124). Yet it is noted at the beginning of this report that climate gases have gone up since 2000 (HM Government, 2006, p3), because of higher than expected economic growth, despite a
similar climate change programme in 2000. Surely there has to be more certainty that these measures will succeed whatever the levels of economic growth? It seems clear that without more credible measures and evidence of their effects and success, a series of unproven processes and the actions of the regulators in response to the sustainable duty will remain very much secondary in major governmental programmes such as on climate change.

It appears that governmental clarity on its expectations of the duty are essential given that the duty has been placed on micro focused regulators yet the concept of sustainable development is broad, cross-cutting with macro implications. This is most clearly the case in relation to one issue of sustainable development: climate change and greenhouse gas emissions. The next chapters address these issues and others in the context of an interpretation of the roles of economic regulators and the sustainable development duty.
4. SYNTHESIS: PROMOTING GOOD GOVERNANCE - A REVISED ‘STANDARD MODEL’

Preamble

Having reported our specific research findings, we now put them in context and provide an integrated interpretation of the role of ‘independent’ economic regulators in relation to statutory duties to make a contribution to sustainable development (or their equivalent). The chapter addresses the three issues identified in the introduction to this report, that is, the difficulty of interpreting sustainable development; the need for policy integration; the unbundled regulatory state and the model of independent economic regulation.

Taking these observations and the research findings together, we conclude in chapter 6 with a number of recommendations and issues to be considered. This follows chapter 5 where we illustrate the general governance issues and approaches we have identified in the context of the current debate on climate change and the policies which could be applied. Where relevant, other sectors are referred to in chapter 4, touching subjects such as the water framework directive and transport’s modal split.

This chapter focuses on the good governance framework necessary for achieving sustainable development - promoting good governance being one of the five guiding principles identified by the government in its sustainable development strategy (see Appendix 3). We think this is important because good governance is vital to achieving sustainable development policies in practice - policies which are well articulated in the other four guiding principles (focusing on the traditional three pillars of sustainable development and using sound science responsibly). However, promoting good governance is a guiding principle which appears to have been underrepresented by the government in the development of the debate about sustainable development. The practice of good governance needs to be entrenched through explicit policies aimed at codification and institutionalisation of the principles and processes of good governance within the regulatory state. Such codification and institutionalisation underpin the objective of credible commitment by government, and its willingness to be guided by high level principles (sometimes referred to as meta principles). Such a framework helps ensure a clear line between political aspiration and implementation.

The chapter is ordered in terms of the following issues:
1. The potential contradiction between having a wide general duty and the specific functions of independent economic regulators;
2. The policy concept of sustainable development;
   - The link between externalities and cost-reflective prices
   - The precautionary principle and irreversibility
3. The constraints on independent economic regulators balancing stakeholder interests;
   - The place of the polluter pays principle
   - The political objective of affordability
4. Integrating macro and micro policy and practice;
   - communicating ‘policy packages’
   - network management and policy integration
   - impact assessment
The research questions occasioned by the better regulation agenda

The better regulation agenda has developed to a point at which the principles have been effectively codified, both domestically, by the Better Regulation Commission and the Cabinet Office, and internationally, most notably by the OECD. Legitimacy and cost-effectiveness for the regulatory state are key aims of the better regulation agenda, and the operational elements follow from these, each with its own guiding principles.55

<table>
<thead>
<tr>
<th>Regulatory elements</th>
<th>Guiding principles</th>
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<tr>
<td>Purpose</td>
<td>objectivity, coherence and rationality</td>
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<tr>
<td>Means</td>
<td>proportionality, targeting and consistency</td>
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<tr>
<td>Governance framework</td>
<td>transparency and accountability</td>
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Good governance requires governments to pay attention to all of these regulatory elements, both in terms of the design of the regulatory state as a whole - with the division of roles and responsibilities within it - and the means by which regulatory policies are implemented. Governments need to demonstrate this because sustaining good regulation requires effective accountability.56

When parliament decided to impose further statutory duties on independent economic regulators to make a contribution to sustainable development it was therefore a natural research question to ask how this fitted in with the better regulation agenda and the government’s sustainable development ‘guiding principle’ of promoting good governance, and how economic regulators have responded to the new statutory duties – ranging from not at all, partially or completely. The research question was given added importance because, we judge, a well versed ‘standard model’ (or ‘ideal type’) of economic regulators has developed in which their role is to act purely as competition authorities, regulating the potential abuse of monopoly power in order to protect customers. This implies, as the first telecoms regulator, Sir Bryan Carsberg, once observed, “we are not agents of social justice”; also that environmental policy is a responsibility of the government (a view which was well articulated by Sir Ian Byatt, the water regulator, in the ‘cost of quality’ debate with ministers during the early 1990s – and which led to the provision in the Environment Act 1995 requiring ministers to take account of costs and benefits when setting environmental standards).

A similar debate about the role of economic regulators and ministerial responsibility for environmental policy was conducted by the gas regulators Clare Spottiswoode and Jim Mckinnon at the time of Ofgas (now merged with Offer to form Ofgem) in relation to the inclusion of an environmental (ie, E) factor in the price-capping formula. Intuitively, therefore, there is a sense of potential contradiction and conflict between the implications of such an all-

embracing concept of a duty to make a contribution to sustainable development and the received wisdom concerning the standard model of economic regulators, and that issue needed to be explored.

Our research findings have borne out this intuition about a potential contradiction, and the opinions of interviewees and the actions of the economic regulators reported in the chapter 3 can be traced back to structural questions and divisions in roles and responsibilities which lie at the heart of the design of the regulatory state. A negative conclusion could be drawn that the government was mistaken in applying these new duties to the economic regulators, and that it transgressed its own better regulation principles in doing so. If so, and the standard model of economic regulators was to be reaffirmed, then the policy conclusion could be that such duties should be withdrawn because at best they achieve nothing and at worst they cause confusion and misunderstanding which in various ways undermines confidence in the regulatory state.

A positive conclusion could be that the new duties do have a purpose in the context of economic regulators, but where the standard model would have been revised to accommodate a wider and more integrated vision of the regulatory state and its parts, and without undermining the core functions of an independent economic regulator. The following sections seek to address that revision and to reconcile the apparent conflicts and contradictions referred to above as the starting point for the research. We believe there are signs that current actions by both government and economic regulators signal a move towards a revised standard model of economic regulators’ roles and responsibilities; a move which is being accelerated by the need to address the pressing problems of climate change as the ultimate test for the concept of sustainable development and the regulatory state.

We should, however, make it clear that this proposed ‘revision’ is more in the sense of re-empowering the independent regulators rather than a fundamental restructuring of their role, which some might see as potentially undermining their independence or their focus on protecting consumers. It is simply that their full role in the context of the regulatory state appears to have been undermined over the years by an excessive attention on the ‘bureaucracy of demonstrating independence’ and to the ‘ideal type’ (which is only a benchmark and never a description of reality), such that the spirit of independent economic regulation may have been undermined by demonstrating the letter of it. The pressing needs of sustainable development and climate change make that position no longer tenable.

There is a half way house interpretation, to the effect that economic regulators might decide to look at the duty to make a contribution to sustainable development and see whether there was a particular element that was relevant to them, and for which any new regulatory activity would still be consistent with, and part of, their core regulatory functions. In a sense it ‘salami slices’ and discards the rest. However, whilst this interpretation might be defensible (and has in part been the basis for the activities of economic regulators to date in carrying out policies which are related to sustainable development), it is unattractive in that the duty is a totality, and such salami-slicing implies that regulators could use such discretion with respect to any duty they have as a matter of principle. This would imply poor statutes which did not meet the principles of better regulation with respect to transparency and coherence. If this approach is what parliament is seeking, then at the very least the duty should be qualified at the end by a short statement ‘as appropriate’. This would echo the way in which the statutory requirement to promote competition is qualified by the words ‘if appropriate’ (so that natural monopoly can be regulated appropriately). More satisfactory is to see whether the duty can be considered in its entirety, and then perhaps attribute aspects of the response to it to the core economic regulatory functions and the rest to other activities carried out under the umbrella of a revised standard model.
This last consideration does beg questions about the definition of sustainable development itself, in so far as it needs to map on to the roles and responsibilities of various parts of the regulatory state. The revised standard model would sit more comfortably with a conception of sustainable development as three nested pillars rather than three separable pillars, where the economic and social dimensions sit within the environment and its constraints. Necessarily the three nested pillars interact and overlap to some extent for the purposes of sustainable development, policy-making and policy integration. The following sections address these aspects, and the idea of a nested pillar of sustainable development is illustrated in Figure 2 – the natural world and its constraints surround the human world and its activities. It presents a ‘one world’ picture and provides the stage for many and varied interactions – whether that be man’s influence on the landscape or the government’s policy to ensure that externalities are properly internalised into producers and consumers decisions.

**Figure 2: The nested concept of the pillar of sustainable development**

![Diagram of nested pillars: Environment, Economic, Social](image)

The concept of sustainable development and the roles of the traditional regulatory state

Our literature review of the history of the concept of sustainable development and its inclusion as a major policy aim of government shows it to be an ‘empowering vision’, and timely in the light of the resource constraints facing mankind as populations grow and economic growth is harnessed to alleviate poverty and to provide wealth and opportunity to a growing proportion of the population. But there is ‘only one planet’. Not surprisingly therefore, the government recognises that achieving sustainable development requires political leadership and a focus on promoting good governance.

Nevertheless, that review also reveals that whilst the terminology of sustainable development might be relatively recent, and current resource concerns more pressing than they were in the past, the ‘three pillars’ concept (economic, environmental and social sustainability) shows itself in practice to be founded on all of the traditional concerns of the regulatory state since time immemorial. The relative weights of these three pillars may have changed, and particularly now as ecocentric ideas of man’s harmony with nature and rights to extract resources from the environment are put forward to challenge traditional econocentric views (see chapter 2 for a fuller coverage of this debate). But in one sense sustainable development captures all of those concerns, and hence is an ‘umbrella’ concept for the regulatory state - thereby encompassing both continuity and change. It is therefore differences of degree in the problems currently facing the regulatory state which explain the general transformation of these terms by government rather than differences in their kind. Growing pressure on resources and the need to take an explicitly longer view can explain the developmental stages of sustainable development in recent years. Hence we see the move from:
First, traditional analysis of the state’s role in addressing market and conduct failures (particularly from Adam Smith onwards):

- competition policy to deal with monopoly power;
- regulating externalities;
- public goods and missing markets;
- social policy to address unacceptable distributional outcomes;

through to enclosure over the last twenty years within broader concepts of the regulatory state and of sustainable development, with its three pillars (the economic, environmental and social pillars) which has then been transformed in the light of the pressing demands of climate change to more emphasis on constraints and delivery with the government’s strategic reformulation to the five guiding principles set out in its sustainable development strategy (Securing the Future, HM Government, 2005):

- achieving a sustainable economy;
- ensuring a strong, healthy and just society;
- living within environmental limits;
- using sound science responsibly;
- promoting good governance.

Finally, there is a suggestion in the most recent debates of a growing emphasis on the constraint concept using the ‘one planet’ scenario as a guide to the policy of the regulatory state, an approach of particular relevance for Defra; politicians having referred a number of times to the implications of the World Wildlife Fund’s well quoted statements about needing three planets to sustain our current lifestyles.

Whilst this is an interpretation open to argument, the fundamental point which arises in any event is that sustainable development must be seen as a broad or ‘bundled’ concept which, when put into operation, must cover a wide range of policies in the regulatory state. There is then, therefore, a self-evident contradiction in the government applying a bundled concept to an element of the unbundled regulatory state (the economic regulators), and who have been expected and empowered only to operate within a specific and restricted policy domain. The question then is whether the contradiction is either accepted, or resolved by redefining the policy domains within which the economic regulators can, and we suggest do, operate.

**Externalities, pollution and cost-reflective prices – an integrated view**

The economic analysis of externalities - the unpriced effects on third parties of the production and trade in goods and services - has been thoroughly developed over many years and the policy implications are clear (the external costs should be internalised in prices and the polluter should pay). What has so often happened, however, is that the necessary policies are not applied, overwhelmingly for political reasons. Consumers have got used to paying less than they should, and may have come to assume that that is their right (or at least something that they still want to get away with as long as the harm only affects other people and that that is not something they are forced to dwell on). Producers have got used to incurring lower costs than they should, and making higher profits than they would, if, to any extent, they are price-makers in the market. Where it is a competitive market, the mantra to oppose any additional costs is competitiveness, and this is particularly persuasive to politicians in the context of UK plc and the pressures of international competition.

Politicians therefore have little incentive to respond on the basis of principle, since clearly there are not many votes in that, and, as for practice, will only be driven to act when the harm becomes pervasive and begins to affect their own interests or those of consumers directly. Then
it becomes a matter of all party agreement, and effective political leadership can be exerted to address particular problems. Disease and public health are classic examples. When the Thames in front of the House of Commons became an unbearable, stinking open sewer during the nineteenth century, and MPs could not enjoy the occasion of Westminster as they thought they should, and they had the scientific basis and rationale on which to act, something was done. Citizens were protected, the sewerage infrastructure was developed, citizens paid the costs by way of taxes or charges, and producers had to comply. Everyone was better off, nobody would want to go back, and the world did not collapse because prices had to be higher to reflect the environmental standards that were now in place to protect public health and amenity.

Unpriced externalities which have not been internalised properly into the decisions of consumers and producers are therefore a second best situation, and in a representative democracy there is therefore a moral imperative for politicians to act and set the proper economic basis for sustainable consumption and production. Internalised, cost-reflective prices which incentivise consumers and producers to move away from the second-best situation are an attractive policy because they are consistent with the modern view of personal choice and individual human rights realised through an efficient and effective decentralised market economy. The prices may be driven by physical limits and standards (eg, carbon caps) but these represent macro rather than micro ‘command and control’ systems. It is micro command and control which is often seen as ineffective and bureaucratic. A rule-based international trading system, based on the WTO and GATT, with its emphasis on the cost foundations for market prices, which thereby undermines predatory pricing and ‘dumping’, should therefore be philosophically attuned to the idea that international trade should be conducted on a fair and equitable basis where each country ensures that its otherwise unpriced externalities are properly internalised into the costs of the goods and services it exports. If not, then that should put the country under threat of moral and practical sanctions by the ‘international community’ of nations which do subscribe to the proper principles of international trade and sustainable development.

A natural corollary of these principles is that subsidies are not the solution to solving the second best situation, except in certain specific situations which have to be persuasively established in both principle and practice. Subsidies, whilst they may ameliorate the externality to some extent, are distortionary in themselves and will involve consumers in buying too much of the goods or services overall. Subsidising railways to try and redress the underpricing of polluting road transport just means that too much transport is demanded overall. It should be a natural inclination to focus on the activity which causes the harm directly.

A duty of sustainable development evidently requires a governmental policy stance that is built on a presumption of full cost–reflective prices; cost-reflective prices which internalise the otherwise unpriced costs which would be imposed on others. It is also a positive message because it addresses the issue of responsibility for harm, not ‘lifestyles’ per se or other concerns which can become negatively associated with the idea of a ‘nannying’ state. Individuals must think about how their life style and consumption contributes to pollution, how they might change to reduce the impact, and what support they should give to government policies aimed at avoiding the harm. The government will need to highlight the most polluting activities but in the context of addressing the harm. Yet the government should still be able to say that they are promoting opportunities and choice for their people, but in the context that collective action is being taken to ensure that environmental constraints are not breached, one consequence of which is that individual choice should be based on prices which fully reflect any external costs imposed by the choice of that activity. It is not about being, say, anti-flying, or any other activity; it is about greenhouse gas emissions. A coherent and all inclusive policy to deal with the latter should be neutral with regard to activities per se.
Uncertainty, reversibility and the precautionary principle

False comfort might be taken in one apparent lesson of history. Yes, politicians can act when it gets too bad, but in the meantime we can live with the second-best situation, and take advantage of avoiding the costs (as long as they are either ‘hidden’ from view or imposed on either a minority or a wider population without the necessary clout to resist). Whilst socially and morally rather unpalatable (unless the cause is pure ignorance of the externality), this view of ‘adaptive management’ when needs be is probably a fair reflection of the ‘private interest’ regulatory state. Unfortunately it is a policy stance predicated on the strong assumption of ‘reversibility’ – we have poisoned the pond but when we stop poisoning it will recover and we can draw water and fish as before.

Water is an example where considerable damage to our aquatic environment has been caused by industrialisation. Modern regulation has, however, addressed the problem and the quality of our aquatic environment is being restored. Not necessarily to what it was but to an acceptable outcome – representing a new ‘equilibrium’. Such restorative regulation is to be applauded but is not an argument for complacency, and we would, in general, probably now seek to avoid the degradation in the first place so that it did not need to be restored. Nevertheless, where restoration can reasonably be achieved, then clearly there is a question of balance and the cost-benefit test.

The problem is that this approach does not necessarily apply to bio-systems where irreversibility may be the result of past behaviour and the prior equilibrium or sustainable level of flux within the system cannot be re-established. It might be that one can act in time (as seems to be the evidence with respect to the ozone layer and CFCs – where conventional economic factors were also a major contributor to the success of the policy in terms of first leader advantage, notably for US companies such as DuPont who developed substitutes for CFCs), but maybe not, given political inertia and scientific uncertainty, which itself is so often used to justify inertia. It is a classic blind alley to be avoided – acting only when you are certain may mean it is too late to act! This does not apply only to pollution externalities and renewable resources, but non-renewable resources as well. If current consumption exhausts the stock of non-renewable resources, it deprives future generations of the possibility of that limited stock of resources, which for all practical purposes was an endowment for all generations (see Appendix 3 for further coverage of these issues). Extraction of non-renewable resources and pricing on current private costs alone is clearly inadequate to take account of the externality on future generations (although these private cost prices should rise as the exhaustion point gets nearer to reflect the replacement cost to the organisation with the property rights to them, in order to protect the organisations ‘stock or balance sheet’ value in the context of ‘capital maintenance’). Governments therefore have to be concerned with the policy of ‘husbanding’ endowments of natural resources, and using the tax and price mechanism to internalise that externality in accordance with an explicit public interest position.

The fact of, or the danger of, irreversibility brings with it a key principle for government policy and action – the Precautionary Principle. Scientific debates and uncertainties are a fact, but they are not an argument, along the ‘reactive adaptive management’ line, for doing nothing until certainty comes about, lest we incur too much cost now unnecessarily. This outcome is a manageable downside compared with an irreversible catastrophe which could perhaps have been avoided. Uncertainty has to be converted into a political consensus of imaginary probabilities, on which basis action is taken now (ie, treating the world as if this is how it is, even if we are unsure). These consensus probabilities can be refined as new information appears, and actions taken should themselves comply where possible with the reversibility principle.
The prime place of the precautionary principle should be secured and used to challenge the ‘adapt but not mitigate’ school of thought, along with its close cousin, the ‘salvation in technology’ school of thought. The result would be proactive, rather than reactive, adaptive management. We understand that before 2000 the Philips inquiry into BSE recommended that the UK government set down clear policies and procedures for the application of the precautionary principle, but that such guidance is still awaited, perhaps because of the focus on economic growth and innovation, and legal concerns about how to evaluate risk, hazards and the proportionality of action or inaction. Sir Martin Rees chooses to quote Prince Charles in a chapter on human threats to earth in his book ‘Our Final Century’: “In military affairs, policy has long been based on the dictum that we should be prepared for the worst case. Why should it be so different when the security is that of the planet and our long term future” (p113). Yet we accept that even here the cost-benefit test applies –‘reasonably’ prepared … might be nearer both principle and practice. There is a need for sophisticated analysis which reflects on the properties of uncertainty versus risk, the meaning of systems equilibrium and the acceptable limits, and the proper place of government in assessing the acceptability of low risk scenarios with potential catastrophic outcomes. Are responsible governments risk-takers, and in what circumstances?

Balancing of stakeholder interests: the constraints on regulatory discretion

The implications of the duty of sustainability for economic regulators, given the arguments above, require some review of current received wisdom if there is to be a realistic possibility of integrating independent economic regulation and a duty to make a contribution to sustainable development (see also chapter 2). These concern ideas of balancing interests, the need to establish the primacy of the principle of the polluter pays in practice, and the interpretation of the place of affordability in the hierarchy of policy.

It has long been a feature of the regulatory language and dialogue that independent regulators ‘balance’, most notably, the interests of customers and investors. This seems to have arisen from ideas of reasonable discretion in a modern framework of accountability to stakeholders. Unfortunately, it is misleading, creates wrong expectations, does not equate well with the underlying purpose of independent economic regulation, and undermines the fundamental principles of applying constraints in order to achieve sustainable development. The point is that independent economic regulators are put in place to protect customers’ interests, but subject to a set of constraints. There is no fundamental trade-off, although of course there will be some trade-offs between one thing and another on behalf of customers.

Constraints include allowing sufficient revenue from capped prices for providers to be able to finance their statutory functions, but where those caps are based on the minimum required cost of capital given the risks of the business, and on the basis that the companies are efficient. Environmental standards are also constraints set by government.

Given that independence and regulatory discretion is a qualified, or constrained, concept, it is important to recognise that a duty of sustainability can reinforce the primacy of the constraints, and particularly the environmental constraints which are the responsibility of government to impose. This helps public understanding, and promotes consensus and consent to the legitimate actions of the regulatory state. It also empowers the economic regulator to both articulate the

position of the economic regulator in the overall scheme of things, and to recognise their role in helping government to arrive at the right constraints.

**A key (economic) principle – the polluter pays**

One role for all parts of the regulatory state is to be a conduit for the articulation and application of fundamental principles of political economy by the regulatory state. There needs to be a credible commitment to such high level principles by the state, and which are carried forward consistently by successive governments as part of the better regulation agenda. The polluter pays principle is one of these fundamental principles. There should be a ‘signing up’ process by government with a programme of continuing reinforcement of that principle in order to create the political context and expectations in the mind of the public for the policies which will inevitably ensue. It was evident from our reading that too often government policy documents and consultation papers did not give explicit reference to the primacy of the polluter pays principle, and thereby provided a sense of discretionary policy development which in fact should not have been the case (particularly where it avoids price increases in sensitive areas such as increasing petrol prices in order to internalise the carbon externality).

To avoid misunderstanding, the primacy of the economic principle that the polluter should pay does not mean that other policies must be sacrificed. It simply says that the first presumption in the ‘policy package’ is that the economy operates on full, internalised cost-reflective prices which take account of the relevant environmental constraints. The distributional consequences, after allowing for economic readjustment to the changed relative prices and incentives provided by fully internalised external costs, can then be addressed, focused on the *ex post* needs of the disadvantaged. In essence, the disadvantaged should be faced with the cost-reflective prices of their actions (as should everyone) and then their specific needs addressed. For the wider public affected by changing relative prices to recognise external costs, there might be transitional relief, but overall the message of the polluter pays should be paramount. Arguments that pricing in external costs means a ‘hair shirts’ philosophy should be discounted. It is simply a change in relative prices to reflect the costs of our consumption decisions, and the economy will adapt accordingly. Public expectations should be built up not on the right to pollute but on the legitimacy of cost-reflective prices. This focuses attention on the harm and not the activity per se.

**Interpreting affordability as a political (objective) rather than an economic principle**

The corollary of embedding the polluter pays as a fundamental economic principle of the regulatory state means that the tendency of independent regulators to justify their ‘balanced’ decisions on the basis of the principle of affordability needs to be challenged and reinterpreted. Affordability is a legitimate political objective, and can even be called a political principle. But affordability is not an economic principle as such, and therefore needs to be addressed in a different policy context. A staged process of policy analysis in the modern regulatory state needs to be debated and entrenched in order to supersede the flawed policy model that now seems to operate and is ill-equipped to deal with such things as the challenge of climate change. One sequence is that environmental limits and constraints are established. The public informed of the causes and the consequences, given that personal attitudes and behaviours may need to change. The polluter pays principle is applied and market instruments are chosen to generate the prices which properly internalise those external costs (mitigation). The incentives of those cost-reflective prices drive the economy and its adaptation, but as with any market system, the distributional consequences have then to be addressed by the regulatory state, normally by
focusing on the specific needs of disadvantaged groups in the context of affordability and access to essential goods and services.

Integrating macro and micro policy and practice

Sustainable development is a macro policy concept which the government has sought to apply to the specific (or micro) circumstances of independent economic regulators. Our research findings have demonstrated the tensions that causes in relation to roles and responsibilities whilst at the same time signalling practical ways forward. Regulators in general have reflected the ‘standard model’ of economic regulation in their response, and could be said to have taken a conservative (with a small c) view of how the new duty should impact on their direct regulatory activity (accepting that many prior activities of regulators could be said to be related to one or more elements of sustainable development), but at the same time have shown a willingness to engage in the wider policy aspects of sustainable development. This anticipates the possibility of revising the standard model to encompass a new reality, which we consider below, but before that we need to consider the broader issues of integrating roles and responsibilities within the regulatory state.

Two key aspects have arisen, the first from the literature review and the second from the interviews. First, as has been noted a number of times by the OECD when discussing effective regulation, integration requires not only a macro vision but a clear path to implementation. Demonstrating this path is an essential part of good governance. Secondly, it is the confusion over the role of ministerial guidance to independent economic regulators. Ministerial guidance in the context of independent economic regulation has a pejorative sense of seeking to retain control and undermining independence. It has a sense of hierarchy and one-wayness. Not surprisingly there were views that guidance would not be welcome and a sense that ministerial departments should resist wider engagement with regulators for fear of compromising their independence.

The problem is that these attitudes may have fossilised the regulatory framework at a time of challenge from climate change and other resource constraints; a challenge which requires flexibility and adaptability in the operations of the regulatory state. The answer is to give effect to the view (as the OECD has advised member states on regulatory reform) that effective regulation requires a ‘whole of government’ voice which should be institutionalised and codified. In this context the need is to instil a sense of engagement between all parts of the regulatory state, irrespective of their core functions, but in a way which does not undermine those core functions (a referee can apply the current rules fairly whilst at the same time contributing to the development of those rules for the long run improvement of the game). In the water and rail sectors specific ‘iterative’ arrangements have been introduced as part of the periodic review process, and this has been a major step forward in finding a means of integration and engagement without compromising independence in relation to core functions. This foundation needs to be further built upon to achieve a truly integrated policy formulation process within the regulatory state; one which harnesses experience and skills at the micro level to achieve well specified macro goals and at the same time demonstrates a clear line from policy to implementation. Institutionalising and codifying this integrated approach is fundamentally tied up with the theory and practice of communicating ‘policy packages’. Closely allied with this is the issue of credible commitment (eg, to long term carbon caps) where solutions require long term investments. Instilling commitments into the legal framework, rather than relying only on announced aspirational targets is one method of translating soft into harder policy commitment.
(the current debates on climate change bills are a good example of the need to address this issue).

Intrinsic, therefore, to this approach of integrating the macro and micro is the concept of ‘policy packages’, referred to earlier as an example of how the economic principle of the polluter pays can be made complementary with the political objective of affordability, and presented in a coherent way as an integrated, or two part, policy. Unbundling allows each apart to be dealt with properly, and one does not exclude the other, but they need to be considered, both by the government and those the policies affect, as a policy package to be considered as a whole. The ‘policy packages’ concept should help put into practice ideas of joined up government and can provide an appropriate focus for good governance policy and practice, and the implementation of programmes, such as the government’s climate change programme. The idea is schematically illustrated in Figure 3 below, showing how a generic objective such as sustainable development, which encompasses a wide range of policy instruments across the three pillars, has to be integrated through policy packages and good governance processes in order to better realise the desired outcomes:

**Figure 3: Policy packages**

![Diagram of policy packages]

To achieve this, however, requires certain key policy and governance developments necessary to entrench good governance practice and a clear line from vision to implementation

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**- The Water Framework Directive: an illustration of high level regulatory integration**

The development of water regulation since privatisation in 1989 has been a good example of how the separation of roles and responsibilities among ministers, agencies and independent economic regulators can achieve better focus, targeting and transparency but at the same time achieve overall policy integration without the need for ‘rebundling’ what has become an unbundled regulatory state. There was a learning process as each part came to better understand their roles and responsibilities (most notably through the cost of quality debate in the early 1990s initiated by Sir Ian Byatt, the then water regulator), and the steps forward have been progressively formalised. The Environment Act 1995 obliged ministers to have regard to costs and benefits when setting environmental standards, but to achieve good policy integration, a quadripartite forum was established between ministers, the Environment Agency, the Office of
Water Services and the industry. This has been formalised into a transparent and accountable process whereby iterations have to take place between ministers setting quality standards and the agencies and regulators involved in implementation and consumer protection. A policy package comprising environmental protection and consumer protection thereby emerges and the guidance from ministers is not to be seen as interference in independence, but as part of the process of information exchange whereby each party sets out clearly what they have to do in relation to the work as a whole.

The water framework directive promulgated by the EU is perhaps a good example of integrating the macro and the micro. It is output orientated – requiring a ‘good aquatic environment’ – and has a relatively tight, but manageable timetable for implementation. Nevertheless there is some discretion on interpretation which allows effective integration between the macro aim and the micro implementation. The independent economic regulators are necessarily engaged in a dialogue with the environmental agencies and government (including debate on the cost-benefit tests to be applied in setting the standards), and pricing mechanisms based on opportunity cost concepts can, and could, be used to incentivise optimal outcomes for abstraction of water or in determining the economic cost of leakage (and given climate change the social cost of carbon would need to be factored into the avoided cost of building reservoirs where they use large volumes of cement).

Policy integration and joined up government - communicating ‘policy packages’

- Network management and policy integration
Our research identified a proliferation of public and quasi-public bodies with interests in specific aspects of sustainable development. Most notable was the proliferation of bodies concerned with climate change, including the Carbon Trust, the Energy Saving Trust, the Sustainable Development Commission, the Office of Climate Change, and the Sustainable Energy Network. It was hard to discern any confidence that their activities were harmonised or that government spoke with one voice. This is exacerbated when the policy concerned is sustainable development; a policy which incorporates three pillars covering policy aspects often seen in a rather disconnected way.

Our research has also identified a proliferation of ‘networks’ in the operations of the regulatory state. Clearly any network (formal and informal) can be useful as a conduit for information and is a necessary condition for creating a unified understanding of policies and their impacts where different parties have different roles and responsibilities in the context of the regulatory state as a whole. But alone they are insufficient to create the conditions for a whole of government voice aimed at integrated policy development and delivery. There has to be an element of management, prioritisation, direction and finality, which can only be provided by some organising principles for the network which arise from one body being given an overarching responsibility. This body has to be vested with authority sustained by credible commitment.

The most relevant example, which will need to be closely monitored for its effectiveness in integrating the many organisations which are networked in the context of sustainable development, is the Office of Climate Change which the Prime Minister and the Secretary of State for the Environment announced would be established in September 2006 to be a common resource for all government departments in achieving the government’s sustainable development strategy (and a press release was issued by Defra in September setting out the overall staffing and review programme that it would undertake at the start of its work). In particular, one question will be: how does it intend to work with, and harness work by, the economic regulators beyond that of their direct regulatory responsibilities and activities.
In practice three areas need to be addressed:

- focusing responsibility in one place for the overall articulation of each ‘policy package’ where more that one part of the regulatory state is involved. This is institutionalising the whole of government view requirement and the co-ordinating role;
- identifying the means by which the policy information is imparted coherently and consistently between the interested parties. This is codifying the content;
- facilitating engagement in policy formulation between the parts of the regulatory state. This is codifying the process for integrated policy formulation and delivery.

Whilst the first is an immediate concern of the Prime Minister’s office and the Cabinet Office, taking into account the role of the Better Regulation Commission, it is encouraging to note the developments already taking place with respect to the other two areas.

- **Impact assessment**

  The regulatory impact assessment (RIA) has already set the groundwork for codification of content and we note that in the current consultation on Improving Regulatory Impact Assessments it states that success would be for “impact assessments to be the accepted basis for cross-departmental discussion within government on the impact of policy proposals” (p11). It is vital that the development of RIAs as the foundation of better governance and regulation is achieved, otherwise policy integration based on the idea of policy packages will founder. The Cabinet Office, the Better Regulation Executive and the Better Regulation Commission have a real challenge to manage the realisation of their vision on the role of RIAs.

  It is also interesting to note that in the draft report for the DTI’s Better Regulation Project with respect to energy, that it proposes setting up a cross-government and industry regulatory ‘forum’ (p2). This development echoes what we heard in our interviews about the proliferation of organisations and the lack of co-ordination between them over policy and initiatives. Policy packages demand effective networks, and these can be more effectively coordinated through the common information flows occasioned by RIAs and the appointment of a lead department. All parts of the regulatory state can then better be engaged in the coherent presentation of policy to a wider audience and the management of expectations.

- **Transport’s modal split: an illustration of fragmented policy**

  In a similar way to water regulation, rail regulation is now achieving a high degree of policy integration following a troubled period. The independence of economic regulation, which was designed jointly to protect customers, and to protect investors from political risk, has had to be established in practice only after long and acrimonious debates and actions between ministers, ORR and the first infrastructure provider Railtrack. The political context was adverse, following a hurried and controversial privatisation in 1996/1997, and the risk to public money (rail subsidies) was partly in the hands of the rail regulator in terms of how well Railtrack’s approach to risk management was supervised by the regulator. The lesson to be learnt was a hard one – with what has been described as a ‘collective nervous breakdown’ following the Hatfield rail crash. The outcome has been to see a clear, and statutorily entrenched ‘iterative process’ for policy integration implemented. The prospects for stability and coherence in the future have been much improved.

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Nevertheless, our research shows by contrast that the rail industry is in a rather dysfunctional setting when it comes to sustainable development. If the economic regulator internalises the railways environmental costs (relatively low as they are), then that might divert passengers to more polluting forms of transport if their environmental costs have not been properly internalised through higher petrol prices for motorists and kerosene prices for aviation. The rail regulators should feel empowered to engage in the wider debate about efficient modal split as part of their having regard to sustainable development, and for this a government commitment to a revised standard model is required.

A revised ‘standard model’ - reinterpreting the role and responsibilities of ‘independent’ economic regulators

Integrating macro and micro policy requires a reinterpretation of the standard model of independent economic regulation. Government needs to show that it welcomes the engagement of regulators for reasons of their expertise, for reasons of better regulation, and because problems such as climate change can be too pressing for it to be sensible to exclude them from the process in a publicly accountable way. This would empower the independent regulators to address the totality of the duty of sustainable development but without compromising their core functions.

Our research interviews presaged this possibility by focusing on three areas of response to the new duty of sustainability:
• changes in direct regulatory activities;
• changes in engagement with government in policy development;
• changes in engagement with the public, both in relation to communicating policy and the formation of policy expectations.

The revised standard model could be illustrated as follows (Figure 4) showing how the core function of independent economic regulation remains central but now surrounded by a widening circle of engagement in policy formulation and communication. A schematic view might therefore be of black, core functions surrounded by a set of activities which integrate and iterate with other regulators or the government, in some sense hierarchically but in the spirit of peer engagement with a common purpose. The concept of a duty to make a contribution to sustainable development then maps across both the core and the ancillary functions and activities. There then is no need for the salami-slicing model or for rejecting the utility of the duty completely.

Figure 4: Extending the standard model

So, contrary to the expectations on independent regulators under the standard model not to engage in the wider policy debates on sustainable development, a view which we found reflected in our interview responses, the revised standard model empowers the regulators to do so. An example in energy might be that as a complement to communicating the government’s policy
that the polluter should pay (with which the energy regulator would be well equipped to help) it would also help the public to accept the policy of polluter pays prices if the energy regulator’s expertise in and knowledge of markets could be used in extensive scenario planning to show how market adaptation would probably greatly ameliorate the initial price shocks to the system.

Another example is provided by Ofgem’s recent decision to assess, in collaboration with the energy companies, the value of more information being available to consumers about the potential benefits from energy efficiency. There is a general problem for the companies to try and fulfil their energy efficiency obligations in the face of a somewhat cynical public when they are approached by profit-making firms.

Finally, we can see that the revised standard model allows regulators to address issues in a broader context. Ofgem’s core task is to achieve effective energy markets with a focus on efficiency improvement and falling prices. If external costs are not properly taken into account then there is a tension between promoting efficiency and economic growth, with more energy consumption if consumers desire it, and the associated pollution damage where that is not properly internalised into consumers decisions. We note that this tension has not been fully and explicitly addressed by Ofgem (eg, the 2005 Environmental Action Plan, Ofgem 2005a). Recently there has been tentative acknowledgement of the tension and Ofgem has been willing to contribute to policy debates on reducing carbon emissions (Ofgem 2006a). Highlighting the tension more explicitly to government could lead to more effective government policies to internalise environmental costs and address the trade-offs between price levels and environmental protection.

It is worth repeating in the context of this proposed revised model that we referred earlier to the water regulator’s proactive role in the early 90s in engaging with ministers in the wider debate on the cost of quality. This was in order to better define the specific role of economic regulators but in the context of how the economic regulator fitted into the overall regulatory framework. The precedents for the revised model are therefore already in place, and so it is more a question of a renewed commitment to a model which is already there but has been undermined somewhat over the years in terms of the on-going contribution that it is perceived that economic regulators can make to the conduct and design of the regulatory state as a whole.

**Policy packages and sustainable development**

Policy packages allow a complex or thematic issue to be addressed in all of its dimensions, and to communicate an overall picture which is better aimed at engaging the public’s understanding and facilitating integrated policy development and programme delivery, thereby achieving better outcomes. It also helps to challenge sterile debates about ecocentric versus social or ecocentric views, whereby they are treated as mutually exclusive, and where the tensions of such mutual exclusivity of thought undermine coherent and balanced policies being developed which can change both attitudes and behaviours in beneficial ways. Governments, because sustainable development spans the three pillars which are at the heart of these discursive tensions, needs to consider this policy problem and its implications for communication and policy design. It is evidently the case that economic analysis can cope with concepts of price signals altering behaviour (movements along a demand curve) whilst at the same time coping with the idea that attitude change to consumption can change demand (shifts in the demand curve which might be driven by a more ecocentric view of the world). Both can make a contribution to the mitigation of environmental damage, and together a more beneficial one. This is illustrated in Figure 5, which also shows that combining both shifts will result in the least damaging outcome, other things being equal.
In the same way, government has to integrate its approach to communication and regulatory instruments. The following Figure 6 illustrates the dynamics of such an approach where over time each element reinforces the other. The foundations of such an approach have been well discussed by Professor Tim Jackson.\textsuperscript{60} The idea of co-evolution of people’s attitudes and beliefs with their economic responses to price signals and other incentives arising from the government’s regulatory policy for sustainable development might be a good way to describe it.

Figure 6 is designed to reflect the process of policy integration for sustainable development in the context of an overall policy package to deliver sustainable development (which some might call a policy ‘programme’ – as with the government’s climate change programme). The five guiding principles are in the top half, and the bottom half shows the four main elements of any effective policy package. First, the reinforcing mechanisms relating to the codification of principles and the institutionalisation of the processes. Secondly, the two complementary elements of a communication strategy aimed at awareness, knowledge, attitudes and beliefs, allied with an effective choice of regulatory instruments which incentivise people and are consistent with harnessing the market where useful. The sequence around the circle is to show how reinforcement occurs over time. Each part of the policy package is needed, and overall reflect a governance strategy for sustainable development.

\textsuperscript{60} Jackson T (2005), Can We (Should We) Regulate ‘Cultures of Consumption’?, CRI Regulatory Review 2004/2005, University of Bath, pp143-169.
Figure 6: Governance strategy for sustainable development
- developing the integrated policy package

SUSTAINABLE DEVELOPMENT - guiding principles -

- living within environmental limits (eg, aggregate carbon limits)
- a fair and just society (eg, access and opportunities)
- a sustainable economy (eg, markets based on cost-reflective prices)
- promoting good governance (eg, the better regulation agenda)
- using sound science wisely (eg, the precautionary principle)
- a fair and just society (eg, access and opportunities)
- a sustainable economy (eg, markets based on cost-reflective prices)
- promoting good governance (eg, the better regulation agenda)
- using sound science wisely (eg, the precautionary principle)

PROMOTING GOOD GOVERNANCE

Such an approach develops the vision of the revised standard model for economic regulators because it establishes interacting domains of influence for all parties when considering sustainable development, whether that be individuals deciding on their own behaviour and engaging with friends and family or with their political representatives; economic regulators in their relationships with the regulated, the public and ministers; or the regulatory state at its highest level in communication with its constituent parts and the public in terms of being an effective unitary state with a whole of government view. Figure 7 illustrates these interacting and overlapping domains, all of which are relevant areas of activity for the entities in question for this research.
Figure 7: The three overlapping domains of engagement

Summary: the political economy of good governance for sustainable development

We suggest a positive reinterpretation of the value of applying duties of sustainable development to independent economic regulators, based on a more inclusive ‘mapping’ of roles and responsibilities across the regulatory state, and a reinterpretation of sustainable development as an integrated (ie, nested) set of pillars rather than a set of separable pillars. This involves a revised ‘standard model’ which:

- maintains the hard core of economic regulation, but is based on full internalisation of external costs;
- allows more engagement in the policy debate and the effective delivery of desired outcomes for the regulatory state as a whole).

There is evidence for this happening, but to achieve this the government has to establish the right governance context in which the revised standard model can operate. This includes developing the practice of policy packages within a coordinated design for the regulatory state, which includes codification of principles such as the polluter pays and the precautionary principles, and the institutionalisation of a ‘whole of government voice’ approach. This should connect vision and objectives with a clear line to implementation and delivery of outcomes.

The other choice could be to withdraw sustainable development duties and reaffirm the hard core standard model, given few commentators favoured the other ‘ideal type’, the institutionally integrated ‘agency model’. This choice is not recommended but we recognise that a debate on whether a revised standard model can be realised is important, because a failed attempt to implement it due to unavoidable ‘policy complexity’ might risk undermining the existing core benefits arising from focused independent economic regulators.

Overall we should make it clear that policy integration and the development of coherent ‘policy packages’ as envisaged in this chapter do not mean a ‘rebundling’ of the regulatory state. Our view is that government policy has been aimed towards achieving an efficient, transparent and accountable regulatory state, and unbundling, with independent economic regulation, has been an important part of achieving that aim. It should be retained. The problem of ineffective policy
integration has to be addressed however, and our research indicates that it can be addressed by the appropriate codification and institutionalisation of the principles and practices of good governance. In this way unbundled institutional roles and responsibilities can be allied with policy integration, achieving better outcomes through a clearer line between aspirations, objectives and implementation.
5. CLIMATE CHANGE: AN ILLUSTRATION OF INTEGRATED ROLES AND RESPONSIBILITIES

Climate change policy is a classic example to illustrate the themes which have arisen out of our research into independent economic regulators and the new duties to contribute to sustainable development. It illustrates why there needs to be a revised standard model for the independent economic regulators. It involves the need for high level codified principles, such as the polluter pays principle, the need to integrate strategic vision with deliverable outcomes sustained by long term commitment (the clear path to implementation by integration of the macro with the micro), the need not to treat uncertainty as a cause for inaction but the reason for action based on a consensus to treat the situation ‘as though this is how it is’ (and then act accordingly), and the need for co-ordination and engagement with all relevant public bodies, including independent economic regulators, such that government speaks with one voice and public communication be based on coherent policy packages.

There is no need for us to rehearse the climate change debate. There are already millions of words sufficient for the purpose, and the focus on stabilisation targets such as 450 ppm is well established at the core of the debate. Our concern is with the effectiveness of the policy response in the light of the above, and how it could be improved if changes were implemented to promote good governance. First, a high level commitment to the polluter pays principle and the precautionary principle; a commitment which could then appear more regularly at the start of government documents and be the basis for beginning to change public expectations about necessary policies (see for example the start made by HM Treasury in its publication accepting the legitimacy of ‘green taxation’ as a policy instrument). Independent regulators could play a valuable role in articulating that message to the wider audience of consumers and the public.

Second, more integration between the evident commitment of the government to tackle climate change and the disconnected and uncoordinated list of climate change programme initiatives which are meant to deliver the desired outcome. This is said not in the sense of saying that the individual initiatives are not good in themselves, or that together they will not be sufficient to achieve the required aggregate reduction in the harm. It is more that the transparency and confidence required about the relationship between the problem to be addressed and its resolution is missing, and that remediying that can for the most part only be a good thing. A long term statutory commitment to annual reductions in carbon emissions which is audited on an annual basis and requires policy adjustment where the commitment is not being met would provide the appropriate rules-based integrative framework. Again, independent economic regulators expertise would be important to providing an on-going analytical framework for this task.

Third, the formation of a cross party panel to create, along with the relevant energy and climate change forums, the basis for an all-party consensus view on the ‘as if’ world representation in order to disempower the problem of uncertainty as an inertial force on effective political leadership and policy commitment. Once again, the independent economic regulators could play a vital role in the necessary scenario planning which would help integrate policy imperatives into a more informed public awareness, both in terms of the legitimacy of action and in showing how the effects might be dissipated and ameliorated by behavioural and market changes.

International perspective – liberating the end game of climate negotiations

International negotiations are often characterised as a race to the bottom based on some game theoretic analysis of private interests. ‘I will’ if ‘you will’ strategies are put forward to overcome this, but it still suffers from inertia as no action is taken until all agree collectively. The catastrophic implications of climate change however liberate international negotiations because unilateral action is seen to have little downside but can contribute positively to the realisation of the required outcome. More ‘I can’ because ‘you will’ (or indeed ‘I must’ because ‘you must’). The foundations for this liberation are national consensus on the international basis for stabilisation. Since the only equitable, and hence realisable, basis is for each country to converge on equivalent emissions of greenhouse gases per head necessary to stabilise at the long term target, say 450 ppm (unless offset by international greenhouse gas emissions trading whereby one country can stabilise above, offset by another country stabilising below, and where the latter uses the emission trading revenue to invest in the means to achieve the below average carbon level – in effect the UN’s clean development mechanism), the target cuts and profile for each nation can be determined, and each nation can act on that premise. It is unfortunate that this equitable basis is sometimes referred to as ‘contract and converge’ (Figure 8). Much better that it would be seen as a ‘convergence on sustainable development’, leaving plenty of room for developing countries to improve their economic performance and alleviate poverty whilst the carbon inefficient developed countries face a change of relative prices which they can be expected to adjust to without much pain in hindsight.

Figure 8: Convergence on sustainable development

If others do not act the accumulating evidence of the catastrophe will soon accumulate and they will be forced to act in their own self-interest or because those who have already acted club together as an ‘international community’ to provide sanctions against the countries who operate on the basis of ‘carbon irresponsibility’, and which, because that irresponsibility is exported and imposed on everyone else, could be viewed by some as carbon ‘terrorism’. Collections of governments have shown that they are willing to act over issues such as nuclear proliferation. The arguments may be no different when it comes to uncontrolled carbon emissions. The WTO and GATT would be appropriate institutions through which one element of such an international
policy could be pursued, as Joseph Stiglitz has observed recently with his analysis of the basis for taking legal action against countries for unfair trading practices if they do not internalise carbon emissions. All this can in addition be reinforced by the well rehearsed arguments to justify unilateral action on the basis of ‘first mover’ advantage.

Green taxes versus tradeable permits and aggregate caps

The debate on these issues easily becomes confused, mixing up issues of economics with equity and social justice, and attitudes either for or against markets or government interventions. Unbundling the issues helps to resolve some of this, and shows how different needs can be reconciled most effectively.

The first thing to be said, perhaps, is that taxes are seen as a direct imposition on specific goods and services, and at the same time do not address directly the harm which is in question. For both reasons it is therefore surprising to find the words ‘green taxes’ regularly on the tongues of politicians from all the main political parties, when other instruments, better placed to address the issue, are available. Perhaps it is that politicians are familiar with taxes, but not with the mechanisms of better instruments, and so naturally gravitate to what they know.

The point about cap and trade systems is that they, first, address the problem. If carbon emissions are the problem then regulation aimed at physically capping them to the required level is clearly a first step. It also fits in with ideas of credibility, consistency, and monitoring. Second, they provide a distance between the macro policy (the aggregate cap) and the maintenance of markets and consumer choice (the micro-mechanism for delivering the required aggregate outcome). If all sectors are properly included in an aggregate trade and cap system, the prices will rise but be spread throughout the economy, and the increase in the price level overall will be determined by the most efficient marginal cost of abatement. Confining policy to individual sectors artificially constrains outcomes and, other things being equal, increases the overall cost.

Thirdly, the cap and trade system can be designed to focus on the distributional aspects between consumers, the government and providers of goods and services. The competitive market will determine the internalised cost of the externality in the light of the relative cost of abatement, and that will reflect the ‘marginal cost’ of abatement at the level of demand (offset to some extent by demand reductions due to the higher prices). This marginal price will be the same whether the capped allocations are given away to suppliers of goods and services, auctioned by the government in whole or part, or given to consumers by way of tradeable domestic carbon allowances. Even if permit trading were not allowed between companies the same outcome would arise as companies competed for business and customers switch to the lowest cost supplier (given abatement costs to each supplier).

The distributional point is that prices are set by the marginal abatement cost but the intramarginal costs are lower. Customers always have to bear the higher prices of internalising the externality. So, if suppliers are given the permits then their profits go up. If governments auction the allowances then the tax revenue goes up. If consumers have the permits then buyers bear the higher prices and sellers get the revenue. The distribution of rewards should, therefore, always be considered as a separate issue from the requirements of the economics to internalise the cost of the externality. This is an important issue for effective policy formulation because

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resistant attitudes can be reinforced by misunderstanding. Effective communication of the underlying economics, separately from the policy dimension of the distributional aspects which arise from different policy choices to tackle the same underlying economic question is therefore an important part of effective policy formulation.

The key awareness that has to be embedded is that the cost of internalising an externality will in the end be borne by the consumer through higher prices. This is because it is consumption demands, satisfied by a supply chain of producers of goods and services, which fundamentally drive the externality, and hence consumers have to bear the cost of its reduction. The cost of this reduction will depend on the marginal abatement methods available, including reductions in consumer demands. The producer is an intermediary – a means to an end not an end in itself.

**The economics of carbon trading**

Carbon trading (or any physical cap system) requires the total cap to be specified and then the price of achieving that cap will emerge from trading. This will equate the point where the marginal avoided cost to the firm of buying a permit to pollute equals the marginal incurred cost to the firm of selling the permit. This is illustrated below in Figure 9 where the allocations are distributed free by the government and then recipients trade among themselves related to the total incremental emission reduction required between the ‘business as usual’ (BAU) level and the aggregate level of the cap. A worked example is shown at Appendix 7.

![Figure 9: Carbon trading](image)

The effect on producer surplus for a simple two firm example with inelastic demand is illustrated below in Figure 10. The worked example in Appendix 7 of emissions trading shows how the profits are distributed between firms, given that the allowances are given away. It then shows the position where the allowances are auctioned by the government. The illustrative diagrams in Figure 10 show the competitive market price (Pc) before an emissions cap is imposed to internalise the externality. They also show the market price after trading (Pe), an increase in price which has to be borne by the consumer. The illustration is based on a cap which is 75% of the BAU level and where the initial allocations are distributed equally to each of the two firms by the government. Depending on the marginal abatement cost to each firm (ie, the supply curve (SC) in each case), the after trade position is shown as the buyer now emitting on a BAU level but the seller now only emitting on a 50% level. The total for both firms being compliant with the cap. As well as the producer surplus shown, the seller would receive the revenue from the buyer for a 25% emission allowance.
- **domestic carbon trading**

In practical terms, the transactions costs and security implications of different policies have to be taken into account. Domestic carbon allowances for consumers are a case in point, where it is arguably more efficient to apply the controls to the next stage upstream in the supply chain (the airlines, the gas suppliers and the fuel suppliers). An illustrative supply chain diagram is shown in **Figure 11**, and where the GHG emission from a particular sector or activity is shown by a wiggly line above the box (the diagram is only illustrative and simplified to highlight some material GHG emitting sectors and activities).
The point to be made is that whilst it is domestic consumers travelling in cars, taking flights and turning on their gas boilers or cookers that generates the greenhouse gas emissions, the practical problems of providing domestic carbon cap allowances to individuals and families can be overcome because for consumers to cause any of these emissions they have to be supplied with the means to do it, that is:

- energy suppliers have to supply cubic metres of gas;
- airlines have to provide the flights;
- fuel suppliers have to sell petrol to motorists.

The direct physical connection means that incentives and caps can be implemented further up the supply chain (in the same way that electricity generators are included in the emissions trading scheme, although it is domestic consumers (amongst others) who cause the emissions by turning on appliances). If so, these suppliers would be included in the general cap and trade system based on units of global warming potential (GWP) certificates. Hence, if the general system of permits applied to energy and fuel suppliers, the airlines, the electricity generators and the manufacturing and production sector, the overall GHG price would be determined by those sectors with the lowest marginal abatement costs. So, for example, if electricity generation has access to relatively low cost alternatives to fossil fuel generation, then their emission certificates become available, say, to the transport sector at a relatively low price. If there are no cheap ways to reduce dependence on fossil fuels, then the price will rise, given the aggregate cap, until demand is reduced sufficiently.

Focusing on very large organisations further up the supply chain will avoid such problems as the transactions costs of issuing millions of personal allowances; the security problems of motorists having their cards stolen; and the government’s political inability to allow the turning off of individual household’s gas supply when they have exhausted their allowances. The large suppliers can also better manage the capped demand, since the controls should be reasonably flexible, on a ‘one year with another’ basis. It is also simpler to deal with energy equity, since the suppliers of gas and electricity could be required to have a rising block tariff system for domestic consumption. The first equitable block would in aggregate be less than the overall cap, so that the remaining blocks would be designed to achieve market clearing prices consistent with the cap, or be backed by emission certificates bought from trading. If the first block has to be sold at lower prices then this would imply that not all of the allowances should be auctioned (to allow sufficient revenue for the cross subsidy) or an alternative would be direct subsidy with 100% auction.

An illustrative policy package for climate change

The elements of a policy package for climate change are therefore broad but reflect a straightforward line from the embedded principles of the polluter pays and the precautionary principle through a macro focus on the aggregate harm to be avoided to harnessing choice and innovation through the micro-economic operation of markets, all supported by a communications strategy aimed at developing receptive rather than resistant attitudes and beliefs about the problem of climate change, and all in an international context.

At its most general the problem is one of load on the bio-sphere and its resources. It can be simply illustrated as:

Population (P) x consuming activities (Ac)pp x the cost per consuming activity (Ca)

\[ P \times Ac \times Ca = \text{Total Load} \]
The problem is that all of the costs might not be properly captured in market prices where there are externalities, so we have to represent costs in two parts:

\[ \text{Market costs (Cm) plus external costs (Ce)} \]

\[ \text{Ca} = \text{Cm} + \text{Ce} \]

Reducing consuming activities \textit{per se} can be seen in general to help reduce external effects and pollution damage. Efficiency improvements from the normal operations of a competitive market can also reduce external effects where less of the polluting input is used as part of reducing the cost of the product. However, polluting inputs can also be substituted for non-polluting inputs if the economics dictate and the firm does not have to take account of the externality. In addition, price reductions through efficiency improvements are one of the drivers of economic growth which tend to increase consuming activities, so that the total pollution load, even though it might be less per consuming activity, increases as the number of consuming activities increases. This makes it important for government policy that externalities are internalised in market prices in order to send the right signals to both consumers and producers, based on a total cap of the aggregate harmful emissions to be allowed.

Recognising that the government already has in place a major climate change programme, the purpose of the following example is to illustrate the possible components of a more integrated policy package, with a clearer line of implementation between the macro targets and the many micro policies already identified by the government. The elements of a climate change policy package could therefore be:

\textbf{Meta principles}
- codification and institutionalisation of high level principles of government and its operation in defining policy packages and their implementation.

\textbf{Macro policy}
- A long term climate change act setting out the statutorily required aggregate reduction in units of global warming potential (GWP) each year from 2007 to 2050 (with reviews at 2020 and 2035); a profile based on an analysis which identifies the overall cuts required (or increase allowed) for each country to achieve the same level of emission per person and long term stabilisation on an agreed ppm (say 440ppm).

\textbf{Micro policy – achieving carbon caps and institutionalisation of trading}
- Establishment of an office to be responsible for managing the distribution of the associated emission control certificates, to include all material sectors and to allow trading. The trading would be international so that convergence could be at different levels for each country where those above have purchased emission rights from others who can take a lower emission path of development than it would otherwise be, financed by the receipts from trade.
- Maintaining and furthering the wide range of micro carbon reduction initiatives articulated in the government’s climate change programme.

\textbf{Monitoring and control}
- Establishment of an audit procedure to ensure that the targets are met one year with another, with the requirement to enforce adjustments necessary to ensure the profile of accumulating aggregate emissions is within target over time.

\textbf{Distributional and social policy response}
- Identification of disadvantaged groups that require special assistance in adjusting to the new cap and trade relative prices.

\textbf{International perspective}
- An international agreement strategy whereby, for example, the EU agreed to drop its ‘bottom up’ national allocation scheme in favour of a top down cap and trade profile. The EU could
then be the vanguard for pursuing an international policy on behalf of all member states, which worked in part through the WTO and GATT (which should require internalisation of each country’s GWP units of emission before their trades can be considered to be on cost-reflective tariffs). If not, then they expose themselves to import sanctions from compliant member states.

Communications strategy

- An integrated communication and engagement strategy which draws on the resources of all parts of the regulatory state.

**Communication strategy for sustainable development**

To engage the public and consumers, to integrate sustainable development policies across the regulatory state, and to facilitate attitude change and beneficial behaviours, requires coherent and coordinated communication, facilitated by the idea of ‘policy packages’ to address cross-cutting issues, such as tackling climate change. It is evident from our research that too often the extent of detail, a laudable desire to be technically correct and properly represent all points of view, as well as a lack of awareness that not everyone is as engaged with, or as knowledgeable about the subject, as the author presumes, obscures the key messages and the bigger picture, both of which need to be assimilated before the detail can be put to good effect. This problem is exacerbated where the political intention is obfuscation, particularly in those areas where policies are contradictory and necessary trade-offs assumed away for a ‘have your cake and eat it’ presentation of the problem and its solutions.

The climate change debate furnishes many illustrations:

- **Clarity about the unit of harm**
  People hear that carbon emissions are the problem, but in the context of greenhouse gases, and with the emphasis on CO2, yet are told that methane might be, say, 17 times more damaging, without knowing whether this refers to longevity in the atmosphere or another property, say reflectivity of solar energy. If there is to be a time for a global cap with all material polluters included, then the concept of one unit of harmful greenhouse gas emission (a HGHGE) is probably needed, reflecting a unit of GWP. With a suitable tariff of conversion factors between different emissions and gases, this could be the basis for tradeable certificates.

- **Is government policy clear?**
  Do people know what government policy is, and particularly when there is an on-going debate being conducted? We are told that pre-industrial levels of CO2 were 280ppm and now we are at 380ppm. The Kyoto agreements apparently were based on a maximum sustainable level of 550ppm, translated into stabilising on no more than a 2 degrees Celsius increase in the mean temperature, but the recent Sustainable Development Commission evidence is that this is now considered to be 450ppm maximum. The even more recent Tyndall Centre report says that this maximum should be considered to be no more than 430ppm. The government target of 60% cuts by 2050 is presumed to be related to the Kyoto targets, but given the public is told that the impact of past emissions will carry us well over the 400ppm threshold irrespective, then the recent scientific, academic and policy debate implies that the profile of targeting cuts has to be much tougher. But how is this reflected and communicated in ‘whole of government’ policy? Credible commitment requires that the profile of caps on emissions over the foreseeable future should be an explicit part of government policy and understood to mean that each year’s cap, one with another, will be enforced. A greenhouse gas emissions cap act might, therefore, establish the statutory maximum aggregate emissions for each year for 2007-2050, with explicit reviews at 2020 and 2035 to assess the then scientific and policy consensus, the total GHG
reduction to be targeted for 2050 being, say, 90%. The annual percentage reduction is relatively small, given, like saving for a pension, you start early enough!

- The usefulness of strategic scenarios
What scenarios are being presented by the government to frame attitudes to the necessary climate change policies? On the one hand the government states that climate change is the most important challenge facing the planet, but on the other there is the strong sense of business as usual, all to be reconciled by technology and innovation. Growth is assumed to be hardly affected and roads and runways are still an important part of public investment policy. This tension exasperates many and polarises the debate. And yet the desired outcome is plausible, as long as the long term policies necessary to achieve it are put in place. Entrenching the polluter pays principle and aggregate caps based on the precautionary principle will change relative prices which induce both changes in consumer behaviour and induce technical change, whilst at the same time protecting the environment. People are still free to exercise choice in markets, and so strategic regulation (the macro policy) is reconciled with liberal market freedoms (the micro domain). Taxation, green or not, is not the necessary adjunct of decisive government action. That should be focused on the lack of an effective climate change policy which ensures that total emissions are capped to the environmentally sustainable level, and all industries included in an effective trading scheme. The public, in the context of the related life-style debates, would be better prepared if strategic long-term scenarios illustrating such futures were prepared and published as part of the policy debate (something for which the economic regulators could play a very effective role).

The alternative, where effective policies are not put in place, and the substitute is wishful thinking, simply holds out the prospect of finding ourselves in Dystopia rather than a sustainable planet. Figure 12 illustrates two possible scenarios. The Stern report, published by HM Treasury on 30 October 2006, has costed such scenarios. It has also put great emphasis on the cost of doing nothing. As the Treasury ‘green book’ on investment appraisal and Cabinet Office advice on the preparation of RIAs stress, the do nothing analysis is absolutely vital to the proper development of policy.

**Figure 12: Illustrative path scenarios**

- do nothing - short term complacency, with no precautionary principle applied
- proactive adaptive management policies put in place immediately
- do something - long term sustainability possible

Area of transitional costs

Area of avoided catastrophic effects

BAU - do nothing
- Presenting key definitions – the need for precision (the example of SCC)

Good communication of ideas and issues in sustainable development to the wider audience and the public involves considerable skill, and this is another area where the expertise of the economic regulators could be put to good effect. An example is provided by the recent attempts to define and measure the social costs of carbon. Defra has published three papers in recent years: a Government Economic Service paper on Estimating the Social Cost of Carbon Emissions (2002), followed up by two reviews, The Social Costs of Carbon Review (2005) and The Social Cost of Carbon: A Closer Look at Uncertainty (2005).  

The present position is that this has been reviewed again as part of the Stern review for HM Treasury on the economics of climate change.

The Defra papers contain much excellent information, and tackle some important methodological issues, but overall there is a lack of coherence in the sense of projecting a clear and complete analytical message. Confusion is caused by suggestions that there are ‘alternative’ approaches rather than an integrated analytical framework which gives different marginal costs of carbon depending on which facet of the problem is being addressed. This becomes positively misleading when it is stated that “we have found a general trend towards using the marginal abatement cost estimates as a shadow price of carbon emissions in project and policy appraisal rather than the marginal damage cost estimate represented by the SCC. The UK Government appears unique in its widespread adoption and implementation of a SCC estimate in policy assessment” (piii, AEA Technology, 2005).

The GES paper is also incomplete in that it only defines a first step towards an optimum based on equating the marginal abatement cost (MAC) with the marginal carbon damage (MD), and using a reference point of current, business as usual (BAU) demand. This is their so-called cost-benefit approach, but which overlooks the need to present the overall equilibrium based on bringing in the marginal valuation of customers (MV) as well, which is represented by the traditional demand curve. The final equilibrium would equate MAC, MD and MV. Since customer valuations are an important element in the public perception of the rightness or wrongness of policy options, then it seems important, in such a crucial area as climate change, that the key methodological issues are coherently and completely presented. Appendix 6 sets out such an equilibrium approach.

Whilst this criticism could be judged to be an arcane or pedantic point, the issue is an important one for the effectiveness of policy presentation on sustainable development. First, the three relevant marginal valuations are brought together and an equilibrium, optimal point defined; second, the different measured social costs of carbon can be seen to arise simply in the context of pre- or post application of policy measures, and which one is used depends entirely on the context, and, finally, the concepts are more fully tied into demand and supply analysis and the process of ‘internalisation’ of the externality into the supply curve shown, as Figure 13, below.

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65 SEI (2005), Social Cost of Carbon; A Closer Look at Uncertainty, Final Project Report, DEFRA.
This is important, for example, if different measures of SCC are used and people are attempting to make comparisons. If so, people must understand the basis for the measures and whether they can be compared like for like. The GES paper ‘headlines’ £70 per ton of carbon as the SCC (which is equivalent to around £19tCO2). This was to rise by £1 each year in real terms, so now stands at over £85tC (this would be equivalent to approximately £23tCO2). However, the EU first phase carbon trading scheme has been yielding only a price of 7 - 25 euro (some £5 - £15 per ton of CO2). Does this mean that the trading scheme is flawed or is it that the £85 refers to the \textit{ex ante} SCC (A-B in Figure 13 above) whilst the trading price would be an \textit{ex post} MAC based price (C-D in Figure 13 above), which means they are not directly comparable? The full equilibrium method above makes the answer clear – it is the latter. It might also be true that the EU carbon trading scheme is flawed in its first phase because the caps are insufficiently tight, but then the comparison of the revealed prices from carbon trading should be with the forecast \textit{ex post} MAC based SCC, not with the \textit{ex ante} £85 SCC.

On this broader foundation it should be easier to present and articulate policy, given at the widest level of communication to the public, some appeal to intuition must be made, but accepting that intuitive acceptance can only be secured if all of the major arguments can be seen to be included in the general presentation.
6. CONCLUSIONS

Some of the difficulties and challenges of placing a duty to contribute to the achievement of sustainable development on economic regulators were outlined in the introduction. Many of them centre on the tension between on the one hand, the ‘unbundled’ regulatory state in which specialisation on narrowly defined functions by independent agencies is stressed, and on the other hand the high level ‘bundled’ concept of sustainable development.

It was noted in the introduction that sustainable development is a vague and contested concept susceptible to differing interpretations. How regulatory agencies, which have a degree of discretion, should respond to such a concept is not clear. Will they and should they have the means and the will to establish priorities and make bold new initiatives? Owing to the cross-cutting nature of sustainable development, ‘policy integration’ (of economic environmental and social objectives and policies) is crucial, yet policy separation is a deeply embedded feature of modern government which has been reinforced by the development of the unbundled regulatory state. A key question therefore is whether the ‘standard model’ of economic regulation, in which independent economic regulators focus almost exclusively on the regulation of monopoly and promotion of competition, is compatible with a sustainable development duty. If it is not, should the model itself be revised to allow for a more interactive and flexible relationship between economic regulators and other governmental bodies in order to foster policy integration? Or perhaps such a duty is incompatible with economic regulation and should be scrapped.

Empirical questions and the survey

In order to address these questions our research project has focused, firstly, on the empirical question of how the economic regulators in Britain (specifically, energy, water and rail) have responded to the duty. Secondly, we have assessed the tension between sustainable development and economic regulation and considered whether a reinterpretation of the roles and responsibilities of economic regulators is necessary and the established model of economic regulation is appropriate.

The first empirical question focused on the straightforward matter of how the regulator has responded to the duty in terms of its direct regulatory activities, ie, those limited areas in which the regulatory has statutory powers. In general, although regulators have taken some action and shown willing, we have not observed substantial and significant change and reorientation. In the water and energy sectors the response is viewed primarily as a reinforcement of pre-existing action and suggests a rather ‘conservative’ interpretation of the duty. There has also been significant cross-sectoral variation in the response. We note for example that in the first five years of the duty being in force the rail regulator did not explicitly address the duty, though there is an argument that its actions on economic regulation have indirectly contributed to sustainable development. In contrast, both the energy and water regulators have responded to the duty but in a varied manner. The water regulator has embarked on public consultation process and has been explicit about sustainable development as a clear policy area. While Ofgem has responded, there has been no public consultation and sustainable development appears to be nested within other policy areas rather than extracted and articulated separately.

It should be noted, however, that the evidence of the impact of the new duties is difficult to interpret. The evidence that the regulators have not responded dramatically to the duties might be because they were already carrying out actions consistent with the duty. A fuller
understanding of the roles of the regulators and the duties thus requires a more sophisticated analysis of the actions of the regulators over time, linked to an analysis of the governmental expectations of the response of the regulators. Nevertheless, even if in terms of direct regulatory action the duty has made a difference only of degree rather than of kind, the survey has revealed a sense in which the duty has made a qualitative difference. It has helped regulators refocus and reconsider their activities in relation to notions of sustainable development and the government’s sustainable development strategy.

It can be argued that the limited direct response by economic regulators is due to the limited powers at their disposal and the kind of policy instruments suitable to promote sustainable development. There is a twin problem – the need for policy integration and the little, if any, power regulators have over some key policy instruments for sustainable development, eg, those based on fiscal instruments and the setting of key parameters in tradeable permit schemes. Regulators have, however, significant knowledge and expertise of areas in which these instruments operate. It is postulated that a possible response to the duty could be the regulator using this knowledge to recommend, advise and even challenge government or to communicate messages about effective sustainable development and consumption to consumers and the public.

In both these areas there are some small signs of action by the regulators, however, survey respondents indicated that the action has not been significant. Regulators do maintain close contacts with government and other key public organisations on a variety of issues including those related to sustainable development, but the ambitions of the regulators to step up this action appear to be limited. Nevertheless, given the scope and cross-cutting nature of sustainable development some of those surveyed argued that regulators should engage more with government on the implications of regulatory policies which fall outside their remit. For example, if the ORR is considering internalising environmental costs, it should make it clear that this might have effects on overall transport use; effective pursuit of this policy by the ORR is dependent on broader transport policy changes.

Engaging with consumers and the public seemed to the survey respondents to be the least appropriate area in which the regulator could and should be more active. Nevertheless a minority argued that regulators should have greater awareness of consumer and public issues in relation to sustainability and should work closer with other organisations which have closer relations with the public.

Many of those surveyed argued that there should be clearer and better leadership by the government; this leadership should make the purpose, objectives and expectations of the duty clearer. This message is entirely understandable given the vagueness of the concept of sustainable development, its bundled nature, the need for policy integration and that the powers to effect many sustainable development policy instruments are in the hands of the government.

In our survey the two most commonly expressed ways of improving governmental leadership were: (i) the classic idea of good leadership – the ‘firm hand of government’ – which suggests that government should be much stronger on areas of sustainable development which have priority, eg, greenhouse gas emissions and climate change. A vague duty of sustainable development with uncertain effects does not amount to strong leadership. And (ii) better and more detailed guidance by government to the regulators on sustainable development. It has been noted that in no sector is there guidance which refers specifically to sustainable development (although social and environmental guidance has been issued to regulators such as Ofgem before the duty of sustainable development came into force). A third but less commonly expressed way of improving leadership is clearer specification of institutional roles regarding sustainable
development, involving perhaps more interaction between government and the regulators, particularly given the cross-cutting nature of sustainable development.

We cannot, however, make an interpretation of governmental leadership or address questions on the role of regulators and sustainable development without considering the process of governance and models of economic regulation. The role of the government and how it interacts with independent economic regulators therefore points to the need to move to the issue of good governance.

Good governance, economic regulators and sustainable development

‘Promoting good governance’ is one of the five guiding principles in the UK government’s 2005 strategy document on sustainable development ‘Securing the Future’ and a reorientation of institutions and governance is called for by the Brundtland Report of 1987 and many other reports on sustainable development, for example, those of the OECD. However, although putting duties of sustainable development on public bodies is stated as a means of governing sustainable development, the 2005 strategy is silent on placing such a duty on economic regulators and the implications and expectations of the duty.

We put forward an interpretation of economic regulation and sustainable development which we argue begins to address some of the difficulties and will contribute to promoting better governance. One intrinsic requirement is a clear statement of certain principles of sustainable development. The need for this follows from the better regulation agenda which stresses the importance of consistency in the development and application of regulation. One of the issues contributing to the vague and problematic concept of sustainable development is that all too often it is assumed to be about balancing of the three key objectives, the economic, environmental and social. This moves on from the primacy given to economic objectives in traditional forms of development, but provides no sense of how the balancing should be achieved. We suggest a view of sustainable development as three nested pillars which interact and overlap is more appropriate than three separate pillars. Within these nested pillars the establishment of priorities in sustainable development is crucial, as has been noted elsewhere (Lafferty, 2004, pp202-204). We suggest that these priorities are articulated in the form of more clearly defined and specified constraints (environmental and social constraints, such as carbon caps) on regulatory discretion.

Other key principles which would aid the operationalisation of sustainable development by the regulators are the ‘polluter pays’ and the ‘precautionary’ principles. These are two of the high level principles articulated in sustainable development strategy documents of the government and the European Commission and adopted by EU heads of government in the European Council. However, these principles do not clearly reflect through into regulatory policy nor into a clear set of expectations for the response by public bodies which have sustainable development duties.

We argue that developing a system of regulatory governance in which these principles are central will mitigate some of the problems of vagueness in sustainable development and problems of regulatory discretion noted in the introduction. They can also contribute to the aspirations of the better regulation agenda and the requirement for consistent regulatory practices. To be sure, these principles do not overcome the contested nature of sustainable
development. The principles themselves are contested and debates on ‘weak’ (econocentric) and ‘strong’ (ecocentric) notions of sustainability will continue.

Allied to a clearer definition principles is the need for clearer specification of institutional roles and responsibilities to promote better policy integration. Given that sustainable development is a macro policy and economic regulators operate within a micro policy arena it is clear that there is need to integrate macro and micro policy. Without clearer integration there can be little certainty about whether and how micro initiatives by the regulators will contribute to overall sustainable development policies. Without effective policy integration actions might have little or no effect, or even a negative macro effect (for example, actions by the rail regulator to internalise environmental costs might result in higher use of other more environmentally damaging forms of transport). ‘Vertical’ policy integration, however, should not be perceived as a one-way, ie top down, process. Our research findings have indicated that economic regulators have much to contribute to the higher level policy debates, for example, by detailing the broader implications of their own particular regulatory actions and by stressing the importance of certain principles of sustainable development noted above. Regulators could therefore be in a position to articulate more explicitly the conflicts, limitations and trade-offs of any action they might take in relation to sustainable development (for example, Ofgem could be more explicit about the tensions between low consumer prices and environmental protection and highlight government policies necessary to mitigate the tension).

The issue of macro-micro (or vertical) policy integration leads to a fundamental question about the duty of sustainable development on economic regulators. Are the actions of the economic regulators, especially those that result from the duty, an essential element of the government’s sustainable development strategy (and arguably the most important part of that – its climate change programme) or are they just an optional extra, ‘nice to have’ if successful? It is crucial to be clear about this: we note for example that the government’s 2005 strategy ‘Securing the Future’ and the 2006 climate change programme have recorded that implementation has not been good and there is a need to ‘ensure it happens’. However, the lack of macro-micro integration and the lack of clear expectations from government on the duty (in RIAS of the legislation, in sustainable development strategy documents, in departmental action plans and in guidance to the regulators) indicate that it sees the duty as an optional extra, a marginal and non-essential component of its sustainable development strategy. If actions of the economic regulators are indeed essential elements of the sustainable development strategy then much improved vertical policy integration is required and government needs to be clearer what its expectations are of the actions of the economic regulators. The expectations and actions of economic regulators are closely connected to the accepted model of economic regulation.

Models of economic regulation

In the introduction of this report three models of economic regulation were outlined. First, a hard ‘standard model’ in which economic regulators focus exclusively on economic regulation and government and other agencies undertake social and environmental actions. Second, an interactive model (or what we term the revised ‘standard model’) based on institutional separation and the retention of core activities, but regulators have the scope to reach beyond their core activities and interact much more closely with governmental bodies, the public and consumers. Third, a model of institutional integration in which a sectoral agency has primary responsibility for all three pillars of sustainable development within a sector (eg, an Energy Agency which combines the work on energy of Ofgem, the Environment Agency, Carbon Trust and Energy Savings Trust). Although this third model warrants inclusion in debates on
economic regulation, it had almost no support amongst our survey respondents and we have not pursued it any further.

The implication of our conclusions on governance, economic regulators and sustainable development is the need for a revised standard model of economic regulation. It is particularly the need for vertical (macro-micro) and horizontal (economic, social and environmental) policy integration which suggests this conclusion. The model also reflects the fact that in practice it is not possible to fully and successfully separate these policy areas. The detailed and arcane work on economic regulation, for example, on rail access charges, or on electricity meters, can have environmental and social implications, such as internalising the environmental costs of rail or encouraging more efficient and lower electricity consumption. Also the regulatory policy framework set by government might mean that certain actions by the economic regulators are in conflict or tension with environmental and social objectives. The knowledge and expertise of regulators makes them well placed to advise government on ways of mitigating these conflicts and tensions.

This revised standard model does not imply rejecting the model of independent regulatory agencies that has become established over the past two decades. What it does mean is that it is important to articulate a model which enables regulators to engage in a more coordinated and explicit way with other governmental bodies on macro policy areas such as sustainable development. While retaining the hard core of economic regulation, this would involve more and clearer interactions and iterations between higher level governmental bodies and economic regulators. In many ways this model reflects actual practice: we note for example the implementation of the water framework directive which has involved dialogue between the regulator and government and Environment Agency; also the 2005 Railways Act includes an iterative process between government and the regulator in the process of setting the high level outputs requirements and the public funding available to the industry.

Summary and recommendations

The survey

- although regulators have taken some action and shown willing, there has not been significant change and reorientation and much has been a reinforcement of pre-existing action. This suggests there has been a rather ‘conservative’ interpretation of the duty by the regulators;
- a more radical response by the regulator might involve drawing on their knowledge and expertise to (i) recommend, advise and even challenge government or (ii) to communicate messages about effective sustainable development and consumption to consumers and the public;
- however, although regulators maintain close contacts with government and other key public organisations on a variety of issues, in both these areas the ambitions of the regulators appear to be limited;
- many of those surveyed argued for stronger governmental leadership on sustainable development, particularly climate change.

Interpretation

We conclude that a duty of sustainable development on the economic regulators is appropriate and that the tension between the high level bundled concept of sustainable development and unbundled nature of economic regulation can be mitigated. This depends on the following:
economic regulators are understood to operate within a revised standard model of economic regulation. This involves retaining the ‘hard core’ of economic regulation but involving more and clearer interactions and iterations between governmental bodies and the economic regulators. Within this model, regulators would be able to recommend, advise and even challenge government over its sustainable development policies;

there is an understanding of sustainable development which goes beyond ‘balancing’ of objectives to include prioritisation of objectives and setting of constraints;

principles, such as the polluter pays, precautionary principle, and better policy-making and regulation, which are articulated in high level governmental and EU documents, are clearly expressed and embedded throughout the vertical policy-making chain, including economic regulation;

there are clearer expectations of the duty and actions which regulators might take in response – are they essential components of the government’s sustainable development strategy, such as the climate change programme, or only ‘nice to have’ if successful?

better governmental leadership is necessary. This does not simply mean more top down imposition of policies and programmes, nor even more detailed guidance to the regulators. It means embedding more widely and deeply the objectives, principles and policy-making processes noted in the above points. It also means working more closely (interactively and iteratively) with regulators to embed all this and to develop appropriate guidance.

Recommendations for regulators

Regulators should:

• ensure as far as they are able that their regulatory actions vis-à-vis sustainable development are designed to achieve optimal outcomes as a whole not just their regulatory subsector, in particular by striving to internalise external costs where market prices do not reflect these costs;

• engage more actively with government on sustainable development issues by drawing on their knowledge and expertise;

• articulate more explicitly the conflicts, limitations and trade-offs of any action they might take in relation to sustainable development. Highlighting these and their implications on policies which are beyond their duties and powers should be a particularly important aspect of closer engagement with government;

• recognise the importance of communicating messages about sustainable consumption to consumers and the public and consider engaging more with the latter, particularly by working with public and private organisations (eg, consumer bodies, local government, NGOs) who are better placed to interact with consumers and the public;

• be willing to undertake scenario studies on the implications of any actions on sustainable development that might be taken in their area and work with other organisations in communicating any appropriate messages.

Recommendations for government

Promoting good governance is one of the key guiding principles of the government’s sustainable development strategy. In order to allow the economic regulators to fulfil more effectively their duty to contribute to sustainable development, government should:

• embed and entrench principles (such as the polluter pays and the precautionary principles) which are articulated in high level sustainable development strategies but do not always reflect through into lower level policy-making and implementation;
• develop and communicate an understanding of sustainable development which involves prioritisation of objectives and setting of constraints, rather than vague and unspecified ‘balancing’;
• clarify the expectations of the duty, in particular, make clear how much of an integral and essential part of the sustainable development strategy (and notably the climate change programme) is action taken by the regulator in response to the duty;
• encourage regulators to step beyond their ‘hard core’ economic regulation activities to advise and recommend sustainable development policies and harness their expertise more effectively for wider policy development and dissemination;
• create an iterative rather than one way policy and regulatory governance process in order that guidance to regulators does not constrain their independence but explains and clarifies the context and constraints in which they should operate;
• encourage better policy integration, for example, by ensuring there is one lead coordinating body on where a programme, such as sustainable development, involves a wide range of public organisations;
• communicate more clearly the policy objectives and instruments of policy initiatives, programmes or ‘packages’, eg, the climate change programme.

In making these recommendations we are aware that we have not addressed precisely how many of them might be realised in practice. This is particularly the case for the embedding and institutionalisation of principles and practices of governance. This is beyond the scope of this report but they clearly need to be the subject of debate. Possibilities for institutionalising principles and practices might include new duties on the regulators to have regard to, for example, the polluter pays and precautionary principles. Other approaches might include more detailed articulation in guidance to regulators of the principles and more explicit recognition of the iterative development of guidance in legislation and governmental policy documents and statements.
APPENDIX 1

Sustainable development: definitions

The World Commission on Environment and Development’s (the Brundtland Report 1987) classic definition of sustainable development is:

“development which meets the needs of the present without compromising the ability of future generations to meet their own needs”.

The essence of sustainable development in this definition is meeting basic needs (particularly those of the world’s poor which should be given priority), recognising environmental limits and equity intergenerational (ie, people in the future) and intragenerational social equity (ie, people in different classes, countries etc of the current world) (Dresner, 2002, p67; Lafferty, 2004, p13).

The report also notes that

“sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs… Painful choices have to be made. Thus in the final analysis, sustainable development must rest on political will” (WCED, 1987, p9).

Another general definition is:

“Economic and social improvement that is: continuous and permanent, durable and reliable, protective and just; governed by three principles: maintain and protect essential life support processes, utilise renewable resources to the point of precautionary replenishment, price the cost of living according to its natural burdens and social disruption” (O’ Riordan and Voisey, 1998, p6).

Various definitions have been put forward by the UK government. A definition in the 1990 white paper This Common Inheritance is:

“The Government therefore supports the principle of sustainable development. This means living on the earth’s income rather than eroding its capital. It means keeping the consumption of renewable natural resources within the limits of their replenishment. It means handing down to successive generations not only man made wealth (such as buildings, roads and railways) but also natural wealth such as clean and adequate water supplies, good arable land, a wealth of wildlife and ample forests”.

An extended definition and explanation of objectives is provided in the 1998 consultation paper, Sustainable Development: Opportunities for Change:

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67 This Common Inheritance Cm 1200 p47 para 4.4 Sustainable Development, The UK Strategy, January 1994, Cm 2426.
“Sustainable development is a very simple idea. It is about ensuring a better quality of life for everyone, now and for generations to come. To achieve this, sustainable development is concerned with achieving economic growth, in the form of higher living standards, while protecting and where possible enhancing the environment, not just for its own sake but because a damaged environment will sooner or later hold back economic growth and lower the quality of life, and making sure that these economic and environmental benefits are available to everyone, not just to a privileged few.”

Four key objectives noted in this paper are:

**Social progress which recognises the needs of everyone.** It is not enough to focus on economic and environmental policies if whole groups in society, or parts of the country, are excluded. We have to reduce the harm to health caused by poverty, poor housing, unemployment and pollution. And our objective must be for everyone to live in a clean and safe environment, although that should not mean adopting policies which would prevent people from being able to afford the basic services they need. Nor should our needs be met by treating others elsewhere in the world unfairly.

**Effective protection of the environment.** This means acting to limit global environmental threats, such as climate change; to protect human health and safety from hazards such as poor air quality and toxic chemicals; and to protect things which people need or value, such as wildlife, landscapes, and historic buildings.

**Prudent use of natural resources.** This does not mean denying ourselves the use of non-renewable resources like oil and gas, but we do need to make sure that we use them efficiently and that alternatives are developed to replace them in due course. Renewable resources, such as water, should be used in ways that do not endanger the resource or cause serious damage or pollution.

**Maintenance of high and stable levels of economic growth and employment,** so that everyone in Britain can share in high living standards and greater job opportunities. Britain is a trading nation in a rapidly-changing world. For our country to prosper, our businesses must produce the high quality goods and services that consumers throughout the world want, at prices they are prepared to pay. To achieve that, we need a workforce that is equipped with the education and skills for the 21st century. And we need businesses ready to invest, and an infrastructure to support them.

Sustainable development has rarely been defined in legislation but a definition is included in Section 1 of the International Development Act, 2002:

“any development that is, in the opinion of the secretary of state, prudent having regard to the likelihood of its generating lasting benefits for the population of the country or countries in relation to which it is provided”.

In 2006 the UK Government and Devolved Administrations in a Shared Framework set out the following:

“The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without
compromising the quality of life of future generations… that goal will be pursued in an integrated way through a sustainable, innovative and productive economy that delivers high levels of employment; and a just society that promotes social inclusion, sustainable communities and personal wellbeing. This will be done in ways that protect and enhance the physical and natural environment, and use resources and energy as efficiently as possible”.

APPENDIX 2

Sustainable development: ‘weak’ and ‘strong’ interpretations

An illustration of how the concepts of sustainability and sustainable development are contested and lack clarity is shown in various dimensions of weak and strong sustainability in Table 1. These understandings (possibly better described as ‘deep’ and ‘shallow’ sustainability) also vary between disciplines, for example, economics and political science.

An economics view of sustainable development focuses on the sustainability of capital and the extent of substitutability between natural capital and human-made capital. Strong sustainability refers to the objective of maintaining the known stock levels of both these components of capital (Rao, 2000, p89). Known levels of natural capital cannot be run down and substituted with human-made capital. Individual items of natural capital can, however, be substituted for newly discovered natural capital. Thus, for example, known oil reserves can be used if they are replaced by newly discovered oil or other sources of fuel and the constituent chemicals in oil. A very strong version of sustainability would not even allow for this substitutability; in effect the only acceptable use of natural resources would be renewable ones. A weak version of sustainability refers to ensuring that the total level of capital remains intact. Thus it is acceptable for the decline in the stock of natural capital, such as oil, to be replaced by the equivalent level of man-made capital, such as machines, information and knowledge.

A political science view of sustainability focuses on the relationship between sustainability and democracy and the nature of public awareness and discourses. A “democratic paradox” has been identified about the transition to sustainability (O’Riordan and Voisey, 1998, pp15-17). This is based on the argument that the transition is of such a high magnitude that there will be significant losers in the process. The level of compensation required to those who lose might be impossibly high and the necessary proactive and confrontational politics might be unachievable using democratic techniques. A “sustainability dictatorship” might be necessary in the transition. The paradox is stronger when it is considered that stronger ideas of sustainability envision a much more active civil society and open democracy. This is particularly important at the local level where citizens’ initiatives, local partnerships and participation are seen as crucial requirements of a more sustainable society. This is all part of a process of fostering greater awareness and shifting the cultural mindset towards sustainability.

Weak and strong notions of sustainability in political science can be distinguished (O’Riordan and Voisey, 1998, pp15-17). A very weak sustainability involves limited and vague public awareness with little media coverage. Public discourse is limited to consultation exercises controlled by large governmental and private organisations. This ranges to very strong sustainability in which there has been a big cultural shift with widespread public awareness of sustainability issues; public discourses are highly democratic and community-led initiatives become the norm.
### Table 1: Dimensions of weak and strong sustainability
(adapted and developed from O’Riordan and Voisey, 1998, p16)

<table>
<thead>
<tr>
<th>Focus</th>
<th>Very weak</th>
<th>Weak</th>
<th>Strong</th>
<th>Very strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Anthropocentrism</td>
<td>Ecocentrism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discipline approach</td>
<td>Conventional economics</td>
<td>Environmental or ecological economics</td>
<td>Ecology</td>
<td></td>
</tr>
<tr>
<td>Techno-economic and social model</td>
<td>Lip service paid to sustainable consumption; Minor reorientation to efficient technologies; Established model of economic growth not questioned</td>
<td>Sustainable consumption a central policy objective; Clear move to efficient technology; Some constraints on economic growth recognised</td>
<td>Clear shift away from established model of economic growth; Low consumption becomes culturally embedded; Far-reaching shift to efficient technologies</td>
<td></td>
</tr>
<tr>
<td>Capital substitution (sustainability requires non-declining capital stock)</td>
<td>Full substitution within and between human-made and natural capital</td>
<td>Partial substitution of human-made and natural capital</td>
<td>Little or no substitution between natural and human-made capital</td>
<td>Little substitution between different forms of natural capital</td>
</tr>
<tr>
<td>Public awareness and discourse</td>
<td>Little awareness and media coverage; discourse is elite-led</td>
<td>Wider public education; some stakeholder participation</td>
<td>Integration into education; community involvement</td>
<td>Comprehensive cultural shift; community led initiatives are the norm</td>
</tr>
<tr>
<td>Environmental policy</td>
<td>Lip service to integrating economic, environmental and social policy</td>
<td>Formal policy integration targets and institutional structures</td>
<td>Binding policy integration</td>
<td>Strong statutory norms institutionally embedded with wide political and social support</td>
</tr>
<tr>
<td>Economic policy</td>
<td>Minor ad hoc economic instruments; some reinvestment towards sustainability</td>
<td>Restructuring of economic incentives; large scale reinvestment</td>
<td>Widespread introduction of full environmental and social costing</td>
<td>Complete shift to full environmental and social costing</td>
</tr>
</tbody>
</table>
APPENDIX 3

The 2005 sustainable development strategy in Britain ‘Securing the Future’

The document notes five ‘guiding principles’ which are to shape sustainable development strategies and action:

- ‘living within environmental limits’;
- ‘ensuring a strong, healthy and just society’;
- ‘achieving a sustainable economy’;
- ‘promoting good governance’;
- ‘using sound science responsibly’.

Priorities for action in the UK are:

- ‘Sustainable Consumption and Production’ – ‘This is about achieving more with less … not only looking at how goods and services are produced, but also the impacts of products and materials across their whole lifecycle and building on people’s awareness of social and environmental concerns’;
- ‘Climate Change and Energy’ – ‘We will seek to secure a profound change in the way we generate and use energy, and in other activities that release these gases … We must set a good example and will encourage others to follow it’;
- ‘Natural Resource Protection and Environmental Enhancement’ – ‘We need a better understanding of environmental limits, environmental enhancement and recovery where the environment is most degraded to ensure a decent environment for everyone, and a more integrated policy framework’;
- ‘Sustainable Communities’ – ‘Our aim is to create sustainable communities that embody the principles of sustainable development at the local level’.

The strategy proposes some important institutional changes in order to strengthen the delivery of sustainable development. In recognition that the issues are cross-cutting “all central government departments and their executive agencies will produce focused sustainable development action plans based on this strategy by December 2005 and will report on their actions … in their departmental annual reports” (HM Government, 2005, p153). The government aims to “strengthen leadership capacity within departments and their agencies” and “ensure that an understanding of how to apply sustainable development principles is a key part of policy skills for the future” (HM Government, 2005, p154). It is proposed that the Sustainable Development Commission will have an expanded role as the overseer of the government’s progress with the strategy including the possibility of changing its statutory basis from an advisory body to an executive body.

A key aspect of the transition to sustainable development is communication, engagement and general raising of awareness and the translating of this into action. The 2005 strategy proposes a “new approach to communications and engagement” to address some of the shortfalls in action and will include more support for local and regional initiatives and high profile national communications to support local initiatives (HM Government, 2005, p32). An example of a communications initiative is the Climate Change Communications Initiative which is “designed to address public awareness of and attitudes towards climate change” (HM Government, 2005,
This includes “recognition that climate change represents an opportunity as well as a threat, as well as improving understanding of the causes and effects of climate change” (HM Government, 2005, p91). This is “intended to complement more focused behaviour change campaigns such as those on energy efficiency led by the Energy Saving Trust and Carbon Trust” (HM Government, 2005, p92). Related to communications is a new information service – Environment Direct – which the government is proposing to set up to offer advice and the environmental impact of goods and services and how to make more sustainable consumption choices (HM Government, 2005, p52).

A substantial aspect of the strategy is a means to know whether it has been successful. For this the government has set up a system of monitoring the policy commitments and the indicators. A set of 20 ‘UK framework indicators’ together with a further 48 indicators related to priority areas have been specified for monitoring the implementation of the strategy. The strategy specifies these as precisely as possible, though some indicators remain aspirational rather than precise targets. Each indicator has associated with a government department or departments which are responsible for its implementation and the associated policy statements are also specified.
APPENDIX 4

Sustainable development: policy instruments

1. Regulation of quantity

In general terms this refers to mandatory obligations to limit the quantity of anything to a pre-specified fixed level. It is clearly in the vein of classical ‘command and control’ regulation. In terms of sustainable development, regulation is mainly of the limitation of the quantity of a natural resource used and fixed limits on the quantity of materials released into the environment, whether disposed as waste or released for a specific purpose such as pesticides.

Examples include limiting the levels of abstraction of water from variety of sources; fixed limits on chemical pollutants released into the environment, limitations on the use of chemicals in the environment, such as fertilisers and pesticides.

2. Fiscal instruments: taxation and subsidies

Taxation

In general, taxation is an instrument which can be used to internalise externalities, that is to ensure that the full cost (environmental and social) is included in any market transaction.

Notable examples in use include taxes on the use of fuel such as domestic heating fuel and road transport. Another example is road pricing, notably the congestion charge in London. Congestion charging is an example of an instrument which addresses all three aspects of sustainable development: the environment should benefit from less pollution, the economy might benefit from less time wasted in traffic jams, and less crowded, quieter and possibly safer roads might be socially beneficial.

Since the problems of global warming and the greenhouse effect have become prominent (since late 1980s) the main instrument proposed for the reduction of emissions of greenhouse gases has been a carbon tax (Common, 1995, pp233-237). This is a form of energy tax but focused on curtailing the emission of the main greenhouse gas, carbon dioxide, rather than energy consumption per se. In Britain the ‘Climate Change Levy’, which involves a tax on energy use by business, industry and certain public/private organisations, has been introduced.

Public expenditure: subsidies, grants etc

Public expenditure can be used in many ways to encourage sustainable development. It can be used in a command and control or an economic incentive manner. A particularly significant area in which they are used is to encourage research and development into and the adoption of environmentally efficient and renewable technologies. State commanded can include research and development directed, commissioned and funded by the state. Most forms of fiscal expenditure, however, operate in the manner of economic incentives.

The energy sector has many examples of the latter. Firstly, grants are often made available for research and development in energy efficient and renewable technologies. Second, grants are made available for the installation of renewable energy systems (eg, solar panels) in buildings and to increase the energy efficiency of buildings (eg, loft insulation). Thirdly, fiscal subsidies
can be used to the development by industry of renewable electricity generation. The ‘feed-in tariff’ system for example (adopted in countries such as Germany) guarantees a set price for the generation of renewable electricity, the difference between this set price and the market price for electricity is made up by fiscal subsidy.

3. Tradeable permits

Tradeable permits are becoming an increasingly important instrument, particularly for environmental protection (permits to discharge, subject to an overall cap) (OECD, 2001, pp35-36). They are generally seen as primarily economic instruments in that the tradeable aspect is emphasised. However, they also include a mandatory element in that the overall cap (normally of an emission or discharge) is specified and enforced by a regulatory authority in the manner of command and control regulation.

Tradeable permits are generally seen by economists as superior to command and control approaches because of the “least cost theorem” (Common, 1995, pp160-163). A permit system is least cost because of the allocative process of the market in permits: the market allocates permits to firms where it is cheaper to buy them rather than abate (costs of reducing discharges by investment or by output reduction), while abatement is undertaken by firms when abatement costs are cheaper than permit costs. In addition, in contrast to taxation approaches tradeable permit systems are dependable: the success of the former is dependent on precise knowledge of supply and demand behaviours (difficult to ascertain), while the success of the latter is simply dependent on setting the overall limit (the number of permits fixed) at the desired maximum level. Tradeable permits and certificates can be seen as a form of property rights (OECD, 2002a, p285, and see below).

The most important example of the tradeable permit system is the EU’s emissions trading system noted above, another example is the ‘Renewable Obligations Certificates’ in the energy sector.

4. Regulation by licence

Companies can be regulated by a licence, that is they are authorised to operate as a particular business with certain conditions. The conditions might include meeting certain standards, such as technical, health and safety (see below), and being required to undertake certain activities, such as the provision of certain public service requirements and undertaking an authorised investment programme.

This form of regulation can make a significant contribution (positively and negatively) to both the social and environmental dimensions of sustainable development. For example, requirements to provide certain public services and operate within reasonable health and safety parameters can contribute to social sustainability. Well designed investment programmes, for example, low environmental impact forms of transport infrastructure can contribute to environmental sustainability. Investment programmes, however, can easily have a negative impact on the environment or at the very least involve difficult trade-offs between different environmental benefits and costs. Investment in new and cleaner water supplies and cleaner lakes and seas might involve high energy consumption which could increase the levels of greenhouse gas emissions.
5. Information and education

Information and education are forms of ‘moral suasion’ which seek to change behaviour by changing cultures and attitudes (Common, 1995, p227). Changing the information base of individuals and firms can not only enable them to make informed decisions but also engender a more positive attitude towards the imperatives of sustainability.

Actual practice varies from general exhortations to ‘reduce, reuse and recycle’ to specific information policies such as the labelling of domestic appliances of their level of energy efficiency. At local governmental level initiatives to increase the recycling of waste are accompanied by information on waste products which can be recycled and the use to which the recycled product can be put. Citizens’ and educational initiatives at the local level are also important practical policies which can educate, inform and lead to changing behaviour.

6. Voluntary agreements and commitments

Voluntary agreements and commitments are standards (often on environmental protection) adopted by firms or other organisation without legal obligation. They are nevertheless developed in the ‘shadow’ of the state, ie, they are explicitly encouraged by the state and often accompanied by threats of statutory regulation unless suitable voluntary standards are adopted. They have become an increasingly important dimension of environmental protection regulation.

An example of a voluntary commitment is in the chemical industry in the UK which has developed a commitment to continual improvement of health, safety and environmental performance and to openness in communication about its activities and its achievements. The voluntary commitment, termed ‘Responsible Care’ is led by the Chemical Industries Association (CIA) and was adopted in 1989; adherence to Responsible Care is a condition of membership of the association. The commitment includes: the use of a consistent set of indicators; best practice sharing and mutual aid systems; formal processes of communication to the public; common management system principles and a self-assessment process. The scheme, though voluntary, is monitored by the Environment Agency, and is linked to statutory regulation of the chemical industry and public concerns about the potential hazards in chemical installations, notably after the Flixborough accident in the 1970s.

7. Environmental accounting

Environmental accounting involves revising conventional economic accounting to include environmental damage and resource depletion (Rao, 2000, pp207-231). At the macro level proposals have included revising national income accounting methods to include environmental factors. On a broader level of sustainability, ie, including social and personal lifestyle factors, the New Economics Foundation has proposed a number of new ways of measuring progress. It includes for example, an ‘index of sustainable economic welfare’ as an alternative to conventional GDP measures, which it argues shows a very different picture.

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70 www.cia.org.uk/newsite/responsible_care/care.htm
71 www.neweconomics.org/gen/new_ways_top.aspx
Similar proposals have been made for micro level accounting, ie, including environmental factors in the accounts of companies, and policies to improve information disclosure and reporting of social and environmental factors (OECD, 2001 pp19-20).72

8. Standards and certification

Standards and certifications can be mandatory or voluntary, they can be set by a state agency or by a private standards organisation. Standards include technical, (eg, equipment compatibility), health and safety, environmental standards, and performance.

Standards and certification of industrial processes can be evidence that the production of a product has complied with environmental standards (Rao, 2000, pp312-314). The most notable international standards for the environment are the ISO 14000 series, run by the International Standards Organisation. The standards focus on the process rather than the product and include use of environmental management systems; environmental auditing; environmental performance evaluation; life-cycle assessment; environmental aspects of other standards; and environmental labelling. There is a possibility that compliance with the standards form an environmental rating for a company, information which could be publicly available and affect corporate image. The standards are voluntary and thus are a form of voluntary agreements noted above.

9. Private property rights

In conventional economics, environmental protection involves the correction of market failure which arise because of the lack of private property rights in environmental assets (Common, 1995, pp226-27). A possible policy therefore is the creation of private property rights in environmental assets. As environmental assets are depleted or damaged their price would rise and production and consumption patterns would become less damaging. The main drawback of this is that many environmental assets (notably the atmosphere) are ‘public goods’, that is they are non-rival and non-exclusive in use and private property rights cannot be meaningfully created. There is also an ethical presumption that many critical environmental assets should be collectively owned. Despite these problems, in the debates on sustainability the creation of new property rights should not be dismissed as it may be a useful instrument in some limited cases.

10. Poverty policy

Poverty policy is a part of the social dimension of sustainable development and the importance of intragenerational equity (Common, 1995, pp231-232). This is a policy area rather than a policy instrument and specific instruments of poverty policy would be include in the above categories. However, it is noted here separately to emphasise that the social dimension of sustainable development as most of the above examples relate to environmental protection.

Many specific poverty policies, such as unemployment and sickness benefits and targeted (means tested) benefits. These policies clearly require transfers of public money and should be in the fiscal instruments category above. These policies are in operation in a variety of forms in most countries. A policy which has not been comprehensively realised in practice but which, it is argued, can contribute to sustainable development is the ‘basic income’ proposal (Common, 1995, pp255-263). Its usefulness in targeting poverty is plain: it overcomes problems such as

those of means testing and the high effective marginal tax rates for those on low incomes (the ‘poverty trap’). The impact on the environment of this policy (and other poverty policies), however, is less clear as consumption levels might be higher leading to emissions into the environment. What these policies do illustrate is the challenges of policy integration. If there are conflicts between different policy objectives trade-offs are required and priorities need to be established.

There are also policies to address specific areas of poverty eg, fuel poverty. The government and the energy regulator in Britain, for example, have for a number of years pursued a social action strategy to attempt to overcome fuel poverty (Ofgem, 2005b). Specific policies include (i) information and education (inform consumers about payments methods, reducing bills eg, by energy efficiency or switching suppliers), (ii) encourage voluntary agreements and commitments of supply companies (to treat indebted consumers sensitively, informing and encouraging energy efficiency, special tariffs), (iii) direct payments eg, winter fuel payments to pensioners, targeted subsidies for the installation of energy efficiency schemes.

11. Consumer policy

Consumer policy, like poverty policy, is a broad policy area rather than a specific instrument but it is worth highlighting separately because of its ambiguous relationship with sustainable development. Its ambiguity is that on the one hand traditional consumer policy is concerned with helping consumers consume more which can be detrimental to the environment. On the other hand consumer policy as noted above can be directed at social problems and poverty, thus addressing the social dimension of sustainable development. Consumer policy can also be directed towards efficient consumption or even reduced consumption. Energy efficiency is one notable such area.

Various instruments can be used to effect consumer policy. Information and education to consumers is a well established practice as are regulating firms and encouraging voluntary commitments for better practices towards consumers.

12. Regulatory Impact Assessment

Although regulatory impact assessments (RIA) are not direct policy instruments, they can play an important role in suggesting and assessing possible policy instruments in particular circumstances. RIAs are primarily focused on the regulatory decision-making process to inform political and technocratic decision-making. It is primarily an ex ante empirical tool which involves a range of techniques (notably cost-benefit analysis of various regulatory options) to improve regulatory decision-making. It is not simply a closed technical analysis leading to ‘the answer’ but is a process including wide ranging consultations which can shed light on various aspects of the regulation, raise questions and bring out new options. RIAs can also lead to the recommendation of ex post processes of monitoring and evaluating the effectiveness of the chosen regulatory option.74 Undoubtedly RIAs are in their infancy and there are problems (not least with resources), and implementation is patchy (OECD, 2002b, NAO, 2001). Nevertheless, in Britain some aspects associated with RIAs and regulatory governance in general, such as better information reporting, have emerged and become embedded.

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In Britain since 2004 sustainable development has become an integral part of RIAs. All departments and their agencies are required to assess the environmental and social impacts, as well as economic impacts in all new policy proposals with significant impact (HM Government, 2005, pp78, 255). Environmental impacts include a carbon impact assessment.

Although not a direct instrument, RIAs offer the possibility of utilising policy instruments more effectively. They can be used, for example, to advise, recommend and even challenge government to introduce more suitable policies. They can also be used as a tool of education and information directed towards industry, civil society and the general public.
APPENDIX 5

Summary of answers to interview questions

A semi-structured interview-based survey was undertaken for this project. The survey was based on the set of three main and two supplementary questions noted at the beginning of chapter 3. However, within each question theme interviewees were allowed to freely express their views and ideas. As a result it is not possible to give a full and proper quantitative breakdown of the results. The tables below summarise the answers to the interview questions but only give an indicative range of the responses and views of interviewees. In the tables we distinguish where possible between ranges of views and responses in the majority and those in the minority. It should be noted that minority expressed views do not necessarily mean that a majority were opposed to that view. Where there was a range of responses without clear majority/minority themes emerging, these are denoted by the term ‘range of views’.

Question 1. How has the regulator responded to the imposition of the duty in terms of their direct regulatory activities?

<table>
<thead>
<tr>
<th>Effects and responses</th>
<th>Opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td><strong>Majority</strong></td>
</tr>
<tr>
<td></td>
<td>• difficult to tell what effect the duty has had partly because it has only been in force for less than 2 years;</td>
</tr>
<tr>
<td></td>
<td>• Ofgem has done some good work on sustainable development (SD) in recent years, notably on the environment, but most of this started before the duty was in force;</td>
</tr>
<tr>
<td></td>
<td>• the duty has reinforced what Ofgem has already done, notably on the environment, rather than initiated new action;</td>
</tr>
<tr>
<td><strong>Minority</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• SD is increasingly embedded into Ofgem’s thinking, increased work on environment has taken place since the duty in force;</td>
</tr>
<tr>
<td></td>
<td>• recent work has been in the right direction but does not amount to much;</td>
</tr>
<tr>
<td></td>
<td>• negative experience of the development of NETA (overly market focused, few incentives for renewables and energy efficiency) but there have been significant improvements since the early 2000s.</td>
</tr>
<tr>
<td><strong>Majority</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• the duty can be a useful tool though recognised its limitations and need to be in association with other policies;</td>
</tr>
<tr>
<td></td>
<td>• vagueness of the duty, it is open to differing interpretations. Clearer signals are required from government, some spoke of it shifting responsibility and being a ‘cop out’;</td>
</tr>
<tr>
<td></td>
<td>• need for much more clarity, direction and guidance from government. Government should be more explicit about trade-offs, set up a policy framework that internalises environmental costs so that regulator can then focus on economic efficiency within the framework;</td>
</tr>
<tr>
<td></td>
<td>• the culture of economic regulation is still too dominant in Ofgem; it could do more in response to the duty;</td>
</tr>
<tr>
<td><strong>Minority</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• question whether it is appropriate for the social dimension to be a focus for the regulator;</td>
</tr>
<tr>
<td></td>
<td>• the duty is not appropriate: economic regulators should focus exclusively on economic regulation;</td>
</tr>
</tbody>
</table>
### Question 1 continued

<table>
<thead>
<tr>
<th>Effects and responses</th>
<th>Opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rail</strong></td>
<td></td>
</tr>
<tr>
<td>Majority</td>
<td>Majority</td>
</tr>
<tr>
<td>• ORR started to look at SD in 2005, possibilities include incentives for regenerative braking and on-train metering, industry SD indicators, internalising environment costs in access charges;</td>
<td>• duty is generally good idea. ORR can and should do more such as set up incentives on NR/TOCs to ensure SD is developed, promote freight on rail, guard against industry complacency;</td>
</tr>
<tr>
<td>• not much focus on SD, not one of its priorities. In 2000-2004 main focus was on other difficulties in the industry;</td>
<td>• ORR can play a role but its powers are limited, particularly on inter modal questions which are crucial for SD, DfT should play stronger lead in this.</td>
</tr>
<tr>
<td>• main SD focus is on making rail more efficient, assumption that rail is one of most sustainable forms of transport.</td>
<td>Minority</td>
</tr>
<tr>
<td></td>
<td>• uncertainty and vagueness of SD reduces the value of the duty;</td>
</tr>
<tr>
<td></td>
<td>• the duty is not a good idea, it is a diversion and distraction, the government is not facing up to the real challenges.</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Range of views</td>
</tr>
<tr>
<td>Majority</td>
<td></td>
</tr>
<tr>
<td>• the consultation was fairly good and Ofwat is showing willing, but little of substance to date, mainly repackaging;</td>
<td>• Ofwat can and should do more, eg, incentives, reporting, indicators;</td>
</tr>
<tr>
<td>• some issues being looked at more closely, eg, energy usage versus benefits for new investments, but little on substance on long term investments;</td>
<td>• government needs to be clear what it wanted, the duty can appear to be a way of defusing political pressures;</td>
</tr>
<tr>
<td>Minority</td>
<td></td>
</tr>
<tr>
<td>• much work done before the duty, eg, economic level of leakage balanced with social/environment. During and after consultation Ofwat looking at eg, new instruments, indicators and league tables;</td>
<td>• response to duty requires a long term perspective, need clear commitment to outputs and environmental constraints over 20 year period;</td>
</tr>
<tr>
<td>• Ofwat responded slowly when SD issues rose in profile in early 2000s but consultation in 2005 an improvement;</td>
<td>• important to be balanced, to understand needs of consumers and capital markets, awareness of affordability and supply issues</td>
</tr>
<tr>
<td>• consultation a disappointment, little of substance.</td>
<td></td>
</tr>
<tr>
<td><strong>General</strong></td>
<td>Range of views</td>
</tr>
<tr>
<td>Range of views</td>
<td></td>
</tr>
<tr>
<td>• difficult to pinpoint substantial effects so far;</td>
<td>• duty is vague, a ‘cop out’, government should stand up and take difficult decisions;</td>
</tr>
<tr>
<td>• despite the lack of SD duty, CAA is taking account of SD matters;</td>
<td>• regulators could do more in response to duty, could emphasise more the extent of change required, other changes by government required in addition to the duty;</td>
</tr>
<tr>
<td>• regulators now doing something, more willing, but much repackaging.</td>
<td>• not a case for SD duty in aviation, CAA pursuing SD without it, no pressure for such a duty</td>
</tr>
</tbody>
</table>
**PROMOTING GOOD GOVERNANCE**

**Question 2.** Has/should the duty given/given the regulator more scope to advise and challenge government and other regulators on policy matters?

<table>
<thead>
<tr>
<th>Effects and responses</th>
<th>Opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td><strong>Range of views</strong></td>
</tr>
<tr>
<td><strong>Majority</strong></td>
<td>• Ofgem can and should do scenario modelling (effects of particular SD policies such as tight carbon caps), highlight trade-offs, advise, provide information, stimulate debate;</td>
</tr>
<tr>
<td>• Ofgem do make some representations to government on SD issues, eg, in energy review on carbon caps and trading, on energy efficiency;</td>
<td>• Ofgem can advise and assist government but should not be too proactive, big issues are political and government should be leader;</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>• there needs to be better interaction between the main parties, Ofgem can play a role.</td>
</tr>
<tr>
<td>• Ofgem do make strong representations to government and public on some issues, eg European energy markets, grid charges in Scotland, but little on SD;</td>
<td></td>
</tr>
<tr>
<td>• the SD duty has had little effect in this area.</td>
<td></td>
</tr>
<tr>
<td><strong>Rail</strong></td>
<td><strong>Range of views</strong></td>
</tr>
<tr>
<td><strong>Almost all</strong></td>
<td>• good for ORR to inform government on broader policies and effects, but scope is limited, ORR has to be cautious, industry itself should be more proactive;</td>
</tr>
<tr>
<td>• said or implied little has been done.</td>
<td>• fine for ORR to inform, advise on rail issues and they could do more, however, not ORR’s role on intermodal issues, others, such as DfT and CfIT should lead on this;</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td><strong>Range of views</strong></td>
</tr>
<tr>
<td><strong>Range of views</strong></td>
<td>• Ofwat should have an important advisory role, can work with others, should make trade-offs more explicit, be more explicit about leakage costs;</td>
</tr>
<tr>
<td>• said or implied little done as a result of SD duty;</td>
<td>• the scope is limited, many SD issues are bigger than economic regulation and water.</td>
</tr>
<tr>
<td>• Ofwat has close relations with government on SD issues, eg, Water Savings Group set up by Defra, but not a clear connect with SD duty.</td>
<td></td>
</tr>
<tr>
<td><strong>General</strong></td>
<td><strong>Range of views</strong></td>
</tr>
<tr>
<td><strong>Range of views</strong></td>
<td>• not the role of the economic regulator, its role is essentially ‘mechanical’ policy implementation;</td>
</tr>
<tr>
<td>• regulators do advise governments, but not clear anything tangible has resulted from SD duty. CAA (with no SD duty) has discussed emissions trading in aviation with government;</td>
<td>• it is important for regulators to engage with others, and regulators should work together on SD issues;</td>
</tr>
<tr>
<td>• said or implied little done as a result of SD duty.</td>
<td>• there is a concern that regulatory and advisory role could conflict.</td>
</tr>
</tbody>
</table>
Question 3 Has/should the duty given/give the regulator more scope to engage and communicate to consumers and the public on sustainability issues?

<table>
<thead>
<tr>
<th>Effects and responses</th>
<th>Opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td><strong>Opinions</strong></td>
</tr>
<tr>
<td>Majority</td>
<td>Majority</td>
</tr>
<tr>
<td>• Ofgem done very little;</td>
<td>• not appropriate role for Ofgem, not consumer facing. More suitable for others such as government, consumer bodies, Energy Savings Trust, Carbon Trust, companies, NGOs;</td>
</tr>
<tr>
<td>Minority</td>
<td>Minority</td>
</tr>
<tr>
<td>• some consumer surveys done for periodic review, also engaging with stakeholders regarding social action plan, but not clear connect with SD duty.</td>
<td>• regulator can/should engage a little more with consumers and intermediary organisations, eg, on efficiency and raising awareness of issues other than simply economic cost.</td>
</tr>
<tr>
<td><strong>Rail</strong></td>
<td><strong>Opinions</strong></td>
</tr>
<tr>
<td>Almost all</td>
<td>Majority</td>
</tr>
<tr>
<td>• little if any engagement with public, industry takes it lead on SD issues a little too much for granted.</td>
<td>• not appropriate for ORR, their role is focus on NR and TOCs, not passengers, more appropriate for Passenger Focus and government, industry could also play more of a role;</td>
</tr>
<tr>
<td>Minority</td>
<td>Minority</td>
</tr>
<tr>
<td>• possibly a limited and indirect role, such as persuading industry to send more positive messages about rail and SD.</td>
<td></td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td><strong>Opinions</strong></td>
</tr>
<tr>
<td>Majority</td>
<td>Majority</td>
</tr>
<tr>
<td>• said or implied little has been done;</td>
<td>• not the role of Ofwat to engage with public, it is mainly for CCW and companies;</td>
</tr>
<tr>
<td>Minority</td>
<td>Minority</td>
</tr>
<tr>
<td>• a little on water efficiency and have worked with CCW on some surveys, no clear connection with SD duty.</td>
<td>• can and should work closely with others on efficient use of water eg, EA, CCW, companies.</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td><strong>Range of views</strong></td>
</tr>
<tr>
<td>Almost all</td>
<td>Range of views</td>
</tr>
<tr>
<td>• said or implied that the regulators have done little or nothing in this area.</td>
<td>• difficult for regulators to engage with public, though a little might be good, need to be more in touch with consumer issues, could work more closely with other organisations;</td>
</tr>
<tr>
<td></td>
<td>• not the role of regulators to engage with public and consumers, it is for others eg, consumer bodies, intermediary groups.</td>
</tr>
</tbody>
</table>
Supplementary question/issue 1: Should governmental guidance to regulators be more explicit about sustainable development? Likewise should departmental action plans on sustainable development be more explicit?

<table>
<thead>
<tr>
<th>Energy</th>
<th>Range of views</th>
</tr>
</thead>
<tbody>
<tr>
<td>• the 2004 guidance to Ofgem was good though some in Ofgem still defaulted to traditional economic regulation. A problem is split between DTI and Defra;</td>
<td></td>
</tr>
<tr>
<td>• guidance is not strong, watered down in negotiations between Ofgem, Defra and DTI. Department SD action plans not really committed to across departments; Kyoto is endorsed by government but does not reflect through into clear departmental and regulatory policies;</td>
<td></td>
</tr>
<tr>
<td>• guidance could stress more clearly the need for Ofgem to quantify costs (social, environmental, economic) of their actions.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rail</th>
<th>Majority</th>
</tr>
</thead>
<tbody>
<tr>
<td>• more and clearer guidance on SD needed, departmental action plan not good nor clear about role of regulator. HLOS in 2007 will say much more;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minoritiy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• despite need for more and better guidance there is a difficult line between detailed guidance and independent regulation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water</th>
<th>Range of views</th>
</tr>
</thead>
<tbody>
<tr>
<td>• more and clearer guidance is needed;</td>
<td></td>
</tr>
<tr>
<td>• there are political difficulties about detailed guidance and sensitivity about independence required;</td>
<td></td>
</tr>
<tr>
<td>• Ofwat are working from government sustainable development strategy (2005), guidance to regulator should be developed iteratively, not imposed.</td>
<td></td>
</tr>
</tbody>
</table>

Supplementary question/issue 2: What about institutional fragmentation? Is there a case for integration? Should institutional interfaces be changed/improved?

<table>
<thead>
<tr>
<th>Energy</th>
<th>Range of views</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Environment Agency (EA) could and should have a more significant role in energy SD, closer involvement with investment programme like water;</td>
<td></td>
</tr>
<tr>
<td>• institutional integration (an Energy Agency) not a solution to fragmentation, government and Sustainable Development Commission (SDC) should be more proactive in encouraging coordination;</td>
<td></td>
</tr>
<tr>
<td>• Energy Agency a possibility, not clear that it is suitable at present but should not be ignored as a possibility.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rail</th>
<th>Range of views</th>
</tr>
</thead>
<tbody>
<tr>
<td>• EA has had little impact on transport SD, possibly could and should be more involved with transport and rail;</td>
<td></td>
</tr>
<tr>
<td>• CfIT should play a significant role in rail and transport SD, does not seem to do so now.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>• no call to merge institutions despite some tensions, eg, between Ofwat and EA.</td>
<td>SDC has had lower profile than expected, not sure of its worth as watchdog.</td>
</tr>
</tbody>
</table>
APPENDIX 6

An equilibrium approach to the social cost of carbon (SCC)

The following ‘schematic’ diagrams extend the GES approach to illustrate a full equilibrium presentation of the SCC methodology and to reconcile the various measurements of the social cost of carbon. First, the marginal damage function from carbon emissions (MD), illustratively calibrated to the range of international negotiations for parts per million. Second the marginal abatement cost function (MAC) which suppliers would face if they had to reduce emissions from their present level at the current level of demand (the so-called business as usual (BAU) point). This marginal abatement cost curve rises as higher levels of abatement are required on the assumption that the most cost-effective methods of abatement are used first, but that the supply of these are limited. The intersection of these two at M (Figure 14) gives the initial step towards optimum for a carbon cap (Cap1) based on equating marginal carbon damage to marginal costs of abatement (ie, MAC = MD).

Figure 14: First step optimum carbon cap

![Figure 14: First step optimum carbon cap](image)

Figure 15 then shows the relationship between the damage function and the customer demand curve, where supply and demand is based on the private costs per unit only. In a competitive market, prices would be equal to private costs (Pc) and the quantity supplied would be Qc. A-B shows the marginal social cost of carbon which would result at that BAU level of demand, and T is the point at which the marginal valuation of customers would be equal to the marginal damage caused. This could be a basis for determining environmental tax policy (but see section on taxes versus caps in chapter 5).
Next, reversing MAC shows the ‘supply curve’ consistent with CAP1 (Figure 16).

This supply curve (SC1) can then be plotted against the demand curve to show the outcome combination of price and quantity, which would be $P_1$ and $Q_1$ (Figure 17).

It can clearly be seen at the intersection point of supply and demand at $S$, due to the demand reduction effect of higher prices on demand, that whilst customers’ marginal valuation $MV$ will be equal to MAC at that point, MAC and MV will be less than the marginal damage $MD$ which is determined by the Cap1 at point $M$. A revised Cap2 therefore needs to be set with the MAC and the consequential supply curve now based on the new demand $Q_1$ rather than the BAU demand point $Q_c$. This is shown in Figure 18. With its consequent further reduction in demand, the process then needs to be successively repeated and will iterate to the final equilibrium where
MV = MD = MAC. At that point C-D would measure the social cost of carbon given an optimal policy response and would reflect the *ex post* rather than *ex ante* SCC (A-B in Figure 15).

**Figure 18: First step optimum to equilibrium outcome**

The full equilibrium outcome for comparison with Figure 17 is shown below (Figure 19). The final equilibrium point for matching supply and demand is shown at point E, and the final price and quantity are $P_e$ and $Q_e$ respectively. It can be seen that on this basis MV=MAC=MD and the *ex post* SCC is F-G (it should be noted that this final equilibrium diagram is an illustration of how in practice the equilibrium would be the result of successive iterations through successive caps which would converge on the final equilibrium to represent a simultaneous determination of MV=MD=MAC).

**Figure 19: Full equilibrium MV=MAC=MD**
APPENDIX 7

Worked example of emissions trading price, auctions and distribution of profits

The illustration is based on five firms that emit a total 2000 units of GWP (standardised units of global warming potential) at ‘business as usual’ levels of 400 each. The government caps the emissions allowed at 1500 (a 25% reduction) and the schedule below (Table 2) shows the incremental cost to each firm of reducing their business as usual emissions by successive tranches of 100 units. The bold numbers above the dotted line show the firms (firms 3, 4 and 5) which would buy permits from other firms because their marginal cost of abatement is greater than the cost of buying a permit, which the subsequent Table 3 shows to be a market clearing price centred on 21 per 100 units. The bold numbers below the dotted line show the firms which would sell permits because their marginal cost of abatement is less than the revenue from selling their permits (firms 1 and 2).

Demand equals supply at the market clearing price centred on 21 (ie, in the range 20 to 22 (see table 3 below), and 300 units of emission permits change hands. The row at the bottom of the table shows the after trade level of emissions for each firm. Some of the firms now pollute more than others, but overall the statutory aggregate cap is met and at minimum cost. Without trading the cost of meeting the target would have been the sum of the first row for the five firms (ie, 93). With trading the cost of the abatement is 55, found from the columns for firms 1 and 2.

Table 2: Cost structure for marginal abatement

<table>
<thead>
<tr>
<th>Units of GWP</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>△ cost to reduce by 100</td>
<td>5</td>
<td>10</td>
<td>22</td>
<td>26</td>
<td>30</td>
<td>1500</td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>△ cost to reduce by 100</td>
<td>5</td>
<td>15</td>
<td>26</td>
<td>30</td>
<td>30</td>
<td>500</td>
</tr>
<tr>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>△ cost to reduce by 100</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>△ cost to reduce by 100</td>
<td>30</td>
<td>30</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cap</td>
</tr>
<tr>
<td>Emissions after trading</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>1500</td>
</tr>
</tbody>
</table>

Equating demand and supply is shown from the following schedule and the supply and demand curves resulting are illustrated in the subsequent Figure 20.
Table 3: Supply and demand balance – the emissions trading price

<table>
<thead>
<tr>
<th>Price</th>
<th>Demand</th>
<th>Supply</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>500</td>
<td>0</td>
<td>&gt;</td>
</tr>
<tr>
<td>1</td>
<td>500</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>400</td>
<td>100</td>
<td>&lt;</td>
</tr>
<tr>
<td>10</td>
<td>300</td>
<td>100&lt;sup&gt;C1&lt;/sup&gt;</td>
<td>&gt;</td>
</tr>
<tr>
<td>15</td>
<td>300</td>
<td>200&lt;sup&gt;C1, C2&lt;/sup&gt;</td>
<td>&gt;</td>
</tr>
<tr>
<td>19</td>
<td>300</td>
<td>200&lt;sup&gt;C1, C2&lt;/sup&gt;</td>
<td>&gt;</td>
</tr>
<tr>
<td>20</td>
<td>300</td>
<td>300&lt;sup&gt;C1, C2&lt;/sup&gt;</td>
<td>=</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td>&lt;</td>
</tr>
</tbody>
</table>

Figure 20: Supply and demand curves for emission permits

The distribution of increased profits between the firms is as follows, given consumers have to pay the higher incremental price of 21 per 100 units (which reflects the marginal economic cost of internalising the externality). The marginal cost based price applies to all of the units sold so firms earn intra-marginal producer surplus.
PROMOTING GOOD GOVERNANCE

<table>
<thead>
<tr>
<th>Firm</th>
<th>Increased revenue</th>
<th>less</th>
<th>Increased cost</th>
<th>equals</th>
<th>Increased profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm 5</td>
<td>4 x 21 = 84</td>
<td></td>
<td>1 x 21</td>
<td></td>
<td>63</td>
</tr>
<tr>
<td>Firm 4</td>
<td>4 x 21 = 84</td>
<td></td>
<td>1 x 21</td>
<td></td>
<td>63</td>
</tr>
<tr>
<td>Firm 3</td>
<td>4 x 21 = 84</td>
<td></td>
<td>1 x 21</td>
<td></td>
<td>63</td>
</tr>
<tr>
<td>Firm 2</td>
<td>4 x 21 + 1 x 21(permit sold)</td>
<td>1 x 10 + 1 x 15</td>
<td></td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Firm 1</td>
<td>4 x 21 + 2 x 21(permits sold)</td>
<td>2 x 5 + 1 x 20</td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>365</td>
</tr>
</tbody>
</table>

This reconciles as follows (ignoring the inter firm trading) with five firms getting increased revenue from customers of 84 each (ie, 420 in total) offset by increased costs of 55 to the companies in abatement of total emissions from 2000 to 1500. The net increase in producer surplus is therefore 365, as above.

If the government auctioned all of the allowances then the auction price would also be 21 per 100 and the revenue would be 15 permits bought at 21 per 100 each = 315. This is illustrated in Figure 21. The companies would recover 420 from consumers (ie, 5 x 84) and their increased costs would be 315 paid to the government and 55 incurred in abatement costs = 370. The net increase in profitability after 100% auction would therefore be 50 (ie, 420 – 370). This would be revealed as additional profit for companies 1 and 2, given their abatement costs are 55 for 500 units of emission reduction but the increased revenue is 105 (ie, 5 x 21). The other three companies would have the same profits as before, having recovered the purchase cost of permits from government from customers.

**Figure 21: 100% auction with comparative curves for 100% free distribution**

![Figure 21: 100% auction with comparative curves for 100% free distribution](image)
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(The bold numbers refer to the footnote in which first cited)


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Governance for sustainable development: a framework

This paper by Annemarie van Zeijl-Rozema, Ron Cörvers and René Kemp deals with the linking of two complex concepts, governance and sustainable development. Sustainable development is a normative concept, dealing with different temporal and spatial scales and with multiple stakeholders. It indicates a process of human progress.

Applying good governance concept to promote local economic development: contribution and challenge

This paper in the International Journal of Economic Development by Kuotsai Tom Liou examines the application of good governance concept in the area of local economic development and focuses on contribution and challenge issues. Until now, sustainable development issues like these have not been sufficiently defined in the context of economic policy. Consequently, there remains a need to further enhance the economic policy profile of German development cooperation with regard to the three dimensions of sustainability – the social, the environmental and the economic.

Objective. The economic policy profile of German development cooperation is more clearly defined with regard to the three dimensions of sustainability.

Approach. Improving governance on EU agenda. Developed and developing countries made many promises on the environment and development at the Rio Earth Summit in 1992, and when drawing up the UN-agreed Millennium Development Goals in 2000. The EU views the World Summit as an opportunity to rekindle the spirit of sustainable development and to ensure an effective institutional framework for the future. The world over, government structures and institutions in the economic, social and environmental fields need to identify the gaps that exist and fill them, and to eliminate duplication of functions, improve the efficiency of their efforts and continue to strive for greater coherence.