



**RECONCILING MARKETS AND GOVERNANCE: ENERGY
REGULATION IN THE UK 1989 – 2007**

by

**Shane Fudge
and
Yacob Mulugetta**

RESOLVE Working Paper 03-08



The Research Group on Lifestyles, Values and Environment (RESOLVE) is a novel and exciting collaboration located entirely within the University of Surrey, involving four internationally acclaimed departments: the Centre for Environmental Strategy, the Surrey Energy Economics Centre, the Environmental Psychology Research Group and the Department of Sociology.

Sponsored by the UK's Economic and Social Research Council (ESRC) as part of the Research Councils' Energy Programme, RESOLVE aims to unravel the complex links between lifestyles, values and the environment. In particular, the group will provide robust, evidence-based advice to policy-makers in the UK and elsewhere who are seeking to understand and to influence the behaviours and practices of 'energy consumers'.

The working papers in this series reflect the outputs, findings and recommendations emerging from a truly inter-disciplinary research programme arranged around six thematic research strands:

Carbon Footprinting: developing the tools to find out which bits of people's lifestyles and practices generate how much energy consumption (and carbon emissions).

Psychology of Energy Behaviours: concentrating on the social psychological influences on energy-related behaviours, including the role of identity, and testing interventions aimed at change.

Sociology of Lifestyles: focusing on the sociological aspects of lifestyles and the possibilities of lifestyle change, exploring the role of values and the creation and maintenance of meaning.

Household change over time: working with individual households to understand how they respond to the demands of climate change and negotiate new, low-carbon lifestyles and practices.

Lifestyle Scenarios: exploring the potential for reducing the energy consumption (and carbon emissions) associated with a variety of lifestyle scenarios over the next two to three decades.

Energy/Carbon Governance: reviewing the implications of a low carbon society for governance, and investigating, in particular, the role of community in stimulating long-term lifestyle change.

For further information about our research programme or the RESOLVE Working Paper series please visit our web site

<http://www.surrey.ac.uk/resolve>

RECONCILING MARKETS AND GOVERNANCE: ENERGY REGULATION IN THE UK 1989 – 2007

by

**Shane Fudge
and
Yacob Mulugetta**

RESOLVE Working Paper 03-08

**Research Group on Lifestyles, Values and the Environment
Centre for Environmental Strategy (D3)
University of Surrey
Guildford, GU2 7XH, UK
<http://www.surrey.ac.uk/resolve/>**

Contact details:

**Shane Fudge: email – s.fudge@surrey.ac.uk
Tel: 00 44 (0)1483 682187 Fax: 00 44 (0)1483 686671**

Acknowledgements

The support of the Economic and Social Research Council (ESRC) is gratefully acknowledged. This work is part of the interdisciplinary research programme of RESOLVE - the ESRC Research Group on Lifestyles, Values and the Environment.

ISSN 1755-7259

Abstract

The growing profile of climate change in government policy has seen energy regulation since 1989 increasingly framed by environmental concerns. The introduction of the *Non-Fossil Fuel Obligation* in 1989 saw the first government attempt to introduce climate change interventions into UK energy use. This paper explores fifteen of the most influential policy initiatives that have been implemented during this period and considers the range of issues that they were designed to address. Utilizing a chronological timescale, the paper also explores the political circumstances which framed these policies, firstly during the period of Conservative rule leading up to 1997, and then through the political agenda of New Labour's 'modernization' programme. Therefore, while the Conservatives' *Market for Energy* agenda provided the initial framework for reducing the UK's levels of CO₂ emissions, the paper considers New Labour's claim that pragmatism rather than ideological conviction provides the cornerstone for a 'third way' synthesis between markets and political leadership in effective energy regulation. The third section of the document contains an appendix of the fifteen policies which form the basis of the paper. This section goes into greater detail on the function, form, sector and specific agencies involved in policy implementation. The paper also provides an assessment as to how each policy has performed in regard to stated aims and objectives.

Key Words: Markets, governance, climate change, political economy

1. Introduction

The governance of UK energy has been characterized by different periods of regulation since the post-war period. From 1945 to 1979, this regulation took the form of *state-led intervention*. During this period, government planning and political decision-making were placed at the forefront of the design and implementation of policy. In the era of state-led intervention, pricing mechanisms, quantified outputs, long-term contracts, and cross-industry integration were all characteristic elements of an approach that was put in place first and foremost to ensure that there was a readily available supply of energy to drive the needs of heavy industry and domestic retail consumption. This design was supplemented by a highly centralized political process which could be identified by vertical integration between the relevant political and economic institutions and a large measure of cross-industry integration. The design of energy regulation that characterized this period was rejected by the incoming Conservative Government of 1979 who argued that only a *market-based* approach would be able to address the inefficiencies and internal political problems that had begun to problematize the political management of this system. Therefore, the Conservatives' Market for Energy strategy introduced firstly the concept of *privatization*, whereby public ownership of energy utilities was gradually transferred to the private sector; secondly *liberalization*, where previously monopolized sectors of industry and public administration were opened up to greater competition; and thirdly *deregulation*, whereby harmonization in economic regulations and trade restrictions would further enable the market to iron out inefficiencies in pricing and resource production and allocation.

According to Helm (2005), limitations in the political economy of the market-led energy approach have once again introduced the idea that another transition in energy policy regulation may already be underway. As with the previous shift in emphasis on what the principal goals of energy policy should be based upon, he suggests that there is a realization amongst policy-makers of the discrepancies between the policy goals of market-based regulation and real world practicalities. Helm suggests that the fact that these issues are now beginning to come into tangency suggests that a paradigm shift may be taking place. He points out for instance that security of supply issues have become a much more pressing concern for the UK Government in recent years. While the market was able to deliver both profits for investors and cheaper energy for consumers with minimal state investment for a period of time, Helm asserts that conditions of excess supply and low prices, particularly in the gas and oil markets, often served to mask the underlying issues of a UK economy that was beginning to rely more and more heavily on imported energy sources. As Atkinson (2007:9) has pointed out, 'in the years since market liberalization, there has been substantially more regulation and market adjustment by the Government than was originally envisaged from the outset where the market has failed to take account of externalities such as pollution, fuel poverty, security and diversity of supply, and resource productivity'. He postulates that a key challenge for policy-makers has been to reconcile the primary aims of the market for energy approach with these current dilemmas.

An increasingly significant challenge to the market-based approach to energy regulation is the threat of global climate change. A growing consensus regarding the environmental consequences of greenhouse gas emissions related to fossil fuel use has meant that energy policy in particular has become a much more direct concern of political initiatives on environmental regulation. The content of the three Energy White Papers that have appeared since 1998 has been significant in serving to demonstrate a greater political concern over both the environmental concerns of climate change and continuing reliance on cheap, readily available fossil fuel supplies. Environmental worries have been joined by a more recent upward spiral in oil and gas prices; both of which are not necessarily compatible with market-based solutions and which may require a greater degree of political planning than policy makers had originally bargained for. There is a growing consensus amongst economists themselves that these developments can be considered in terms of being actual and potential market failures. Policy statements such as the *Stern Review* (2006) have been significant for instance in confirming that a new approach to regulating energy markets must take greater account of the economic and social costs of climate change. *The Stern Review* itself took place within a background of increased media coverage, political debate, and growing public concern over the environmental risks posed by anthropogenic pollution.

As argued above, one of the major issues to be raised in the *Stern Review* was the acknowledgement that climate change must now be considered to be a form of market failure. The *Stern Review* would seem to have provided a snapshot of the increasing consensus that continuing faith in market principles alone will be insufficient to address the particular environmental risks that we now face. In tracing the development of policies which have been developed to address the link between energy use and climate change, this paper argues that this particular debate began to gather political currency from as far back as the 1980s when embryonic energy efficiency measures were first introduced for home and commercial energy use in buildings; emission testing was introduced to MOTs; levying measures on vehicles and road transport appeared; and policies such as the *Fossil Fuel Levy* (FFL) began to reintroduce the idea that there needed to be some form of political regulation to the liberalized electricity market framework. The document therefore explores the development of the different policies that have been introduced since 1989 and examines the different governing mechanisms and regimes which have overseen them.

2. The structure of this paper

The initial part of the document looks at the issues which framed the ways in which the Conservative Government of the 1980s began to introduce environmental policies within the *Market for Energy* framework.

The second section analyses the way in which the New Labour Government have attempted to transcend the previous market based approach in order to integrate climate change and environmental concerns more explicitly into their 'modernization

agenda', whereby the claim has been that policy proposals in the current age must be responsive more to pragmatism than to ideological convictions.

The third section of the document contains an appendix of the fifteen policies which have formed the basis for the arguments developed in this paper. This section goes into finer detail on the function, form, sector and specific agencies involved in policy implementation. Each policy also provides an assessment as to how each policy has performed in regard to stated aims and objectives.

3. The 1990 White Paper on the environment: paving the way for a UK climate change strategy 1989 - 1997

The UK government began to adopt a more visible interest in climate change from around the period of the late 1980s. Environmental issues *per se* were now a much more integral part of UK policy, instigated in part by international developments which had begun to impact on the previously insular structure of UK policy on environment and energy related matters. *The Clean Air Act* (1975), mid-1980s EU directives on acid rain, and the stipulations on CFCs in production relating to ozone depletion contained in the 1987 Montreal Protocol have been particularly good cases in point (McCormick, 1995). During this period, the principles of the 1987 *Brundtland Report on Sustainable Development* began to inform EU policy in a much more visible way. This in turn has helped to shape national policy-making – such as in the UK – more towards an ethos where markets must be integrated within a greater awareness of sustainable development.

The 1990 appearance of a UK White Paper on environmental strategy, *This Common Inheritance*, was held by some to be an endorsement of the above direction, particularly the then Thatcher Government viewpoint that the threat of climate change necessitated immediate action whereby, despite the uncertainty relating to the objectivity of climate science, 'the risks clearly justify action to begin to reduce greenhouse gases' (5.17). While patently a response to transnational political lobbying on the importance of reconciling global markets within sustainable levels of growth, it was nevertheless argued by Watts (2007) that the appearance of *This Common Inheritance* was viewed by some as heralding the beginning of a more substantial policy package from within the UK Government in respect of the effects of climate change.

The 1990 UK White Paper made the case that market-based policies rather than direct regulation would be the most effective way through which to address the problem of climate change, although there would now be more thought given to how the two approaches could be reconciled. The document argued however that there should be no reason why, with a minimum of input, the market would not deliver a 20% cut in greenhouse gas emissions by 1990 levels by the year 2005 (HM Government, 1990). It argued the case for the newly privatized electricity sector for example to be responsive to targeting measures of this kind. No longer was the industry tied to coal as carbon-intensive source of generation. Instead, the White Paper reasoned that:

The changes brought about by the Electricity Act 1989 are like to have a beneficial effect in reducing electricity CO₂ emissions. The act will introduce competition among electricity generators, giving a strong incentive to generate energy more efficiently, and encourage electricity generation from non-fossil fuels. Indeed the two major non-nuclear electricity generating companies in England and Wales believe that their intended installation of high efficiency gas-fired plant, and greater use of renewables, will hold their CO₂ emissions approximately constant for the foreseeable future, whereas in the Government's earlier projections the electricity supply industry assumed some growth (HM Government, 1990:69).

The White Paper confirmed that a 'polluter pays' principle must be a central aspect of UK initiatives on climate change. In economic terms, identifying the main sources of greenhouse gas emissions would be the first step in ensuring that costs and benefits of climate change mitigation would remain in equilibrium. It was suggested that this could be achieved in two ways within the guiding principles of the market: firstly, governments would use their powers to set out the legal guidelines whereby rules and regulations on standards would be met or the necessary equipment would be installed; secondly, government intervention would utilize the framework of the market to influence the behaviour of producers and their customers (HM Government, 1990:13). The ultimate objective of both these approaches would be geared towards penalizing those who were responsible for environmental damage and incentivising the necessary behavioural changes. As the White Paper summarized:

If we impose higher standards centrally, this puts extra costs on producers and on their customers in turn; if we use price signals, for example by imposing charges or taxes on certain activities, extra costs again fall on the manufacturers, and then on their customers. This "polluter pays" principle is an important means of influencing potential polluters (HM Government, 1990:13).

The White Paper reiterated the point that the market would guide decisions on policy proposals. Too much regulation i.e. taxation, it argued, could have the effect of stifling innovation by penalizing the competitive edge which economists argue drives change and promotes efficiency. It was also argued that regulation was often expensive to monitor and, relatedly, it was often difficult to assess what would need to be the right balance between environmental benefits and compliance costs. This was felt to be a particular problem for effecting policies to address climate change as the science on which evidence for warming had been predicated so far, remained subject to revision and speculation. The White Paper emphasized that it was important that compliance costs did not fall too heavily upon business, government or consumers and that the benefits in reducing long-term environmental damage would be maximized. The dangers of too much political intervention were all too obvious it argued where, unhindered, the market would provide the necessary flexibility to be able to deal with the uncertainties through technological innovation and adaptation.

The White Paper stressed that the structure of the new liberalized UK electricity sector would be supportive of environmental goals, where Atkinson (2007:11) points

out that the Electricity Act of 1989 ‘included the first legislative recognition of carbon emissions as an energy industry problem to be resolved using government policy’. The incorporation of the *Fossil Fuel Levy* (FFL) into the electricity sector meant that suppliers were now encouraged to integrate a certain amount of non-fossil fuel sources into electricity generation. The introduction of the FFL was an early indication as to how the Conservative Government would start to address the growing profile of climate change in policy. While the principal aim of the FFL was to subsidize the nuclear industry (Newbery, 2001) within the new market conditions, the policy *did* begin to introduce the idea of sourcing electricity from renewable sources of energy as opposed to continued reliance on fossil fuel use. It became a point of contention however as to whether nuclear power could be considered to be a form of renewable energy – an argument that continues to this day – and the appearance of the *Climate Change Levy* in 2001 suggested that the FFL could be viewed as an unwillingness to tinker too much with the market for a system of electricity generation that had taken so long to implement and would take another eleven years to develop into the New Electricity Trading Arrangements (NETA) in 2001. Ironically, one of the criticisms from the business community was that the FFL ultimately harmed competitiveness: a theme that was to recur periodically over the next two decades in relation to implementing regulatory sanctions on polluters.

4. Harnessing the ‘information economy: giving consumers choices

Recognizing the multi-faceted nature of energy use – i.e. the dynamics of demand consumption as well as supply considerations – the 1990 White Paper also proposed other measures which it hoped to integrate more directly into mainstream initiatives on sustainable development and environmental policy. Working on the basis that market failures often occur due to asymmetric or unclear price signals, the White Paper argued that there should be more information available to both producers *and* consumers regarding the costs and benefits of environmental objectives. These ‘information policies’ were initiated on the premise that efficient economies function according to how well they link together and process information. Thus, according to free-market economics, producers respond to information on demand and consumers buy according to a range of choices. Therefore, the *Energy Efficiency Office* was set up to advise on energy use in buildings and industry ‘in order to encourage people to make energy efficiency improvements at home and at work’ (HM Government, 1990:69). This was also underpinned by the *Home Energy Efficiency Scheme* which advised on energy efficiency for householders and also offered grants to enable those on low incomes to make energy efficiency improvements. Therefore, it was hoped that fine tuning demand to offer cheaper cavity wall insulation or energy efficient light bulbs for instance, would lead to an expanding market in energy efficient products. There were also plans in place to implement tougher regulations in regard to energy efficiency measures in new homes. Again it was hoped that tougher building regulations would encourage behaviour change in the building industry in order to reduce pollution from the housing and commercial building sector. At this stage, energy efficiency initiatives remained primarily within the realms of providing information to producers and to consumers rather than imposing regulation. Working on the basis that the market had so far been unable to integrate such schemes more fully into its design due to a lack of information

regarding environmental aims and objectives, such initiatives were introduced with the intention of developing particular signals at the demand end of the market which suppliers would in theory pick up on.

The drive to exploit the information economy in the UK in this way dovetailed with the EU's own initiatives which began coordinating national initiatives on product labeling. A good example of this was the 1992 introduction of the EU Eco-Labeling Scheme (EU ELS). Again, it was argued that by starting to provide consumers with better information on the environmental quality of products and services, they would be able to make more informed environmental choices in their purchases (European Commission, 2007:3). The *information* and *voluntary* approach to this policy meant that change could be engendered without imposing potentially harmful taxation on firms in regard to the carbon footprint of their products. Instead, through a *market incentive* approach, companies rating the ecological footprints of their products would be accredited through an 'eco-flower': a 'credibility brand' which would hopefully attract consumers who wished to buy green label products, acting on the information supplied on participating companies' labels. The policy also developed a stakeholder approach to developing the labels themselves, whereby design, marketing and policy decisions engaged consumers themselves in the process. Eco-labelling offered incentives to companies looking to 'brand' their products within a greener idea of consumerism. The whole idea was that eco-labelling would foster a 'consciousness raising' process from the supply chain down to consumer level on the market potential of environmentally friendly products. Eco-labelling has been illustrative of how environmental goals can be complementary to a market approach to regulation. While the EU ELS was designed to raise environmental awareness and 'provide information to the marketplace about things such as product energy use and the carbon footprint of the life-cycles of products, it also aimed to standardize environmental aims in line with the objectives of the Single Market.

5. Vehicle use and road transport

The 1990 White Paper also acknowledged the problem of pollution levels from road transport where it now 'accounted for 20% of our total carbon emissions' (HM Government, 1990:72). This paved the way for a series of policies which were designed to try to address pollution from road transport and the dynamics of vehicle use. A series of policies aimed at this sector began during the Conservative reign and continued after the New Labour Government came to power in 1997. Again, as an example of where the market was working to address pollution from the transport sector, the 1990 White Paper pointed out that vehicle manufacturers had made significant progress in improving the fuel efficiency of vehicles in the wake of a series of EU directives. However, the problems in regulating pollution from the transport sector also began to illustrate some of the difficulties that the UK Government would have to face in reconciling market principles with consumer behaviour. This became a particular political sticking point during the Conservative reign in the 1990s where the emphasis upon 'market sovereignty', which they themselves had introduced, illustrated some of the difficulties now faced by

governments if they attempted to impose taxation measures on certain activities. One of the intentions behind the *Fuel Price Escalator* (FPE), which was introduced in 1993, was to begin to address the effects of road transport pollution on the environment. It did this by increasing taxation on road fuel as a way of discouraging unnecessary vehicle journeys. Relatedly, the FPE was also seen as an indirect means of cutting the need for future new road building projects. During this period, there had been intense lobbying from environmental groups who had pointed to the contradictions that were apparent in, on the one hand promoting environmental goals as a fundamental policy objective, and then unveiling plans for extensive road building projects. Some critics were more cynical of the environmental intentions behind the FPE, seeing it first and foremost as a way through which to increase Government revenue.

It was this last criticism which saw the abandonment of the FPE during the first period of office of the New Labour Government. CO₂ levels *did* fall during the period leading up to 1997; however this was seen more as a result of industry changes implicated in the 'dash for gas' than any predetermined government policy initiatives such as the FPE (Helm, 2004). Glaister and Graham (2007:3) confirm this argument in pointing out that the FPE had 'a modest effect on fuel consumption and even less effect on traffic growth'. However, the biggest repercussions came when taxation levels set in the FPE began to parallel the oil price rises at the turn of the century. Country-wide fuel demonstrations in 2000 at what were now the highest fuel prices in Europe served to illustrate some of the limitations that governments would now face in reconciling more direct taxation measures with popular electoral support (Guardian Unlimited, 2000).

6. The problem of integrating science and economics

Ingham and Ulph (2005) point out that one of the principal dilemmas for policy-makers in constructing effective policies concerns the high degree of uncertainty which frames and conceptualizes climate change science. Certainly within more market-driven conditions, governments and policy-makers cannot currently operate from within clear-cut assessments and predictions concerning the time, scale, and economic and social indicators of future scenarios. As Ingham and Ulph reason, there can be no concrete measurement of future impacts through which to ground policy initiatives which are able to predict 'future changes on society and the economy, the extent of adaptations that might take place, and the economic value to be attached to these impacts' (Ingham and Ulph, 2005:43). This means that policy-makers cannot simply impose direct political solutions for instance around an effective 'price' for carbon. In relation to this, there is also the issue of 'short-termism' associated with the UK electoral process. Consistency in political intervention cannot be guaranteed unless there is consensus between political parties over the kinds and types of intervention that are to be implemented. This can mean that, while governments and many experts argue that faith in the market will yield technological breakthroughs in the battle against climate change, there is often a reluctance to invest in particular sectors or technologies because of the risk of changes in regulation. As Atkinson has pointed out, in addition to this,

The future of the UK energy sector is inevitably entwined in its history. Possibly more so than most industrial and commercial sectors, the legacy of decisions made by previous governments under different conditions not only determine the starting point for future strategies, but also frame the range of strategy options that are available and acceptable to achieve future policy goals (Atkinson, 2007:9).

In this way, the increasing recognition of the link between climate change and conventional energy use came at a time when the UK Government was right in the middle of overhauling state run energy utilities so that they could be aligned with market conditions. In reality this meant that governments could no longer impose direct regulation – as would have been easier under conditions of nationalization – without the agreement of the private sector. As argued above, this had the effect of conditioning the extent to which environmental measures were integrated into mainstream policy during the Conservative reign. This was also the situation which conditioned the policies of the incoming New Labour Government in 1997 although by now, the environment had started to become a more pressing issue.

7. Designing energy policy 1997 – 2007: reconciling markets and politics

Energy policy was not a priority issue for the New Labour government when it came to office. There were no radical plans to change the *Market for Energy* approach bequeathed by the Conservatives in 1997. However, it soon became clear that issues such as climate change – and growing security of supply concerns – could not necessarily be solved by promoting more deregulation, more liberalization, and more privatization – the main solutions offered by the *Market for Energy* approach to solve any policy gaps that had appeared during the Conservatives' overhaul of state-owned energy utilities. Perhaps the principal dilemma – which gradually became a more pressing issue for the New Labour Government – was that market-driven energy demand would need to undergo a rethink on the interface which occurred between the primacy of economics and the role, degree and style of policy interventions which could be implemented.

Miliband (2007) has pointed out that the Conservative Government was never the best placed political party to deal with the threat of climate change and the other issues concerning more recent energy policy dilemmas. In particular, he suggests that their failure to recognize climate change as a form of market failure during their time in office for instance is particularly unhelpful in enabling the construction of an effective policy agenda. Miliband challenges the suitability of the core ideals of conservative thinking to the current conditions of UK energy policy in three different areas: Euroscepticism; uncritical faith in the primacy of free markets; and continued adherence to the belief in a minimal state. Each of these three areas, he argues, can be comfortably integrated into New Labour's 'modernization agenda':

- *Euroscepticism*: firstly, climate change challenges the idea of national sovereignty over decision-making. Climate change is the defining example of interdependence and the need to pool powers in international institutions;
- *The primacy of free markets*: secondly, climate change challenges conservatives' attachment to free markets. Markets work when the price of goods reflects their

value. But climate change is the defining example of market failure – where the price does not reflect the cost to the environment. The need to account for the interests of future generations trips up even the most thoughtful free marketers;

- *A minimal state*: thirdly climate change challenges conservatives' dogmatic distrust of the state – to regulate and tax, to subsidize if necessary, and to define and enforce property rights. This is why the substance of national action – it is simply not enough to implore greater responsibility from individuals for a problem that needs organized collective action (Miliband, 2007:342).

Miliband points out that it is in these three critical areas that New Labour can develop effective policies through which to combat climate change: ones which are able to go beyond the limitations of the Conservatives' narrow focus on market-led problem-solving.

8. Overcoming Euroscepticism: closer collaboration with Europe

Firstly, Miliband has argued that the global implications of climate change mean that the UK can only work at constructing effective policies through a closer relationship with the EU. Energy markets are also much more international in scope meaning that issues such as supply security are more effectively dealt with at a European level of negotiation. Therefore, the most significant action during the first term of the New Labour Government in regard to displaying their environmental credentials was to sign up to the Kyoto Protocol in 1997. While the previous Conservative administration had endured a somewhat uneven relationship with the institutions of Europe – characterized for instance by disagreements over the contents of the social chapter at Maastricht, the economic problems concerning the Exchange Rate Mechanism in 1992, and the BSE crisis – New Labour argued that a strengthened EU, with the UK at the centre – was the only way forward in tackling the new environmental challenges.

Agreed between eighty-four national signatories in 1997 – the Kyoto Protocol informs and underpins the predominant agenda at both global and national levels on policies regarding climate change. Grubb *et al* (1999) have pointed out that while criticisms of Kyoto concern its failure to incorporate the US and China – the two largest industrial polluters – the agreement has been significant in that it has added 'teeth' to the longer term aims of the United Nations Framework Convention on Climate Change. The Kyoto Protocol was significant in that it replaced the voluntary initiatives agreed five years earlier in the Rio Declaration with a set of legal arrangements binding the forty nations of the Annex II group to 'limit their greenhouse gas emissions by at least 5 per cent below 1990 levels' (Albrecht, 2002:1). The UK was now part of a more concerted European effort in negotiating the terms of agreement for the Treaty. The UK's own emissions levels had fallen over the previous decade and it was felt by political leaders that the UK was ready to sign for a 12.5% reduction in emissions by 2012 based on 1990 levels. Consensus within the party also held that the UK itself was keen to be part of a stronger European approach to environmental regulation. Thus, from 1997, the UK became part of the

European instigated dialogue which would begin to develop the European Union Emissions Trading Scheme; the Clean Development Mechanism (CDM); and the Joint Implementation Device (JID).

8.1 Trading carbon within the EU

The main policy mechanism of the Kyoto Protocol is the European Union Emissions Trading Scheme (EU ETS). The principal aim of the EU ETS is to apply the procedures laid out in the Kyoto Protocol in targeting what are considered to be the most energy intensive sectors in industry and commerce in order to reach both the EU's Kyoto commitment of an EU average 8% reduction in CO₂ emissions by 2012. In order to fulfill this obligation, the UK's target was set at 12.5%. The UK Government aims were that the EU ETS would become the main weapon in the fight against climate change and would also address its own targets of a 20% reduction in greenhouse gas emissions by 2010 and also the most recent target of a 60% cut by 2050.

While principally constituting a market mechanism, the UK Government argued that the EU ETS would eventually form the backbone of an international trading market in carbon. In order to facilitate 'first mover' experience in ensuring UK competitiveness within the framework of the EU ETS, the UK Government oversaw the advent of the UK Emissions Trading Scheme (UK ETS) in 2002 – the first ever carbon trading market. The UK ETS was representative of the New Labour's Government's concern that new environmental policy instruments would be primarily concerned with 'providing opportunities for business through creating new markets and new products, increasing competitiveness, building customer trust and the development of new technologies' (Malmberg and Strachan 2005:144). The government also argued that in initiating its own carbon trading scheme, it would provide an exemplar for nations who showed a reluctance to ratify Kyoto.

The Clean Development Mechanism is not intended to replace emissions trading as a way in which to reach agreed pollution quotas but is seen as a way in which a compromise and to integrate global *mitigation and adaptation*. The CDM enables Annex I nations to invest in 'offsetting' projects in Annex II countries. Theoretically, the CDM offers a degree of flexibility and potentially a less market based approach in reducing global 'net emissions'. Proposals must also show that the contribution will provide 'additionality' to the host country by way of contributing to the United Nations Framework Convention on Climate Change (UNFCCC) goal of promoting sustainable development in Annex II nations. As Vernon (2006:102) points out, the critical stipulation framing the policy aim of CDM projects is that 'they must result in a reduction to greenhouse gas emissions beyond what would have been the case without the project'.

The Joint Implementation Device (JID) was introduced as one of the two 'flexible mechanisms', alongside the CDM, agreed at the Kyoto Protocol negotiations (Department of Trade and Industry, 2007). As with the CDM, the JI is designed to promote a degree of maneuverability within the overall Kyoto policy aims to cut CO₂

emissions by 8% across the EU member states. Under the terms of the JI, participating countries are able to obtain credits for subsidizing an emission reduction project that is taking place in another Annex I country.

9. Challenging the primacy of free markets: addressing market failure through 'third way modernization'

In a speech by Tony Blair in 1994 he reasoned that the Conservative regime that was currently in power were 'not a meritocracy but a power elite of money-shifters, middlemen and speculators, people whose self interest will always come before the national or public interest' Blair (1994:16). Miliband has argued that it is very difficult to access the collective element of the environmental debate through this kind of individualistic philosophy, where it must be embedded within issues of social justice and democratic engagement. He asserts that markets alone will not solve the environmental issue, reasoning that the worst excesses of the free market project overseen by the Conservatives were a *part* of the problem and were instrumental in creating a socially corrosive gap between the rich and the poor. Therefore, the idea of what has become known as the third way, saw the incoming New Labour Government of 1997 make a commitment to putting the environment at the centre of the new regime but within a framework whereby economic progress was complementary and not contradictory to social and environmental progress.

One of the ways in which New Labour's modernization programme was to be achieved was to be by evaluating change and progress through setting specific targets. While the Conservatives had made a loose commitment in the 1990 White Paper to a 20% reduction in carbon emissions by 2005, it could be reasonably argued that this only amounted to an aspiration. In beginning to set specific targets, the New Labour Government reasoned that they could be *evaluated* in relation to progress made towards stated policy aims. In regard to climate change, many of the policies now introduced were characterized by specific targets in different sectors; from efficiency goals, renewable targets, to CO₂ reduction targets. The first domestic targets of a 20% reduction in emission levels by 2010 in accord with 1990 baseline levels have set a precedent for a series of targets on CO₂ levels which have culminated in pledges to reach a 60% reduction by 2050. As argued above, the UK's Kyoto commitment was also established at a 12.5% reduction by 2012.

Policies designed to address carbon reduction were all now designed with specific targets. The *Renewables Obligation* (RO) for example, introduced in 2002, now set periodic targets for suppliers to source a growing annual percentage of electricity from renewable energy sources. The *Climate Change Levy* (CCL) then put greater clarity into some of the environmental aims of the FFL in order to reward end energy users who were able to source from an agreed percentage of renewable energy, or who were able to successfully implement priorly agreed energy efficiency targets through the government's 'climate change agreement'. Setting targets now became a much more integral part of environmental policies under New Labour's modernization agenda.

9.1 Framing policy within sustainable development

New Labour argued that the key to achieving economic, social and environmental goals within a market framework was to gain a better understanding of the root causes of market failure. This has arguably provided something of a dilemma for a government which had clearly stated its commitment to a continuation of the twenty year privatization of the UK's energy utilities which had been overseen by the previous Conservative regime. Therefore, while *Tax and the Environment: Using Economic Instruments* (2002) the blueprint for the UK Government's current energy strategy pointed out: 'the Government believes that, in general, markets provide the best means of allocating a society's resources' (HM Government, 2002:1), it added the proviso that, as long as they were understood, market failures can be addressed through timely and effective types of government intervention. In relation to the problem of climate change for instance, it reasoned that:

Market failures can exist where the costs of environmental damage are not reflected in the prices of goods and services; where environmental improvements can only be achieved by society acting collectively rather than individually; or where decision-makers do not have clear information about how best to reduce their costs. If the Government intervenes to correct these market failures efficiently it will achieve better environmental outcomes as well as greater overall economic efficiency. Intervention needs to take account of the dynamic nature of markets and the long-term nature of many environmental problems, and of the potential for innovative solutions to be developed. There are many different ways in which the Government can intervene and it needs to ensure that any intervention is effective in achieving its objectives, and that the benefits are likely to justify the costs (HMG, 2002:1).

As illustrated in the above statement, *Tax and the Environment* made the case that this government *was* prepared to intervene in the economy if the nature of market failure could be established in order to clarify the costs and benefits. Environmental taxation, it argued, 'must meet the general tests of good taxation. It must be well designed to meet objectives without undesirable side effects; it must keep deadweight compliance costs to a minimum; distributional impact must be acceptable; and care must be had to implications for international competitiveness' (HM Government, 2002:5). Therefore, *Tax and the Environment* established a set of indicators which would inform the *objectives* of environmental policy. Drawing on 1999's *A Better Quality of Life: a Strategy for Sustainable Development*, the document set out a range of sustainable development indicators through which policy initiatives on climate change can be assessed by type and preference:

Maintaining high and stable levels of economic growth and employment

- Total output of the economy (GDP);
- Investment in public, business and private assets; and
- Proportion of people of working age who are in work.

Social progress which recognizes the needs of everyone

- Poverty and social exclusion (fuel poverty etc);
- Qualifications at age nineteen;
- Expected years of healthy life;

- Homes judged unfit to live in; and
- Level of crime.

Effective protection of the environment

- Emissions of greenhouse gases;
- Days when air pollution is moderate or high;
- Road traffic;
- Rivers of good or fair quality;
- Populations of wild birds; and
- New homes built on previously-developed land.

Prudent use of natural resources

- Waste arisings and management

Costs and benefits would now be assessed through a much broader set of indicators which were often required to take account of 'softer' or qualitative impacts than those under the previous government had. Policies such as *Warm Fronts* (through grant aid relief) and the *Energy Efficiency Commitment* were now designed to address fuel poverty, regeneration and social exclusion for example, as well as the growing CO₂ problem in residential housing. The New Labour government argued that policies were now to be judged much more in terms of giving 'added value' to related policy goals.

9.2 Appropriate government intervention: modernizing the minimal state

In opposition to the Conservatives' argument that the state must take a backseat to the market as a regulating mechanism, New Labour have reasoned that the complexities of policy-making in the current age require a new settlement between state and market. It is argued that pragmatism must transcend ideology. As Miliband reasons, policies which emphasize market elements such as carbon trading should be one tool amongst others, contributing to a *mix* of policy initiatives such as 'regulation, tax, subsidy, planning, procurement, *and* the transformation of markets' (2007:345).

The Labour government has shown that they are not afraid to introduce more direct taxation measures when appropriate. As emissions again began to rise towards the end of the 1990s the need to address the transport sector became a particular issue. As Bradbeer (2001:97) has pointed out: 'transport now accounts for a quarter of the UK's greenhouse gas emissions'. Both the *Road Tax Calculator* and the *London Congestion Charge* were more direct taxation measures which were put in place to try to curb the rise in CO₂ emissions that accompanied the growth in car sales and road use in the second half of the 1990's when they began to threatened international and domestic CO₂ targets. The *UK Landfill Tax* was also made liable to more punitive annual taxation measures – and also increasingly stringent targets – than the rate which had been set by the Conservatives.

The government argued that the almost intractable nature of the science and economics of climate change meant that state intervention would need to be

exercised through a widened problem-solving approach. While the state would take a greater degree of responsibility for intervening where the market failed, it was argued that governance should now aim to be regionally, community or local led where appropriate. Miliband (2007:348) argues that engaging citizens and mobilizing communities into a modernized form of governance will be an essential aspect in targeting energy demand where '44% of all emissions are by individual households, most of which come from four transactions: electricity and gas in our homes, and car and air travel'.

10. Conclusion

The search for a balanced mix of policies which will be effective enough to address the complexities of climate change was put into sharp focus in 2000 by the 2000 *Royal Commission Report on Environmental Pollution* argued that the New Labour Government. The report argued that in many ways New Labour had been lulled into a false sense of optimism concerning its ambitious early targets on CO₂ emissions. The Royal Commission pointed out that one of the main reasons for the decline in the UK's levels of CO₂ emissions during the 1990s had been primarily the 'benign effect' of the switch from coal to gas in electricity generation. The Report was instrumental in underlining the dilemma which was now facing the UK Government where market driven developments such as increased road and air travel were now accompanied by an overall increase in energy demand (Goodall, 2007). In fact, one of the principal themes developed in the Commission report was to point to the ways in which the liberalization of energy markets – particularly the emphasis on low consumer prices – had been an instrumental factor in facilitating the conditions for growth in energy choice, use, and intensity.

While the Royal Commission pointed to the limitations of present policy initiatives in reaching 2010 targets, it argued that more stringent, long-term targets needed to be put in place in order to address the urgency of the climate change debate. It therefore recommended that the UK Government revise existing policy in order to plan for a 60% reduction in greenhouse gas emission by 2050 – due to become a legal entity in the forthcoming Climate Change Bill. The fact that the UK Government is required by law to respond to the RC's recommendations has subsequently seen the appearance of two Energy White Papers in 2003 and 2007 where policy-makers continue to strive for an effective framework through which to accommodate the new conditions of UK energy regulation.

References

- Albrecht J. (2002) *Instruments for Climate Policy: Limited versus Unlimited Flexibility*. Edward Elgar, United Kingdom
- Atkinson J. (2007) *Market Influences on Low Carbon Energy Designs in Buildings*. Unpublished EngD Environmental Technology, Centre for Environmental Strategy, University of Surrey
- Blair T. (1994) *Speech to the Labour Party, Annual Conference 1994*
- Bradbeer J. (2001) 'UK environmental policy under Blair'. In Savage S. and Atkinson R. (eds) *Public Policy Under Blair*. London, Palgrave
- Brundtland Commission Report (1987) *Our Common Future*. Oxford, Oxford University Press
- European Commission (2007) *Green Store Eco Label Catalogue*.
http://ec.europa.eu/environment/ecolabel/tools/faq_en.htm#1
- Glaister S. and Graham D. (2007) 'The effect of fuel prices on motorists'.
<http://216.239.59.104/search?q=cashe:fjHSyKtgGmwJ:www.aatrust.com/files/reports>
- Goodall C. (2007) *How to Live a Low-Carbon Life: The Individual's Guide to Stopping Climate Change*. London, Earthscan
- Guardian Unlimited (2000) 'The petrol crisis: what happens next'.
<http://www.guardian.co.uk/theissues/article/0,6512,337786,00.html>
- Grubb M, Vrolijk C, and Brack D. (1999) *The Kyoto Protocol: A Guide and Assessment*. London, Royal Institute of International Affairs
- Helm D. (2004) *Energy, the State, and the Market*. Oxford, Oxford University Press
- Helm D. (2005) 'the assessment; the new energy paradigm'. *Oxford Review of Economic Policy*. Vol. 21, No. 1
- HM Government (1990) *This Common Inheritance: Britain's Environmental Strategy*. London, HMSO
- HM Government (1999) *A Better Quality of Life: A Strategy for Sustainable Development*.
<http://www.sustainable-development.gov.uk/publications/uk-strategy99/index.htm>
- HM Government (2002) *Tax and the Environment: Using Economic Instruments*.
<http://www.hm.treasury.gov.uk/media/3/A/adtaxenviron02-332kb.pdf>
- HM Government (2005) *Securing the Future: Delivering UK Sustainable Development Strategy*. St Clements House, HMSO
- McCormick (1995) *The Global Environmental Movement (2nd Edition)*. London, John Wiley
- Malmberg F. and Strachan P. (2005) 'Climate change policy, ecological modernization and the UK Emission Trading Scheme'. In *European Environment*. Vol. 15, pp 143-160

- Miliband D. (2007) 'A greener shade of red'. In N. Pearce and J. Margo (eds) *Politics for a New Generation*. London, Palgrave
- Ingham A. and Ulph A. (2005) *Uncertainty and Climate-Change Policy*. In Helm D. (ed) *Climate-Change Policy*. Oxford, Oxford University Press
- Newbery D. (2001) *Privatization, Restructuring, and Regulation of Network Utilities: the Walras-Pareto Lectures*. London, MIT Press
- Royal Commission (2000) *Report on Environmental Pollution*. <http://www.rcep.org.uk>
- Stern N. (2006) *The Economics of Climate Change: The Stern Review*. Cambridge University Press
- Vernon J. (2006) *Environmental Management Report: Focus on Climate Change*. Formara, Great Britain
- Watts D. (2007) *Pressure Groups*. Edinburgh, Edinburgh University Press

Appendices: summaries of energy-related environmental policies in the UK 1989 - 2007

Policy Summary 1:

Fossil Fuel Levy (FFL)

Country:

United Kingdom

Time span:

1990 – Present

Regulating agency:

OFGEM

Policy goals:

The FFL was introduced as part of the Electricity Act in 1989 where its role was to raise the revenue for the Non-Fossil Fuel Obligation (NFFO). Within this remit, the FFL had two goals:

- 1) It was primarily 'a means of raising revenue from fossil fuel generation to fund renewables and particularly nuclear power' (Newbery, 2001:415);
- 2) The FFL/NFFO combination was also an early attempt to address the growing awareness of the problem of climate change and its link to fossil fuel consumption by providing a subsidy to the use of non-fossil fuels in electricity generation;
- 3) The FFL itself was used to compensate electricity suppliers for any financial shortfalls met by these obligations – a policy that was directed by the aims of the NFFO – to source a degree of power from nuclear energy and renewables.

What was the policy function?

The original goals of the FFL were set within the context of the Electricity Act of 1989 and, in particular the NFFO. The privatization of the Central Electricity Generating Board (CEGB) began the process of breaking up the previously monopolized, vertical structure of the CEGB where it was now split up and auctioned off to private ownership. The FFL was the economic instrument that directly helped to subsidize the uncompetitive nuclear industry within these new market conditions. It was feared that as the nuclear industry continued to remain under public ownership then this would act as a disincentive to investors. Nuclear energy contributed approximately 20% to electricity production and the danger was that the newly formed companies would look to the cheaper gas and coal markets to increase profitability. The role of the FFL in informing the aims of the NFFO during the subsequent development of the policy, and its expansion to incorporate renewable sources of energy into the electricity market, was also seen as a way in which to deal with the growing influence of the climate change debate.

How did the policy work?

The FFL charged electricity suppliers according to a fixed percentage of fossil-fuel use in electricity production. The idea here was that this would act as an *incentive* to sourcing the nuclear option as well as renewable energy. The rate of this taxation was reset from time to time throughout the life of the policy with the charges then passed on to customers through their electricity bills. As Helm (2004:350) argues, 'the scale of the levy and its price rises, reflected overwhelmingly the funding of nuclear liabilities, and its sharp fall at the end of the period was part of the arithmetic – and politics – of nuclear privatization'. An agency appointed by the electricity regulator OFGEM collected the levy from the FFL where the revenue was then passed on to the Non-Fossil Purchasing Agency (NFPA) which, 'in turn, distributed it to non-fossil fuel generators as a subsidy on electricity produced' (Helm, 2001:350).

Effectiveness of the policy

Although the FFL was effectively a nuclear tax, its support of renewables suggests that at least part of the remit of the FFL was to begin to introduce the idea of policies that could address the growing problem of climate change and the environmental link to fossil fuel consumption. However, as Helm (2004:350) argues, the actual impact of the FFL on climate change was fairly negligible. In particular, Helm points out that the renewables sector constituted no more than a political lobby and remained no more than a marginal concern of the FFL. This view arguably reflects the fact that the principal aim of the policy had been to subsidize the nuclear industry. In these terms the FFL did play an important role in helping to keep a proportion of electricity production generated by nuclear power.

The BWEA suggest that the FFL was one of the factors which set the scene for the higher profile of renewables in today's energy mix in the UK where it points out that 'the UK now has over 60 operational wind farms, and many more single turbines, with a total installed capacity of over 412 MW' (BWEA, 2007:1). It suggests that these developments can be partly traced to the legacy of the NFFO/FFL policy combination.

What has happened since?

One of the main criticisms of the FFL was that its original levy was set at 10%: making it a burden on competitiveness. Subsequently, as the British Wind Energy Association (BWEA) points out: 'In 2000, it was announced by the UK Government that there would be no further NFFO orders and that future supporting arrangements would be an obligation on electricity suppliers to contract (or 'buy out' their obligation to contract) an increasing percentage of electricity from renewable sources' (BWEA, 2007:1). While the FFL is still in existence, the levy is currently set at 2.2%. The Climate Change Levy and the Renewables Obligation now have more central roles in regulating the UK electricity industry in regard to climate change and competitiveness.

References

British Wind and Energy Association (2007) 'NFFO and the Fossil Fuel Levy'. <http://www.bwea.com/ref/nffo.html>

Helm D. (2004) *Energy, the State, and the Market*. Oxford, Oxford University Press

Newbery D. (2001) *Privatization, Restructuring, and Regulation of Network Utilities: the Walras-Pareto Lectures*. London, MIT Press

Policy Summary 2:

Fuel Price Escalator (FPE)

Country:

United Kingdom

Time span:

1993 – 1999

Policy goals:

The FPE had two principal goals: 1) it was seen as a way of raising government revenue through increased taxation on fuel and; 2) it was seen as contributing to environmental goals through discouraging unnecessary road journeys.

What was the policy function?

The FPE was designed to address the growing politicization of the effects of road transport and fossil fuel pollution on climate change. It was considered to be a policy mechanism that would achieve this in two ways:

- 1) By increasing taxation on road fuel as a way in which to cut CO₂ emissions by discouraging unnecessary road use;
- 2) As an indirect means of cutting the need for future new road building projects: the subject of intense lobbying from environmental groups;
- 3) Lastly, the FPE was seen as a way through which to increase Government revenue.

How did the policy work?

The FTE was set by the Treasury to function at an annual incremental increase of 3% ahead of the rate of inflation. Taxation levels were independent of the duties that were already linked to the market price of oil. On its introduction it added three pence to a litre of fuel and raised taxation on unleaded petrol to 72.8 % of the total cost. The last budget raise to the policy was made in 1999 when it was scrapped.

Effectiveness of the policy

- The FPE had 'a modest effect on fuel consumption and even less effect on traffic growth' Glaister and Graham (2007:3)

- While CO₂ levels *did* fall during the period leading up to 1997, this was more a result of industry changes implicated in the 'dash for gas' than any predetermined government policy initiatives (Helm, 2004).
- The FPE precipitated a range of *disproportionate social effects* where critics claimed that low income groups and individuals were the shouldering most of the burden;
- Country-wide fuel demonstrations in 2000 illustrated the limitations in government response in being able to reconcile these kinds of taxation measures with popular electoral support. This was particularly the case with the FPE where consumer discontent concerned increased taxation *and* high fuel duty levies (Guardian Unlimited, 2000);
- Critics such as Glaister and Graham (2007) pointed out that an effective climate policy was likely to be more effective in encouraging changes in the *supply* side of both the motor trade and the oil industry rather than changing behaviour at the demand end.

What has happened since?

Environmental groups and organizations continue to be unhappy about the scrapping of the FPE alongside what has been seen as a 'dumbing down' of other associated tax levies on fuel consumption. Groups such as Friends of the Earth (2000) argue that higher taxes are essential policy mechanisms in addressing climate change, particularly in beginning to change the behavioural norms that often characterize vehicle use. In opposition to the time-span of research produced by analysts such as Glaister and Graham, many environmental groups argue that policies such as the FTE were not given time to mature as *long-term* strategies in directing people to cut down on unnecessary journeys, to use smaller, more fuel efficient vehicles, to make greater use of public transport, or inform decision-making on future road construction.

References

Friends of the Earth (2000) *Green Fuel Tax*.

<http://www.foe.co.uk/pubsinfo/briefings/html/20001102081826.html>

Guardian Unlimited (2000) *'The petrol crisis: what happens next'*.

<http://www.guardian.co.uk/theissues/article/0,6512,337786,00.html>

Glaister S. and Graham D. (2007) *'The effect of fuel prices on motorists'*.

<http://216.239.59.104/search?q=cashe:fjHSyKtgGmwJ:www.aatrust.com/files/reports>

Helm D. (2004) *Energy, the State, and the Market: British Energy Policy since 1979*.

Oxford, Oxford University Press

Policy Summary 3:

EU eco-labeling scheme (EU ELS)

Country:

United Kingdom

Time span:

1992 – Present

Implementing agency: DEFRA in consultation with stakeholder input from industry, commerce, environmental and consumer organizations, and trades unions.

Policy goals:

The EU Eco-labeling scheme has two principal policy aims:

- a) Promoting the design, production, marketing and utility of consumer products and services that display a reduced environmental, life cycle impact;
- b) To provide consumers with better information on the environmental quality of products and services, to help them make informed environmental choices in their purchases (European Commission, 2007:3).

What is the policy function?

The EU ELS was designed to raise environmental awareness and ‘provide information to the marketplace about the general or specific environmental properties of a product or service’ (Vernon, 2006:82). While national standards exist in many EU member states regarding objectives such as energy use and the carbon footprint of product life-cycles, the EU ELS attempts to standardize these aims in order to *harmonize* market objectives whilst simultaneously pursuing the *external status* of environmental aims. The policy furthermore operates on a decentralized basis whereby stakeholder involvement is a central aspect of the policy structure.

How does the policy work?

Industrial and commercial producers who apply to the EU ELS are applying for use of the EU ‘eco flower’ to brand their particular product on the marketplace. In order to apply, producers must demonstrate their green credentials through adherence to existing international standards that have been set out as guidelines ‘for various forms of environmental labels and declarations and for environmental labeling programmes’ (Vernon, 2006:82). As Vernon points out, in relation to climate change for instance, products may be eligible for the EU Eco Flower in a number of ways:

- Where organizations use labels or declarations as a tool for communicating on greenhouse gas emissions, ISO 14020 will provide guiding principles to ensure that any communications are accurate, verifiable, transparent, relevant and not misleading;
- Where companies wish to make self-declarations about climate change related aspects of their products and services, ISO 14021 will provide specific principles for such claims to ensure accuracy and transparency and prevent deception. In

- addition, the standard will provide specific definitions and requirements for several commonly used claims, such as 'energy efficient'; and
- Where external eco-labelling programmes are being established, ISO 14024 will recognize that climate change issues, such as energy use, can be taken into account when developing criteria

The EU ELS currently covers a range of products such as: cleaning products, home and garden products, clothing, lubricants, and tourism services. The scheme is open to any product apart from food, drink, pharmaceuticals and medical devices (European Commission, 2007:3).

Effectiveness of the policy

DEFRA (2007) have argued that so far the EU ELS has had limited impact where one of the main reasons is that 'the label does not currently operate in the areas of food and drink, private transport, and housing where environmental impacts are greatest'. The non-inclusion of these areas serves to account for 70-80 per cent of private consumption impacts on the environment. DEFRA point out that several hundred products – both in the UK and in the EU as a whole – now carry the eco-flower and, over time, the policy has served to inform more *indirect* impacts as opposed to purely measurable outputs. They point out that there is now a 'consciousness raising' process taking place from the supply chain down to consumer level where individuals are gradually becoming more aware of the environmental impacts of particular goods.

What has happened since?

The European Commission points out that the *voluntary* and *information led* nature of the EU ELS mean that it will act as a cultural lever in effecting long term change in both industry and consumption practices. Secretary of the Environment David Milliband argues that a new eco labeling scheme for food is being considered in the UK. Tesco, Asda, and Marks and Spencer have all considered signing up to this and labeling according to environmental concerns. Milliband argues that: 'this scheme could cover a range of factors including energy inputs, fertilizer use, soil management, waste management and water'.

References

Department of the Environment, Food, and Rural Affairs (2007) '*Consumer products and the environment*'.

<http://www.defra.gov.uk/environment/consumerprod/ecolabel/faq.htm>

European Commission (2007) *Green Store Eco Label Catalogue*.

http://ec.europa.eu/environment/ecolabel/tools/faq_en.htm#1

Telegraph.co.uk. (2007) '*Eco-label will create green standard for food says Milliband*'.

<http://telegraph.co.uk/news/main.jhtml?xml=/news/2007/02/26/neco26.xml>

Policy Summary 4:

Home Energy Conservation Act (HECA)

Country:

United Kingdom

Time span:

1995 – Present

Implementing agency:

Local Authorities

Policy goals:

The aim of HECA has been to address, monitor and assess residential energy use in order to devise ways and strategies through which to 'increase residential energy efficiency in their particular area by 30% over the next 10-15 years' (Jones *et al*, 2000).

What was the policy function?

HECA was introduced in 1995 as part of a move by the UK Government to devolve responsibility for exploring ways through which to foster greater energy in the residential housing sector. As Jones *et al* (2000:201) point out, 'residential energy use accounts for approximately 28% of total primary energy use in the UK, with consumption in this sector forecast to increase due partly to expanding numbers of households'. As well as being a policy initiative which would address the volume of CO₂ emissions from household energy use, other goals of the HECA were to enable local authorities to play a central role in reducing energy demand – in relation to macro-economic goals relating to security of supply – and to contribute to the eradication of fuel poverty through more efficient energy use in the home.

How did the policy work?

As Jones *et al* (2000:203) point out, the principal intention of the HECA has been to exploit the position of local authorities as a way through which to access the energy profile of the residential sector, primarily through their role as public service providers. Therefore, plans were expected to incorporate a strong element of identifying local energy behaviour, particularly in relation to potential variables such as those related to class, income and/or geographical status.

In line with the principles which were agreed upon in the *Local Agenda 21* part of the Rio Declaration, the HECA decreed that local authorities in the UK with housing responsibilities were required to produce an energy efficiency report – to be submitted to the Secretary of State – identifying:

- Practicable and cost-effective measures to significantly improve the energy efficiency of all residential accommodations in their area;
- Yearly reports to be submitted on progress made in implementing the measures (DEFRA, 2007:1).

In effect, the HECA would give local authorities the status of Energy Conservation Authority (ECA) with strategies formulated on the basis that each blueprint would enable 'each ECA to identify cost effective and practical measures which will result in a target reduction of 30% in home energy consumption (with resultant reduction in CO₂ emissions), over a ten-year period 1997-2007 (Aberdeen City Council, 2007:1).

Effectiveness of the policy

DEFRA (2007) have argued that HECA has largely been a success in most local authority areas. They report that during the period spanning 1st April 1995 to 31st March 2006 'local authorities have reported an overall improvement in domestic energy efficiency of approximately 19.26% as measured against a 1996 baseline' (DEFRA, 2007:1). Some areas had already hit this target, for instance Poole in the South West had driven up energy efficiency in the area by 35.1% and Middlesborough in the North East had achieved 31.3% more. However, also in the South West, Christchurch only achieved 11.3% more efficient energy use, while Elmbridge in the South East only managed 6.6%. Jones *et al* (2000:201) argue that one of the problems with the HECA has been 'the enormous variation in the quality of local authorities' strategies'. They suggest that some local authorities have taken the policy guidelines seriously and others haven't shown the same degree of enthusiasm.

What has happened since?

The 2007 UK Energy White Paper is the latest policy statement to highlight the way in which reaching overall UK targets on CO₂ emissions will involve greater integration of formal governing processes and citizens. It is reasoned that an effective local response to climate change is a particularly important way in which to reach a 'grassroots' level of consumer behaviour. Projects which can be 'embedded' within bottom-up social, cultural, and economic particularities are considered have the potential to be more effective than top-down solutions in enabling individuals to a) recognize their own role in contributing to more sustainable levels of energy consumption and b) encourage them to engage in a more democratic way in the political debate on climate change. However, whilst there has been progress through HECA, it remains uncertain as to the degree that this way of working is facilitating 'civic engagement' in changing energy related behaviour in the home.

References

Aberdeen City Council (2007) *Housing advice: Home Energy Conservation Act 1995 (HECA)*.

http://aberdeencity.gov.uk/ACC/web/site/Housing/Advice/HES/hoa_home_energy

Jones E, Leach M, Wade J. (2000) 'Local Policies for DSM: the UK's Home Energy Conservation Act'. *Energy Policy*. 28 pp 201-211

Department of the Environment, Food and Rural Affairs (2007) *Climate Change and Energy: Home Energy Conservation Act 1995*.

<http://www.defra.gov.uk/environment/climatechange/uk/publicsector/localauth/heca9>

Department of the Environment, Food and Rural Affairs (2007) *Climate Change and Energy: Home Energy Conservation Act 1995*.

<http://www.defra.gov.uk/environment/climatechange/uk/publicsector/localauth/heca9>

Policy Summary 5:

UK Landfill Tax

Country:

United Kingdom

Time span:

1996 – Present

Implementing agency:

DEFRA, Local Authorities

Policy goals:

The Landfill Tax was introduced to deal with the problem of excessive waste disposal. Its primary goal has been to levy indiscriminate waste disposal, to introduce the idea of biodegradable recycling and to segregate 'active' and 'inactive waste'.

What is the policy function?

The Landfill Tax was introduced by the 1996 Conservative Government in order to meet European Council Directive 1999/31/EC which was put in place to prevent and reduce the adverse effects of the landfill of waste on the environment. Increased recognition of the environmental problems with landfill concerned primarily the production of methane – the most virulent greenhouse gas – from biodegradable 'active' waste (HM Government, 2002). There was also a concern that the relatively low cost of landfill as a means through which to dispose of waste was implicit in encouraging the industrial sector regarding both the *amount* of waste created and the economic *inefficiency* of how waste had come to be regarded (DoE, 1996).

How does the policy work?

85% of the total amount of waste in the UK is accounted for by landfill disposal. Waste Watch (1996) point out that the introduction of the Landfill Tax as a way in

which to regulate this practice can be considered to be the first ever 'green tax' to have been introduced to the UK. The policy driver behind the Landfill Tax works to increase over time the price of waste that is sent to landfill sites. Policy-makers argue that this incentivises 'a diversion away from the landfill option towards more sustainable ways of managing waste' (DEFRA, 2007:36). At its inception in 1996, those wishing to dispose of waste at landfill sites were required to pay £2 per tonne for inactive waste and £7 per tonne for all other wastes on top of the gate fee (Gibbons, 1996). The total weight of the waste transportation is measured on entrance to the site and the weight of the vehicle subtracted to leave the taxable weight. The standard rate of landfill tax that has currently been applied to active wastes currently runs at £24 per tonne. As a central part of the policy-makers aims at reaching a rate of £35 per tonne of waste, which was announced in 2002, this rate has been increased incrementally by £3 per tonne in each of the previous three years. The local authority in which each site is situated oversees the financial arrangements of the landfill tax where the money is often used to invest 'in alternative landfill treatments such as recycling and anaerobic digestion' (DEFRA, 2007:34)

Effectiveness of the policy

DEFRA have argued that the success of the Landfill Tax over the previous decade can be observed through four key indicators:

- *Waste has grown significantly less than GDP since 2000.* Of the main waste streams, both municipal and business waste are growing at a rate slower than GDP; municipal waste increased at about 3.5% per year up to the millennium but average growth over the last five years has been less than 0.5 per year;
- *Recycling and composting of household waste has nearly quadrupled since 1996/97.* Local authorities have exceeded the 2005 national household waste recycling and composting target of 25% set in 2000 achieving 27%;
- *Packaging waste recycling has doubled from 27% in 1998 to 56% in 2006;*
- *Less of most kinds of waste is being landfilled – down from 80 million tonnes annually in 2000/01 to 72.5 million tonnes in 2004/05 at licenced landfill sites: with falls from 82% to 62% for municipal waste between 1998/99 and 2005/06 and from 50% to 44% for industrial and commercial waste between 1998/99 and 2002/03;*
- *Public awareness of recycling has grown with over half the population considering themselves committed recyclers (DEFRA, 2007:23).*

What has happened since?

The Landfill Tax has been seen as an exemplar of how a regulatory policy based on direct political intervention is able to produce effective results. Building on its success, the introduction of Landfill Tax Trading Scheme has been used as a way in which local authorities are able to reach their waste targets in the most cost-effective way and to stimulate a market in waste. Despite the relative success of the Landfill Tax, critics such as Friends of the Earth argue that waste disposal remains a problem with the main one being diminishing landfill space in the UK.

References

Department of the Environment, Food and Rural Affairs (2007) *Waste Strategy for England 2007*.

<http://www.defra.gov.uk/environment/waste/strategy/strategy07/pdf/waste07>

DoE (1996) Department of the Environment Wastes Technical Division: *Appraisal of Hazards Related to Gas Producing Landfills*. Vol 1. DoE, London

Gibbons P. (1996) *Landfill Tax Information Note 2/96*. HM Customs and Excise, Liverpool

HM Government (2002) *Tax and the Environment: Using Economic Instruments*.

<http://www.hm.treasury.gov.uk/media/3/A/adtaxenviron02-332kb.pdf>

Waste Watch (1996) *Waste Management Information Sheets*. Waste Watch, London

Policy Summary 6:

Warm Front Grant (WFG)

Country:

United Kingdom

Time span:

2000 – Present

Implementing Agencies:

Funded by DEFRA, managed by EAGA

Policy goals:

The Warm Fronts Grant is a government funded scheme which provides up to £2,700 to households that are on certain benefits 'in order to improve their heating and energy efficiency' (Energy Saving Trust, 2007:1). The principal aims are to address the problem of fuel poverty whilst also targeting energy efficiency and environmental goals.

What was the policy function?

Towards the back end of energy utility privatization in the UK there was a growing recognition of fuel poverty and that 'for some people, basic energy needs continued to account for a disproportionate amount of their income' (EWP, 2003:107). The 2003 *Energy White Paper* pointed out that research continued to show that many households were spending as much as 10% of overall income on heating their households. The introduction of the WFG in 2000 was one of the policies that put in

place to address the times in which the market was unable to deliver low energy prices to those in lower income groups in the UK.

How did the policy work?

Research into the problem of fuel poverty argued that it was often the result of a combination of factors, particularly existing household energy inefficiency, and the cost of fuel related to particular low income brackets. Therefore, the WFG eligibility criteria included the following sub-categories of people owning their own homes or renting from a private landlord:

- Those aged 60 years or older in receipt of one or more benefits. Benefits include: income support, council tax benefits, housing benefit, job seekers allowance and pension credit;
- Those who have a child under 16 or are pregnant have been given maternity MAT B1 and are also in receipt of benefits such as income support, council tax benefit etc;
- Those in receipt of one or more benefits such as disability living allowance, child tax credit with an income of less than £15,460, housing benefit and disability premium etc (Energy Saving Trust, 2007:1-2).

All those eligible under the above criteria can claim grants for improving energy efficiency measures in their living accommodation such as cavity wall and loft insulation, energy efficiency light bulbs, boilers and appliances, (DEFRA, 2007:1). The policy is intended to dovetail with the Energy Efficiency Commitment, where energy producers are required to account for 50% of their energy efficiency targets by offering customers within the WFG criteria discounted offers on installation of energy efficiency measures.

Effectiveness of the policy

In their 2006/07 *Annual Warm Front Report* DEFRA/EAGA point out that a total of 253,079 households received assistance through the WFG with the key measures assessed as:

- An average household SAP improvement of 16 points, from 40 to 56;
- Reduced CO₂ emissions in the average household from 6.97 tonnes per year to 6.16 tonnes per year, equalling total annual savings of 0.81 tonnes of CO₂ per annum for those homes improved, each and every year for the next 20 years;
- On average in 2006/07, each household receiving Warm Front assistance has the potential to save £193.78 in energy running costs every year. This broadly equates to a 7 year payback on the 2006/07 average grant investment of £1,436;
- Based on the number of homes receiving Warm Front assistance and the average reduction in running costs per property, the potential saving in energy bills is almost 10GJ per household, each and every year for the next 20 years (DEFRA/EAGA, 2007:4).

DEFRA/EAGA point out that these achievements will contribute significantly to Central Government aims regarding the eradication of fuel poverty in vulnerable households in England by 2010, while improved household energy efficiency in

those vulnerable households will also make a contribution towards the UK's domestic and international CO₂ targets.

What has happened since?

The WFG has been viewed as an exemplar in terms of how a more direct, interventionist approach to the problem of market failure can achieve its stated goals. However, volatile oil and gas prices – particularly in the winter of 2006 – continue to demonstrate the link with stable, international fossil fuel prices in also underpinning fuel poverty initiatives. Policy-makers have been keen to stress that the link between energy and the vulnerable was also an important policy issue within the wider *international* picture where foreign policy and the global reach of UK government needs to be geared towards 'promoting economic growth, especially pro-poor growth, stability and good governance in energy producing countries as part of collaborative international efforts' (EWP, 2003:109).

References

Department of Environment, Food, and Rural Affairs (2007) *The Energy Efficiency Commitment April 2008 to March 2011: Initial Consultation*.

<http://www.defra.gov.uk/corporate/consult/eec3/index.htm>

Eaga (2005) 'Warmer, healthier, more energy efficient'. *The Warm Front Annual Report*.

Energy Saving Trust (2007) *Energy Saving Grants and Offers*.

<http://www.energysavingtrust.org.uk/what-can-i-do-today/energy-saving-grants-an.htm>

Government Energy White Paper (2003) *Our Energy Future: Creating a Low-Carbon Economy*. <http://dti.gov.uk/energy/policy-strategy/energy-white-paper/page21223.html>

Policy Summary 7:

Variable Vehicle Excise Duty (VVED)

Country:

United Kingdom

Time span:

2001 – Present

Implementing Agency:

Driver and Vehicle Licensing Agency (DVLA)

Policy goals:

The VVED was introduced to contribute in cutting down on CO₂ emissions in road transport by encourage consumers to buy more fuel efficient vehicles.

What was the policy function?

Bradbeer (2001:97) points out that 'transport accounts for a quarter of the UK's greenhouse gas emissions'. The VVED was designed to curb the rise in CO₂ emissions that accompanied the growth in car sales and road use in the second half of the 1990's which threatened the UK targets of a 20% reduction by 2010 by 1990 levels and the 2012 Kyoto target of a 12.5% reduction.

How did the policy work?

UK Government reforms to Vehicle Excise Duty (VED), aimed at all cars that were first registered and licenced on or after 1st March 2001, introduced a new system of road taxation based upon payment bands depending on the level of CO₂ emissions measured for when the model was tested prior to going on sale. The baseline for banding starts at 'no taxation charge' on cars with the very lowest emission levels. The bands are described in the table below:

Band	CO2 Emissions figure (g/km)	Petrol	Diesel	Alternative
		Car	Car	Fuel Car
A	up to 100	£0	£0	£0
B	101 to 120	£35	£35	£15
C	121-150	£115	£115	£95
D	151-165	£140	£140	£120
E	166-185	£165	£165	£145
F	186-225	£205	£205	£190
G	Greater than 225	£300	£300	£285

AA.com (2007)

Effectiveness of the policy

Research by the Society for Motor Manufacturers and Traders (2007) argued that, over the previous decade, average emissions from cars bought in the UK had dropped by 10%. Others suggest that this was largely due to efficiency gains in vehicle energy use which could well be overtaken by a predicted growth in traffic volume and distances being covered. One of the criticisms of the VVED was that the tax banding system only applied to drivers who had low emissions on these vehicles that had been assessed as of 1st March 2001. Critics argued that this has served to penalize owners of older vehicles who had more energy efficient cars or who had already spent money converting to greener sources of fuel. It was argued that owners

of these vehicles should be made part of the VVED where their behaviour could be taxed according to the new rules brought in as part of this policy. It was also pointed out that it has displayed limitations as an incentive to behavioural change regarding car use. Research by Friends of the Earth (2003:1) has shown that 'there has been an explosion in the number of most polluting cars with the sale of 4x4s rising by 18% while the sale of the most efficient cars actually decreased'.

What has happened since?

The UK Government's argument that consumers 'respond better to carrots than sticks' (Nash, 2007:1) has dominated budget debates since the advent of the VVED in 2001. The Chancellor of the Exchequer responded to criticisms that consumers who continued to purchase vehicles with high emissions were not given direct incentives to buy more environmentally friendly cars in 2007 by announcing that Band G drivers 'would see their annual road tax rise by a whopping 90 per cent over the next two years, from £210 to £400' (Nash, 2007). However, critics argue that this is tempered by the fact that discounts for drivers of lower emission vehicles in bands B to E saw relatively low discounts put their way as rewards for demonstrating environmental awareness. Nash (2007) argues that Sweden has demonstrated a more effective approach in this area based upon the short-term premise that they are moving to a post-oil economy rather than longer-term habit change agenda driven by the UK Government. The agenda in Sweden has been particularly successful in regard to persuading consumers to purchase more environmentally friendly vehicles.

References

Automobile Association (2007)

http://www.theaa.com/allaboutcars/advice/advice_ved_home.jsp

Bradbeer J. (2001) '*UK environmental policy under Blair*'. In Savage S. and Atkinson R. (eds) *Public Policy Under Blair*. London, Palgrave.

Friends of the Earth Press Release (2003) '*Big Motor, Low Law*'.

http://www.foe.co.uk/resource/press_releases/big_motor_low_tax.html

Nash (2007) '*Budget short on green carrots*'. The Independent Online.

<http://motoring.independent.co.uk/comment/article2393928.ece>

Nash (2007) '*Budget short on green carrots*'. The Independent Online.

<http://motoring.independent.co.uk/comment/article2393928.ece>

Policy Summary 8:

Climate Change Levy (CCL)

Country:

United Kingdom

Time span:

2001 – Present

Regulating agency:

DEFRA

Policy goals:

The CCL is a tax on the use of non-domestic energy in industry, commerce and the public sector (DEFRA, 2007). It is a government regulatory instrument which incentivises energy efficiency measures and the use of renewable energy through appropriate tax breaks. The CCL is a part of the Government's Climate Change Programme and part of the political strategy to address the UK's domestic and international CO₂ emissions targets.

What is the policy function?

The CCL is a follow on policy from the Fossil Fuel Levy which was in place from 1989 to 2001. However, while the Fossil Fuel Levy (FFL) was one of the first direct government policies to be implemented with the aim of beginning to address the growing problem of climate change, critics argue that its primary function was as a subsidizing mechanism for the nuclear industry. Helm (2004) has pointed out that the UK Government had deemed political intervention to be necessary during the period of electricity privatization in order to ensure the stability of nuclear power within the new market conditions. Policy-makers claim that the goals of the CCL are more overtly environmental. As Braathen (2007:2) points out, 'the levy's design very much reflects the political economy considerations of government. A pure tax would have come into conflict with government goals concerning household vulnerability, competitiveness, and the sensitivity of some sectoral interests'. Therefore households and the transport sector are exempt.

How does the policy work?

As argued above, the CCL targets the 'downstream' energy use of industry, commerce and the public sector. The tax is levied only on energy *users* and not the generators or extractors. It is also targeted at the most energy intensive sectors. The CCL works on the basis that companies and firms who source from an agreed percentage of renewable energy, or are able to successfully implement an priorly agreed energy efficiency target through the 'climate change agreement', are rewarded by graduated cuts in national insurance contributions. One of the differences in the structure of the CCL from the FFL is the fact that the nuclear option is directly taxed and is not considered in terms of being a renewable energy source. The structure of the CCL has also been developed to enable it to function as a market where companies who over-comply with their permits theoretically able to trade the surplus credits along with permits and renewable energy certificates operating within the rules set out in the UK and EU Emissions Trading Schemes. In this way,

as Braathen (2007:2) argues, 'the levy is linked to the other measures in the climate change programme'. One of the criticisms of the FFL –notably from industry – was that its 10% levy made it a burden on competitiveness. While the FFL is still in existence, it now has a levy of only 2.2% and the CCL has been hailed as a more flexible approach to the problem of how to integrate downstream energy into the UK Government's climate change strategy.

Effectiveness of the policy

Braathen (2007:2) argues that the CCL 'has made a contribution to UK climate change targets. He suggests however that 'in some ways this is only because any analysis is relative to what an alternative measure would be' (2007:2). Critics such as Lohmann (2006) have made the point that a pure carbon tax is always more likely to have a greater effect in reducing emissions than trading them through what are very often weakly set caps, particularly bearing in mind the urgency of the debate on climate change. Braathen has argued that the CCL serves to illustrate the ways in which climate change policy has more often than not been 'captured' by industry, with the resulting skewing of policy towards industry players.

What has happened since?

While policy-makers have argued that the CCL constitutes an effective policy mechanism through which to begin to reign in some of the worst polluters in industry, commerce and the public sector, others have pointed out that it remains a weak compromise between government intervention and market primacy. DEFRA (2007:1) point out that the new carbon commitment currently being agreed by the UK Government will soon bring on board 'commercial and public sector buildings such as supermarkets, hotel chains, government departments and large local authority buildings. However, as Braathen (2007:2) argues, 'it remains clear that the levy's design very much reflects the political economy considerations of government. A pure tax would have come into conflict with government goals concerning household vulnerability, competitiveness concerns, and the sensitivity of some sectoral interests'.

References

Braathen N. (2007) *The United Kingdom Climate Change Levy: A Study in Political Economy*. www.oecd.org/env/taxes

Department of the Environment, Food and Rural Affairs (2007) *Climate Change Levy Site*. <http://www.defra.gov.uk/environment/ccl/>

Helm D. (2004) *Energy, the State, and the Market*. Oxford, Oxford University Press

Lohmann L. (2006) *A Critical Conversation on Climate Change, Privatization, and Power*. <http://www.thecornerhouse.org.uk/summary.shtml?x=544225>

Policy Summary 9:

Energy Efficiency Commitment (EEC)

Country:

United Kingdom

Time span:

2002 – Present

Implementing agency:

OFGEM

Policy goals:

The introduction of the EEC in 2002 required that electricity and gas suppliers to the UK must reach specific targets in promoting of improvements in domestic energy efficiency. The EEC forms part of the Climate Change Programme and is one of the means by which the UK aims to reach its domestic and EU targets in regard to reducing CO₂ emissions.

A second aim of the EEC is that it will also contribute to the eradication of fuel poverty: one of the four aims of the Energy White Paper (2003). To these ends, the EEC requires that at least 50% of energy savings should be targeted by producers 'on a priority group of low-income consumers in receipt of certain benefits and tax credits/pension credit' (DEFRA, 2007:1).

What is the policy function?

It was estimated that in 2004 domestic energy use was responsible for 30% proportionate energy use overall and around 27% of the UK's CO₂ emission levels. Of this total it has been estimated that 60% is used for heating; 20% for hot water; and the rest for lighting and appliances (Climate Change Programme, 2006:75). Policy-makers have pointed out that tackling household energy use 'is an effective way, not only to reduce emissions, but also to support progress towards wider economic and social objectives' (Climate Change Programme, 2006:74). The EEC has been held up as a promising policy through which to contribute to the UK Government's sustainable development agenda in two ways: firstly by addressing the supply-side of the utilities market and incentivising the delivery of energy; secondly, the EEC has been seen as an effective way in which to raise awareness on the demand side of the market on the benefits of energy efficiency in contributing to environmental and cost-saving goals.

How does the policy work?

The original programming period of the UK EEC programme – which ran from 2002-2005 – required a statutory commitment on behalf of all electricity and gas suppliers who had 15,000 domestic customers or more, to reach a combined energy saving target of 62 TWh by 2005. This was to be achieved by actively working with customers in taking energy efficiency measures in their homes. The EEC advocates a

flexible approach to how energy saving targets are reached and the only stipulation is that half of the energy efficiency savings must come from consumers who are claiming income-related benefits at the time: addressing the fuel poverty problematic. White certificates are awarded to producers who are able to save a certain amount of energy in this way and these certificates can be used, either in regard to their own target compliances or alternatively can be bought by other producers who are having difficulties in reaching their own targets. A predominant part of the EEC as it moves into the second phase of its existence revolves around energy suppliers promoting domestic energy efficiency measures such as cavity wall and loft insulation, energy efficiency light bulbs, boilers and appliances (DEFRA, 2007:1).

Effectiveness of the policy

Policy analysts from the Climate Change Programme point out that energy suppliers all reached their target of 62 TWh saved in the first round 2002 – 2005 where it is predicted that this will translate into approximately 0.37 MtC annually leading up to 2010. Furthermore, the EEC has ‘delivered energy saving measures to consumers, with overall cost effectiveness of about £300 per tonne of carbon saved (i.e. net benefits) and costs to suppliers of around £3.20 per customer’. They point out that these figures translate into an average of 2% of consumer household bills as a proportional attribution to energy efficiency measures. This is a particularly important aspect on addressing fuel poverty where customers on income-related benefits are likely to lower their fuel bills over the longer-term. It is suggested that this investment will continue to drive domestic energy efficiency where both environmental benefits and costs will continue to be monitored during the second phase of the EEC.

What has happened since?

The second phase of the EEC is to run through the 2008-10. It is expected that the CO₂ emissions targets set for producers during the first phase will double as a consequence of the measures that have already been taken. It is also hoped that the second stage will ‘offer more options for the delivery of carbon savings, with a larger range of eligible measures and more scope for innovation and competition amongst companies to further encourage consumers do reduce their energy demand’. Therefore British Gas, EDF, npower, Powergen, and Scottish and Southern Energy ‘have already announced that they will carry out between them an extra 250,000 subsidised installations of home insulation over the next two years’ (Climate Change Programme, 2007:79). It is suggested that this will bring forward annual carbon savings of 35,000 tonnes and will also reduce annual household bills by approximately £20 million.

References

Climate Change Programme (2006) *Tomorrow's Climate, Today's Challenge*.
<http://www.defra.gov.uk/environment/climatechange/>

Department of Trade, Food, and the Environment (2007) *The Energy Efficiency Commitment April 2008 to March 2011: Initial Consultation*.

<http://www.defra.gov.uk/corporate/consult/eec3/index.htm>

Government Energy White Paper (2003) *Our Energy Future: Creating a Low-Carbon Economy*. <http://dti.gov.uk/energy/policy-strategy/energy-white-paper/page21223.html>

Policy Summary 10:

UK Emissions Trading Scheme (UK ETS)

Country:

United Kingdom

Time span:

2002 – 2007

Implementing Agency: DEFRA

Policy goals:

The UK ETS was introduced in the by the UK Government in 2002 as a part of the UK Climate Change Programme (UK CCP). The UK ETS was seen as a policy tool through which to begin to address both Kyoto agreements and the UK's own domestic agreements to cut CO₂ emissions. The principal aims of the UK ETS therefore were that:

- 1) The 31 voluntarily participants involved in the scheme would reduce greenhouse gas emissions (GHG) against 1998-2000 levels by 3.96 million tonnes carbon dioxide equivalent (CO₂e) by 2006 – the end of the programme;
- 2) Would provide a 'learning' long-term policy framework which would begin to incorporate the most energy intensive sectors in moving the UK to a low-carbon economy;
- 3) To actively influence the development and design of the EU-wide emission trading scheme (Molmborg and Strachan, 2005:147).

What was the policy function?

As Roeser and Jackson (2003:1) have pointed out, 'the UK became the first country to introduce a fully fledged industry-wide emissions trading scheme as one of a number of tools designed to meet its domestic and Kyoto targets'. A forerunner to the European Union Emissions Trading Scheme (EU ETS), the UK ETS was representative of the New Labour's Government's concern that new environmental policy instruments would be primarily concerned with 'providing opportunities for business through creating new markets and new products, increasing competitiveness, building customer trust and the development of new technologies'

(Malmberg and Strachan, 2005:144). In these regards, the UK ETS was also implemented to facilitate 'first mover' experience in order to ensure UK competitiveness within the framework of the later implementation of the EU ETS.

How did the policy work?

The UK ETS was a voluntary programme where participation was open to both private and the public sector organizations. The UK Government initially held an 'incentive auction' to establish a market for emissions allowances where organizations seeking participation 'were able to bid for a proportion of the total £250 million available over the lifetime of the scheme' (DEFRA, 2006:4). Direct participants thus committed to an overall reduction of 3.96MTCO₂ e by 2006. Each participant's target was determined relative to their recorded baseline emissions between 1998 and 2000 and this was reduced on a yearly basis in accord with the specified targets fixed to be reached in 2006. Thus organizations could trade allowances within this framework according to either a surplus of allowances where they had reached specified targets or they could buy permits if they failed to reach the targets that had been set in the original agreements. As Malmberg and Strachan (2005:147) point out, the flexibility built into the UK ETS also meant that participants could negotiate their own particular requirements through: 'the Climate Change Levy agreements; through selling credits from approved UK-based emission reduction projects in companies not already targeted under the main routes; and through opening an account in the scheme's registry to buy and sell allowances'.

Effectiveness of the policy

DEFRA report that participants in the UK ETS all reached the targets that they had set themselves within the first year. They report that the scheme successfully delivered on its emissions reduction targets and actually exceeded these expectations as of 2005 where emission reductions stood at 7 million tCO₂ e since the programme began (DEFRA, 2007). Others suggest that there are problems in assessing whether the other two aims were reached. Roeser and Jackson (2003) have suggested that the fact that the scheme was a voluntary initiative meant that the transport, domestic, and energy sectors – the chief CO₂ emitters – were excluded, suggesting that the UK ETS could not be considered to be effective in driving the changes necessary in moving the UK towards a low-carbon economy. Malmberg and Strachan also argue that the UK ETS has not been realized in its attempts to drive a more internationally based carbon market. One of the main reasons for this was the failure to realize and effective carbon price which would 'internalize' pollution and drive effective behaviour change.

What has happened since?

The end of the UK ETS saw its incorporation into the EU ETS. The EU ETS remains difficult to judge as a success or a failure, particularly in meeting the Kyoto agreements, although the UK has successfully reached Phase I targets. The EU ETS has been criticized for many of the same points raised during the UK programme. While the EU ETS has been based on a more *punitive* system, where 'the polluter pays' has been a more central feature, critics point out that an effective carbon market has still failed to materialize and the transport, domestic, and energy sectors

are still not incorporated sufficiently enough to drive the changes towards a low-carbon economy.

References

Department of Food, Environment and Agriculture (2006) *Appraisal of Years 1-4 of the UK Emissions Trading Scheme*. A Report by ENVIROS Consulting Limited

Department of Food, Environment and Agriculture (2007) 'environmental protection: UK Emissions Trading Scheme'.

<http://www.defra.uk/environment/climatechange/trading/uk/index.htm>

Malmberg F. and Strachan P. (2005) 'Climate change policy, ecological modernization and the UK Emission Trading Scheme'. In *European Environment*. Vol. 15, pp 143-160

Roeser F. and Jackson T. (2003) 'Early experiences with Emissions Trading in the UK'. *Greener Management International*. Vol. 39, pp 43-54

Policy Summary 11:

Renewables Obligation (RO)

Country:

United Kingdom

Time span:

2002 – Present

Implementing agency:

OFGEM

Policy goals:

The RO has three principal policy goals:

- 1) to contribute towards reaching the UK's CO₂ emission targets of a 20% reduction at 1990 levels by 2010 and a 60% cut by 2050 by targeting the activities of electricity suppliers;
- 2) The promotion of greater energy efficiency at affordable prices in the electricity sector in the wake of more recent concerns over greater import dependency and consequent fears over security of supply;
- 3) To stimulate technological innovation in the sector theoretically promoting growth, employment, and export market opportunities

What is the policy function?

The UK Government's drive to utilize energy use through the greater use of renewable energy is driven by the RO (Pearce, 2005). The policy provides an *obligation* to licensed electricity suppliers in the UK to source an increasing, annual proportion of power from renewable resources. To date this has mostly come from wind power although other renewable sources of energy include: landfill gas; sewage gas; hydro exceeding 20 megawatts; hydro 20 megawatts or less; co-firing of biomass; other biomass; geothermal power; tidal and tidal stream power; wave power; photovoltaics; and energy crops (DTI, 2007:1).

How does the policy work?

The RO is designed to both *regulate* and *incentivise* the greater use of renewable energy by electricity suppliers. Firstly the level of obligation to source from renewables is set within annual gradational steps, which the policy originally set at '3% in 2002-03 to 10.4% in 2010-11' (Foxon and Pearson, 2007:1541). A key feature which is designed to develop the capacity of the RO as a market device however is through the utilization of *Renewable Obligation Certificates* (ROCs). ROCs – which must be produced by suppliers at the end of each year – give suppliers a number of ways in which to meet the target obligations for renewables. ROCs can be gained by:

- Directly utilizing renewable sources in electricity generation;
- Through the purchase of 'an equivalent number of ROCs in the trading market' (Foxon and Pearson, 2007:1541).
- By 'choosing to pay a buy out price of 3p/kWh' (Foxon and Pearson, 2007:1541).

Effectiveness of the policy

A Department of Trade and Industry Report in 2007 points out that '2.4 of the total generation from RO-eligible renewable sources was around 4.0% of electricity supply in 2005: up from 1.8% in 2002'. However, Foxon and Pearson (2007), and Pearce (2005) all argue that, despite progress, the annual government targets are not being met due to a number of flaws in the RO policy design. One of the reasons for this has been pointed out by Unruh (2000) as a process of 'carbon lock-in'. While landfill gas, biomass co-firing, and offshore wind have made significant contributions to post-RO electricity generation, other renewable energies such as biomass, wave, or solar, remain cost inefficient and often incompatible with the practicalities of the existing industry infrastructure.

What has happened since?

The British Wind Energy Association (BWEA) argues that it will be difficult to achieve the targets for renewables – both annually and in the longer term – without reform. They see this reform being principally in the form of greater financial support from the government to the financial structure of the RO itself. The BWEA argue that while the 'buy out' prices remain greater than the fuels that are currently used, there is little incentive and, as Pearce (2005:130) argues, obligation currently

comes at a resource cost, while the benefit is primarily in terms of the avoided carbon emissions’.

References

British Wind and Energy Association (2007) *‘Government sums don’t add up on Renewable Energy: Industry response to Renewables Obligation reform Consultation demands extra resources if Government Targets are to be met.*
<http://www.bwea.com/media/news/070105.html>

Department of Trade and Industry (2007) *What is the Renewables Obligation?*
<http://www.dti.gov.uk/energy/sources/renewables/policy/renewables-obligation/>

Foxon T.J. and Pearson I. (2007) *‘Towards improved policy processes for promoting innovation in renewable electricity technologies in the UK’.* Energy Policy, 35, pp 1539-1550

Pearce D. (2005) *‘The social cost of carbon’.* In Helm D. (ed) Climate-Change Policy. Oxford, Oxford University Press

Unruh G.C. (2005) *‘Escaping Carbon Lock-In’.* Energy Policy. 28. 317-830

Department of Trade and Industry Report (2007) *‘Renewable Energy: reform of the Renewables Obligation and Statutory Consultation of the Renewables order 2007’.*
<http://www.dti.gov.uk/files/file34470.pdf>

Policy Summary 12:

London Congestion Charge (LCC)

Country:

United Kingdom

Time span:

2003 – Present

Implementing agencies:

Transport for London, Capita Group

Policy goals:

The three central aims of the policy are:

- 1) To reduce congestion and traffic build-up on the roads of central London;

- 2) To make a contribution in addressing the problem of climate change by changing behaviour in regard to unnecessary road journeys;
- 3) To contribute to increased public transport investment.

What is the policy function?

The LCC is a fee that is levied on the majority of motorists entering the central London area. An idea that was mooted from as far back as 1973, The LCC was finally introduced in 2003 by the mayor Ken Livingstone under the Greater London Authority Act in order to act as a disincentive to private car use in inner London, thereby reducing congestion and contributing to environmental goals. Surplus profit from the charge is ploughed into improving London's public transport infrastructure. The scheme has been the largest of its kind ever undertaken by a capital city.

How does the policy work?

The original travel demarcation zone – introduced in February 2003 – included the whole of the City of London, the financial sector, the West End, and the principal commercial and entertainment area of the city. These boundaries were extended in 2007 to include the northern bank of the River Thames and the West London railway line. Drivers wishing to travel within the congestion zone between the hours of 7 a.m. and 6 p.m. pay a charge of £8 which can be paid through the internet, by text, by phone, or in PayPoint shops. The charge can be paid on the following day at an increased rate of £10 while failure to pay the charge results in a fine of £100, which increases to £150 after 28 days. Capita are the private organization charged with overseeing and processing payments and fines. Some vehicles are exempt from the LCC i.e. buses, some minibuses, ambulances, fire engines and police cars, motorcycles and bicycles. Fuel hybrid cars are also exempt, highlighting the environmental and behaviour change aspirations behind the LCC (Goodall, 2007). CCTT cameras operating in the congestion zone monitor whether or not vehicles have paid the charge through 'automatic number plate technology'.

Effectiveness of the policy

The LCC has been viewed as a success in both reducing road congestion and also in promoting wider environmental goals. In *Securing the Future* (2005) the government have pointed out that the LCC has reduced congestion by 30% with more and more people now considering alternative modes of transport. Extra provision of buses and more investment in public transport generally have subsequently come about as a result of the LCC. As Evans (2007:2) has observed in regard to the most significant impacts of the LCC:

- There has been a significant decline in traffic levels in Central and Inner London since the introduction of the LCC which declined still further when the charge was increased from £5 to £8 in 2005;
- Fuel savings from reduced vehicle use were estimated to be 30 million litres per charging year;
- Estimated CO₂ savings per year were averaged out at 110,000 tonnes at the £5 rate and 120,000 million tonnes respectively;

- Less time delay for public transport users, safer roads for pedestrians and cyclists.

What has happened since?

The success of the LCC has prompted some to argue for a more widespread road pricing scheme to address rising CO₂ levels from the transport sector in the UK (Guardian, 2007). In reducing the carbon emissions in central London by an estimated 16% through the LCC, the major Ken Livingstone has also announced plans 'to cut the capital's production of CO₂ to 60% of 1990 levels by 2005' (Guardian Unlimited, 2007). He has argued that by focusing future policy on homes, businesses *and* transport, London can become an exemplar in leading the way to hitting the UK's longer term national target of a 60% reduction by 1990.

References

Evans R. (2007) *Central London Congestion Charging Scheme: Ex-Post Evaluation of the Quantified Impacts of the Original Scheme*. <http://www.tfl.gov.uk/assets/downloads/Ex-post-evaluation-of-quantified-impacts-of-original-scheme-07-June.pdf>

Goodall C. (2007) *How to Live a Low-Carbon Life: The Individual's Guide to Stopping Climate Change*. London, Earthscan

Guardian Unlimited (2007) *Heading for Trouble*.
<http://www.guardian.co.uk/environment/2007/nov/05/greenlist.climatechange5>

Guardian Unlimited (2007) *London Calling the Shots*.
<http://www.guardian.co.uk/environment/2007/nov/05/greenlist.climatechange3>

HM Government (2005) *Securing the Future: Delivering UK Sustainable Development Strategy*. St Clements House, HMSO

Policy Summary 13:

European Union Emissions Trading Scheme (EU ETS)

Country:

United Kingdom

Time span:

2005 – Present

Policy goals:

The principal aim of the EU ETS is to apply the procedures laid out in the Kyoto Protocol in targeting what are considered to be the most energy intensive sectors in

industry and commerce in order to reach both the EU's Kyoto commitment of an EU average 8% reduction in CO₂ emissions by 2012 and the UK's targets of a 20% by 2010 and a 60% cut by 2050 respectively.

Policy function

The EU ETS is the main pillar of environmental policy in the EU and is the largest scheme of its type in the world. Alongside the Clean Development Mechanism and the Joint Implementation Agreement, the EU ETS represents the EU's commitment to its Kyoto obligations in reducing greenhouse gas emissions by 8% at 1990 levels.

How does the policy work?

Under the EU ETS the UK – as with the other EU member states – submits a National Allocation Plan (NAP) specifying caps that have been marked out on greenhouse gas levels emitted by power plants and other sectors of trade and industry. These are then framed within the UK's own Kyoto target of a 12.5% reduction at 1990 levels by 2012. Each targeted source is allocated a maximum amount of emission allowances within the agreements set by the NAP for a particular stage of the three-phase period. To comply, sectors must either reduce their emissions or purchase allowances from those who hold an excess of allowances. As Lockwood (2007:49) points out, 'the actual carbon emissions are measured by how much oil, gas, or coal is used in each location'. By enabling participants in the EU ETS the flexibility to trade allowances the caps placed on the overall emissions are theoretically achieved in the most cost-effective way possible.

Effectiveness of the policy

Phase 1 of the EU ETS only came into enforcement in the UK on 1st January 2005 and therefore there is currently only data available for the first year of trading. The overall cap for the first year in phase 1 – due to run from 2005 to 2008 – of 245 MtCO₂ was achieved in the first year of the EU ETS in the UK, setting the scene for a lower second phase cap – to take effect in the 2008 – 2012 period – which has been set at 238 MtCO₂. These figures were in fulfillment of the agreements reached in the NAP that was originally presented by the UK Government to the European Commission in 2004 (WWF, 2006). As well as an overall quantifiable level of reduction in CO₂ emissions, it was also pointed out by the 2005 *Review of EU Emissions Trading Scheme* that the initial stage of phase 1 had also had *qualitative* impacts on targeted sectors. These were identified as:

- An increased recognition of the effect of carbon pricing into marginal cost analysis;
- An overall trend towards factoring in the implications of the EU ETS into longer-term investment decisions;
- A greater awareness of the need for technological innovation in the relevant sectors of industry and commerce – one of the principal aims of the market aims of the scheme – in sectors that had trouble in reaching their pollution ceilings (DEFRA, 2005).

What has happened since?

While the EU ETS is still in its early stages, and remains difficult to judge as a success or a failure in meeting the Kyoto agreements, the UK targets that have been set, and as an effective instrument through which to counter the longer term effects of global climate change, a number of problems which may shape the future direction of the UK EU ETS have been signposted. Lockwood (2007) for instance argues that one of the main problems with the scheme as it currently stands is that caps on emissions have so far been set at too low a level; an argument corroborated by critics such as Lohmann (2006). Lockwood points out that heavy lobbying by industry over the NAPs did much to ensure that caps were set at a weak rate in order to ensure that European industry remained competitive in the global market. He makes the case that weak regulation on pollution caps will often serve to mitigate against the market-driven ethos of the EU ETS where there remains little incentive for firms to innovate and drive the long-term changes that are needed to develop a fully functioning carbon market which will effectively bring CO₂ emissions in line with long-term targets. Helm (2006) argues the case that permits have yet to be allocated for the 2008-12 phase of the EU ETS, meaning that there is currently no long-term carbon price stability to provide the appropriate transparency needed to inform investment decisions. There has also been criticism of the EU ETS does not yet embrace growing pollution problems such as the air industry and transport.

References

European Commission Directorate-General for the Environment (2005) *Review of Emission Trading Scheme: Survey Highlights*.

http://ec.europa.eu/environment/climat/pdf/highlights_ets_en.pdf

Helm D. (2006) *'Energy policy: politics v economics'*. New Statesman 15/5/06

Lockwood M. (2007) *'A rough guide to carbon trading'*. Prospect 2/07, No 131

Lohmann L. (2006) *A Critical Conversation on Climate Change, Privatization, and Power*.
<http://www.thecornerhouse.org.uk/summary.shtml?x=544225>

World Wildlife Fund (2006) *'Weak caps, little auctioning, flexmex overdose'*.
http://assets.panda.org/downloads/nap_2_backgrounder_final-270706_2.pdf

Policy Summary 14:

Clean Development Mechanism (CDM)

Country:

United Kingdom

Time span:

1997 (officially 2005) – Present

Policy goals:

The CDM was developed as part of the recommendations of the Kyoto Protocol and enables developed countries to trade a proportion of nationally and sectorially capped emissions in exchange for contributing to 'offsetting' projects in developing countries. In providing finance, technology, or expertise to projects such as reforestation or wind farms in developing countries, the CDM theoretically enables these territories to reduce their own emission levels.

What is the policy function?

The CDM was developed to integrate with the emissions trading schemes that have evolved as the main part of the 'Kyoto mechanisms' (Geres and Michaelowa, 2002). The CDM was proposed in order to provide for a degree of flexibility and also greater political cooperation in enabling participating countries in Annex I to offset 'problem areas' of greenhouse gas reduction to compensate for levels of pollution in developing nations. Therefore, the development of the CDM would provide a framework for reducing emissions at a *global level*.

How does the policy work?

The CDM is not intended to replace emissions trading as a way in which to reach pollution quotas but is seen as a way in which a compromise can be found in reducing global 'net emissions'. A country attempting to gain credits in return for a CDM project must first gain the consent of the developing country in which the project is taking place. The proposal must also show that the proposed contribution will provide 'additionality' to the host country by way of contributing to the United Nations Framework Convention on Climate Change (UNFCCC) goal of promoting sustainable development in Annex II nations. However, Annex I nations are limited in how many credits they are able to use in CDM projects and subsequently in how much these credits can contribute to their own pollution targets. As Vernon (2006:102) points out, the critical stipulation framing the policy aim of CDM projects is that 'they must result in a reduction to greenhouse gas emissions beyond what would have been the case without the project'. In the UK, DEFRA acts as the intermediary body charged with overseeing UK CDM projects. UK companies looking to participate in the CDM must obtain:

- A copy of the letter from the host country Designated National Authority (DNA), confirming that the project contributes to its sustainable development;
- A copy of the Project Design Document (PDD);
- A signed declaration of compliance with the CDM rules and procedures (DEFRA, 2007:1).

Effectiveness of the policy:

While operational before EU legislative policy, the CDM has become more fully integrated into the UK's Kyoto commitments since January 2005. Up to 5/2/07 DEFRA reported that there had been a total of 198 projects approved from the UK

from 37 companies. 26 of these were involved with projects in Annex II countries that were aimed at reducing CO₂ emissions. Estimated future emission reductions from UK participation in these projects have been assessed at Mt 7.53 or 8.43% of the total reduction. DEFRA have also announced that the CDM market will be extended through the incorporation into the UK scheme 'of non-Kyoto countries who are unable to participate through their own countries' (DEFRA news release, 2007:1).

What has happened since?

Bohringer and Finus (2005) argues that one of the main problems with the CDM is that it is often difficult to gauge whether input to CDM projects is likely to make any difference to emissions reductions that would have occurred without this participation. They suggest the Kyoto monitoring mechanisms need extensive review in order to address this problem. Henson (2006) argues that in real terms the CDM may simply be an instrument that serves to legitimize Annex I nations polluting legacy, encouraging them to simply buy their way out of any commitment to reduce greenhouse gas emissions. Groups such as the WWF also argue that in order to direct global policy on climate change, CDM projects in the future must move away from subsidizing projects that in themselves contribute either directly or indirectly to carbon emissions such those involving coal, large-scale hydropower, and more recently the Plantar project in Brazil (Henson, 2006).

References

Bohringer C. and Finus M. (2005) *'The Kyoto Protocol: Success or Failure?'* Helm D. (ed) Climate-Change Policy. Oxford, Oxford University Press

Department of the Environment, Food, and Rural Affairs (2007) *Kyoto Mechanisms: Clean Development Mechanism.*

<http://www.defra.gov.uk/environment/climatechange/internat/kyotomech/cdm.htm>

Department of the Environment, Food, and Rural Affairs (2006) *'UK paves the way for non-Kyoto countries to join international carbon market'*.

<http://www.defra.gov.uk/news/2006/061027d.htm>

Geres R. and Michaelowa A. (2002) *'A qualitative method to consider leakage effects from CDM and JI projects.* Energy Policy 30 pp 461-463

Henson R. (2006) *The Rough Guide to Climate Change: The Symptoms, the science, the solutions.* Penguin, London

Lockwood M. (2007) *'A rough guide to carbon trading'*. Prospect 2/07, No 131

Vernon J. (2006) *Environmental Management Report: Focus on Climate Change.* Formara, Great Britain

Policy Summary 15:

Joint Implementation Device (JI)

Country:

United Kingdom

Time span:

1997 (officially 2005) – Present

Implementing agency:

DEFRA

Policy goals:

The JI is one of the three policy devices that constitute the Kyoto policy mechanisms. However, projects working within the JID programmes work *between* Annex I nations. The overall goals of the JID are:

- 1) To enable the EU to reach its Kyoto commitment of an 8% cut in greenhouse gas emissions by 2012;
- 2) To promote greater flexibility, wider collaboration, and greater cross-fertilization between Annex I countries in reaching their *individual* Kyoto targets.

What is the policy function?

The JID was introduced as one of the two 'flexible mechanisms', alongside the Clean Development Mechanism, agreed at the Kyoto Protocol negotiations in 1997 (Department of Trade and Industry, 2007). As with the CDM, the JI is designed to promote a degree of maneuverability within the overall Kyoto policy aims to cut CO₂ emissions by 8% across the EU member states. Under the terms of the JID, participating countries are able to obtain credits for subsidizing an emission reduction project that is taking place in another country that also has Kyoto commitments in place – the so-called Annex I countries. In the case of the UK, as well as its Kyoto target of a 12.5% greenhouse gas reduction by 2012, the JID also provides another policy instrument through which to tackle the UK Government's own pollution targets of 20% and 60% reduction at 1990 levels by 2010 and 2050 respectively.

How does the policy work?

As Jackson *et al* (1999) have pointed out the JID does not actually constitute a single policy mechanism. Rather it encompasses an approach which broadly centres upon a policy aim whereby 'typically a *donor* country provides investment funds towards the implementation of an emission reduction or sequestration project in a *host* country, in exchange for its own emission reduction targets' Begg *et al* (2000:18). As argued above, the advantages of this way of working are considered to be the *flexibility* the JT offers in offering the potential of a least cost solution to emissions reduction.

UK companies aiming to participate in the JI must initially approach the national implementing body DEFRA with the following:

- A copy of the letter of approval from the host country (DFP);
- A copy of the Project Design Document (PDD);
- A signed declaration of compliance with the national guidance rules and procedures of the host country as notified to the UN Framework Convention on Climate Change (UNFCCC) for a Track 1 project, OR a signed declaration of compliance with the international JI rules (DEFRA, 2007).

Among others, typical projects which may be developed under the JID banner can include schemes to reduce emissions – such as projects that have been developed to facilitate energy efficiency or replacement of existing technology – or projects that have been designed to enhance carbon sinks – such as forestry projects (Vernon, 2006).

Effectiveness of the policy

After its official launch in 2005, use of the JID as an effective Kyoto policy mechanism is only just beginning to gather momentum (Henson, 2006). The countries that have generally been targeted by firms in the UK for projects based in the JI have generally been the transitional economies of central and Eastern Europe. Evaluations of early JID projects that took place in several central and Eastern European countries signposted a number of problems that evaluators felt needed to be explored in order ensure a more effective policy would follow the official launch of the JI in 2005:

- *Kyoto goals*: there must be a need to ensure that JI projects lead to measurable, concrete reductions in greenhouse gas emissions – addressing the so-called ‘counterfactual baseline (Begg *et al*, 2001);
- *Additionality*: evaluations of the JID must be broader than simply using economic indicators as the principal evaluatory criteria. Thus, social and environmental goals must hold parity with economic aims.

What has happened since?

The JID only came into an official policy structure in 2005 and it remains to be seen whether the policy will form an effective part of the Kyoto agreement. In fact, the latest statement from the Designated Focal Point (DFP), the agency representing DEFRA in regard to the UK implementation of the JID is that there have as yet been no approvals granted in respect of UK participation in JID projects. Projects that have been submitted from the UK are currently awaiting approval from the designated host nations. The DFP also point out that there is as yet no external participation in the UK from any other Annex I country. They argue that any such participation needs to be considered within the wider context of policies, notably the EU ETS.

References

Begg KC, Jackson T, Parkinson S. (2001) ‘*Beyond Joint Implementation – designing flexibility into global climate policy*’. Energy Policy 29 pp 17-27

Department of Trade and Industry (2007) *A beginners guide to Joint Implementation: a climate change projects office guide*. <http://www.dti.gov.uk/files/file21143.pdf>

Jackson T, Begg KG, Parkinson S. (eds) *Accounting and accreditation of activities implemented jointly: final report to DGXII, Contract No ENV4-CT96-0210*, Centre for Environmental Strategy, University of Surrey, Guildford

Vernon J. (2006) *Environmental Management Report: Focus on Climate Change*. British Business Information, London