

next steps for energy taxation

a survey of business views



Policy Studies Institute

“green alliance...”

Design by Cottier and Sidaway

Published by Green Alliance, November 2002
£20.00

ISBN 09530160 9 9
© 2002 Green Alliance

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior permission in writing of Green Alliance. Within the UK, exceptions are allowed in respect of any fair dealing for the purposes of private research or study, or criticism or review, as permitted under the Copyright, Design and Patents Act, 1988, or in the case of reprographic reproduction in accordance with the terms of the licences issued by the Copyright Licensing Agency.

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, resold, hired out or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it was published and without a similar condition including the condition being imposed on subsequent purchaser.

authors

Next steps for energy taxation: A survey of business views was researched and written by Paul Ekins (PSI), Claire Monkhouse (IEEP), Ian Skinner (IEEP) and Rebecca Willis (Green Alliance).

acknowledgements

The authors would like to thank all the interviewees who gave up their time to discuss their views with us. Thanks also to Ute Collier, Chris Hewett and Henry Leveson-Gower for their comments on the text; and to Simon Dresner (PSI) for his help with survey design.

This project has been made possible by the support of the Pilkington Energy Efficiency Trust, WWF-UK and The Environment Agency.

The Pilkington Energy Efficiency Trust is funded by Pilkington, but is run by an independent board of trustees. It gives financial support to research or demonstration projects aimed at furthering the understanding or practice of energy efficiency in buildings. For more information please contact: Rick Wilberforce, Pilkington UK Ltd, Prescott Road, St Helens, WA10 3TT, tel 01744 692 914



ENVIRONMENT
AGENCY



For details of Green Alliance's work, and for membership information, please contact:

Green Alliance
40 Buckingham Palace Road,
London SW1W 0RE
tel: 020 7233 7433 fax: 020 7233 9033
email: ga@green-alliance.org.uk
website: www.green-alliance.org.uk

The Green Alliance Trust is a registered charity number 1045395. Company Limited by guarantee, registered number 3037633.

about the organisations

Green Alliance is one of the UK's foremost environmental organisations. Its mission is to promote sustainable development by ensuring that the environment is at the heart of decision-making. It works with senior people in government, parliament, business and the environmental movement to encourage new ideas, dialogue and constructive solutions.

www.green-alliance.org.uk

“green alliance...

Policy Studies Institute (PSI) is one of Britain's leading research institutes, conducting research which will promote economic well-being and improve quality of life. PSI provides data and analysis in support of policy-making, promotes the discussion and exchange of relevant information and research findings through its publications programme, and organises workshops and other events at its central London conference facilities.

Since 2000 PSI has had an Environment Group, headed by Professor Paul Ekins.

www.psi.org.uk



Policy Studies Institute

IEEP is a leading centre for the analysis and development of environmental policy in Europe and brings an independent analytical perspective to policy questions. It seeks both to raise awareness of European environmental policy and to advance policy-making along sustainable paths. IEEP London is a registered charity and a company limited by guarantee.

www.ieep.org.uk



contents

executive summary	2
introduction	6
about the report	7
the use of economic instruments for the environment	8
the Climate Change Levy	12
the survey	15
business approaches to energy management	16
the role of government	17
which policy instrument?	18
the Climate Change Levy	23
what should happen next?	29
next steps for energy taxation	31
conclusions	31
recommendations	38

executive summary

Tackling climate change will require deep cuts in emissions of carbon dioxide. The Royal Commission on Environmental Pollution recommends a 60 per cent cut by 2050. The Government's own climate change strategy aims to bring reductions of 20 per cent by 2010. The UK is also committed to using economic instruments to help business protect the environment, and has a range of measures in place, including the Climate Change Levy (CCL), and a voluntary emissions trading scheme, all designed to move the UK toward a low-carbon economy. This report, based on a survey of UK businesses, assesses progress and discusses what further steps need to be taken to bring about this transition.

the use of economic instruments for the environment

The first section of the report discusses the theory and evidence gathered to date on economic instruments for the environment in general, and energy taxation in particular. It explains the rationale behind the use of economic instruments, and reviews the current evidence on their effectiveness. It discusses how economic instruments are best designed, in order to maximise environmental effectiveness whilst minimising effects on competitiveness. The section goes on to explain the background to the use of economic instruments in the UK, with a particular focus on the Climate Change Levy.

the survey

The second section of the report presents the results of a survey, based on qualitative interviews with 27 representatives of businesses. The survey included large and small businesses, from both the manufacturing and the service sectors. Interviewees were asked what their company was doing to reduce carbon emissions, and which policy instruments helped this process. They were asked specifically for views on the Climate Change Levy, and about what future they saw for the use of economic instruments.

“many companies have strategies in place to reduce energy use, though costs of energy efficiency are a barrier”

The survey found that many companies have strategies in place to reduce energy use, though costs of energy efficiency are a barrier, suggesting that the impact of voluntary approaches may be limited. In particular, few small and medium-sized enterprises (SMEs) have the resources, or the incentive, to think strategically about their energy use. All interviewees saw a role for government in helping business to curb carbon emissions. They

stressed the importance of setting a clear and consistent framework for energy and climate policy, but criticised the confusing web of policies currently in place.

There was widespread support for economic instruments, as part of a package of measures, including, for example, taxation, emissions trading, voluntary agreements and financial assistance. Most interviewees saw a role for taxation, and stressed that getting prices right was an important part of policy. Taxes were seen as a language that business understands and can respond to. There was relatively less support for the use of voluntary agreements, though most saw a limited role for them. The development of the UK emissions trading scheme was seen by many interviewees as a positive development, as it offers a flexible way of reducing emissions. However, many companies had chosen not to be part of the scheme, due to uncertainties or high transaction costs, as well as the worry that the scheme would not be compatible with the future EU scheme.

Participants were asked in detail about the Climate Change Levy (CCL). Companies had made a number of changes to their energy management as a result of the Levy, such as establishing energy management plans and switching to renewable energy. However, it had been less successful in encouraging CHP or uptake of new technology under the Enhanced Capital Allowance (ECA) scheme. Whilst most supported the principle behind the Levy, many questioned its design. In particular, its focus on energy, not carbon, was questioned. The link between the CCL and reductions in National Insurance contributions (NICs) was either not understood, or understood in theory but not believed to be applicable in practice. The link was not supported by any interviewees. It was also clear that the CCL had been undermined by other, competing policies, particularly falling electricity prices caused by the New Electricity Trading Arrangements (NETA).

Interviewees were asked for their views on what government should do next. They asked for a clearer and more strategic approach to climate change and energy policy, applying to all sectors – business, domestic and transport, as well as the government’s own performance. They suggested further help for business, and SMEs in particular, and streamlined advice for companies on low-carbon options. There was also a call for more certainty about the future of emissions trading, and for reform of the CCL to create a simpler carbon-based tax, and for extension of the coverage of the Climate Change Agreements (CCAs) and ECAs.

“interviewees asked for a clearer and more strategic approach to climate change and energy policy”

next steps for energy taxation: conclusions and recommendations

The final section of the report draws together the results of the survey and the findings from the first section on the theory and evidence about economic instruments to date. It concludes that:

- There is widespread support for the use of economic instruments to encourage carbon reduction, as part of a package of measures.
- Energy policy – and particularly policy that affects energy pricing – needs to be made consistent with policy on climate change. Climate change policy itself will need to be intensified if deep and lasting cuts in carbon emissions are to be achieved. Government needs to be much clearer about its long-term objectives, to provide greater certainty to drive business planning and investment.
- Taxation should be based on carbon, not energy.
- The general rejection by businesses of environmental taxes as fiscal measures that can substitute for employment or other taxes is a significant obstacle to their efficient implementation. Yet if carbon taxes are to be set at a high enough level to achieve the carbon cuts necessary, it seems inevitable that some form of reduction of employment taxes (or other taxes such as corporation tax) will need to accompany them. Government needs to make a clearer and more consistent case for this tax shift if it is to be able to realise its economic and environmental benefits
- There is a case for using some of the revenues from environmental taxation, and more of the revenues from the CCL, to aid the transition to a more environmentally sustainable economy. Business organisations need to become more involved in helping their members to take advantage of these initiatives.
- Environmental taxes are most effectively applied by adjusting their levels on an iterative basis in order to achieve targets relating to environmental sustainability.
- The effects of environmental taxation on competitiveness remain a concern which continues to need to be addressed. However, this should not prevent or excessively constrain the necessary structural changes which environmental taxes are seeking to bring about.
- Businesses should be incentivised to manufacture products which are less carbon-intensive and more energy-efficient.
- Business would be more convinced of Government's commitment to reduce carbon emissions if energy taxes were applied more evenly across the economy and if measures to reduce the emissions from the Government's own activities were intensified.

On the basis of these conclusions, the report makes five specific recommendations. These are informed by the survey findings, but represent the views of Green Alliance and the report's authors.

1) There should be a clear commitment to the use of economic instruments to bring about a transition to a low-carbon economy, and a focus on reducing contradictions in energy policy, such as between NETA and the CCL. There should be a clear signal that costs of carbon will increase over time, and efforts made to nurture the 'winners' of low-carbon policy.

“There should be a clear signal that costs of carbon will increase over time”

2) The Climate Change Levy should be strengthened and simplified, through moving gradually toward a tax based on carbon, not energy. Exemptions from the Levy should gradually be phased out. The link between NIC reductions and the CCL in particular, and more generally the need to reduce other taxes to compensate for environmental taxes, should be better communicated and explained. Through dialogue with business and environmental groups, the possibility of CCL revenues replacing other taxes could be explored. The proportion of revenues devoted to supporting business energy efficiency improvements should be increased.

3) There should be a simpler system for help with energy efficiency and low-carbon technologies, so that it becomes simple and cost-effective to implement alternatives, such as energy efficiency, CHP and renewable energy. There should be a one-stop shop for businesses seeking help with reducing emissions.

4) The government should work through the EU to create a uniform European model of carbon pricing, to ensure that effects on competition are minimised. This should include support for the further development of the EU emissions trading scheme, to replace the UK scheme, and for the 1997 proposal for a Directive to harmonise energy taxes within the EU.

5) The government should move towards the equalisation of carbon pricing across all sectors, particularly the domestic, transport and public sectors. In addition, there is a need to introduce measures to reduce the carbon intensity of products as well as processes.

introduction

Stabilising the global climate, through reducing emissions of greenhouse gases, is an immense challenge that will require action from all sectors – including individuals, business and government. The UK has commitments under the Kyoto Protocol to cut its emissions of six greenhouse gases, including carbon dioxide, by 12.5 per cent by 2010, and has a domestic commitment to a 20 per cent reduction of carbon dioxide by the same date. However, deeper cuts will be needed in future – the Royal Commission on Environmental Pollution (RCEP), for example, has recommended that the UK government should reduce national carbon emissions by 60 per cent by 2050. Future rounds of international negotiations on climate change are likely to result in more stringent international targets too.

“future rounds of international negotiations on climate change are likely to result in more stringent international targets”

The government has begun to tackle the challenge of climate change. In November 2000 it published its climate change programme. It is currently drawing up a White Paper on energy, which will provide a long-term framework for energy policy.

The UK government, like many others in the EU, has favoured the use of economic instruments to tackle climate change and reduce carbon emissions. In 1997, the Treasury published its Statement of Intent on Environmental Taxation, announcing that taxes would increasingly be levied on environmentally-damaging activities such as pollution and resource use. In April 2001, following a protracted period of consultation and negotiation, the Climate Change Levy (CCL), a tax on the business use of energy, was introduced. The Levy is a package of measures including the tax itself (which does not apply to combined heat and power (CHP) or renewable energy); Enhanced Capital Allowances (ECAs) for environmental technologies; and exemptions for energy-intensive industries who agree to, and implement, emissions reduction targets.

In the March 2002 budget, the Treasury announced its intention to review its use of economic instruments to achieve environmental outcomes. This report is intended to contribute to this debate, and to begin the debate about how the Climate Change Levy should move forward. It will also contribute to the energy White Paper, to be published later this year.

about the report

This report explores current business perceptions of environmental taxation in general, and the CCL in particular, and sets this in the context of the thinking and evidence about environmental taxes that have emerged during the 1990s.

The first section looks at the economic and environmental case for environmental taxation as an instrument of environmental policy. It briefly charts the UK experience with environmental taxes and describes the introduction of the CCL and the policy package that was associated with it.

The second section presents the findings of a survey of business thinking about environmental taxes and the CCL. The survey, based on detailed interviews with 27 individuals in businesses, sought to gauge current business views and elicit suggestions from businesses as to how the government's approach to energy taxation should develop.

The final section of the report discusses the results of the survey in the light of the ideas and evidence set out in the first section. From this discussion, recommendations are put forward as to how the Government should now address the issue of environmental taxation in order to build on, and improve, what has already been achieved.

the use of economic instruments for the environment

Environmental policy in the 1970s and 1980s was almost wholly driven by systems of regulation – of emissions and environmental quality, of processes and technologies. However, during the 1980s, it became increasingly recognised that traditional regulatory environmental policy, despite some successes, was not managing to prevent further unacceptable environmental damage, and it was feared that the costs of attempting to make it do so would be great. Economists had long said that in many areas environmental goals could be achieved more cost-effectively through appropriate taxes and charges. In the new market-oriented atmosphere of the 1980s, with its associated consciousness of cost and the need for competitiveness, policy makers began to take them seriously. Efforts began to develop market-based instruments, such as taxes and tradable permits.

why use economic instruments?

The rationale for the use of taxes and charges in environmental policy is that production and consumption results in environmental damage which is not ‘paid for’ in a financial sense. Clean air, water or a stable climate are not commodities that can be bought or sold; nor does polluting them cost money. These environmental impacts which are side-effects of production and consumption are, in economic terms, ‘externalities’, in that their effects are external to the price system. Economic instruments therefore aim to ‘internalise’ costs.

“by bringing environmental damage within the economic system, an incentive to prevent the environmental damage is created”

There is increasing evidence that environmental externalities, in terms of their effects on human health, buildings and ecosystems are now very substantial. The recent energy review by the Government’s Performance and Innovation Unit (PIU)¹ described the external cost of using fossil energy – including its contribution to climate change – as “very large” and “probably greater than that of any other industrial activity”. Given the existence of these substantial externalities, there is a clear case for levying a tax or other instrument to impose a financial cost for pollution. By bringing environmental damage within the economic system, an incentive to prevent the environmental damage is created.

The threat of climate change has led the Royal Commission on Environmental Pollution to recommend that “the Government should now adopt a strategy which puts the UK on a path to reducing carbon dioxide emissions by some 60 per cent from current levels by about 2050.” Any such reduction in emissions could

only be the result of fundamental structural and technological changes in the UK economy, and in the UK use of energy, as the RCEP report makes clear. In an economy where investment and technological change, as well as changes in consumption patterns, are largely driven by market forces, it is inconceivable that such fundamental changes would come about unless the price signal, which is the single most important piece of information in a market, was working in their favour. Any attempt to bring about such changes against the price signal would be very costly, and probably ineffective, as regulations struggled vainly against market priorities. The prospects of mitigating the worst effects of climate change over this century depend on energy prices starting to send the signal to producers and consumers that carbon-based energy is going to get more and more expensive, and that serious investment in non-carbon technologies is required.

Preliminary analyses of the effectiveness of the various environmental taxes now in place are positive, if cautious. A review of the evidence by the European Environmental Agency³ concluded: “The overall effectiveness of environmental taxes seems to be positive and even high in some cases”. Four years later a new review⁴ by the Agency arrived at the same conclusion, noting in particular: “Tax schemes for which positive effectiveness has been shown include those on fuels and other energy products”.

The role of economic instruments in environmental policy, and their environmental effectiveness, is widely acknowledged by a range of other organisations. One of the main conclusions of a recent report commissioned by the European Commission⁵ was that “even quite small changes in price/cost can send strong signals as to the desired behaviour”. The most recent assessment by the OECD⁶ concluded that “there is growing evidence on the effectiveness of environmentally related taxes in OECD countries as a means to reduce damage to the environment ... a consistent long-term implementation of environmentally-related taxes could reduce energy consumption and improve the environment”. In the UK, the UK Round Table for Sustainable Development advocated an increased role for environmental taxes⁷, while the PIU Report recommends that “the Government should use economic instruments to bring home the cost of carbon emissions to all energy users” and that the Treasury should “give early consideration to expanding the use of carbon valuation through taxes or tradable permits to cover as much of the energy market as possible.”

There is, therefore, now an impressive body of evidence that environmental taxes are an effective instrument of environmental policy and almost universal expert recommendation that they should be increasingly deployed.

the design of economic instruments

There is general agreement that, to work well, environmental taxes should be levied directly on the emission or resource use that is causing external environmental costs. Thus, as carbon emissions from energy use are the cause

of concern, a carbon tax is preferable to an energy tax, which does not distinguish between the different carbon intensities of different fuels.

Theoretically the level of the environmental tax should be set so that it reflects the cost of the environmental externality it is seeking to address. In practice this is often not possible because of the difficulty of valuing complex environmental effects. This difficulty was recognised by the economists who developed much of the early theory of environmental taxation. They recommended an alternative that has come to be called the standards and pricing approach to environmental taxation⁸. This involves choosing environmental standards on the basis of their desired effects on human health or the environment, and then using environmental taxes on an iterative basis to bring levels of environmental damage down to the standards. This has now become the principal approach to and justification of environmental taxes in practice. In particular, all the carbon taxes that have been implemented to date have been put in place in order to contribute to defined programmes of carbon emission reduction, rather than on the basis of any calculations to ‘internalise the costs’ of climate change.

the effects of environmental taxes on competitiveness

The case for environmental taxes arises because environmental costs generated by production and consumption have failed to be incorporated into the prices of those activities which cause them. Inevitably the process of correcting this market failure will be challenging for the sectors concerned, and is unlikely to be welcomed by them, particularly in the short term.

It is obviously in the social interest to minimise the costs of economic disruption associated with environmental improvement. Investments in environmentally intensive technologies were generally made with social consent before their environmental implications were fully recognised. Transitional measures, and time, are likely to be required for businesses, workforces and consumers to adapt. The right policy framework can maximise the chances for cost-saving through the more efficient use of environmental resources, and through product and process innovation which will generate new sources of competitive advantage to replace the environmentally damaging activities that are being reduced.

Economic development involves continual structural change in the economy, and shifts in competitiveness between and within economic sectors. By changing relative prices in accordance with environmental impacts, environmental taxes can help guide that structural change towards environmental sustainability. They can foster the emergence of the new technologies, products and processes, and associated profits and livelihoods, which need to replace those that now depend on activities that are environmentally damaging.

In practice, however, the desire to cushion the effects of environmental taxes on competitiveness has resulted in most countries giving tax exemptions or other concessions to vulnerable firms or sectors. Theory suggests that these reduce the economic efficiency of the environmental tax and reduce the economic advantage to be gained from clean production systems, thereby slowing down the process of structural change.

In its most recent review of the evidence in this area⁹, the OECD concludes that “the possible negative effects on business competitiveness to date have been largely avoided on account of generous relieving mechanisms” and goes on to ask whether “governments have been too quick to offer [exemptions] to industries that pollute the environment the most. It is important to ask whether better mitigation measures might be found, in particular ones that encourage restructuring towards improvements to the environment”. A number of studies have shown that these exemptions can be costly for society as a whole. One analysis of the consequences of exempting energy-intensive sectors from a carbon tax found that wage subsidies to export- and energy-intensive sectors, rather than tax exemptions, retain more jobs and are less costly¹⁰. It concluded: “Welfare losses associated with exemptions can be substantial even when the share of exempted sectors in overall economic activity and carbon emissions is small.” Other less costly alternatives to tax exemptions include the return of the revenues from the tax to the vulnerable sectors on some other basis than carbon, or allowing the tax payments to be set against investments in energy efficiency. The costs of exemptions can also be limited by gradually withdrawing them as the industry adjusts to the new environmental realities.

“less costly alternatives to tax exemptions include the return of the revenues from the tax to the vulnerable sectors on some other basis than carbon”

In the case of emissions trading, the free issue of permits compromises the efficiency of the measure in the same way as tax exemptions. Where emission permits are auctioned, emissions trading schemes have the same efficiency properties as environmental taxes and can therefore also be used to achieve emission reductions at least overall cost. Other means of reducing impacts on competitiveness should be used if possible, and the proportion of permits auctioned should be gradually increased.

the use of the revenues from environmental taxes

If taxes are levied on a widely used environmental resource (such as energy), or a widespread social activity (such as transport), the revenues deriving from such taxes can be substantial.

It is a well-established principle of public finance that there is no necessary connection between the source of a tax and the destination of its

expenditure. In fact the general application of such a connection would be extremely inefficient. There is, therefore, a clear argument for the revenues from environmental taxes being directed toward the areas of greatest social benefit, rather than being earmarked for certain uses simply because such uses are related to their provenance.

However, it may improve the political case for a tax, and make clearer to the public the connection between tax and social benefit, if the revenues from an environmental tax are linked to a related environmental expenditure. For example, in the UK at present, there is a clearly defined need for environmental improvements in energy use, transport and agriculture. Linking environmental taxes in these areas to expenditures on energy efficiency, public transport and landscape conservation may justify the taxes and make the expenditure possible.

Other possible uses for environmental tax revenues are the removal of any unacceptable effects on the relatively poor, and the replacement of other taxes. It is generally accepted that taxes which are not compensating for an externality (as environmental taxes do) introduce economic inefficiencies. There is therefore the possibility of replacing a distorting (inefficient) tax, such as a tax on labour or profits, with a non-distorting tax, such as an environmental tax. The economic literature is unanimous that such a replacement can greatly reduce any financial costs resulting from the imposition of the tax¹¹.

the climate change levy

During the late 1980s and 1990s environmental policy makers in the UK were gradually convinced by the evidence and arguments for economic instruments. Lower taxation of unleaded petrol contributed to a dramatic shift away from the leaded variety. Environmental arguments started to be advanced for such taxes as VAT on household energy use and the annual increase in road fuel duty which started in 1993. The landfill tax was introduced in 1996.

One of the first actions of the new Labour Government on its election in 1997 was the issuing of its Statement of Intent on Environmental Taxation, which embraced both the idea of using taxes to make environmentally damaging activities more expensive and the general principle of shifting the base of taxation over time from 'goods' like labour to 'bads' like pollution. In 1998 the Government commissioned Lord Marshall to investigate the case for a tax on the business use of energy. Lord Marshall reported a year later¹² that he considered that there "probably" was such a case and the Government announced that it would act on this recommendation. The result, after several rounds of consultation, was the CCL, which was introduced in April 2001 at the rates set out below:

Climate Change Levy Rates	
Electricity	0.43 p/kWh
Gas	0.15 p/kWh
LPG	0.96 p/kg (equivalent to 0.07 p/kWh)
Solid fuels	1.17 p/kg (equivalent to 0.15 p/kWh)

These rates well illustrate the political compromises that often attend the introduction of environmental taxes. The Marshall Report acknowledged the attractiveness in principle of an ‘upstream’ carbon tax on all energy use, including that for the generation of electricity, but also that this could conflict with Government policy not to impose taxes on the domestic use of energy. It would also have made less attractive the use of coal for power generation (because of its higher carbon intensity), an outcome which the Government also wished to avoid. The Marshall Report therefore recommended, and Government implemented, a relatively inefficient ‘downstream’ tax on the business use of energy, the rates of which were set to reflect the primary energy wasted in power generation, but which gave no incentive to make this primary energy itself less carbon-intensive.

The CCL consultation process resulted in a whole package of measures around the CCL, both to increase its environmental effectiveness and to address concerns about the impact of the tax on competitiveness. Full exemptions from the CCL were granted to electricity generated from ‘new’ renewable sources and (in two stages) from ‘good quality’ Combined Heat and Power (CHP) plants. Agreements, called Climate Change Agreements (CCAs) were also concluded with 44 energy-intensive sectors.

“the introduction of the CCL was strongly opposed by business organisations”

The CCAs take the form of an Umbrella Agreement between the Government and the relevant sectoral trade associations, that each sector as a whole will achieve a target improvement in energy efficiency, and underlying agreements between the Government and the individual sites listed in the Umbrella Agreement. A site qualifies for an 80 per cent reduction in the CCL if it meets the energy efficiency target in its underlying agreement. If the sectoral target in the Umbrella Agreement is achieved, then all sites listed in the Umbrella Target qualify for the reduction, even if some sites missed their individual targets.

Other elements of the CCL package were:

- Allocation of £100m from CCL revenues over three years to the Carbon Trust, to stimulate improved energy efficiency in business through a programme now called ActionEnergy.
- The Enhanced Capital Allowance Scheme (ECA): 100 per cent first year capital allowances for investments in eight designated energy-saving

technologies (motors, refrigeration, lighting, boilers, variable speed drives, thermal screens, pipe insulation, good quality CHP). This is estimated to cost around £100m per annum in the first two years.

- Rebate to business of the balance of the revenues from the CCL through a 0.3 per cent reduction in the rate of employers' National Insurance contributions (NICs).

The introduction of the CCL was strongly opposed by business organisations, especially the Confederation of British Industry (CBI), which argued that it would have a serious effect on the competitiveness of British industry. This opposition has not diminished with time. A recent briefing from the CBI¹³ stated that "taxation often appears a blunt and complicated instrument to achieve environmental benefit". Several recent surveys, published by London Electricity, SGS Consulting and the Federation of Small Businesses (FSB)¹⁴, give some early insights into the effect of the CCL on businesses. The London Electricity survey of energy managers found that half considered the CCL a valid way to motivate firms to improve energy efficiency, 45 per cent felt that it had improved their company's attitude to energy efficiency and 36 per cent said that it had given rise to new energy management initiatives.

However, for small and medium sized firms (SMEs) the FSB and SGS surveys found that many were not even aware that they are paying the CCL, and many more were unaware that their NICs have been reduced as part of the CCL package. Not surprisingly, therefore, some perceived the CCL as a cost whereas in fact they were net beneficiaries from the CCL package (three of the nine case studies carried out by FSB fell into this category¹⁵). Presumably these companies would say that they supported the FSB campaign to repeal the CCL even though this would in reality make them worse off. In fact, the FSB research shows that 66 per cent of all SMEs will benefit from the CCL package, mainly because most SMEs are micro-firms with fewer than nine employees (who nevertheless account for 30 per cent of all employment nationally), whose energy use is too low to attract the CCL but who nevertheless benefit from the NIC reduction. Repeal of the CCL package would clearly impact negatively on this large majority of SMEs.

This is the context in which this project's survey of business attitudes to environmental taxation and the CCL was conducted. It shows that the opposition to the CCL of such organisations as the CBI and FSB is only one dimension of a much more complex business attitude to environmental taxes in general and the CCL in particular. The next section first describes briefly how the survey was conducted. It then presents its results.

the survey

It is now eighteen months since the introduction of the CCL, in April 2001. The survey undertaken for this report sought information about business views on this and other economic instruments, to build up a better picture about how energy taxation affects business strategy and decision-making, and to inform recommendations for future approaches which have the best chance of benefiting the economy as well as the environment.

The survey is based on in-depth interviews with individuals from 24 companies. A range of sectors and sizes of company were included, with seven of the sample being small or medium-sized enterprises (SMEs)¹⁶. Detailed, qualitative interviews were carried out with company representatives, by phone or in person, in August and September 2002.

The survey took the form of a discussion with a small number of decision-makers in business, based on a common set of questions about environmental taxes, the CCL, and emissions trading. It generated detailed qualitative, rather than quantitative, information. Because of the small size of the sample, it should not be seen as a formal or statistically representative sample of UK business. Instead, it provides insights and information on energy taxation in the UK, in particular on the operation of the CCL, from a business perspective, and a discussion of what the next steps for UK energy taxation should be. See the box below for further details.

survey methodology

27 interviews were carried out. Nine respondents were from large manufacturing companies; three from SME manufacturing companies, eight from large service-sector companies, and four from SME service sector companies. Interviews were also undertaken with the CBI, the Federation of Small Businesses (FSB) and a tax accountant (KPMG). The list of companies is included as Annex A. Interviewees were predominantly Environmental Managers or Heads of Environment Divisions. Others included a Loss Prevention Manager, Plant Technologist and Corporate Social Responsibility Manager. Within SMEs, interviews were usually carried out with the Managing Director or Chief Executive.

Interviews were semi-structured, allowing respondents to discuss relevant issues in more depth. The main questions asked included:

- Has your company considered how it might seek to bring about a long-term reduction in its carbon emissions?
- What policy instruments would you recommend that the Government use to bring about reductions in carbon emissions?
- What are the strengths and weaknesses of the CCL?
- Looking to the future, what action should companies and government take to move toward an economy with much lower carbon emissions?

More detailed supplementary questions were asked in each of these areas.

business approaches to energy management

All of the large companies in the survey have some kind of strategy or programme in place to improve energy efficiency, or to reduce energy use. To energy-intensive manufacturing companies in particular, this is a commercial decision, as energy is a significant part of their costs. However, even for large companies not involved in manufacturing, reducing their energy use is often part of a broader environmental strategy – many businesses have targets in place for their energy use or emissions.

All of the large companies have ongoing actions to reduce their emissions and four stated that they are commissioning work to gain better understanding of energy use. This information is used to target measures to reduce energy use and emissions where this would be most cost-effective or beneficial. Some companies, particularly those in the service sector, stressed the work that they were doing to reduce energy use in buildings and transport, through increasing the use of teleconferencing, for example.

Three interviewees, however, felt that emissions in their companies or sectors have been reduced to such a degree that the potential for further improvement is limited. The cost of energy efficiency improvements is a barrier. One respondent, asked about obstacles to further carbon reductions, replied, “cost – pure commercial cost. It is very expensive to do good energy efficiency work, and it often outweighs the carbon reductions.” Another said that “everyone [in the company] can think of ideas to reduce energy consumption, but it is a matter of finance and staff resources.” In addition, the way that larger businesses operate, in acquiring and divesting businesses, means that a commitment to either an absolute or further reduction in emissions would potentially restrict the development of their business.

“business needs a greater degree of certainty about the Government’s long-term intentions”

Three of the interviewees also raised the issue that the emissions of their company itself are only a relatively small part of the emissions over which the company potentially has influence. For example, manufacturing companies could help contribute to the emissions reductions of their customers through developing more energy-efficient products; retailers could encourage their suppliers to provide them with more energy-efficient products to sell; financial institutions could encourage their customers to invest in energy efficiency measures. A clear message was

that, while the businesses interviewed generally accept responsibility to reduce emissions, others, including their customers and suppliers, also have a role to play.

For smaller manufacturing companies, the issues were similar to those for larger companies, although the relatively fewer resources that could be

devoted to non-core issues, such as energy and environment, mean that there is less opportunity to take a strategic perspective. For smaller non-manufacturing companies, a further problem is that many do not own, and therefore have relatively little control over, the principal source of their energy use – the buildings they occupy. It is difficult for small businesses to influence their landlord on such issues, and so the energy efficiency of buildings is an issue that some SMEs cannot fully address.

the role of government

All interviewees saw a role for government in helping business to curb carbon emissions. The primary role is to set the framework for energy and climate change policy, in order to give business a greater degree of certainty about the Government's long-term intentions. Such a framework needs to be clear, coherent, consistent – both internally and with other government policies – and transparent. As one respondent said, “government incentives need to be strong to get businesses to move towards lower emissions. They need to be a lot clearer on what they're trying to achieve and what they want businesses to do.”

However, many of the interviewees were far from convinced that government policy towards the energy sector met these requirements. One, for example, pointed to the lack of link-up between the range of policy measures in place – ECAs; emissions trading; the Renewables Obligation with its tradable certificates; the CCL and so on. Another stressed that the focus should be on making existing instruments work better, rather than creating any new ones. Many were not optimistic that the forthcoming Energy White Paper would provide the necessary framework. A general point raised was that the wider economic policy framework, such as lower energy prices caused by the New Electricity Trading Arrangements, drives emissions more than the policies set out in the climate change programme.

It was also felt that government should lead by example, as the public sector is one of the largest procurers of a range of products and services – again, it was not seen to be doing this.

Similarly, it was perceived that there was a current lack of engagement between the Government and the public over energy and climate change issues. Such an engagement is necessary to encourage the domestic and transport sectors, in particular, to contribute their fair share to emissions reductions. Some interviewees felt that they were ‘piggy in the middle’ between society's wants, which they try to provide for, and the aspiration for a clean environment. As one interviewee noted, “It is necessary to involve the public to make them understand the seriousness of the situation. If they appreciated this then maybe they would react differently and things like the fuel protests would not have happened. People need balanced information, as they currently do not know how bad things are.”

which policy instrument?

Overall, businesses were agreed that there was a role for most instruments – taxation, emissions trading, voluntary agreements and financial assistance in terms of grants as provided by the Carbon Trust, for example – as part of a package. However each instrument had its detractors. All interviewees from large companies saw a role for emissions trading, although their support was usually dependent on the system and its scope; while twelve of these saw a role for voluntary agreements. Only two interviewees from SMEs wanted voluntary agreements and four saw a role for emissions trading. With respect to trading, there was only one negative response, while the other two did not know enough about the instrument to feel able to express an opinion. However, five interviewees (two from major companies and three from SMEs) saw no role for voluntary agreements. It was stressed that policies should be consistent, both with each other, with European policies and with other government policies. The potential to utilise the CCL in combination with the UK emissions trading scheme was singled out by some as a useful link. However, it was felt that the two instruments could have been made more compatible when they were being developed and that some confusion about their interaction still exists.

emissions trading

The development of the UK emissions trading scheme was seen by many of the interviewees from large companies as a positive development. It was generally felt that emissions trading offered a flexible way of reducing emissions, although this was not a view held by everyone. Five of the interviewees from major companies who saw a role for emissions trading said that their company had chosen not to participate in the UK scheme, even though some had initially signed up or had seriously considered participation. The reasons for not participating included the risk involved, either to the company's reputation for participating in a failed scheme or to their finances; insufficient information on the company's emissions; high transaction costs; or other, unspecified barriers. In order to reduce the risk and encourage companies to participate in emissions trading, one interviewee put forward the suggestion that there should be a risk/reward system, for example a tax credit. A counter argument to this was that trading should encourage competitiveness and reward those taking actions, and so tax reductions should not be needed as a compensatory measure.

There was a range of views about the suitability of emissions trading for small companies. The negative responses tended to argue that emissions trading was too complex for small companies, that the transaction costs were too high, or that small companies had too few resources to be able to actively participate. A number of interviewees felt that it depended on the type of company, and that it would be relevant for small energy-intensive companies. Others called for the system to be simplified. The fact that trading milk quotas is manageable for farmers was cited by a number of interviewees. Those who believed that emissions trading could eventually be

practical for small companies offered ideas of how such a system might operate. These included: allowing groups of companies or trade associations to trade; allowing a third party to offer emissions trading services to companies; allowing credits for emissions reductions to be placed in a Trust, which could then trade; or allowing energy suppliers to receive credits for energy efficiency advice to small companies that result in proven emissions reductions.

Some interviewees expressed concern about the lack of compatibility between the existing UK emissions trading scheme and a future EU scheme, as it is currently proposed. Some were unsure as to how the two could function together successfully, and feared that the UK scheme might not survive the introduction of the EU scheme, as it was unlikely that the latter, which is currently only in a proposed form, would be changed sufficiently between now and its introduction.

“interviewees expressed concern about the lack of compatibility between the existing UK emissions trading scheme”

voluntary and negotiated agreements

12 of the 17 interviewees from large companies were in favour of voluntary agreements. However, seven of these felt that voluntary agreements would not work unless there was a threat of sanctions, but if an agreement is truly voluntary, then arguably there should be no sanctions. There was support for an approach based on ‘negotiated agreements’ – a deal reached between government and business which includes a threat of sanctions if the target is not reached.

Interviewees therefore generally supported the approach taken in the CCL package, to draw up negotiated agreements (the ‘Climate Change Agreements’ or CCAs) to support an exemption from the Levy. Failure to meet the agreement target would mean that the exemption is revoked, and the Levy applied – this was supported by many interviewees, with others proposing that companies should be allowed to trade to meet their targets if they failed to meet them themselves.

Those interviewees that did not support the use of voluntary or negotiated agreements argued that they were only as strong as their weakest link and, if they were negotiated by the trade associations, as the CCAs were, there is no incentive to agree to challenging targets that might prove problematic for some of its members. Some argued that if agreements were with companies rather than sectors, then some companies aiming for a good environmental image might be tempted to go for more stringent targets than they would have been set under a sectoral agreement.

Other detractors of voluntary agreements argued that a principal weakness was that a company could choose to participate or not, whereas all

“interviewees that did not support the use of voluntary agreements argued that they were only as strong as their weakest link”

companies should be making efforts to improve their energy efficiency and reduce their emissions. Because companies can choose whether or not to join a voluntary agreement, the potential problem of free-riders was not

seen as an important issue. It was felt that a company would not have signed up to an agreement if it had not intended to take any action, and even if this did prove to be the case, industry would be able to police free-riders on its own.

It was felt that the only way to involve small companies in voluntary agreements was as part of a group, such as a trade association, a local chamber of commerce or even a geographical grouping – all companies based on a particular business park, for example. However, opinion was split about whether small company involvement in agreements was practical, with their complexity, volume of paperwork and transaction costs being

cited as obstacles to participation. However, some of these obstacles can be overcome, as, for example, the glass sector enabled the participation of small companies in its CCA by capping their transaction costs. Others felt that the involvement of small companies in a voluntary agreement depended on its linkage with other policy instruments.

energy taxes

Nearly three-quarters of interviewees in the survey saw a role for taxation. They felt that it sent clear signals that were difficult to send by other means. A typical view was that “tax has a big role to play, but it needs to be well designed and carefully targeted”. Its principal advantage is that it makes companies aware of the implications of energy use, by making it a financial decision – as one respondent said, “by putting a value on it, it gives financial justification for doing something”. Another expressed a similar view that taxation “raises the issue on the decision-making agenda and forces you to give attention to it. Businesses are after all money-driven.”

However, most respondents expressed reservations about the current system of taxation. Many expressed the view that if the objective is to reduce carbon emissions then the tax should be placed on a fuel’s carbon content, rather than on energy. It was thought that a carbon tax would be better in encouraging a switch to lower carbon fuels and have a greater impact on reaching emissions targets. Some interviewees acknowledged that the CCL is differentiated depending on fuel to some extent, but this was not seen as sending the right signals. In particular, the Levy for electricity was fixed and therefore could not reflect changes in the mix of fuel used for its production.

Another strong message was that taxation should not be used as a stand-alone instrument, but should form part of an integrated set of measures. The

mix of regulatory and fiscal instruments should serve to incentivise companies to make changes, and should allow industry more flexibility in achieving its aims. Tax was seen by many as too much of a ‘stick’ if used in isolation. The incentives suggested included emissions trading, other tax reductions, and recycling the revenues in a linked way.

Although interviewees were not directly asked about other sectors, almost a third noted that the CCL, a tax on business energy use, is not mirrored in other sectors. As one respondent said, “the Government has not had the courage to increase domestic energy taxes; it removed the fuel duty escalator; and then introduces the CCL... it is only avoiding issues that it must address one day.” Many respondents noted the lack of a tax applied to domestic energy, and the reduction of VAT on domestic fuel, introduced as a social measure, sent conflicting messages.

Five interviewees did not support taxation. In particular, concern was raised about the effect of a UK tax on competition, when companies are operating in a global economy. It was suggested that the Government could “tax manufacturing industry out of existence”, with energy-intensive industry being pushed abroad, even outside of the EU, where requirements are less stringent.

Small business in particular did not favour taxation, again favouring a softer, more encouraging approach. However, most SMEs thought that there was a role for taxation, so long as it was part of a mix of instruments and that the revenues were effectively recycled. The issue of SMEs was raised in a different context too. Some felt that smaller companies often escaped controls as the Government focuses on the larger, more visible companies. As SMEs are significant contributors to carbon emissions, it was thought that more needed to be done to ensure reductions in these companies.

taxation versus emissions trading

Many comparisons were made between the emissions trading and taxation approaches, including the pros and cons of each. On the positive side, taxation was seen as something that applies to all, that everyone understands and so is relatively easy for business to deal with. In addition, because it involves applying a constant, tax could be better incorporated into business planning. However, on the negative side, taxation was mainly perceived as a blunt instrument that may not incentivise change, and is too heavy-handed.

The main positive aspect of trading is that it incentivises companies to reduce emissions. The flexibility of trading was welcomed, and it was seen as being the least-cost option for compliance. However, it was perceived to be more complicated than taxation and therefore possibly more expensive, and was seen as a measure that could not easily be applied to everyone.

Of those stating any preference for either taxation or emissions trading, the majority favoured the latter. It was thought that trading would

incentivise companies more by rewarding those that perform well, whereas taxes reward nobody. Some saw the two as complementary and co-existent, saying, for example, that “tax is a background message, a sort of 'drip drip' message from government to business that energy is something that needs to be taken seriously. It needs to be pitched at the right level to get the message across, but not so loud as to feel over-run by it. Emissions trading is a major undertaking to join, and represents a level of commitment by a company. You can't have emissions trading without the background noise though.”

None of the SMEs in the study expressed a preference, perhaps because of a lower level of engagement with and understanding of trading in those companies.

views on revenue recycling

None of the companies interviewed favoured the NIC rebate link with the CCL: the over-riding opinion was that revenues should be recycled in a way that supports the aim of the CCL itself. The general feeling was that if other taxes were reduced in an attempt to make the instrument fiscally neutral, it could make the energy tax a blunt instrument. Businesses react to overall fiscal changes, and so keeping the overall bottom line the same would not incentivise them to make any changes in energy consumption. Some saw that the only purpose of reducing other business taxes was political, as a means of ‘sweetening the pill’. Three companies, though not advocating the reduction of business taxes, suggested that if taxes were to be reduced, then it would be better to look at reducing corporation or property tax. These taxes are at least hard measures which have some correlation with energy consumption.

“none of the companies interviewed favoured the NIC rebate link with the CCL”

The main point raised time and again was that the energy tax revenues should be returned to industry in a way that enables them to make changes and reduce their emissions. This would ultimately have the benefits of reducing the companies’ tax burden and enabling reduction targets to be met, whilst contributing to the ‘bigger picture’ of meeting UK, EU and international commitments. The most popular ways to do this were through direct advice and support, research into and the development of energy efficient/low carbon technology, and developing renewable energy capacity.

In terms of advice and support, current initiatives such as the Carbon Trust, the Energy Efficiency Programme and Envirowise were welcomed. However, from a recent business seminar held by one of the companies interviewed, it was reported that several companies thought that there was too much generic advice available at the moment, and that it needed to be more sectoral and targeted. Ring-fencing revenue from companies in a particular sector back to that sector was suggested, together with a closer look at sectoral supply chains. It was put forward that more assistance needs to be given to smaller companies, as they often do not have the resources

themselves. The possibility of a size-related ‘sliding scale’ for assistance from the Carbon Trust was suggested as one way of removing the cost barrier for SMEs.

Companies were asked whether they felt that shifting tax from employment to energy would have the effect of reducing emissions and encouraging employment. None believed that this would happen. Although many thought that it sounded logical in theory, in reality it did not work. Respondents commented that by linking two unrelated issues – employment and energy – the effect might be to achieve neither goal effectively. As one large company put it, “we don’t want tax as a way of re-engineering the UK economy”.

the climate change levy

Companies were asked in detail about how they felt the CCL had worked, in the eighteen months of its existence.

Opinion did, understandably, depend on whether the company was a winner or a loser, i.e. whether it paid more into the CCL than it got back through reduced National Insurance contributions. The most negative feedback came from companies which were losers, including small manufacturers, though criticism was not confined to interviewees from these companies. Although four interviewees could see no advantages of the Levy, and all criticised some aspects of the Levy, 19 identified some positive effects.

raising awareness

The most important of the positive effects identified was that the Levy has raised awareness about the need to address energy use and greenhouse gas emissions and focused the attention of companies on their energy management systems, even in companies that felt they were doing this reasonably well already. In this respect it was seen as a positive means of focusing the minds of businesses, and signalling to the rest of the world that the UK was taking action on businesses’ carbon emissions. Respondents felt that the Levy was a good ‘catch-all’ in that it creates a level playing field by addressing all businesses in the same way.

The Board or senior management in nearly two-thirds of the companies had discussed the CCL after its announcement, and some continue to do so. Of those that hadn’t, most were in the service sector and were winners from the Levy.

changes in energy management resulting from the Levy

There were mixed responses to the question about whether the CCL package had actually driven changes related to energy management and investment. The majority of the companies said that they were already engaged before the CCL, and energy management and investment were part

“the Levy has raised awareness about the need to address energy use”

of existing improvement programmes. These programmes were put in place for business reasons, particularly where companies were large energy consumers. However, several interviewees commented that the CCL has helped to keep the focus on energy and has added further justification to changes in management and additional investment.

In just under a third of companies, the CCL had driven changes in the management of energy. Of these, most were manufacturing companies with CCAs who were losing from the CCL. Changes included the establishment of energy management programmes, better co-ordination of energy between different sites, and increased expenditure on plant modifications. Respondents said that these were things that they would have liked to do before, but there was not the same incentive.

In contrast, one company said that the CCL had had a negative impact on energy investment as more money was going to pay the Levy instead of being used in its ongoing energy programme.

changes in the energy mix

Almost all the interviewees were aware that combined heat and power (CHP) and renewable energy are exempt from the Levy. However, only four companies had changed their mix of fuels as a direct consequence. In most cases, companies had investigated the options and concluded that there was not a good business case for changing.

Five companies, having looked into CHP, concluded that it was not an economically viable option, despite being promoted by the Government and eligible under the ECA scheme. Two of the energy-intensive companies had already invested in CHP prior to the CCL. However, it was commented that it was no longer economic due to a recent decline in the cost of electricity and increase in the price of gas. As one CHP user said, “CHP has been a classic example of the government’s failure to predict. CHP is no longer economic as a result of changes in the relative prices of electricity and gas. CHPs are being switched off, but the Government does not recognise this”.

One company had already started to use renewables in their energy mix prior to the Levy. Interestingly this was driven by Renewable Obligation Certificates¹⁷, which were said to be worth more to them financially than the CCL. One company said that they were hoping to increase the share of renewable energy in their energy mix in the future, but at the moment were restricted by the maximum amount available from their supplier. Of those looking into renewables since the introduction of the CCL, some had switched fuel supply as a direct consequence. Three companies, however, were dissuaded by the higher cost. Long-term contracts with existing suppliers also inhibited some companies from switching energy supply.

The fact that the CCL is a tax on energy use, rather than carbon emissions, was seen as preventing changes in the energy mix. The focus of the Levy is perceived to be on reducing energy use, not on shifting the source of the energy, and so it is seen as an inefficient means of reducing carbon emissions.

a package of measures

Companies who had entered into Climate Change Agreements tended to see the negotiated agreements and the Levy as a package of measures. Such a 'package' approach, with a link to targeted and agreed emissions reductions, was felt to be a better driver of change than one individual instrument alone. The diversion of some revenue to ActionEnergy and the ECAs was welcomed. Almost all companies interviewed were aware of the ECA scheme, but a third were not aware of ActionEnergy.

Only two interviewees were aware that their company had actually taken advantage of the ECAs. One commented that they were lucky because what they wanted to invest in was covered by the scheme, and that the list should be broader. From their experience it was suggested that the current method of listing all eligible components was inefficient, and a better way would be to have guidelines or rules outlining the type of components that are eligible. On a more positive note, one large manufacturing company said that ECAs were actually directing the way that they invest.

Eleven interviewees were aware that their company had looked into ECAs, but they had found that there were significant barriers to their participation. The most commonly cited were the applicability of technology covered and the capital needed to go into them. The complexity of the scheme, the bureaucracy and time aspect also inhibited uptake. Although the energy efficiency fund ActionEnergy was not known to all interviewees, there was a positive response to its function.

expenditure on energy

Of those companies disclosing information on energy consumption and expenditure, there were no consistent messages about changes. Reductions or increases resulted from individual business experience, for example expansion or reduction in business. Companies found it hard to say what effect various policies had had on energy expenditure, because, at around the time that the CCL was introduced, electricity became cheaper due to the New Electricity Trading Arrangements (NETA), and this offset the effect of the Levy in many cases.

A question was raised about whether some winners actually knew that they were better off because of the Levy. In some cases, the NIC rebate had not been taken into account in calculations (although virtually all interviewees were aware of the rebate being linked to the CCL). In the case of some larger companies, it was hard to assess the overall impact due to the way accounting is done for whole groups across a number of activities and

international boundaries. The FSB argues that SMEs are also not gaining from the rebates due to the small numbers employed, and their limited ability to draw down benefits from linked measures, including emissions trading and ECAs.

a blunt instrument?

Six of the interviewees argued that the CCL is a ‘blunt instrument’ that doesn’t incentivise behavioural change, particularly where it is most needed; others implied this to be the case. Larger consumers of energy were already

“the Government’s claim that the Levy is revenue-neutral was dismissed by many of the interviewees”

looking at ways to reduce consumption before the Levy was introduced, for business reasons. As a large manufacturer commented, “we are still polluting the atmosphere, it’s just that now it costs money”.

The design of the Levy, focusing as it does on taxing energy use and reducing NICs, means that most companies are either winners or losers, and this is largely a consequence of the sector they are in rather than their behaviour. Losers are generally found in the manufacturing sector and in other sectors that benefit relatively less from the NIC reduction. Winners, on the other hand, tend to be in

the sectors where companies are office-based. As a result, many of the interviewees saw the Levy as a ‘perverse subsidy’ for companies in the winning sectors, which do not even have an incentive to subsequently change behaviour. As one ‘winner’ said, the NIC rebate “reduces the ‘dead hand’ of the tax, but it doesn’t address the core issue of carbon emissions, as companies can be a net beneficiary yet take no actions to reduce carbon”.

recycling the revenues

No company supported the link between the Levy and the NIC rebate. The reasons for this were twofold. First, there is no connection between the NIC reduction and the aim of the instrument – the NIC reduction does not contribute to achieving climate change objectives. Second, and a point that was felt very strongly, was the way that NIC recycling benefits certain sectors irrespective of their success or failure. Some companies gained hugely from the Levy without having to do anything.

Even within those companies who are winners under the CCL, the absence of an internal connection between the money saved and more investment on energy saving measures means that recycling does not occur internally either. While the human resource department receives a windfall in terms of reduced NICs, the energy manager is faced with higher costs, as a result of the Levy, and no extra money to improve energy efficiency, as these financial streams are not linked. As one interviewee explained, “recycling is good, but it assumes that companies make an intelligent use of the information. In practice the way a company’s internal financial streams operate means that these links are not made.”

Further, the Government's claim that the Levy was revenue-neutral was dismissed by many of the interviewees, due to the fact that the tax was not revenue-neutral for individual companies, as they were either winners or losers. "Fiscal neutrality sounds great, but in reality it is far from neutral. It prejudices against manufacturing as the number of people in the sector is declining". Interviewees were sceptical that the Government actually linked the CCL and NICs reduction in their decision-making even though it was presented in this way. "The impression at the moment is that money disappears into the Treasury never to be seen again, even if this is not what actually happens". The subsequent rise in NICs in the March 2002 budget was put forward as evidence of an inconsistent message.

stick or carrot?

A couple of interviewees raised the point that taxation was taking money away from companies that could be used for investment in energy efficiency improvements. The Levy itself was perceived as being "too much of a stick and not enough of a carrot". It was also argued that the Levy placed a disproportionate burden on SMEs, especially those that are big users of energy and employ a small number of people. It was suggested that many smaller companies do not realise they are paying the Levy and so could not have responded by changing their behaviour. Even where there is awareness, time and cost act as barriers to improvements.

a complex instrument

The final principal weaknesses of the Levy related to its complexity and lack of transparency. It was generally felt that there had not been enough information from government about whether the Levy is effective, including information on the success or failure of climate change agreements, ActionEnergy and other initiatives. Its complexity was also perceived as a weakness, and that this undermined the notion that tax is always easier to apply and understand.

the climate change agreements

Companies from sectors which had negotiated a climate change agreement (CCA) saw the agreements as critical, even, in the words of one SME, "a matter of survival", due to the amount the rebate is worth to them. However, problems were identified with the practicalities of the CCAs. The main issue was the time involved in data collection and the negotiations. It was noted that it was difficult to predict what consumption would be so far into the future, due to uncertainty in business volume and operating conditions, and hence it was difficult to set realistic targets. There is still uncertainty regarding how the agreements will be policed and the penalties resulting from not meeting targets, which are of concern to business.

Concerns were also raised about the cost of administering the scheme and for some companies to join CCAs. Most companies who discussed their arrangements were happy with the way they had been negotiated via trade associations, but one large company would have preferred to negotiate

climate change levy – achievements and disappointments

achievements

While interviewees were critical of aspects of the CCL, achievements were noted:

- It has succeeded in raising awareness of climate change
- It has succeeded in putting energy efficiency higher up the agenda for some companies
- It led to the negotiation of the CCAs, which should result in reduced energy use
- It has encouraged some companies to switch to sourcing their electricity from renewable energy

disappointments

However, problems with the Levy were identified:

- Its effectiveness has been undermined by declining energy prices
- It has failed to encourage CHP uptake for similar reasons
- It is not a carbon tax and therefore potentially distorts attention away from some low-carbon activity
- It has failed to engage SMEs
- The link with NIC reductions is seen as inappropriate
- The links with other policies, both current and future, are not clear

directly with government. In some cases, companies paid large sums to their trade association, and it was thought that this money could have been better spent on actual improvements. In one instance this amounted to tens of thousands of pounds, although generally the amount is much lower.

eligibility for CCAs

There is some disappointment and a feeling that the system is unfair for those who are not eligible for CCAs. Some activities, despite being big energy consumers, are excluded from the CCAs, for example refrigeration. Consequently the Levy has a huge impact on some companies, as they are ineligible for a rebate for all or part of their business, despite its high energy use. Some argued that the Government did not look at all sectors, but instead made a political decision to protect certain sectors, including the public sector. In this respect the decision to limit eligibility to activities classified as IPPC (Integrated Pollution Prevention and Control) processes was also criticised. It was put forward that the CCAs should be open to all to participate in as they act as a great incentive to change, and reward those who reduce emissions. This would make them more applicable to SMEs too, which have in most cases smaller, but certainly not insignificant, energy costs.

what should happen next?

Interviewees were asked their opinion on the way forward for energy policy, and in particular, for the way that economic instruments should be used. The following points were raised.

A strategic approach to energy policy: One of the overriding conclusions from these responses is that there is a need for the Government to develop a strategic approach to energy policy in the UK. Existing policy was described as unclear, incoherent, inconsistent and lacking transparency. Industry feels it has insufficient information regarding the future direction of policy. There was also a strong feeling that government is telling business to consider its carbon emissions in all aspects of its operations, whereas it was not doing the same itself, through public procurement, for example.

Tackling the domestic and transport sectors: Some of the interviewees felt that the Government is currently avoiding taking the necessary decisive action on energy use in the domestic and transport sectors, for fear that it will provoke the reaction that followed the proposed VAT increase on domestic fuel in the 1990s and the transport fuel protests of autumn 2000. The view was expressed by some, particularly from manufacturing, but also from CCL winners, that the Government is too concerned about losing votes to take action in these areas, whereas there are few votes to be lost by targeting industry.

Help for SMEs: For very small businesses, it was suggested that more active provision of energy efficiency information by energy and electricity suppliers, as is done for domestic customers, would be very useful. For SMEs, generally, it was felt that there was a need to make the instruments more relevant to them. To help smaller businesses, particularly those in non energy-intensive sectors and which rent their office space, there is a need to develop innovative policy instruments to encourage the improvement of energy efficiency in buildings.

Increase certainty about emissions trading, particularly the EU scheme: The current uncertainties with respect to the links between the CCL, and its agreements, and the UK emissions trading programme were considered by some, particularly in the manufacturing sector, to be contributing to the low amount of trading currently being undertaken. Doubts were also raised about whether the Levy, and the CCAs, could survive the introduction of the EU emissions trading scheme, as it is currently proposed.

“interviewees felt that the Government is currently avoiding taking the necessary decisive action on energy use in the domestic and transport sectors”

Reform the Climate Change Levy: As is clear from respondents' answers in the discussion of the CCL above, there was support for a set of reforms to the CCL. Many businesses felt that it should be a carbon tax rather than an energy tax, that the link with NICs should be ended, and that more funds should be channelled into energy efficiency and carbon reduction. Some wanted to broaden the CCAs to cover all industrial sectors/activities, rather than just those covered by IPPC. It was suggested that government could provide more information on the effectiveness of the CCL, to increase the accountability and acceptability of the Levy.

Streamline sources of advice and support: There was general support for the work being undertaken by the Carbon Trust, but some felt that there was a proliferation of potential sources of advice that confused business, particularly smaller ones with less resources to dedicate to addressing non-core issues.

Think about product lifecycles: It is currently not in a company's interest to manufacture a product that, when used, would result in reduced emissions or improved energy efficiency for the consumer, if it requires more energy to produce and thus results in a higher Levy.

Support for clean technology: More thought needs to be given to how to incentivise companies to purchase clean technology. Government must take action to reduce the barriers to the introduction of new technologies, eg CHP and renewables. It was proposed by one interviewee that the Government should set up a mechanism, possibly at the Carbon Trust, to actively monitor the development of new technologies and to assess the barriers to their further development or use.

next steps for energy taxation

The final section of this report discusses the findings of the survey, draws conclusions and puts forward recommendations as to how energy taxation should develop, in order to achieve lasting cuts in emissions of carbon dioxide and combat climate change at least cost to business and society.

The discussion below compares the findings of our survey with the theory and evidence already collected and outlined in the first section of this report. The discussion shows that there is some consensus about the actual and potential role of taxation. However, it also shows that, on some issues, the views and experience of business, as shown in the survey, do not tally with the lessons of existing theory and evidence. In these cases, the discussion makes clear these different views, and draws conclusions about the overall picture that emerges.

The recommendations at the end of this report chart a way forward for energy taxation. The recommendations put forward come from the report's authors and represent the views of Green Alliance. They are based on the evidence of the survey, and take into account the views expressed by the businesses that took part. However they are not necessarily the same as the recommendations that the businesses in the survey made or would have made.

the use of economic instruments to encourage carbon reduction

Both the theory and the evidence from the survey show clearly that economic instruments have a substantial role to play in tackling climate change. It is clear that there will have to be more, not less, use of economic instruments to reach current targets of carbon reduction and move beyond them. As the survey shows, most businesses accept the limitations of purely voluntary approaches. Voluntary measures are useful in achieving a degree of energy efficiency improvements, but cannot drive more fundamental change. Price signals in the form of taxes or trading systems are a strong driver, and they are a language that business understands and can learn from. The effectiveness of economic instruments is shown by business responses to the CCL. Businesses have variously switched to renewable energy; increased investment in energy efficiency; and developed a more strategic approach toward energy management in response to the Levy and the associated package of measures.

Conclusion: There is widespread support for the use of economic instruments to encourage carbon reduction, as part of a package of measures.

climate change policy and energy policy overall

Despite the mix of economic instruments and other climate change policy measures now in place, it seems unlikely that the UK will achieve the Government's target of 20 per cent reduction in carbon emissions by 2010, let alone the 60 per cent reduction by 2050 recommended by the RCEP. Attempts to increase the price of carbon through the CCL and emissions trading have failed due to falling electricity prices, caused by another regulation – the New Electricity Trading Arrangements (NETA). The introduction of NETA at the same time as the CCL has undermined the Levy, diluted its message and caused considerable uncertainty.

The efficiencies yielded by a competitive energy market are to be welcomed. However, they make it more important that carbon and energy taxation compensate for energy price reductions. The incentive to make the use of energy more efficient must be maintained and increased. Falling prices overall also provide more opportunity for carbon taxation to be set at a higher level, yielding higher revenues, without having undue effects on competitiveness. Low-carbon energy sources and energy efficiency technologies will only be systematically developed and deployed if markets perceive that carbon-based fuels will become progressively more expensive in the future. At best current Government policy is giving mixed messages in this area. At worst it seems incoherent.

The conflict between NETA and the CCL is not the only mixed message. As the survey makes clear, we now have a plethora of policies which are not clearly related to each other, with resultant complexity, confusion and transaction costs. A number of the survey respondents were unclear how the CCL interacts, or should interact, with emissions trading, and how this will link in with the new EU emissions trading scheme. The Renewables Obligation and its tradable certificates, though in many respects a welcome policy measure, add to the complexity of the situation, as do the Climate Change Agreements, which were introduced in response to business demands to reduce the CCL's impacts on the competitiveness of energy-intensive sectors. The myriad potential sources of support and advice on energy efficiency tend to bewilder businesses, especially SMEs. Such a multiplicity of initiatives and instruments makes it hard for businesses to know where to turn, and makes it much more difficult to judge the effectiveness of individual measures.

Conclusion: Energy policy – and particularly policy that affects energy pricing – needs to be made consistent with policy on climate change. Climate change policy itself will need to be intensified if deep and lasting cuts in carbon emissions are to be achieved. Government needs to be much clearer about its long-term objectives, to provide greater certainty to drive business planning and investment.

the question of carbon or energy taxation

The economic theory behind environmental taxation is clear that environmental taxes should be levied directly on the emissions causing external environmental costs. The businesses in the survey reported difficulties with the CCL because of its focus on energy, not carbon. Although there are differential energy tax rates, and exemptions for CHP and renewable energy, the main message of the tax is that it makes energy – rather than carbon – the focus of attention. This obscures the message that it is carbon emissions, rather than energy use in itself, which companies need to address. It also makes it more difficult for the tax to be related to an emissions trading scheme which is denominated in carbon. However, if taxation is based on carbon, there will be a need to address the issue of nuclear power separately. Though it is a low carbon fuel, nuclear power has significant environmental externalities, particularly linked to waste, that need to be incorporated into the price system.

Conclusion: Taxation should be based on carbon, not energy.

the link to other taxes

The CCL was designed in line with the UK government's Statement of Intent on Environmental Taxation, which stated that taxation on pollution and resource use should increase, with compensation through reduced taxes elsewhere in the economy, such as labour.

This fits with the theory behind environmental taxation set out in the first section of this report, namely that environmental taxes can substitute for other taxes which are more distorting, i.e. reduce the output of the economy as a whole.

However, the survey showed that businesses do not support the principle of compensating for environmental taxes through reductions in labour taxes. This principle was unanimously rejected by the companies in our survey.

Businesses seem reluctant to accept that environmental taxes, like other taxes, can be sources of revenue for general government expenditure. This could prevent environmental taxation from playing an efficient role in the public finances and achieving its full potential benefits.

“Such a multiplicity of initiatives and instruments makes it hard for businesses to know where to turn”

Business attitudes in this area may have several causes. They may stem from a reluctance on the part of government to explain and communicate its reasons for a tax shift of this sort; and from the mixed messages emerging from government. The March 2002 budget actually increased National Insurance contributions, the very same taxes that were reduced through the CCL package. They may also be caused by the lack of joined-up thinking

within businesses themselves – the parts of the company that benefit from reduced NIC contributions are often separate from, and do not communicate with, the parts of the company that have to pay the CCL. This was certainly a finding of the survey, even to the extent that some energy managers claimed that their budget for energy efficiency had been *reduced* because money to pay the CCL had to be found from the same budget.

The CCL also benefits employment-intensive companies, such as those in the service sector, who gain from reduced NICs without making any improvements to their energy efficiency or carbon performance. Some businesses regard this as an unfair bestowal of benefits on certain sectors. However, from a perspective which regards the current balance of taxation between environmental and other factors as seriously deficient, the tax shift appears necessary for the ultimate creation of a low-carbon economy.

Conclusion: The general rejection by businesses of environmental taxes as fiscal measures that can substitute for employment or other taxes is a significant obstacle to their efficient implementation. If carbon taxes are to be set at a high enough level to achieve the carbon cuts necessary, it seems inevitable that some form of reduction of employment taxes (or other taxes such as corporation tax) will need to accompany them. Government needs to make a clearer and more consistent case for this tax shift if it is to be able to realise its economic and environmental benefits.

use of the revenues from environmental taxes

As reported above, many businesses in the survey suggested that all revenues from environmental taxes should be spent in the sectors from which they derive, in order to reinforce the environmental objectives of the tax. This would help businesses to prioritise environmental spending, and could, to an extent, help to make tax changes politically acceptable. However, also as discussed above, it is clear that such an approach would compromise the ability of environmental taxes to realise their economic advantages over other instruments of environmental policy. For example, there is no doubt at all that spending most, let alone all, of the revenues from the CCL on subsidising business energy efficiency measures would introduce huge disparities in respect of incentives for energy efficiency across the economy as a whole. Conversely, the arguments for public subsidy for energy efficiency in the wider economy should not depend on whether there happens to be a related tax to pay for them.

Trade associations in particular have argued that, unless the revenues from environmental taxes are used to subsidise related activities of environmental improvement, there is no incentive to undertake that environmental improvement. However, as the analysis of environmental taxation in the first section of this report shows, the main incentive effect of an environmental

tax should come from a desire to avoid paying the tax, resulting in the abatement of the activity or impact which incurs liability for it. Business managers understand that bottom-line improvements brought about from cost reductions contribute to profits as much as increased revenue. The incentive for cost-reduction alone should give an environmental tax its drive for environmental improvement, whether or not there are associated subsidies or incentives.

However, the absence of a general economic justification for connecting environmental taxation directly with spending of the resulting revenues does not mean that there is no case at present for increasing the amounts of revenue that are spent in this way. On the contrary, there is a strong case for more public spending in such areas as energy efficiency and support for development of renewable energy technologies. If energy taxes serve to raise the revenues for this expenditure, and thereby link the tax to social benefit and make it easier to introduce, this is a powerful political argument for hypothecation where it is in line with public spending priorities. With regard to CCL revenues, if more are to be allocated to subsidise improvements in business energy efficiency, then business organisations need to play a role in ensuring that their members both understand the tax and its purpose, and are informed about the means to reduce their exposure to it.

Conclusion: There is a limited case for using some of the revenues from environmental taxation, and more of the revenues from the CCL, to aid the transition to a more environmentally sustainable economy. Business organisations need to become more involved in helping their members to take advantage of these subsidies.

the appropriate level of environmental taxes

In a number of areas of environmental policy (for example, air pollution, climate change and waste), the Government has adopted long-term targets in order to signal a desire to make economic activities more environmentally sustainable. Experience suggests that using environmental taxes, along with other measures, to move towards these targets at the desired rate, and changing the tax levels to change the rates on the basis of new scientific insights or changed social aspirations, is a more practicable and less controversial approach to environmental taxes than seeking to rely on contested valuation methodologies. It is also in line with the desire of business for taxes to be part of a package of measures to achieve targets set by government as part of a long-term strategy.

Conclusion: Environmental taxes are most effectively applied by adjusting their levels on an iterative basis in order to achieve targets relating to environmental sustainability.

environmental taxes and competitiveness

It was seen earlier in this report that, to date, business lobbying has been largely successful in securing exemptions from environmental taxes where those might be damaging to competitiveness. In the words of the recent report to the European Commission, “the impact of levies on trade and competition is generally negligible since the potential for such impacts is eliminated in the design”⁵. But business concerns about competitiveness remain.

“so far, if anything, environmental tax policy has been too cautious, sacrificing the development of new industries for the protection of old ones”

In drawing conclusions on this issue it is important to keep the whole picture in view. It needs to be clearly recognised that the decline of environmentally intensive sectors is actually desirable, provided that less environmentally damaging sectors, with similar or greater opportunities for livelihoods and profits, substitute for them in the economy. To take a non-environmental example from history, the development of motor cars was disastrous for the competitiveness of the existing transport industry (railways, horses and carts), but not for the economy as a whole.

The policy objective in these circumstances is to work with the grain of markets to synchronise investments with the environmental realities of the future, rather than the past, without prematurely writing off assets and causing economic dislocation in the present. So far, if anything, environmental tax policy has been too cautious, sacrificing structural change, and the development of new industries, for the protection of old ones. One result is that, almost without exception, countries are struggling to meet their carbon emission targets. If climate change is really the problem that scientists and most politicians now assert, environmental tax policy will have to be bolder in future, giving more incentives to the entrepreneurs who are building the low-carbon industries of the future and less weight to the arguments of the high-carbon sectors of the present. It would, of course, be easier to do this if carbon or energy taxes could be harmonised at an international level, such as through a common European approach to carbon or energy taxation, which has been proposed on a number of occasions over the past ten years, but has unfortunately so far failed to gain the unanimous support of EU member states which it requires.

Conclusion: The effects of environmental taxation on competitiveness remain a concern which continues to need to be addressed. However, this should not prevent or excessively constrain the necessary structural changes which environmental taxes are seeking to bring about.

improving the environmental performance of products as well as processes

The current system of business energy taxation focuses on the use of energy by businesses, in manufacturing products, rather than on the use of energy by the products themselves. Yet much of the environmental impact from products occurs during their use phase. As many businesspeople in the survey pointed out, at present companies have very little incentive to make their products more energy efficient or less carbon intensive. The businesses in the survey report a need for a more co-ordinated attempt to reward companies for manufacturing energy-efficient products, to supplement the current energy efficiency labels and regulations.

Conclusion: Businesses should be given credit through an appropriate economic instrument for making products less carbon-intensive and more energy efficient.

seeking carbon reductions across the economy

Business has some legitimate concerns, expressed in the survey, that it has been excessively the focus of energy taxes because of political difficulties in applying them to households. It would also like to see more leadership from government in addressing its own environmental impacts. The Treasury's recent consultation on the use of fiscal instruments in the domestic sector is a welcome development. The Government's climate change policy would also carry greater conviction if it did more both to address its own emissions and to make energy efficiency a more important consideration in government procurement.

Conclusion: Business would be more convinced of Government's commitment to reduce carbon emissions if energy taxes were applied more evenly across the economy and if measures to reduce the emissions from the Government's own activities were intensified.

next steps for energy taxation: recommendations

Based on the conclusions reached above, this report offers the following recommendations to government for the future development of economic instruments relating to the use of energy.

1) A clear commitment to the use of economic instruments to bring about a transition to a low-carbon economy

The upcoming Energy White Paper should be clear and unambiguous about its determination to tackle climate change. The Government should adopt the target, as recommended by RCEP, to reduce carbon emissions by 60 per cent by 2050. Energy policy should be brought into line with climate change policy, and a specific focus placed on reducing contradictions in energy policy. In particular the Government should:

- Strengthen the environmental guidance given to OFGEM such that it is required to report on the carbon implications of its measures to promote competition and advise Government as to how carbon emissions from regulated activities can be reduced. In particular OFGEM should be asked how the New Electricity Trading Arrangements (NETA) could be reformed to provide more support for renewable energy and CHP.
- Signal clearly, through all aspects of energy policy, that the cost of carbon will increase over time, to give business the certainty needed to plan to reduce carbon use and invest in alternatives.
- Ensure that the White Paper provides a focus for nurturing the ‘winners’ of low-carbon policy, encouraging the development of new technologies, businesses and sectors to address environmental challenges.

2) A strengthened and simplified Climate Change Levy

The Climate Change Levy (CCL) is a useful first step toward taxation for climate change. However, the survey reported here also uncovered a considerable degree of frustration about the design of the Levy, and the confused messages emerging from it. The following steps should both strengthen and simplify the CCL:

- Put the CCL at the centre of the energy white paper and a revised climate change strategy, and signal clearly the intention to increase the price of carbon over time.
- Over a five-year period, adjust the rates of the Levy to reflect the carbon content of fuels, to create a carbon-based tax. Implement a separate nuclear Levy at the same rate in recognition of the environmental externalities of nuclear power.
- Over a ten-year period, phase out exemptions to the Levy. Government should make clear that every exemption from environmental taxation

increases the complexity and administrative burden of environmental policy and should therefore be strongly justified by its potential benefits.

- Provide business with clear, simple alternatives to paying the CCL, including through investment in energy efficiency and purchase of renewable energy (see below).
- Investigate, through consultation with business and environment groups, the business resistance to regarding environmental taxes as a legitimate source of government revenue in general, and to the link between National Insurance contributions and the Climate Change Levy in particular. Argue more strongly the case for a link between increased environmental taxes and reduced taxes elsewhere, and investigate the possibility of substituting CCL revenues for other business taxes, such as corporation tax.

3) A simpler system for help with energy efficiency and low-carbon technologies

Though there is a need to signal that the price of carbon will increase gradually, the Government should also make it simple and cost-effective to implement alternatives, such as energy efficiency, CHP and renewable energy. Our survey showed that few businesses were investing systematically in low-carbon options. Possibilities include:

- Continue to use a proportion of CCL revenues to fund the Carbon Trust and encourage low-carbon technologies.
- Provide integrated information and a single avenue of approach, or ‘one-stop shop’, to the many sources of advice and support that are now available to help businesses reduce their carbon emissions¹⁸.

4) Work through the EU to create a uniform European model of carbon pricing

To ensure that effects on competition are minimised, the UK should work through the EU to move toward a European system for carbon pricing. In particular:

- Work towards the smooth replacement of the UK emissions trading scheme by an EU scheme that is mandatory and has a gradually increasing proportion of auctioned permits.
- Support the 1997 Energy Taxation directive proposal and encourage the development of uniform and gradually increasing rates of carbon taxation across the EU.

5) Address all sectors

It is beyond the scope of this report to put forward recommendations for other sectors, such as the domestic or transport sectors. However, it is clear from our survey that there is a need to place greater emphasis on measures to reduce emissions from other sectors, particularly the domestic, transport

and public sectors. In addition, there is a need to address the carbon intensity of products as well as processes. There may be scope for reform of VAT rules to allow lower ratings for less carbon-intensive products, or for taxes on particularly inefficient products, such as incandescent light bulbs or the worst-performing electric appliances.

annex – list of companies interviewed

large companies (17)

manufacturing:

Anglesey Aluminium Metal Co
BG plc
BP
GlaxoSmithKline
Pilkington
RMC
Stepan UK Ltd
Vantage HSE

service sector:

Aviva
Comet
KPMG
Lattice
Royal Bank of Scotland
Sainsburys
Severn Trent
Tesco
United Utilities

small and medium sized companies (7)

manufacturing:

Armitage Pet Products
Bernhard Metals
Shirley Dyeing and Finishing

service sector:

Carey Electrical Engineering
Freshwater
Seacourt Press Ltd.
Greenergy

other (3)

CBI
Federation of Small Businesses
KPMG (tax accountant perspective)

notes and references

- 1 Performance and Innovation Unit (PIU) 2002 *The Energy Review*, February, Cabinet Office, London (pp.34-35)
- 2 RCEP (Royal Commission on Environmental Pollution) 2000 *Energy – the Changing Climate*, 22nd Report of the Royal Commission of Environmental Pollution, The Stationery Office, London
- 3 European Environment Agency (EEA) 1996 *Environmental Taxes: Implementation and Environmental Effectiveness*, EEA, Copenhagen (p.30)
- 4 European Environment Agency (EEA) 2000 *Environmental Taxes: Recent Developments in Tools for Integration*, EEA, Copenhagen (p.49)
- 5 ECOTEC Research and Consulting 2001 *Study on the Economic and Environmental Implications of the Use of Environmental Taxes and Charges in the European Union and its Member States*, April, available on http://europa.eu.int/environment/enveco/taxation/environmental_taxes.htm (Executive Summary, p.ii)
- 6 OECD (Organisation for Economic Cooperation and Development) 2001 *Environmentally Related Taxes in OECD Countries: Issues and Strategies*, October, OECD, Paris
- 7 UK Round Table on Sustainable Development 2000 *Not too difficult! Economic instruments to promote sustainable development within a modernised economy*, April, available from Sustainable Development Commission, London
- 8 Baumol, W. & Oates, W. 1971 'The Use of Standards and Prices for the Protection of the Environment', *Swedish Journal of Economics*, March, Vol.73 (pp. 42-54)
- 9 OECD (Organisation for Economic Cooperation and Development) 2001 *Environmentally Related Taxes in OECD Countries: Issues and Strategies*, October, OECD, Paris (p.72)
- 10 Böhringer, C. & Rutherford, T.F. 1997 'Carbon Taxes with Exemptions in an Open Economy: A General Equilibrium Analysis of the German Tax Initiative', *Journal of Environmental Economics and Management*, Vol. 32 (pp.189-203)
- 11 For a survey of this literature see Ekins, P. & Barker, T. 2001 'Carbon Taxes and Carbon Emissions Trading', *Journal of Economic Surveys*, Vol.15 No.3 (pp.325-376)
- 12 HM Treasury 1998 *Economic Instruments and the Business Use of Energy: a Report by Lord Marshall*, November, HM Treasury, London (p.19)
- 13 CBI (Confederation of British Industry) 2002 *Green Taxes: Rhetoric and Reality*, CBI, London (p2)
- 14 The surveys are reviewed in ENDS 2002 'Climate Change Levy making limited impact on business energy management', ENDS Report 330, July (p.9)
- 15 FSB (Federation of Small Businesses) 2002 *The Climate Change Levy: Another Cost for Small Businesses*, FSB, London
- 16 Defined as companies with fewer than 250 employees
- 17 Electricity suppliers are now obliged under the Renewables Obligation (RO) to source an increasing proportion of their electricity from renewable sources, evidence of which is provided by Renewables Obligation Certificates (ROCs). These are issued either by renewable generators when they sell their output to suppliers, or by the energy regulator (Ofgem). In the latter case the ROC price is 3p/kWh, which was set by the Government to limit the potential cost of the RO to consumers. The ROCs are tradable and their price currently exceeds the value of the CCL exemption for which renewable electricity also qualifies.
- 18 This is the subject of a separate report by Green Alliance (2001), *Institutional Design for a Low-Carbon Economy*.

