green fiscal commission

Doing What it Takes to Reduce Carbon Emissions: The Case for Green Fiscal Reform

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About the Green Fiscal Commission

The Green Fiscal Commission is an independent body and is not affiliated to any political party or government. Its membership includes experts from business, leading academics, senior MPs from all three main UK political parties, three members of the House of Lords, and representatives from consumer and environmental organisations.

The Commission's aim is to assess the social, environmental and economic implications of a substantial green tax shift, such that 15-20 per cent of tax revenues come from environmental taxes. The Commission is reviewing and collating the existing evidence on the implications of a green tax shift as well as conducting new research. The results from this work will be placed in the public domain to stimulate debate and, we hope, action on this agenda.

This briefing is a general introduction to the work of the Commission, the case for a major programme of green fiscal reform and the issues this may raise. Briefings have already been published on topics ranging from 'Public Opinion on a Green Tax Shift' to 'How effective are green taxes?'. These are available on the Green Fiscal Commission website:
http://www.greenfiscalcommission.org.uk/

Further briefings are to be published. See the final two pages of this briefing for more information.

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Doing What it Takes to Reduce Carbon Emissions: The Case for Green Fiscal Reform

Summary

The challenge of reducing carbon emissions to reduce the extent of climate change is not only an issue of consensus in the international scientific community but is also now legally enshrined in UK law. Meeting challenging but necessary carbon reduction targets will require the development and implementation of policy options which must be applied more vigorously than they currently are. Given the importance that price has on the purchasing choices people make, green taxes are a vital part of driving down carbon emissions. However, such taxes are controversial and difficult for politicians to implement. This briefing presents the case for green taxes to be (as part of a balanced green fiscal reform) an essential part of a carbon reduction strategy. It also highlights some of the political obstacles to their implementation at the required level, and makes suggestions for how these might be overcome.

The Imperative to Reduce Carbon Emissions

The UK has set legally binding targets to reduce greenhouse gas emissions.

Through the Climate Change Act the UK Government has now legislated into statute the widespread international recognition that industrial countries must reduce their emissions of greenhouse gases (GHGs) by 80 per cent from 1990 levels by 2050 if there is to be any chance of keeping average global temperature increases to 2^{o}C, which is the EU's definition of averting dangerous anthropogenic climate change. This will require comparable reductions in emissions of carbon dioxide, the principal greenhouse gas, which are mainly the result of burning fossil fuels. It is these emissions that are the focus of this paper.

The associated targets for 2020 will need to be met through renewables, energy efficiency and demand reduction.

The Climate Change Committee has recommended that, to get on a trajectory to meet its 80 per cent target, the UK should reduce its GHG emissions by a minimum of 34 per cent from 1990 levels by 2020. This is too soon for a major part in such emissions reduction to be played by carbon capture or storage (CCS) or new nuclear plants, though these may make a significant contribution thereafter. This means that most of the reductions by 2020 will have to come from the large-scale deployment of new renewables technologies (the most important of which is likely to be offshore wind), energy efficiency (the delivery of the same energy services with lower use of energy) in households, transport, business (industry and commerce), power generation and the public

sector, and demand reduction (a reduction in consumer demand for energy services).

The rate of emissions reduction is too slow so new polices are needed.

In a current context where carbon emissions are not being reduced anywhere near fast enough to reach this 2020 target, the purpose of this paper is to sketch out the kind of new policy approach that is likely to be required in order to do so. First it is necessary to recognise some inconvenient facts about the use of energy in industrial (and industrialising) societies.

Some Inconvenient Facts About Energy Use

A number of facts about energy use in a society like the UK need recognition if any policy to radically reduce carbon emissions is likely to be successful.

Energy use increases with income…

First, other things being equal, energy use increases with income. There is no sustained period of economic growth in the UK or any other industrial or industrialising society for which this has not been the case. Policy to 2020 must therefore recognise that if the UK is to experience economic growth to 2020 (as is widely hoped), the associated underlying trend of energy use will increase.

One of the reasons for the close connection between economic growth and energy use is that, consequent to the laws of thermodynamics, energy use is fundamental to all kinds of economic activity (though some activities are obviously more energy-intensive than others). The innovation that drives economic growth is therefore often associated with new products or processes that use energy, a tendency Oreszczyn (2004) has called 'our innate ability to think of new ways to use energy'.

So just improving energy efficiency alone won't be enough to meet our carbon targets.

One consequence of this is that improvements in energy efficiency by themselves are most unlikely to reduce the absolute consumption of energy. Although they will reduce the consumption of energy for the delivery of any given service, improvement in energy efficiency will increase the demand for energy services overall and this, combined with the continual creation of new energy service demands through the innovation process will overwhelm the particular reductions in consumption from the efficiency improvement. Indeed, this must be the lesson of past experience; industrial societies have seen huge improvements in energy efficiency across practically all uses of energy over the last fifty years (and before) and yet energy consumption has obstinately increased with the size of the economy.

Increasing energy prices reduce energy use…

Second, the only change in economic circumstances that has been shown to reduce energy consumption is an increase in energy prices. If energy prices increase in relative terms compared with other goods and services, this channels innovation into less energy-intensive routes. If they increase in absolute terms, this reduces the demand

for energy services (old and new), and encourages investment in energy conservation and efficiency technologies. If the energy price has been increased through the imposition of a price on carbon (for example, through an emissions trading scheme), then the price increase will also encourage investment in low-*carbon* energy sources.

And increasing the price of energy appears to be the only policy that contributes to all three ways of meeting the 2020 carbon reduction targets.

It was noted above that it is only through increased energy efficiency, increased investment in renewables and reduced demand for energy services that there is any prospect of meeting the carbon-reduction target for 2020. An increase in energy prices is the only change in economic circumstances that will directly promote all three of these outcomes. It is difficult to avoid the conclusion that such an increase is a necessary (if perhaps not sufficient) condition for carbon reduction on the scale that is now required.

Ways of Increasing Energy Prices

Energy prices can be increased by governments or the market…

In the past there have been two sources of energy price increases: from markets, as (for example) the oil price increases in 1973 and 1979, and more recently in 2007-08; and from government policy, mainly from taxation such as fuel duty or the Climate Change Levy in the UK. Both these taxes have reduced fuel use below what they would otherwise have been, although in the case of fuel duty even a relatively high rate of duty has not been enough to actually reduce the use of transport fuels. In Germany however, a 90 per cent increase in diesel prices and 62 per cent increase in petrol prices over 1997-2006, largely driven by increases in taxation, caused the total consumption of the main road fuels to decrease by 13 per cent.

But price increases by government keep revenues in the country and generate tax receipts which allow other taxes to be reduced …

There is a very important economic difference between market-driven and taxation-driven increases in energy prices. In the case of the former the extra revenues accrue to energy companies and energy-producing countries, at the expense of energy-consuming countries. With the latter the government of the energy-consuming country keeps the revenues from the price increase, which, for a given level of government expenditure, allows it to reduce other taxes, with greatly reduced negative impacts on its economy.

And market increases in the oil price incentivise the development of high-carbon substitutes…

Another important difference is that market-driven increases in, for example, oil prices will stimulate investment into high-carbon substitutes for crude oil (e.g. oil shale and tar sands - as indeed has happened with the relatively high oil prices over 2006-08) as well as into low-carbon energy sources. Government taxation, in contrast, can target carbon emissions through

a carbon tax, which would penalise high-carbon oil substitutes and be far more effective in promoting new investment into low-carbon energy sources.

For both these reasons, if it is necessary for the prices of high-carbon fuels to increase for carbon emissions to be reduced, governments would be well advised to bring about these increases through taxation rather than leaving the task to market forces. Recycling the revenues from green taxation by reducing other taxes (or by increasing them by less than would otherwise be the case), is the essence of green fiscal reform.

Political Difficulties with Environmental Taxes

Green taxes are necessary but problematic…

It is highly unfortunate that green fiscal reform emerges from the above analysis as a necessary condition for significant carbon reduction, because governments, including the UK Government, find green taxes very problematic politically. At least four interacting, or mutually reinforcing, factors make this so in the UK context.

Because people dislike green taxes more than other taxes…

First, people tend to dislike green (and especially energy) taxes more than other taxes, and to regard them as an illegitimate source of general government revenues. There are a number of possible reasons for this: energy taxes affect highly valued forms of consumption (e.g. driving, flying); energy taxes have become regarded as 'stealth' taxes; because energy taxes can be (but do not need to be) regressive, they are regarded as unfair; energy taxes (like other consumption taxes) are not related to ability to pay; and some people think that environmental taxes are intended to change behaviour, not raise revenue – revenues deriving from them should therefore be hypothecated back to promote the behaviour change.

And people tend to think green taxes are extra taxes rather than replacements for other taxes…

Second, people do not trust governments to implement green taxes in a fiscally neutral way. The identification of green taxes as 'stealth' taxes exacerbates this lack of trust. It may be noted that the desire for revenue neutrality conflicts with a perceived need for hypothecation (which implies an increase in overall taxation). However, both factors – the lack of trust and the demand for hypothecation – tend to limit the politically feasible scope for green taxes.

And they are thought to affect business competitiveness negatively…

Third, green taxes on business (like any other taxes on business) can have impacts on competitiveness. It is now apparent that in the case of energy or carbon taxes, the number of sectors that would be significantly affected by even quite a large green fiscal reform (which would be revenue-neutral to business) would be rather small and the effect on the economy could be positive overall, especially when they incentivise the development of new low-carbon industries as has already happened in Denmark

and Germany. But as ever the losers from such a tax are more politically resonant than the potential winners, so that competitiveness arguments continue to act as a brake on the implementation of green fiscal reform.

And they are seen as unfair.

Fourth, energy taxes on households are widely regarded as regressive and unfair. This is a situation rather special to the UK. All five other North European countries that have implemented green fiscal reforms to date (Denmark, Finland, Germany, the Netherlands, Sweden) have included household energy use in the tax base, sometimes on top of very high VAT rates (e.g. 25 per cent in Sweden). Undoubtedly the energy-inefficient nature of much of the British housing stock plays some part in this, as does the high political profile of the concept of 'fuel poverty', which has nothing like the same resonance in mainland Europe as it does in the UK, even in those countries which pay more attention to social equity generally.

BUT, despite these negative perceptions, green fiscal reform should lead to widespread economic, environmental and welfare benefits.

All the above factors will need to be addressed to some extent if there is to be any chance of introducing a significant green fiscal reform, and therefore of reducing carbon emissions substantially in Britain by 2020. As part of this, it should be stressed that implemented gradually, with appropriate complementary policies, green fiscal reform should lead to a number of benefits for the UK apart from its main objective of reduced carbon emissions: these include new low-carbon industries with the possibility of export markets; a better-trained construction industry that is far more expert in energy efficiency and low-carbon household technologies; far more energy-efficient homes, with consumers keeping warmer while using less energy, and spending no more on energy than before because the higher price was balanced by their need to use less to meet their needs; greater energy security, the UK being less vulnerable both to disruptions to supplies of fossil fuels (because of a more diverse energy mix) and to energy price rises in oil and gas markets (because of greater energy efficiency). These benefits make green fiscal reform a policy worth fighting for despite its political challenges.

Implementing Green Fiscal Reform

The need for green fiscal reform must be widely supported before it will be able to be implemented, in terms of understanding both the need for substantial carbon emissions reductions and the fact that energy prices need to be increased steeply to achieve them.

The first priority if green fiscal reform is to be implemented is that the argument for the necessity of a green fiscal reform must be won. This argument has two parts: first that it is imperative to reduce carbon emissions significantly; and second that green fiscal reform, entailing steep increases in energy prices, is a necessary policy to achieve such reduction.

Neither part of the argument has yet been won in public debate. Although legally binding carbon targets are now in place, both for 2050 and for five-year budgets up to 2022, nothing like the required policies are yet in place to achieve them, and there is no sense, among politicians or anyone else, that government is prepared to do what it takes to achieve the targets. The carbon targets for 2010 will be missed, despite having been in two manifestoes of the party that went on to win the associated General Elections, and despite this outcome having been widely forecast for many years; the Renewables Obligation is not an 'obligation' at all, because it permits a buy-out that is widely used; and the statutory commitment to end fuel poverty in the next decade has been shown through judicial review to have very little legal force. Such experiences reinforce the general perception (especially when allied to the possibility of buying carbon 'offsets' from abroad to meet the targets) that policy targets that prove too difficult, as carbon reduction is proving to be, will simply be missed and pushed further into the future - outside the government of the day's term of office.

Political consensus is required on the need for green fiscal reform.

If there is little general perception that carbon targets must be met, there is even less that green fiscal reform is a necessary condition for meeting them. No major UK political party has argued forcefully and consistently that this is the case. Nor is there any inter-party consensus on this, while there are many examples at national and local level of parties attacking each others' green tax proposals, such that the implementation of any major measures in this area seems highly unlikely at present. The Green Fiscal Commission was set up in the hope that it could forge some understanding between the parties of the need for green fiscal reform, and therefore some restraint in condemning the proposals of rivals in this area. So far it seems as far as ever from delivering on this objective.

When implemented the fiscal neutrality of green fiscal reform must be monitored by an independent body…

Once the argument is won that green fiscal reform is necessary in principle, a number of conditions will need to be met for it to be implemented in practice. One is that the fiscal neutrality of any green fiscal reform will need to be independently monitored to have any credibility. It may be noted here that, in a different context and for a different purpose, the Conservatives have put forward a proposal for an Office for Budget Responsibility. The significance of the proposal with regards to green fiscal reform is that it seems to recognise the need for independent scrutiny of fiscal policy, and this is certainly likely to be necessary if proposals for a green fiscal reform are to be credible.

And the needs of vulnerable economic sectors and households must be considered…

Another condition to be met is that impacts on the competitiveness of vulnerable economic sectors will need to be taken into account and mitigated as far as possible, without undermining the objectives of the reform. A third is that the green fiscal reform will have to be acceptable

in terms of its distributional impacts on households. These last two points are the subjects of separate papers for the Green Fiscal Commission and will not be considered further here.

And some green tax revenues will need to be spent on improved environmental measures.

Finally, any green fiscal reform would need to be accompanied by further measures, to respond to people's perceptions (as noted above) that green tax revenues need to be spent in environmentally enhancing ways to make the tax legitimate (even if this means an increase in government spending overall). These measures would also make it easier for people to adjust to the low-carbon world that the reform is seeking to promote, and would therefore both make green tax more acceptable and increase the changes in behaviour which it will bring about.

Green Fiscal Reform as Part of a Policy Package

Green fiscal reform, while necessary, isn't a sufficient policy response by itself to achieve the UK's carbon reduction targets.

It has been argued above that green fiscal reform is a necessary policy if substantial cuts in carbon emissions are to be achieved. It has not been argued that it is sufficient. Systematic moves towards a low-carbon society will require use of the whole policy toolbox – regulation, voluntary agreements, information measures as well as economic instruments, and emissions trading as well as green fiscal reform through the use of taxation.

This is not the place to set out in detail the policy package of which green fiscal reform could be a necessary part. Instead only those complementary policies which could play a role in increasing the public acceptability of the green fiscal reform itself will be sketched out.

First, policies would be put in place to mitigate competitiveness and household distributional impacts which, as noted above, are dealt with in more detail in separate papers.

Measures in addition to green fiscal reform include rewarding perceived good behaviour changes…

Second, there would be policies to reward perceived good behaviour change. To be revenue-neutral these rewards would have to come out of the revenue generated by taxes increased elsewhere. For example, if they included reduced Council Taxes for energy-efficient homes (a measure which has received some public support) this would have to be paid for out of the revenues from taxes on household energy use.

And better means of raising people's awareness of their energy use and its impact…

Third, there would be policies to increase the behavioural impact of the green fiscal reform in other ways, for example policies which make it easier for people to be aware of their energy use (e.g. smart metering, Energy Performance Certificates, improved billing contents and formats). This is an essential part of the process of moving from a wasteful, cheap-energy, high-carbon way of life,

to much higher energy awareness where low-carbon energy is valued much more highly and used with far great awareness, such that its price may be high but is stable.

And addressing infrastructural barriers to behaviour change.

Fourth, there would be policies which tackled some of the infrastructural barriers to behaviour change (e.g. making it easier to connect distributed energy; public transport improvements). Again, to the extent that this involved expenditure (and it could involve a lot of it), this would either undermine the revenue neutrality or would need a funding source separate from the green fiscal reform.

Fifth, there could be regulatory policies that made it easier not to use so much energy (e.g. performance criteria on appliances/vehicles/ buildings).

Conclusion

Many of these policies have already been introduced in some form, in the UK and elsewhere. What is missing is a strong and consistent signal coming from the price of carbon-based energy that it is expensive, and will get more so at least through to 2020. This is necessary in order to meet the carbon targets and build the required business confidence in the viability of low-carbon investments, for companies to start mobilising the necessary investment resources at the required scale. Green fiscal reform could provide such a signal. The reduction in the market price of energy associated with the economic downturn gives government an opportunity to take the steps to introduce green fiscal reform which was not present when prices were at their highs in mid-2008.

Everyone in the UK knows that taxes will have to increase in 2010 and thereafter in order to reduce the public deficit. The important thing is that green taxes play an important role in this tax increase, with the promise that revenue-neutral green tax increases will be the order of the day once the public finances have stabilised. Carbon prices rising gradually but predictably, and tending to muffle the noise of increasingly volatile energy markets (because market energy prices make up a lower and lower proportion of final energy costs) is a recipe for economic stability and energy security, as well as an ordered transition to a low-carbon way of life.

References

Oreszczyn, T. 2004 'Our innate ability to think of new ways to use energy', Energy Policy, Vol.15, No.6, pp.1011

Green Fiscal Commission briefings

As part of its work, the Commision has produced briefings that cover a wide range of issues associated with the implementation of a major green tax shift; including problems that may arise and how these can be overcome. These are publicly available on the GFC website, where you can also sign up to receive email updates on the work of the Commission.
http://www.greenfiscalcommission.org.uk/

Briefings currently available online

1. Lessons from two green tax shifts in the UK

A Green tax shift is often seen as a rather distant prospect, to be introduced in the future when conditions are right. Yet a number of green tax shifts have already been implemented in the UK and beyond, including the use of a fuel duty escalator under both Conservative and Labour governments. This briefing explores the wider impacts of the fuel duty escalator and the cuts in income tax it enabled.

2. How effective are green taxes?

Environmental taxes have been widely introduced across Europe and elsewhere over the last 20 years. Many organisations have advocated a more widespread or radical adoption of green taxes. But what evidence is there that green taxes are actually effective? Indeed, what do we mean by effectiveness, how can it be assessed, and what are the factors that affect it? This briefing reviews the evidence on the practical effectiveness of green taxes, particularly in relation to their reduction of environmental impacts.

3. Public opinion on a green tax

What does the public think about a green tax shift? Most recent opinion polling about green taxes has presented the taxes as additional, rather than part of a shift with green taxes offset by lowering other taxes. The Green Fiscal Commission has carried out work to explore public attitudes to a green tax shift and found that there is public support for a green tax shift but that this is conditional on key factors such as fairness.

4. Doing what it takes to reduce carbon emissions: the case for Green Fiscal Reform.

A commitment to reducing carbon emissions to help mitigate climate change is now legally enshrined into UK law, and given the importance that price has on the purchasing choices people make, green taxes could be a vital part of driving down emissions. However, such taxes are controversial and difficult for politicians to implement. This briefing presents the case for green taxes to be an essential part of a carbon reduction strategy, and examines how political obstacles to their implementation could be overcome.

Future briefings

5. Reducing carbon emissions through transport taxation

Since 1980 the real costs of motoring have fallen while those of other transport modes have risen. Rising incomes have also increased transport demand, offsetting efficiency increases. This briefing discusses experience with road transport and aviation taxes in the UK and other European countries, and considers how they might develop to take account of increasingly stringent CO2 reduction targets and the increasing diversity of road fuels.

6. Competitiveness and environmental tax reform

This briefing explores the implications of environmental tax reform for competitiveness at national, sectoral and company level. It examines whether the development of a world in which carbon emissions are an increasing cost and liability will damage the competitiveness of the UK, and how it will affect both vulnerable sectors and the development of new low-carbon technologies.

7. Modelling a green fiscal reform for the UK

This briefing reports the results of a major modelling exercise to gain insights into the possible economic and environmental effects of a large-scale green fiscal reform in the UK. The modelling found that Green Fiscal Reform can reduce greenhouse gas emissions enough to meet the government targets for 2020, with practically no cost to the economy overall. The 'business as usual' models found the UK missing its 2020 target, even with the international oil price at high, medium and low levels.

8. Achieving fairness in carbon emissions reduction

An important consideration in the introduction of environmental taxes and green fiscal reform is fairness. This briefing looks at the distributional issues involved in green fiscal reform and how they would affect different households. Questions about how to tax household energy use, motoring and air travel without unfairly targeting vulnerable households are all considered.

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