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A review of the role and remit of the committee on climate change

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ABSTRACT

Domestic action on climate change requires a combination of solutions, in terms of institutions and policy instruments. One way of achieving government carbon policy goals may be the creation of an independent body to advise on, or set, monitor policy. This paper critically assesses the Committee on Climate Change (CCC), which was created in 2008 as an independent body to help move the UK towards a low-carbon economy. We look at the motivation for its creation. In particular we consider its ability to overcome a time-inconsistency problem by comparing it to another independent body, the Monetary Policy Committee of the Bank of England. In practice the CCC appears to be the "inverse" of the Monetary Policy Committee, in that it advises on what the policy goal should be rather than being held responsible for achieving it. The CCC incorporates both advisory and monitoring functions to inform government and achieve a credible carbon policy over a long time frame. This is a similar framework to that adopted by Stern (2006), but the CCC operates on a continuing basis and also incorporates a unique climate change monitoring function.

1. Introduction

Over the last decade the UK Government has introduced regulation and policies to tackle climate change and to encourage and enable movement towards a low-carbon economy. In doing so the UK hopes to show leadership on climate change, given its historical role as an emitter, which will then inspire other countries to commit to reductions as well. The UK has responsibilities to reduce emissions under the Kyoto Protocol and the European Union. Achieving major reductions in Greenhouse Gas (GHG) emissions in the UK will almost undoubtedly require significant investment in renewables.

However, tackling climate change must be viewed as one goal within energy policy as a whole and, indeed, government policy more generally. There are other government energy policy goals, such as security of supply and affordable energy prices, which are interrelated both with each other and with other goals.[1] More generally there is a possible conflict between, for example, pursuing the objectives of continuing economic and population growth, while simultaneously seeking to reduce emissions.

The current UK energy institutional arrangements are already rather complicated. There are energy-related institutions, such as the regulator Ofgem, which have been present for some time together with newer institutions, such as the Carbon Trust and Energy Saving Trust.[2] The policy so far seems to have been *ad hoc* at best, creating a complex structure for industry and investors.

In addition to these, the previous government initiated a major institutional change in 2008 with the creation of a climate-change-specific body, the Committee on Climate Change (CCC). This is an independent body, introduced through the Climate Change Act (2008), tasked with determining the emission reduction targets and carbon budgets that the UK Government should set in the long run and the short run. The CCC is the first environmental body of its kind. It seems to have been inspired by the model of the Monetary Policy Committee (MPC) of the Bank of England, in trying to solve a time-inconsistency problem that limits investment in low-carbon technologies. However, climate change is an uncertain and complex global problem. Also, the CCC is charged with many extra considerations, while operating in a field characterised by the presence of many other energy related institutions. Therefore it is appropriate to analyse the purpose, structure and role of such a body and consider specifically what it adds to the policy mix. We do this by comparing it directly to the MPC, discussing the important differences between the two and explaining why these differences arise.

Section 2 is a discussion of the motivation for delegation of climate change policy to an independent body. Section 3 of the paper describes the CCC's structure, functions and its tasks.

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[1] The Scottish Government also has a further goal of using energy as a source of economic growth by promoting renewable energy sources.

[2] There are also many energy policy instruments, such as the Climate Change Levy (CCL), Feed-in tariffs (FiTs), the Carbon Reduction Commitment (CRC) and Renewable Obligation certificates (ROCs).

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Section 4 identifies what we believe, given the preceding analysis, to be the reasons for the creation of the CCC and its main roles. This involves a comparison of the CCC with the MPC. In Section 5 we suggest that, in light of its current structure, the CCC is in practice better viewed as having an advisory and monitoring function, rather than being directly comparable to the MPC. Section 6 then concludes.

2. Time inconsistency in carbon policy

In carbon policy there is a time inconsistency problem that arises when attempting to reduce emissions. Significant reductions in emissions require considerable irreversible private sector investment, which in turn depends on knowledge of long-term government carbon policy and other energy policies. For example, if it is expected that carbon emissions will be taxed heavily in the long-term or that a permit trading system will be in place, then investment in renewables will increase as they become more cost competitive. The tax or permit system will raise the marginal costs of dirtier energy sources and make investment in cleaner sources more attractive and infrastructure will change appropriately. However, if there are issues about certainty of the tax or permit level then a time inconsistency problem may occur in the following way. Firstly, government sets the tax (permit) level for emissions. Secondly, the private sector responds accordingly by increasing investment in renewables and energy efficiency measures. Thirdly, after the sunk investment from the private sector, the government may have an incentive to backtrack on its carbon policy *ex-post* for its own political benefits, e.g. lowering carbon taxes (increasing quantity of tradable permits) to stimulate output, enhance competitiveness, reduce energy prices or alleviate fuel poverty. Therefore investors' expectations incorporate this and they believe that the government may renege on its promises, which considerably increases uncertainty and risk. This results in under-investment in the necessary low-carbon technologies and the required transformation does not occur. This is the time inconsistency problem and it occurs because governments face multiple goals in a short lived time frame, i.e. their carbon policy is not credible.[3]

Marsiliani and Renström (2000) set out a two-period model where time inconsistency occurs because the government has an incentive to raise an energy tax in the second period to redistribute from low to high productivity workers. They propose that earmarking of taxes is a solution in this instance to time-inconsistent behaviour with regard to pollution. Abreggo and Perroni (2002) have a similar model where time inconsistency arises due to redistributional concerns, although here there is an incentive to lower the tax in the second period, and suggest that this can be partially overcome by using subsidies to offset the emissions tax. Helm et al. (2003) suggest that the time inconsistency problem could be solved through an institutional change—the delegation of carbon policy to an independent energy agency. They set out a full model solving time inconsistency in carbon policy in Helm et al. (2004) in which government may wish to alter environmental taxes, after irreversible investment in low-carbon technologies has taken place, in order to reduce energy prices, for redistributional effects or even for electoral success. Welfare is maximised when the government can credibly commit to a policy rather than where it has discretion.

The rationale behind this energy agency is that a long-lived independent institution can influence the expectations of investors through reputation. Helm et al. (2003) argue that if the independent agency can sustain a credible reputation, then it should be delegated the social welfare function to optimise. Theoretically this would involve the government outlining society's goals (e.g. setting weights on increasing output and reducing unemployment and emissions) and delegating responsibility for maximising the welfare function to the body, which controls a number of policy instruments. In the absence of reputation, the body may be delegated a single policy instrument or a modified welfare function. Helm et al. (2003) also present the option of an agency with no policy instrument, which only monitors government performance and can provide recommendations on meeting the targets. Such a body would "increase transparency and hence credibility, but not be wholly convincing"[4] and this is the outcome that Helm believed was the most likely for the UK.

D'Artigues et al. (2007) also solve a similar time-inconsistency model but involving only two possible technology choices and the possibility of renewable subsidies through negative tax rates. Brunner et al. (in press) discuss credibility in carbon policy and suggest that the three possible options for achieving credible carbon policy are legislation, delegation and securitisation. In terms of delegation they distinguish between advisory and agency types of solutions.

There are other areas of economics where problems of time inconsistency and credibility occur. The best known, classic, example is in monetary policy. Here a time inconsistency problem occurs because often government wishes to renege on low inflation promises for short term political gain by stimulating economic activity through cutting interest rates. However the public fully expects this and all the government achieves is larger than necessary inflation, an outcome that is generally labelled "Inflation bias" (Barro and Gordon, 1983).[5] There are many possible solutions to this problem, including committing to a rule, appointing a conservative central banker (Rogoff, 1985) or using an incentive contract (Walsh, 1995).[6]

In the case of monetary policy in the UK the solution is delegation, in the form of the Monetary Policy Committee (MPC) of the Bank of England. The MPC was established in 1997 with the main remit of maintaining price stability and it sets interest rates independently to achieve a government-determined inflation target, currently 2%. In this case we have the so-called "instrument independence" because there are two distinct bodies, one that sets the goal (government) and an independent body (MPC) is tasked with carrying out the goal using a single policy instrument (the interest rate). The nine member committee publishes all of its monthly meeting minutes and has strict rules regarding how decisions are taken. These features create credibility and transparency to influence inflationary expectations, where a time inconsistency problem would otherwise arise. In practice the MPC sets the interest rate as an instrument to indirectly control inflation and the public's inflationary expectations. This has generally been seen as a success in the UK since its commencement in 1997 until the recent recession, which began in late 2008.[7] Therefore, for obvious reasons, the MPC solution

[3] Governments face multiple goals at the same time but once industry has invested in a technology, the government's trade-off may change.

[4] Helm et al. (2003) p446.

[5] For a textbook analysis see Walsh (2003).

[6] See Kydland and Prescott (1977) on rules rather than discretion in general.

[7] Recent economic circumstances have shown that the MPC fails to concentrate solely on influencing inflation expectations when there is perceived to be a significant threat to the real economy, and this is acknowledged in the monetary policy framework. In severe economic circumstances the MPC can cut interest rates in an attempt to stop deflation and also help stimulate spending when