Ensuring equitable access to energy in the context of a cap

Long Abstract

Introduction

TEQs (Tradable Energy Quotas) is an economy-wide framework designed to shift social norms surrounding energy behaviour and to guarantee equitable access to energy in the context of either a deliberate or involuntary energy descent (Fleming and Chamberlin, 2011). It has attracted interest among activists, academics and policy makers with a desire to engage and involve ordinary people in the task of reducing their energy use, while avoiding the regressive impact of carbon taxes, upstream trading schemes and shortage-induced price hikes.

Under TEQs, an overall declining budget for carbon emissions would be set by an independent national body, such as the UK's existing Climate Change Committee. Permits would be issued in line with this budget, with 40% of the permits given on an equal per capita basis to adults[1], into electronic accounts which would be topped up on a weekly basis. The remaining 60% would be auctioned to all other energy users in the economy, including public bodies and businesses. All fuel and electricity in the economy would carry a carbon rating reflecting the carbon dioxide (or equivalent) emissions released in its production and use. Whenever any energy user in the economy directly paid for fuel or electricity, alongside their cash payment they would be required to surrender TEQs units in according to the carbon rating of that fuel. Those individuals who used less than their free entitlement would have to buy more TEQs units on the market, and those who had permits to spare would be able to sell them on the market.

Cost-effectiveness

In 2008 the UK Government undertook a pre-feasibility study into the idea of Personal Carbon Trading[2], which found that "while personal carbon trading remains a potentially important way to engage individuals, and there are no insurmountable technical obstacles to its introduction, it would nonetheless seem that it is an idea currently ahead of its time in terms of its public acceptability and the technology to bring down the costs" (Defra, 2008a: 4).

The UK government decided not to continue its research programme at that time on the basis of the study's cost-benefit analysis, which concluded that that the effective cost of abatement under a TEQs scheme would be in the region of £500/tCO2 (Defra, 2008a: xii). The assumptions behind this figure are however subject to considerable uncertainty; even small changes in those underlying assumptions can lead to the opposite conclusion (Thumin, 2008).

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1 Gough et al. (2011) recommend a 50% allowance for all children.

2 Since the TEQs model was first published in 1996 a number of variants have been developed and discussed under the broad heading of Personal Carbon Trading (eg. Ayres, 1997; Hillman & Fawcett, 2004; Neimeier et al., 2008).

One such assumption was that the scheme would deliver emissions reductions of just 2.5% in the home energy and personal transport sectors. This figure was calculated by focussing exclusively on the potential for the scheme to increase the visibility of carbon emissions, and drawing on evidence from a review that suggested indirect feedback on energy use, such as from improved billing, has reduced total use by 0–10% (Darby, 2006). There are several reasons to believe that this is an overly a conservative estimate.

First, greater reductions have been achieved where interventions have combined feedback with goal-setting (McCalley and Midden, 2002; McCalley, 2006). By giving people a tangible sense of their 'fair' and diminishing share of fossil fuels, and continuous information about their energy use, a TEQs system may prove more effective than the feedback measures surveyed by Darby.

Second, a major barrier to environmental behaviour is the 'free-rider' effect, and the fear that one's effort will go to waste because others are not obliged to pull their weight (Ockwell, 2009). By offering the reassurance that energy use as a whole is capped and all energy users are required to participate in the scheme, TEQs may reduce this barrier.

Third, Capstick and Lewis (2008) and Fleming (2005) speculate that a TEQs scheme could help to shift norms governing acceptable behaviour, and encourage new patterns of cooperation between consumers, suppliers and public bodies. For example, energy profligate behaviour in the context of a TEQs system would have the effect of pushing up the price of TEQs units for all other energy users, and might therefore be met with social disapproval (Fleming, 2005).

However, it is probable that social disapproval would only be directed at those engaged in energy intensive activity if the system as a whole is considered fair and legitimate.

Indeed, without this public legitimacy, not only could some of the intended behavioural effects fail to emerge, but other counterproductive ones could come into force. For example, there is considerable evidence that *extrinsic* financial incentives and disincentives can have a counterproductive effect on behaviour by 'crowding out' *instrinsic* motivations (Bowles, 2008).

Social Acceptability

Research undertaken for Defra (Owen et al., 2008) on attitudes towards TEQs, and for the IPPR on perceptions of a more limited Personal Carbon Allowance (PCA) scheme (Bird et al., 2008), found that the idea was more popular than taxes or upstream trading scheme, but still unpopular. In the IPPR study, when asked whether they would favour a carbon tax, upstream trading or a personal carbon trading scheme, the response 'none of the above' received the greatest share of the vote (43%) though PCT received the next largest share of the vote (27%).

By way of contrast, three quantitative surveys by Wallace (2009), Knobelsdorff

(2008) and Bristow et al. (2008a, 2008b) involving 317, 152 and 207 respondents respectively, had fairly consistent findings: over two fifths supported the idea of PCAs, exceeding the opposition in each case.

It appears from some of the detailed responses from the IPPR's deliberative workshops, that the perceived unfairness of PCT was a particularly important concern for members of the public (IPPR, 2008: 35). Eight out of ten respondents in the IPPR poll felt that PCT would be unfair because 'poorer people wouldn't be able to afford extra credits, while rich people could just buy more', while seven out of ten felt that PCT would be unfair because 'some people would need more credits [because] they live remotely and need to drive more' (IPPR, 2008: 36). Equally, across the various studies, those who prefer PCT also tend to do so because of perceived fairness and effectiveness (Fawcett, 2010), making the communication of this aspect a critical consideration in any implementation.

While studies have shown that a PCT system could be highly progressive, unlike either a carbon tax or an upstream cap and trade system (Ekins and Dresner, 2004), around a third of low income households would nonetheless face a deficit in carbon allowances even before the cap began to descend (White, Thumin, Preston, 2013).

If people are to live comfortably within a carbon budget which is descending towards zero, significant support and subsidised investment for energy conservation at the domestic level will be required, alongside the rapid decarbonisation of national energy and transport infrastructure. A risk with PCT schemes is that the price of carbon would rise to unacceptably high levels before such government investment was forthcoming, disrupting the lives and well-being of lower income households who cannot afford to change their living circumstances or invest in energy saving improvements (Seyfang et al., 2009).

On the other hand, it can be forcefully argued that greater injustices would result if we were to allow the destabilisation of our climate, or face an oil or gas price shock without an energy entitlement scheme in place. Support for TEQs could rise in the face of such threats.