

PERSONAL CARBON ALLOWANCES

Background document L for the 40% House report

Tina Fawcett, Environmental Change Institute
University of Oxford

INTRODUCTION

This paper introduces a new policy idea: personal carbon allowances (PCAs). The primary aim of a PCA scheme would be to deliver guaranteed levels of carbon savings in successive years in an equitable way. PCAs could be used to achieve the government's current target of 60% reduction by 2050 or other future targets. The way in which this could be achieved is described, as are the benefits of the policy to both individuals and society.

Personal carbon allowances could equally well be described as 'rations', 'entitlements' or 'quotas'. Mayer Hillman has been developing and promoting the idea of personal carbon rations for several years. The description of PCAs here was developed in partnership with him (Hillman and Fawcett 2004).

KEY FEATURES

The main features of PCAs are:

- Equal allowances for all individuals;
- Tradable allowances;
- Energy used in the household and for personal transport are both included;
- Year-on-year reduction of the annual allowance, signalled well in advance;
- A mandatory arrangement, with Parliamentary approval, not a voluntary arrangement.

The system would be based on equal carbon allowances for all adults. Children would probably receive somewhat less than the adult allowance because their emissions are likely to be lower on average. Within a scheme of equal allowances, it might be thought necessary to give additional allowances to some classes of vulnerable people (e.g. the elderly or fuel poor). However, in the longer term it would make far more sense for the government to subsidise efficiency and/or renewable energy measures for such individuals rather than grant them extra allowances. The more exceptions that are made, the lower will be the available allowance for everyone else.

The carbon allowance necessary to cover current consumption will vary considerably between individuals. Those who lead lives with a lower energy input by investing in household efficiency, renewables, and by travelling less will not need all of their allowance and will therefore have a surplus to sell. Those who live in large or inefficient homes or who travel a lot, will need to buy this surplus to permit them to continue with something like their accustomed lifestyle. Thus people will want to trade carbon and trading will be an integral part of a carbon allowance scheme. In addition, by incorporating trading within the scheme, economic theory says that savings should be made at least overall cost.

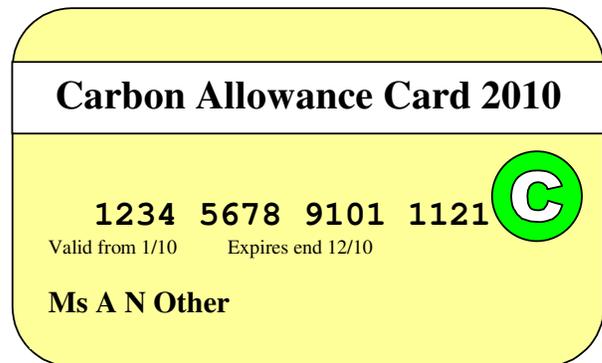
PCAs would cover all household energy use and personal transport energy use including air travel, that is, all direct use of energy by individuals. By including all these activities, half of the energy-related carbon and carbon equivalent emissions in the UK economy would be covered. In addition, combining energy use in the household with personal transport in a single scheme would give people flexibility in how the allowance is used.

Carbon allowances will have to decrease over time both because of the need to reduce global emissions and to allow for the expected rise in national population. A national reduction of 60% by 2050 (designed to stabilise carbon dioxide concentrations in the atmosphere at 550ppm) would result in allowances falling by a little more than 60% from today's average, to allow for the expected growth in the UK population. If a more risk-averse target for maximum atmospheric carbon dioxide concentration of 450ppm were chosen, then the reductions needed by 2050 would be around 80%.

In order to be effective, carbon allowances would have to be mandatory. A voluntary approach would not succeed: the 'free-rider' would have far too much to gain.

CARBON ALLOWANCES IN PRACTICE

Administration of carbon allowances should be straightforward. Each person would get an electronic card containing that year's carbon credits. The card would have to be presented on purchase of energy or travel services, and the correct amount of carbon would be deducted. The technologies and systems already in place for direct debit systems and credit cards could be used. There are relatively few sellers of gas, electricity, petrol, diesel and other fuels, and flows of fossil fuels are already very well recorded and tightly regulated in the economy – both these factors would ease introduction of such a system.



BENEFITS

The key benefits of a system of personal carbon allowances are described below.

A framework for assured emissions reduction

The most important benefit of a system of PCAs is that it provides a framework for assured carbon reductions. Current policies do not do this. With PCAs the carbon 'market' should recognise the benefits of renewable energy, household insulation and low carbon methods of transport. No longer might it be necessary to have separate government policies and programmes to promote everything from cycling strategies to efficient refrigerators.

Equity

Under a PCA scheme, everyone has an equal share of UK emissions allowances – a demonstrably fair system in principle (although equal shares is not the only possible approach to equity). In practice, initial analysis demonstrates that lower income households should generally benefit from an allowance scheme as they are responsible for lower than average emissions and thus should have spare

allowances to sell (Fawcett 2005). In terms of equity, this compares favourably with the possible alternative of carbon taxation which would disadvantage the poor because they spend a greater proportion of their incomes on household energy and transport fuels than the rich. However, concerns have been raised that some of the poor would be disadvantaged under PCAs (Ekins and Dresner 2004), and this requires further research.

Education

There is currently little information available to consumers, householders and travellers about the carbon impacts of their decisions. However, with carbon allowances, carbon becomes a parallel currency and the level of information and education on carbon issues will have to increase considerably. Possible information measures include: carbon responsibility in advertising - all flight tickets and travel promotional material to include equivalent carbon emissions; carbon labels - energy labels on appliances and light bulbs to include average annual carbon emissions. Other measures are described in Hillman and Fawcett (2004).

Choice

For individuals, carbon allowances provide choice. They allow people to reduce their emissions in the way that suits them best, whether through technical efficiency improvements and using more renewable energy, or through behaviour / lifestyle changes such as turning down thermostats and holidaying closer to home. But without carbon allowances there would be no framework for ensuring that they did so.

Environmental virtue is rewarded

A nice feature of PCAs is that people living lower carbon lifestyles will be rewarded for doing so by having spare allowances to sell.

New business opportunities

New businesses and public sector organisations would be expected to emerge to meet people's need to manage their carbon emissions, and existing organisations would take on new roles. One possible new organisation would be 'CarbonWatchers' - a community information and support scheme equivalent to diet schemes such as WeightWatchers (Hillman and Fawcett 2004). Based on the diet clubs template, it would provide its members with booklets / electronic information explaining the carbon impacts of different purchases and travel options, set reduction targets for individuals, hold regular audits (the equivalent of weigh-ins) and provide both professional and peer support for participants.

THE INTERNATIONAL CONTEXT

Personal carbon allowances as a UK solution emerge from the key proposed global solution to climate change: "contraction and convergence" (Meyer 2000). Contraction and convergence aims to deliver global carbon savings fairly and with certainty. It will do this by first agreeing a contraction of global carbon emissions to ensure a 'safe' concentration of emissions in the atmosphere is not exceeded, and secondly converging to equal per capita emissions allowances, by an agreed year. PCAs are designed as a policy which will enable the UK to make national savings as its contribution within a global agreement on limiting greenhouse gas emissions, and which is based on the same principles as contraction and convergence.

A RELATED POLICY PROPOSAL: DOMESTIC TRADABLE QUOTAS

Starkey and Fleming (1999) have developed a policy proposal which has much in common with PCAs. It is called 'Domestic Tradable Quotas' (DTQs) – where domestic indicates a national as opposed to an international scheme. The basis of the policy is that the national government sets an overall carbon budget that is reduced over time. The 'carbon units' making up this budget are issued to adults and organisations. All adults receive an equal and unconditional entitlement of carbon units; organisations acquire the units they need from a tender, a form of auction modelled on the issue of government debt. There is a national market in carbon units in which low users can sell their surplus and higher users can buy more. Starkey and Fleming claim that the scheme would be effective, equitable and efficient. This work is being developed further under the Tyndall Centre 'Decarbonising modern societies' programme by Anderson and Starkey (2004).

This research has attracted some political attention. Colin Challen MP introduced a private member's bill entitled *Domestic tradable quotas (carbon emissions)* (Hansard 2004). The aim of the bill was to introduce a national trading scheme for carbon emissions and to set a national ceiling for carbon emissions. However, it was not adopted. Nevertheless, the beginning of political interest in PCA-type schemes is encouraging.

FUTURE RESEARCH

Much more research is required on PCAs. Some of this will be undertaken under the UK Energy Research Centre 'demand reduction' research theme. In addition, Anderson and Starkey are continuing their research on DTQs. Research will address practical issues around implementation of the scheme and effects on different groups of the population. In addition there will be further exploration of the underlying principles and a comparison of PCAs in principle and practice with carbon taxation.

REFERENCES

- Anderson, K. & Starkey, R. 2004, *Domestic tradable quotas: A policy instrument for the reduction of greenhouse gas emissions*, Tyndall Centre for Climate Change Research, Norwich.
- Ekins, P. & Dresner, S. 2004, *Green taxes and charges: reducing their impact on low-income households*, Joseph Rowntree Foundation, York.
- Fawcett, T. 2005, *Investigating carbon rationing as a policy for reducing carbon dioxide emissions from UK household energy use*, PhD Thesis, University College London.
- Hansard 2004, H.C. Vol. 423 col. 81 (7 July 2004).
- Hillman, M. & Fawcett, T. 2004, *How we can save the planet* Penguin Books, London.
- Meyer, A. 2000, *Contraction and convergence: the global solution to climate change* Green Books, Totnes, UK.
- Starkey, R. & Fleming, D. 1999, *Domestic tradeable quotas*, Global Ideas Bank, Published on the web: www.globalideasbank.org/site/bank/idea.php?ideaId=2462 [accessed Jan 2003].

