

Panel: Carbon dioxide rationing proposals already well worked out

Plans for rationing CO₂ emissions broadly along the lines suggested by Lothar Mayer in this article are already well advanced. They were developed by David Fleming, whose article on the oil crisis is included in the *Feasta Review*. Fleming calls his system Domestic Tradable Quotas, or DTQs. 'DTQs are an electronic system of rationing originally designed to enable national economies to reduce the greenhouse gases released by the combustion of fuels' Fleming says. 'They can also be used if fuel supplies are disrupted. I think they will be needed as a matter of urgency as severe increases in the price of oil take effect during the first decade of the century.'

DTQs are intended for application within an economy, not for trading between nations. A country setting up a DTQ system would set an overall greenhouse emissions budget that would be reduced year by year and 'carbon units' making the household sector's share of this budget (roughly 45%) would be issued free to all those resident in the country on an equal per capita basis. Firms and other organisations would have to buy their units - they would bid for them in an auction, just as happens with the issue of government debt. The money raised by this auction would go to the government.

All fuels would be rated for their greenhouse emissions and individuals and organisations purchasing them would have to surrender carbon units according to this rating in addition to paying cash. The price of various fuels in terms of carbon units is set out in the Box There would be a national market in carbon units in which low users could sell their surplus, and higher users could buy more.

Translating emissions into fuels' carbon-unit cost	
Estimates of the global warming potential (GWP) of gases released by production and combustion of fuels. 1 kg carbon dioxide = 1 carbon unit. The GWP of methane and nitrous oxide is measured as carbon dioxide equivalents.	
Fuel	Price in carbon units
Natural gas	0.2 per kWh
Petrol	2.3 per litre
Diesel	2.4 per litre
Coal	2.9 per kg
Grid electricity (night)	0.6 per kWh
Grid electricity (day)	0.7 per kWh

'DTQs are a hands-off system' Fleming says. 'Virtually all transactions would be carried out electronically using the technologies and systems already in place for direct debit systems and credit cards. Initial research has indicated that the scheme is technologically feasible. The scheme has been designed to function efficiently not only for people who participate in it, but for those who do not - e.g. for overseas visitors, for the infirm and for those who refuse to cooperate.'

With their annual reduction in the carbon budget and equal per capita emissions entitlements, DTQs dovetail well with Contraction and Convergence, the global framework for limiting greenhouse gas emissions developed by Aubrey Meyer and his colleagues in the Global Commons Institute and described in more detail in his article in the Feasta Review.

'The strong emphasis on equity - with all citizens becoming equal stakeholders in the environment - will, I believe, contribute substantially to the political acceptability of the scheme' Fleming says.

DTQs certainly meet the criteria established by Herman Daly for systems of its sort. In an article 'Allocation, distribution and scale: towards an economics that is efficient, just and sustainable' (*Ecological Economics* 6, 1992 p.188) Daly set these out as follows:

- First we must create a limited number of rights to pollute. The aggregated or total amount of pollution corresponding to these rights is determined so that it falls within the absorptive capacity of the airshed of watershed in question, That is to say, the scale impact is limited to a level judged to be ecologically sustainable - an economic 'Plimsoll line' must be drawn as the very first step. Far from ignoring scale, this policy requires that the issue of sustainable or optimal scale be settled at the beginning...
- Second, the limited number of rights corresponding to the chosen scale must be distributed initially to different people. Perhaps equally to citizens, or to firms or perhaps collectively as public property then to be auctioned or sold by the government to individuals. But there must be an initial distribution before there can be any allocation and reallocation by trading.
- Only in the third place, after having made social decisions regarding an ecologically sustainable scale and an ethically just distribution, are we in a position to allow reallocation among individuals through markets in the interests of efficiency... Scale is...determined...by a social decision reflecting ecological limits. Distribution...by a social decision reflecting a just distribution of the newly created assets. Subject to these social decisions, individualistic trading in the market is then able to allocate the scarce rights efficiently.

-Editor



This article is from the first Feasta Review, a 204-page large format book. Copies of the book are available for £15 from [Green Books](#).