

LOCAL CARBON RATIONING: A PROPOSAL (draft of 28/1/2006)

by Andy Ross (based on Mayer Herman's "How We Can Save the Planet")

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THE BACKGROUND

This is a guide to joining the carbon rationing scheme.

In 2003, the average UK citizen caused 5.4 tonnes of CO₂ to enter the atmosphere (ref 1). In order of importance, these were due to:

- air travel (1.8t)
- household heating (1.5t)
- car use (1.0t)
- household electricity consumption (0.9t)
- other public transport use (0.2t)

These five categories make up our so-called personal CO₂ emissions. Personal CO₂ emissions make up about half of the UK's total. The other half is caused by businesses and the public sector.

A sustainable level of personal CO₂ emissions is thought to be as low as about 0.6t if we leave business and public sector with their "fair" share. This represents a 90% reduction from today's level. To avoid dangerous and potentially runaway climate change, this needs to be achieved by 2030 (ref 2).

THE CARBON RATIONING SCHEME

To achieve a 90% reduction in personal emissions by 2030 will require a 10% reduction per year. This scheme gives us all an opportunity to start contributing our fair share to that goal. For simplicity, the scheme covers the first four categories (96%) of personal emissions only, that is: air travel, household heating, car use and household electricity. The scheme assumes these came to 5t, i.e. 5000kg, of CO₂ per person in 2005. The personal ration of each member of the scheme will therefore be 4500kg in 2006, 4050kg in 2007 and so on. The scheme rewards those who live within their ration and penalizes those who exceed their ration. It is based on the principles of Contraction and Convergence and Domestic Tradable Quotas (refs 3 and 4).

HOW TO JOIN

You join the scheme by letting me know you want to and by explaining something about your living circumstances as this will affect how your CO₂ is counted.

For example, my details are:

- I share a house with 3 others
- Our heating is by coal oil and wood
- We don't get our electricity from a renewables source
- Three of us own cars; one of them is mine
- I am the only one joining the scheme

My ration would therefore have to cover 1/4 of the household's emissions (no matter how much or little the others contributed to the total) and all of my car's emissions (no matter how often others borrowed or shared my car).

HOW IT WORKS

At the start of the year, I will credit your CO2 account with your annual ration (4500kg in 2006). Every time you get an energy bill, a new MOT or a plane ticket, you will let me know the details (e.g. how many kWh of electricity, annual car mileage, flight destination, etc) and I will debit the equivalent amount of CO2 from your account and let you know your new CO2 balance. This should not mean you sending me more than about 12 to 15 emails a year.

At the end of the year, if you are in credit, you will stand to gain for every kg of CO2 still in your account. If you are overdrawn, I will ask you to pay off your CO2 debts! Debts will be paid at a rate of so many pence per kg of CO2. The participants will agree amongst themselves what this rate should be. They must come to an agreement by the end of March each year. Debtors will pay their dues into a CO2 fund held with a friendly (Co-op?) bank. The CO2 fund will then be distributed amongst the CO2 savers in proportion to their share of total savings. So if, for example, your savings make up one tenth of the group's total savings, you will receive one tenth of the total paid into that year's CO2 fund. You may of course pledge it to some good cause if you are embarrassed to keep it for yourself!

To understand what this would mean in practice, let us assume that in 2006 the participants settle on a rate of 10p per kg. Imagine you have used up your generous ration of 4500kg and want to make another journey. You will now be going into CO2 debt. At 10p/kg, a car journey from Birmingham to London will cost about £4, a return flight to Athens will put you back £188 and a return flight to New Zealand will cost £1200!

At the end of the year, whether you are in CO2 credit or overdrawn, if you want to remain in the scheme and/or benefit from the distribution of the CO2 fund, you should send me (as proof of your year's CO2 footprint) paper copies of your energy bills, MOT and plane tickets. These should get to me before the end of January of the new year. CO2 debts due on the old year should be paid in February of the new year. CO2 funds will be shared out amongst the happy savers in March.

ENFORCEMENT

Threat of exclusion from the scheme is the only means of enforcement at our disposal. However, it ensures (I think) that CO2 funds are only paid to those who have a clean "compliance" record. You will be excluded if:

- you fail to provide CO2 footprint proof by the end of January, or
- you fail to pay off your CO2 debt by the end of February
- you opt out of the scheme

The last one prevents people going off for a CO2 binge and rejoining the next year without paying their CO2 dues.

(ANTICIPATED) FREQUENTLY ASKED QUESTIONS

Q1. How will you calculate the CO2 emissions associated with the energy use that I report.

A1. I will use the conversion factors that I have obtained from the coinet.org.uk website. They are the same figures as used by CAT and Mayer Hillman. The numbers come from the DTI and include a 3x factor on air miles to account for the enhanced warming potential of gases emitted at altitude. Please feel free to check my arithmetic when I update your balance

Q2. How can we ensure we hit our annual emissions target?

A2. If total CO2 savings are equal to or greater than total CO2 debts at the end of the year, then you will have hit or bettered your target. This will probably not happen in the first year because it is likely that you will (not unreasonably) set the cost of CO2 debt too low e.g. zero pence per kilo! As a result there will be insufficient motivation to save and insufficient demotivation to generate emissions. You will probably be more radical in the second year and easily hit your target. Don't worry, after a few years, you will become experts at setting the cost of CO2 holding debt that will enable you to meet the increasingly exacting targets.

Q3a. I am a student and live 30 weeks a year in a hall of residence and the rest of the year I am either travelling or at home with the folks. How does that work?

A3a. Interesting. Your personal share of electricity and heating energy consumption is difficult to quantify. You probably don't have much control over them. So unless you have a serious objection, I suggest you accept CO2 ration for car and plane use only (i.e. 55% of standard ration) and report only these. If you stick to the bike and avoid flying, you'll be quids in!!

Q3b. What happens when I move out of hall and into that flatshare?

A3b. You'll get the full ration. We will divide the household's emissions calculated from the bills by the number of people officially resident and debit that from the accounts of any of you on the scheme.

Q3c. What if energy bills are included in the rent?

A3c. You cannot be serious! But if you are, I would suggest you get a copy of the bill off the landlord and we would do it as per A3b above.

Q4. What is to stop me cheating by not reporting a flight?

A4. Only your conscience. This scheme will depend on us trusting one another not to cheat. The better we know each other the easier this will be. Therefore I suggest we have regular (quarterly?) meetings to catch up and compare CO2 notes. Clearly the more local a group is, the less this is a problem.

Q5. Can I join part way through the year?

A5. Yes, but you'll need to report your CO2 emissions (i.e. dig out your energy bills, MOT and plane tickets) for the first part of the year.

Q6a. I have a baby. Does she get a full ration too?

A6a. Yes, as does any dependent that lives full time in the same house as you. Otherwise it gets too complicated.

Q6b. What will you do when I report our household energy use?

A6b. I will calculate the CO2 equivalent and debit half of it from you and the other half from your baby's account.

Q6c. What will you do when I report our car mileage?

A6c. I will calculate the CO2 equivalent and debit all of it from your account. It's your car after all.

Q6d. What will you do when I report our air travel?

A6d. If you both flew, I will calculate the CO2 equivalent for the journey and debit it from each account.

Q7a. I live with my partner and we share a car but he is not interested in his CO2 emissions. How will that work?

A7a. You will be debited only half your household energy emissions whether he joins in the scheme or not.

Q7b. And what about the car emissions?

A7b. If you own the car, they will be debited from your account. If you don't, they won't. We have to keep it simple.

Q8. I drive/fly on business. Does that come out of my ration?

A8. The scheme only covers car/plane travel for private purposes. If you use your car for work AND private use, you will have to explain how you split the mileage. Don't you have to do that for the taxman anyway?!

REFERENCES

1. Mayer Hillman "How we can save the planet", Penguin (2004). Table 4 p148. Reproduced on the internet at <http://coinet.org.uk/solutions/carbon-rationing>.
2. Colin Forrest "Cutting Edge: Climate Science to April 2005" <http://www.climate-crisis.net/downloads/>
3. <http://www.gci.org.uk/>
4. <http://www.dtqs.org/>