Personal Carbon Accounts: targeting social change to tackle global warming

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“We need a further cut in emissions of at least 25 per cent by 2020”.

António Guterres, UN Secretary General, 29th March 2018

Need to change the

“political and cultural lock-in to current carbon usage”

(Chamberlin et al, 2008)

Paris Agreement does not change this dynamic: it positions global warming as a government-to-government problem and avoids mentioning the need for behavioural shifts

We need to reach a position where:

- Carbon consumption falls because people want it to fall
- People demand policies to enable consumption to be reduced

This will only happen if there are social expectations that constrain CO_2 emissions

Belief in anthropogenic global warming:

USA:	69%
Germany:	78%
UK:	80%
China :	95%

(Rowson, 2013: Ziegler, 2017)

A base upon which to build!

Lack of personal comprehension of energy usage

- People don’t use energy, they use warmth, transport, fridges, etc
- Most people think that they can’t save more energy
- But they reference against their own expectations, habits and practices
- Almost no-one has a good idea of how much they use compared to others

Personal barriers to saving carbon

- lack of knowledge;
- externalising responsibility and blame (“It’s the governments fault”);
- reluctance to change lifestyles;
- reliance on technology to ‘save the day’;
- climate change perceived as a distant threat;
- importance of other priorities;
- fatalism (“it’s too late”);
- helplessness (“I can’t make a difference on my own”).

Social barriers to saving carbon as a result of global warming :

- lack of action by governments, business and industry;
- ‘free rider effect’ – why save when others don’t?
- pressure of social norms and expectations.

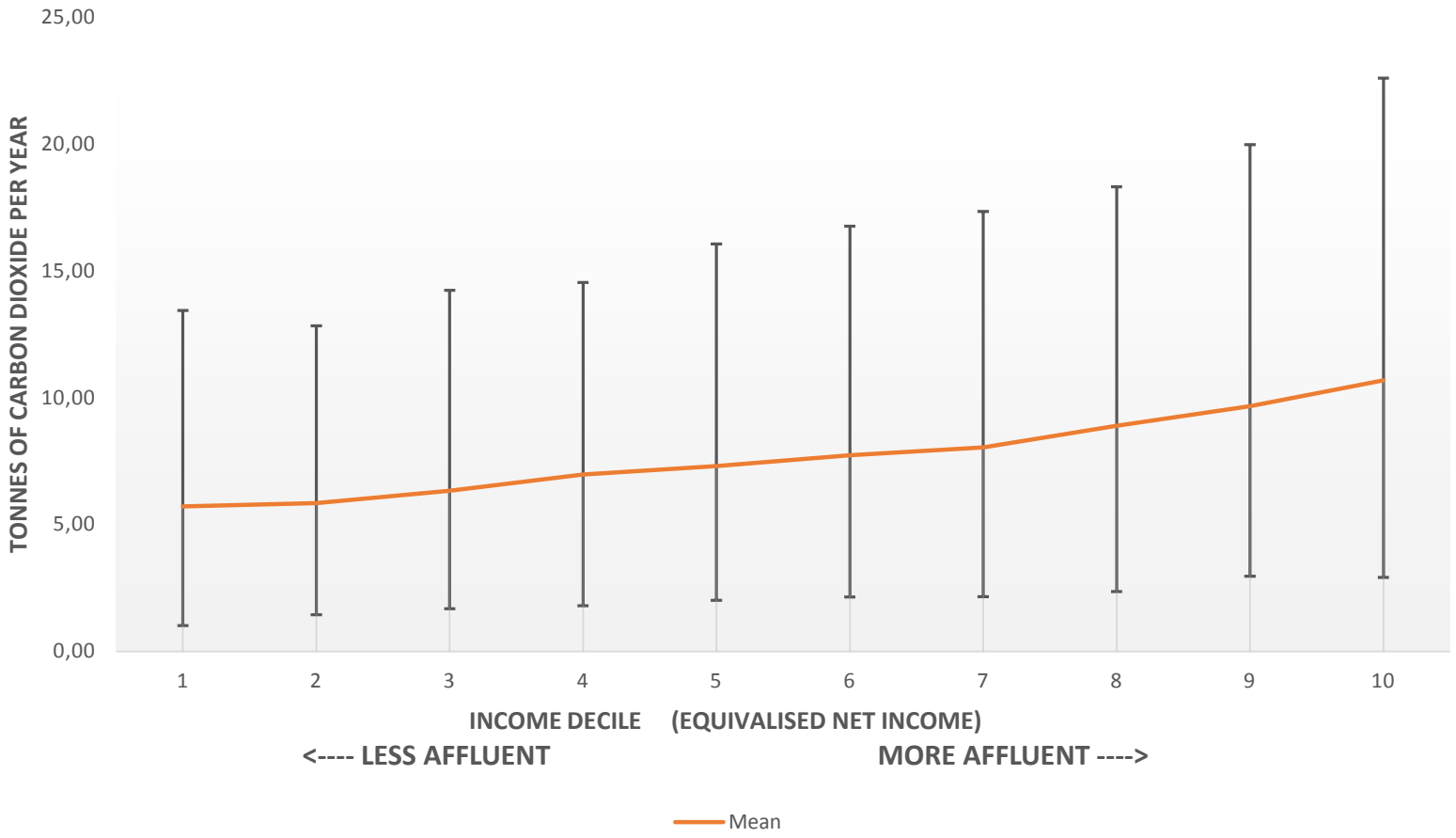
Source: Lorenzoni et al (2007)

So need a solution which is supportive of:

- a framework to create an understanding of personal emissions levels
  - in other words personal/household attribution of fossil fuel usage
- policies and education to help people modify usage
- gradual change brought about by consistent, coherent long-term policies
- peoples identities – it is non-threatening
- remould social norms and behaviours over time

CO_2 Emissions vs Household Income

Annual CO_2 emissions from homes & vehicles by equivalised household disposable income decile showing 95% confidence intervals for individual household emissions.



(Source: Author, derived using data from the UK Household Longitudinal Survey (UKHLS))

Personal Carbon Accounts – Reformulation

- Each individual has a Personal Carbon Account at the same bank as their current account – think of it as a bank account with a debit card, and in a different currency.
- The government ‘tops up’ the account with free carbon points each month
- Fuel retailers mandated to charge for carbon (fixed non-penal prices, say 4p/litre, c.3%).
- Each time a user buys petrol, diesel, gas, electricity or fuel oil the account balance is reduced by the carbon value of the fuel purchased. Excludes flights.
- If users have used all their carbon points they can buy more (fixed non-penal prices, say 4p/litre, c.3%).
    - Fixed prices – allows planning – eliminates fear and uncertainty associated with variable prices
    - Non-penal prices – fits with behaviour change theory, avoids people ‘buying the right to emit’
- Unused points can be sold for real money at a fixed price

Design features:

- The number of carbon points per adult is equal and initially set at the current average usage
    - ⅓ allowance for children under 14
- Not mandatory for citizens.
- Freedom of choice: no restriction on how much fuel people use
- Low users are rewarded with a visible benefit
- It’s progressive: impacts low income groups less
- Sign up primarily thru a smartphone app (74% of adults) or internet (84% of households)
- Sign up will include questions to stratify the population for feedback and encouragement purposes

Impact on businesses

- They would not have free points and so would pay the carbon charge
- The money raised would be recycled into community energy and green infrastructure schemes

Why will it work?

PCAs align with previous social changes brought about by governments

and with

behaviour change knowledge about Personal and Social Norms

Government Fixes

Technological Fix

eg The EU banning the sale of high-wattage incandescent light bulbs and non-condensing boilers.

Source: Heberlein (2012)

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Cognitive Fix

Trying to change attitudes through information and education.
Doesn't work: may change a few attitudes but these do not much change behaviour.
The best predictor of behaviour is behaviour.

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Structural Fix

Change the context, particularly social context, of an action and there is a chance of changing the action.
Plastic bag charge: - 5p or 10p charge is simply a trigger;
- the charge makes it clear that the government thinks it's important;
- extra awkward conversation with cashier makes this clear also.

Change behaviour and a change of attitude often follows.

Source: Heberlein (2012)

Three main types of norms:

- *Personal norms* – what we want to do because we inherently believe in it
- *Injunctive norms* – what we want to do because we think it's socially approved of
- *Descriptive norms* – what we want to do because we see other people doing it

(Cialdini, 1991)

An example: The introduction of charging for bags in shops in the UK

- *Personal* – we're mostly wired to think waste is bad

- *Injunctive* – people mentally primed by media coverage about the damage plastic bags do to animals and the amount of litter caused. Process of charging in shops introduces a small new process which causes people to stop and think and reinforces that buying bags is not the socially accepted 'right thing to do'.

- *Descriptive* – once people are seen to bring long-life bags to shops, others feel the need to copy and conform

Social norming and personal carbon accounts:

- *Personal norm* – we're mostly wired to think waste is bad
- *Injunctive norm* – process of charging for carbon, particularly in petrol stations, introduces a new process which causes people to stop and think and reinforces that carbon saving is 'the right thing to do' besides being good for their finances
- *Descriptive norm*– people perceive others to be managing their carbon, so they feel the need to copy and conform

Points of social / mental pressure

- Separation from other expenditure shows that the government thinks it’s important
- The free points are a form of budget. Most people try to live within budgets most of the time.
- People are loss averse: they do not want to pay more than they have to, even if it’s slightly irrational.
- Feedback given against last month, last year or similar types of household.
- Potentially by creating a level of social unacceptability about high consumption activities.

Social norms and expectations will change.

Personal Carbon Accounts – issues and criticisms

- Lack of proven effectiveness – impossible to pilot without legal enforcement
  - Needs to include a large cross-section of the population & potentially cost subjects real money to activate norming
  - Mandatory on retailers to charge for carbon
- Questionable social & political acceptability
  - Probable key question: Are equal allowances perceived to be fair?

Personal barriers to saving carbon *impacted by PCAs:*

- lack of knowledge;
- *externalising responsibility and blame ("It's the governments fault");*
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Personal Carbon Accounts can change social norms.
Framing is key.

"If a shift to a low carbon economy is truly to take place it will not be because of the implementation of a [carbon trading scheme] or [only] because of new technologies, <u>but because the social norms around the issue have changed</u>"

Nicholas Howarth & Jan Rosenow, 2014

Personal Carbon Accounts:

“Your children’s future is in the balance”

Thank you

Background image credit: www.joangee.blogspot.com

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Visibility of Consumption

- Car driving is some of the most visible consumption there is

- Home fuel
  Automatically include each household in a local reference group of 20-30 homes (street group)
  - Anonymised – each household given an ID No.
  - Anonymity can be waived; can then message others in group
  - Can compare to other local reference groups on an aggregate basis

- Gamification – with public prizes (such as air-sourced heat pumps) for winners

- Emphasise the socialisation of consumption – that points can be given to friends and relatives

- Money fed back into local communities from carbon tax on businesses eg renewable energy

- Framing is key

- Individuals believe that their behaviour is being scrutinised