

Cutting carbon now occupies a prominent place in discussions about ethical living and corporate responsibility. In this document we explore how the popular metaphor of “carbon footprints” can lead us astray by emphasising personal action at the expense of public action and by importing politically contentious ideas about how global carbon resources should be apportioned. We also explore how a failure to account for the implications of the EU Emissions Trading Scheme (ETS) has led commentators to make misleading recommendations about the value of renewable tariffs or reduced electricity consumption in combating climate change. As electricity emissions are controlled under the ETS, these measures do not reduce the overall amount of CO₂ entering the atmosphere unless a corresponding quantity of ETS carbon permits are bought and destroyed.



About Sandbag

Sandbag is a UK based not-for-profit campaigning organisation dedicated to achieving real action to tackle climate change and focused on the issue of emissions trading. Our view is that if emissions trading can be implemented correctly, it has the potential to deliver the deep cuts in carbon emissions the world so badly needs to prevent the worst impacts of climate change.

A collective action problem

Global warming is a complex moral problem in that it can only be solved through collective action. Reducing one’s own personal carbon emissions – however aggressively – will not by itself prevent dangerous climate change, and the same goes for UK and even EU wide emissions. This is because keeping below 2°C of global warming requires a collective international effort to lower emissions and keep within a fixed global carbon budget of, at most, a trillion tonnes of CO₂.¹

While shrinking our personal carbon footprints is unquestionably a positive action, it should not make us complacent that our work is done and that it just remains for everyone else to do the same.

The threat of dangerous climate change requires that we realistically assess the total contribution that spontaneous voluntary individual action can make. Given the scale and nature of the challenge citizens also need to act in support of wider systemic change through supporting national and international laws that will drive emissions down, e.g. supporting a campaign group, writing to your MP and MEP, and voting for candidates and parties supporting strong climate action.

¹ Allen et al (2009), *Nature* (Link: <http://bit.ly/aEJkXN>) and Menshausen et al, *Nature* (2009) (Link: <http://bit.ly/bwODF5>)

The three motivations for personal action

Personal climate action can be driven by three main motivations:

- 1) To demonstrate moral leadership that encourages others to take similar action.
- 2) To financially support progressive industries and boycott regressive ones.
- 3) To take proportional responsibility for one's share of global emissions

While the first and second motivations acknowledge the need for collective action, to date the emphasis has fallen heavily on the third motivation and on "keeping one's own house in order". This focus has often come to define the "carbon footprint" discourse.

This is problematic in several ways. Firstly it raises the same difficult questions which arise in international climate negotiations about what exactly one's "proportional responsibility" amounts to. Climate change is a long term threat that has built up over many years – are we then individually responsible for the emissions of our ancestors?

Secondly it obliges individuals to account for the emissions arising from national infrastructure for which they have little or no direct responsibility – are we personally responsible for the investment decisions of our energy industries?

Thirdly, as we will explore below, it potentially overlaps with or duplicates effort which is already accounted for through national and international policies.

The trouble with carbon footprints

The concept of carbon footprints emerged from a broader idea of environmental footprints, which was first introduced as a means to compare the *per capita* impacts of different countries. This rapidly acquired political baggage, however, as it developed into a prescriptive notion of individual "one planet living". This posits that there is an equal universal entitlement to the resources Earth can sustainably provide and that it is morally inappropriate for an individual to exceed those limits. Individuals are typically encouraged to strive for an annual environmental footprint of 1.8 hectares and an annual carbon footprint of around 2 tonnes.²



This one-size-fits-all approach is actually quite controversial. It covertly proposes a flat distribution of natural resources and fails to recognise that it might be possible to accommodate a range of needs and lifestyles with different carbon intensities and still respect natural limits. It also implicitly places full responsibility for climate change at the feet of individual consumers.

The prevailing discourse on personal carbon footprints also risks limiting the carbon reductions individuals strive for, by implying one should stop reducing carbon once you have achieved an "equitable" emissions profile of 2 tonnes of CO₂ per annum.

Such assessments underestimate the role that carbon retirement and regulated carbon offsets can play in making concerned individuals and organizations carbon neutral or even *net removers* of carbon from the atmosphere. There has been regrettable hostility from some quarters of the environmental movement in regards to the prospect of being carbon neutral or carbon negative, largely owing to exaggerated fears about whether the carbon saved by offset projects is real and additional. We touch on these concerns below and also address these misgivings more extensively in part 2 of this series "To offset or not to offset?"

False formulas for cutting carbon

At present, purely personal carbon action is not only insufficient it may also fail to deliver the savings expected. To avoid double counting rigorous accounting procedures are needed to indicate how personal actions interact with other climate policies.

² www.footprintnetwork.org

In the last decade, public concerns about climate change helped spawn a whole new industry of environmental behaviour change commentators and advisors to help people and organisations to “go green”.

Regrettably, few of these behaviour change professionals properly account for how personal action interfaces with European climate policies. This has led many of them to make misleading recommendations about how to fight climate change. Reducing electricity consumption and switching to renewable electricity tariffs have been two of the headline recommendations, but neither of these in themselves actually prevent additional amounts of carbon from being emitted.

Since 2005, emissions from large key sectors of the European economy accounting for roughly half of European CO₂ are restricted under the European Emissions Trading Scheme (ETS). The scheme covers heavy industries like steel, glass and cement and, crucially, also covers electricity generators.

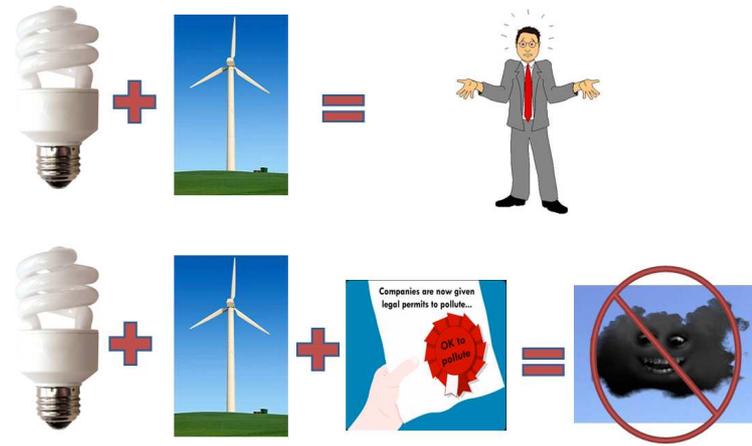
The scheme establishes a carbon budget for these sectors, distributed annually, which declines to 1720Mt in 2020 – a 21% drop in emissions from 2005 levels.

With emissions from these sectors already controlled under the ETS, personal action within them does not actually save carbon. If, for example, you attempt to save a tonne of CO₂ through restricting your electricity use at home, this simply means your energy supplier will need to “surrender” one less carbon permit at the end of the year. That’s one permit it won’t have to buy within the ETS which will stay in circulation until another European company uses it to pollute.

The same problem holds true for changing to a renewable electricity tariff. Renewable electricity generators do not emit carbon and have no need to purchase ETS permits, again leaving the same number of carbon allowances in circulation.

Saving electricity and using renewable electricity do not cut carbon until equivalent emissions are permanently retired from the Emissions Trading Scheme.

Sandbag is one of several organisations across Europe that retires ETS carbon permits on behalf of consumers.³ At the time of writing the price of ETS carbon is hovering around €13 per tonne (prior to broker’s fees or sales tax).



Our table overleaf breaks down some of the more commonly proposed actions in the climate behaviour change literature and explains which actions deliver real carbon savings and which need to be supplemented with carbon retirement.

Overtuning prejudices on electricity and offsets

A set of unexamined prejudices have become entrenched in the environment movement leading many activists and professionals to uncritically endorse action on electricity emissions and uncritically condemn carbon offsetting – some going so far as to describe the latter as a form of greenwash. As a relatively unfamiliar process, carbon retirement, has to some extent been tarred with the same brush.

As the preceding section should make clear, in the European context almost the opposite is the case.

Our analysis parallels that of Ofgem’s Green Energy Certification Scheme which only approves “green tariffs” delivering environmental benefits which aren’t already mandated under UK and European law.⁴

As renewable electricity does not, by itself, satisfy this criterion, most of the energy suppliers under the scheme have elected to purchase approved offsets in order to be certified.

Ideally energy suppliers should be encouraged to cancel these emissions *directly at source* within the ETS, which would force electricity companies to work harder to decarbonise. Nonetheless, verified offsets are a cheap and fairly reliable way of compensating for these electricity emissions through carbon savings measures outside of Europe.

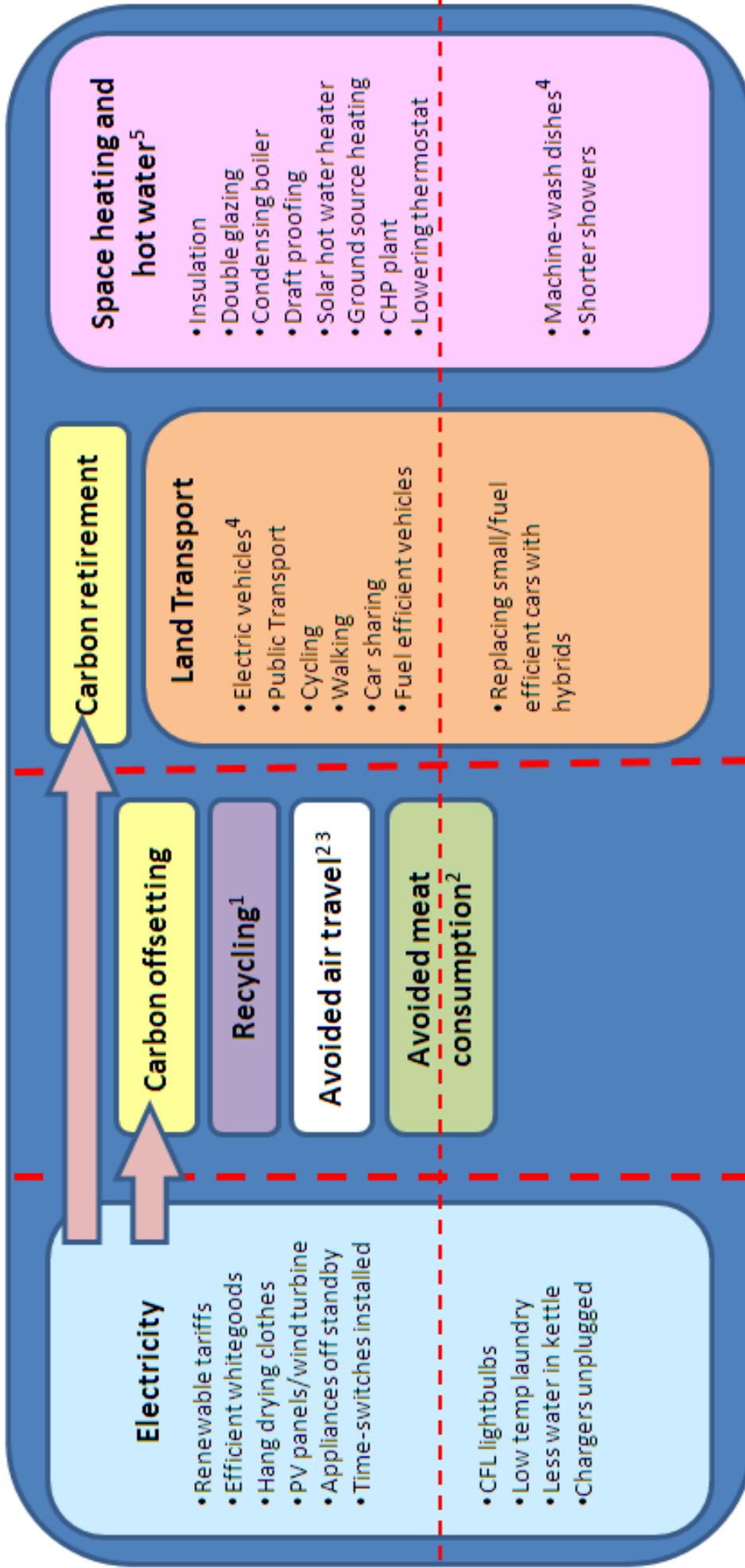
Carbon retirement and approved offsets are also legitimate ways of cutting carbon in their own right, as we discuss more thoroughly in Part 2 of this series.⁵

³ www.sandbag.org.uk/join

⁴ <http://www.greenenergyscheme.org>

⁵ Sandbag, “To Offset or Not to Offset?”

Non-additional (EU ETS covered) | Additionality Uncertain | Additional (Outside EU ETS)



More significant

Less significant

- 1. Recycling:** while many processes involved in gleaning and transporting raw materials are outside the EU ETS, heat combustion plants at paper, steel and glass factories is covered by the scheme. Emissions are currently difficult to disentangle.
- 2. Meat and Flights:** it is impossible to clearly determine when individual abstinence diminishes the number of farm animals reared or flights scheduled. Some common meat-substitutes have also been found to be as carbon intensive as meat production.
- 3. Flights post 2012:** from 2012, CO2 from flights will be controlled under the EU ETS making avoided aviation non-additional. Non-CO2 climate forcings from flights (contrails etc.) are not cumulative and are also amenable to technological fixes.
- 4. Electric vehicles and dishwashers:** these effectively remove emissions from the uncapped transport and domestic heat sector and subsume them under the ETS cap on electricity. This makes switching to an electric vehicle additional even when the electricity fuel mix is carbon-intensive.
- 5. Heat and hot water:** where consumers have electric heating or hot water, these emissions are already controlled under the EU ETS and any reductions do not save additional carbon.

Conclusion

With the new behaviour change campaigns injecting fresh momentum into people's attempts to reduce their carbon it is important to ensure accurate information is being disseminated about which actions deliver real emissions savings and which do not.

We have established that reductions in electricity usage and switching to renewable energy fail to deliver carbon savings unless these actions are matched with equivalent retirement of carbon permits.

In this we by no means seek to discourage people from reducing their electricity use, which has financial co-benefits, or from supporting energy tariffs which may support specific technologies, but we are seeking to ensure people understand that these actions do not affect the level of overall pollution that will be emitted into the atmosphere.

Until such a time as the ETS better reflects and accounts for personal action on climate change, we encourage individuals to either focus their carbon saving efforts outside the sectors covered by the scheme – as identified in our table – or match their non-additional actions with carbon retirement.

We also encourage individuals seeking to accelerate Europe's action on climate change to support campaigns and campaign groups lobbying for tougher European targets, and tighter carbon budgets within the ETS. At the time of writing the main public campaigns on this front are:

- Sandbag's petition to the European Commission at: www.sandbag.org.uk/notdoneyet
- Christian Aid's petition to the UK government and the European Commission at: <http://bit.ly/cWmcDi>
- CAFOD's petition to the UK government at: <http://bit.ly/bDFf15>
- Stop Climate Chaos's Twitter petition to the UK government at: <http://act.ly/1lw>

For more information visit sandbag.org.uk or contact us at info@sandbag