Coaxing the mitigation phoenix from the ashes of the EU ETS:

why the near-collapse of Europe's carbon-trading scheme could be good for reducing emissions

Kevin Anderson

Professor of Energy and Climate Change: School of Mechanical, Aerospace and Civil Engineering & Tyndall Centre for Climate Change Research. University of Manchester

The past fortnight has been a time of considerable disquiet for those who consider carbon trading generally and the EU's emission trading scheme (ETS) more specifically a cornerstone of mitigation policy.

Certainly the potential demise of the most advanced carbon-trading regime yet is reflective of the EU parliament's collective preference for short-term hedonism over medium-term stewardship[1] – a situation that does not bode well for the development of any meaningful climate change polices.

However, and more profoundly, carbon trading, as with any market or price-based mechanism, cannot deliver the scale of emission reductions necessary to meet the EU or international community's commitments to staying below a 2°C rise in temperature.

If this were 1990 or even 2000 then gradual reductions in emissions could arguably keep the carbon budget broadly in line with the 2°C threshold between acceptable and dangerous climate change. But, despite more than two decades of international negotiations, emissions of greenhouse gases continue to rise and, at least for the coming few years, show no sign of changing direction. Consequently, in 2013, the 2°C threshold is no longer deliverable through gradual mitigation, but only through deep cuts in emissions, i.e. non-marginal reductions at almost step-change levels.

By contrast, the fundamental premise of contemporary neoclassical[2] economics is that markets (including carbon markets) are only efficient at allocating scarce resources when the changes being considered are very small – i.e. marginal.

Conversely, for a good chance of staying below 2°C, future emissions from the EU's energy system (or from any industrialised, 'Annex 1', nation) need to reduce at rates of around 10% p.a.[3] – mitigation far beyond what marginal markets can reasonably be expected to deliver. To draw an analogy, quantum theories are appropriate for understanding Einstein's photoelectric effect and other *small*-scale phenomena, but inappropriate for understanding *larger* Newtonian scale observations. Similarly, it is foolish to rely on *marginal* market economics as the mainstay for achieving *non-marginal* reductions in emissions.

Personally, I consider the ETS and other carbon pricing discussions a serious distraction from decisive mitigation through a stringent and annually tightening suite of standards. These I suggest apply to all sectors and include a strong signal to markets as to how they will change over the coming decade.

For example, the power companies could only operate if their portfolio of power stations did not exceed 500gCO_2/kWh starting next year; with the standards tightening at 15% p.a. thereafter. Similarly, for cars, from 2013 a maximum of 110gCO_2/km, tightening at around 10% p.a., - and with no option for buying out of the standard. For domestic refrigerators, say 200kWh/year, again with a clear 10-year signal of the standard tightening at around 10% p.a.

Such standards would not in themselves be sufficient to meet the EU's 2°C obligations. Certainly they could be usefully complemented with market-based approaches, progressive metering tariffs, carbon prices and perhaps even some sector-level trading – particularly where such mechanisms helped alleviate fuel poverty. However, standards would provide the principal mechanism and in so doing offer a range of benefits over relying on carbon trading or more interventionist regulatory mechanisms.

- *Standards do not pick technology winners (CCS, wind, nuclear etc. would be the choice of companies operating in the market and not of governments favouring one technology over another).*
- *Companies would have a level playing field and a 10-year signal of how the standards would change.*
- *Standards reduce if not eliminate carbon speculators and other market actors – all of whom increase the costs of carbon-trading and consequently push up energy prices at no net carbon or social benefit.*
- *Standards reduce the opportunity for wealthier and high-emitting individuals to simply buy their way out of making any change. This confers two important advantages over markets:*
  - *a) High profile role models are required to make low-carbon lifestyle choices (the Ferrari would also be subject to the 110gCO_2/km limit)*
  - b) *The innovation process would be energised by wealthier & high-emitting individuals becoming early adopters of new (and initially costly) low-carbon technologies.*

Ultimately, whatever mechanisms are chosen, if they are to be coherent and evidence based they must be compatible with the carbon budgets accompanying the EU's explicit 2°C obligations. Carbon trading, markets and prices are unable to deliver the rates of mitigation demanded by such obligations.[4] Consequently, alternative measures must be urgently implemented if the EU is not to renege on its international climate change commitments.

The anticipated collapse of the ETS provides an important opportunity for a root and branch rethink of carbon-reduction policies; an opportunity that the EU must grasp if it is not to abandon its international leadership on climate change!

---

[1] Based on the collective choice of MEPs not to backload the ETS (by a small majority of 19 votes). This decision was much less informed by concerns about the integrity of the trading scheme and its role in combatting climate change, and much more by concern for short-term energy prices.
See: Climate change in a myopic world. Kevin Anderson. Tyndall Briefing Note No.36 May 2009; and Reframing the challenge of climate change. Anderson and Bows. Royal Society 2008

[2] This reference to neoclassical economics extends to the broader range of market-based variants

[3] Beyond dangerous climate change. Anderson and Bows. Royal Society 2011

[4] Op.cit. 1&3; A new paradigm for climate change. Nature climate change. 2012