

EAUC-Scotland Conference The Elephants in the Room

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Carbon Offsetting – Paying for your sins

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OPINION

< Previous

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The CommonSpace @TheCommonSpace



Source: Opinion

Tags:

Carbon pricing, Climate Change, climate emergency, The Scottish Government, SNP

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Keith Baker - Paying for your sins: Why carbon offsetting is not a serious approach to climate change



Dr Keith Baker, co-founder of the Energy Policy Research initiative, says that if the SNP is to back up its "climate emergency" statement with serious substance, then former climate minister Stewart Stevenson MSP's carbon offsetting proposals must be rejected outright

Commonspace, April 2019: <u>https://www.commonspace.scot/articles/14185/keith-baker-paying-your-sins-why-carbon-offsetting-not-serious-approach-climate</u>



Next>

How big is 1 tonne of **CO**,?

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1 tonne of CO₂

(at standard atmospheric pressure)



What can you do with it?

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What can you do with it?

(Source: Rutland Council, based on data from Defra)

Based on this you could travel from Glasgow to Edinburgh:

245 times by train

137 times by bus

<128 times by plane*

71 times by car



*This is an over-simplification because short flights produce proportionately more CO_2 so the real figure will be *much* lower

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How much is it worth?



How much is 1 tonne of CO₂ worth?

£2-£3 (approx.) – Cost of offsetting by planting trees in the UK

£7.50 – Climate Care, an aviation emissions offsetting company

£16 – UK carbon floor price, 2013 (used for CRC EES etc)

 $\pm 26.50 - \text{cost}$ of health impacts from burning $1tCO_2$ -worth of coal in the USA (University of Wisconsin study)

£30 – UK Treasury target carbon floor price for 2020

£52 - £77 – investing in carbon capture and storage

£2,000-£3,000 – estimated cost using public expenditure figures from the Scottish Government's carbon budget (John Easton, SUSTAim Ltd, 2010)

 $\pm 3,625$ to $\pm 5,750$ – insulating enough lofts to save one tonne of CO₂ (EST figures)

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Different ways of valuing carbon and GHG emissions

- Fuel costs e.g. market cost of coal / oil / gas / nuclear / biomass / renewables etc needed to emit 1tCO₂e
- **Mitigation costs** e.g. cost of insulating a home per tCO₂e saved
- Adaptation costs cost of adapting to impacts of climate change e.g. building flood defences, loss of economically productive land, etc
- Avoidance costs costs of actions taken to reduce future GHG emissions e.g. installing more energy efficient machinery in a manufacturing plant
- Land use / land use change costs cost of maintaining / changing land uses e.g. reforesting
- Sequestration costs cost of sequestering carbon e.g. planting trees, producing biochar, geological storage, etc
- Social cost accounting for the down-stream costs of emitting greenhouse gases e.g. health impacts, biodiversity losses, etc
- **Bequest value** cost to future generations (in terms of impacts) of emitting greenhouse gases today
- Existence value value of natural assets (e.g. scenic landscapes) that will be lost due to climate change And many more!

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For 2018 per capita emissions for the UK were 5.4tCO₂

Planting one 'average' tree will absorb (very) approximately 7tCO₂

To allow for growth time, everyone in the UK would have to plant one tree per year to offset their emissions, starting today (approximate figure, but you can't plant half a tree)

Globally, we would need to plant around 5 billion trees per year to absorb our emissions

We are currently losing 26m hectares of trees per year - an area roughly the size of the UK





















Year 5....





Year 10....



Other forms of offsetting

Investing in renewable energy, low carbon energy, energy efficiency projects, and developing new technologies

Investing in reducing emissions from deforestation and forest degradation (REDD) projects – e.g. the ubiquitous (colonialist?) solar stove in Africa

Retiring carbon credits

And many more....





Least-worst options?

Retiring carbon credits?

- But why voluntarily pay more?
- Assumes new allocations of credits aren't then adjusted for this risk of lobbying by major emitters etc

Extending 'allowable solutions' beyond buildings?

- Means that developers of new buildings can offset residual emissions by investing in 'local' projects, so their benefits are returned to 'local' communities
- But how do we define 'local' in a meaningful way?
- How soon would we run out of 'local' projects?
- Community capacity versus equity problem



Concluding remarks

Carbon offsetting:

- Is market-based and market-led
- Is based on a subjective value
- Is difficult to regulate globally
- Encourages business as usual paying to emit
- Can drive inequitable 'solutions' to climate change
- Is unrealistic for many
- Is unnecessary



We can't afford to leave climate change to markets

"The problem of climate change involves a fundamental failure of markets: those who damage others by emitting greenhouse gases generally do not pay Climate change is a result of the greatest market failure the world has seen."

Nicholas Stern, 2007



The inevitable plugs ③

A Critical Review of Scottish Renewable and Low Carbon Energy Policy

Geoff Wood & Keith Baker

Palgrave Macmillan

August 2017



The inevitable plugs 🙂

The Palgrave Handbook of Managing Fossil Fuels and Energy Transitions

Geoff Wood & Keith Baker

Palgrave Macmillan

November 2019



The Palgrave Handbook of Managing Fossil Fuels and Energy Transitions

Edited by Geoffrey Wood · Keith Baker

> palgrave macmillan



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Offsetting – Risk, Opportunity, or both?



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Definition and Language Offset, Avoidance, Displacement



Q.....is the generation of community renewables OK as an offset (Voluntary Gold Standard), if we have tackled the 'hard yards' of gross emissions reduction first and offset of net emissions is the last resort????

Proposed Model for Net Emissions



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Example concept for discussion: 13MW Community Solar Array and Battery Storage Scheme

- University owned land and facilities
- Delivered in partnership and collaboration with local community (Local Energy Scotland and Community Development Trust and Scottish Water
- 30GWh electricity generation
- 7,800 tonnes CO₂e emissions
 'avoided' per annum
- Achieves carbon neutral assets and community investment
- Divestment

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 Long term covenant of University

