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Understanding Carbon Offset Technologies

Heather Lovell  & Diana Liverman

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Abstract

In this article we unpack the 'black box' of carbon offsetting through a critical examination of the technologies and techniques that create carbon credits. Drawing on empirical research of compliance (Clean Development Mechanism) and voluntary carbon offset markets, we highlight the diversity of technologies, techniques and devices involved in carbon offsetting, ranging from refrigerant plants to systems of calculation and audit. We suggest that polarised debates for and against offsetting do not adequately reflect the considerable variations between types of offset project and governance practices in the compliance and voluntary offset markets. Using conceptual insights from governmentality theory and science and technology studies we assess the tensions in making standard, fungible carbon credits. In conclusion, we suggest attention to the technologies and materiality of carbon offsetting allows a fresh perspective on somewhat entrenched debates about the advantages and disadvantages of offsetting.

Keywords:

carbon offsetting

Clean Development Mechanism (CDM)

offset technologies

climate change

governmentality

science and technology studies (STS)

Notes

We would like to thank the UK Research Councils-funded Tyndall Centre for Climate Change for support for this research.

It is important to note that we are working with a larger group of researchers and postgraduate students who are currently undertaking exactly these kind of investigations through detailed studies of the CDM and voluntary offsets, including Emily Boyd, Adam Bumpus, John Cole, Christian Ellerman, and Deborah Ley at Oxford and Esteve Corbera in Tyndall. Adam Bumpus has a parallel article in preparation focusing on the materialities of offsets using examples from his fieldwork in Honduras (see Bumpus [2009](#)).

'Black liquor' is the term used for waste from pulp and paper processing, which is burnt to produce electricity and/or heat.

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