

Carbon Additionality

Additionality is widely considered to be a core aspect of the quality assurance of emissions reduction and carbon sequestration activities, but remains a source of much controversy in national carbon accounting, international regulatory frameworks and carbon markets. A review of the approaches to additionality, commissioned to help inform development of the Woodland Carbon Code for UK forestry projects, develops a typology of different forms.



Background

Additionality distinguishes the positive net benefits associated with an activity or project. In a climate change context, it refers to net greenhouse gas (GHG) emissions savings or sequestration benefits over and above those that would have arisen anyway in the absence of a given activity or project. This concept is reflected in Articles 3.4, 6.1 and 12.5 of the Kyoto Protocol.

The underlying rationale is to enable activities contributing further to climate change mitigation to be distinguished from those that, although they may appear associated with carbon savings, do not offer greater benefits than the “business-as-usual” case. Identifying which savings are additional can help avoid carbon certificates being issued for benefits that would have arisen in any case and avoid purchasers paying for no substantive gain in climate change mitigation.

Objectives

This research aimed to:

- review core concepts, underlying rationale for application to carbon markets, and key issues.
- review common types of additionality tests including:
 - regulatory tests
 - investment and financial tests
 - barrier tests and common practice tests.
- outline the range of methodologies adopted under different international mechanisms and voluntary carbon standards, including indicators used and evidence requirements.
- consider implications of Kyoto Protocol/National GHG Inventory carbon accounting for generation/claiming of carbon certificates for woodland projects.
- compare methodologies applied to ex-ante (future carbon) and ex-post (captured carbon) projects.

Methods

- This work comprised desk-based literature and web research and review.

Findings

Additionality is multi-faceted. At least twenty-three forms can be distinguished (see table).

Category	Form	Description
Legal, regulatory, institutional	Barrier	Overcomes implementation barrier.
	Compliance	Exceeds statutory requirements.
	Date	Activities occur after (or in some cases before) a particular date.
	Incentive	Exceeds benefits associated with regulatory incentives.
	Institutional	Independent of statutory emissions reduction targets.
	Jurisdiction	Activities in particular location or undertaken by specific communities or social groups.
	Practice	Not common practice.
	Norm	Meets voluntary industry standards / good practice benchmarks.
	Reporting	National carbon accounting/reporting additionality rules.
	Technological	Application of specific technology.
	Term	Abatement arises within a specified time-scale.
Financial and investment	Threshold	Does not exceed maximum GHG savings counted as additional.
	Financial	Would not be financed without sale of carbon units.
	Gaming	GHG emissions not generated for the purpose of subsequent abatement to claim carbon credits.
	Investment	Not most attractive option without sale of carbon units.
	Sales	Income from carbon decisive factor in decision to proceed.
Environmental	Viability	Not financially viable without sale of carbon certificates.
	Ecological	Positive net impacts on habitats, species and biodiversity.
	GHG	Positive impact on GHG balances (net reduction in GHG emissions / increase in GHG sequestration).
	Intent	GHG abatement a decisive factor in decision to proceed.
	Project	a) Afforestation and reforestation: forests unable to establish themselves in the absence of planned activities or project; b) Avoided deforestation or forest degradation: forests would have been deforested or degraded in the absence of the project.
	Tree	Positive impact on the number of trees.
Unit	Emissions per unit output below specified level.	

Recommendations

In considering which approach to apply, clarity about distinctions between different aspects and the potential for perverse incentives associated with some additionality tests is needed.

For further information contact: gregory.valatin@forestry.gov.uk

Funding/Support

Funded by the Forestry Commission

Reports and Publications

Valatin, G. (2013). Additionality of climate change mitigation activities. In: Fenning, T. (ed) (forthcoming Challenges and opportunities for the world's forests in the 21st century, Springer, <http://www.forestry.gov.uk/fr/INFD-7WUEAN> (pre-publication version).

Valatin, G. (2012). Additionality and climate change mitigation by the UK forest sector, *Forestry*, 85(4), 445-462, <http://forestry.oxfordjournals.org/cgi/reprint/cps056>.

Valatin, G. (2011). Forests and carbon: a review of additionality, Research Report, Forestry Commission, Edinburgh, <http://www.forestry.gov.uk/fr/INFD-7WUEAN>.