Characteristics of quality forest offset projects: additionality, leakage, baseline, and other key issues.

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Characteristics to consider when developing a forest carbon offset project.

1. Additionality and Baselines
2. Leakage
3. Permanence
4. Monitoring
5. Registration & Verification
6. Co-benefits
7. Cost

Basic Types of Forest Offset Projects

(1) Afforestation: planting trees where trees are not now growing.

(2) Avoided deforestation: preventing emissions of CO2 as a result of converting forest to some other land use, e.g., pastureland, ag land, housing development.

   a) Forest might be designated as reserve, or for active forest management.

(3) Active forest management

   a) Reforestation (accelerating regeneration)
   b) Enhanced growth (through silviculture)
   c) Enhanced product storage (e.g. lumber) and product energy substitution

Additionality and Baseline

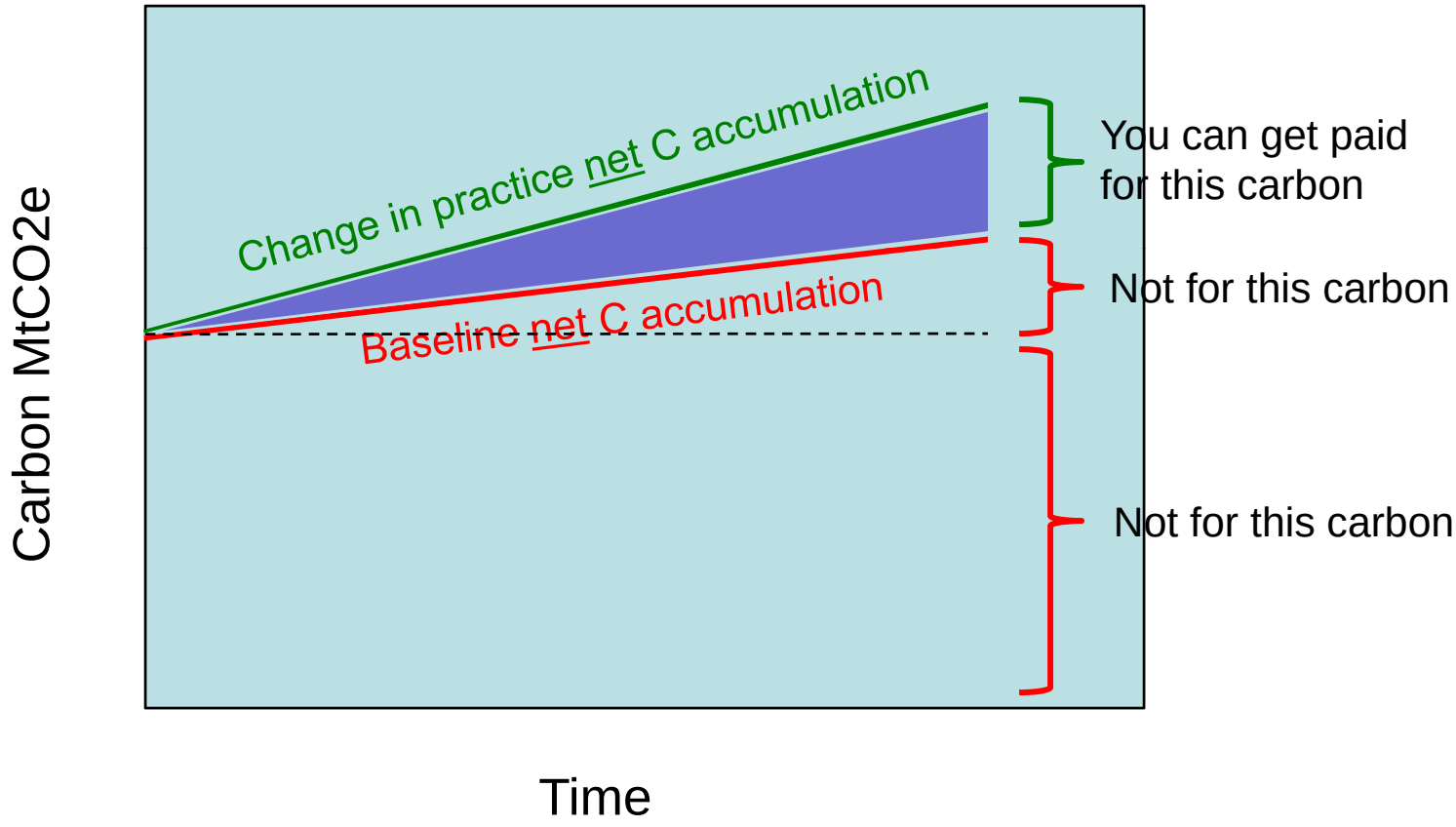
Baseline defined: the net amount of carbon that would be captured in the absence of the carbon transaction.

Addtionality defined: the net additional carbon that is removed from the atmosphere as a result of the carbon transaction.

Carbon available for sale: only the “additional” carbon

This is important because a real ton of GHG emission is being “allowed” for each ton offset.

Additionality and Baseline



Additionality and Baseline

Why can you only sell carbon over and above the what would have been sequestered?

> Because why would anybody pay for carbon that was going to be provided for free?

If you sold carbon that you were going to sequester anyway, the transaction leads to no net change in the atmosphere.

Additionality (cont.)

Forest owners/managers that are already doing “good” for carbon, can’t get into the market.

The issue of additionality could lead to penalizing good carbon behavior.

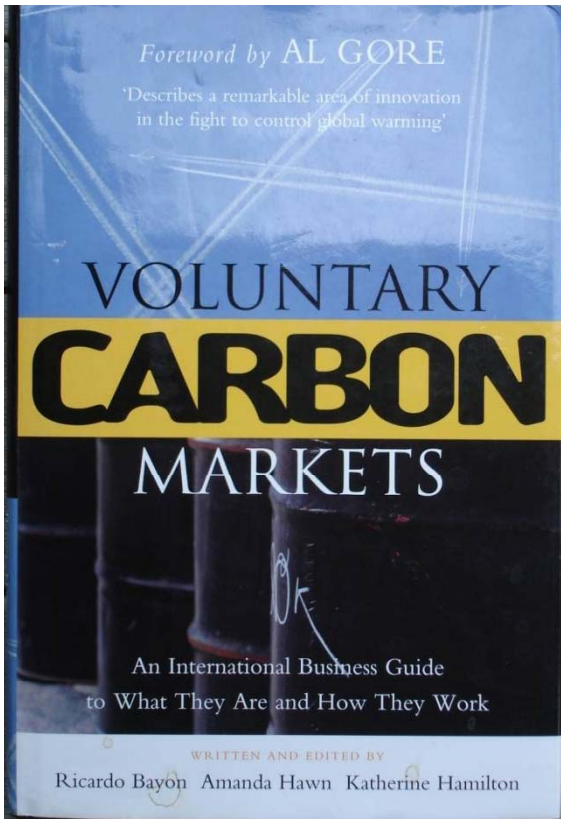
Those that are doing “bad” for carbon, have all the opportunity (this might lead to “gaming” the carbon markets).

Additionality is a big challenge for forest offset projects, and the rule book isn’t written yet.

Additionality (cont.)

"…standard additionality tests exclude some of the best projects from an environmental and sustainable development perspective– namely projects that are good for the climate, good for biodiversity, and good for local communities."

Bayon et al. 2007, p 25



Bayon, B, A. Hawn, and K. Hamilton. 2007. Voluntary Carbon Markets: An international business guide to what they are and how they work. Earthscan. London. 164 pp.

Leakage

Defined: carbon that is wittingly or unwittingly lost to the atmosphere but was supposed to be sequestered by the offset project.

i.e., carbon that you thought was sequestered, really isn't (the carbon that "got away"), .

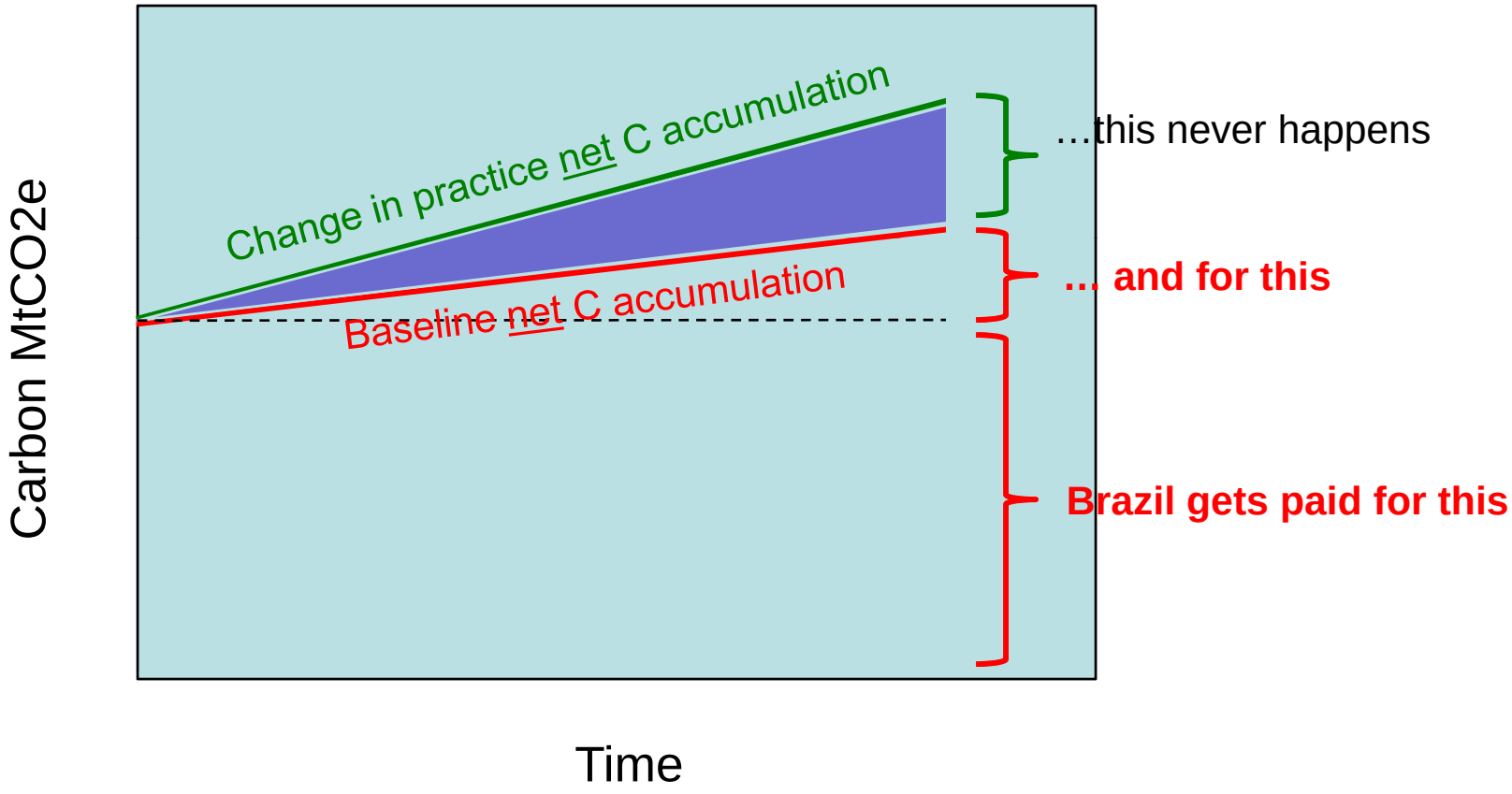
Leakage (cont.)

The example usually given is “avoided deforestation”

You pay Brazil NOT to convert 1 million acres of Amazon forest to pasture. Brazil obliges, but then converts a *different* million acres just the same.

In this case, Brazil get’s paid for the standing crop of carbon because the business plan is deforestation.

Additionality and Baseline



(This could lead to “gaming” the system).

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Eventually, the carbon in the original million acres will come into play by constraining what can get developed (if in perpetuity), but that may be “down the road” in time.

Is that o.k.?

Permanence

Defined: the time period that the carbon stays sequestered.

Do you lock it up in perpetuity (hard to do, or guarantee, with forests).

Fire, disease, can cause unexpected leakage of carbon.

Can you lock it up in product storage (e.g., 2x4s)? How long is long enough?

No-development easements can help keep forest as forest in perpetuity, but they don't really address the permanence of specific tons of carbon in a transaction.

Monitoring

Defined: measurement of the additional carbon sequestered (instantly or over time, depending on the type of project).

You must accurately measure carbon. Usually in metric tons of CO_2 equivalents ($MTCO_2e$).

Registration & Verification

registration: a regulatory set of criteria that ensures that any offset project is legitimate.

verification: an independent entity verifies that the carbon calculations are correct (akin to sustainable forestry certification).

Registries and Protocols for Offset Projects

1. The Chicago Climate Exchange
2. The California Climate Action Registry
3. U.S. Energy Information Administration (1605(b) Program)
4. Kyoto (United Nations Forestry and Climate Conservation Committee- UNFCCC)
5. Regional Greenhouse Gas Initiative (Eastern Climate Registry)
6. Georgia Forestry Commission
7. Wisconsin Voluntary Emissions Reduction Registry
8. New Hampshire Voluntary GHG registry
9. The Climate Trust
10. WRI Land Use, Land Use Change, and Forestry Guidance
11. The Gold Standard (WWF and others)
12. Climate, Community & Biodiversity (CCB) Standards
13. Clean Air-Cool Plant Consumer's Guide to Offsets

Co-benefits

Defined: additional societal benefits provided by the offset project.

Such as:

- Forest land for hunting, hiking, snowmobiling, etc.
- Clean water from forested landscapes
- Wildlife habitat

Providing these values might help “soften” additionality and leakage problems???

Cost

Defined: the cost to the landowner for doing the offset project.

If the costs of monitoring, verification, etc. are greater than the carbon payment, then why do it?

Take home messages

- ✓ The rule book isn't written yet (or, too many books are written) about what kinds of forest projects can be used to offset carbon.
- ✓ Now is the time to get it right. Its up to people like you to participate.
- ✓ Carbon offset projects are a matter of both technical and social legitimacy.
- ✓ If the net reduction to the atmosphere is not real, will forest offset projects be socially legitimate?

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