

Senate Select Committee on Climate Policy

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With particular reference to b) the relative contributions to overall emission reduction targets from complementary measures such as the protection or development of terrestrial carbon stores from agriculture, forestry and landuse change (AFOLU).

CURBING DANGEROUS CLIMATE CHANGE VIA LANDSCAPE-SCALE REGIONAL CARBON BANKS: Multi-benefit regional sequestration and abatement and the Degree Celsius case study

Main message:

Existing Regional Natural Resource Management (NRM) plans, activities and networks can provide the basis for carbon sequestration and abatement at the landscape scale using existing International Panel for Climate Change (IPCC) methodologies for measuring abatement. These regional carbon banks enable improved adaptation to climate change by providing multiple biodiversity, soil productivity and water quality outcomes. They also allow the forging of new opportunities and income streams for regional Australia in a changing world.

Background

Global scientific consensus is that the agriculture, forestry and landuse sector (AFOLU) is as important as the energy sector in any comprehensive approach to dealing with climate change, and it is simply not possible to curb dangerous climate change without it: the window of opportunity to take action has narrowed to as little as 10 years. The destruction of forests and other ecosystems has accelerated along with all other measures of environmental degradation, so giving a value to, and creating a policy framework for terrestrial carbon to trade, is one of the most pressing of global tasks.

McKinsey & Company (2009) provides a quantitative basis for determining what actions are most cost-effective in delivering emissions reductions between now and 2030. Their research finds that all sectors must capture close to the full potential for abatement that is available to them, and that a 10- year delay will make it virtually impossible to keep global warming below the crucial 2 degree Celsius. Three main sectors energy efficiency, low-carbon energy supply and AFOLU are crucially important with the latter comprising 33% of global abatement opportunity. Comparing the costs and investment shows that AFOLU is the *most cost-effective* sector where “both costs and investments are relatively low [and] the implementation challenges are practical rather than economical, namely, designing effective policy and an effective way of measuring and monitoring” (McKinsey & Company, 2009). McKinsey & Company estimate AFOLU to cost less than US\$20/t CO₂-e.

No credible scientific literature discussing climate change ignores the pivotal role of AFOLU. Only AFOLU can be marshaled into building ecosystem resilience defenses for the planet. Only AFOLU can be conscripted to draw down excess CO₂ in the atmosphere at reasonable cost, compared with an estimated cost of \$20 trillion for industrial projects, amounting to \$200/tC (US\$734/ t CO₂-e) (Hansen et al., 2008). AFOLU is a key abatement opportunity for the world, and particularly for Australia.

Rigorous methodological approaches exist now to measure carbon sequestration and abatement, or they are close at hand. It is no longer an excuse to put off inclusion of AFOLU because of methodological issues.

A demonstration project currently exists - Degree Celsius' Wet Tropics Biocarbon Sequestration and Abatement Project - with the potential to sequester and mitigate significant amounts of carbon at regional scale.

NRM carried out at the regional scale via government-accredited regional NRM bodies, is recognized as significantly contributing to sustainable economic development by integrating economic, social and environmental policies in a spatial context. Many of the issues of natural resource management such as water quality, biodiversity conservation, sustainable use of land, and carbon sequestration can be best measured and addressed technically, and administratively, at a regional scale.

Degree Celsius Case Study

Prior to the proposed Carbon Pollution Reduction Scheme, Terrain NRM and private company BIOCARBON formed the Degree Celsius Joint Venture in February 2007. This was done to develop, amongst other things, carbon commodities based on regional NRM activities to trade in the international voluntary market: the only market that currently trades in sustainable landuse and forestry. Two years of assessment, landholder liaison, and aggregation have resulted in Degree Celsius' first main output: The Australian Wet Tropics Region Biocarbon Sequestration Project based on Regional Natural Resource Management (The Wet Tropics PDD). The PDD forms part of our submission to this Senate Select Committee. We conservatively estimate trade in regional carbon in the Wet Tropics to be in the order of 100,000 tonnes of CO₂-e in 2009, increasing to at least 500,000 tonnes of CO₂-e per annum by 2013.

The Wet Tropics PDD uses existing rigorous Intergovernmental Panel on Climate Change (IPCC) methodologies, and the National Carbon Accounting Scheme (NCAS), to cover a range of GHG sequestration and abatement activities. These are based on landholder NRM activities and cover the full scope of agriculture, forestry and land use projects (AFOLU) including avoided deforestation and degradation (REDD), farm forestry and selective logging (Improved Forest Management), afforestation/reforestation and revegetation (ARR), and grazing land management and sustainable agriculture (ALM).

The Wet Tropics case study is based on the region's Wet Tropics Natural Resource Management plan, allowing terrestrial carbon to be aggregated on a landscape scale. This is also the most appropriate scale at which to manage risk and apply risk buffers.

The Wet Tropics PDD has developed a modular approach to carbon sequestration and abatement methodologies: incorporating carbon pools and land uses immediately where they have robust information and methodologies, and providing a framework for other pools and land uses as they become available. The forest-based methodologies, for instance, are robust and globally accepted. Internationally accepted methodologies for calculating nitrous oxides emission reductions from reduced fertilizer use are also developed, but some relatively minor information gaps remain to be filled. Once this information becomes available our methodology to reduce nitrous oxides, by leveraging off the BSES *six-easy steps* course with incentive payments based on fertilizer reduction, will result in real reductions in nitrous oxides immediately, and significant reduction of fertilizer entering the Great Barrier Reef.

Soil carbon response to grazing land management, however, will require both methodological development and additional information collection. The Degree Celsius initiative provides a context for applied research that will have immediate uptake and economic benefit. (Such research can also be packaged into new global methodologies via the United National Framework Convention on Climate Change).

The Wet Tropics PDD is currently being audited for accreditation against the global Climate Community and Biodiversity Standards, which incorporate the most rigorous methodologies available, and is also accepted as a Standard under the Clean Development Mechanism.

Degree Celsius is a pilot for the Queensland Regional Group Collective, and the regions flanking the Great Barrier Reef and comprising its catchments in particular. Arguably it will be the integrated regional management of the Great Barrier Reef catchments that will determine how the Reef survives climate change now and into the future.

Issue

The CPRS currently ignores AFOLU even though it is pivotal to effective national and global action on climate change, and a key abatement opportunity for Australia.

AFOLU sequestration and abatement is potentially a large growth sector in regional and rural Australia, and Australia should lead efforts in incorporating AFOLU into an ecosystem services trading platform beginning with incorporating the sector into the CPRS. Australia should be a showcase for policy in this area, particularly given that we fund REDD and ecosystem services projects in developing countries. We should be doing the same at home.

The CPRS currently replaces Degree Celsius' holistic approach with an assortment of disconnected approaches that potentially disempower, if not dismiss, NRM activities and ignore the growing global consensus that the agriculture, forestry and landuse sector (AFOLU) is as important as the energy sector in any comprehensive approach to dealing with climate change. This is particularly the case given the growing scientific consensus that emissions are increasing at a faster rate than ever anticipated, and our window of opportunity to take action to avoid dangerous climate change has narrowed to as little as 10 years.

The CPRS in its current form has also created uncertainty. It has undermined the rollout of the Degree Celsius initiative across the regions comprising the catchments of the Great Barrier Reef. And corporate investment and sponsorship interest, keen before the CPRS was launched, has now evaporated.

Analysis

Degree Celsius can be used as a prism through which to analyse the issue and present policy recommendations.

The lack of a coherent response to terrestrial carbon in the current CPRS proposal would play out, on the ground, in a confusion of approaches:

- All Reforestation, including small landholder environmental plantings undertaken voluntarily and at landholders' expense without reward, is "covered" as part of the Forestry sector because it is counted toward Australia's Kyoto accounts;
- Avoided Deforestation, while included in Australia's international accounts will not, however, be covered under the CPRS;
- Regeneration, such as regrowth – now a large and growing pool of carbon - is not covered nor counted toward Australia's Kyoto accounts even though in reality the difference between regrowth (not counted) and avoided deforestation (counted) is arbitrary, since regrowth can become forest in a matter of years, and hence be deforested;
- Adding to the confusion, internationally Regrowth can be recognised as a form of reforestation;
- There are also inconsistencies with respect to improved forest management, which is not "covered" nor "counted", but nevertheless a significant carbon pool and, in the Wet Tropics, forest practices such as logging is a major cause for degradation of remnant forests.
- Under the CPRS, Agriculture is not to be considered until 2013, not even as an offset, despite the fact that it is possible to implement rigorous methodologies right now or in the immediate future, as we have worked hard to demonstrate in the Wet Tropics PDD.

Degree Celsius is helping to forge new opportunities and income streams for regional NRM bodies in a changing world. One of the biggest opportunities for regional bodies and Australia's region's is to act as regional carbon banks. Degree Celsius is a case study showing how accredited Regional groups can inform both landholders and Government of the opportunities that exist, incorporating carbon as a key commodity in regional landscapes. Degree Celsius is a functional demonstration of how an ecosystem services arm of NRM bodies can work, taking in a rapidly developing sector, and providing a mechanism to get substantial private sector investment into landscapes, easing the load on government funds.

Recommendations

- AFOLU should be included in any emissions trading scheme, using existing rigorous rules (including baseline rules), mechanisms and methodologies.
- Agriculture should be included, at a minimum for any legitimate offset or abatement activity, where methodologies are robust. This avoids alarming the farm sector and provides an avenue for early adoption.
- Activity-based policies and practices should be investigated such as those occurring in the USA (eg low-till/no-till)
- The role of Government accredited Regional Groups as aggregators of terrestrial carbon should be acknowledged and supported.
- Roll-out of PDD's along the Reef catchments should be funded as a new initiative to complement the Reef Rescue Program.

References

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