OPTIMISING CARBON IN THE AUSTRALIAN LANDSCAPE
– a report by the Wentworth Group of Concerned Scientists

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Context

The Wentworth Group of Concerned Scientists recently published the report *Optimising Carbon in the Australian Landscape: how to guide the terrestrial carbon market to deliver multiple economic and environmental benefits*. The report was developed in the context of the anticipated introduction of a national Carbon Pollution Reduction Scheme (CPRS). The report discusses the multiple policy benefits for Australia in adopting full terrestrial carbon market opportunities and the regulatory responses that will be required to enable realisation of the opportunities without adverse impacts.

This MAV Members Brief provides a summary of the implications for local government in a terrestrial carbon market place.

Understanding the opportunity of 'terrestrial carbon'

Terrestrial carbon includes carbon stored in forests, woodlands, swamps, grasslands, farmland, soils, and derivatives of these carbon stores, including biochar and biofuels.

Agricultural practices over the past century have mined Australian soils of their carbon stores. The Wentworth Group of Concerned Scientists identifies that nearly 40 per cent of carbon stocks have been lost from Australia's cropping soils. The loss of soil carbon is a primary cause of land and water degradation, acidification and the destruction of soil structure.

This reveals the great co-benefit of improving soil carbon. Soil carbon sequesters carbon from the atmosphere which also improves soil health and as a consequence, agricultural production.

The Wentworth Group of Concerned Scientists considers that terrestrial carbon has 'profound' potential to contribute to the climate change response, both nationally and internationally.

In a report recently commissioned by the Queensland government, *Analysis of Greenhouse Gas Mitigation and Carbon Biosequestration Opportunities from Rural Land Use*, CSIRO estimate that the Australian landscape has the biophysical potential to store an additional 1,000 million tonnes of CO_2-e in soils and vegetation for each year of the next 40 years.

If Australia were to capture just 15 per cent of this biophysical capacity, it would offset the equivalent of 25 per cent of Australia's current annual greenhouse emissions for the next 40 years. The Wentworth Group estimates gross economic potential at this level would be between $3.0 billion and $6.5 billion per annum.

Terrestrial carbon lowers the economic cost of achieving Australia's emissions reductions, and makes it possible for Australia and the world to adopt deeper emission cuts.

In addition to its emissions reduction potential, terrestrial carbon has the potential to address a range of other environmental challenges confronting Australia: repairing degraded landscapes, restoring river corridors, improving the condition of agricultural soils, and conserving Australia's biodiversity.

Improvements to the health of natural assets will enhance the resilience of natural systems to climate change.

Further, terrestrial carbon, where it generates offsets for trade in the new carbon market place, provides a new source of income for Australian agriculture and other land managers to manage landscapes more sustainably.

However, rapid enhancement of Australia's terrestrial carbon stocks poses significant risks in the absence of careful regulation. Without complementary land use controls and water use accounting arrangements in place, there is a risk that carbon forests will take over large areas of agricultural land, causing adverse impacts on food and fibre production, and impacting on regional jobs that are dependent on these industries. The higher the carbon price the greater proportion of terrestrial carbon investments that are likely to be directed into environmental plantings[1].

In some locations, newly established carbon forests could also cause a reduction in runoff into rivers and worsen existing over-allocation problems.

A Role for Local Government

Australia needs to plan where it wants trees, where to produce food and where to do both.

The policy challenge for many parts of Australia may be how to guide the terrestrial carbon market to those areas in the landscape that deliver multiple economic and environmental benefits, whilst avoiding unintended consequences for fresh water resources, biodiversity and agricultural land.

In its report, the Wentworth Group of Concerned Scientists describes a suite of necessary institutional responses by Commonwealth, State, Territory and local governments.

The report identifies that the Commonwealth Government has a critical role in ensuring that the Carbon Pollution Reduction Scheme is designed in such a way that it captures the full potential of terrestrial carbon and provides land managers with opportunity to optimise their participation in the terrestrial carbon market, whilst avoiding unintended consequences.

The report states that local government has an important role to play in regulating land use, supported by State and Territory Governments.

Land use planning schemes are identified as able to guide terrestrial carbon into areas of highest benefit and away from areas of risk. It is suggested that land could be zoned according to its suitability for forestry or soil carbon. This would require planning scheme amendments.

The role of regional natural resource management plans is discussed, for their potential to inform land use decisions. The link between regional natural resource management plans and local land use planning schemes is considered.

The report describes three categorisations for the zoning of land:

- Green light for areas identified by regional natural resource management plans and/or regional land use strategies, as suitable for biodiversity plantings could be zoned "permitted use", subject to compliance with environmental guidelines with regard to location and species type;
- Red light for areas of high value arable land deemed unsuitable for carbon forestry because of its long-term impact on food production, jobs and regional economic development; and
- Amber light for areas not in the two categories above, when carbon forestry developments would be subjected to a formal development application or environmental impact assessment processes.

The report does not suggest any mechanisms to progress its recommendations, but rather leaves them to the three levels of government for their consideration.

Further information

To obtain a copy of the report visit:
http://www.wentworthgroup.org/docs/1270%20Optimising_Terrestial_Carbon-9bfinal.pdf

Contact

Nina Rogers, MAV Manager Climate Change and Environment Policy
Ph. (03) 9667 5519 or nrogers@mav.asn.au

[1] ABARE define *environmental plantings* as carbon forests that are not harvested for their timber.