

Seeing the wood for the trees



What to look for when purchasing carbon credits

While paying for tree-planting or buying renewable energy credits has become a popular way for people and organisations to offset carbon emissions, not all carbon offset options are the same, write **Mike Smith and Karlson Hargroves**.

After the Kyoto Protocol sanctioned greenhouse gas (GHG) offsets as a way for governments and private companies to earn greenhouse gas credits for trading, offsetting became a key part of major emission trading schemes, such as the European Union Emission Trading Scheme.

But a recent *Financial Times* report¹ on the UK carbon offset market found 'widespread failings in the new markets for carbon offsets, suggesting some organisations are paying for emissions reductions that do not take place'.

In addition the report found that:

- Some industrial companies are profiting from doing very little, or from gaining greenhouse gas credits on the basis of efficiency gains from which they have already benefited substantially.
- Brokers are providing services of questionable or no value.

- A shortage of verification exists, making it difficult for buyers to assess the true value of greenhouse gas credits.

In fact, critics argue that the carbon offsets industry is allowing individuals, organisations and countries to think it is alright to keep polluting.²

Chris Martin, the famous lead singer of UK rock band Coldplay, is an example of this. In an interview for *The Guardian* in 2005,³ whilst espousing the need for us all to play our part to preserve the planet, Chris revealed that he drives a fuel-inefficient sports car and frequently travels in his own private jet. He said he had bought the private jet partly so that his daughter Apple, when she is older, could fly and join him at his concerts whenever she wished to do so.⁴

Chris's excuse for this highly carbon intensive behaviour was that he and

Coldplay offset their emissions. In 2002, Coldplay paid British company Future Forests to plant 10 000 mango trees in India to offset the emissions from creating their second album. In 2006, the UK *Daily Telegraph*⁵ reported that at least 40 per cent of the saplings had died as a result of water shortages – negating the greenhouse gas storage they were meant to provide.

Further, several failures around the world have fuelled criticism of offset schemes under the Clean Development Mechanism.⁶ The Clean Development Mechanism (CDM), established by the Kyoto Protocol, allows industrialised countries with a binding greenhouse gas reduction commitment to invest in greenhouse gas offset projects in developing countries. Failures of the CDM include carbon offset projects in South America⁷ and Africa.⁸

1 Harvey F and Fidler S (2007). Industry caught in greenhouse gas smokescreen. *Financial Review*, London. www.ft.com/cms/s/0/48e334ce-f355-11db-9845-000b5df10621.html

2 Smith K (2007). The Carbon Neutral Myth: Offset Indulgences for Your Climate Sins. Carbon Trade Watch, Transnational Institute, pp. 29–42. www.carbontradewatch.org/pubs/carbon_neutral_myth.pdf

3 McLean C (2005). The importance of being earnest. *The Guardian*, 28 May 2005.

4 Monbiot G (2006). Greenwash Exposed – Chris Martin. http://www.turnuptheheat.org/?page_id=12

5 Dhillon A and Harnden T (2006). How Coldplay's green hopes died in the arid soil of India. *Sunday Telegraph*, 30 April 2006.

6 Smith K (2007). The Carbon Neutral Myth: Offset Indulgences for Your Climate Sins. Carbon Trade Watch, Transnational Institute, pp. 29–42. www.carbontradewatch.org/pubs/carbon_neutral_myth.pdf

7 Granda P (2005). Carbon Sink Plantations in the Ecuadorian Andes: Impacts of the Dutch FACE-PROFAFOR Monoculture Tree Plantations. Project on Indigenous and Peasant Communities. www.wrm.org.uy/countries/Ecuador/face.pdf

8 Lang C and Byakola T (2006). A funny place to store carbon: UWA-FACE Foundation's tree planting project in Mount Elgon National Park, Uganda World Rainforest Movement. http://www.wrm.org.uy/countries/Uganda/Place_Store_Carbon.pdf

Left: Carbon offset projects involving tree-planting also help to preserve biodiversity and restore habitat. CO₂, Australia

As a result of such failures, a number of new non-government organisations⁹ have been set up with the sole purpose of monitoring GHG offset projects.¹⁰

However, it's important to note that offsets are *not* the solution to reducing GHG emissions. Rather, they should be seen as one component of a broader GHG reduction approach that requires, first, that society uses energy more efficiently, and secondly, that it shifts to using low-carbon energy sources. Virtually all businesses and households in Australia can now purchase 100 per cent renewable energy from an accredited green power supplier,¹¹ and most Australians can easily make other lifestyle changes, such as buying locally grown food.

Only then does it make sense to offset the remaining balance of our emissions using greenhouse gas offsets.

Key selection criteria

In a recently published report,¹² Leonardo Ribón and Helen Scott from the Global Sustainability Institute at RMIT argue that 'criticism of the carbon offset industry is justified, as only some Australian carbon offset service providers communicate on their websites that offsetting emissions is only one element of a comprehensive greenhouse gas strategy. Only a few organisations do encourage their clients to measure, reduce and then offset, rather than purely offering the offset service.'

Yet there is some evidence the carbon offset industry is starting to address these criticisms.

Brendan Condon, Founder of carbon offsets provider Climate Positive, has stated that 'offsets can play a part in the climate protection strategy, but they cannot be used as a mini licence to pollute. We must reduce our footprint dramatically before we offset. At Climate Positive we're very clear; we want passionate partners in reducing global warming, not passive consumers of a product.'¹³

Steps are also being taken to improve quality assurance standards for offsets. Many Australian carbon offsets are now either accredited, or in the process of getting accredited, with the Australian

Greenhouse Office's Greenhouse Friendly program. (A useful table comparing offset providers in Australia can be found on p. 4 of the Ribón and Scott report at www.global.rmit.edu.au/GreenhouseGasOffsets2007.pdf.)

Purchasers need to have confidence that the greenhouse gas offsets they pay for are generated from projects that are accurately and reliably verified.

In their RMIT report, Ribón and Scott developed a set of criteria that can help customers choose between offset products:

- *Additionality:* Would the project have occurred anyway without funding from greenhouse gas offsets?
- *Baseline determination:* Does the provider state commitments to a robust process to determine the baseline greenhouse gas emissions?
- *Benefit quantification:* Does the provider have a track record of accurate quantification of emissions reductions or has that provider had failures in the past? Do the figures quoted reflect uncertainties?
- *Permanence:* Are there risks of loss of greenhouse gas from bushfires and drought? Is there a risk that customers will not install compact fluorescents? Is there a potential for future reversal of sequestration?
- *Ownership and registration:* Is ownership of offsets clearly and formally registered? Is there any possibility of offsets being sold many times over?
- *Monitoring and verification:* Does the provider commit to regularly monitor, verify and report greenhouse gas offsets over time?

The fact is, because the voluntary greenhouse gas offsets market is immature, no universally accepted standards for product quality have yet gained market dominance. But some standards exist to provide quality guidance or certification for some areas of the greenhouse gas offsetting process. In their report, Ribón and Scott point out the following examples of this:

- *Measuring and accounting for GHG emissions:* The main global standards here are the GHG Protocol for Project Accounting and the Corporate Accounting and Reporting Standards



Investments in new renewable energy projects, such as geothermal, last for decades and support the development of a low-carbon economy. Geodynamix

- released jointly by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI). There is also the International Organisation for Standardisation's ISO 14064 standard for GHG accounting and verification.
- *Abatement projects that create emission-reduction credits:* These standards and protocols establish whether the GHG reduction project is credible. Examples include the Gold Standard for Voluntary Offsets, the Voluntary Carbon Standard (VCS), Australian Greenhouse Friendly initiative, and Origin Energy's Carbon Reduction Scheme (CRS).
- *Standards that certify a scheme for selling offsets:* These include the UK Government's Code of Best Practice.
- *Standards that can certify whether an organisation or product has credibly offset its emissions:* This ensures the organisation or product can be marketed as 'greenhouse gas neutral'. Examples in Australia include the AGO's Greenhouse Friendly initiative.

In Australia, the most common greenhouse gas offset projects involve renewable energy, energy efficiency and forestry/revegetation (bio-sequestration).

⁹ Greenhouse Gas Trade Watch, www.greenhousegastradewatch.org/

¹⁰ SinksWatch, www.sinkswatch.org/

¹¹ Australian Government-accredited green power options, www.greenpower.gov.au/home.aspx

¹² Ribón L and Scott H (2007). Carbon offset providers in Australia 2007. Global Sustainability at RMIT. www.global.rmit.edu.au/CarbonOffsets2007.pdf

¹³ Lester B (2007). Smoke and mirrors. *GMagazine*. May/June, pp. 50–53.

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Under Kyoto's Clean Development Mechanism, industrialised countries can meet emission reduction targets by investing in emission-reduction technologies, such as solar cookers, in developing countries. The Solar Cooking Archive

Offsets from renewables

Renewable energy projects include wind, solar, geothermal, landfill gas capture, biomass and some hydro generation. Under the Australian Mandatory Renewable Energy Target (MRET), a Renewable Energy Certificate (REC) is equivalent to 1 MWh of renewable energy generation, which offsets approximately 1 tonne of CO₂.

Renewable energy projects provide a measurable way to reduce emissions that would otherwise be produced from burning fossil fuels.

Investments in new renewable energy projects also last for decades, ensuring the money invested makes a lasting difference. Further, renewable energy credits created and certified under a government scheme have high market credibility.

Offsets from energy efficiency projects

Energy efficiency projects can offset emissions by reducing the amount of energy needed from an original baseline level of energy usage. The quantified difference between energy used before and after a particular energy efficiency measure

is implemented is what is used to create a greenhouse gas offset.

National Framework for Energy Efficiency (NREE) research shows there is significant potential for energy efficiency to significantly reduce greenhouse gas emissions. NREE's publications show that 30–70 per cent potential energy efficiency savings exist throughout the Australian economy.¹⁴

Critics of greenhouse gas offsets from energy efficiency projects argue that companies, governments and homeowners should be investing in energy efficiency opportunities anyway. This is because many energy efficiency investments have a rapid return on investment leading to long-term financial savings.

Greenhouse gas offsets from bio-sequestration

Bio-sequestration projects have been criticised for their vulnerability, particularly the risk of greenhouse gas re-entering the atmosphere as a result of fires or drought-induced tree death. As some parts of Australia enter their 11th year of drought, and scientists warn of higher risks of bushfires in coming decades, it is hard

to see how bio-sequestration projects can guarantee carbon storage.

However, the key point to make is that reforestation and revegetation projects are enormously important in helping to preserve biodiversity and restore habitat. It is significant that national 'icon' organisations such as Greening Australia – which has over 20 years' experience in working with more than 10 000 Australian farmers – are now entering the greenhouse gas offset market with greenhouse gas offset products that also promise to restore biodiversity to the Australian landscape.

These same organisations are making efforts to minimise the risk of bushfire and drought impacts on their bio-sequestration projects. Also worth noting is that timber products and paper from sustainable plantations can store greenhouse gas for over 1000 years, as shown by recent research from the ANU and CRC for Greenhouse Accounting, reported in an earlier issue of *Ecos*.¹⁵

Bio-sequestration accounting

One of the challenges of bio-sequestration projects is accurately measuring the amount of greenhouse gas stored. To address this, the AGO has sent thousands of its free National Greenhouse Gas Accounting Toolbox CDs¹⁶ to farmers and landholders.

The toolbox enables users to track greenhouse gas emissions and 'greenhouse gas stock' changes from different land-use and management options.

The former CRC for Greenhouse Accounting¹⁷ developed simple online calculators that allow farmers and plantation managers to accurately calculate how much CO₂ they are sequestering through changing land-use patterns and through afforestation, reforestation and revegetation efforts.

In summary, carbon offsets need to be seen in the context of a broader portfolio of climate change mitigation strategies, including energy efficiency and sourcing energy from low-carbon sources.

More information:

Ribón L and Scott H (2007). Carbon offset providers in Australia 2007. Global Sustainability at RMIT. www.global.rmit.edu.au/CarbonOffsets2007.pdf

The Natural Edge Project (2007). Sustainable Energy Solutions Portfolio. Lecture 3.10 – Beyond energy efficiency and distributed energy: Options to offset emissions. www.naturaledgeproject.net/Sustainable_Energy_Solutions_Portfolio.aspx

¹⁴ Energy Efficiency and Greenhouse Working Group (2003). Towards a National Framework for Energy Efficiency – Issues and Challenges Discussion Paper. NREE. www.nfee.gov.au/about_nfee.jsp?xcid=64

¹⁵ Smith M and Hargroves K (2006). Wood – another low greenhouse gas footprint solution. *Ecos* 129, 12–13. www.publish.csiro.au/?act=view_file&file_id=EC129p12.pdf

¹⁶ AGO National Greenhouse Gas Accounting Toolbox, www.greenhouse.gov.au/ncas/ncat/index.html

¹⁷ CRC for Greenhouse Accounting calculators, <http://www.greenhouse.crc.org.au/tools/calculators/>