



The Commonwealth
Blue Charter

Case Study

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Reef Credits: a New Environmental Market-Based Instrument to Improve Water Quality in the Great Barrier Reef, Queensland, Australia *(on-going)*

"We estimate that the market could generate 6 Million Reef Credits by 2030, opening the door for more businesses to invest in the future of the reef as part of their environmental, social and governance (ESG) strategies."

GreenCollar (2020)¹



Summary

Reef Credits is a new, voluntary, environmental market scheme that rewards landholders for actions that improve the quality of the run-off from their land into the Great Barrier Reef catchment. When landholders implement projects on their land that meet approved water quality methodologies that demonstrate

reduction in nutrients or sediments, they generate Reef Credits. Reef Credits are tradable units that represent a quantifiable volume of nutrient, pesticide or sediment (Reef Credit, 2020)². One Reef Credit equates to preventing 1 kg of nitrogen, or 538 kg of sediment, from entering the Great Barrier Reef. Reef Credits are sold to organisations in the public and private sector that are keen to improve their environmental, social

¹ <https://greencollar.com.au/hsbc-and-the-queensland-government-purchase-world-first-reef-credits/> accessed 5 December 2020

² <https://www.reefcredit.org/>

and governance (ESG) performance, demonstrate their support for sustainable initiatives or offset their own impacts.

Environmental markets are considered a type of policy response, offering incentives to protect the ecosystem or the services it provides, often complementing other conservation or protection measures.³ The Reef Credit Scheme is an environmental market instrument that uses standards, accounting methodology (quantification), independent auditing and a registry system to measure and validate pollution prevention that can be bought or sold as a commodity. The system is based on the methodology developed by the US organisation Verra.⁴

Reef Credits provide landholders with an additional, diversified income stream over 10–25 years and are generated annually. Under the scheme, landholders implement one (or more) accepted water quality improvement activities based on an accepted methodology. Activities must align with water pollutant reduction targets for the Great Barrier Reef, and must be additional, measurable, monitored and verified by third-party organisations. The concept of additionality refers to the requirement that the activity must be a new undertaking, which is a central notion in other credit schemes as well, such as generating carbon credits. A new entity, called Eco Markets Australia, has been established to independently manage the Reef Credit Scheme, including adherence to market rules, registry systems and verification. The first credits have already been sold to the private and public sector. Reef Credits do not have a set price and do not function as a cap-and-trade market, but rather as a voluntary scheme. The price of Reef Credits was negotiated between seller and buyer. The Reef Credit Scheme has the potential to improve water quality in other catchment systems (including non-reef ecosystems) because it could be adapted for different catchment ecosystems.

The issue

The Great Barrier Reef is an internationally significant site, a World Heritage area and a national icon. It represents an AU\$56 billion asset, provides 64,000 jobs and contributes AU\$6 billion to Australia's economy.⁵ However, human impact is threatening this valuable system and recently the International Union for the Conservation of Nature (IUCN) listed the Great Barrier Reef's conservation outlook as "critical". Climate change, poor water quality

from land-based run-off, coastal development and fishing are the primary causes of the Reef's decline, but major storms, a crown-of-thorns starfish outbreak and marine debris have also put pressure on the Great Barrier Reef.⁶

Several attempts have been made by public and private organisations to improve water quality, with variable success, but, despite all efforts, the health of the Reef is still declining. Part of the problem is that the Reef represents a public good and is under government control (both Federal and State level), while land along the catchments is under private ownership. Minimum standards for water quality and monitoring are already mandatory under government regulation. Reef Credits seek to capture and incentivise additional, voluntary water quality improvement activities on private land.

The response

In 2017, the Queensland government funded the feasibility study for the Reef Credit Scheme, as part of the Major Integrated Projects initiative for reef water quality improvement. The feasibility study deemed the Reef Credit Scheme potentially viable and led to the establishment of the Reef Credit Secretariat and the Reef Credit Interim Steering Committee. The steering committee included leading environmental market project developer GreenCollar, and NFP organisations Terrain NRM and NQ Dry Tropics. In 2018, the Reef Credit Interim Steering Committee commissioned Winrock International (USA), a global leader in environmental markets and development, to prepare an Options Paper on how to design, establish and operate a crediting system aimed at reducing pollutant loads to the Great Barrier Reef. This work, along with the engagement of a number of water quality market programmes, participants and founders, and standard development organisations in North America, provided the foundations for the drafting of the Reef Credit Standard and the Programme Guide and the first Reef Credit Methodologies. Throughout 2018, farmers voluntarily identified between 10 and 20 project sites to test Reef Credit Methodologies, including agricultural and grazing practice changes, wetland restoration and gully restoration applications. The project sites were identified through voluntary means with the involvement of regional natural resource management bodies, which are not-for-profit environmental organisations.

Reef Credit governance

The Reef Credit Scheme is administered by Eco Markets Australia, a new, independent, not-for-profit company. The company is governed by a skills-based Board of Directors. The day-to-day administration of the

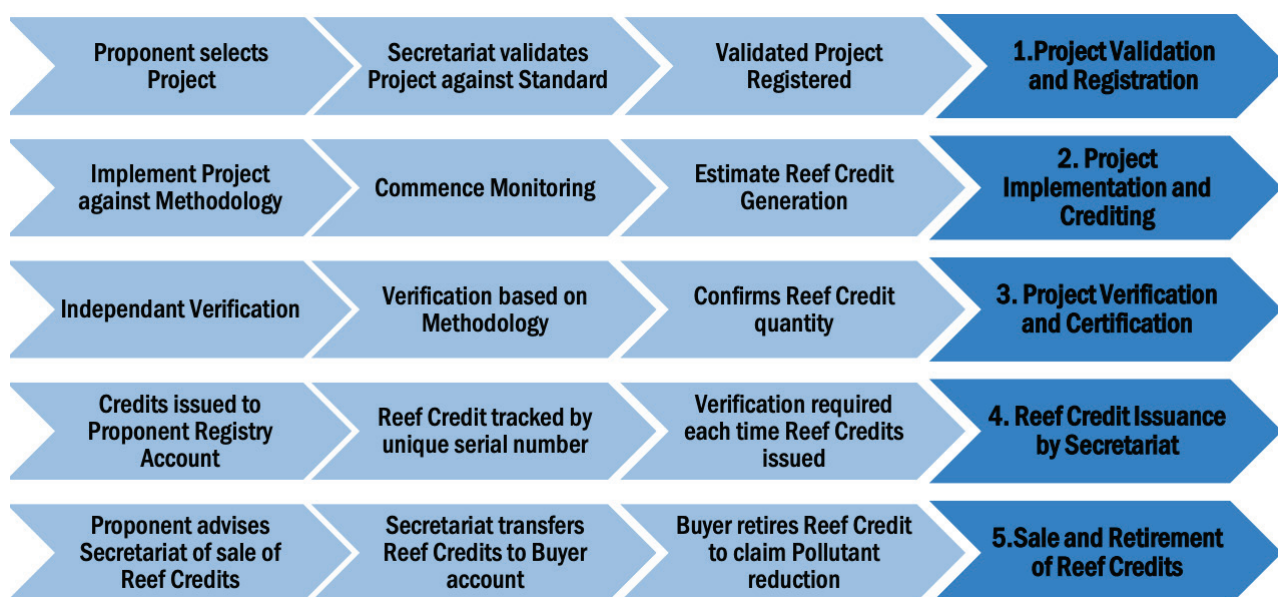
3 <https://www.oem.usda.gov/what-are-environmental-markets> accessed 11 December 2020

4 See www.terra.org

5 Deloitte Access Economics (2016) At What Price? The Economic, Social and Icon Value of the Great Barrier Reef. <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-great-barrier-reef-230617.pdf>

6 <https://www.gbrmpa.gov.au/our-work/threats-to-the-reef> accessed 5 December 2020

Figure 1: Overview of the Reef Credit process



Source: Reef Credit Interim Steering Committee (2019) Reef Credit Guide Version 1.0. <https://www.reefcredit.org/wp-content/uploads/2019/03/Reef-Credit-Guide-Version-1.0.pdf>

Reef Credit Standard is delegated to the Reef Credit Secretariat. The Board and Reef Credit Secretariat will be supported on technical aspects of the Reef Credit Standard and Methodologies by a Technical Advisory Committee. The Reef Credit Secretariat function is delivered by Eco-Markets Australia, which has now been formally established as a not-for-profit company in Queensland, Australia and the independent skill based Board appointed and operational.

The Reef Credit Scheme consists of a Reef Credit Guide, a Reef Credit Standard, a Reef Credit Registry, Reef Credit Methodologies and the Reef Credit Projects. The Reef Credit Guide is a document that explains the rationale goals, core principles, participants and processes of the scheme, including how Reef Credit Projects generate, register and issue Reef Credits. The Reef Credit Standard sets out the rules and requirements for developing methodologies and projects, as well as the validation, registration, monitoring, verification, crediting and issuance processes and governance arrangements. The Reef Credit Registry keeps track of Reef Credit transactions and ownership of Reef Credits. The Reef Credit Methodology describes how projects can generate verifiable outcomes. Reef Credit Projects are activities that conform to an approved Reef Credit Methodology.

Partnerships and support

The Reef Credit Scheme was founded by Terrain NRM, NQ Dry Tropics (two natural resource management not-for-profit organisations in Queensland, Australia) and GreenCollar, a private Australian project development company that currently delivers more than half of the Australian land sector carbon. Initial funding by

the Queensland government through the Major Integrated Projects initiative for reef water quality was vital in the start-up phase. Winrock International's extensive experience helped settle on how the scheme would operate. Of course, farmers were integral in developing and pilot testing the methodologies and their participation will continue to be vital for the scheme.

Results, accomplishments and outcomes

To date, two water quality improvement methodologies have been accepted under the Reef Credit Scheme and three are currently under development. The two accepted methodologies are (i) accounting for the reduction in fine sediment run-off through gully rehabilitation through engineered interventions, revegetation or improved grazing management and (ii) accounting for the reduction in nutrient run-off through managed fertiliser application, which targets dissolved inorganic nitrogen loss through more efficient soil and nutrient management practices from agriculture, including sugarcane, bananas, grains and fodder.

The first Reef Credits were generated in the Tully River Catchment, south of Cairns, by a local cane farmer. The project generated 3,125 Reef Credits between January 2018 and December 2019 under the approved method for reduction in nutrient run-off through managed fertiliser application. The first Reef Credits were purchased by HSBC and the Queensland government in October 2020. GreenCollar estimates aim to generate more than 6 million Reef Credits by 2030.⁷

⁷ <https://greencollar.com.au/hsbc-and-the-queensland-government-purchase-world-first-reef-credits/>

Challenges

The Reef Credit scheme is the first voluntary environmental market scheme in Australia, barring the carbon and water trading schemes, where government regulation and authorities play a central role. Even though such voluntary environmental markets exist in other countries, such as the USA, the novelty of the scheme in Australia was a challenge in obtaining initial funding for the preparation of the Feasibility Study and Options Paper. Some were sceptical about whether a voluntary scheme could be established within a short time frame and how it would work with other programs and also deliver a tangible outcome.

Environmental market schemes like the Reef Credit Scheme are also often criticised for “rewarding” polluters and this is a challenge. However, it is important to keep in mind that the scheme does not operate on the basis of cap-and-trade and government already has minimum water quality standards and water quality improvement targets in place (both of which may change and become more ambitious over time). Reef Credits incentivise the implementation of additional pollution prevention activities where individual landholders directly receive income. Thus, any new action under the Reef Credit Scheme leads to water quality improvements above and beyond requirements and will have a positive impact on the Reef. Environmental markets can incentivise desired practices but, contrary to regulation, it provides additional revenue for farmers who are already suffering from financial hardship. It can provide individuals and organisation the opportunity to generate income to pay for (and obtain finance to implement) pollution prevention activity that they would otherwise not be able to do.

The novelty of the scheme continues to represent challenges on many fronts. Stakeholders GreenCollar, Terrain NRM and NQ Dry Tropics as well as the State Government of Queensland are all newcomers to environmental markets. GreenCollar is investing considerable time and effort in finding interested and eligible landholders and potential investors and explaining the scheme to them. Setting up and registering Eco Markets Australia as an independent entity also took considerable time.

Key lessons learnt

The Reef Credit Scheme is the first voluntary (non-government-regulated) environmental market credit scheme developed and implemented in Australia. This case provides valuable lessons on how to set up such schemes in developed and developing countries. As it is not restricted to water quality improvement, it can serve as a blueprint for other environmental credit schemes, to achieve biodiversity outcomes for example.

The initial funding by the Queensland government allowed for the commissioning of the Feasibility Study and Options Paper, essential to getting started on the Reef Credit Scheme. It was decided early on that the government would not play a central regulatory role in the scheme (the government is still regulating and monitoring minimum water quality); rather, a new independent entity, Eco Markets Australia, was created to administer the registry and the scheme. This is important for several reasons, including allowing the government to maintain its focus on regulating and overseeing minimum water quality standards and allowing Reef Credits to be pursued entirely through voluntary markets.

Pilot testing water quality improvement projects before the methodologies were fully developed was important for input, but was also challenging. In essence, it meant that the methodologies were developed (rather than tested) during the pilot stage, which was time consuming and sometimes frustrating for the parties involved. However, this option was still the fastest way to develop methodologies in tandem with the scheme administration and this was a priority, given the urgency to develop new investment approaches. As always, partnerships of likeminded individuals who had the tenacity and resourcefulness to see the potential of Reef Credits and pursue this to fruition were key to its success.

Lead contact

GreenCollar contact – Carole Sweatman,
General Manager Water
Email: carole.sweatman@greencollargroup.com.au

Eco-Markets Australia Contact – Louise Venz
Email: secretariat@eco-markets.org.au



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For more information on these items, please contact us at bluecharter@commonwealth.int

Commonwealth Secretariat
Marlborough House, Pall Mall, London SW1Y 5HX, United Kingdom
Tel: **+44 (0)20 7747 6500**
www.thecommonwealth.org