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Carbon Offsets: Property's next big cost

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Australia is now on the road to net zero emissions by 2050 but what does that mean for organisations eliminating emissions? Choosing the right carbon offset can be a challenge or appear complex, but in this paper, we will help you understand how carbon offsets and the Australian carbon market work, for your business.

Introduction

Australia is now on the road to net zero emissions by 2050. Around three-quarters of global companies have committed to carbon targets [1]. The Climate Change Bill 2022 has established Australia's first national milestone: a 43% reduction in emissions, based on 2005 levels, by 2030 [2]. Regulation and voluntary corporate action are both heading in the same direction.

But meeting net zero commitments can take time, and many organisations find eliminating emissions a tough task.

Carbon offsets can help businesses to 'buy time' while the long-term work to transform businesses, industries and entire economies is underway. By purchasing carbon credits, businesses can complement their decarbonisation efforts.

But choosing the right carbon offsets can be a challenge. Questions about the quality and integrity of Australia's carbon credit scheme has sparked a review by Australia's former chief scientist Professor Ian Chubb [3].

Meanwhile, the Australian Competition and Consumer Commission has announced it has carbon offsets on its radar as it cracks down on "greenwashing" [4].

Construction is a sector in which emissions will be difficult to eliminate entirely in the short-term – and that means businesses will be reliant on carbon offsets.

Slattery's cost estimations, based on EY modelling, suggest just one medium sized commercial office building could face a bill for carbon offsetting to the tune of $6.6 million.

Carbon markets may be complex, but there is now a clear financial imperative for businesses to begin to navigate that complexity.

Slattery's carbon planning team has developed this paper to help our clients understand this rapidly growing market.

In this paper, we will help you to:

- Unpack the current state of play
- Understand how carbon offsets and the Australian carbon market work
- Unearth answers to the biggest question of all: What does this mean for my business?

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What are carbon offset credits?

The term "carbon offset" refers to an action or activity that compensates for the emission of carbon dioxide or other greenhouse gases (GHG) into the atmosphere [5].

A carbon offset credit is a transferrable instrument certified by governments or independent certification bodies to represents one metric tonne of carbon dioxide or greenhouse gas equivalent that has been either removed or avoided from the atmosphere [5]. A carbon offset credit represents a net climate benefit and can be transferred from one entity to another to reduce the purchaser's or receiver's accounted GHG emissions.

All certified carbon offset credits, or units, use Global Warming Potential (GWP) to express the heat-trapping effects of all GHGs in terms of carbon dioxide-equivalents (CO_2-e).

By convention, all offset credits represent one metric tonne of carbon dioxide-equivalent avoided or stored from the atmosphere, hence the title 'carbon' offset credits.

How does offsetting work?

Many organisations have made environmental commitments to cut emissions. Achieving these targets is currently extremely difficult without the help of carbon offsets.

In the construction industry, for example, steel and cement are responsible for about 8% of global emissions apiece [6]. These are two of the world's most common materials and there is currently no technology that can eliminate emissions generated during their manufacture.

By purchasing carbon offset credits, businesses can invest in projects that reduce, remove or capture emissions from the atmosphere [7].

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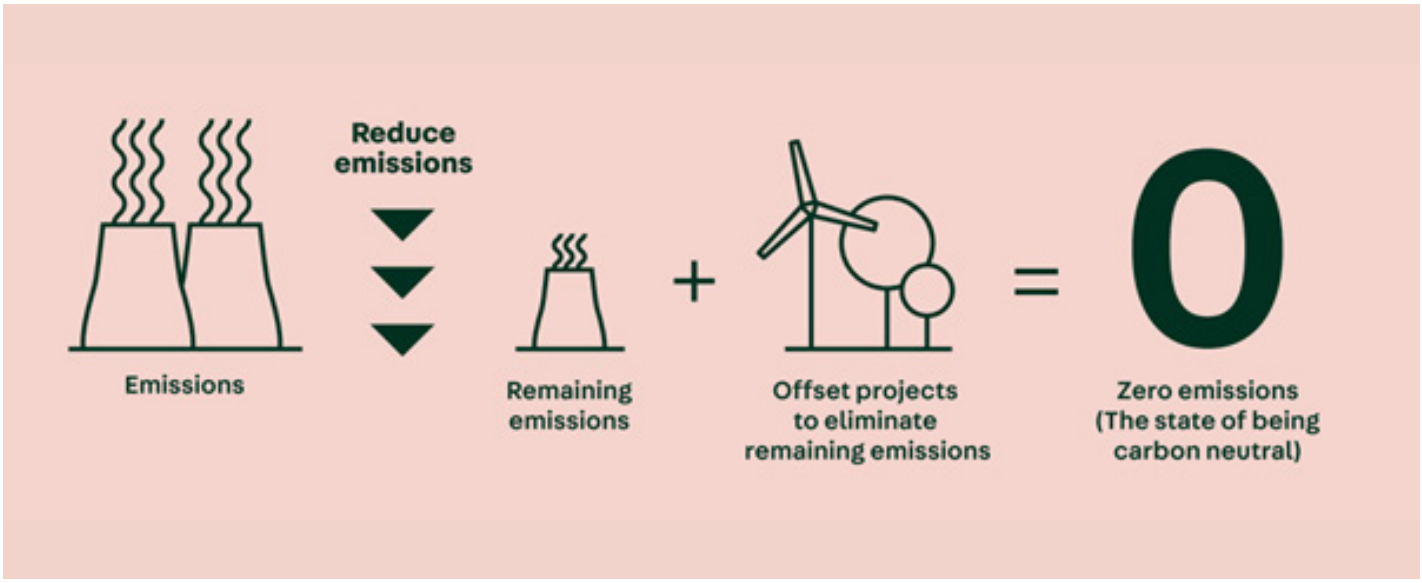

Image Credit:
Climate Active Carbon Neutral Standard

Spotlight on carbon offset projects

Carbon offset projects range from 'nature based' initiatives like tree planting or mangrove restoration, to technology-focused investments in windfarms or carbon capture and storage. Some offsets invest in regenerative agriculture projects that capture carbon in soil or reduce methane emissions in cattle. Others support the rollout of energy-efficient cooking appliances in developing countries.

While carbon offset credits can be produced by a wide range of projects, they can be broadly grouped into two categories:

1. **Avoidance and reduction projects,** such as renewable energy development or avoided deforestation
2. **Removal and sequestration projects,** such as reforestation or carbon capture.

Figure 1 shows some examples of offset projects to reduce and remove emissions.

Image Credit:
Figure 1: Ways to reduce and remove emissions
Image Credit: Climate Active Carbon Neutral Standard

Carbon offset projects can also contribute to other ESG (Environmental, Social and Governance) goals, such as:

- **Social and cultural:** Employment opportunities in remote or regional communities, healthy and energy efficient homes in developing countries.
- **Environmental:** Enhanced biodiversity, restoration of habitat for native animal and plant species, better air and water quality.
- **Economic:** Improved community infrastructure, technology, and increased economic activity [7].

Many offset credit purchasers look for projects that provide a diverse set of benefits. The private sector is increasingly willing to pay a premium for carbon offset credits that deliver co-benefits that also support their other ESG aspirations [1].

Purchasing carbon offsets can therefore be used as part of a broader corporate social responsibility plan [9].

Questions of carbon credit quality

Although all carbon credits are equivalent in terms of the greenhouse gas emissions they promise to abate, not all carbon credits are equal.

'Environmental integrity' must be maintained for the carbon offset credit to be deemed high quality. But some questions have been raised about the integrity of Australia's carbon offset market.

The Greenhouse Gas Management Institute and the Stockholm Environment Institute state that quality carbon offset credits must be associated with GHG reductions or removals that are:

- Additional
- Not overestimated
- Permanent
- Not claimed by another entity
- Not associated with significant social or environmental harms [5].

Therefore, the quality of a carbon offset credit is dependent on the level of confidence in the underlying carbon mitigation project, the issuing carbon credit unit program, and the preservation of environmental integrity.

Research released by the Australian National University in March 2022 found that carbon credits were being issued

> "for not clearing forests that were never going to be cleared… for growing trees that are already there… for growing forests in places that will never sustain permanent forests… and for operating electricity generators at large landfills that would have operated anyway" [10].

This research prompted federal Climate Change Minister Chris Bowen to announce a review of the national system.

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Unpacking the carbon jargon

If you are confused by all the 'carbon jargon', then you're not alone. Carbon neutral and net zero are often used interchangeably – but they are, in fact, distinct terms. Then there's climate positive, carbon negative, absolute negative ... **What does it all mean?**

Carbon neutral

A business or an organisation calculates the greenhouse gas emissions generated by its activity, such as fuel, electricity or travel. These emissions are reduced as much as possible. The remaining emissions are 'cancelled out' by purchasing carbon offsets that invest in activities like planting new forests. When the offsets purchased equal the emissions produced, the organisation is carbon neutral.

Net zero

Like carbon neutrality, net zero reduces carbon emissions as far as possible and then offsets the rest. The "net" part of net zero means there may still be emissions generated. But net zero is more ambitious than carbon neutrality, as it requires a science-based target for emissions reduction, aligned with the Paris Agreement, across its entire value chain. Remaining emissions are offset only by certified carbon removal credits.

Climate positive

Also called 'absolute zero' or 'carbon negative', 'climate positive' is even more ambitious as it means offsetting all emissions, such as the emissions created during the extraction and manufacture of raw materials (upstream) and the distribution of products (downstream). This means taking complete responsibility for supply chain and operations that aren't core business.

Picking a carbon offset program

Carbon offset programs aim to assure the quality of carbon offset credits [5]. These programs set standards and criteria for projects to meet before they can be verified, certified and released to the carbon market. Examples of some of these carbon offset programs, issuing bodies and the credit units include:

- United Nation's Clean Development Mechanism [Certified Emissions Reductions - CER]
- The Gold Standard [Verified Emission Reductions - VER]
- Verified Carbon Standard [Verified Carbon Units - VCU]
- Clean Energy Regulator [Australian Carbon Credit Units - ACCU]

To be verified under one of these recognised programs, projects are audited for quality assurance and projected emissions reductions validated. Once the project has satisfied all the quality criteria and has been approved by the host country, then the project can be registered and implemented. Emissions reductions are then monitored and reported.

These reports are audited, and the project undergoes another quality assurance check. If all criteria are satisfied, the project can be verified, and the actual achieved emissions reduction quantified. The verification report is submitted to the issuing authority, which then certifies the project and releases the carbon offset credits for sale in the market [5].

Understanding the Australian carbon offset market

The Australian Government uses the Australian National Registry of Emissions Units (ANREU), which is administered by the Clean Energy Regulator. The ANREU is a secure electronic system that tracks the location and ownership of the Australian carbon market's tradeable commodity, known as Australian carbon credit units (ACCUs).

Each ACCU represents one tonne of carbon dioxide equivalent avoided or stored. A carbon credit must be cancelled or retired in the public registry when used by an organisation to claim carbon neutrality [11].

Since the release of the first ACCUs in 2012, demand has been largely driven by the federal government through its Emissions Reduction Fund (ERF). The private sector has been the next largest source of demand, initially stimulated by large emitters needing to offset emissions to meet their legal baseline emissions requirements and more recently by companies voluntarily offsetting their emissions [12].

As shown below in Figure 2, the price of ACCUs has increased from approximately $15 in mid-2020 to more than $55 in early 2022.

This price increase is the result of several factors, including the federal government's commitment to meet net zero by 2050 and corporations looking to honour their ESG commitments.

While the price movement in 2022 has fluctuated due to the war in Ukraine and changes to federal government policy, analysts expect the cost of carbon credits to escalate rapidly between now and 2030 [13].

In April 2022 the Clean Energy Regulator announced it would launch an Australian Carbon Exchange in 2023 to boost market transparency, lower transaction costs, and provide for an efficient voluntary marketplace for ACCUs [15].

Climate Active, formerly known as the National Carbon Offset Standard, is an ongoing partnership between the Australian Government and Australian businesses to measure, reduce and offset carbon emissions [8].

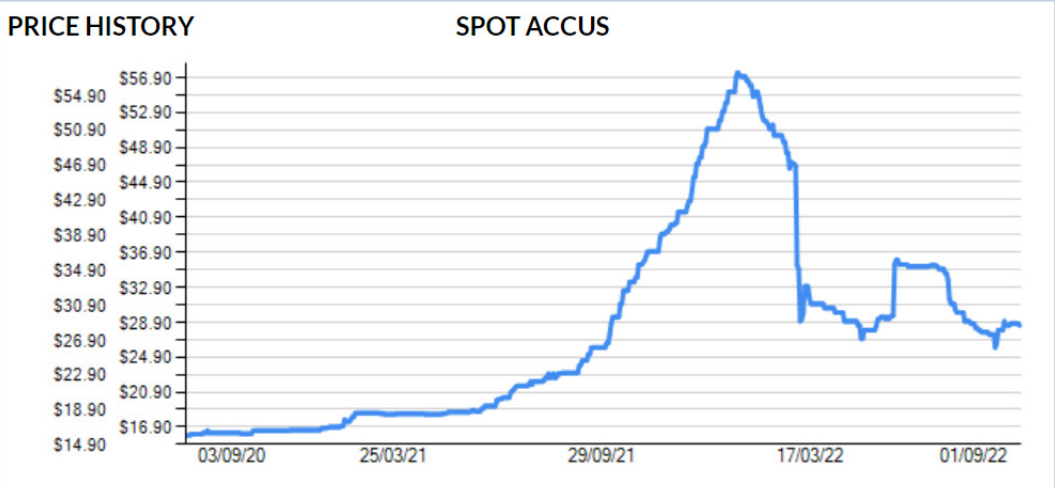
Organisations seeking carbon neutrality can use eligible offset units to compensate for emissions that cannot be eliminated through energy efficiency, the procurement of renewable energy or supply chain management.

Climate Active permit the following units to be used as part of a carbon neutral claim against its Climate Active Carbon Neutral Standard for Organisations (2020):

- Australian Carbon Credit Units - ACCU [Australia]
- Certified Emission Reductions - CER [Developing Countries]
- Verified Emission Reductions - VER [International]
- Verified Carbon Units - VCU [International]
- Removal Units - RMUs [International]

Organisations can choose one or a combination of any of the above credits to achieve their offset requirements and tailor their offset credit mix to align with other ESG priorities and budgetary constraints.

Image Credit:
Figure 2: ACCUS Price History [14]



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Offsetting with nature

Green Star Buildings allows (in specific circumstances) the use of high-quality, nature-based offsets that remove carbon dioxide from the atmosphere.

This aligns with the decarbonisation steps in The Intergovernmental Panel on Climate Change (IPCC) SR15 report.

"Carbon removal projects are essential for achieving net zero emissions by mid-century."

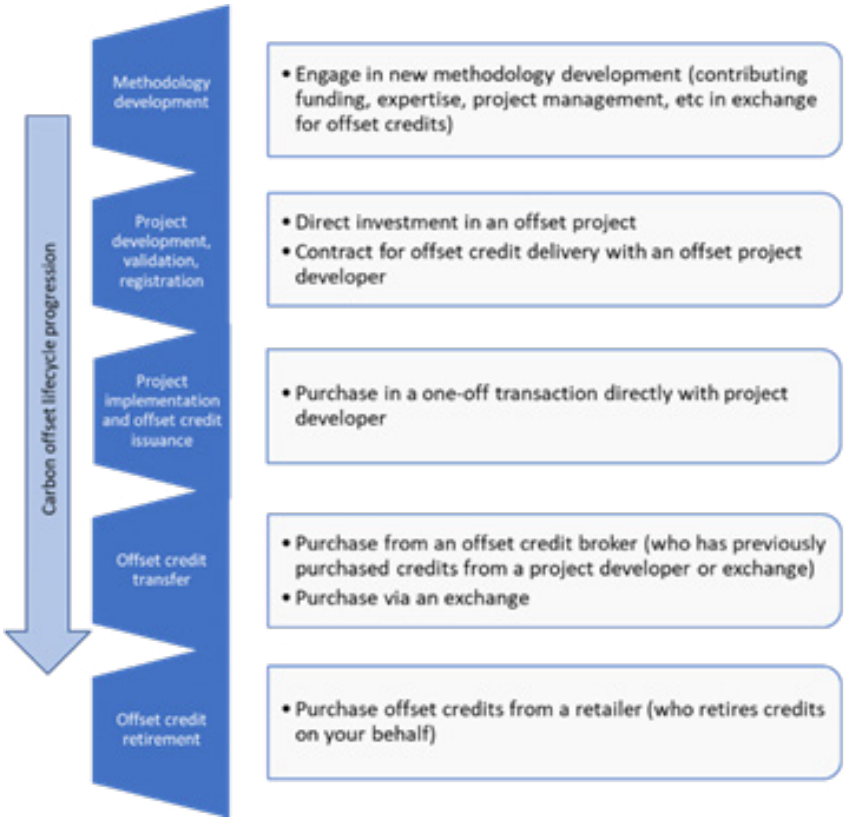
Note that not all ACCUs and Climate Active permitted offsets meet the Green Star requirements. Prior to purchasing offsets for Green Star certification, we recommend ensuring the offsets are accepted under Green Star [31].

How do I acquire carbon offset credits?

Carbon markets are complex and carbon offsetting is a potential minefield. When purchasing offset credits, you don't need to be familiar with every regulation and process in every carbon offset programme. But you do need a good understanding of how carbon offset credits are created, transferred, and used [16].

Figure 3 illustrates the basic lifecycle for carbon offset credits and buyer options at each stage. Buyers should assess the specific project in terms of its carbon abatement strategy and other co-benefits to ensure it aligns with their specific priorities and objectives.

Image Credit:
Figure 3: Carbon offset credit lifecycle and buyer purchase options at each stage (Source: offsetguide.org [9])



Where is the trendline pointing for carbon offsets?

According to the World Green Building Council, buildings are responsible for 39% of global carbon emissions: 28% generated during the operational phase to heat, cool and power them, and the remaining 11% from materials and construction [17].

The property and construction industry has focused on that 28% by reducing operational carbon emissions through more energy efficient design, smart building technology and behavioural change campaigns. As operational energy consumption decreases, the remaining 11% – known as embodied or upfront carbon – is expected to become the dominant source of greenhouse gas emissions.

The Green Building Council Australia (GBCA) and Thinkstep-ANZ estimates embodied carbon emissions could be responsible for 85% of the built environment's carbon emissions by 2050 [18]. Targeted action to reduce embodied carbon emissions is therefore crucial for Australia to meet its net zero emissions target by 2050 [19].

Slattery's cost consultancy, carbon planning and risk mitigation services always start by seeking to reduce carbon as much as possible – because emissions avoided are always better than emissions offset. Our carbon planning service works alongside our cost planning process to achieve both cost and carbon effective design solutions that minimise the upfront embodied carbon. This not only results in better environmental outcomes, but also minimises potential future costs associated with purchasing carbon offset credits.

Demand for high-quality carbon offset credits is projected to increase 20 to 40-fold by 2035 from current levels, according to modelling undertaken by the EY Net Zero Centre. Prices for carbon credits could rise from US$25 per tonne today to a central estimate of US$80-$150 per tonne by 2035 [13]. This has potentially huge financial implications for the property industry.

Take a commercial office building as just one powerful illustration. The upfront embodied carbon for a medium-sized commercial office building can be more than 30,000 tonnes of CO_2-e. The potential future costs to offset the upfront embodied carbon of this project could range from AUD $3.5-$6.6 million, when using EY's estimated 2035 prices and today's current exchange rates. These are significant and potentially unforeseen costs that must be considered and integrated into project budgets, contingencies and feasibility studies. Could this put future projects at risk? It's a question governments and developers must now ask – and answer.

This one example demonstrates a clear financial imperative for our clients to understand the current state of the carbon offset market, the potential for offset price rises over the next decade, and the risk placed on future projects. It also further emphasises the need for design teams to minimise the upfront embodied carbon within projects to reduce the cost of offset credits down the track.

Carbon credits can support science-based climate targets and complement decarbonisation efforts – but they cannot replace the hard work the industry must now do to eliminate emissions from its businesses, construction sites and supply chains.

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Slattery carbon contacts

If you have any questions from this thought leadership paper, please reach out to our below Slattery carbon leads for more information.

Tom Dean
Carbon Planning Director
+61 423 444 965

James Mortensen
Carbon Planning Associate
+61 403 614 661

Malcolm Wren
Carbon Planning Quantity Surveyor
+61 417 330 287

Sarah Ryan
Associate
+61 423 348 041

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About Slattery and Kaizen

Slattery is a property and construction advisory firm specialising in quantity surveying, cost management and early phase project advisory, with an outstanding history spanning more than 40 years.

We work hand-in-hand with governments, institutions and organisations as well as planners, developers, architects and design teams on a broad range of property and construction projects.

A commitment to excellence and innovation, and an ability to become an integral part of the project team has earned Slattery the trust and respect of clients and project teams alike. Slattery adds value by taking control and ownership of the cost management process from the outset. We understand the importance to drive innovation and productivity.

Slattery's Kaizen Papers focus on sharing knowledge, ideas and pertinent cost information related to our industry. Kaizen is the Japanese word for improvement, and a business philosophy that strives for continuous improvement in process. We produce papers across the sectors we work with, which are shared with our clients and made available on our website for all to view.

We invite you to explore our knowledge sharing further at www.slattery.com.au/thought-leadership

Slattery Carbon Planning

Slattery is proud to be the first quantity surveying firm in Australia to launch a carbon planning service.

Our service is available in conjunction with cost planning to assist our clients in achieving their net zero and sustainability targets. The focus of the carbon plan will address and educate clients on the embodied carbon of their current and future developments.

Read more about Slattery's carbon planning offering at www.slattery.com.au/carbon-planning

Our team is pleased to hold memberships to the following industry groups:

AIQS Australian Institute of Quantity Surveyors · MECLA · Green Building Council Australia

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Slattery Australia Pty Ltd
www.slattery.com.au

Melbourne
Naarm

Queen & Collins Tower,
Level 10, 376 – 390 Collins Street,
Melbourne, VIC, 3000

Phone +61 3 9602 1313
Email melbourne@slattery.com.au

Sydney
Warrang

Level 10, 14 Martin Place,
Sydney, NSW 2000

Phone +61 2 9423 8850
Email sydney@slattery.com.au

Brisbane
Meeanjin

Level 18, 239 George Street
Brisbane, QLD 4000

Phone +61 7 3041 7373
Email brisbane@slattery.com.au

Perth
Boorloo

Level 32, 152 St Georges Terrace
Perth, WA 6000

Phone+61 8 9221 4444
Email perth@slattery.com.au