



Achieving net-neutral carbon development within the listed property sector requires comprehensive measurement of embodied carbon emissions, the implementation of embodied carbon reduction targets and carbon offsets. Whilst there have already been significant gains made in the reduction of operational carbon emissions, there is still major room for improvement in the reduction of embodied carbon emissions associated with development and redevelopment programmes.

It is estimated that between 2020 and 2050, new buildings will produce around half of their carbon emissions from embodied carbon sources. Over the first 10 years, embodied emissions are estimated to account for 72% of new buildings total carbon emissions.¹

Whilst it's important for the listed property sector to target the reduction of embodied carbon emissions from development and redevelopment programmes – through design, use of building materials, recycling and efficient construction management – net neutral carbon development cannot occur without the use of carbon offsets. Carbon offset programmes form an important part of achieving net neutral carbon development and help the listed property sector to accelerate decarbonisation efforts. Given the importance of carbon offsets, these programmes need to be scrutinised to ensure the quality of the carbon offsets and the desired carbon offset is being achieved.

Whilst many listed property securities have defined carbon offset programmes, on a sector-wide basis the take-up is still, in general, low.

What is a carbon offset?

A carbon offset broadly refers to a reduction in Greenhouse Gas (GHG) emissions or an increase in carbon storage (e.g. land restoration or the planting of trees), that is used to compensate for emissions that occur elsewhere.¹ They must meet the concept of 'Additionality', meaning that the reductions in emissions achieved by the carbon offset must be "above business as usual" and would not have happened unless the carbon offset project was implemented².

¹ Advancing Net Zero Carbon Whole Life Carbon, Sep 2021

² Carbon Offset Guide: <https://www.offsetguide.org/high-quality-offsets/additionality/>

The use of carbon offsets becomes problematic when offsets are used as a substitute for reducing emissions. It is important that carbon offsets only be used on residual carbon emissions that cannot be reduced through other carbon efficiency measures. This has become common in carbon intensive industries such as aviation and automotive.

Examples of carbon offset programmes currently being used more broadly by companies today are:

- Investment in off-and-on balance sheet renewable energy generation
- Waste to energy – carbon capture and destruction of high-potency greenhouse gas emissions like methane and nitrous oxide
- Reforestation programmes
- Electrification programmes
- Community programmes – programmes resulting in carbon reduction

Carbon offset credits

Carbon offsets are typically measured in one metric tonne carbon credits. The key concept is that offset credits are used to convey a net climate benefit from one entity to another. Because GHG's mix globally in the atmosphere, the source of the offset typically matters less. Ignoring gross GHG emissions, from a climate change perspective, has the same effect as if an organization ceases an emission-causing activity or purchases the equivalent emission-reducing activity.

Once a credit has been purchased, companies are able to claim that they have 'offset' or compensated for the equivalent amount of greenhouse gas emissions they created.

How are carbon credits traded?

Carbon credits can be purchased on two types of carbon markets:

- Compliance markets
- Voluntary markets

Compliance markets serve as an avenue for companies to meet their regulated targets, and are regulated by national, regional and/or international carbon reduction regimes. Examples include the US-based Regional Greenhouse Gas Initiative and the European Union Emissions Trading Scheme.

The price of carbon offset credits in compliance markets tends to be higher than those in voluntary markets, as the demand for compliance offsets is driven by regulatory obligations. They also tend to experience commodity pricing, where all offset credits in a particular program are priced similarly based on supply and demand, regardless of the project type.

Voluntary carbon markets cater to companies seeking to pre-emptively reduce their carbon footprint and are typically unregulated. There is significant demand for carbon credits from the voluntary markets with demand expected to grow. The Taskforce on Scaling Voluntary Carbon Markets (TSVCM), estimates that demand for carbon credits could increase by a factor of 15 or more by 2030 and by a factor of up to 100 by 2050. Overall, the market for voluntary carbon credits could be worth upward of \$50 billion in 2030.³

These voluntary carbon markets also have the benefit of supporting programmes that otherwise would not receive funding, which can have positive external effects such as job creation.

Given the demand for carbon credits that could ensue from global efforts to reduce GHG emissions, voluntary carbon markets need to grow, improve transparency, be verifiable, and be environmentally robust.

The issue with this type of market is that there is limited pricing data, which makes it challenging for buyers to know whether they are paying a fair price, and for suppliers to underwrite the risk of entering into new carbon reduction projects.

Greenwashing and industry scrutiny over the worthiness of carbon offsets

At a time when greenwashing is becoming increasingly scrutinised, property securities will need to justify the extent to which they use carbon offsets to achieve net-neutral objectives. Energy efficiency and embodied carbon reduction programmes should take precedence over the use of carbon offsets.

Where carbon offsets are required to offset residual carbon emissions, the carbon offset programmes require a high level of scrutiny. Current issues being raised over the effectiveness of various offsetting programmes include instances of double counting; emissions offset programmes containing negative externalities; and the justification of receiving carbon credits for renewable energy generation development based offsets that would have been rolled out anyway.

² Carbon Offset Guide: <https://www.offsetguide.org/high-quality-offsets/additionality/>

³ McKinsey Sustainability: <https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge>

Greenwashing and tighter regulation of the carbon offset industry will pose a risk for listed property securities seeking carbon offsets who do not conduct due diligence into the long term viability of the carbon offset.

Some listed property securities are implementing their own set of carbon offset programme guidelines before taking investment.

Some examples of such guidelines⁴ are:

- They must be certified
- They must be independently assured
- Their focus must be on true carbon absorption, such as nature-based solutions
- They must be biodiverse and have a positive impact on local communities

Increase in demand for carbon offsets as carbon analysis matures

We expect that as climate-related regulation is introduced over time, particularly the regulation targeting carbon emissions, we will witness the demand for high quality carbon offsets to significantly increase.⁵ This is in line with our view that regulation and policy targeting for harder-to-measure emissions from the supply chain will increase over time.

In the listed property sector to date, operational carbon emissions have been the primary focus, however a significant share of total carbon emissions comes from embodied carbon emissions which are not currently being fully accounted for on a sector wide basis.

Whilst we have not seen a large take-up of carbon offsets across the listed property investment universe, there are examples of ESG leaders within the industry that are already delivering carbon neutral developments.

The GPT Group, an Australian REIT, recently completed a modern logistics development at 143 Foundation Road, Truganina in Melbourne, Australia. The development has been Climate Active embodied carbon neutral certified. The GPT group was able to achieve embodied carbon reductions with the residual carbon emissions being offset through complex embodied carbon measurement; efficient design focusing on reduction of concrete, steel and glass; changes in buildings materials; and a shift to using renewable energy in the construction and delivery processes.

GPT's carbon offset strategy has been developed and implemented to mitigate risks around the certainty of supply, cost, and quality of offsets. The carbon offsets have been secured until 2026 at a cost of approximately \$30/tonne.

In 2019 the GPT Group established a partnership with Greenfleet, a not-for-profit organisation with 25 years' experience in establishing native biodiverse forests that remove carbon from the atmosphere. Greenfleet's reforestation projects are protected on title for 100 years, use transparent processes, are independently assured by Ernst & Young, and focus on biodiversity & co-benefits of ecosystem services to improve waterways. Other co-benefits include the Australia's traditional land owners. One existing project is the restoration of 1100 hectares in the Noosa Hinterland in Queensland, an important natural habitat for endangered koalas and other animal species. The project is being delivered on lands where a pine forest plantation was previously harvested, which left a degraded landscape. As part of this project, and in strong alignment with GPT's Reconciliation Action Plan, Greenfleet is also partnering with local Traditional Owners, the Kabi Kabi People's Aboriginal Corporation, bringing resources and jobs to their community.

This is a voluntary carbon offset programme and Climate Active currently do not recognise the Greenfleet Australian reforestation projects within its list of accepted offsets. As a result, in order to achieve Climate Active certification, GPT follows a dual offsetting approach. Every tonne of GPT's residual emissions requires 1 tonne of emissions nature-based offset elimination reforestation projects (assured by EY) and 1 tonne of energy emissions elimination (verified by Verra). This ensures that their offset program is of the highest integrity, creating tangible carbon and biodiversity benefits that are necessary to compensate for emissions and ecosystem damage.

As more attention is focused on embodied carbon reduction we expect that listed property sectors adoption of carbon offset programmes will materially increase.

Conclusion

Whilst offsetting residual embodied carbon emissions is still a relatively new concept for the listed property sector we believe that over time it will be crucial in aiding listed property securities to meet true net neutral carbon emissions.

Real estate securities that employ the highest quality carbon offset programmes will be strongly positioned to minimise carbon risk as government carbon policy tightens and carbon regulation is rolled out around the globe.

⁴ REIT universe

⁵ GPT Group

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