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Hero to zero:

Uncovering the truth of corporate Australia's climate action claims

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Sydney. September 2021

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Acknowledgments

Greenpeace Australia Pacific Limited acknowledges the Traditional Owners of Country throughout Australia and recognises their continuing connection to land, waters, and culture. We pay our respects to their Elders past, present and emerging.

Disclaimer

While this report does not suggest any illegal or improper conduct on the part of any of the individuals or organisations named, it demonstrates that, in almost all circumstances, carbon offsetting is ineffective and no more than corporate 'greenwashing'. Companies who are serious about reaching the Paris Agreement goals and creating a safe and healthy future for the next generation should commit to 100% renewable electricity as an essential component of any credible net zero target, avoid the use of offsetting to meet their climate targets, and work towards zero emissions or as near zero emissions as possible, with short term targets set along the way.

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Executive Summary

The world is experiencing an unprecedented climate crisis, driven by anthropogenic greenhouse gas emissions. The majority of these emissions are created by the burning of fossil fuels, harming communities and ecosystems here and now. **For the world to stabilise global temperatures, and prevent the situation getting even worse, emissions must reach net zero as soon as possible.**[1]

100% Renewable Electricity: a key test of corporate climate pledges

The electricity sector is the single largest contributor to Australia's national emissions, accounting for 33% of Australia's annual greenhouse gas inventory[2]. Business and industry use approximately 70% of Australia's electricity, and approximately 75% of the electricity used in Australia comes from burning fossil fuels such as coal.[3]

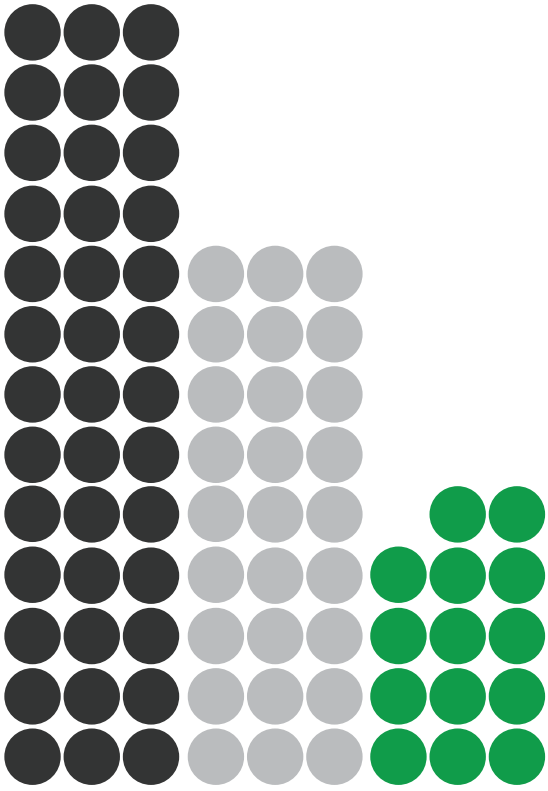
Transitioning to 100% renewable electricity is an essential component of Australia's emissions reduction effort. This is because the electricity sector is such a large source of emissions, and because emissions from electricity are easiest to abate. Ensuring the electricity grid is entirely powered by renewable energy is also essential to enable the decarbonisation of other sectors, including transport, stationary energy and industrial processing, through electrification.

There is increased corporate momentum regarding the adoption of net zero targets in Australia and around the world due to growing pressure on corporations from consumers, investors and other stakeholders and because the business advantages of shifting to renewable energy are becoming increasingly self-evident.

A primary test of whether a business is serious about acting on climate change is whether it has adopted a binding commitment to using 100% renewable electricity by 2025.

Given the critical role of a decarbonised electricity grid to cutting emissions across the economy, a key test of the credibility of any company's net zero target must be whether it includes an accompanying commitment to 100% renewable electricity by or before 2025. Making and meeting 100% renewable electricity targets should thus form the basis for further corporate action, such as switching to 100% renewable energy - which involves removing reliance on other fossil fuels such as gas and diesel oil from operations - and electrifying transport, buildings and industry.

Australia's 80 Highest Polluting Companies (ASX200)



Companies with no policy | Companies with Net Zero targets | **Companies with 100% Renewable Electricity Goals**

New analysis released in this report shows that while 41 of the 80 highest polluting ASX200 companies (51%) have now set net zero targets, only 14 of those 41 (34%) have set 100% renewable electricity goals. **This means just under two thirds of companies with net zero emissions targets do not pass the renewable test.**

Of these 'failing' companies, a number are relying heavily on carbon offsets to reach their stated commitments.

Carbon offsetting: a false solution

Massive scale ecological restoration is essential to both storing carbon and restoring biodiversity. Protecting and restoring native vegetation, soil restoration and old-growth ecosystems mitigates climate change and 'soaks up' past emissions from land-use change, as well as protecting biodiversity and supporting the livelihoods of rural and regional communities.[4]

However, it is crucial that such initiatives are not established as offsets against emissions from burning fossil fuels, which act to excuse the failure of major businesses to reduce their emissions and delay the transition to 100% renewable energy. Corporations purchasing carbon offsets through the carbon market is no substitute for substantive reductions in fossil fuel emissions at their source.

This report demonstrates that, in almost all circumstances, carbon offsetting is ineffective and no more than corporate 'greenwashing': an activity designed to create the impression that a company, public entity or institution is doing more to protect the environment than it really is.

There are a number of problems associated with the increased use of carbon offsets to meet climate goals. These include:

• Offsets have historically failed to provide additionality: emissions reductions regularly cannot be proven to be solely the result of a particular offset preventing additional carbon being emitted, as opposed to being something that would have happened regardless. It is difficult to establish robust governance structures to regulate and monitor diverse offsetting projects globally. For example, it is challenging to ensure carbon stored in forests is protected in perpetuity, as carbon sequestered by forests can be reversed by natural disasters or deforestation.[5]

• Offsetting projects can have unintended negative impacts, such as displacement of existing land-uses and livelihoods by land-based offsetting projects. This often most impacts communities in developing countries who bear the burden of offsetting the emissions of wealthy companies and countries in a globalised carbon market[6], with troubling implications for global climate justice.

• An over reliance on offsetting can perpetuate the status quo, where companies avoid making the structural and technological shifts necessary for meaningful climate action, including the above mentioned elimination of fossil fuel consumption and transitioning to 100% renewable electricity.

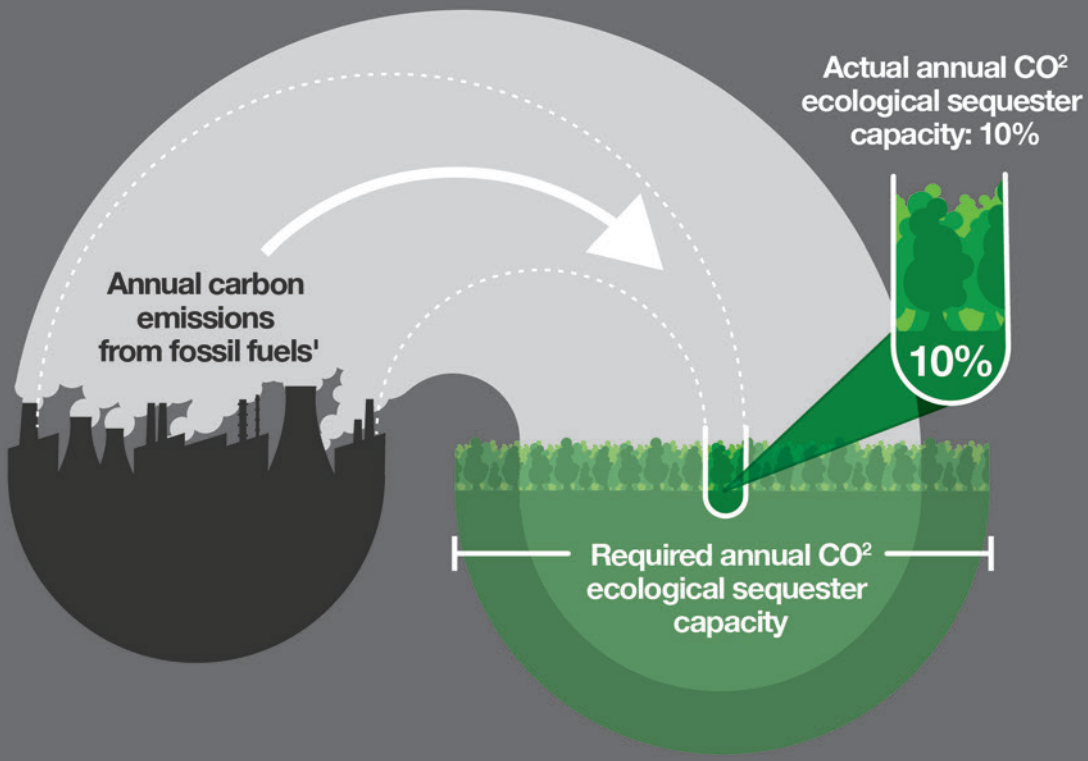
• For non-experts, offsetting can create the perception of effective climate action and so divert choices and resources from real solutions.

Additional problems with land-based offsetting, such as the tree planting schemes popular with some Australian companies seeking to claim emissions reductions, include:

• The planet does not have the ecological capacity to offset all global emissions through tree planting and land restoration. The carbon dioxide emitted from fossil fuel consumption exceeds tenfold the amount that could be sequestered through sustainable land-based mitigation methods.[7]

• Land carbon stores are vital to the overall health of the planet's climate system but are not a credible way to offset emissions from the burning of fossil fuels because the fossil fuel carbon cycle and land-based carbon cycle are not interchangeable. Fossil carbon is locked away permanently, whilst land carbon is active and cycles between the land, ocean and atmosphere.

• Land carbon is inherently more vulnerable to disturbance both from natural disasters - which will increase as climate damage worsens - and human-induced disturbances such as deforestation. [8] This inherent vulnerability means that land-based ecological restoration is required at even greater scale, but not as an offset for continued burning of fossil fuels.



For these reasons “carbon storage on land as a means to ‘offset’ CO2 emissions from burning fossil fuels (an idea with wide currency) is scientifically flawed.”[9] A small amount of emissions will remain unavoidable in the short-term in industries where it is technically or financially difficult to reduce emissions, such as aviation or shipping. High-quality domestic offsets should be reserved for companies in such circumstances as the best available option in these circumstances. For such offsets to be credible, they must be supported by robust governance and monitoring mechanisms that come as close as possible to ensuring additionality and protection in perpetuity - and with the highest possible social and ecological co-benefits. However, even the highest quality domestic offsets should not be construed as a ‘free pass’ for companies in these industries. Real decarbonisation plans that ultimately dispense with offsets altogether in these sectors are required for any net-zero targets to be credible.

Key recommendations

This report makes a number of key recommendations for companies to set and achieve credible climate targets:

1. **For net zero targets to be credible, companies should establish short-term 100% renewable electricity targets and phase out the use of fossil fuels. 100% renewable electricity can be achieved by investing in onsite renewable energy production such as solar and by signing power purchase agreements with wind or solar farms.**

2. **Companies need to be working to zero emissions or as near zero emissions as possible, including Scope 3 emissions (emissions produced by the purchaser of a company’s product when that product is used). As a general rule, companies should avoid the use of carbon offsetting, particularly international and land based offsets. Investments in ecosystem restoration and reforestation are needed but should happen in their own right.**

3. **High-quality domestic offsets that are well-regulated to ensure additionality and the fulfilment of intended emissions reductions should be reserved for industries that cannot eliminate emissions in the short term. However, this should not be seen as a ‘free pass’ for those companies to not undertake the structural, technical and financial changes required to cut those emissions at source.**

Though beyond the scope of this report, it is separately clear that a supportive regulatory environment accompanied by appropriate financial mechanisms should be established (that do not rely on false-solution offset mechanisms) to enable large scale ecological restoration at speed and scale.

Introduction

This report lifts the lid on the methods Australian corporations are using to claim they are meeting their climate commitments, revealing the leaders and exposing the failures in the race to decarbonise.

It clarifies and explains the variety of corporate climate claims and commitments regarding emissions reduction that are in widespread use; highlights the problems inherent in relying on carbon offsets to meet corporate climate goals; and emphasises the importance of switching to 100% renewable electricity as part of any credible climate mitigation plan. The report also profiles companies who are leading the way, and those who are underperforming, when it comes to practice in these areas.

This report demonstrates that, in almost all circumstances, carbon offsetting is ineffective and no more than corporate 'greenwashing': an activity designed to create the impression that a company, public entity or institution is doing more to protect the environment than it really is.

Chapter 1 of this report defines and demystifies climate terminology and targets. Chapter 2 outlines trends in corporate climate claims and targets in Australia. Chapter 3 provides an overview of carbon offsetting and the different schemes and initiatives through which Australian companies participate in the carbon market. It then assesses the credibility of carbon offsetting as an emissions reduction measure and discusses particular issues associated with land-based offsetting. Chapter 4 highlights some examples of leaders and laggards when it comes to setting 100% renewable electricity targets.

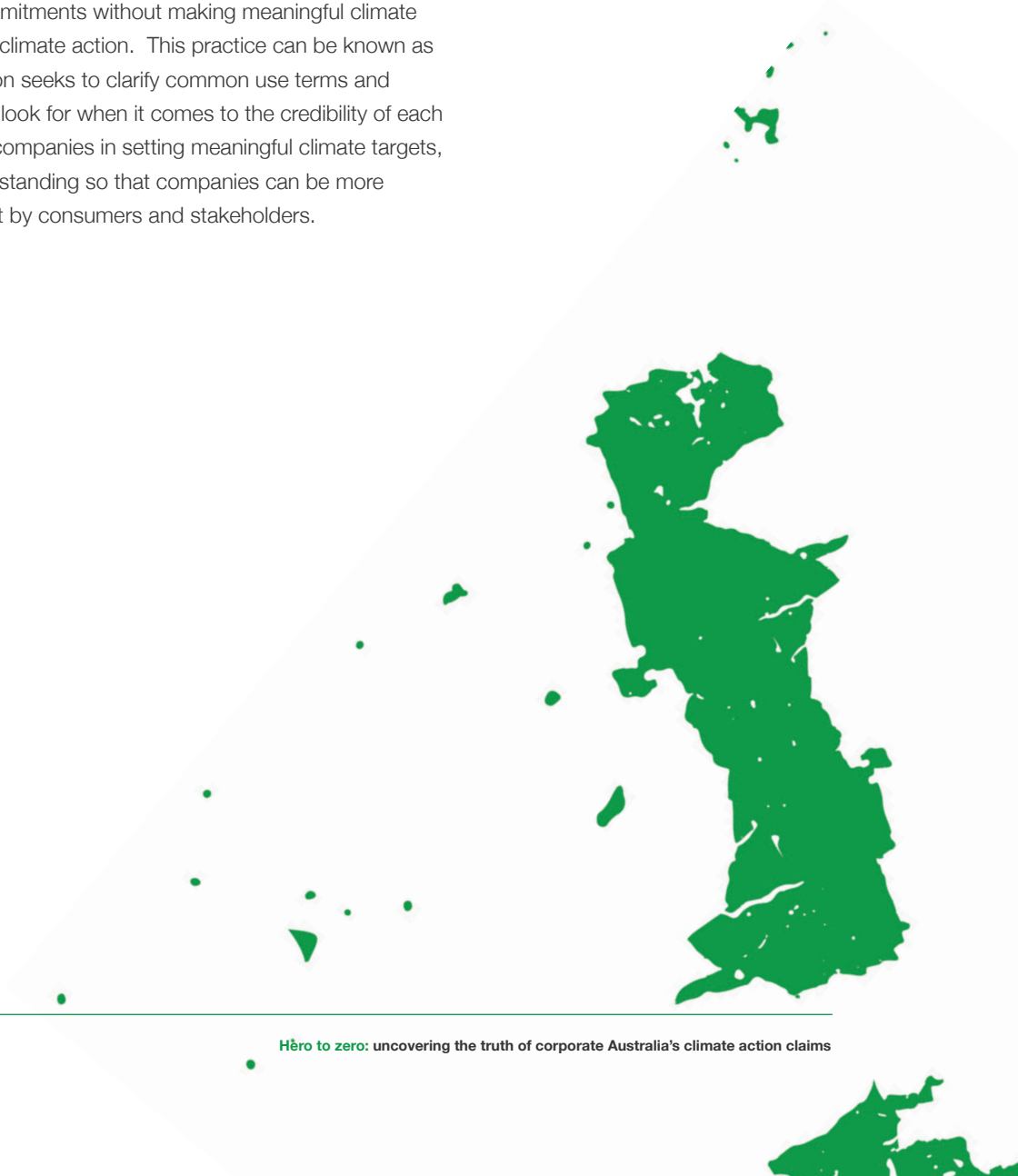
Chapter 5 provides policy recommendations in relation to net zero commitments, the use of carbon offsets, and the setting of renewable electricity goals.

Chapter 1

Demystifying climate terminology and targets

A wide range of terminology is used to describe corporate goals and commitments when it comes to climate change. These include net zero, carbon neutral, 100% renewable electricity, carbon positive and negative emissions. The intersecting and interchanging use of these terms can be confusing for the public, policy-makers, and corporate decision-makers.

Ambiguity around terminology can also enable companies to make claims about climate commitments without making meaningful climate targets or taking genuine climate action. This practice can be known as greenwashing. This section seeks to clarify common use terms and outlines some catches to look for when it comes to the credibility of each measure. This will assist companies in setting meaningful climate targets, and improve public understanding so that companies can be more effectively held to account by consumers and stakeholders.



Glossary of terms

Net zero emissions	Net zero refers to a state in which the amount of anthropogenic greenhouse gas emissions, such as carbon, are balanced by their removal.
Zero emissions	Zero emissions, or absolute zero, refers to zero greenhouse gas emissions. In contrast with net zero emissions, absolute zero is achieved without the use of offsetting to balance emissions. [11]
Carbon neutrality	Carbon neutrality is a state in which anthropogenic carbon dioxide emissions are in balance with those which are removed. It is technically the same as net zero, except in common usage appears to more frequently refer to a present rather than a future state.
Climate neutrality	Refers to a state in which all anthropogenic greenhouse gas emissions are in balance with those which are removed, including emissions beyond carbon dioxide.
Carbon offset	A carbon offset refers to a unit generated by a project that stores or avoids the release of carbon (or another greenhouse gas) into the atmosphere, thereby offsetting or 'cancelling out' a company or entity's emissions. A carbon credit or offset generally represents one tonne of CO2 equivalent (tCO2-e) stored or avoided.
Renewable energy	Renewable energy is produced using natural resources that are renewable; that is, they are constantly replaced and do not run out. In the context of corporate emission reduction efforts, renewable energy is a broader term than renewable electricity, as it also encompasses other renewable energy technologies used to replace fossil fuels in sectors including transport, heavy industry and the built environment.[12]
Renewable electricity	Renewable electricity refers to electricity that is produced from renewable natural sources, such as solar or wind. It is an important component of renewable energy.
100% renewable electricity	100% renewable electricity refers to electricity that is produced entirely from renewable sources, such as solar and wind.
Carbon negative emissions	Carbon negative emissions are achieved when more anthropogenic CO2 emissions are removed from the atmosphere than is emitted[13]. Carbon negative is often used interchangeably with the terms carbon positive or climate positive.

1.1 Net zero emissions and zero emissions

The IPCC defines net zero emissions as a state in which "anthropogenic emissions of greenhouse gases [in]... the atmosphere are balanced by anthropogenic removals over a specified period."[14] Under net zero targets, some greenhouse gases can still be emitted, but they must be removed or offset by the same amount[15]. When multiple greenhouse gases are involved, calculating net zero emissions depends upon the climate metric selected to compare emissions of different gases[16]. Net zero carbon emissions, or carbon neutrality (see below), focuses specifically on carbon emissions.

A net zero emissions target is "essentially an accounting terminology, which suggests that positive emissions are cancelled out by negative emissions."[17]

The problem with net zero emissions from a climate perspective is the 'net' part of this term, as it essentially implies that as long as emissions are 'offset' in another part of the economy, emitting can continue at the source.

In a corporate context, net zero can also be problematic. The ways that companies are defining and proposing to achieve net zero emissions can be highly inconsistent, where "for some, net zero means removing greenhouse gases from all of their processes, including taking steps to offset historical emissions. But others - such as investment banks and fossil-fuel companies - will continue to invest in fossil fuels while pledging net-zero policies in other areas of their businesses. This is rightly attracting criticism."[18]

Corporate net zero targets can vary hugely in terms of which greenhouse gases they address, and which emissions they target. Table 1 outlines the different 'scopes' or sources of emissions, corporations need to consider to address their climate impact. Some companies only consider emissions under their direct control (Scope 1&2), whereas others include their supply chains and the waste and emissions from their products (Scope 3).[19]

These inconsistencies make it challenging for stakeholders to assess targets, hold companies to account, and to assess progress towards global climate targets. [20] The Science Based Target Initiative (SBTI) - an initiative of CDP, United Nations Global Compact, World Resources Institute and WWF - notes that the definition for net zero within the corporate context is "not so clear, leading to significant confusion and inconsistent claims." In response, the SBTI is developing a framework to assist companies to set credible net zero targets across all scopes to limit warming to 1.5°C.[21]

Emissions Scopes

Scope 1

Direct emissions produced by the activities of an organisation, or those under their control.

Scope 1 emissions include:

- Stationary combustion (e.g. fuels, heating sources)
- Company vehicles
- Fugitive emissions, or leaks of greenhouse gases (e.g. refrigeration)
- Process emissions, which are generated by industrial processes and on-site manufacturing (e.g. CO_2 emissions during concrete production, factory fumes)

Scope 2

Indirect emissions produced from the generation of purchased energy, from a utility provider. This encompasses all emissions produced from the consumption of purchased electricity, steam, heat and cooling.

Scope 3

All indirect emissions (not included in scope 2) that are produced in the value chain of a company. This includes emissions associated with business travel, waste and water treatment, purchased goods and services, transportation and distribution, emissions generated from product usage, and from product disposal.

Table 1: Defining Scope 1, 2 and 3 emissions Source: Table adapted from Plan A Academy, 2020.

Scope 3 emissions, i.e. those produced along the value chain, often represent the largest source of greenhouse gas emissions for a company. They are also the most difficult to track and measure[22]. This is particularly important for fossil fuel companies, where a significant proportion of emissions are generated from product usage, for instance the burning of coal, including when this occurs overseas. To set credible climate targets, companies must address the full scope of their direct and indirect emissions.

Zero emissions, or absolute zero, refers to zero greenhouse gas emissions. In contrast with net zero emissions, absolute zero is achieved without the use of balancing emissions with offsets or a later drawing down of carbon emissions: for example, through getting off fossil fuels and switching to 100% renewable electricity for all aspects of a company's operations[23]. Zero emissions is thus a significantly more robust goal than 'net zero' emissions, and all companies should be working to zero or as close to zero emissions as possible.

1.2 Carbon neutrality and climate neutrality

Carbon neutrality refers to achieving a balance between anthropogenic CO2 emissions into the atmosphere and the removal of CO2, including through offsetting[24]. Whereas climate neutrality is defined as a balance between the emission and mitigation of all anthropogenic greenhouse gases, including emissions beyond carbon dioxide[25].

The IPCC defines carbon neutrality as a state in which "human [or corporate] activities result in no net effect on the climate system."[26] Organisations such as the IPCC and the SBTI use the terms carbon neutrality and net zero carbon emissions interchangeably. [27]

As mentioned, net zero carbon emissions and net zero emissions are not the same. However, carbon neutrality is often used interchangeably with net zero emissions (which can include CO2 and other greenhouse gases). For instance, Climate Active certification, an Australian Government initiative, is "awarded to businesses and organisations that have credibly reached a state of achieving net zero emissions, otherwise known as carbon neutrality."[28] As discussed above, whether net zero targets refer just to anthropogenic CO2 emissions or all greenhouse gas emissions is inconsistent, presenting obvious problems when seeking to make like-for-like comparisons between companies and greenhouse gas reduction plans.

The common usage of 'carbon neutral' and 'net zero' by companies in Australia tends to differ in terms of time scales. Companies may sometimes have future net zero targets, at the same time as claiming to have reached carbon neutrality in the present. Telstra is one such example, having committed to setting a Science Based Target at the same time as receiving carbon neutral certification through Climate Active. Claims to carbon neutrality and net zero targets both often involve the use of offsetting to achieve these targets.

1.3 Carbon negative emissions (or carbon positive emissions)

Carbon negative emissions are achieved when more anthropogenic CO2 emissions are removed from the atmosphere than are emitted.[29] Mechanisms to achieve carbon negativity include offsetting, such as through afforestation and reforestation, and bioenergy with carbon capture and storage (BECCS).[30] For example, Microsoft recently announced that they will be carbon negative globally by 2030, and that they will remove all their historical emissions by 2050. This will be achieved by transitioning to 100% renewable electricity by 2025, and through offsetting and other negative emissions technologies.[31] In September 2020, Google announced that they have eliminated their historical operational emissions through offsetting. [32]

Carbon negativity can be considered a more ambitious target than net zero. However as with net zero targets, how carbon negativity is achieved is important. For instance, the extent to which achieving carbon negativity relies on offsets of varying credibility, rather than reducing or eliminating emissions across a company's value chain.[33]

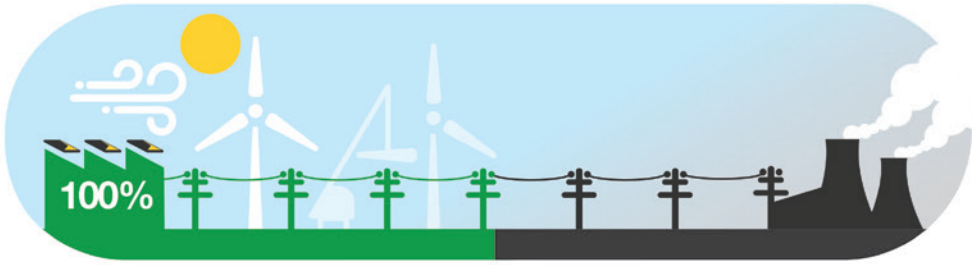
Confusingly, the term carbon negative is often used interchangeably with the terms carbon positive and climate positive, which have been defined as when an activity removes more CO2 from the atmosphere than it generates.[34]

1.4 Renewable energy, renewable electricity, and 100% renewable electricity

Renewable energy is produced using natural resources that are constantly replaced and do not run out. Sources of renewable energy are dominated by solar and wind, and complemented by the still nascent geo-thermal, tidal and wave energy. While hydropower and biomass are also sources of renewable energy, both have significant detrimental impacts on the environment that make them far less attractive than other types.

In the context of corporate emissions reduction efforts, renewable energy is a broader term than renewable electricity (defined below), as it incorporates the use of technologies that allow the replacement of fossil fuels in sectors including transport, heavy industry and the built environment. This includes storage solutions like big batteries and pumped hydro that will enable electricity grids to run on renewable sources of power 24 hours a day. Renewable electricity refers to electricity that is produced from renewable natural sources, such as solar and wind. An electricity consumer that uses '100% renewable electricity' is one whose net usage of electricity is entirely accounted for by electricity of this kind. However, this does not necessarily require all of the individual electrons that are transmitted to that user's premises to be traceable back directly to a wind or solar farm (although such a 'direct transmission link' is one option). In a national grid, like Australia's National Electricity Market (NEM), which still sources a ma-jority of its generation from fossil fuels, the electricity transmitted to a user from the grid's power lines will reflect the emissions intensity of that grid. In such a case, a '100% renewable electricity' user holds a contract with their renewable energy provider where part of their electricity payments are used to increase the amount of renewable capacity coming online. This makes up for the grid-sourced power from fossil fuels the user accesses. Switching from coal and other fossil fuels to renewable electricity reduces or eliminates Scope 2 emissions.[35]

Switching to 100% renewable electricity is an essential component of credible net zero targets, and a comparatively easy way for companies to reduce their emissions.



Chapter 2

Net zero, carbon neutral and 100% renewable targets: what are the trends?

Recognising the urgency of reducing global emissions, alongside pressure from climate-conscious consumers and stakeholders, companies and various levels of government are increasingly establishing net zero targets. In 2021, the "existence of net zero targets covering around two-thirds of the global economy represents a remarkable advance in climate ambition since the Paris summit of 2015." [36]

However, a report by the Energy and Climate Intelligence Unit and Oxford Net Zero - reviewing more than 4,000 entities globally, of which 769 have net zero targets - found that many of these targets lack credibility and short-term targets, leading to 'greenwashing'.[37]

Greenwashing 'involves falsely conveying to consumers that a given product, service, company or institution meaningfully factors environmental responsibility into its offerings and/or operations'.

It is the phenomenon of 'socially and environmentally destructive corporations, attempting to preserve and expand their markets or power by posing as friends of the environment.' [38] Greenwashing techniques have evolved to become more sophisticated over time.[39]

Common methods of greenwashing include:
• the use of environmentally friendly rhetoric including in policies, slogans and taglines
• the use of language, imagery and pictures that suggest care for the environment
• focusing on comparatively minor environmental issues promoting participation in schemes or initiatives that in reality will do little towards solving major environmental problems or that contain no binding commitments
• sponsoring and promoting community environmental initiatives that have a negligible environmental impact compared to the environmental harm caused by the company in question
• heavily promoting very minor commitments to resolving major environmental issues
• participating in schemes or initiatives that shift the focus away from the cause of environmental problems to the symptoms, or to individual end users.

The prevalence of greenwashing has been a significant contributing factor in thwarting action to reduce greenhouse gas emissions in Australia and in enabling large polluters to avoid greater public and stakeholder criticism.

2.1 The need for speed

The credibility of corporate net zero targets varies significantly, depending on how they are set, the scope of what they cover, and how companies propose to achieve them.

Timeframes for corporate commitments also matter. The Paris Agreement targets of halving greenhouse gas emissions by 2030, and reaching net zero by 2050 globally to meet 1.5°C are not ambitious enough.[40] If the national emissions reduction pledges made under the Paris Agreement so far were met, the world is projected to warm by more than 3 degrees above pre-industrial levels by 2100.[41]

As such it is critically important that both nations and corporations commit to faster time frames for deep emissions cuts.

This report does not seek to lay out a comprehensive framework for assessing the credibility of corporate climate claims; others like the ClimateAction100+ Net Zero Benchmark already do this.[42] Rather it sets out the case for corporate efforts to get off fossil fuels - starting with making and meeting 100% renewable electricity targets - and highlights why carbon offsetting to meet net zero goals represents a false solution.

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2.2 100% renewable electricity: a 'key test' of net-zero corporate climate commitments

This report argues that corporate shifts to 100% renewable electricity are a key test - though importantly not the sole test - of the credibility of corporate 'net-zero' climate commitments.

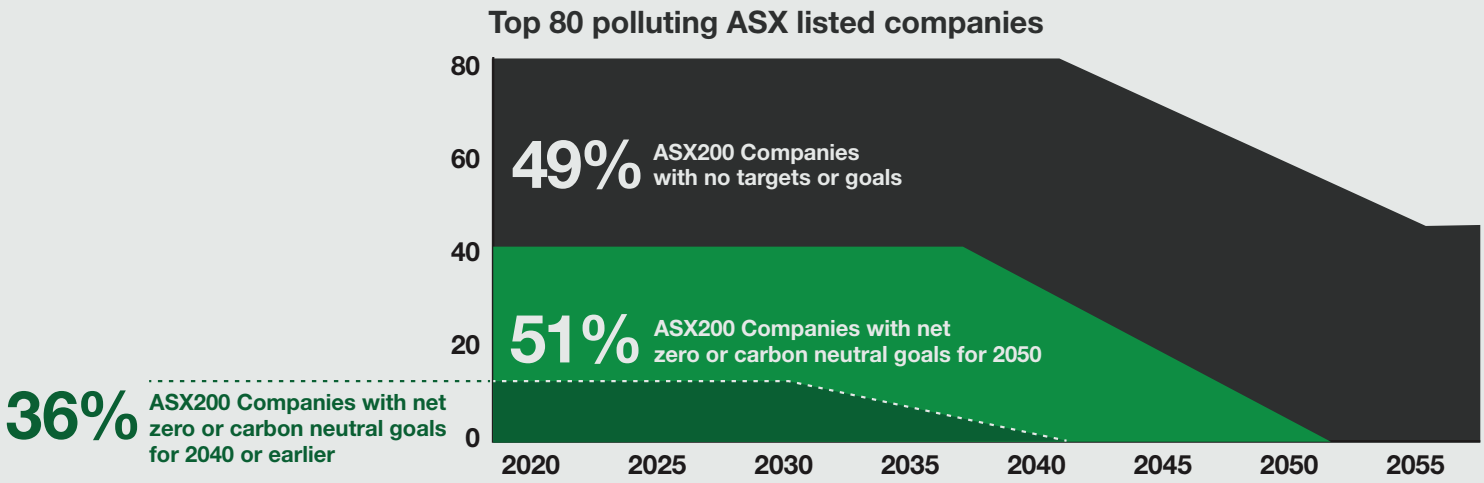
New analysis from International Energy Agency's 2021 report Net Zero by 2050: A Roadmap for the Global Energy Sector shows that OECD countries such as Australia must phase out coal power by 2030, to meet the Paris Agreement goal of limiting warming to 1.5°C. This is reinforced by Climate Analytics analysis[44] and also echoed by the Secretary General of the United Nations, who stated that for the world to meet a 1.5°C climate goal "developed economies must commit to phase out coal by 2030; other countries must do this by 2040." [45]

Furthermore transitioning to 100% renewable electricity is an essential component of Australia's emissions reduction effort. This is because the electricity sector is such a large source of emissions, and because emissions from electricity are easiest to abate: the 'lowest hanging fruit'.

The technology to run an economy on 100% renewable electricity already exists and is becoming rapidly cheaper, with solar and wind now Australia's cheapest energy source.[46]

Ensuring the electricity grid is entirely powered by renewable energy is also essential to enable the decarbonisation of other sectors, including transport, stationary energy and industrial processing, through electrification.

It is therefore critical that major corporations - as consumers of over 70% of Australia's total electricity generation - play a leading role in driving the shift to a 100% renewable powered grid. They can do this by establishing short-term 100% renewable electricity commitments for their own operations and meeting them through a mix of signing renewable power purchase agreements (PPAs), investing in storage solutions and engaging in demand management. The recent Business Renewables Centre Australia Discussion Paper on best practice approaches to PPAs proposes a rating system of PPAs to improve the quality of corporate PPAs being signed in Australia and to ensure that the electricity grid is decarbonising as quickly as possible[47]. In addition major corporations can and should be advocating for the regulatory and policy changes required for a more rapid transition to 100% renewable electricity.



2.3 Net zero and carbon neutral commitments: on the rise

Australian companies across many sectors are increasingly setting climate targets, including net zero targets. New analysis carried out by Greenpeace Australia Pacific of Australia's 80 top polluting ASX200 companies (ie. those reporting under the National Greenhouse and Energy Reporting scheme) reveals that 51% have now set net zero (or carbon neutral) targets. Most of these targets (61%) are for a 2050 timeframe, with only 36% for 2040 or sooner. The vast majority of these targets are for Scope 1 & 2 (or operational) emissions only.

In addition, of the 195 influential organisations analysed by Climate Works' Net Zero Momentum Tracker, 52 have committed to net zero by 2050.[48] Companies are increasingly also making carbon neutral claims, with 180 businesses - large and small - now certified as carbon neutral by the Australian Government's Climate Active Initiative, with 260 certifications for products and services. [49]

While momentum around corporate climate commitments is welcome, it is critically important to assess the rigour behind the targets that are being set and, in particular, the plans put in place to meet them. Companies' plans and pathways to achieving net zero targets vary widely, with inconsistencies regarding how companies will achieve these targets, their timeframes, and the emission sources and activities or 'scopes' counted. [50] Some companies have "set targets that require deep emission reductions across the value chain and shifting to a business model that is compatible with a net-zero economy. Others have set targets that entail modest emission reductions and heavier reliance on offsetting practices." [51]

It is worth noting that we are also starting to see an emergence of companies making commitments to zero emissions and carbon negativity (or its interchangeable term carbon positive). Australian property group Mirvac has committed to being net positive carbon by 2030, including by transitioning to 100% renewable electricity by 2030 and through offsetting.[52] Lendlease Australia has publicly committed to being absolute zero carbon by 2040, accompanied by interim targets of net zero carbon for scope 1 and 2 emissions by 2025, and 100% renewable electricity by 2030. [53] IKEA has announced that it will be climate positive by 2030.[54]

2.4 Corporate 100% renewable electricity commitments: the trends

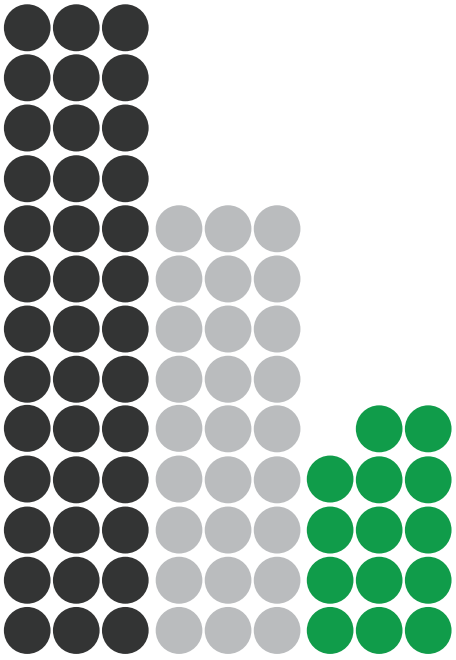
The years 2020-2021 have seen increased momentum around corporate 100% renewable electricity commitments in Australia, with major brands like Telstra, Woolworths, Coles, Bunnings and Coca Cola Amatil having pledged to make the switch, most by 2025.[55]

Greenpeace Australia Pacific's REenergise website profiles at least 40 major companies operating in Australia that have made commitments to 100% renewable electricity, many by or before 2025. In addition at least 14 of Australia's major companies, including the 'big four' banks, have committed to 100% renewable electricity under the global RE100 initiative since it launched in Australia in late 2018.

Despite this promising momentum we are still not seeing all net zero commitments matched with 100% renewable electricity commitments and the majority of Australia's biggest polluters have yet to set a 100% renewable electricity targets. The above mentioned Greenpeace analysis of the 80 high polluting ASX200 companies reveals that of the 41 companies that have set net zero (or carbon neutral) targets, only 14 of them (34%) have accompanying 100% renewable electricity targets. This means almost two-thirds of companies with net zero emissions targets have not made a commitment to switch to 100% renewable electricity, implying a potential reliance on offsets - to a greater or lesser degree - to meet the commitment.
Two companies (2.5%) of the 80 have 100% renewable electricity targets but no net zero targets. For a list of the companies included in this analysis, refer to Appendix 1 of this report.

These figures demonstrate that while momentum continues to grow around both net zero and 100% renewable electricity, there is still a long way to go in terms of both the credibility and coverage of the commitment, and many companies are yet to make any climate commitments at all.

Australia's 80 Highest Polluting Companies (ASX200)



Companies with no policy | Companies with Net Zero targets | **Companies with 100% Renewable Electricity Goals**

Chapter 3
Carbon offsetting

A carbon offset refers to a unit generated by a project that stores or avoids the release of carbon (or another greenhouse gas) into the atmosphere, thereby offsetting or 'cancelling out' a company or entity's emissions. A carbon credit or offset generally represents one tonne of CO2 equivalent (tCO2-e) stored or avoided. [56]

Offsets are generated by a variety of projects that reduce, capture or eliminate emissions from the atmosphere, including land-based projects such as afforestation and reforestation, renewable energy and energy efficiency projects, agricultural efficiency projects, fuel switching, and waste management. [57]

Corporate demand for offsets is soaring globally, with many companies relying on offsetting to meet their net zero targets to different extents. In 2021, a UN initiated task force found that voluntary carbon markets will need to expand fifteen fold by 2030 to meet corporate demand.[58]

Large-scale ecological restoration is essential to both storing carbon and restoring biodiversity. Protecting and restoring native vegetation, soil restoration and old-growth ecosystems can help to mitigate climate change and 'soak up' past emissions from land-use change, as well as for biodiversity protection and to support livelihoods. [59] However, it is crucial that these initiatives are not established as offsets, which are no substitute for substantive reductions in fossil fuel emissions at their source.

Greenpeace Australia Pacific supports large scale ecological restoration. However Greenpeace does not support the use of offsetting to meet corporate climate targets because they don't work to reduce emissions. Companies should reduce their emissions directly, for example by increasing the amount of renewable electricity available in the grid.

Indeed, despite its widespread use, carbon offsetting has a history of misuse and failure to deliver intended emissions reductions, and has been the subject of extensive criticism (see The Trouble with Offsetting, over). [60]

If offsetting is unavoidable in the minority of industries where it is technically or financially prohibitive to directly reduce emissions in the short-term, those used should be high-quality domestic offsets as opposed to international offsets with weaker regulations.

3.1 Carbon offsetting in Australia

A carbon market is a "market in which carbon [offset] units, representing emissions reductions, are exchanged within a defined framework." [61] In Australia, the carbon market consists of a compliance market, where emissions reductions are required by legislation for certain high-emitting companies or industries, and a voluntary market, which is driven by companies, organisations and individuals choosing to offset their emissions. The voluntary market covers all other transactions of offsets that are not purchased to be surrendered into an active regulated carbon market, or when companies purchase offsets to meet climate targets. [62] The voluntary market is thus the focus of this report.

There are four main types of carbon offset units considered eligible under the Australian Government's Climate Active scheme, which certifies companies as carbon neutral.[63] These are Australian Carbon Credit Units (ACCUs), which generate offsets from Australian projects, and the following international voluntary credits: Verified Emissions Reductions, Verified Carbon Units and Certified Emissions Reductions. Only ACCUs can be used in Australia's compliance market, whereas all four of these offset units can be used in Australia's voluntary market.[64] See Appendix 3 for further details of each of these schemes.

3.1.1 Australian Carbon Credit Units

ACCUs are the primary form of carbon credit used in Australia. ACCUs are administered by the Australian Government's Clean Energy Regulator, and are generated by projects that reduce emissions or sequester carbon, primarily though land-based offsetting projects[65] such as reforestation or protecting native vegetation that is threatened by clearing. The largest source of demand for ACCUs is the Commonwealth Government's Emissions Reduction Fund (ERF), which accounts for more than 90% of demand. [66] The ERF has contracted over 200 million ACCUs, mainly from land-based projects including vegetation and savanna burning projects. The fastest growing source of demand comes from the voluntary market, driven by companies with net zero emissions targets, Climate Active companies, and state governments undertaking offsetting. Voluntary demand is forecast to grow tenfold over the next several years, again driven by demand from companies seeking to be carbon neutral and airlines selling offsets to customers, and the Queensland Government's Land Restoration Fund.[67]

The Clean Energy Regulator noted in their September 2020 Quarterly (Q3) Carbon Market Report that "issuances for vegetation projects continued to dominate, representing 64% of the 2.5 million ACCU supply in Quarter 3 2020", alongside an increased interest in soil carbon projects. [68] Voluntary demand for ACCUs, primarily by companies and airlines seeking to offset their emissions, increased from 25,000 ACCUs in 2014-15 to more than 140,000 ACCUs in 2017-18.[69] In Q3 of 2020, "Climate Active participants surrendered a record 264,000 ACCUs and large-scale generation certificates (LCGs) demonstrating the shift towards corporate carbon neutral ambitions" in Australia.[70]

The price of ACCUs has increased over time (see Figure 1). The price of ACCUs has increased by over 30% this calendar year, reaching a spot price of AU$21.50 per tonne in July 2021,[71] up from AU$17 per tonne in February 2021. This price spike followed the Prime Minister's suggestion in February 2021 that Australia is moving towards net zero by 2050 (see Figure 1), alongside increasing voluntary demand. [72] The increase in prices of ACCUs is driven both by "increased trading activity by high emitting companies looking to voluntarily offset their greenhouse gas emissions" to meet net zero targets [73] and compliance purchasing ahead of a deadline for high-emitting entities to surrender ACCUs. [74] To put this in perspective, the average price of ACCUs at the first ERF auction in April 2015 was $13.95, falling to $10.23 in early 2016 before rising to more than $13 in late 2017.[75] In May-June 2020 ACCUs were $15.80 per tonne, and reached $16.50 in November 2020. [76]

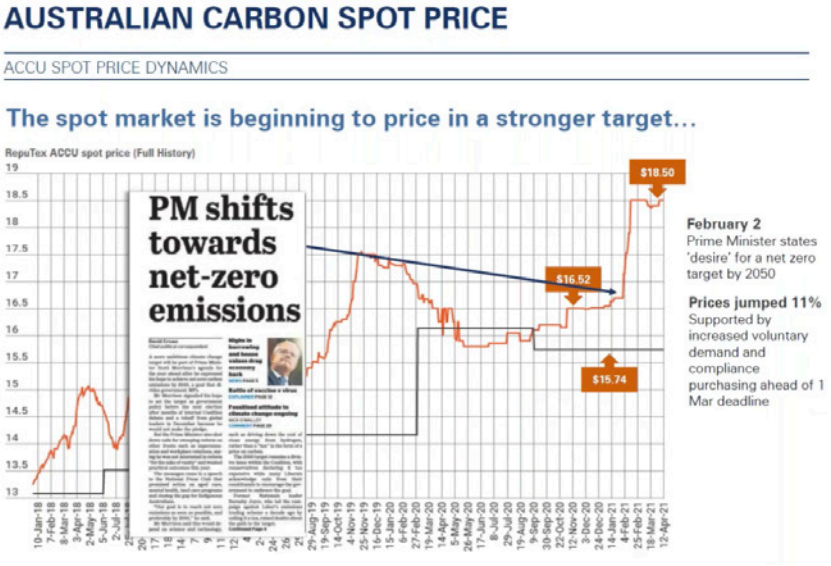


Figure 1: Spot price for ACCUs: January 2018-April 2021. Source: Reputex Energy, 2021b.

The price of ACCUs are forecast to double by 2030 to a range of AU$20-45 per tonne, driven by Australian companies voluntarily setting net zero targets and seeking to meet these with locally-sourced offsets, as well as demand from compliance market companies. [77]Price increases are also driven by shareholders and an increasingly climate-conscious Australian and international market looking for carbon neutral products and services.[78] While a net zero target set by the Australian government would support local ACCU prices, market analysts Reputex Energy believe offsets are "unlikely to be used as a permanent replacement for emissions reductions. This could result in more muted demand, and prices at the lower end of the anticipated range."[79]

At present, domestic units and certificates makeup only "16% of the voluntary market share in 2019, comprising 0.5 million ACCUs and 0.5 million LGCs (tonnes CO2-e)." [80] This may reflect that ACCUs are expensive in comparison to international offset units, with many companies instead relying on international offsetting projects to meet climate targets. However demand is starting to be directed to ACCUs, rather than cheaper overseas offsets, as companies "look to source credits from emissions reduction projects closer to the location of their operations … high-quality ACCU offsets are the most likely to hold their value and be more durable under any future compliance framework."[81] However companies may continue to 'layer' their offsets portfolios and rely on cheaper offsets while they remain available.[82]

3.1.2 International offset schemes

There are several international schemes and initiatives available for Australian companies to purchase carbon credits in the voluntary market to offset emissions. Under these schemes, offsets are generated in one country, and used to offset emissions in Australia (or elsewhere) to meet net zero targets. With the globalised nature of voluntary carbon markets, offset units are generally cheaper overseas than from offsets generated in Australia. Although one carbon credit or offset unit represents one tonne of CO2 avoided from entering the atmosphere, the price of carbon credits varies significantly according to project location, type, methodologies used and other factors [83] such as the different cost of land and labour in different countries.

However, another key reason that international offsets are cheap is because "many offset projects are ineffective, especially those that offer avoided emissions" (i.e. those [emissions] that would have happened without the project; the offsets with the hardest-to-measure impacts are also the most popular. Forestry schemes make up half the voluntary market globally. Yet many claiming to avoid deforestation cannot guarantee that loggers do not just cut down trees elsewhere [84], nor can they guarantee carbon stored will be protected in perpetuity.

In some cases, forests sold as carbon credits were later deforested.[85]

More broadly, there are concerns that cheaper overseas offsets may not be credible or may involve double-counting of emissions reductions. [86]
In many cases, wealthy companies from developed countries pay relatively low prices to offset their emissions using projects in developing countries . These projects can have negative unintended consequences for communities and ecosystems in these countries, raising issues of climate justice.

International units are generally cheaper than ACCUs, and predominate in Australia's voluntary market. Continuing this trend, in Q3 of 2020, international units held 84% of voluntary market share "likely because of their availability in high-volumes at low-cost. Almost 74% of international units originated from renewable projects", with many from projects in India and China[87]. The Australian Government's Climate Change Authority found that the international market is oversupplied with offset units which are available at "historically low prices" and thus represent a "cost-effective" option to offset Australian emissions, despite acknowledging risks of market fraud and the purchase of non-genuine emissions reductions in the international carbon market, and potentially delaying a transition to a low emissions economy in Australia[88]. However, the prominence of international units might be set to change. As noted in the Quarterly Carbon Market report for Q4 2020: "while international units, such as Clean Energy Regulator (CER) units, continue to dominate the voluntary market in terms of volume, the share of ACCUs is growing at a much faster pace with 76% growth in Australian National Registry of Emissions Units (ANREU) cancellations from 2019 to 2020 compared to 30% for that for CERs. This is likely due to ACCUs being valued as high integrity domestic units." [89]

Alongside ACCUs, the following offset units are considered eligible to meet carbon neutral certification by the Australian Government's Climate Active program: Verified Emissions Reductions (VERs) issued by the Gold Standard; Verified Carbon Units (VCUs) issued by the Verified Carbon Standard; Certified Emissions Reductions (CERs) (with exceptions) issued under the rules of the Kyoto Protocol from Clean Development Mechanism projects; and Removal Units (RMUs) issued by a Kyoto Protocol country.[90] We discuss each of these in Appendix 2, below, with the exception of RMUs which do not currently appear to be used by Australian companies.

3.2 The trouble with offsetting

The use of offsetting to achieve net zero targets is controversial. The IPCC, for example, has warned that offsetting and other forms of carbon dioxide removal (CDR) "deployed at scale is unproven, and reliance on [these] is a major risk in the ability to limit warming to 1.5°C"[91].

The threats from carbon offsetting to a substantive, immediate reduction in corporate emissions fall into two categories: technical and behavioural.

Technical concerns with offsetting include the difficulty of regulating and monitoring diverse international offsetting projects to ensure they achieve intended outcomes; whether offsets deliver additionality and permanence; and their unintended social and environmental impacts, particularly in developing countries.[92] Further, the earth simply does not have the ecological capacity to offset anywhere near the world's total anthropogenic greenhouse gas emissions. [93] The CO2 emitted just from the burning of fossil fuels is ten times more than can be sequestered by land-based mitigation methods. [94] As land carbon and fossil carbon systems are not interchangeable, storing carbon in land cannot be used to offset fossil fuel emissions. [95]

The key behavioural concern with corporate reliance on carbon offsetting is that it tends to delay meaningful, direct action on climate change, such as high-emitting industries transitioning to 100% renewable electricity. [96] Fossil fuel companies can rely on offsetting, for example, to continue business-as-usual without making the necessary structural and technological shifts required to eliminate or significantly reduce emissions in the short-term. This is particularly the case while land-based offsets remain cheap and readily available globally.[97] Offsetting may also act to defray public pressure for change, by creating the misleading impression that climate change is being adequately addressed.

Offsetting may also come to be seen by some companies as a 'right to pollute': an 'acceptable' way to facilitate greenwashing.[98] If a company assumes that storing carbon in land can offset fossil fuel emissions, that may result in short-term targets that are not ambitious enough, leading to a surpassing of the global carbon budget. [99]

3.2.1 Concerns with land-based offsetting

Protecting and restoring native vegetation and old-growth ecosystems is necessary to mitigate climate change and 'soak up' past emissions from land-use change, as well as for biodiversity protection and to support livelihoods.[100] Enormously significant social and environmental co-benefits may also be secured through large-scale ecosystem restoration, including improved agricultural practices. However, this should not be achieved through corporations purchasing carbon offsets through the carbon market.

Forestry projects comprise half of the voluntary offset market globally.[101]

There are three key problems with land-based offsetting. First, land-based offsetting requires large amounts of land, and more than is available to offset future emissions. Second, offsetting projects can generate unintended negative social and environmental impacts, with implications for global climate justice. Third, land and fossil carbon systems are different, and carbon stored in forests and other ecosystems should not be used to offset emissions from fossil fuels.[102] Overall, there has been a history of misuse and failure of international forestry offsetting projects, including a failure to provide additionality.[103]

Protecting and restoring forests and other carbon-rich ecosystems is essential in its own right to protect biodiversity and to address past emissions from land-use change. Some land use and land restoration schemes that have been used as carbon offsets - savanna fire management emissions avoidance methods, for example - are worthy projects irrespective of their carbon impact, and should continue. It is also essential that large scale finance is made available to support these initiatives. However, landscape restoration should not be driven by corporations purchasing offsets, at the expense of urgent climate action such as transitioning to renewable electricity.

Oil giant Shell, for example, paradoxically claims that it will reach net zero by 2050, whilst continuing to produce high amounts of fossil fuels.

Shell is proposing to achieve net zero by offsetting its emissions through forest and ocean restoration, and through nature-based projects that store and capture carbon. [104]

"Carbon storage on land as a means to 'offset' CO2 emissions from burning fossil fuels (an idea with wide currency) is scientifically flawed. The capacity of terrestrial ecosystems to store carbon is finite and the current sequestration potential primarily reflects depletion due to past land use. Avoiding emissions from land carbon stocks and refilling depleted stocks reduces atmospheric CO2 concentration, but the maximum amount of this reduction is equivalent to only a small fraction of potential fossil fuel emissions."[105]

Land requirements

There is insufficient land - and ocean, in the case of 'blue carbon' - available to offset emissions, as "in statistical terms, there is simply not enough ecological capacity to offset the world's emissions." [106] The CO2 emissions generated by the burning of fossil fuels are almost ten times greater than the amount of CO2 that could be 'soaked up' by land carbon mitigation methods.[107] Taking the example of tree-planting initiatives, which are a popular way for companies to offset their emissions: "there are around 3 trillion trees on Earth today with room for about 1 to 2.5 trillion more. The Trillion Tree Initiative, 1T program, Trillion Trees, and the CEO of Reddit, among others, aim to plant a trillion trees each"[108].

There is therefore not even enough land to meet demand for corporate tree-planting initiatives, let alone to accommodate the plethora of land-based offsetting projects globally.

Unintended social and environmental impacts

There are a range of unintended negative social and environmental impacts associated with land-based offsetting projects. Wealthy companies, often from developed countries place the burden of offsetting on communities and environments in developing countries, in effect exporting the negative consequences of their actions to those least able to bear them. Although some offsetting schemes concurrently seek to promote the UN's Sustainable Development Goals, well-meaning offsetting projects can have unintended negative impacts.

Numerous carbon forestry schemes have been shown to interrupt and limit local resource use, entrench existing local inequalities or destabilise local economies

with intended community benefits often disappointing or negative. [109] To this extent, "proposals for large-scale reliance on land-based mitigation…pose clear and significant risks to sustainable development" in practice. [110] These issues are discussed further below, in the context of Reducing Emissions from Deforestation and Forest Degradation (REDD+) in the section Cheap International Offsets - At What Cost?

Land-based offsetting projects may also demand difficult trade-offs about how land is used. Offsetting projects that use agriculturally fertile land to sequester carbon may also place pressures on land-uses such as food production, causing a rise in food prices.[111]On wild land, there may be negative biodiversity implications from monocultural planting of offset forest species, although some projects and schemes claim biodiversity protection as a co-benefit of offsetting.[112]

Land and carbon stores cannot offset emissions from fossil fuels

Land carbon and fossil carbon are generally used interchangeably in offsetting: emissions from the burning of fossil fuels are 'offset' by land-based projects. However, the land carbon cycle is different to the fossil fuel carbon cycle:

"Land carbon is active and naturally cycles between the land, the atmosphere and the ocean. But it is currently out of balance due to excessive deforestation and land clearing, meaning far more carbon is in the atmosphere than it should be. On the other hand, fossil fuel carbon is usually permanently locked away, for example in seams of coal buried underground. The burning of fossil fuels creates a new permanent source of carbon that has until recently been buried underground for millions of years." [113]

Carbon sequestration by forests and other natural landscapes is then "repaying the land carbon debt" from prior land-use change, including deforestation and land clearing. This raises questions about the legitimacy of companies using land-based projects to offset fossil fuel emissions.[114]

Compared to fossil fuel carbon stores, land carbon stores are vulnerable to disturbance and at risk of reversal, particularly as climate change intensifies.[115]

This is not an argument against the need for large scale ecological restoration - indeed greater scale is essential to insure against the inherent vulnerability of all land use, to secure lasting environmental and social outcomes. Nonetheless, at whatever scale, their susceptibility to disruption means that land carbon stores are not a substitute for reducing emissions at source.

Land carbon stores can be disrupted through natural disasters such as bushfires and floods, or through policy and governance changes that enable deforestation, as occurred in Queensland.[116] This raises concerns as to whether carbon sequestered by land-based offsetting can be protected in perpetuity.[117] For instance, if a company offsets fossil fuel emissions using land carbon credits, but that carbon is then released into the atmosphere via a natural disaster or deforestation, the total amount of emissions in the atmosphere will have increased, thereby rendering the offset ineffective. [118] Carbon must be stored on land or in oceans for more than 10,000 years for it to be useful,[119] however this timescale is not captured by offsetting schemes.

In select circumstances, land carbon can provide a "valuable, cost-effective, short-term service in helping to reduce atmospheric CO2, and slow the rate of anthropogenic climate change, and bring co-benefits...giving us some time to develop a low carbon economy" when well-designed and managed.[120] However, such high-quality offsets are uncommon, and it is difficult to prove that carbon stores will be protected for the timescales required.

3.2.2 Cheap international offsets - at what cost?

International offsetting projects often claim to generate social and environmental co-benefits. For example, Gold Standard claims that their "climate protection projects deliver between $US 21 and $US 177 in additional value toward the SDGs for every tonne of CO2 mitigated."[121] Case studies by Verra on their REDD+ offset projects in Colombia and Madagascar claim that in addition to carbon sequestration, co-benefits from these projects include improved land tenure, enabling communities to claim ownership, which in turn incentivises stronger community forest protection and sustainable livelihood practices.[122] Offsetting projects by both Gold Standard and Verra seek to advance one or more of the Sustainable Development Goals, alongside offsetting emissions. According to the Clean Energy Regulator's Q3 2020 analysis, the market share of international VCUs and VERs in Australia "increased from 32% in 2018 to 37% in 2019, possibly demonstrating an increasing preference for units with additional co-benefits,"[123] or at least perceived co-benefits. A recent investigation into reduced deforestation offsetting projects - which reveals problems with the overall environmental integrity of these projects - did find that these projects often generate co-benefits to the environment and local communities. [124]

However, academic research suggests that 'win-win' scenarios of cost-effective carbon sequestration and achievement of the SDGs are "simplistic, that benefits are often overstated and that important trade-offs and barriers are neglected or downplayed." [125] For instance, recent analysis of 10 reduced deforestation offsetting projects used by major airlines and certified by Verra found that "the scale of the carbon benefits…is impossible to verify and may be exaggerated", and that the methodologies used for carbon accounting in these schemes are flawed and not 'fit-for-purpose'.[126] For these reasons, the authors conclude that these projects cannot credibly support the 'carbon-neutral flying' claims of the aviation industry and net zero targets.[127] As mentioned, Reducing Emissions from Deforestation and Forest Degradation (REDD+) projects are verified by schemes such as Verra to generate VCUs.

Gold Standard does not certify REDD+ projects due to concerns about the efficacy of REDD+ projects.[128] An overarching issue with REDD+ is the lack of agreement over rules governing the global carbon market in the Paris Agreement. Instead, small-scale unregulated forestry projects have mushroomed globally, known as 'voluntary REDD+'.[129]

A study of 12 REDD+ projects in the Brazilian Amazon found that these projects routinely over estimate their emissions reductions, and that "few projects actually achieved emission reductions."

Suspicion about the environmental integrity of carbon offsets is not restricted to REDD+" and can be extended to other certified carbon offsets.[130]

As outlined in the section on concerns with land-based offsetting, forestry projects can have unintended negative consequences for communities. Significantly, there have been cases where REDD+ and other land-based carbon offsetting projects have violated the rights of Indigenous communities and local residents, including through displacement and by exacerbating conflict.[131] Indigenous peoples have expressed concern that REDD+ could displace them from their lands and livelihoods. Over 20% of carbon stored in tropical forests is within Indigenous territories, yet Indigenous people often lack formal legal titles to their land, and there are concerns REDD+ and other similar schemes could enable 'land grabbing'.[132] Although some Indigenous groups support REDD+, the Indigenous Environment Network (IEN) and other indigenous groups argue that REDD+ allows wealthy countries and corporations to evade their responsibility to reduce emissions at the expense of indigenous rights and practices,[133] with the IEN referring to REDD+ as a form of neocolonialism.[134] This raises significant implications for global climate justice.

As with VERs and VCUs, the Clean Development Mechanism (CDM) also seeks to promote sustainable development in communities in developing countries through their offsetting projects. However a literature review by a group of academics concluded that the CDM has "not consistently delivered significant co-benefits to local communities". [135] CERs have been subject to criticism for failing to generate additionality (i.e. emissions reductions would have happened anyway)[136], with research suggesting that the "CDM as a whole, had limited—if any—climate benefits."[137] A study commissioned by the EU on the CDM found that 85% of the projects covered in the study and 73% of the potential 2013-2020 CER supply have a "low likelihood that emission reductions are additional and are not over-estimated. Only 2% of the projects and 7% of potential CER supply have a high likelihood of ensuring that emission reductions are additional and are not over-estimated."[139] This lack of additionality was a particular concern in relation to energy based projects like wind, solar and hydro.

3.3 When are carbon offsets acceptable?

Offsetting and other forms of carbon dioxide removal may be the 'better than nothing' option for a minority of industries, such as aviation or shipping, where it is technically or financially prohibitive to directly reduce emissions in the short-term.[139] This is not a free pass for such industries to continue with business as usual, but rather a recognition that high-quality offsets can play a role in select circumstances in the overall transition to a zero emissions economy. High-quality offsets should be reserved for companies in such circumstances.

For an offset to be high quality, it must:[140]

- **Provide additionality**
- **Be permanent (an issue for land-based offsets in particular)**
- **Not be double counted (i.e. by a company and a country)**

Companies' climate plans should state:

- **How much of their emissions reduction target is to be achieved by drawing down carbon and removing it from the atmosphere rather than direct carbon dioxide removal (CDR)**
- **On what basis any remaining emissions are judged unavoidable What technological innovations are being pursued to reduce such 'unavoidable' amounts**
- **Whether any CDR relied on or invested in is included in countries' or other companies' climate targets**
- **Where CDR is taking place, by what mechanisms, and with what governance to ensure its carbon integrity and to prevent negative social and economic impacts**[141]

For these to be achieved, offsets must be part of a well-regulated system. For this reason, offsets generated from domestic projects are preferable to international offsets. Such offsets should be like-for-like: "if the source of greenhouse gas emissions is burning fossil fuels, then this should be offset through projects that avoid the consumption of fossil fuels elsewhere."[142]

3.4 Corporate offsetting trends in Australia

Land-based offsetting is the most common form of offsetting in voluntary markets globally. In 2019, "forestry and land use offsets represented the greatest share of transactions in the voluntary offset market (56.4 percent), followed by renewable energy projects (21.3 percent) and household device projects (8.8 percent)." [143] Similarly, in Australia, the majority of ACCUs are generated by land-based projects, such as native vegetation regeneration and conservation.[144]

Globally, prices per tonne of carbon dioxide offset vary widely, from 10 cents to more than AUD$103 per tonne.[145] The average price was US$3-4 per tonne of CO2 in 2018.[146] In contrast, the average spot price for ACCUs was much higher at AUD$18.40 per tonne of CO2 in March 2021[147] and up to AUD$25 per tonne when there are co-benefits.[148]

Table 2: Prices of different offset units per tonne of CO2

Offset unit	Price per tonne of CO2e[149]
ACCU (Australia-based)	AU$18.40 in March 2021
Gold Standard VCU	Ranging from US$10-47, according to current projects on Gold Standard's website
Verra VER	Average $3-4 in 2018-19
CER	US$0.27 in 2019[150]

Many Australian companies have chosen to use overseas carbon credits to make their carbon neutral claims, (see Table 3 below) with international units making up 84% of the market share.[151] Many large companies - including Westpac, Telstra, NEXTDC, Lion and GPT - offset a large proportion of their emissions through overseas renewable energy projects, particularly wind farms in India, whilst ANZ uses wind farms in China. With carbon offsets in India or China (AU$1-6 per tonne of CO2) far cheaper than ACCUs (AU$18.40 per tonne in March 2021) there is a clear financial incentive for companies to buy the majority of their credits overseas.[152] Australian based carbon credits often reflect only a small proportion of overall credits purchased, however these tend to be the schemes that are more heavily promoted in corporate communication materials.

Company	Type of credit	Offset Scheme/s	Project type	Project location
AGL Energy	ACCUs, VER	Australian National Registry of Emissions Units (ANREU), Gold Standard	Burn stoves in Kenya; regeneration in Australia	Australia, Kenya
ANZ	VCU	Verra	Most offsets from wind farms in China; also solar power in the Philippines	China, Philippines
Dexus	VCU, VER, CER	Verra, Gold Standard, Swiss Emissions Trading	Solar and wind; water filtration; forest conservation	Australia, India, China, Taiwan, Cambodia, Indonesia
Felix (TPG Telecom)	ACCU, VER	ANREU, Gold Standard	Savanna management in Australia; wind farms in New Caledonia	Australia, New Caledonia
GPT	Not stated	Not stated	Wind farms	India
Lendlease[153]	VER	Gold Standard	Wind farm[154]; biomass; water filtration	Turkey, Cambodia, China
Lion	ACCU, VER, CER	ARNEU, APX	Wind farms in India (72% of offsets); native vegetation regeneration (23%) and savanna management (2%) in Australia, REDD+ forest conservation in Malawi (3%). These offsets are listed as retired and banked	Australia, India, Malawi
NAB	ACCU, VCU, VER, CER	ANREU, Verra, APX, Markit, EU Climate Registry	Savanna burning in Australia; wind farms in Taiwan and China; solar in India and China; biomass in China; small hydro in India; geothermal in Indonesia	Australia, China, Taiwan, India, Indonesia
NEXTDC[155]	ACCU, VCU	APX, CER	Wind farms in India; native vegetation (26% of offsets) and savanna management (0.02%) in Australia	Australia, India
Qantas	VCU, VER	Gold Standard, APX	Wind, biomass, energy efficiency, REDD	Not stated
Telstra	ACCU, VER, VCU, CER	ANREU, Gold Standard, Verra	The majority of offsets are from wind and solar projects in India; also savanna management and reforestation in Australia	Australia, India
Westpac	VCU, VER, CER	Verra, Gold Standard, ANREU, APX	Majority of offsets generated by wind farms in India, also forest protection and management (including REDD+)	India, Brazil, Peru

Table 3: Selection of major Australian companies' use of offsetting by project type and location. Note: all companies are publicly listed, NGER reporting companies, with product or company carbon neutral certification under the Climate Active scheme Source: Company Product Disclosure Statements from the Climate Active website.

Chapter 4

Green electricity or greenwash? Profiles of the best and worst performers

This report has established that whether a company sources - or plans to source - its power from renewable electricity should be a key test of the credibility of its climate commitments. It also argues that relying on carbon offsets to make carbon neutral claims and meet net zero commitments can be highly problematic. This chapter profiles a range of companies along the spectrum of greenwashing to green power - from those relying substantially on offsets to make and meet climate claims, to those who have made a definitive commitment to 100% renewable electricity, and those in between who have yet to clarify.

4.1 Greenwash alert!

It is amongst the biggest polluters in Australia that we find our biggest climate greenwashers - companies that are increasingly talking the talk on climate, but simply not walking the walk.

AGL Energy: Australia's biggest climate polluter

AGL - Australia's biggest corporate climate polluter - is a case in point of a company using "net zero" and "carbon neutral" claims to greenwash and mask the reality of its highly polluting and carbon-intensive operations.

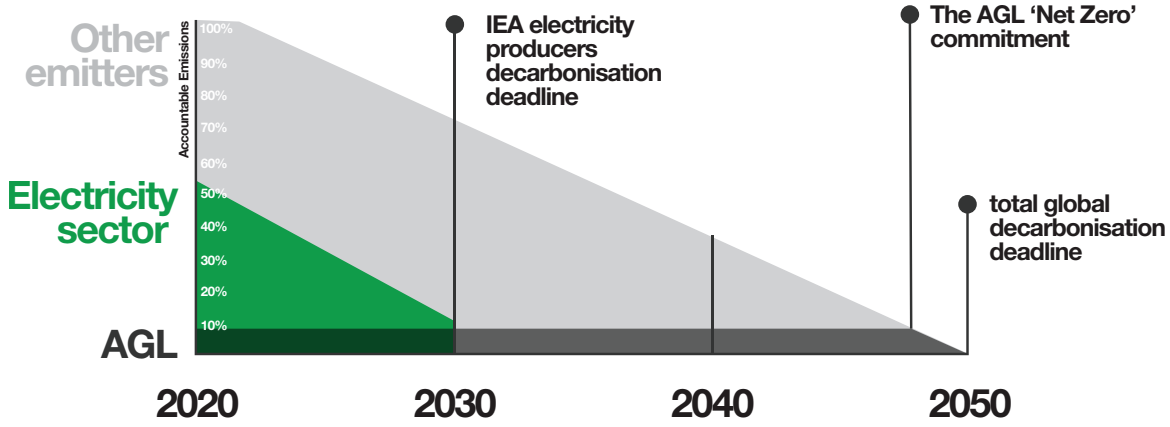
According to Australian Government emissions data, AGL emitted 42.2 million tonnes of CO2 in 2019-20, by far the largest amount of domestic climate pollution compared to any other company in Australia.[156] This is due to power generated from AGL's three coal-burning power stations: Liddell, Bayswater and Loy Yang A, making them Australia's biggest

coal power station operator.[157] All up in 2020 approximately 85% of AGL's power was generated from coal. In the same year, renewables accounted for only 10% of AGL's total electricity output. This figure has barely changed over the past five years.[158] AGL is responsible for 24.6% of the electricity sector's emissions and 8% of Australia's total emissions.[159] The company plans to continue burning coal right out until 2048, when its Loy Yang A power station in Victoria is scheduled to close.[160]

AGL advertises itself as a leader in the transition to renewable energy. For example in the following Twitter post AGL implies that it is "leading the transition towards a new #energy future". This statement implies that AGL has made a concrete investment in clean energy technology. However, the detail of the post reveals that what AGL are actually referring to here is not cleaner energy, but carbon offsets.

AGL claims it has a "net zero by 2050" goal, because it plans to discontinue burning coal 2 years ahead of this date. This defies credibility and conflates global emission reduction goals with the responsibility individual companies must take to contribute to this.

To highlight this point, the International Energy Agency in its Net Zero by 2050: A roadmap for the global energy system report has said that in order to reach global net zero emissions by 2050, "...all unabated coal-fired power plants are phased out of advanced economies by 2030." [161]



In other words, under the IEA's modelling, AGL cannot continue to burn coal beyond 2030 if the global goal of net zero by 2050 is to be reached.

This is because the electricity sector is such a significant source of emissions and the electrification and decarbonisation of other sectors hinges on a rapid phase out of coal in power grids. AGL's company-level "net zero by 2050" goal is therefore irreconcilable with the global goal of reaching net zero by 2050.

AGL has also begun heavily marketing a "carbon neutral" offering across its products to consumers.This offering relies on offsetting. The majority of offsets purchased and retired by AGL are Gold Standard VERs, generated by a burn stove project in Kenya. AGL also uses ACCUs generated by the Westmere Regeneration Project in NSW.[162]

For a company that has a high degree of capacity to transform its very own operations to be genuinely renewable-based, this heavy marketing and use of offsets should not substitute for actually reducing emissions from the burning of fossil fuels. AGL should instead shut down its coal-burning power stations by 2030 at the very latest, and replace them with renewable generation assets.

As a somewhat extreme extension of AGL Energy's pervasive greenwashing, the company now plans to split into two - AGL Australia and Accel Energy. AGL Australia would remain a major energy retailer and own and run some gas and renewable energy assets such as batteries. Accel would own and run the coal-burning power stations.

AGL Energy claims that AGL Australia would then become "carbon neutral" by offsetting their much smaller Scope 1 and 2 emissions. But AGL Australia would still source the vast majority of its power from Accel and the very same coal-burning power stations. It is just that AGL's emissions would have shifted from Scope 2 to Scope 3 emissions, and the restructure will make it easier for the retail component of the business to mask its true emissions from stakeholders.

AGL is a clear case study of why "net zero" and "carbon neutral" claims in corporate Australia should be viewed with considerable skepticism.

Unless such claims are accompanied by a genuine commitment and plan to shift to 100% renewable electricity by 2030 at the very latest, they should not be considered ambitious or credible plans.

Woodside and Santos

The mining and resources sector reflects the largest source of Scope 1, 2 & 3 emissions in the country, and even fossil fuel companies in the Australian resources sector are increasingly setting net zero targets. Gas producer Santos has committed to net zero emissions by 2040 and gas and oil giant Woodside has an 'aspirational' net zero by 2050 goal.163 Neither of these companies has made 100% renewable electricity commitments to address even their Scope 2 emissions, which while substantial on their own terms, pale in comparison to their Scope 1 & 3 emissions.Rather than fundamentally restructure their businesses to prepare for a carbon free world, these fossil fuel companies continue to rely heavily on offset schemes - and other dubious claims and unproven technology like carbon capture and storage - to meet carbon targets and to attempt to green up their public image. Woodside's climate strategy discusses its intent to significantly build its offsetting business, pointing to existing tree planting schemes with Greening Australia and CO2 Australia[164], while at the same time seeking to dramatically expand its fossil fuel extraction. Woodside's proposed Scarborough gas project alone could create a shocking 1.6 billion additional tonnes of emissions across its lifetime - equivalent to the annual emissions of 15 new coal power stations.[165]

Santos' net zero target claims are now the subject of legal action filed in the Australian Federal Court by the Australiasian Centre for Corporate Responsibility (ACCR). ACCR is challenging Santos' claim that it has a "clear and credible" path to net zero emissions by 2040. It is also challenging the use of undisclosed assumptions related to carbon capture and storage technology.[166]

Qantas

Aviation company Qantas is one of the 30 largest polluters in the country.[167] The company has a target to achieve net zero emissions by 2050. For some years the company has run a heavily promoted Climate Active-certified carbon neutral offset service offering passengers the opportunity to offset the emissions associated with their flights. In addition their 'Qantas Future Planet Program' offers a carbon offset product to other corporate partners such as Australia Post and KFC. While Qantas says it "purchases Australian abatement where possible", over 80% of its offsets purchased in 2019-20 were generated overseas, purchased through Verra and Gold Standard.[168] A substantial number of these overseas offsets were forest based REDD projects. The bulk of the Australian based ACCUs purchased were indigenous fire management projects. While these schemes have merit on their own terms they should not be used to greenwash Qantas' overall lack of a decarbonisation plan. Despite electricity representing a relatively small proportion of its emissions, Qantas has not even yet committed to a 100% renewable electricity target.

4.2 Green electricity or greenwash?

The following major electricity users are examples of companies that have made commitments to net zero emissions or carbon neutrality, but have yet to confirm a commitment to 100% renewable electricity by 2025.

NEXTDC

ASX listed data centre company NEXTDC has been certified by Climate Active as carbon neutral since 2018 and the company heavily promotes its climate credentials to its customer base. However, while its Climate Active disclosure summary states that it is "charting a course to become 100% renewable energy driven"[169], it does not have a short-term 100% renewable electricity target. Almost three-quarters of the company's offsets retired in 2019 were VCUs for a wind power project in India, almost a quarter were ACCUs generated through a Colodan Great Barrier Reef project in Queensland, with a remaining 0.02% generated from the West Arnhem Land Fire Abatement Project in the Northern Territory.[170] While some of these projects may have value on their own terms, it cannot replace the need to cut emissions at the source by switching off coal power and on to renewable electricity. For NEXTDC to live up to its climate leader ambitions it needs to commit to switching to 100% renewable electricity by 2025, and support its customers to do the same.

Scentre Group

Retail and property company Scentre Group owns and manages Westfield shopping centres across Australia. Running an energy hungry property portfolio, Scentre Group ranks as the 67th largest user of electricity in the country.[171] With a net zero target for Scope 1 & 2 emissions by 2030, the company has set a target year which puts it among the faster moving companies in Australia. The company states that to meet this target it is undertaking a range of energy efficiency measures and renewable energy investments, however it has e yet to set a 100% renewable electricity target, and as such has not ruled out the potential use of offsets. While Scentre Group's 2030 net zero time frame is to be commended, to add credibility to this target the company also needs to confirm a 100% renewable electricity goal.

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Optus

Communication giant Optus, under the auspices of its parent company Singtel, was one of the first Australian telcos to sign up to the Science Based Targets Initiative with a commitment to reducing Scope 1 & 2 emissions by 52% by 2030 based on a 2017 baseline. However Optus is yet to join major competitors Telstra and TPG Telecom in committing to 100% renewable electricity by 2025. With Optus ranking as the 42nd largest electricity user in Australia[172], and Scope 2 emissions forming the majority of its overall emissions,

Optus needs to rule out the potential use of offsets, increase the ambition in its targets and timelines and commit to 100% renewable electricity, or otherwise risk being left behind in the telco race to renewables.

Rio Tinto

Rio Tinto is Australia's largest electricity user with Scope 2 emissions of 7,736,906 tonnes in 2019-20.[173] Rio has set a goal to achieve net zero operational emissions by 2050, a 30% reduction in emissions intensity by 2030 from a 2018 baseline, and a 15% reduction in absolute emissions by 2030.[174] Rio's massive electricity consumption derives from its substantial mining operations and its ownership of aluminium smelters in Queensland, NSW and Tasmania. Rio states "having divested the last of our coal businesses in 2018, we no longer extract fossil fuels. Our portfolio is well positioned for the transition to a low-carbon economy."[175] The recent announcement that the Rio majority owned Tomago aluminium smelter in NSW's Hunter Valley will transition to run on 100% renewable electricity by 2029[176] paves the way for the wider company to make the same commitment. If Rio indeed wants to take up the opportunity of becoming an exporter of low carbon steel and aluminium to a world that is increasingly demanding it, it needs to commit to run all its operations with 100% renewable electricity by 2030.

Other ASX200 companies with net zero targets but no 100% renewable goal including Aurizon, BHP, Charter Hall, Downer Group, Fletcher Building, OZ Minerals, Pilbara Minerals, Transurban Group, Sims Metal Management, Stockland Corporation and Wesfarmers, can expect greater scrutiny of their targets into the future, as can those ASX companies who are yet to set either net zero or 100% renewable electricity goals. This also applies to non-ASX listed companies with considerable electricity consumption in Australia, including Saputo, Fonterra Co-operative Group and Accor Hotels and others.

4.3 Powering up with green electricity

A number of ASX companies are showing the way in terms of making and meeting 100% renewable electricity targets. The strongest of these pledges demonstrate how large electricity users can contribute to the overall decarbonisation and transformation of the grid, by sourcing power from new build wind and solar projects and investing in battery, demand management, and other grid supporting technology that enable a more rapid transition to an entirely renewable powered grid.

Telstra

In March 2020 Australian telco giant and top 15 electricity user Telstra announced a suite of new climate commitments - carbon neutrality effective immediately, 100% renewable electricity by 2025 and reducing absolute emissions by 50% by 2030[177]. In addition Telstra has committed to setting a target under the Science Based Target Initiative, which will require them to set Scope 3 emissions reduction goals.
The company has signed a number of significant renewable PPAs that see it now purchase more than half of its electricity from renewable sources.[178] Given the SBTI does not count carbon offsetting towards meeting net zero targets, Telstra will need to phase out the use of offsetting over time.

Telstra's carbon neutral claim is certified by Climate Active. The company currently offsets its emissions by purchasing VCUs and CERs from solar and wind projects in India. Only a small proportion of their offsets (less than 1%) are Australia-based, including ACCUs generated by a savanna burning project in Queensland, and a smaller number from VERs generated by the Yarra Yarra Biodiversity Corridor in Western Australia.[179] At the time of announcing its carbon neutral switch Telstra suggested a lack of quality Australian based carbon credits was the reason for its weighting to overseas offsets.[180]

Woolworths

Major retailer Woolworths is the 6th largest electricity user in Australia.[181]
The company has set a 1.5 degree Paris aligned target of net zero by 2050 under the Science Based Targets Initiative, and an interim target of 63% reduction in Scope 1 & 2 emissions by 2030 from a 2015 base year[182]. The company also has a target to power its operations with 100% renewable electricity by 2025 and has signed up to the RE100 initiative. It has committed to sourcing that power from new build renewable energy projects making an important contribution to the overall decarbonisation of the grid. In June 2021 Woolworths announced its first renewable power purchase agreement, taking power from a wind project in regional NSW. Carbon offsets are not allowable under SBTI targets and do not form part of Woolworths 2030 goals.

Chapter 5

Recommendations: Avoid offsets, move to 100% renewable electricity, eliminate fossil fuels, keep going

Credible corporate climate action must focus on reducing and eliminating emissions at source, rather than offsetting them elsewhere.

The single most effective way to do this is by eliminating the use of fossil fuels. And the first step towards doing that is by transitioning to 100% renewable electricity in the short term. Actions to achieve 100% renewable electricity include installing on-site renewables production such as solar, signing long-term power purchasing agreements with renewable energy providers, and investing in storage. Companies should consider how their renewable procurement contributes to the overall decarbonisation of the grid. They also have a critical role to play in advocating for the policy and regulatory changes that would enable a faster transition to 100% renewable electricity.

Alongside switching to 100% renewable electricity companies need to move to 100% renewable energy, reducing Scope 1 emissions by getting off gas, electrifying buildings, industry and vehicle fleets. Scope 3 emissions, while different for every sector, must be addressed and cannot be excluded from any credible climate target.

Companies need to be working to zero emissions or as near zero emissions as possible, with short term targets set along the way. Given the issues associated with offsetting - including of permanence and additionality - companies should avoid the use of offsetting to meet their climate targets. Restoring native vegetation and other carbon-rich ecosystems is necessary in its own right, and to address past emissions from land-use change, but should not be used to offset fossil fuel emissions.

For industries where it is harder financially or technically to eliminate emissions in the short-term, such as for aviation, heavy industry and freight transport183, there may be a limited role (also in the short term) for use of domestic offsets that demonstrate additionality and permanence. This however is not a free pass for companies to continue with business-as-usual without making the structural and technological shifts to reach zero emissions.

Finally all corporations need to bring forward the timelines for their climate commitments and action. Wealthy countries such as Australia have a responsibility to take a leading role in addressing climate change, and have the financial, technological and institutional capacity to do so.

Australian companies have a key role to play in driving the transition to 100% renewable electricity by 2030, to help set the foundation for further rapid emissions reduction.

Appendix 1

Net zero and/or 100% renewable electricity targets of ASX200 companies reporting under the National Greenhouse and Energy Reporting (NGER) Scheme

Appendix 1: Net zero and/or 100% renewable electricity targets of ASX200 companies reporting under the National Greenhouse and Energy Reporting (NGER) Scheme

The following table outlines the net-zero/carbon neutral and/or 100% renewable electricity commitments of the 82 companies in the ASX200 required to report to the National Greenhouse and Energy Reporting (NGER) scheme. These are the companies in the ASX200 generating the most carbon emissions. The ASX200 companies not profiled here, are not required to report under NGERs and are less substantial emitters.

Company	Net Zero or carbon neutral commitment	100% Renewable Electricity Commitment
AGL Energy	2050, scope 1 & 2.	No
Amcor	No	No
AMP Capital	2050, coverage unclear. Currently claim carbon neutral status.	100% renewable electricity by 2030.
Aurizon Holdings	2050, scope 1 & 2.	No
Ausnet Services	No	No
ANZ Bank	2050, scope 1 & 2. Certified carbon neutral through Climate Active.	100% renewable electricity by 2025. RE100.
Beach Energy	No	No
Bega Cheese	No	No
BHP Group	2050, scope 1 & 2.	No
Bluescope Steel	2050, scope 1 & 2.	No
Boral	No	No
Brickworks	No	No
Caltex Australia	2040, scope 1 & 2.	No
Charter Hall	2030, scope 1 & 2.	No
Cimic Group	No	No
Cleanaway Waste Management	No	No
Coca-Cola Amatil	2040, scope 1 & 2.	100% renewable electricity by 2025. RE100.

Company	Net Zero or carbon neutral commitment	100% Renewable Electricity Commitment
Coles Group	2050, scope 1 & 2.	100% renewable electricity by 2025.
Commonwealth Bank of Australia	No. Certified carbon neutral through Climate Active.	100% renewable electricity by 2030. RE100.
Crown Resorts	No	No
CSL	No	No
CSR	No	No
Dexus Holdings	2050. Targets set through SBTI for all scope 1, 2 & 3. Certified carbon neutral through Climate Active.	100% renewable electricity by 2030. RE100.
Downer EDI	2050. Targets committed through SBTI for scope 1,2 & 3, but not set yet.	No
Evolution Mining	No	No
Fletcher Building (Australia)	No. Targets set through SBTI for 30% emissions reduction by 2030.	No
Fortescue Metals Group	2030, scope 1 & 2.	No
GPT Management Holdings	2030, scope 1 & 2. Certified carbon neutral through Climate Active.	100% renewable electricity by 2030.
Graincorp	No	No
Harvey Norman Holdings	No	No
Iluka Resources	No	No
Incitec Pivot	No	No
Inghams Group	No	No
JB Hi-Fi	No	No
Macquarie Bank	2040, scope 1 & 2.	100% renewable electricity by 2025. RE100.
Metcash	No	No
Mineral Resources	No	No
Mirvac	2030, scope 1 & 2.	100% renewable electricity achieved in 2021.
National Australia Bank	2050, scope 1 & 2. Certified carbon neutral through Climate Active.	100% renewable electricity by 2025. RE100.
Newcrest Mining	2050, scope 1 & 2.	No
NEXTDC	2020, scope 1 & 2. Certified carbon neutral through Climate Active.	No
Nine Entertainment Co.	No	No
Northern Star Resources	2030, scope 1, 2 & 3.	No
Nufarm	No	No
Orica	No	No
Origin Energy	2050. Targets set through SBTI for all scope 1, 2 & 3.	No
Oz Minerals	2050, scope 1 & 2.	No
Pilbara Minerals	2050, scope 1 & 2.	No
Qantas Airways	2050, scope 1 & 2.	No
Qube Holdings	No	No
Ramsay Health Care	No	No

Company	Net Zero or carbon neutral commitment	100% Renewable Electricity Commitment
Regis Resources	No	No
Resolute Mining	No	No
Rio Tinto	2050, scope 1 & 2.	No
Sandfire Resources Nl	No	No
Santos	2040, scope 1 & 2.	No
Saracen Mineral Holdings	No	No
Scentre Group	2030, scope 1 & 2.	No
Silver Lake Resources	No	No
Sims	2050, scope 1 & 2.	No
Sonic Healthcare	No	No
South32	2050, scope 1 & 2.	No
St Barbara	2050, coverage unclear.	No
Stockland Corporation	2028, scope 1 & 2.	No
Super Retail Group	No	No
Sydney Airport	2030, scope 1 & 2	100% renewable electricity by 2030.
Telstra Corporation	2050. Targets committed through SBTI for scope 1,2 & 3, but not set yet. Certified carbon neutral through Climate Active.	100% renewable electricity by 2025.
The Star Entertainment Group	2030, scope 1 & 2.	No
TPG Telecom	No	100% renewable electricity by 2025.
Transurban	2050, scope 1 & 2	No
Vicinity	2030, scope 1 & 2.	100% renewable electricity by 2030
Viva Energy Australia Group	No	No
Washington H. Soul Pattinson And Company	No	No
Wesfarmers	2050, scope 1 & 2.	No
Western Areas	No	No
Westpac Bank	2050, scope 1 & 2. Certified carbon neutral through Climate Active.	100% renewable electricity by 2025. RE100.
Whitehaven Coal	No	No
Woodside Petroleum	2050, scope 1 & 2.	No
Woolworths Group	2050. Targets set through SBTI for all scope 1, 2 & 3 .	100% renewable electricity by 2025. RE100.

Appendix 2

Major climate schemes and initiatives Australian companies are signing up to

RE100

RE100 is a global membership initiative of major businesses committed to 100% renewable electricity.[184] In June 2021, over 300 companies globally have made a commitment to go 100% renewable, dozens of whom have operations in Australia. RE100 launched in Australia in late 2018.[185] Since its launch in Australia, at least 15 major Australia companies have joined RE100, including Woolworths Group, Sun Metals, Westpac, Suncorp, QBE, NAB, Mirvac, Macquarie, Interactive, Dexus, Commonwealth Bank, BINGO Industries, Bank Australia, Atlassian and ANZ. These companies have a combined market capitalisation of over $470 billion. [186]

Science Based Targets Initiative

The Science Based Targets Initiative (SBTI) is a collaboration between the CDP, the UN Global Compact, the World Resources Institute, and the World Wildlife Fund (WWF) that seeks to promote ambitious climate change action by enabling companies to set science-based emissions reduction targets, including net zero targets. The SBTI requires companies to "set targets based on emission reductions through direct action within their own boundaries or their value chains"[187], and does not count carbon offsets towards achievement of net zero targets. Offsets are considered a voluntary extra for companies who wish to finance additional emissions reductions beyond their science-based target.

In September 2021, 863 companies had set science-based targets globally, with 732 companies making 1.5°C commitments under the SBTI.[188] In Australia, eleven companies have set 1.5°C targets: Energetics, Intrepid Travel, Timberlink Australia, Woolworths, Transurban, Dexus, Investa, Edge Environment, Geelong Port, Taylors Wines and Mahindra Automotive. Origin has made a 2°C commitment, and Diamond Energy, Australia Post, Port of Newcastle and Frasers Property have made a well-below 2°C commitment. A further 17 companies have made commitments to set targets, including Lendlease, Telstra, Westpac, Bank Australia, and Palladium. Once companies have made a commitment, they have 24 months to have their targets approved and published by the SBTI.[189] The SBTI is developing specific guidance and criteria for companies to set credible net zero targets, and to improve the consistency of how companies meet and report on their progress towards net zero targets.

Climate Active

The Climate Active Carbon Neutral Standard (previously the National Carbon Offset Standard) is an Australian Government initiative that certifies companies, as well as products and services, as having achieved a state of net zero emissions or carbon neutrality. [190] To be certified as carbon neutral, companies are 'encouraged' to first reduce emissions where possible, such as through energy efficiency measures and purchasing renewable electricity, although no specific targets are required. Following this, companies are required to offset remaining emissions by purchasing carbon offset units. These offset units can be purchased from a range of projects in Australia using ACCUs and overseas from a list of eligible schemes, discussed in Chapter 3. When offsetting, Climate Action members must "use offsets that result in genuine emissions reduction", although ensuring this for diverse and often poorly regulated international offsetting projects is challenging and Climate Active does not provide guidance as to what constitutes a high or poor quality offset.[191] Under Climate Active certification, companies can rely on offsetting to claim carbon neutrality, and are not required to reduce emissions via uptake of renewable electricity or other means.

To date, 180 businesses are certified as carbon neutral by Climate Active, with 260 certifications for products and services. This has increased from 86 businesses and 128 certifications in November 2019[192], illustrating the trend in companies taking the lead in voluntarily setting net zero targets ahead of government requirements. Some large and high polluting Australian companies certified by Climate Active include AGL, Origin, Jetstar, and Qantas.

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Appendix 3

Offset units considered eligible to meet carbon neutral certification by the Australian Government's Climate Active program

Gold Standard - Voluntary Emission Reductions

Gold Standard was established in 2003 by WWF and other international NGOs as a 'best practice' standard for carbon offset projects. Gold Standard administers Voluntary Emission Reductions (VERs) offset units. On their marketplace, prices per tonne of carbon (or per unit) ranged between US$10 to US$47, depending on the project and its location. To date, Gold Standard has issued 134 million carbon credits across more than 1,900 projects in over 80 countries across all continents. These projects cover renewable energy, community-based energy efficiency, land use activities and nature-based solutions, waste management and fairtrade projects. Of projects currently available, there is an emphasis on renewable energy and energy efficiency projects, however land-based offsetting is also prominent. VERs are used by several Australian companies to meet net zero targets. For example, outdoor retail company Kathmandu achieved its climate neutrality target in 2021, four years early, by purchasing VERs in Australia and China through Gold Standard.[194] AGL also purchases offsets through Gold Standard, alongside ACCUs.

Verra - Verified Carbon Units

Verra is the world's largest program for voluntary credits, and administers tradable Verified Carbon Units (VCUs). VCUs are generated from forestry and renewable energy projects, among others.[195] As with many offset schemes, once a credit is used, it is 'retired' or cancelled by Verra and cannot be reused. Reflecting broader trends of an increased corporate interest in carbon offsetting globally, Verra's monthly usage rate for offsetting increased by about 23% in 2019. Verra's offset units are cheaper than ACCUs and VERs, averaging around $3-4 per tonne of CO2e in 2018-19.[196] Australian companies that use VCUs include Qantas, ANZ, Dexus, NAB, NEXTDC, Telstra and Westpac.

Some of the challenges associated with Verra's forestry projects, and particularly the Reducing Emissions from Deforestation and Forest Degradation (REDD+) [198]projects they certify, are discussed in the section Cheap International Offsets - At What Cost?

Clean Development Mechanism - Certified Emissions Reduction Units

Certified Emissions Reduction Units (CERs) are offsets generated by the Clean Development Mechanism (CDM), and are governed by the Kyoto Protocol of the UNFCCC (the predecessor to the Paris Agreement). The CDM was designed with the dual goals of reducing the cost of emissions for countries with commitments under the Kyoto Protocol, and contributing to sustainable development in Low Income Countries. In short, it allows developed countries and companies to offset their greenhouse gas emissions in developing countries.[199] At present, CERs can be purchased for less than AU$1 per tonne, driven by a surplus of CERs,[200] and were valued as low as $0.2 per tonne in 2019.[201] According to the Clean Energy Regulator's most recent report, the majority of CERs surrendered in Australia in 2019 were from wind energy projects in India (72%), followed by landfill gas projects in Malaysia (15%) and energy efficiency projects in Thailand (6%).[202] Australian companies that offset using CERs include Dexus, Lion, NAB, Telstra and Westpac.

There is uncertainty about the future of the CDM until Article 6 of the Paris Agreement is finalised, which will determine how countries account for their offsets. This will likely influence the eligibility criteria of voluntary schemes and potentially reduce the availability of the cheapest offsets, although this will not be clarified until late-2021.[204] Countries have not yet been able to agree on the details of Article 6, one component of which could create a new international carbon market for emissions trading for the public and private sector. This potential new market has been referred to as the Sustainable Development Mechanism, and would replace the CDM. It is unclear whether REDD+ projects, discussed below, will be included under Article 6.[206]

Some of the issues associated with international offsets are discussed in the section Cheap International Offsets - At What Cost? on page 33.

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