

Delay or decarbonise?

Australia's climate policy trade-off

Climate policy can incentivise genuine emissions reduction, or it can delay decarbonisation by expanding the use of offsets. Renewable energy generation commencements recently hit a six-year low, while carbon credits issued have been growing by a million tonnes per year. A change in policy focus will be required to achieve climate targets.

Discussion paper

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Summary

The Australian Government is faced with two opposing climate policy paths to reduce Australia's greenhouse gas emissions—driving investment in decarbonisation or continuing to drive investment in carbon credits.

This tension has played out historically in Australia's climate change policies. This paper demonstrates how government policy can, and has been, instrumental in channelling investment in decarbonisation strategies, such as through the Renewable Energy Target (RET). It also demonstrates how government policies then shifted private investment to the carbon credit industry.

The result of the changing policy focus has been a decrease in renewable energy investment, increasing industrial emissions, and rapid growth in carbon offset projects.

Renewable energy investment was incentivised through the RET, which was reached in 2019. Without a renewed target or supporting government policy, investment post-2020 declined. The value of new renewable projects commenced peaked at \$2.9 billion in the June quarter of 2019. It has since declined, reaching a six year low of \$259 million in the June quarter of 2022, a decline of 91% relative to the 2019 peak.

Since the RET was met, there has been no Federal Government policy incentivising investment in renewable energy. The value of renewable generation work commenced has declined, while investment in other parts of the electricity system has increased. At the same time, policies driving the growth of the carbon market have resulted in a strong uptake in Australian Carbon Credit Unit (ACCU) project registration, ACCU crediting and ACCU transactions. The number of ACCUs issued increased from 4 million to 17 million between 2013 and 2022. Since April 2020, the volume of ACCUs sold has increased by 92%.

This paper demonstrates that policies to increase supply of carbon credits work to reduce incentives for direct emissions reduction. Increased supply puts downward pressure on ACCU prices used by businesses to offset their emissions. Reduced prices for carbon credits makes businesses more likely to delay investment in decarbonisation strategies, and more likely to opt for offsetting emissions each year. Offsetting as a primary strategy to reduce emissions is dangerous, not only for its reliance on potentially low integrity carbon credits, but also because it delays real decarbonisation.

Australia's biggest emitting sectors are electricity, transport, and stationary energy. Allowing these industries access to cheap carbon offsets delays the necessary changes in their operations to reduce emissions and puts the burden of emissions reduction on the land sector, where the majority of carbon credits are generated.

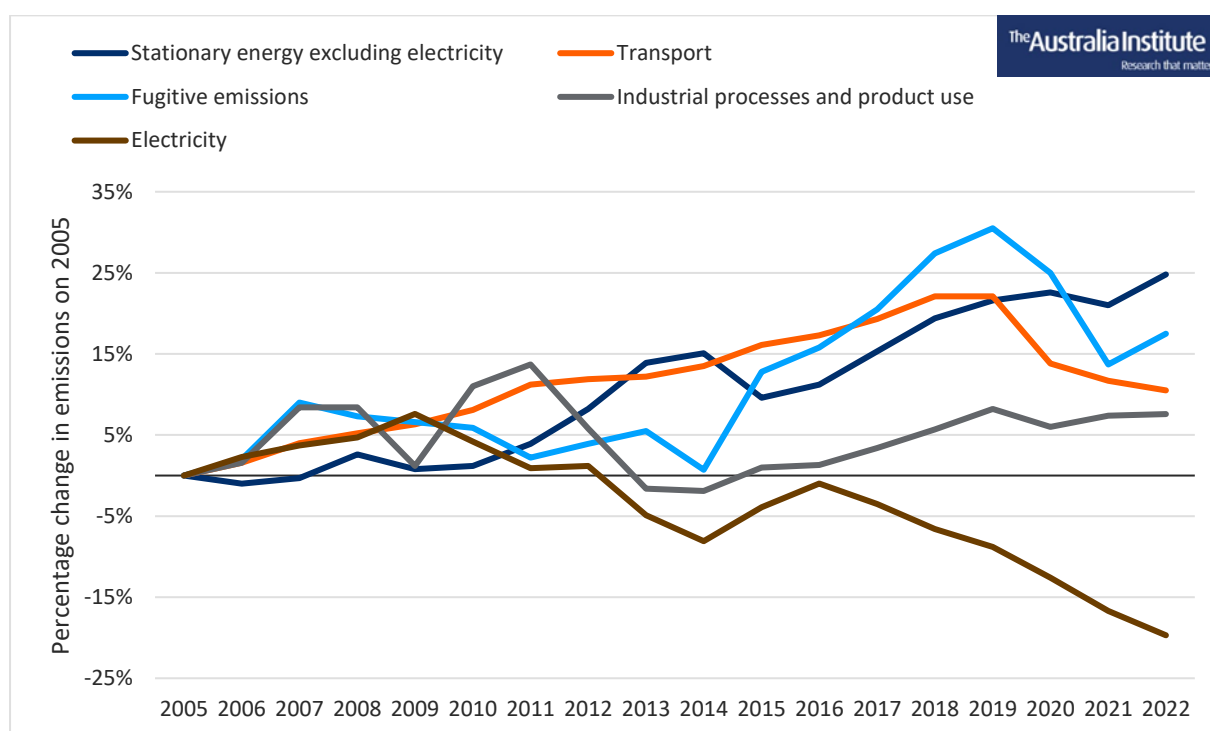
Australia's current climate policy suite, through the Powering the Regions Fund and the reformed Safeguard Mechanism, currently appears poised to continue recent trends and risks Australia's ability to credibly meet its climate targets. If the Australian Government wants to credibly reduce Australia's emissions by 43% by 2030, it must prioritise real decarbonisation over reliance on carbon credits, so as to reduce emissions faster and more broadly across economic sectors.

Introduction

Australia has committed to the globally agreed climate change target of net zero emissions by 2050. To help reach this goal, the Australian Government has committed and enshrined in legislation that it will reduce national emissions by 43% by 2030 (from 2005 levels).

Over the last decade, however, Australia's biggest emitting industries and sectors have been let off the hook, and have largely increased emissions. Electricity, stationary energy, and transport are Australia's largest emitting sectors, but while electricity emissions have fallen in recent years, both stationary energy and transport sector emissions have been increasing, as shown in Figure 1 below:

Figure 1: Change in emissions, by sector, since year 2005



Source: Australian Government (2022) National Greenhouse Gas Inventory: Quarterly June 2022

Although Figure 1 shows that emissions have declined in the electricity sector, it remains the largest emitting sector, responsible for 32.4% of total emissions. The drop in transport sector emissions was driven by societal changes during the COVID-19 pandemic, and this sector's emissions are expected to return to pre-pandemic levels in 2023.¹ The increase in

¹ DCCEEW (2022) *Australia's emissions projections 2022*, <https://www.dcceew.gov.au/climate-change/publications/australias-emissions-projections-2022>

fugitive emissions shown in Figure 1 has been caused by expanding fossil fuel production, most significantly by LNG facilities.²

Despite the emissions from key sectors clearly rising in Figure 1, few—if any—policies have been targeted at reducing emissions in Australia’s largest emitting sectors. Until recently, Australia had no emissions reduction policies aimed at the transport sector and the only industry policy aiming to reduce emissions, the Safeguard Mechanism, saw emissions from facilities covered by the policy increase by 7% since it began in 2016, driven by expansion of the mining and gas industries.³

Emissions reductions claimed by the former Australian Government were not a result of government policy, but rather caused largely by historical changes in the land sector and two major shocks—major drought and the COVID-19 pandemic. Australia’s climate change policies have instead been essentially targeted at paying certain industries and landholders to reduce their emissions.⁴ This has included governmental purchases of emissions abatement from the private sector in the form of Australian Carbon Credit Units through the Emissions Reduction Fund.

It was not always like this. Australia’s climate policies have successfully driven emissions reduction, for example by driving investment in renewable energy through the Renewable Energy Target. However, after this target was met, the Australian Government shifted focus away from direct decarbonisation and towards expanding carbon markets. These two policy strategies are not equal in terms of driving down emissions and come at the expense of one another.

The Australian Government is now at a crossroads on climate action. The policies that are currently being reformed to help Australia meet its 2030 emissions target risk driving further investment in carbon credits at the expense of investment in fuel switching, energy efficiency and new production techniques that would permanently reduce emissions. Policy should instead generate investment in those processes, technologies and activities that will reduce Australia’s overall emissions, create employment opportunities and drive innovation.

² Australian Government (2022) *National Greenhouse Gas Inventory Quarterly Update: June 2022*

³ Reputex Energy (2021) *The economic impact of the ALP’s Powering Australia Plan*, https://www.reputex.com/wp-content/uploads/2021/12/REPUTEX_The-economic-impact-of-the-ALPs-Powering-Australia-Plan_Summary-Report-1221-2.pdf

⁴ Miller (2013) *What is the Coalition’s direct action climate policy?*, <https://www.abc.net.au/news/2013-12-20/coalition-climate-change-direct-action-policy-explained/5067188>

The policy trade off: decarbonisation vs offsetting

DECARBONISATION

Other governments around the world have succeeded in decarbonising their economies via a range of policy changes. Rapid expansion of renewable energy, mandated increases in the energy efficiency of cars and buildings, the rollout of electric buses, using carbon prices to drive innovation and change behaviour: these have all played a role in other countries' successes and, indeed, have even featured at times in the Australian policy mix.

Governments around the world and across Australia know how to drive emission reductions when they want to, as demonstrated by Australia's Renewable Energy Target.

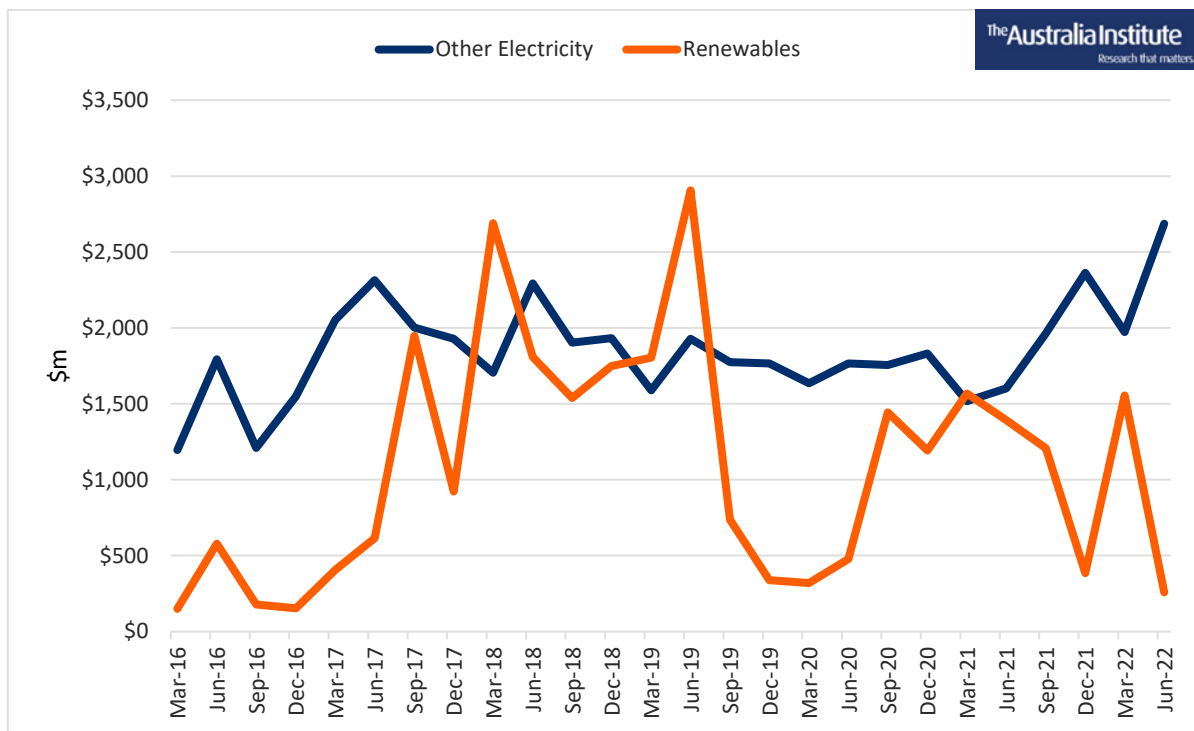
THE RENEWABLE ENERGY TARGET

The Renewable Energy Target (RET), introduced in 2000, was a government policy that mandated the purchase of renewable energy and resulted in estimated emissions reductions of around 300 million tonnes of carbon dioxide equivalent (CO₂-e) between 2012 and 2022.

Although the policy underwent changes, the last version stipulated that by 2020, major buyers would purchase 33,000 GWh of large-scale renewable energy to make up 20% of Australia's energy generation.⁵ The RET was achieved in 2020 and was not renewed or extended. No other policies were implemented to make direct emission reductions in the electricity sector, or in any other major emitting sector. This has likely contributed to the decline in new renewable generation commencements evident in Figure 2 below:

⁵ Clean Energy Regulator (2022) *History of the scheme*, <https://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target/History-of-the-scheme>

Figure 2: Value of work commenced, quarterly (\$m)



Source: ABS (2022) Value of renewable energy construction

Figure 2 shows that the value of work commenced in renewables peaked at \$2.9 billion in the June quarter of 2019, dropping by 91% to a six-year low of \$259 million in the June quarter of 2022 (the quarter for which the latest data is available). Meanwhile, the value of work commenced in non-renewable electricity generation, transmission, and distribution increased from \$1.9 billion in June 2019 by 39% to a record high of \$2.7 billion in June 2022. The data for “other electricity” includes necessary investment in maintaining and expanding existing transmission networks and connecting new renewable projects to existing networks, but also includes investment in non-renewable assets such as gas and coal power plants. Renewable commencements in June 2022 were only worth 9.6% of commencements in non-renewable energy.

If Australia is to reduce its carbon emissions and transition away from non-renewable energy, then investment in the generation of renewable energy should be increasing, not decreasing, especially as it is relatively easy to decarbonise the electricity sector (compared to some other parts of the economy). The decline in renewable commencements shown in Figure 2 suggests that Australia’s progress to date in decarbonising the electricity system may be slowing. The Clean Energy Council raised this concern under the previous Government, saying the “significant reduction [in investment] is due to continued policy

uncertainty combined with the challenges associated with connecting renewable energy projects to the grid”.⁶

The downward trend in renewable energy investment is the opposite of what is required to deliver the plan of the Australian Energy Market Operator (AEMO) for “a transformation of the NEM [National Energy Market] from fossil fuels to firmed renewables.”⁷ According to the AEMO’s 2022 *Integrated System Plan*, providing affordable and reliability electricity and meeting Australia’s net zero ambitions will require “investment in [renewable energy] generation, storage, transmission and system services that exceed all previous efforts combined”.⁸

OFFSETTING

When the RET was concluded, there was no policy to continue driving investment in new renewable energy to replace it. Instead, the Coalition Government focused on its Emission Reduction Fund (ERF), which directs investment towards carbon offsetting and carbon credit projects.

The ERF is a public fund used by the Australian Government to purchase “abatement” from businesses and landholders. The ERF scheme awards carbon credits—Australian Carbon Credit Units (ACCUs)—to projects for carrying out emissions avoidance or reduction activities under approved methodologies. One tonne of CO₂-e stored or avoided is awarded one ACCU. The Australian Government then buys these credits (representing abatement) from project owners. ACCUs can also be purchased or traded by businesses to offset their emissions voluntarily or to meet regulatory requirements.⁹

ERF methods for generating ACCUs rely predominantly on the land sector. Almost half (47%) of the projects registered since 2012 have used “vegetation” methods for emissions reduction. The overwhelming majority (63%) of the projects generating ACCUs within this category involve avoiding deforestation or regeneration (via the removal of vegetation

⁶ Clean Energy Council (2022) *Another record-breaking year for clean energy, but new investment slows*, <https://www.cleanenergycouncil.org.au/news/new-report-another-record-breaking-year-for-clean-energy-but-new-investment-slows?token=704>

⁷ Australian Energy Market Operator (2022) *2022 Integrated System Plan (ISP)*, pp 3. <https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2022-integrated-system-plan-isp>

⁸ Ibid.

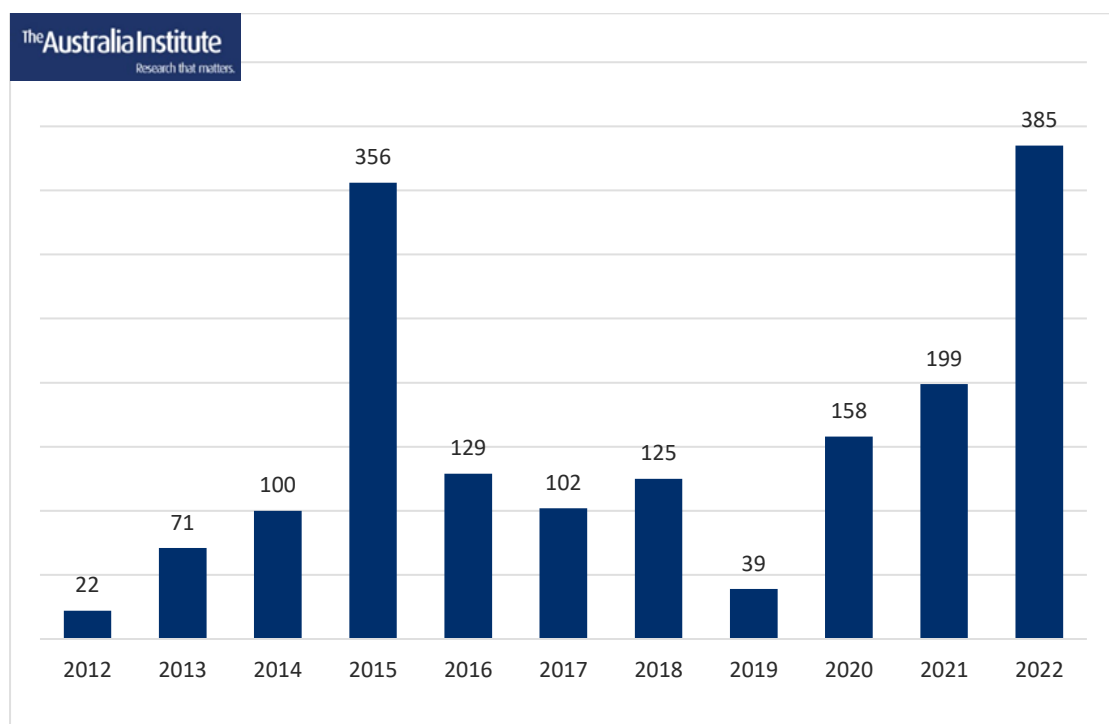
⁹ The Australian Government has overwhelmingly been the biggest buyer of abatement from the ERF. The previous government committed \$2.7 billion from the \$4.5 billion Emissions Reduction Fund to purchased 217 million ACCUs (217 million tonnes of abatement). Only 76 million tonnes have been delivered to the Government so far at a cost of \$963 million.

suppressors) rather than reforestation.¹⁰ These methods have been at the centre of controversies around the legitimacy of ACCUs.¹¹

While the RET was not extended in 2020, the Coalition Government did renew funding for the ERF scheme. It also expanded the available methodologies for creating ACCUs.¹² Policy and administrative changes dramatically increased the number of carbon credit projects registered and increased the supply of ACCUs available for industry to purchase.¹³

The number of projects registered under the ERF increased tenfold from a low of 39 in 2019 to 385 in 2022 (see Figure 3). Since 2012, a total of 1,686 projects have been registered; 44% (742 projects) of these were registered in the last three years.

Figure 3: Number of ACCU projects under the Emissions Reduction Fund, by year



Source: Emissions Reduction Fund (2023) Emissions Reduction Fund project register

¹⁰ Emissions Reduction Fund (2023) *Emissions Reduction Fund project register*,

<https://www.cleanenergyregulator.gov.au/ERF/project-and-contracts-registers/project-register>

¹¹ See for example Hemming et al (2021) *Questionable integrity: Non-additionality in the Emissions Reduction Fund's Avoided Deforestation Method*, <https://australiainstitute.org.au/report/questionable-integrity-non-additionality-in-the-emissions-reduction-funds-avoided-deforestation-method/>

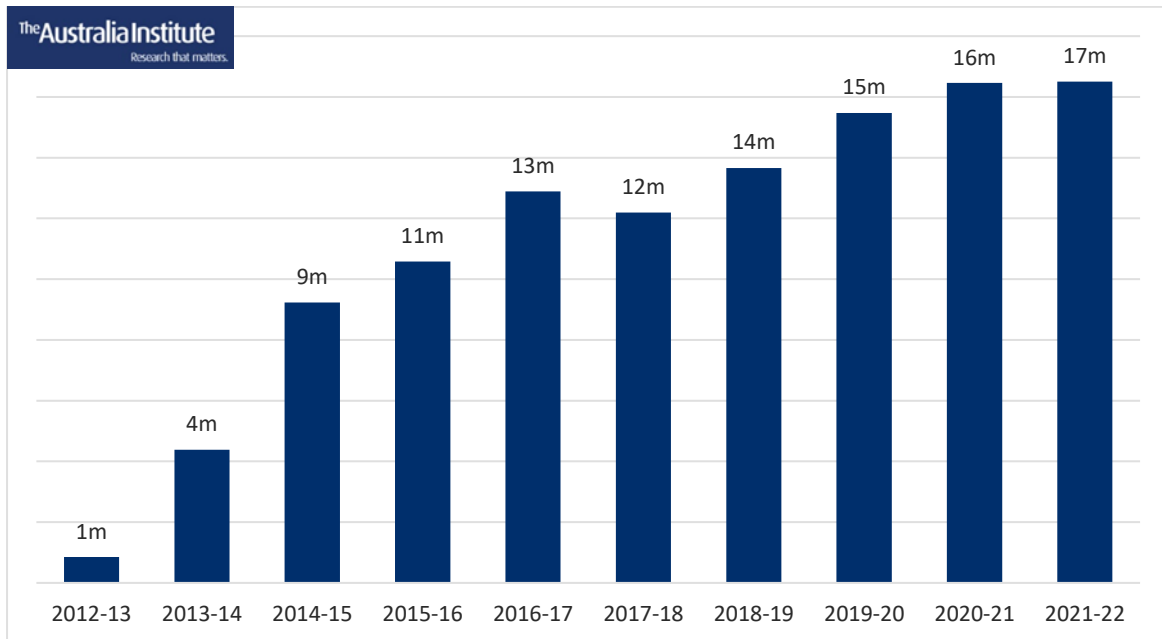
¹² Sydney Morning Herald (2018) *Angus Taylor confirms government 'won't be replacing' renewable energy target*, <https://www.smh.com.au/politics/federal/angus-taylor-confirms-government-won-t-be-replacingrenewable-energy-target-20180918-p504j1.html>

¹³ Hemming, Armistead & Venketasubramanian (2022) *An Environmental Fig Leaf*, <https://australiainstitute.org.au/report/an-environmental-fig-leaf/>

The boom in carbon credit projects shown in Figure 3 is set to continue as data for January 2023 suggests even more registrations than 2022.

While the number of projects registered has fluctuated over the life of the ERF, there is a strong trend of increasing numbers of ACCUs issued. As shown in Figure 4 below, ACCUs issued increased from 11 million in 2015—the same year that project registrations jumped—to 17 million in 2022, the year that registered projects peaked (Figure 4).

Figure 4: ACCUs issued between 2012-2022

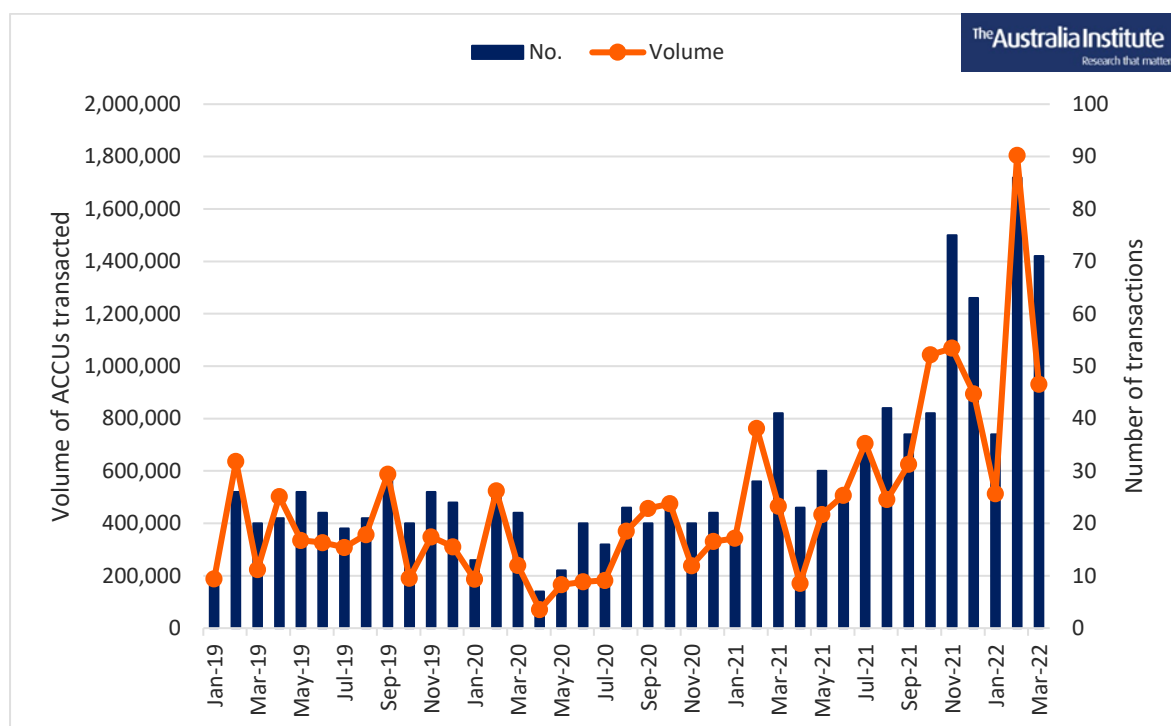


Source: Emissions Reduction Fund (2023) Emissions Reduction Fund project register

The steady growth in Figure 4 shows the impact of government policy incentivising activity in the carbon market. With policy support, ACCUs issued has grown by an average of one million per year over eight years.

The former Government’s climate policy created significant emphasis on producing ACCUs, but also on trade in ACCUs to and between business. While the numbers of new ACCUs issued has increased steadily (Figure 4 above), according to the Clean Energy Regulator, the volume and number of ACCUs transacted has been increasing rapidly, as shown in Figure 5 below:

Figure 5: ACCU market transactions, Jan 2019 to March 2022



Source: Clean Energy Regulator (2022) Quarterly Carbon Market Report September Quarter 2022

Voluntary private sector demand for ACCUs has increased as a result of policy changes by the previous Coalition Government and the current government’s proposed policies. The Australian Government’s Climate Active program certifies and promotes businesses that voluntarily offset their emissions (with little emphasis on emissions reductions and significant emphasis on those businesses that purchase ACCUs). Climate Active expects that there will be 1,000 carbon neutral certifications in 2023.¹⁴

The other main source of ACCU demand has been the government’s Safeguard Mechanism, under which industry purchases ACCUs to offset their emissions. The current Labor Government’s reforms to the Safeguard Mechanism reforms, which will take force from 1 July 2023, will see a strong increase in private sector demand for carbon credits.¹⁵ Modelling shows that up to 74% of the total abatement delivered via the reformed Safeguard Mechanism may be met by purchasing ACCUs.¹⁶

¹⁴ Carbon Market Institute Twitter (2022) *Tweet 2 September 2022, 3:20PM*, <https://twitter.com/CarbonMarketIns/status/1565572566060007424>

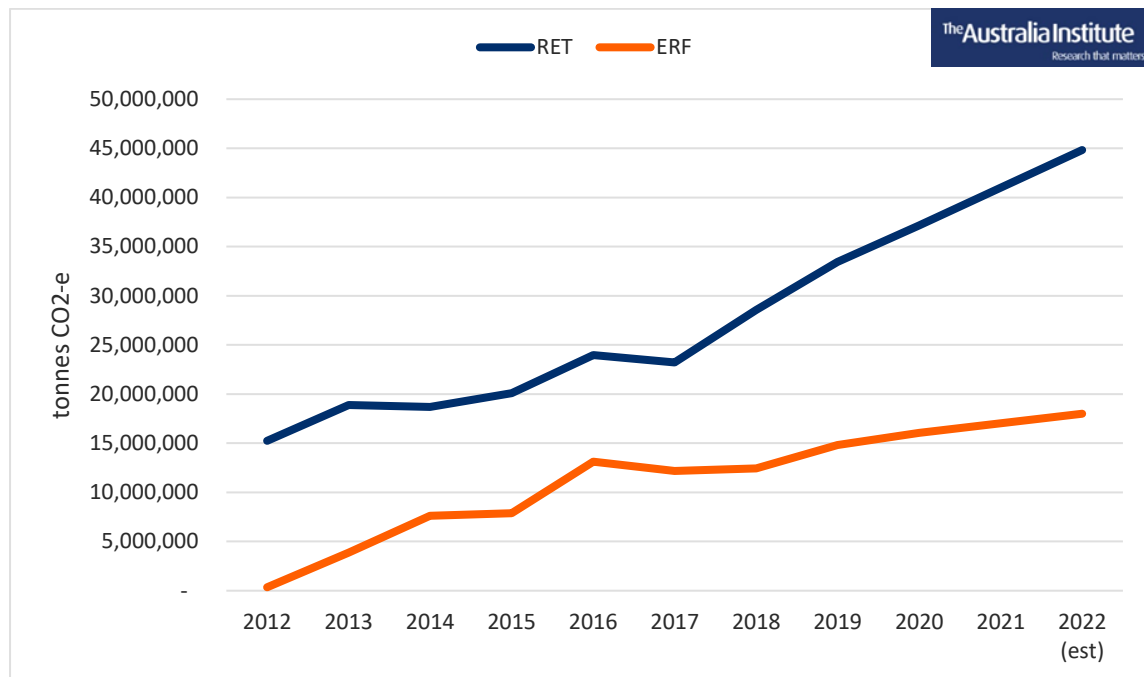
¹⁵ Ludlow (2023) *Carbon credit demand surges, sending spot price higher*, <https://www.afr.com/companies/energy/demand-for-carbon-credits-soar-as-scheme-given-green-light-20230120-p5ce7f>

¹⁶ Reputex Energy (2022) *Potential Futures for Australia’s Safeguard Mechanism*, <https://www.reputex.com/research-insights/report-modelling-potential-futures-for-australias-safeguard-mechanism/>

While emissions from the largest emitting sectors have been growing, the abatement achieved by the ERF has been limited, and structural changes across the economy that would result in decarbonisation have been stagnant.

Figure 6 shows that even if all ACCUs generated under the ERF had integrity and represented real and additional emissions reductions, in the same period the ERF would have achieved far fewer emissions reductions than the Renewable Energy Target.

Figure 6: Estimated emissions reduction from ERF and RET, 2012 to 2022



Source: Clean Energy Regulator (2021) QCMR data workbook – December Quarter 2021

Figure 6 shows the difference between policies such as the RET, which directly reduce emissions in polluting sectors, and the abatement possible with offsets. Direct emissions reductions drive large, ongoing abatement, while relying on offsets requires huge investment in new offsets every year. Each year is likely to see a reduction in offset integrity as demand grows but genuine offset opportunities become increasingly scarce.

The Australian Government's Policy Crossroads

The decision to rely solely on the ERF as a climate policy, rather than policies like the RET or an economy-wide carbon price that would incentivise structural decarbonisation, has resulted in lower reductions in emissions in Australia that would have otherwise been possible. It also raises the question of whether policy settings that support carbon credits and offsets have displaced investment in decarbonisation.

The Labor Government has indicated that it supports the use of carbon credits by industry. It has also emphasised the role of Australia's offsets in its climate policy.¹⁷ The changes to the Safeguard Mechanism will see unprecedented demand for ACCUs from Australia's most emissions-intensive industries, with the ongoing purchase of ACCUs substituted for investment in the actual decarbonisation of projects' activities.

The Safeguard Mechanism is an industry policy that covers projects, or "facilities", that emit more than 100,000 tonnes of CO₂-e annually. Each facility has an emissions baseline under which it must remain; otherwise, it must purchase carbon credits to offset emissions above its designated limit. As part of the Labor Government's climate policy, these baselines will decline year over year, meaning that facilities subject to the Safeguard Mechanism will be faced with an increasing emissions liability. However, critically, the Government has indicated that industry has two options to meet this liability: that they can choose to invest in decarbonising their operations to stay under their baseline as it declines, or they can purchase offset units such as ACCUs.

While the ERF was established by the former Coalition Government, the Labor Government will repurpose the ERF as part of the \$1.9 billion Powering the Regions Fund and will continue to position itself as a buyer of ACCUs.

Labor has also indicated that it will buy ACCUs to sell to industry at a capped price as part of its reformed Safeguard Mechanism. It is worth noting that ACCUs will continue to represent reductions in the land sector—predominantly from preserving or regenerating native vegetation.

¹⁷ Bowen (2022) Keynote address to Carbon Market Institute Symposium, <https://minister.dcceew.gov.au/bowen/speeches/keynote-address-carbon-market-institute-symposium> Clean Energy Regulator (2022) Public Interest Certificate – Australian Carbon Exchange, <https://www.cleanenergyregulator.gov.au/Infohub/Markets/Pages/Australian%20Carbon%20Exchange/Public-Interest-Certificate-Australian-Carbon-Exchange.aspx>

THE IMPLICATIONS OF THE GOVERNMENT'S POLICY CHOICE

When carbon credits generated in one sector are used to offset emissions in another, emissions are “cancelled out”— but overall emissions do not decline. Australia’s national emissions in 2021 were 489 million tonnes of CO₂-e. Since 2012, a total of 124 million ACCUs have been issued—a number that represents only one-quarter of Australia’s emissions in 2021 alone.¹⁸ Even if the carbon market is upscaled, it will not be possible to continue relying on the land sector and the use of carbon offsets to cancel out emissions from the most polluting sectors.

According to the Clean Energy Regulator, the latest ACCU spot price was \$36.75 (January 2023). The government has set a price ceiling of \$75 for 2023-24.¹⁹ The spot price for ACCUs has remained fairly stable over the last couple of years and the ERF has increased the number of credits to ensure downward pressure on the price of offsets into the future.²⁰ The choice to offset emissions also represents continuation of the status quo—no change in production methods or disruption to output.

The cost of decarbonisation is harder to calculate. It may be more expensive in the short-term than offset purchases, and likely requires significant changes to production methods. Decarbonising looks different across industries, firms, and production methods. There is no clear roadmap, so firms have to plan, cost, and implement the process themselves—for example, switching from gas to electricity, purchasing new vehicles and machinery, changing working times to reduce energy usage, and purchasing less emissions intensive inputs.

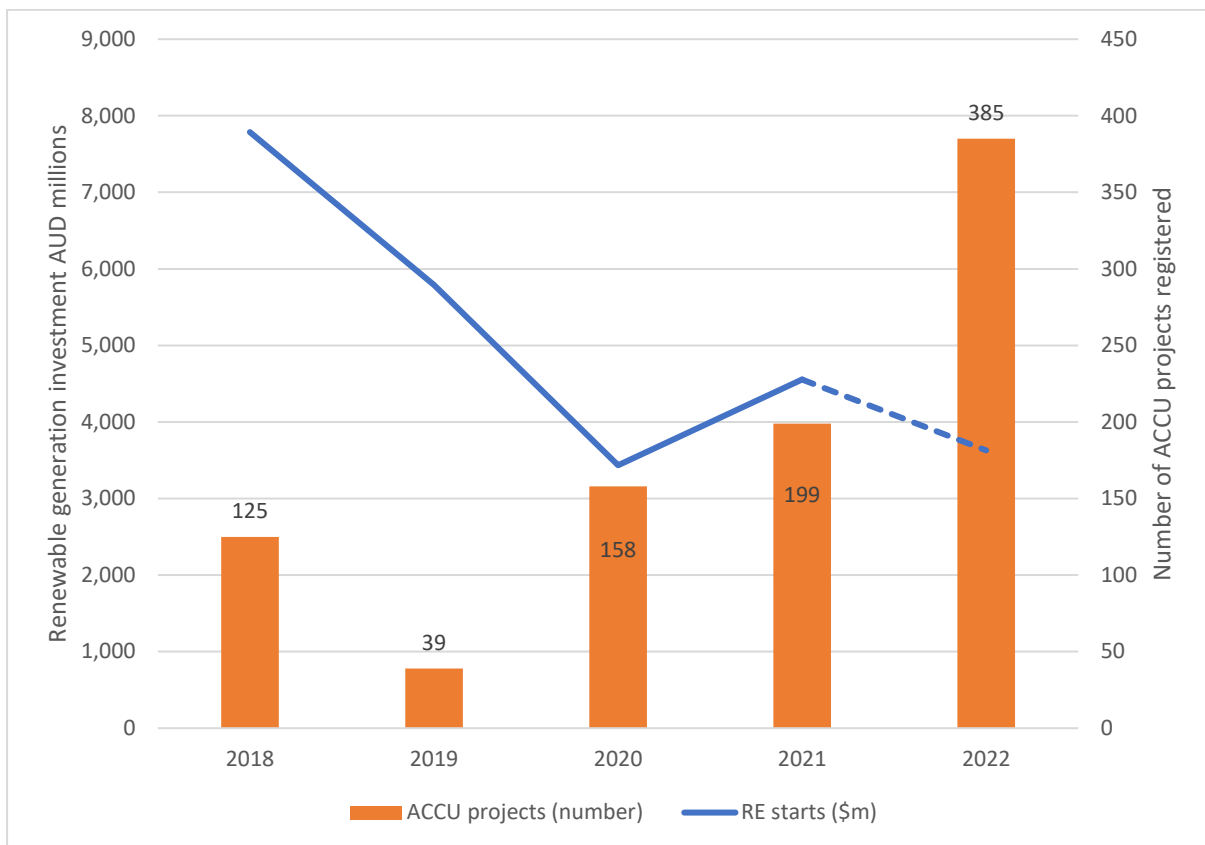
Presented with the decision of whether to offset or decarbonise to meet their emissions liabilities, firms are therefore likely to choose to buy offsets rather than pursue abatement. Evidence of this trend already exists, including declining commencements of renewable generation and growth in ACCU projects and transactions, summarised in Figure 7 below:

¹⁸ Clean Energy Regulator (2023) *Emissions Reduction Fund project register*, <https://www.cleanenergyregulator.gov.au/ERF/project-and-contracts-registers/project-register>

¹⁹ Jarden (2023) *ACCUs – spot price*, <https://accus.com.au/>

²⁰ Clean Energy Regulator (n.d.) *Australian carbon credit units (ACCUs)*, [https://www.cleanenergyregulator.gov.au/Infohub/Markets/Pages/qcmr/march-quarter-2022/Australian-carbon-credit-units-\(ACCUs\).aspx](https://www.cleanenergyregulator.gov.au/Infohub/Markets/Pages/qcmr/march-quarter-2022/Australian-carbon-credit-units-(ACCUs).aspx)

Figure 7: Renewable generation commencements vs number of ACCU projects



Sources: ABS (2022) Value of renewable energy construction; Emissions Reduction Fund (2023) Emissions Reduction Fund project register. Note: 2022 data for renewable energy starts is only available for March and June quarters. Figure 8 extrapolates the average of the March and June quarters across the calendar year.

Figure 7 is based on the same data as Figures 2 and 3 above. It shows the increasing trend in number of ACCU projects registered in each year (orange bars) and the declining value of renewable energy generation projects commenced in each period.

Maintaining a large supply of ACCUs will keep ACCUs prices low and in turn create a strong incentive for businesses to purchase offsets to meet their emissions liabilities. The more businesses rely on offsetting their emissions, the less they will be incentivised to lower their emissions by investing in large scale industrial decarbonisation. This will have lasting consequences, because while investment in decarbonisation leads to permanent reductions in future emissions and in turn the future cost of production, offsets provide no lasting benefits to the firm.

Conclusion

To reach its climate targets, the Australia Government must pursue policies that require Australia's largest emitters to reduce their emissions and result in structural changes that permanently displace the production and use of fossil fuels.

The choice to offset emissions, rather than investing in long lasting decarbonisation, has consequences for companies, the economy and the country as a whole. By choosing to purchase offsets, firms delay decarbonisation, which remains an inevitable future expense, while in the meantime this strategy very likely costs firms more: decarbonising permanently avoids emissions in the future, whereas offsetting involves indefinite costs to negate emissions each year to meet policy requirements.

Additionally, buying offsets delivers no long-run economic benefits, whereas decarbonisation involves investment in the purchase of new goods and services, which boost consumption, jobs, and in turn, tax revenue.

Australia has abundant opportunities to pursue technologies, activities and policies that deliver long-lasting returns to the economy while also reducing emissions. Examples of activities that will reduce emissions permanently include placing a moratorium on new gas and coal projects, electrifying publicly-owned bus fleets, and incentivising energy efficiency improvements in commercial buildings.

The Australian Government is now faced with this choice of which climate change strategy it will pursue, with funding decisions for the Powering the Regions Fund and the activities incentivised or permitted by the reformed Safeguard Mechanism. Both of these policies can be used to drive down emissions in the short and long term, and drive significant private investment in legitimate decarbonisation.