



GreenPower program review

Draft findings and
recommendations for consultation

February 2022

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Date 13 May 2022

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Executive Summary

Abstract

This paper sets out a summary of findings and recommendations of an independent review of the National GreenPower Accreditation Scheme. The GreenPower Program was established in 1997. It allows individuals and businesses to support renewable energy generation by paying for renewable energy to be added to the grid on their behalf. The NSW Department of Planning and Environment (DPE) administers the Program nationally on behalf of the NSW, Victorian and South Australian Governments (GreenPower jurisdictions), with observers from other states and territories. Common Capital has conducted this review for DPE in its capacity as Program Manager.

This review covers an examination of GreenPower's performance against its objectives and the ongoing relevance of its mission in the emerging climate and renewable energy policy, regulatory and market contexts. It considers a broad range of external, scheme design, operational and governance factors that influence its current and future performance. It draws on desktop analysis and in-depth stakeholder interviews across the demand and supply sides of the markets for GreenPower and renewable electricity.

This review finds that there is a critical role for a program like GreenPower to protect consumers, harness household and business demand for renewable energy, and fund the investments required to meet net zero emissions policy commitments. However, for GreenPower to continue to perform this role and deliver its objectives, reforms to its rules and activities are required. This paper sets out detailed options and recommendations for Program reform that would align objectives and outcomes with the current market context and the policy goals of GreenPower jurisdictions.

Key findings

The current GreenPower mission - to drive investment in new renewable energy - is still relevant and appropriate

The Program objectives are also still appropriate and aligned with the Program mission, however, they could be updated to be more outcomes focused. While there has been no federal renewable energy target (RET) increase, the state governments have all set individual net zero emissions goals. The Intergovernmental Panel on Climate Change (IPCC) aligned net zero emissions pathways require near 100% renewables by 2030, and a doubling of the size of the electricity grid to enable the decarbonisation of other sectors. Under current policy settings, all jurisdictions except the ACT will fall short of the 100% target, and all will fall far short of the near 200% required for state-wide net zero emissions. Harnessing voluntary consumer investment through a program like GreenPower will help accelerate the uptake of renewables to the required level by 2030.

The current GreenPower Program design is struggling to deliver additional renewable energy due to significant changes in the renewable energy policy landscape and market

Most mandatory and voluntary Large-scale Generation Certificates (LGC) purchases are not currently supporting the construction of new, renewable generation capacity. This is because there is now an oversupply of LGCs in the market. This has not always been the case. When GreenPower was originally introduced, it was able to strongly support new, additional renewable generation for two reasons:

- There was a structural undersupply of LGCs - the percentage of renewables in the grid was less than the RET. This put upwards pressure on LGC prices, increasing incentives for developers and investors to finance new projects.
- The GreenPower Program rules ensured that GreenPower LGC surrenders by energy retailers had to be additional to their mandatory RET obligations.

Fast forward to 2021, the RET has been achieved and there is no increase in this target out to 2030. Despite this, the percentage of renewables in the grid is increasing at a rate that exceeds that of mandatory and voluntary LGC surrenders. This suggests that new renewable capacity is being built for economic reasons beyond the LGC incentive mechanism. However, these new projects go on to create LGCs for every MWh of renewable electricity they generate. This means that there is a growing surplus of certificates in the market year-on-year, beyond mandatory and voluntary demand. While LGC prices have always been volatile, the growing surplus is making this worse. LGC spot prices are predicted to continue to soften in the coming years. While voluntary demand for LGCs is growing due to corporate initiatives like RE100, this is not expected to be sufficient to redress oversupply or redress volatility. As such, investors in new renewables projects report discounting long-term LGC spot prices to zero in their financial models. They require long-term project-linked energy and LGC offtake agreements for investment cases to stack up.

Essentially, moving forward, voluntary LGC surrenders will have minimal ability to drive new generation unless LGCs are purchased directly from new, not-yet-built renewable generation projects, helping these projects reach financial close.

GreenPower's value proposition has declined due to new competing corporate renewable energy certification frameworks

Demand for GreenPower declined in all customer segments until 2019, and recent growth is not keeping pace with the growth in the rest of the voluntary market. Voluntary demand is growing because of enhancements to corporate and government emissions policies. Even with slight growth in 2019-2020, GreenPower sales are still only 30% of their 2009 peak.

GreenPower is no longer the only means of certifying offsite renewable energy purchases. Corporations are increasingly making net zero commitments, and as such, are seeking ways to account for their scope 2 emissions. However, consumer feedback suggests that large corporations are making their renewable energy purchases outside of the GreenPower Program. This is primarily through direct, project-linked power purchase agreements (PPAs) with renewable generators. PPAs have become the preference to GreenPower as it can be significantly cheaper to purchase bundled energy and LGCs than it is to purchase LGCs separately from the spot market. GreenPower also doesn't currently align with global carbon accounting frameworks (e.g. SBTi, GHG Protocol and RE100), forcing consumers to purchase more LGCs than they need to satisfy their scope 2 emissions requirements. GreenPower accreditation of PPAs is possible through the GreenPower Connect and GreenPower Corporate Direct products, with an additional fee (\$5,000 for GreenPower Connect and between \$5,000 and \$15,000 for Corporate Direct). However, there is seemingly very little awareness of these products amongst consumers.

PPAs are not accessible to the entire consumer market. As such, SMEs and residential consumers with less buying power do not currently have a credible, price competitive option for purchasing bundled power and LGCs.

GreenPower should target the SME and residential markets, which are facing increasing “greenwashing”

This is the market within which a reformed GreenPower Program should position itself. The SME voluntary renewable market will likely grow as SMEs will need to quickly adopt net zero strategies to align themselves with global supply chains. Consumer advocacy groups suggest that there is also strong residential consumer demand for “green energy”. These consumers are facing increasing “greenwashing” from retailers promoting “carbon neutral” energy products that claim to offset the emissions from a household's entire annual energy consumption. Purchasing carbon credits to offset scope 2 emissions is not considered best practice and GreenPower can play an important role in this space by providing a genuine, premium, certified renewable energy product.

Limited marketing budget and a lack of promotional partners are restricting GreenPower's ability to drive demand

The majority of GreenPower's promotion has historically been left to retailers. The internal GreenPower marketing operation is relatively small-scale. Much of the limited marketing budget is spent on website maintenance and digital advertising through social media channels (Facebook and LinkedIn). A decline in the demand for GreenPower in recent years suggests that the combination of internal social media channels and promotion through retailers is not adequately reaching relevant consumers.

Many stakeholders suggested that GreenPower needs to find third party partners to help promote the product to consumers. Various stakeholders suggested that GreenPower

would benefit from finding industry champions who are able and willing to help promote the Program, similar to the champions the National Australian Built Environment Rating System (NABERS) has in the property sector. Local councils and local government areas (LGAs) with ambitious community wide net zero commitments, have expressed an interest in this, but would require additional postcode level sales data from the GreenPower Program to justify any increased promotional spending.

There are several governance challenges impacting the Program's operational efficiency

Feedback during this review suggested that the Program engages much more with stakeholders on the demand side than it does on the supply side. There were several suggestions that the lack of engagement with renewable energy developers and investors has led to the Program becoming increasingly detached from the market. A review of the list of stakeholder advisory group members confirms this.

Feedback was also provided suggesting that retailers currently have too much influence over the Program. There was an implication that there needed to be greater independence with respect to decision making. There were also suggestions that Program decision making, by the National GreenPower Steering Group (NGPSG), was too slow. Essentially, the current governance structure doesn't seem to effectively support timely delivery of progress and solutions. This creates an additional challenge for the Program as it attempts to keep pace with a rapidly changing policy and market landscape. Insufficient resources at the Program level may also be contributing to this problem.

There are three focus areas that the Program must prioritise to ensure it can maximise delivery of its mission moving forward

1. Address both the additionality and cost of GreenPower to increase its value proposition
2. Address the marketing, consumer awareness and accessibility challenges that are driving declining demand
3. Refine the scheme governance and operational framework to support the successful delivery of these changes

Recommendations

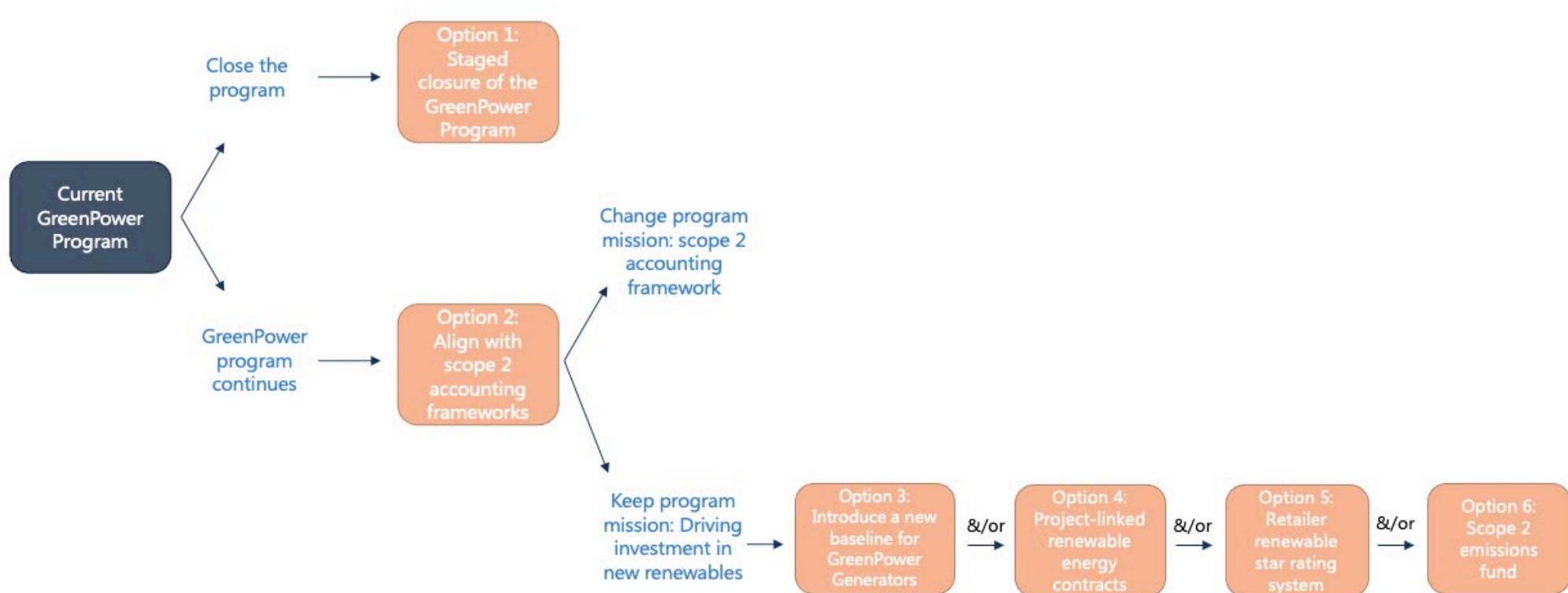
We identify priority areas of reform and detailed options for stakeholder consultation. The diagram below maps out a proposed decision process and subsequent policy options for GreenPower to consider. Firstly, a decision must be made as to whether to continue the operation of the Program. We present a discussion on the advantages and disadvantages of closing the Program in section 2 of this paper, reaching the conclusion that while early closure may be preferable to continuing with business as usual, this will do nothing to progress the policy goals of the participating jurisdictions.

If the Program is to continue, then a second decision must be made as to what the appropriate ongoing Program mission is, either:

- retaining the current mission to drive investment in new renewable energy, or
- adapting the mission to focus on the accreditation of scope 2 emissions reporting.

It is our strong recommendation that the mission remains as is, to ensure the Program continues to support important policy goals. Several internationally accepted reporting frameworks already exist for corporations to account for their scope 2 emissions. There is seemingly no policy argument for GreenPower to be solely focused on corporate scope 2 emissions accounting. If the Program continues with its current mission, then several complementary policy options are presented below. These are ranked on a scale of increasing additionality and implementation complexity.

Proposed future Program decision and options map



Policy options to address the additionality and price of GreenPower

Six policy options are detailed and analysed in Section 2 of this paper. Excluding option 1 (closure of the Program) - all other options are complementary. These options are:

- **Option 1: Staged closure of the GreenPower Program** – carefully managed closure of the GreenPower Program.
- **Option 2: Align with scope 2 accounting frameworks** – recognise the renewable power percentage (RPP) so that consumers no longer need to purchase GreenPower for 100% of their annual consumption and align with Climate Active and the GHG Protocol's 3-year vintage on LGCs.
- **Option 3: Introduce a new baseline year for GreenPower Generators** – introduce a new baseline year for generator eligibility, starting at 2019 and transitioning to a rolling baseline (3-year vintage), i.e. generators built post 2019. This would marginally improve the additionality of the Program.
- **Option 4: Project-linked renewable energy contracts** – transition away from existing GreenPower Accredited and Corporate Direct Products. GreenPower only accredits contracts with renewable generators that are yet to reach financial close (either for a single buyer or buyers' group). This would seek to significantly improve the additionality of purchases and clarify communication to customers, by creating a public database of new projects built with the support of certified contracts.
- **Option 5: Retailer renewable star rating system** – GreenPower develops a framework to benchmark and communicate the relative renewable energy performance of energy retailers. This would empower consumers to make informed decisions when choosing a retailer and energy plan.
- **Option 6: Scope 2 emissions fund** – Establish a scope 2 emissions fund committed to driving investment in renewable energy development. Facilitates the pooling of renewable energy spending by public and private organisations, and individuals, to fund reverse auctions for new renewable energy generation capacity.

The advantages and disadvantages of these options are discussed in Section 2 of this paper.

Actions to increase demand for GreenPower

If the Program continues, then we also recommend the following three actions to help drive demand for GreenPower:

- Action 1: Strengthen branding and marketing
- Action 2: Broaden GreenPower distribution channels
- Action 3: Implement a partner promotion strategy

Actions to improve Program governance

Based on stakeholder feedback regarding the existing governance challenges, we also recommend the following three options to improve GreenPower's governance structure:

- Action 4: Elevate the focus of the national steering group
- Action 5: Revise stakeholder involvement
- Action 6: Better align administrator functions

Next steps

This paper is intended to support targeted and public stakeholder consultation to refine and finalise findings and recommendations.

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Background to this paper

The GreenPower Program is facing increasing challenges as the energy market and policy landscape evolves

The GreenPower Program is Australia's flagship initiative to drive voluntary and additional investment in renewable energy. Under this Program, households and businesses purchase GreenPower from their electricity retailer who then purchases and surrenders Large-scale Generation Certificates (LGCs). LGCs are created by accredited generators for every megawatt-hour of renewable electricity that is generated. It is the only government-managed renewable energy accreditation program in Australia and is subject to strict accreditation standards that ensure GreenPower purchases are additional to the Renewable Energy Target (RET).

Apart from a small uptick in sales in 2019-2020, GreenPower has faced a continued decline in uptake from Australian households and businesses since its 2015 review, despite implementing several recommendations. GreenPower now faces a challenge wherein renewable energy supply in Australia is expected to continue to grow rapidly over the next decade and the program must evolve to ensure it remains relevant in this transition, and beyond.

Government policy in this space is also changing rapidly. The likely closure of the RET will have a significant impact on both the form and purpose of GreenPower. However, Government and private sector commitments to meet international climate obligations and achieve net zero emissions will ensure that efforts to decarbonise the grid continue beyond the life of the RET.

We were tasked with reviewing the performance and ongoing relevance of the National GreenPower Accreditation scheme

The NSW Government Department of Planning and Environment engaged Common Capital to review the GreenPower Program to assess its relevance, structure and role in the current and future energy and emissions reduction markets. This project has provided recommendations for improvements to GreenPower that will increase the Program's relevance and efficiency in the context of a rapidly evolving energy market. The structure of this paper is as follows:

Section of the report	Description
Section 1 – Program review findings	<ul style="list-style-type: none"> • How the policy context for GreenPower has changed • Relevance of the current mission and objectives • How GreenPower is performing against its mission and objectives
Section 2 – Program review recommendations	<ul style="list-style-type: none"> • Policy options to address both additionality and the price of GreenPower • Actions to increase demand for GreenPower • Actions to improve Program governance

Our desktop research was validated by stakeholder interviews

We completed desktop research of peer reviewed and grey literature and web-based market research. We conducted a first round of stakeholder interviews to refine our research findings with more nuanced insights. We then conducted a second round of stakeholder interviews to interrogate our recommendations. Both rounds of interviews involved a range of supply and demand side stakeholders including retailers, generators, developers, investors, corporate consumers, consumer advocacy groups and non-government organisations. This paper sets out our findings and recommendations.

1 Program Review Findings

This section summarises the findings of the 2021 GreenPower Program review. These findings were established through comprehensive desktop analysis and extensive stakeholder engagement with consumer and industry experts on both the supply and demand side of the Program. These findings cover the following subject areas:

- Section 1.1: How the policy context for GreenPower has changed
- Section 1.2: Relevance of the current mission and objectives
- Section 1.3: How GreenPower is performing against its mission and objectives

Several key takeaways are highlighted throughout. These then feed into the recommendations detailed in Section 2 of this paper.

1.1. The policy context for GreenPower has changed

Since GreenPower was developed there have been paradigm changes to the energy policy, regulatory and market contexts in which the Program operates. There are three key changes:

1. Policy ambition of the GreenPower voting member jurisdictions has increased significantly
2. The economics of new renewable electricity generation beyond the RET has improved
3. Certification frameworks for offsite renewable electricity purchases have now been established

These changes are described in detail below.

Policy ambition of the GreenPower voting member jurisdictions has increased significantly

In 1997 Australia's Kyoto commitment was to limit emissions growth to 108% of 1990 emissions by 2012. While slightly more ambitious, most other signatories still only sought to reduce emissions by 5% on 1990 levels by 2012 [1]. This was the context in which the GreenPower Program was designed. The landscape has changed significantly since then. The 2018 United Nations' Intergovernmental Panel on Climate Change (IPCC) special report found that net zero by 2050 will require a near 45% reduction in emissions by 2030 [2]. The reduced carbon budgets from the most recent, 2021, IPCC Sixth Assessment Report suggest the level of ambition required will only increase [3]. The three GreenPower voting member jurisdictions - NSW, South Australia, and Victoria – have all made state

net zero emissions commitments¹ and as such, significant policy action is required to match this policy ambition.

The economics of new renewable electricity generation beyond the RET has improved

For much of GreenPower’s history, new large- and small-scale renewable electricity generation was only installed with the support of the mandatory obligations under the RET. However, the last ten years have seen a paradigm shift in the economics of, and demand for, renewable electricity generation above and beyond mandatory requirements. Steep reductions in the levelised cost of renewable electricity have driven uptake, which in turn delivers economies of scale that drive further cost reductions [4]. The result of these changes is that renewables are the most competitive source of new electricity generation and are being installed at scale beyond mandatory requirements and voluntary purchases. Not long ago the energy establishment considered a renewable grid to be a technical and economic impossibility. Whereas now, the chief executive of Australia’s electricity system operator, Australian Energy Market Operator (AEMO), has committed to ensuring the grid can handle 100% renewable electricity by 2025 [5]. AEMO’s most likely ISP scenario (step change) sees the share of renewable energy rising to 79% by 2030 and nearing 100% by 2040, as illustrated in Figure 1 below.

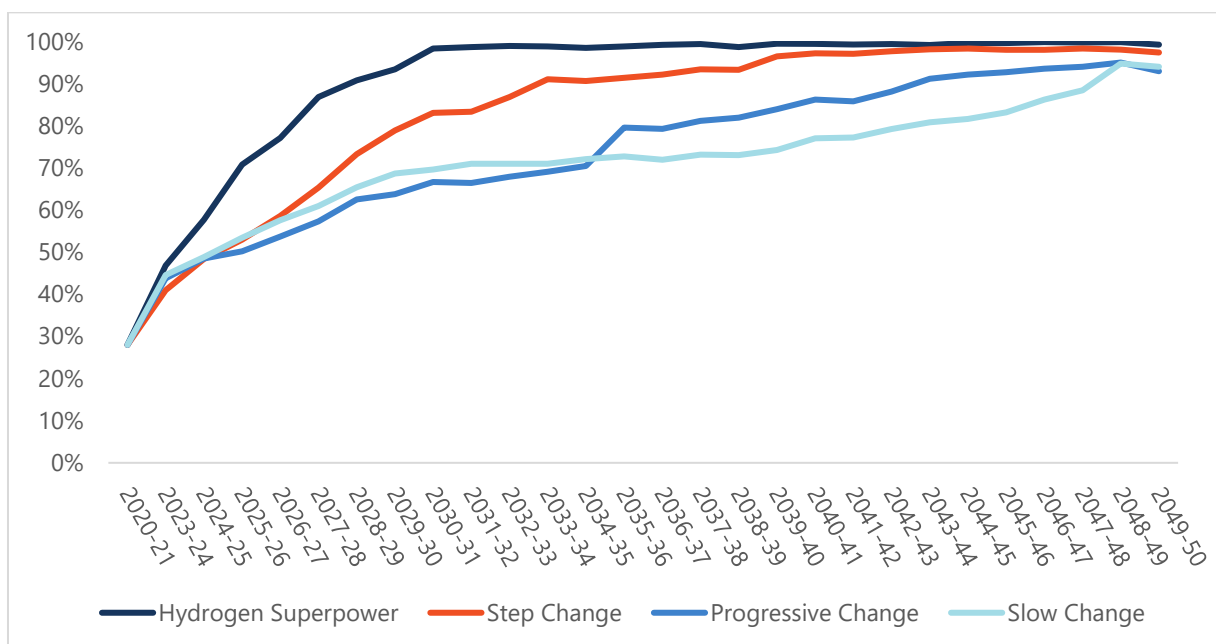


Figure 1: AEMO ISP scenarios – annual share of total generation from renewable sources [6]

¹ NSW net zero commitment: <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Climate-change/achieving-net-zero-emissions-by-2050-fact-sheet-160604.pdf>

South Australia net zero commitment: <https://www.environment.sa.gov.au/topics/climate-change/south-australias-greenhouse-gas-emissions>

Victoria net zero commitment: <https://www.climatechange.vic.gov.au/media-releases/victorias-net-zero-by-2050-emissions-reduction-target>

While this represents great progress, this is still far short of the amount and share of new renewable generation required to meet the net zero policy needs (100% renewables by 2030, and electrification of transport and industry).

Certification frameworks for offsite renewable electricity purchases have now been established

There is high and growing demand for voluntary purchases of offsite renewable electricity. When GreenPower was established, there was no credible framework for accrediting renewable energy purchases. This has since changed. There are now competing accreditation frameworks for “renewable” and “carbon neutral” electricity.

The voluntary renewables market is growing as corporations and jurisdictions (state and local governments) are purchasing renewables to reduce or offset their scope 2 emissions. Many large corporations are signing up to net zero and/or 100% renewable energy targets in response to investor, customer, stakeholder, and employee pressure. For example, the Net Zero Asset managers project includes the shareholders of around 40% of the world’s capital who have committed to ensuring their investments have net zero direct and indirect emissions, in line with IPCC trajectories.²

Larger organisations are committing, tracking, and reporting their targets under initiatives like the Carbon Disclosure Project³, RE100⁴, and the Science Based Targets initiative (SBTi)⁵. These initiatives all build on the Greenhouse Gas Protocol (GHG Protocol) Corporate Standard [7] for measuring direct emissions (“scope 1”) and indirect emissions from electricity consumption (“Scope 2”). The GHG Protocol has recognised the voluntary purchase and cancellation of LGCs as a means of recognising offsite renewable electricity purchases. This operates in a similar way to GreenPower and provides an alternative and internationally recognised certification framework to GreenPower.

1.2. Relevance of the current mission and objectives

While the policy context has evolved significantly, the GreenPower Program itself remains largely unchanged. This section provides a review of the Program’s mission and objectives and a discussion of the assumptions that are implicit in the Program’s operating model, determining its success in achieving these objectives.

²<https://www.netzeroassetmanagers.org/>

³ <https://www.cdp.net/en>

⁴ <https://www.there100.org/>

⁵ <https://sciencebasedtargets.org/>

Mission

GreenPower's longstanding and current mission is set out in the National GreenPower Accreditation Program: Program Rules. It is to

"drive investment in renewable energy in Australia, with a view to decreasing greenhouse gas emissions from the generation of electricity, by increasing awareness of, and ensuring consumer confidence in environmentally sound renewable energy products" [8]

Objectives

To achieve this mission, the Program Rules set out 5 key aims for the Program [8]:

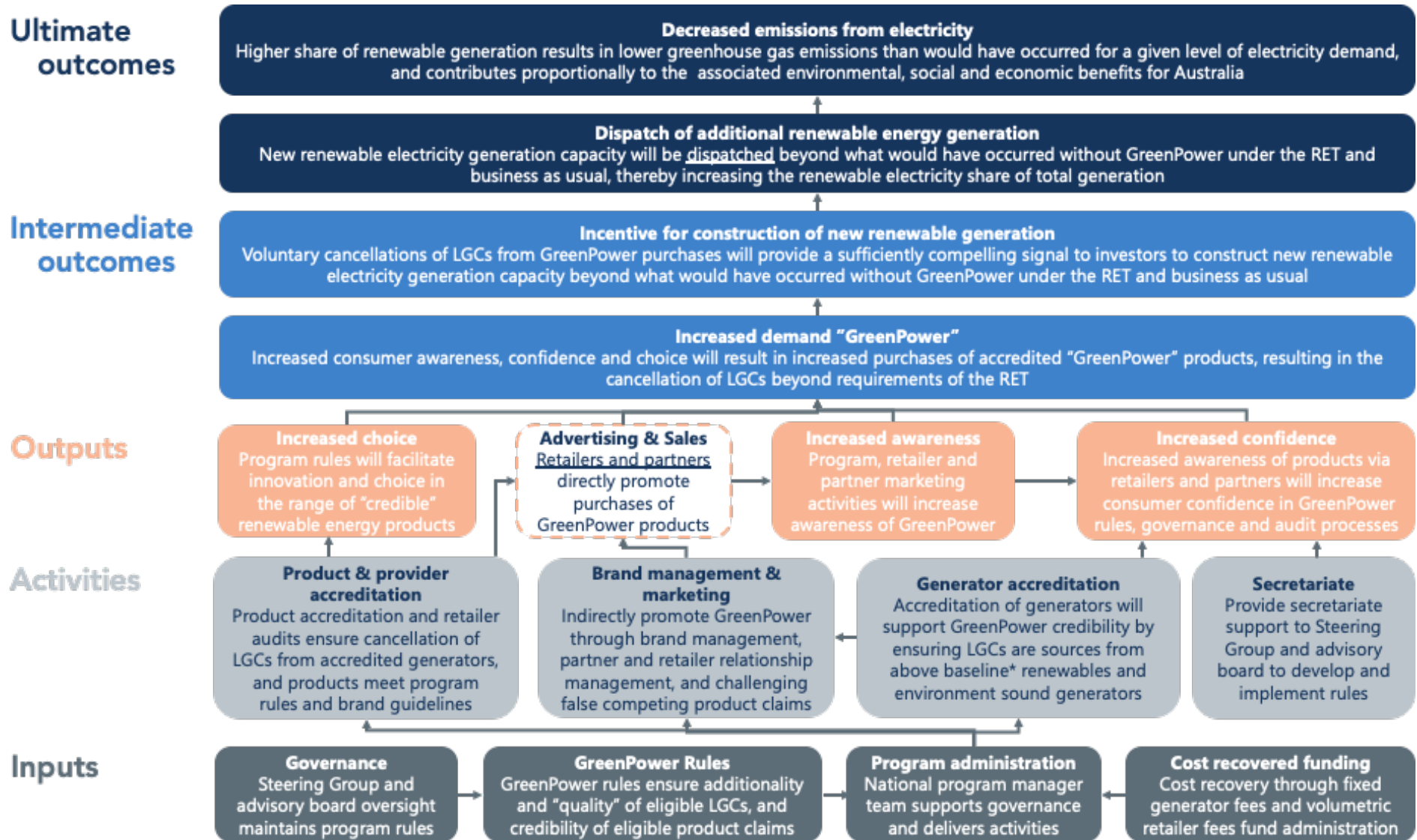
- 1. To facilitate the installation of new renewable energy generators across Australia beyond mandatory renewable requirements.*
- 2. To encourage growth in consumer demand for renewable energy.*
- 3. To provide consumer choice for, and increase confidence in credible renewable energy products.*
- 4. To increase consumer awareness of renewable energy and greenhouse issues.*
- 5. To decrease greenhouse gas emissions associated with electricity generation.*

To explore how the GreenPower Program seeks to deliver on its mission, we developed the following program logic and theory of change detailing the inputs, activities, outputs, and intermediate and ultimate Program outcomes. Figure 2 below helps to understand some of the assumptions that are implicit in the Program operating model – for example:

- Money spent on new renewable energy generation capacity will result in this capacity being dispatched and displacing carbon intensive generation - *this is dependent on no/low curtailment and the timely retirement of coal-fired generators.*
- Voluntary cancellation of LGCs will create an undersupply of LGCs that can only be met through the construction and dispatch of new renewable generation – *this is dependent on the ongoing cancellation of all (or most) LGCs generated each year (i.e. supply matches demand).*
- Energy retailers and partner organisations (e.g. NABERS) will facilitate advertising and sales of GreenPower accredited products to increase awareness and consumer confidence and subsequently drive demand – *this is dependent on ongoing positive engagement of third parties with the Program.*

If these assumptions do not hold, then the ability of the Program to deliver on its mission is compromised.

Figure 2: program logic for the GreenPower Program



Consideration has also been made as to whether GreenPower should expand its mission to include other markets beyond renewable electricity, e.g. hydrogen, biogas, and electricity storage and curtailment.

- **Electricity storage and curtailment** – currently, GreenPower certification is based on the amount of renewable energy dispatched. This allows participants to make decisions as to the most cost-effective combination of storage and curtailment, project by project, as storage and electricity prices change over time.
- **Biogas** - has only a minor or transitional role in most zero emission scenarios, compared with the scale of the renewable electricity challenge.
- **Green Hydrogen** - has a central role to play in the decarbonisation of heavy industry, and as a zero-emission energy export commodity. The emerging national Hydrogen Guarantee of Origin Scheme [9], a national certification scheme for green hydrogen, has the potential to be leveraged, like LGCs. But it is not clear that the GreenPower Program is best placed to provide national certification of green hydrogen.

It is hard to conclude that any of these initiatives should be strategic priorities for the GreenPower Program at present, given the scale of the operational challenges and reforms to the existing Program discussed in this paper. However, the NSW Government legislated a renewable fuel scheme in 2021 whereby natural gas retailers and other large gas end users will be required to purchase and surrender certificates from accredited green hydrogen producers to meet their scheme obligations [10]. At a future point, once this compliance market is functioning effectively and once the immediate challenges to the core GreenPower mission and Program have been addressed, expansion of GreenPower to recognise voluntary purchases of renewable fuels could be considered.

Key takeaways

- **The Program mission and objectives remain relevant and appropriate and should be retained. The ultimate outcome of driving investment in new renewable energy should remain the focus of the Program moving forward.**
- **Consideration should be made to amending the current objectives to make them more outcomes focused – e.g. “facilitate the installation of [X] MWh of renewable energy dispatched across Australia beyond mandatory renewable requirements”**
- **Expansion into other markets (storage and curtailment, biogas, and green hydrogen) should not be a strategic priority for GreenPower at present.**

1.3. GreenPower’s performance against its mission and objectives

Operational drivers of success

We have developed a simplified value driver tree to illustrate the factors that can influence GreenPower’s success in delivering its mission and objectives. In Figure 3 below, the dark blue box shows the GreenPower mission and desired ultimate outcome of increasing the generation of renewable energy. The potential for success in this mission is a function of two factors:

4. **additionality** of accredited GreenPower generation
5. volume of **demand** of accredited GreenPower sales

High GreenPower sales but low additionality will only result in low levels of new renewable electricity generation. If GreenPower sales have zero additionality, then no amount of GreenPower sales will contribute to Program outcomes. Conversely, high additionality but low sales will also only make a small contribution to Program outcomes, but this is far preferable to zero additionality.

The boxes in the third column with dotted lines represent the main factors which, in turn, drive additionality and demand. This illustrates competing tensions and synergies in how different operational outcomes influence Program success.

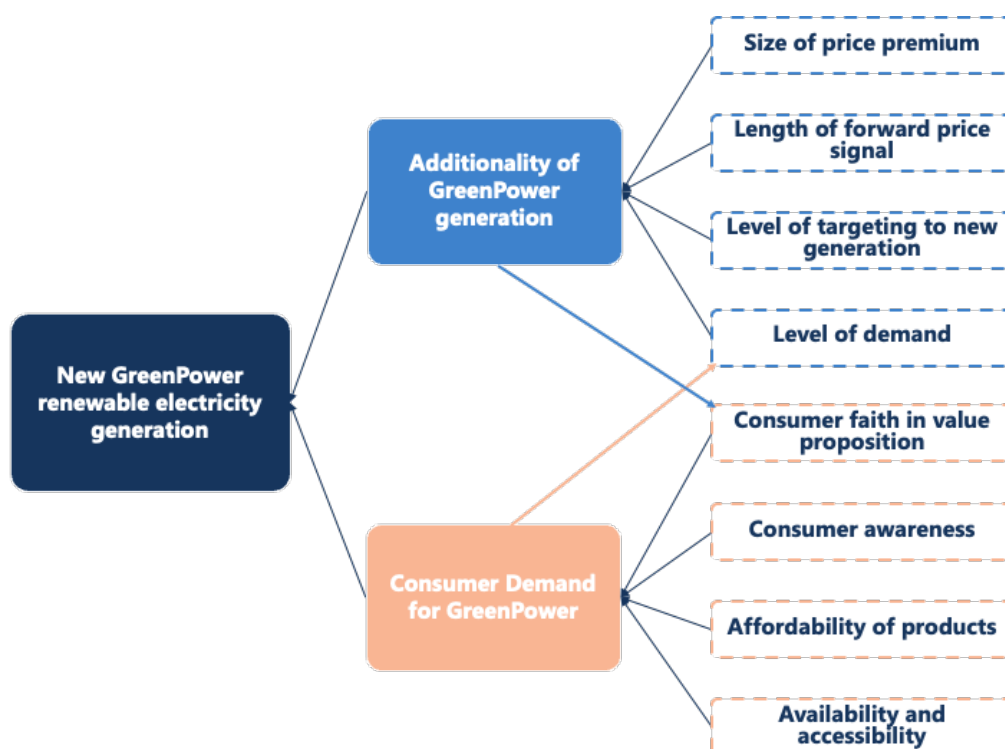


Figure 3: GreenPower value driver tree

GreenPower Program design is sometimes reduced to a simple and binary choice between additionality and affordability. This driver tree shows that the reality is far more nuanced and interdependent. It is important to note that only “consumer awareness” and “availability and accessibility” can be clearly identified in the current Program aims.

Demand for GreenPower is declining leading to an oversupply of generation

Demand for GreenPower has declined significantly

The level of uptake of GreenPower has changed considerably over its 20-year history, for both residential and commercial consumers. Figure 4 below shows peak GreenPower sales in the 2008-2012 period, with a significant decline in demand in the years since. Several external factors have likely contributed to this decline.

- Rooftop solar has become more affordable leading to consumers investing directly in on-site generation
- Energy prices have increased, dissuading people from making additional voluntary contributions on top of their energy bills
- Regulation changes occurred in 2013 when NSW adopted the National Energy Customer Framework (NECF), removing the obligation for energy providers to offer GreenPower to all new residential customers [11].

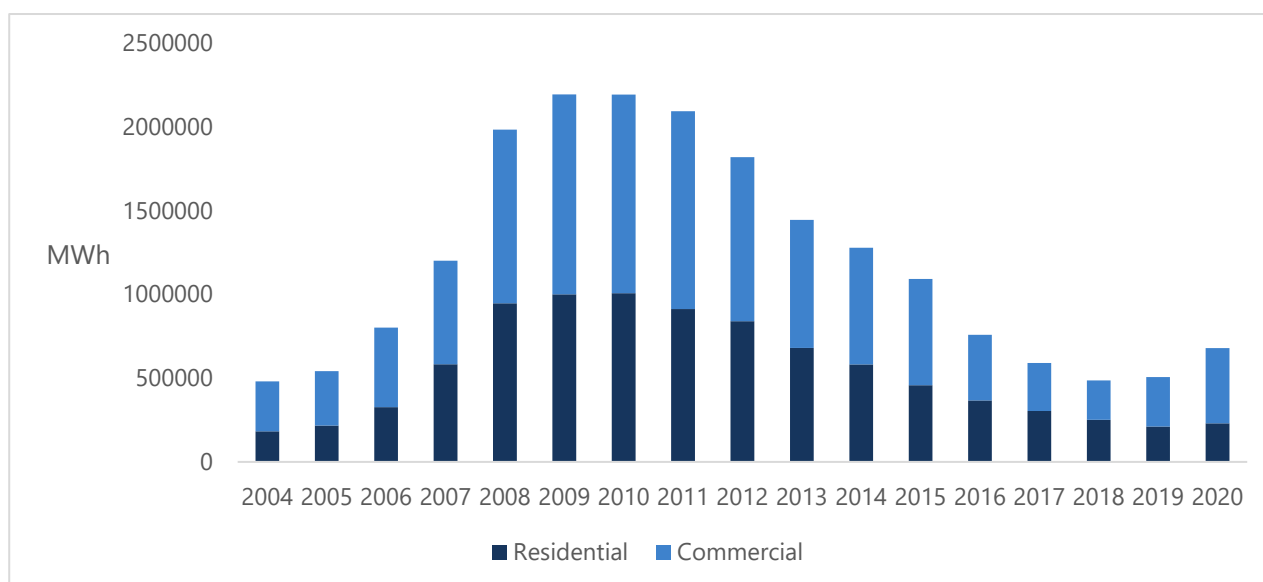


Figure 4: GreenPower annual sales (residential/commercial)

In contrast to GreenPower, the voluntary market is growing

Despite these external factors, and in contrast to GreenPower sales, the voluntary renewable energy market is growing rapidly.

In 2020, just over four million LGCs were voluntarily surrendered, of which just 17% were from GreenPower sales [12]. Q4 of 2020 saw 156,000 voluntary LGC surrenders, an 84% increase on Q4 of 2019 [13].

This voluntary market growth has been attributed to purchases by state and territory governments, desalination plants, and corporates that are increasingly looking to decrease their scope 2 emissions to help reach emissions reduction or net zero commitments [12].

Limited marketing budget and a lack of promotional partners are restricting GreenPower's ability to drive demand

The majority of GreenPower's promotion has historically been left to retailers. Prior to NSW adopting the NECF, retailers were obliged to offer GreenPower to all new customers when they signed up [11]. This is no longer the case and a thorough review of different Provider's websites has shown that in some cases, GreenPower is becoming increasingly difficult to purchase.

The internal GreenPower marketing operation is relatively small-scale. Much of the limited marketing budget is spent on website maintenance and digital advertising through social media channels (Facebook and LinkedIn). The social media strategy is supported by a third-party company who provide quarterly reports with reach and engagement statistics. Overall, for a nationwide Program, the level of engagement is reasonably low: just 16,000 engagements (reactions, comments, or shares) over the April-June 2021 quarter, for a total of 67 posts [14]. A decline in the demand for GreenPower in recent years suggests that the combination of internal social media channels and promotion through retailers is not adequately reaching relevant consumers.

Various stakeholders suggested that GreenPower would benefit from finding industry champions who are able and willing to help promote the Program, similar to the champions NABERS has in the property sector. Many LGAs and local councils made submissions to this review expressing a desire to partner with the Program to drive demand amongst residents and businesses in their jurisdictions. Inner-city councils are particularly interested as they believe there is significant value in GreenPower for their residents who are renting in apartment buildings and are therefore unable to invest directly in onsite renewable generation. Climate Works Australia reported in its 2020 Net Zero Momentum Tracker Report that 37% of Australia's LGAs have targets to reach net zero emissions by or before 2050 for all, or the majority of their community emissions [15]. To track progress towards these targets, LGAs and councils are requesting increased visibility and detail of GreenPower annual sales data, down to either suburb or postcode level. If GreenPower was able to provide this data in the annual report, then this could increase the value proposition for LGAs who have already expressed interest in partnering with and helping to promote GreenPower to their residents and businesses.

GreenPower supply has overtaken demand

While demand for GreenPower has declined, supply has been increasing. As of 2020 there were 538 accredited GreenPower Generators in the Program, accounting for a total capacity of 11,611 MW.

In the 2019 audit year, only 55 of the 538 accredited Generators made LGC sales resulting in GreenPower surrenders and 2020 GreenPower sales only account for 2.22% of total GreenPower generation capacity.

Essentially, there is a significant oversupply of accredited GreenPower Generator capacity. There are also no vintage restrictions on generation, which only adds to the oversupply. This means that Generators accredited 20 years ago are still generating LGCs each year which are eligible for GreenPower sales. Likewise, if there are LGCs generated 20 years ago that have not yet been surrendered in the market, they will still be eligible for purchase and surrender in the present year.

This oversupply extends beyond GreenPower to all LGCs

The oversupply of LGCs is not limited to GreenPower LGCs. There is an oversupply of LGCs generally. This is impacting the LGC spot price, and price volatility is decreasing the effectiveness of LGCs as a financial incentive for new renewable energy investment and development. It is anticipated that the oversupply of LGCs will only increase as the RET has been achieved and the target remains fixed out to 2030. New renewables will continue to be added to the grid as the price of renewables declines, however, these new projects will be generating LGCs into an already saturated market. This surplus will keep growing, year-on-year, as the energy transition continues. A new renewable energy target, well above the current percentage of renewables in the grid, could potentially help to stabilise this market. However, in the absence of a new target, it is hard to imagine that the voluntary demand for LGCs will rise to reach the current state of supply.

GreenPower's value proposition has declined with the influx of new competing products

Large commercial consumers now have a range of options for purchasing renewable energy

In the large commercial customer segment, energy retailers tend to offer three different renewable energy solutions:

- **GreenPower Accredited** – simple solution with no long-term contract involved – allows consumers to make straightforward renewable energy claims e.g. “we are a 100% GreenPower organisation.”
- **Voluntary LGC purchases outside of the GreenPower Program** – slightly cheaper than purchasing GreenPower as consumers can directly access the LGC spot market – provides flexibility for consumers who lack the financial stability to commit to a 10-

year contract. LGCs can also be purchased and surrendered whenever suitable as consumers are not tied to the GreenPower auditing timeline.

- **Corporate power purchase agreements (PPAs)** – preferred solution for large, sophisticated commercial consumers with annual energy use that is greater than 50GWh – can offer greater long-term price certainty and can help corporates make more tangible renewable energy claims through direct investment in a specific renewable energy generator.

The value proposition of GreenPower for large commercial consumers is declining

Many corporations are setting emissions reduction targets or making net zero commitments through initiatives like SBTi and RE100 and as such, are voluntarily purchasing renewable energy for their scope 2 emissions. Mostly, these corporations are choosing to do this outside of the GreenPower Program, either through voluntary non-GreenPower LGC purchases or through direct corporate renewable PPAs. Feedback from corporate stakeholders during this review highlighted three key reasons for this:

1. The large price premium of GreenPower compared to other voluntary LGC purchases, for negligible perceived additional value.
2. GreenPower's lack of alignment with global accounting standards like the GHG Protocol, forcing consumers to purchase more LGCs than they need, for compliance reasons, to be able to claim 100% GreenPower.
3. The complexity and lack of tangibility of purchasing renewable energy through GreenPower. Corporations signing PPAs with a new renewable energy development project can claim that not only are they operating on 100% renewable energy, but also that they helped finance a specific solar or wind farm. This is a much more tangible claim and often provides a positive local community investment message for a corporation to provide to their customers. Adding GreenPower accreditation to these tangible claims is possible, but this adds another level of complexity to an already difficult-to-navigate process and is often considered not worth pursuing.

Corporations are often electing to bundle their power with LGC purchases through their PPA, increasing their future price certainty. Several stakeholders suggested that corporations have been opting for PPAs over GreenPower for the last 3-4 years. Some also suggested that the window for GreenPower to address this market and provide an option for consumers to sign PPAs through the GreenPower Program has now passed.

GreenPower has still held value in certain sectors of the large commercial market. For example, there has been significant value in the property sector for retailers trying to improve their NABERS rating. However, this value is declining, as NABERS is moving away from its current two ratings system (NABERS ratings with and without GreenPower) and

expanding to include other voluntary renewable purchase methods on par with GreenPower [16]. NABERS customers have historically accounted for a sizeable portion of GreenPower's commercial customers, so it is important to consider what the future value of GreenPower will be for these customers if it is no longer a means of improving their building's NABERS rating.

Part of the GreenPower value proposition that is still strong today is the credibility the Program can provide to renewable energy and emissions reduction claims. This was one of the most consistent comments from stakeholders on both the supply and demand side. With increasing "greenwashing" in the market, certification of renewable energy and auditing of consumer claims is extremely important. This is currently the strongest part of the GreenPower value proposition and something that must be maintained should the Program structure and function change significantly moving forward.

Residential and small commercial customers are facing increasing "greenwashing"

For residential and small commercial consumers, GreenPower's value proposition is in providing an option for voluntary renewable energy purchase for those unable or unwilling to invest in their own onsite generation (e.g. rooftop solar). Previously, when GreenPower was the only option for consumers seeking "green energy" this value proposition was relatively strong. However, the voluntary market for small consumers has now expanded to include an alternative, cheaper option: "carbon neutral" energy. Retailers are increasingly offering these products to customers with the claim that this will effectively neutralise all carbon emissions from their electricity consumption. Table 1 below provides some examples of retailers that are offering "carbon neutral" products (in addition to GreenPower products) for little-to-no additional cost.

Table 1: carbon neutral products offered by retailers who also offer GreenPower products

GreenPower Provider	Carbon neutral product(s) offered	Price
AGL [17]	Consumers can purchase “carbon neutral” electricity which is certified by Climate Active achieved through purchasing offsets.	\$1 (GST incl.) a week
Energy Australia [18]	Consumers can opt-in to Go Neutral where Energy Australia will purchase carbon offsets (only offsets that are eligible under Climate Active are purchased) to the value of the consumer’s emissions.	No additional cost
Infigen Energy Markets [19]	Consumers can purchase carbon offsets through Infigen.	Varied
Nectr [20]	Consumers can purchase 100% “carbon neutral” electricity that has been certified through Climate Active.	22% less than the reference price (GreenPower is 3% less than the reference price)
Powershop Australia [21]	Consumers can purchase 100% “carbon neutral” electricity certified by Climate Active.	25.3% less than the reference price (no additional fee)

As illustrated above, a majority of the “carbon neutral” products offered are certified by Climate Active. Through Climate Active, products can be certified “carbon neutral” by purchasing eligible carbon offset units. The practice of neutralising emissions using purchased carbon offset units has been increasingly called into question. This is predominantly due to the various quality and governance challenges, such as additionality, permanence, double-counting and measurement and verification complexities. The commonly recognised offset units eligible under Climate Active do not inherently guarantee additionality or permanence of the emissions benefit of the underlying project. In addition, the low price of most current offset offerings calls their quality into question. The average price of offsets in 2019 ranged from USD1.4 to USD4.3. [22] Retailers who offer Climate Active certified “carbon neutral” products are likely purchasing low cost, non-additional offset units. This allows retailers to offer these products for little or no additional cost, while GreenPower is significantly more expensive. Another key issue with offsets is that the emissions benefit is often not proportional to the impact of the emission that has been released. If an offset unit is to neutralise an

emission from an atmospheric perspective – i.e. neutralise the global heating effect – it must be like-for-like with the atmospheric life of the emission being offset. According to the Science Based Targets Initiative (SBTi), purchasing carbon offsets for scope 2 emissions, such as those eligible under Climate Active, is not considered best practice. Best practice involves purchasing renewable energy offsets, instead of carbon offsets created through emissions reduction or removal activities [23].

GreenPower should lead in this policy space

This is a policy space that GreenPower should look to show strong leadership in. Differentiation between carbon neutral products and LGCs for scope 2 emissions should not be left up to retailers and consumers. GreenPower could better support global best practice on neutralising scope 2 emissions using renewable energy offset units by implementing higher standards for eligible LGCs that can be used under the GreenPower Program, e.g. vintage restrictions.

GreenPower should position itself as the premium product. A product that allows the consumer to not only offset their consumption, but to do so by paying for new renewable energy to be added to the grid on their behalf, investing in the future. However, for GreenPower to confidently claim its position as the premium voluntary renewable energy product and justify its higher price, it is important for the product to truly deliver on this claim. Efforts should be made to ensure the overall Program objective is being met, by addressing additionality concerns - ensuring GreenPower sales continue to drive new renewable generation.

Key takeaways

- **GreenPower should take a strong stand against “greenwashing” and “carbon neutral” electricity, and advocate best practice like-for-like offsetting.**
- **GreenPower should position itself in the market as the premium, credible renewable energy product.**

Some consumer segments face accessibility challenges

SMEs are not being catered to in the voluntary renewable market

Feedback from several stakeholders suggested that SMEs are a customer segment that are not currently being catered to in the voluntary renewable market. Due to their size, SMEs do not have the individual buying power required to execute a PPA. On the other hand, their consumption is large enough that attempting to purchase a standard 100% GreenPower product is extremely expensive. SMEs represent a consumer group that will have an increasing need over the next decade to account for their carbon emissions as global supply chains progress towards net zero. Voluntary renewable energy purchases are the best way for these organisations to account for their scope 2 emissions, hence

increasing accessibility to GreenPower Products for this customer segment will be beneficial. The current GreenPower Product offerings may not be sufficient.

The primary distribution channel for GreenPower is through energy providers. Most consumers wishing to make a voluntary renewable energy purchase, do so through a retailer. There are opportunities to expand distribution channels beyond retailers, to increase the accessibility of GreenPower to a broader range of consumers. These options include:

- **Corporations as aggregators** - e.g. a corporation purchasing LGCs on behalf of their employees and suppliers when they do their own procurement.
- **Tenants’ associations and local councils** - working with these groups to broaden distribution and promotional channels to better access residential consumers.

This is certainly something GreenPower should consider as the current single distribution channel has limited the ability of the Program to react to an evolving renewable energy market.

What is driving the high cost of GreenPower?

Stakeholders suggest that the high GreenPower cost is a significant barrier to uptake

As evident in Table 2 below, the cost of GreenPower to consumers varies by GreenPower Provider. GreenPower is an additional cost to the base price paid for electricity. Many GreenPower Providers also offer competing “carbon neutral” products. Some providers, such as Energy Australia, have a default product which is marketed as “carbon neutral”. The environmental benefit advertised is offered at no additional cost.

Table 2: cost of GreenPower to consumer, by GreenPower Provider

GreenPower Provider (2020 Market Share Residential) [24]	Default offering	Residential GreenPower Accredited Products	Price
Origin Energy [25] (27.5%)	72.56c - 88.49c per day plus 11.16c - 27.44c/kWh	Origin Green Earth 25%	additional 65c per week
		Origin Green Earth 50%	additional 1.4c/kWh
		Origin Green Earth 100%	additional 2.8c/kWh
AGL [17] (21.3%)	81.95c – 82.95c per day	Green Energy 10%	additional \$1.10 per week
		Green Energy 20%	additional \$1.80 per week

GreenPower Provider (2020 Market Share Residential) [24]	Default offering	Residential GreenPower Accredited Products	Price
	Plus 21.6 – 24.24c/kWh	Green Energy 100%	additional 5.5c/kWh
Energy Australia [26] (15.6%)	72c – 88c per day Plus 24.2c – 27.5c/kWh*	PureEnergy 10%	additional 4.95c x (10% of total usage)
		PureEnergy 20%	additional 4.95c x (20% of total usage)
		PureEnergy 100%	additional 4.95c x (100% of total usage)
Ergon Energy [27] (9.5%)	97c per day plus 21.76c/kWh	10%	additional 11c per day
		25%	additional 28c per day
		50%	additional 55c per day
		75%	additional 83c per day
		100%	additional \$1.11 per day
Red Energy [28] (4.7%)	\$1.32 per day plus 24.62c – 24.95c/kWh	100% GreenPower	additional 5.83c/kWh
Aurora Energy [29] (3.7%)	88.43c – 98.23c per day plus 13.9c – 29.85c/kWh	Aurora Green 10%	additional 0.6c/kWh
		Aurora Green 25%	additional 1.21c/kWh
		Aurora Green 50%	additional 3.01c/kWh
		Aurora Green 75%	additional 4.51c/kWh
		Aurora Green 100%	additional 6.02c/kWh
ActewAGL [30] (2.6%)	\$1.27 per day plus 23.54c/kWh	Greenchoice 10%	additional 5.5c/kWh
		Greenchoice 25%	

GreenPower Provider (2020 Market Share Residential) [24]	Default offering	Residential GreenPower Accredited Products	Price
		Greenchoice 50%	
		Greenchoice 100%	
		Greenchoice 200%	

**a "carbon neutral" product is the default product (provided at no additional cost)*

These prices are significantly higher than the price of buying non-GreenPower LGCs from the market. One retailer quoted a 20c premium per LGC for their GreenPower Product to cover the associated Program fees, which may be insignificant for residential customers with relatively low energy consumption but will be more significant for a larger consumer. Larger and more sophisticated customers that are looking to purchase LGCs to make renewable energy claims are often not willing to pay this premium simply for the use of the GreenPower logo. GreenPower LGC purchases also do not provide the specificity required to be able to link a purchase with individual GreenPower Generators, as providers wish to protect their internal LGC transfers and contracts.

GreenPower Connect and **GreenPower Corporate Direct** (new GreenPower Products) provide opportunities for consumers (or retailers acting on their behalf) to negotiate market rates for PPAs for yet-to-be-built renewable energy projects (Connect), or projects of any vintage (Corporate Direct). The only additional cost is a fixed fee of \$5,000 for GreenPower Connect or between \$5,000 and \$15,000 for Corporate Direct. In theory, this allows GreenPower to provide a more cost competitive option for larger consumers with enough buying power to execute a PPA. However, SMEs and residential consumers do not have the same buying power. As such, are currently unable to help fund new renewable projects at the more market-comparable rate provided by GreenPower Connect.

Volatile LGC prices and uncertain consumption are driving the high GreenPower cost

Based on the large GreenPower price variation between different retailers, it is unlikely that premiums are solely covering administrative fees. Based on feedback from stakeholders it seems there are two main cost drivers for GreenPower Providers:

- **The volatility in the LGC price** – Figure 5 shows the instability in the monthly LGC spot price over a 10-year period and its vulnerability to external policy decisions. The

forward price for LGCs is projected to continue to decline as the RET is achieved and any further growth in the LGC market becomes solely dependent on voluntary activity.

- **The uncertainty and unpredictability of consumer consumption** - due to the voluntary nature of GreenPower purchases, there is a risk of customers opting out of GreenPower at any time, as their individual financial circumstances change. This risk is difficult to control for, particularly for smaller retailers with fewer customers.

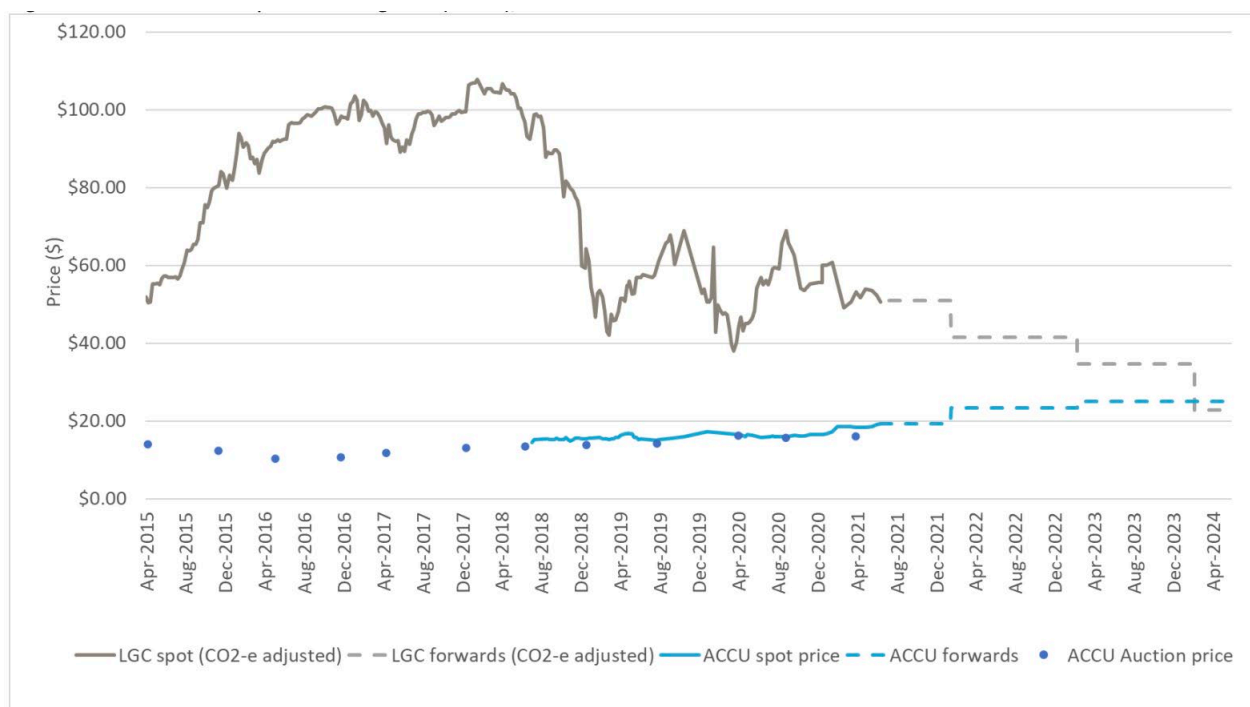


Figure 5: Average LGC spot prices (including forward price projection [31])

Larger energy retailers with larger customer numbers can better manage these two cost drivers. They have long standing PPAs in place with Generators and large LGC portfolios to draw from for GreenPower surrenders. The risk is considerably more difficult to manage for smaller retailers. This is evident in the GreenPower prices (displayed in Table 2), where Origin Energy (which has the largest number of GreenPower customers⁶) is offering GreenPower Products at significantly cheaper rates than other Providers.

The significance of a high price premium is that it becomes increasingly difficult to sell GreenPower to consumers who perceive there to be little value in the offering. Large corporates have moved away from GreenPower as paying extra for the GreenPower logo is no longer worthwhile.

Historically, there was a point in time when the price of GreenPower was still high, but the Program had significantly higher demand. This was because the perceived value proposition was much higher, there was a strong channel partnership with NABERS that was driving demand in the property sector, and there were fewer alternative solutions for

⁶ GreenPower, "Audit Report Data"

voluntary renewable energy purchases. This has declined over the past 5-10 years as the Program has struggled to keep pace with the market.

The additionality of GreenPower is declining

A growing LGC surplus means that most LGC surrenders are no longer additional

GreenPower's overall mission is to drive new renewable energy generation. The Program was developed at a time when the RET had just been introduced and energy retailers were having to sign PPAs with new renewable generators to satisfy their mandatory obligations. In the early years of the program, there was a structural undersupply of LGCs, i.e. demand (both RET and voluntary) exceeded supply. In the context of structural undersupply, LGCs are a good mechanism for driving new renewable generator development. However, now that the RET has been achieved and there is no new incremental mandatory target out to 2030, there is a growing surplus of LGCs, beyond mandatory and voluntary demand (surplus of 6 million LGCs at the end of 2020) [31]. This means that buying and surrendering LGCs from the spot market (including GreenPower LGCs) will likely not drive new renewable generation, it will just account for a small portion of the LGC surplus.

Under the current Program rules, we found that GreenPower demand would need to increase more than 780% on 2020 sales to account for the current LGC surplus and ensure that future GreenPower LGCs are being generated in the present calendar year. However, this could still include recent generation from a generator built anytime since 1997, which in no way drives investment in new development.

Despite recent, significant increases in voluntary demand for LGCs, it is likely that the surplus will continue to hold as renewable generation continues to be added to the grid and the RET remains fixed out to 2030. Without a new, and increased, mandatory renewable energy target, LGC spot prices are expected to continue to soften [31].

All generators and developers interviewed for this review agreed that continuing to buy unrestricted LGCs from the market will no longer help to build new renewable capacity. The best way to drive new renewable generation, moving forward, is to help provide financial certainty for new projects. The main barriers for new projects reaching financial close are the uncertainty created by the volatile LGC market and the increasing occurrences of negative wholesale prices. The false expectation that coal has a longer future than it really does is also increasing uncertainty in financial models.

Key takeaways

- **The GreenPower Program must address additionality to improve the value proposition and continue to deliver on the ultimate Program mission – driving investment in new renewable generation. The focus should be on helping projects reach financial close.**
- **Channelling investment towards new projects to provide greater financial certainty should be the priority for GreenPower moving forward.**

Challenges of the GreenPower governance structure

Limited stakeholder engagement with developers and investors

Feedback during this review suggested that the Program engages much more with stakeholders on the demand side than it does on the supply side. There were several suggestions that the lack of engagement with renewable energy developers and investors has led to the Program becoming increasingly detached from the market. Upon review, the list of current members of the stakeholder advisory group does seem to lack supply-side stakeholders. Members currently serving on the advisory group include representatives from three associations, two retailers (GreenPower Providers), an environmental NGO, and two large energy customers.

Challenges regarding the independence and timeliness of decision-making

Feedback was also provided suggesting that retailers currently have too much influence over the program. There was an implication that there needed to be greater independence with respect to decision-making. There were also suggestions that the Program decision-making by the National GreenPower Steering Group (NGPSG) was too slow. Essentially, the current governance structure doesn't seem to effectively support timely delivery of progress and solutions. This creates an additional challenge for the Program as it attempts to keep pace with a rapidly changing policy and market landscape.

Relevance of GreenPower beyond 2030

Renewable energy certificates are likely to continue in some form

The GreenPower Program relies on LGCs, and as such the Program is closely coupled with the RET. The RET has now been achieved and there is no increase in target out to 2030 (when the scheme is due to close). As a result of this, there is considerable uncertainty about the future of LGCs, and by association, the future of the GreenPower Program.

While LGCs in their current form will no longer exist post-2030, it is likely there will continue to be some form of renewable energy certificate (REC). In the Hydrogen Guarantee of Origin Discussion Paper released in June 2021 [9], the Australian Government has proposed that LGCs be replaced in 2030 by renewable Guarantee of Origin (GO) certificates. They have proposed that these certificates will apply for every MWh of renewable generation, including below-baseline generation, which is currently

excluded under the RET. There will be no differentiation between below-baseline, RET era and post-RET era certificates. Including below-baseline generation in the scheme will only increase the current certificate surplus. If GreenPower adopts the new certificate scheme, with no additional restrictions or Program changes, then it will be even more challenging for the Program to deliver on its ultimate objective of driving new renewable generation.

Consumers are seeking a Program that aligns with best practice emissions reporting frameworks

The other recommendation offered by the Hydrogen Guarantee of Origin Discussion Paper [9] is the broad adoption of the GHG Protocol's best-practice dual-reporting framework for scope 2 emissions [7]. This would require entities to report their emissions using both *market-based* and *location-based* accounting methodologies. Climate Active has already aligned with this reporting framework [34], but GreenPower is yet to follow suit. This has meant that consumers must purchase GreenPower for 100% of their annual electricity consumption, regardless of the renewable power percentage (RPP) – exceeding the requirements of standard reporting frameworks. The consistent message from stakeholders was that aligning with the best practice reporting framework should be a priority for GreenPower.

The principle behind the market-based accounting method is that it allows for renewable energy certificate purchases and surrenders to be used to reduce scope 2 emissions without the need for physical co-location or direct connection between the renewable energy generator and the entity claiming the emissions reduction. It also ensures that renewable energy claims cannot be double counted.

Some consumers are embracing the trend beyond net zero - towards "absolute zero" electricity

The 24/7 Carbon-Free Energy Compact is an organisation launched by Google in 2021, working in partnership with the United Nations on a collective mission to transform energy grids globally to "absolute zero" carbon [35]. The movement has 53 signatories from companies, organisations, and governments all over the world, and is growing rapidly. Google launched this movement after analysing its energy consumption over much shorter time periods (hourly instead of annually) and realising that its true renewable percentage was much lower than the 100% they had claimed based on direct purchases for annual consumption from 20 renewable energy projects globally [36]. The reason for this, is the inconsistent nature of generation from renewables such as wind and solar throughout the day.

The Google Energy Journey

Google has been on a journey of increasing its climate ambition since 2007 when it reached its initial goal of carbon neutrality through the purchase of carbon offsets. In 2017, the company reached its 100% renewable energy goal by matching its annual electricity use with solar and wind purchases. Now, the new goal for Google is to entirely eliminate its operational electricity emissions through hourly load matching by 2030 [36].

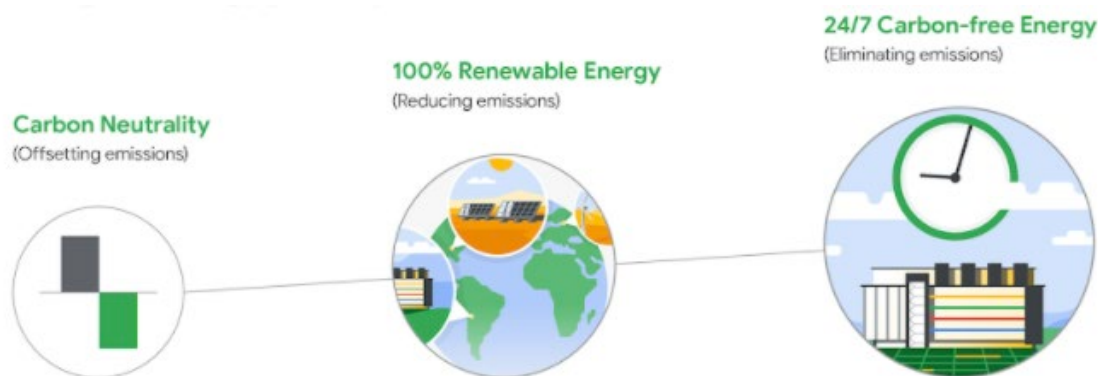


Figure 6: The Google energy journey [36]

Technological advances are enabling the realisation of 24/7 carbon free energy through the development of clean energy traceability platforms – tracing energy from generation to consumption. There are several companies in Australia that have developed these platforms and are partnering with energy retailers to allow businesses and households access to carbon free energy.

What would load-matching mean for additionality?

In an Australian setting, additionality is no longer being achieved through regular LGC purchases because the supply of renewables has exceeded mandatory and voluntary demand. The introduction of load-matching could solve half of the additionality challenge, in that hourly load-matching would remove the LGC surplus from the equation (provided LGCs are being purchased and surrendered alongside electricity). However, load-matching would need to occur at scale, becoming the voluntary market standard, if it were to have any long-term impact on LGC price and consequently be able to drive investment in new development. For now, the most effective means of ensuring your renewable energy purchase is additional is to contribute to a new project that is trying to achieve financial close.

That's not to say the efforts of consumers wanting to commit to 24/7 carbon free energy aren't extremely valuable. Load-matched data allows a consumer to adjust their consumption patterns to maximise daytime use (for solar generation) and minimise use during peak times, decreasing costs and contributing to grid stability. However, from an additionality perspective, a consumer could be purchasing 100% of their load-matched renewable energy from generators that have been running for 20 years – doing nothing

to accelerate new development. Best case scenario would be a consumer signing a load-matched PPA with a yet-to-be built renewable generator. In practice, this would likely only be possible if a retailer (partnered with a company offering a traceability platform) aggregated consumer interest to execute PPAs with a diverse portfolio of newly developed renewable assets (mix of wind, solar, different locations etc.). Essentially managing generation and consumption uncertainties across a portfolio of consumers and generators. Depending on the size of the retailer and the number of customers, this may need to be a mix of new and existing generators. Hence a portion, not all, of a consumer's renewable purchase would be delivering additionality.

Aside from additionality, traceability platforms offer other benefits such as prohibiting double counting – electricity can be time-stamped and traced from the point of generation to consumption. However, these platforms would need to integrate with the Clean Energy Regulator (CER) registry in Australia for this to extend to LGCs. They can also generate lots of critical time-stamped consumption data that will be invaluable from an energy security perspective during the grid transition.

With an ultimate mission of driving new investment in renewables and decreasing greenhouse gas emissions from the generation of electricity, GreenPower should be looking to support all these new technologies, while still rewarding consumer best practice of investing in new development projects.

Key takeaways

- **While renewable energy certificates will likely still exist beyond 2030, GreenPower needs to introduce restrictions on which certificates can be used in the Program to continue to deliver on its mission.**
- **GreenPower should adopt the GHG Protocol's best-practice dual-reporting framework for scope 2 emissions.**
- **GreenPower should consider how they can support energy traceability / load-matching platforms and the "absolute zero" movement in the Program moving forward, while maintaining the existing focus on driving investment in new renewables development projects.**

1.4. Conclusion (summary of review findings)

Additionality must be addressed to increase the value proposition of GreenPower

Many consumers have lost faith in GreenPower due to a lack of perceived benefit. As such, many are unwilling to pay the high premium on top of their energy bill. The growing LGC surplus is making it increasingly challenging for the Program (in its current form) to deliver on its mission. Options to improve the Program must address additionality, to help increase the value proposition for consumers and ensure the Program continues to drive investment in new renewables.

Actions must be taken to drive demand for GreenPower

If the Program architecture is amended to ensure additionality, then GreenPower should also focus on driving consumer demand. Broadening distribution channels, increasing marketing spend and activities, and engaging independent industry and community bodies to partner in promotion of the Program should all be considered to help increase demand for a reformed Program / products.

The governance structure should be improved to increase operational efficiency

There are several challenges with GreenPower's current governance structure. The members of the stakeholder advisory group should be reviewed to ensure better representation of supply-side stakeholders, particularly developers and investors. For a Program with a focus on driving investment in new renewables, these types of stakeholders are especially important. The independence and timeliness of the National GreenPower Steering Group's decision making should also be reviewed. Regardless of how the structure and function of the GreenPower Program changes to improve additionality and increase demand, these governance challenges must also be addressed to ensure future success.

2 Program Review

Recommendations

Based on the summary of review findings presented in Section 1, this section provides a summary of recommended policy options for the future of the GreenPower Program. Policy options 2-6 are complementary.

- **Option 1: Staged closure of the GreenPower Program** – carefully managed closure of the GreenPower Program.
- **Option 2: Align with scope 2 accounting frameworks** – recognise the renewable power percentage (RPP) so that consumers no longer need to purchase GreenPower for 100% of their annual consumption and align with Climate Active and the GHG Protocol's 3-year vintage on LGCs.
- **Option 3: Introduce a new baseline year for GreenPower Generators** – introduce a new baseline year for generator eligibility, starting at 2019 and transitioning to a rolling baseline (3-year vintage), i.e. generators built post 2019. This would marginally improve the additionality of the Program.
- **Option 4: Project-linked renewable energy contracts** – transition away from existing GreenPower Accredited and Corporate Direct Products. GreenPower only accredits contracts with renewable generators that are yet to reach financial close (either for a single buyer or buyers' group). This would seek to significantly improve the additionality of purchases and clarify communication to customers, by creating a public database of new projects built with the support of certified contracts.
- **Option 5: Retailer renewable star rating system** – GreenPower develops a framework to benchmark and communicate the relative renewable energy performance of energy retailers. This would empower consumers to make informed decisions when choosing a retailer and energy plan.
- **Option 6: Scope 2 emissions fund** – Establish a scope 2 emissions fund committed to driving investment in renewable energy development. Facilitates the pooling of renewable energy spending by public and private organisations, and individuals, to fund reverse auctions for new renewable energy generation capacity.

If the decision is made to continue the Program, then the following actions to increase demand should also be considered:

- Action 1: Strengthen branding and marketing
- Action 2: Broaden GreenPower distribution channels

- Action 3: Implement a partner promotion strategy

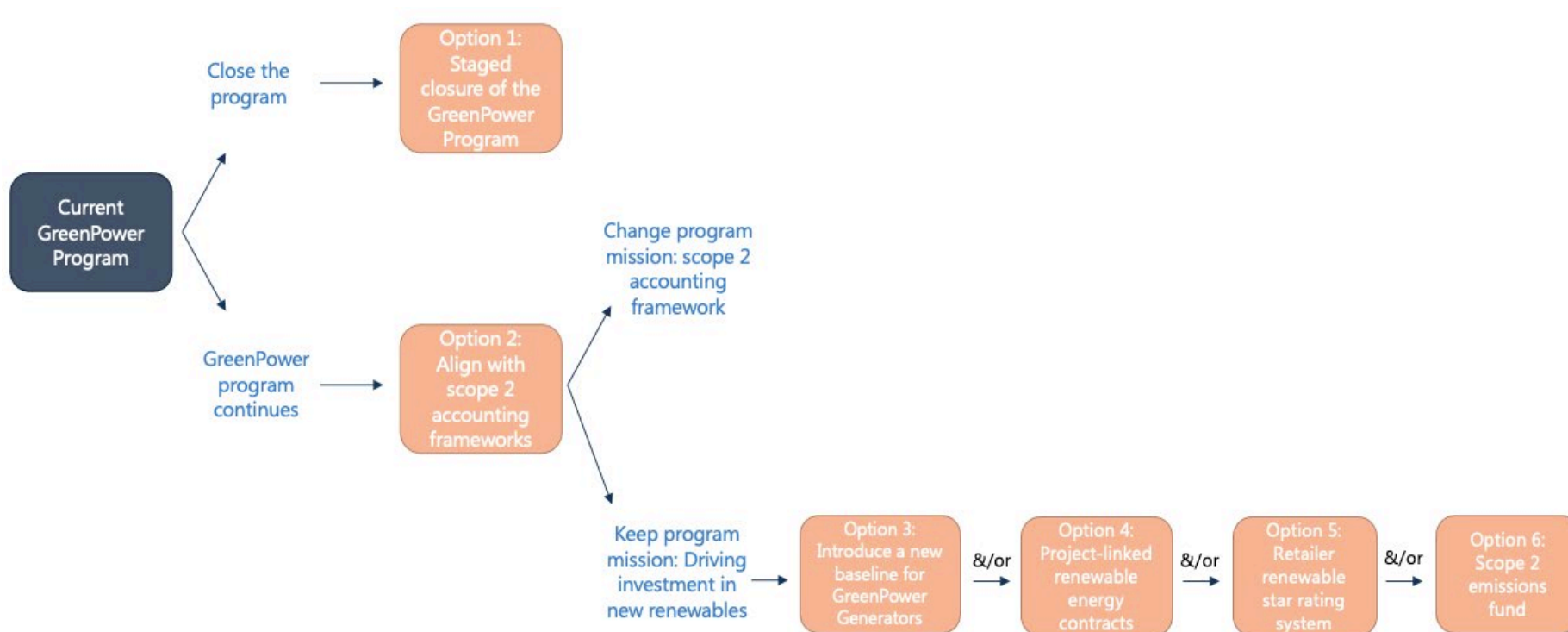
Finally, several recommendations are made for improving the GreenPower governance structure. These include:

- Action 4: Elevating the focus of the national steering group
- Action 5: Revising stakeholder involvement
- Action 6: Better aligning administrator functions

2.1. Proposed future Program decision and options map

The diagram below maps out a proposed decision process and subsequent policy options for GreenPower to consider. Firstly, a decision must be made as to whether to continue the operation of the Program. If the Program is to continue, then a second decision must be made as to what the appropriate ongoing Program mission is: either retaining the current mission to drive investment in new renewable energy or adapting the mission to focus on accreditation of scope 2 emissions reporting. If the Program continues with its current mission, then several complementary policy options are presented on a scale of increasing additionality and implementation complexity.

Figure 7: Proposed future Program decision and options map



2.2. Closing the GreenPower Program

Policy option 1: Staged closure of the GreenPower Program

This option would involve the carefully managed closure of the GreenPower Program to coincide with the end of a compliance period, when appropriate.

Overwhelmingly, the feedback provided for this review suggests that if GreenPower continues without any change to the Program, then the value proposition for consumers will continue to decrease, resulting in an ongoing decline in demand. Most stakeholders suggested that closing the Program would be preferable to continuing with the current model.

While accelerated closure of the Program may be preferable to continuing with business as usual, this would be a missed opportunity to reform the Program to advance renewable energy policy action to meet the GreenPower jurisdictions' policy ambition. Without the GreenPower Program there is also no means for households and SMEs (that can't generate onsite) to credibly purchase renewable energy. Many stakeholders expressed the importance of providing credibility through government accreditation in a market where "greenwashing" is increasing.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Avoid making unnecessary changes to improve the Program • Mitigate the risk of an unmanaged project shutdown whereby increasing fees leads to further decline in customer base. 	<ul style="list-style-type: none"> • Will not deliver policy objectives <ul style="list-style-type: none"> ○ Removes access to the voluntary renewable energy market for residential and small business consumers ○ No means of government certified renewable energy claims • Potential replacement renewable energy products from market actors (retailers, Australian Government, NGOs) may not achieve the same benefits <ul style="list-style-type: none"> ○ Replacement products are unlikely to be best practice, e.g. existing carbon neutral energy products.

2.3. Changing the Program mission to focus on scope 2 accounting

If the decision is made to continue with the GreenPower Program, then significant changes will be required. As established in Section 1, the Program is no longer delivering on its mission to drive investment in new renewable generation. Changing the mission to focus on scope 2 accounting certification, rather than additionality, has been explored during this project.

It is our strong recommendation that the mission remains as is, to ensure the Program continues to support important policy goals. Several internationally accepted reporting frameworks already exist for corporations to account for their scope 2 emissions. There is seemingly no policy argument for GreenPower to be solely focused on corporate scope 2 emissions accounting.

However, the Program can still take steps to better align with existing scope 2 accounting frameworks while maintaining its current mission. As shown in Figure 7, policy option 2 (described below) can be implemented in the short-term while further decisions on policy direction of the Program are being considered.

Policy Option 2: Align with scope 2 accounting frameworks

GreenPower could take the following two steps in the short-term to align with scope 2 emissions accounting frameworks:

- a) Recognise the renewable power percentage (RPP) to allow consumers to meet accreditation by subtracting the RPP from their annual consumption and purchasing GreenPower for that amount rather than 100%.
- b) Introduce a three-year vintage on eligible GreenPower LGCs to align with Climate Active and the GHG Protocol.

Climate Active's current requirement is that LGCs have an issuance date of less than 36 months from the end of the reporting year in which the emissions reductions are being claimed [34]. Tightening the GreenPower LGC eligibility criteria essentially helps to remove the least additional LGCs from the current surplus. However, introducing the vintage restriction on the LGCs alone would mean that recently generated LGCs from any generator built after the 1997 baseline would still qualify under GreenPower. Hence additionality would still be very low and further Program changes would be required if driving investment in new renewables remains the mission.

Advantages

- Relatively simple Program changes from an administrative perspective
- Easy to implement and complementary with other options – can be done the short-term while other options are being considered
- Recognising the RPP may help to increase demand from commercial customers

Disadvantages

- Changing the Program mission does not support the policy goals of participating jurisdictions
- Weak improvement in value proposition of GreenPower, as additionality is still very low (not directly driving new generation)
- Minor increase in administrative complexity for GreenPower Administrator during audit – ensuring compliance with LGC criteria
- Minor increase in administrative complexity for retailers – ensuring GreenPower LGCs comply with the criteria.

2.4. Retaining the current Program mission and improving additionality

If the decision is made to retain the current Program mission, then further options must be considered to improve the additionality of the Program. Four complementary policy options are described below which can be implemented in addition to policy option 2 – alignment with scope 2 emissions accounting frameworks.

Policy Option 3: Introduce a new baseline for GreenPower Generators

In addition to the 3-year vintage on LGCs, a new baseline for GreenPower Generators could also be introduced. This would mean supplementing the current 1997 baseline requirement with a new year. For example, a 2019 baseline could be introduced to align with the 3-year LGC vintage, removing a significant number of older generators from the Program. This may force some Providers to purchase LGCs from newer generators, meaning they may not be able to rely on LGCs in their existing portfolios. This may result in some energy Providers deciding to leave the Program and focus on their other “green energy” offerings.

For this option to have any long-term impact on additionality, the generator vintage requirement would need to be a rolling baseline, e.g. calendar year minus 3. While this would restrict access to the least additional LGCs in the current LGC surplus, it should be noted that this may still not drive additional generation.

Advantages

- Relatively simple Program change from an administrative perspective
- Marginal improvement in additionality
- Easy to implement and complementary with other options – can be done the short-term while other options are being considered

Disadvantages

- Likely to increase the price of GreenPower LGCs and hence further decrease demand
- Weak improvement in value proposition of GreenPower, as additionality is still relatively low (not directly driving new generation)
- Weak incentive for new generators as LGC price volatility has led developers to discount LGC value when financing new projects
- Significant reduction in Program funding with respect to generator fees
- Some Providers may leave the Program as they can no longer use their existing LGCs for GreenPower surrenders

Policy Option 4: Project-linked renewable energy contracts

This option is most similar in design to the current GreenPower Connect Product and would ensure the Program continues to drive new renewable generation. This option could be implemented in two ways:

- a) GreenPower's role is to accredit renewable energy contracts with new and not-yet-built renewable generators. Ideally, before the project reaches financial close to ensure high additionality.
- b) GreenPower accredits aggregators to combine GreenPower sales from smaller consumers and enter into renewable energy contracts for new development projects. Aggregators could include energy providers, wholesale market participants (e.g. Renewable Energy Hub), local councils, traders, and corporations (e.g. banks, supermarkets and property developers).

These contracts can vary in scale from small community renewables projects to large scale wind and solar. They could either be bundled with power, or LGC only, depending on consumer needs. They could also be load-matched consumption contracts if accessible through the retailer.

This option takes the high additionality of GreenPower Connect and expands access to this offering to the residential and SME market through aggregated buying power. In

doing so it helps address two key challenges with the value proposition of the current core GreenPower offering discussed in Section 1.

First, **it significantly improves the additionality of GreenPower** – by more directly linking accredited purchases with the program mission of increasing new renewable energy generation. Additionality will not be perfect, as large volumes of new renewables are forecast to be built regardless of voluntary LGC surrenders – with or without GreenPower. However, a framework that requires GreenPower accreditation of new projects, linked to customer consumption (through customer or retailer PPAs), is less likely to be adopted by projects that do not need it to reach financial close.

The second key challenge it addresses is **the clarity of customer communication around what GreenPower accredited products actually deliver**. In interviews, GreenPower retailers observed it is challenging to explain the concept of LGC purchases to customers and help them understand the nature of the product they are buying. Stakeholders noted that messaging would be simpler, more tangible and more compelling if they would point to a registry of new renewables projects that had been built as a result of GreenPower purchases.

This product would be materially different from other “green” offset products being offered in the market – e.g. carbon neutral energy. With clear messaging, consumers should be able to make the distinction between genuine additional offsite renewable energy and carbon offset electricity. As such, the development of this option would benefit from direct customer research and a potential rename and rebrand, as discussed in Section 2.1.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Ensures GreenPower continues to achieve its overall mission of driving new renewable generation • Increased value proposition for consumers (project-linked / tangible and delivers greater outcomes) • (Option b) opens up GreenPower Connect to smaller customers, e.g., SMEs, residential consumers, employers etc. • May be cheaper for small customers currently purchasing GreenPower Accredited on top of their energy bill, if retailers are able to negotiate bundled energy and LGC contracts on their behalf. 	<ul style="list-style-type: none"> • (Option a) administratively intensive for the GreenPower Program Manager – accrediting one contract at a time • (Option a) is only available to larger customers • Potential implications for current Program revenue – would require a transition period to maintain existing customer base. • Will require extensive marketing activity to drive demand. There has been minimal interest in GreenPower Connect to date – although seemingly limited consumer awareness and the product is not currently accessible to the residential and SME markets

Advantages

- Flexible product to accommodate consumer needs – load-matching, bundled power, LGC only
- Fits with existing certification frameworks (e.g. RE100, SBTi etc.)

Disadvantages

Policy Option 5: Retailer renewable energy rating

This option represents a shift in the Program’s focus from electricity products to electricity retailers. The Program would develop a framework to measure, benchmark and communicate the relative renewable energy performance of energy retailers at the level of their entire acquisition portfolio (wholesale hedging contracts).

For consumers, it complements Options 2, 3, 4 and 6 by supporting consumer choice to purchase their GreenPower and/or non-green power from the “greenest” retailers. For renewable generators it provides indirect support, facilitating an increase in retailer demand for wholesale hedging contracts with renewable rather than fossil fuel generators.

From a consumer perspective, a key challenge with Option 3, is that there is an important, but finite, market of customers who are prepared to pay a premium for highly additional renewable energy. However, there is a much higher share of more price sensitive customers [37] who report to want the “greenest” energy they can get without paying significantly more. The current proliferation of “carbon neutral” products and “renewable owned” retailer marketing is catering to these customers. Consumers lack an objective framework to compare like-with-like when choosing between these disparate marketing claims. They are unable to understand how these products interact with retailer’s broader investment behaviour.

This option is consistent with the commitment made under the NSW Net Zero Plan, to enable customers to easily compare energy retailers based on their emissions performance [38]. The NSW Government is currently consulting on a range of options to meet this need [39]. However, GreenPower may be well positioned to implement a similar solution at a national level.

The framework would include (but would not necessarily be limited to) a comparison of retailers’ renewable energy contracts as a percentage of its total wholesale hedging portfolio. For customers wanting to buy the “greenest” energy they can, without having to pay a premium for a highly additional project-linked renewable energy product, then

this benchmarking would help them to differentiate between retailers based on emissions intensity and renewable procurement.

The program logic for this option is similar to that of the NABERS program for building energy efficiency. By providing a simple, objective, and credible framework for customers to choose between otherwise equivalent products, it allows competition based on relative environmental performance. Over time, as the market improves, the benchmarks are adjusted to reflect the current range of best and worst practices.

Benchmarking would thus provide an indirect incentive for retailers to invest in new renewables by making renewable wholesale hedging contracts a competitive factor in the market. These contracts could be wholesale power only or include the purchase and surrender of LGCs. Alternatively, benchmarking could be done at a product level rather than retailer level. However, benchmarking products would increase administrative intensity and potentially have less impact as it would restrict the customer base to those willing to pay extra to purchase a renewable energy product.

Benchmarking retailers would empower the entire consumer market to make informed choices on their retailer and energy plans. Allowing them to compare retailers based on their investment in renewables and divestment from coal. The effectiveness of this option is a low cost and highly accessible pathway for consumers to provide additional indirect incentives for renewables investment. It recognises that LGCs are only one of three main revenue streams for renewable generators. More important to the business case of renewable generation is anticipated revenue from the NEM spot market, and from bilateral wholesale contracts (PPA, CFDs, etc). Ratings can support renewable generation by increasing retailer demand for wholesale hedging contracts, even without corresponding LGC surrender.

Advantages

- Allows consumers to make informed decisions when choosing a retailer and energy plan.
- Would be accessible to all consumer types (corporate, SME, residential)
- Helps tackle retailer greenwashing – e.g. “carbon neutral” energy
- Allows consumers to support renewable generation, including those that are unable to pay a premium for a high additionality product
- Incentivises the retail market to improve their emissions performance by increasing their renewable wholesale portfolio

Disadvantages

- Success will rely on effective re-branding / marketing campaign and strong support from partner industry champions – e.g. Greenpeace, local councils
- Indirect link to additionality – relies on the assumption that retailers will need to sign wholesale contracts with new generators to improve their rating

Advantages

- Incentivises the retail market to accelerate its divestment from coal.
- Flexible – benchmarking criteria could evolve with the market to incorporate investment in other technologies as appropriate (e.g. batteries / storage, traceability platforms etc.)

Disadvantages

Policy Option 6: Scope 2 emissions fund

This option involves the establishment of a large, centralised, NSW Government managed / co-managed scope 2 emissions investment fund committed to driving investment in renewable energy development.

The fund could be structured in a similar way to the NSW Biodiversity Conservation Trust, in which developers can pay into the fund and claim the biodiversity credits that are generated through investment in strategic conservation projects [40]. Many of these are projects that could not occur at a smaller scale.

The fund would operate in a similar way to the recently reformed German Erneuerbare Energien Gesetz (EEG). Under the EEG the German Government holds reverse auctions for long-term capacity contracts with new renewable generators [41]. A scope 2 emissions fund could facilitate the pooling of renewable energy spending by public and private organisations, and individuals, funding reverse auctions for renewable energy generation capacity or signing bundled LGC and power agreements with new projects trying to reach financial close. For example, the Government runs a reverse auction for x GW of renewable energy capacity and developers submit their bids. This would ensure a high level of additionality, which the volatile LGC market is currently unable to provide.

Corporate investors would need to be assured that as part of their financial contribution to the fund, LGCs are surrendered to account for their scope 2 emissions. Government could also consider acting as an anchor customer to the fund, augmenting its own current 6% GreenPower purchases.

Advantages

- High additionality – direct financing of projects that would otherwise not be built
- Would be accessible to both residential and commercial contracts

Disadvantages

- Would need minimum critical mass of funds to cover set up costs
- Would need minimum critical mass of funds to for auctions to attract sufficient bidders

Advantages

Disadvantages

- Could leverage new/existing Government entities that pool demand for other offset/carbon unit types

As stated previously, these policy options are highly complementary and can potentially deliver greater benefits when combined. For example, combining either the scope 2 emissions fund or the project-linked renewable energy contracts options with the retailer benchmarking could provide both direct and indirect financial incentives for the development of additional renewable generation. It would also capture a broader market, providing an option for consumers that aren't willing or able to pay the premium for a highly additional product to still support renewable energy.

A key challenge would be developing clear branding to allow customers to understand and engage with these distinct, but complementary, products. For example, star ratings of retailers showing their progress on their net zero / energy journey and a highly additional project-linked renewable energy retail product (or PPA purchase) certification, linked to a project registry so customers can see what their purchases have helped fund.

Consumer research and a branding strategy is well beyond the scope of this review, but highly recommended for all policy options. See Action 1 in Section 2.5 below.

2.5. Actions to increase demand

Three actions to increase consumer demand for GreenPower are described below. These actions are to be considered if policy options 3, 4 or 5 are pursued. If the Program opts for business as usual, then driving demand for GreenPower will not improve the ability for the Program to deliver on its mission of driving investment in new renewable energy projects.

Action 1: Strengthen branding and marketing

GreenPower should develop a comprehensive brand and marketing strategy to strengthen its position in the renewable energy market and policy space. This would involve taking a stronger stance against carbon neutral offsets being used for scope 2 emissions and clamping down on retailers that promote these products as equal to GreenPower and other genuine renewable energy products. If the Program switches focus and becomes a retailer benchmarking framework, then it will be able to easily address the increasing greenwashing in the market. Alternatively, if a highly additional project-linked

renewable energy product is pursued, then GreenPower should position itself as the only government certified renewable energy product through which credible renewable energy claims can be made.

Based on feedback from retailers and consumers, another part of this brand and marketing strategy should involve providing GreenPower customers with more tangible feedback on their renewable energy purchases. For example, linking a customer's GreenPower purchase to a specific renewable energy generator, where possible. Adopting a project-linked renewable energy product model would increase the practicality of implementing this action. Some form of physical certification could also be considered for GreenPower customers - whether it is a letterbox sticker for residential consumers or a "100% certified renewable energy" certificate for commercial consumers, similar to a NABERS rating certificate.

Action 2: Broaden GreenPower distribution channels

Historically, the sole distribution channel for GreenPower has been through energy retailers. This limits the accessibility of the Program for all types of consumers. For example, larger corporations who wish to directly enter PPAs with generators, without the involvement of an energy retailer. It also limits access for smaller customers without sufficient buying power (SMEs and residential) to the cheaper, yet more additional option of GreenPower Connect. Implementing the project-linked renewable energy product model would increase accessibility. Expanding the current single distribution channel to include non-retailer aggregators e.g. corporates (banks, supermarkets and property developers), wholesale market participants, and traders would help to access a broader market. This would include the possibility of larger corporations buying GreenPower on behalf of their staff, suppliers, and/or customers.

Action 3: Implement a partner promotion strategy

Based on our consultation, it seems the GreenPower Program could benefit from third-party industry champions, similar to those that other successful government programs have e.g. NABERS. Partnering with external organisations, such as local councils, WWF, Greenpeace, NABERS etc. would help GreenPower to strengthen and build confidence in its brand amongst both the industry and consumers. Building a data hub, like the NABERS Sustainable Portfolios Index [42] would help these third-party supporters to target their GreenPower promotional strategies. This would be particularly useful for local councils to help track their progress towards their community-wide net zero commitments.

Greenpeace and local councils would be able to partner with the Program to either promote a new, highly additional project-linked renewable energy product or raise awareness of the emissions performance of different retailers and direct consumers to make informed decisions when choosing a retailer and energy plan.

2.6. Actions to improve Program governance

The structural elements of the Program's current governance are sound. However, there is some room for improvement to better position the Program to respond to future needs. Stakeholder feedback suggests that the current governance structure does not support timely decision-making on significant Program changes. This means the Program is not able to respond to changes in the market in a timely manner. We propose the following three changes to the current GreenPower governance structure.

Action 4: Elevate the focus of the national steering group

Actions to drive new investment in dispatchable renewable energy are central to government policy. Voluntary market action supported by a reformed GreenPower Program could play a central role in broader government climate change policy.

However, the existing governance structure is not well positioned to consider and implement the changes needed to drive the program forward. The mandate of the National GreenPower Steering Group (NGPSG) is the "overall management of the affairs of the program", with functions focusing on operational matters regarding the program rules, accreditation, and dispute resolution [43].

The primary role of the NGPSG should be to achieve GreenPower's mission, and to ensure that this mission is linked to the strategic policy goals of member states. We suggest a comprehensive review of the existing program deed to shift the focus of the group to consider strategic goals. The NGPSG should explicitly have ultimate accountability for:

- establishing the GreenPower mission
- achieving the GreenPower mission – the NGPSG should set specific annual and medium-term targets for the Program that align with net zero policy objectives, and report on outcomes each year
- approving operational requirements to achieve this mission (i.e. administrator budgets, program rules etc.) and accepting Program Manager progress reports.

We suggest that each GreenPower member should review the seniority of NGPSG membership to ensure that representatives have the delegated responsibility needed to meet these strategic aims.

Operational matters should be delegated, to a greater extent, to the Program Manager, with transparent reporting to the NGPSG to ensure that they are fulfilling this role appropriately. If needed, a sub-committee of the NGPSG (potentially with alternative, more technically minded representatives) could be created to deal with operational matters such as rule changes and dispute resolutions.

Action 5: Revise stakeholder involvement

One significant issue raised by interviewees for this review is that electricity retailers seem to have too much influence over decisions. It is important to incorporate the views of direct stakeholder participants in the decision-making process. However, these views must be considered alongside broader interests, including renewable energy developers and generators, energy customers, and broader public interests.

The Stakeholder Advisory Group (SAG) is well-positioned to provide this balanced interest. The terms of reference include a clear mandate to provide advice on future issues affecting the program, and how the program may be improved to address these issues.

However, it appears that the direct interests of electricity retailers, as the primary delivery agent of GreenPower and the main source of income for the program, may overwhelm the interests of broader stakeholders and future Program needs. Some stakeholders are not adequately represented by the SAG – specifically renewable energy developers.

This review finds that the GreenPower Program needs to implement significant changes to remain relevant in the future energy market. To support these changes, we suggest reforming the process for SAG involvement in decision-making by:

- refocusing the group in the short-term to consider strategic issues only – specifically, advising on market changes and considering how the Program can remain relevant in this changing context (particularly in response to the findings of this review)
- improve transparency of this group by publishing summary documents after each meeting that report on (at least):
 - stakeholders present
 - topics covered, and a summary of the broad industry views.

Action 6: Better align administrator functions

The NSW Government has managed the GreenPower Program since inception. It also acts in a similar national administrator role for the national NABERS program and has done so for more than twenty years.

While these administrators form a similar function to drive change in their respective markets, and are in the same department, they are currently managed independently. Innovations and changes in response to market needs, such as insights into better program administration, stakeholder engagement, reporting standards and streamlined processes are not directly shared between programs. There is an opportunity to align these entities within DPE to allow for shared learnings across programs and consolidate these national responsibilities into one market-based instrument unit.

This change would entail shared management between the two administrators (for example, a new senior manager that has responsibility for both NABERS and GreenPower). Each administrator would retain independent finances and Program managers.

Key terms and references

Abbreviations

AAU	Assigned Amount Unit
ACCU	Australian Carbon Credit Unit
CFD	Contract for difference
CER	Clean Energy Regulator
DPIE	Department of Planning, Industry and Environment
GHG	Greenhouse gas
GWh	Gigawatt hour
IPCC	Intergovernmental Panel on Climate Change
KWh	Kilowatt hour
LCOE	Levelised cost of energy
LGCs	Large-Generation Certificates
LNG	Liquid Natural Gas
LRET	Large-scale Renewable Energy Target
MWh	Megawatt hour
NEM	National Electricity Market
NDC	Nationally determined contributions
NGPSG	National GreenPower Steering Group
PPA	Power Purchase Agreement
REC	Renewable Energy Certificate
RET	Renewable Energy Target
RPP	Renewable Power Percentage
SAG	Stakeholder Advisory Group
SBTi	Science Based Targets Initiative
SMEs	Small and Medium Sized Enterprises

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About Common Capital

We are a consulting and advisory firm committed to helping clients create value and manage risk from the transition to a zero-carbon economy. We help businesses, governments, philanthropists and researchers build and harness markets and accelerate the commercialisation and deployment of zero and negative carbon technologies.

Our consulting and advisory services include:

- Climate strategy, operational, and supply chain transition strategy
- Economics, market modelling, techno-economic analysis, carbon life-cycle assessment
- Policy analysis, evaluation, and research
- RD&D acceleration, deployment led innovation, technology commercialisation strategy