

Evaluation of the GreenPower Program

June 2015

This publication is part of a series summarising program evaluations to enhance the accountability and transparency of NSW Trade & Investment activities. The completed program evaluation template is attached.

The GreenPower Program

The GreenPower Program is a voluntary program for providing government accredited renewable electricity to households, businesses and event organisers. All GreenPower accredited products guarantee that a certain amount or proportion of electricity used by the customer is generated from renewable sources. The NSW Sustainable Energy Development Authority established GreenPower in 1997 and it became a national Program in 2000.

Objective

The GreenPower Program aims to ensure consumer confidence in renewable energy products. Electricity generated from renewable sources produces fewer greenhouse gas emissions than electricity generated from non-renewable sources. Increasing the amount of electricity generated from renewable sources is also consistent with Australian and international greenhouse gas emission reduction strategies.

Despite the potential for a viable and socially desirable market for electricity generated from renewable sources, no such market would properly or fully develop without consumers receiving assurance that the product for which they pay a premium, namely renewable power (which to them is indistinguishable from any other) is, in fact, generated from renewable sources. Without providing such assurance about product integrity, consumer demand for electricity generated from renewable sources would remain unsatisfied, profitable electricity generation (from renewable sources) would remain foregone, and the community and environment would be exposed to more pollution, particularly greenhouse gas emissions, than is socially desirable.

Options

The alternative options for pursuing the objective that were considered in the evaluation of the GreenPower Program included:

- the existing program with an annual budget of approximately \$0.7 million, with effectively all costs recovered from GreenPower Generators and GreenPower Providers;
- two programs incrementally changed from the existing program, one where the day-to-day management and administration of the program moved from the NSW Government to the Australian Government, and one where program marketing and promotion increased under the existing governance arrangements; and
- an industry self-regulation option, where the control and management of the existing program moved out of government to industry. This is the approach used in many international renewable electricity accreditation schemes.

Assessment

NSW Trade & Investment program evaluations compare the efficiency and effectiveness of alternative options with that of the existing or proposed program. This involves an assessment of the costs and benefits of each option relative to the base case of 'no program' and, where these benefits and costs have been quantified, a comparison of the net benefit and benefit-cost ratio (BCR) of each option.

A qualitative assessment of alternative options to achieve the objective of ensuring consumer confidence in renewable energy products was undertaken. The preferred option was the existing GreenPower Program, which reduced annual greenhouse gas emissions by around 1.4 million tonnes.

While the existing GreenPower Program was assessed as providing a net benefit, the option of moving management to the Australian Government was assessed as providing the same outcomes at possibly a lower cost. It was noted, however, that the Australian Government currently does not support this option and so the option was deemed infeasible.

The option of industry self-regulation was assessed as providing a net cost. This option would likely see lower greenhouse gas reductions due to lack of consumer trust, with overall costs likely to also be higher than the existing Program.

Cost recovery

The evaluation assessed the existing program pricing arrangements relative to the cost recovery principles outlined by the Productivity Commission in its 2001 Inquiry Report on Cost Recovery by Government Agencies.

The evaluation found that it is efficient and cost effective to recover costs via a fee on individuals or firms set at 'fully distributed cost'. This includes program salaries and on-costs, operating costs, an apportionment of full departmental overheads, and a suitable return on assets.

The costs of managing and administering the GreenPower Program are currently appropriately recovered from GreenPower Generators and GreenPower Providers, with effectively no residual cost to the government.

Performance Measures

Key performance measures and indicators measure program performance and progress towards meeting government policy objectives. They demonstrate how effective a program is in producing the required outputs and achieving the desired outcomes.

GreenPower Program output measures and indicators include increased awareness of the program through social media, an independent review of the program to ensure it is operating efficiently and effectively, increasing GreenPower sales by 10% per annum over a five year period; and accrediting at least three new generators annually for next five years. Examples of Program outcome indicators include:

- Increased consumer awareness of renewable energy products; and
- Increased consumer trust in claims by energy products and suppliers covered by the program.

Future Evaluations

This is the first evaluation of the Green Power Program as part of the regular Departmental cycle of evaluations informed by the NSW Government Evaluation Framework. As such, the evaluation concentrated on the qualitative aspects of 'formative' evaluation to build the capacity of program management to monitor program's performance in the future – problem identification, program logic and performance measure design. Data collection will now commence to enable quantitative 'summative' evaluation of the Program when it is next scheduled for evaluation under the Framework.

More information

Further information on the GreenPower Program can be obtained from:

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (June 2015). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the NSW Department of Trade and Investment, Regional Infrastructure and Services or the user's independent advisor.

Attachment: Program Evaluation Template

Division:	Resources & Energy
Program (Current):	GreenPower

Step 1 - Issue or Challenge and Objectives

a. Describe the issue or challenge that the program aims to address. That is, why should the department intervene? What would happen in the absence of the program?

Existing government intervention aims to address the gap in the market for a viable, trusted and independent voluntary renewable energy market.

In the absence of government intervention, electricity consumers that prefer electricity generated from renewable sources would be reluctant to pay a premium for that type of electricity as they could not be sure of the source of the electricity they purchase (i.e. whether it was generated using renewable or non-renewable sources).

Electricity generated from renewable sources produces fewer greenhouse gas emissions than electricity generated from non-renewable sources. Increasing the amount of electricity generated from renewable sources is also consistent with general Australian and international greenhouse gas emission reduction strategies.

Despite the potential for a viable and socially desirable market for electricity generated from renewable sources, no such market would properly or fully develop without government intervention. Consumer demand for electricity generated from renewable sources would remain unsatisfied, profitable electricity generation (from renewable sources) would remain foregone, and the community and environment would be exposed to more pollution, particularly greenhouse gas emissions, than is socially desirable.

b. Identify the groups that would be affected by the issue or challenge without departmental involvement (individuals, industry or community).

1. Electricity consumers would not be able to voluntarily purchase electricity generated from renewable sources with confidence that the source of the electricity was renewable and that these purchases were adding to the amount of renewable energy generated in Australia.
2. Electricity generators using renewable sources would face a smaller market to sell their electricity at a price higher than electricity generated from non-renewable sources, and may therefore discontinue (or not commence) generating electricity.
3. The community and the environment would be exposed to more pollution, particularly greenhouse gas emissions, from non-renewable electricity generation than is socially desirable.

c. Quantify the impact of the issue in the absence of departmental involvement - the severity of the issue should be demonstrated with quantitative data where possible on the significance and consequences of the issue or challenge in the absence of departmental involvement. If no such 'cost' estimate exists, proxy information can be provided to give an indication of potential 'scale', such as industry value of production.

Departmental involvement in encouraging renewable energy, particularly by ensuring consumer confidence in renewable energy products has been in place for nearly 20 years. Over that time, electricity generated from renewable sources (excluding the Snowy Hydro) has increased from less than 1,000 GWhs per year (>2% of total NSW electricity generation) to over 4,000 GWhs per year (around 6% of total NSW electricity generation).

Since 1997, over 16,500 GWh of additional renewable energy has been voluntarily purchased by GreenPower customers across Australia. At today's average price of \$30 per MWh for Large-scale Generation Certificates, this equates to approximately \$495 million invested in renewable energy generation. If the wholesale price of the physical electricity is added to this figure, at today's average price of \$40 per MWh, then the value to generators becomes \$1.15 billion. These results are unlikely to have been achieved without the confidence created through government backing of the program.

d. Describe who or what created the issue or challenge. Examples include specific industry participants (such as producers or consumers) and environmental factors (such as the effect of climate change).

The electricity market operates via several intermediaries (including wholesalers, distributors and retail providers) between electricity generation and consumption. A consumer of electricity also buys electricity from a homogenised 'pool' of electricity making the source of the electricity effectively unidentifiable.

This results in a retail purchaser of electricity having little control, information or assurance in relation to the source of the electricity they purchase, in particular whether it is generated from renewable or non-renewable sources. Electricity generators (and wholesalers) would have more (perhaps complete) information on the source of electricity.

Without consumer confidence in renewable energy products, a viable voluntary market for electricity generated from renewable sources would not properly or fully develop. Retail electricity consumers that prefer electricity generated from renewable sources (with fewer greenhouse gas emissions) would continue to be reluctant to pay a premium for that type of electricity as they could not be sure of the source of the electricity.

e. List current programs or legal instruments (provided by industry or any level of government) which aim to address the issue or challenge. Could these be altered to address the issue or challenge?

Other Programs

Able to be altered?

The Renewable Energy Target

The Renewable Energy Target (RET) is a mandatory scheme, administered by the Clean Energy Regulator, part of the Australian Government. The RET requires electricity retailers to purchase a specified quantity of renewable electricity. The RET currently aims to deliver 41,000 GWh of Australia's electricity from renewable sources by 2020.

No. This is an Australian Government scheme. However, during 2014 a review of the RET recommended either closing the scheme to new entrants or substantially reducing the target. At the time of writing, the Australian Government rejected the review recommendations, and it appears likely that the scheme will continue to exist in some form in the medium-term. It is important to note that the key difference between the RET and GreenPower is the mandatory vs. voluntary nature of

	the programs.
<p>Emission Reduction Fund</p> <p>The Emissions Reduction Fund (ERF) was recently established to provide incentives for emission reductions across the Australian economy. The ERF provides \$2.55 billion as a pool of capital to purchase the lowest cost abatement through a reverse auction process. The Clean Energy Regulator, part of the Australian Government, will administer the ERF.</p>	<p>No, this is an Australian Government Fund. However, methods for estimating emission reductions under the ERF are still under development and may interact with NSW Government programs.</p>
<p>The National Carbon Offset Standard</p> <p>The National Carbon Offset Standard (NCOS) provides guidance on what constitutes a genuine, additional voluntary carbon offset. It sets minimum requirements for the verification and retirement of voluntary carbon credits and provides guidance for calculating the carbon footprint of an organisation or product for the purpose of achieving 'carbon neutrality'.</p>	<p>No. However there is some interaction with NSW Government programs (particularly accreditation).</p>
<p>NABERS</p> <p>The National Australian Built Environment Rating System (NABERS) is a national rating system that measures the environmental performance of Australian buildings, tenancies and homes. The program measures and verifies performance information for buildings and assesses performance with a star rating scale from one to six stars.</p>	<p>No, NABERS is managed nationally by the NSW Office of Environment and Heritage, on behalf of Australian, State and Territory governments.</p>
<p>Green Star</p> <p>The voluntary Green Star rating program, delivered by the not for profit Green Building Council of Australia, provides sustainability ratings for diverse building types.</p>	<p>No. However, there is some interaction between the Green Star program and NSW Government programs (particularly accreditation).</p>
<p><i>f. Identify who might benefit if action [such as the program being evaluated] is taken by the department.</i></p> <p>Who are the primary beneficiaries?</p> <ul style="list-style-type: none"> Electricity generators using renewable sources would benefit from being able to sell their electricity in a larger market at a price higher than electricity generated from non-renewable sources, and would therefore continue (or commence) generating electricity. The amount of electricity these generators produce is therefore likely to increase. Electricity consumers would be able to buy electricity generated from renewable sources with confidence that the source of the electricity was renewable and additional to mandatory requirements. They are therefore likely to consume more electricity generated from renewable sources. <p>Who else might benefit?</p> <ul style="list-style-type: none"> The community and the environment would be exposed to less pollution, particularly greenhouse gas emissions, as there would be relatively less non-renewable electricity generation. 	

- g. *Statement of Objectives: Determine whether there might be a role for the department in addressing the perceived issue or challenge – i.e. what high-level objectives might a potential program achieve?*

Objective:

The nationally agreed objective is to drive investment in renewable energy in NSW and Australia, with a view to decreasing greenhouse gas emissions from the generation of electricity, by increasing awareness of, and ensure consumer confidence in renewable energy products. This objective is currently being considered as part of the GreenPower program Review, due to be finalised in July 2015.

Policy Alignment:

- a NSW 2021 goal;

NSW2021 Goal 22 “Protect our Natural Environment”, Target 2: Increase renewable energy, 20% renewable energy by 2020.

- a NSW Trade & Investment Strategic Plan outcome;

NSW T&I Strategic Plan Result 2 “Positive business environment in NSW”, Outcome 5: Energy and regional water supplies and services are reliable, efficient and sustainable, Strategy 3: Participate in the development of efficient and sustainable energy market frameworks.

Market Failure:

The market for electricity generated from renewable sources is characterised as having **information asymmetries** where electricity generators and wholesalers have more or better information on the source of the electricity than the electricity consumers. This information asymmetry prevents consumers from making fully informed decisions, and inhibits the development of a market for renewable energy. Existing government intervention addresses this by providing accreditation standards and undertaking an annual audit that is published on the GreenPower website.

Step 2 – Program Options & Design

Identify all potential options for achieving the objective, including those that least impede business activity.

Option 1.

Existing
National
GreenPower
Accreditation
Program

Description:

The existing National GreenPower Accreditation Program is a voluntary program for providing accredited renewable electricity to households, businesses and event organisers.

All GreenPower accredited products, offered by GreenPower Providers, guarantee that a certain amount or proportion of electricity used by the customer is sourced from GreenPower Generators. In 2013, the GreenPower Program resulted in sales of 1,446 GWh of renewable electricity to more than 610,000 residential and commercial customers. This constitutes an estimated 0.6% of Australia's total electricity generation as of the end of 2013.

The NSW Sustainable Energy Development Authority established GreenPower in 1997 and it became a national Program in 2000.

Resourcing requirements:

The annual cost of administering the GreenPower Program is approximately \$0.7 million. Program costs are recovered from GreenPower Generators and GreenPower Providers, with effectively no residual cost to the government.

Governance arrangements:

A National GreenPower Steering Group (NGPSG) oversees management of the Program. Actively participating jurisdictions include:

- New South Wales (NSW) – Department of Trade and Investment;
- Victoria (VIC) – Sustainability Victoria;
- South Australia (SA) – Department of State Development;
- Australian Capital Territory (ACT) - Environment Sustainable Development Directorate; and
- Tasmania – Department of State Growth.

The GreenPower Program Deed agreed by participating jurisdictions establishes roles and responsibilities for governance of the Program. Under the current Deed, the Steering Group delegates day-to-day management and administration of the accreditation process and marketing to the Program Manager – Accreditation and the Program Manager – Marketing, respectively. Currently, the NSW Department of Trade and Investment is appointed to both roles.

In each jurisdiction, NGPSG participants are responsible for supporting the Program Managers (Accreditation and Marketing) in building relationships with local GreenPower Providers, liaising with GreenPower Generators and other stakeholders, providing support for any general policy and accreditation issues and supporting the national marketing efforts in the local jurisdiction.

Consultation strategy:

Engagement with industry occurs as needed, typically when a rule change or some other significant change to the Program is proposed. Engagement usually takes the form of a forum for Providers, as well as a public consultation period for all stakeholders. There are no mechanisms in place for routine engagement with GreenPower Generators, consumer groups or other non-industry stakeholders, although consultation does take place intermittently, as needed.

Extensive consultation occurred throughout 2014-15 with industry and community stakeholders, customers and government as part of the GreenPower Review. Industry and community stakeholders included GreenPower Providers, GreenPower Generators, the National GreenPower Steering Group and an Advisory Group made up of representatives from the Energy Retailers Association of Australia, Clean Energy Council, World Wildlife Fund, Public Interest Advocacy Centre and NSW Trade and Investment.

Existing or proposed program pricing strategy:

The annual cost of administering the GreenPower Program is approximately \$0.7 million. Program costs are recovered from GreenPower Generators and GreenPower Providers, with effectively no residual cost to the government.

Application of the Productivity Commission's cost recovery principles to the existing program indicates that the cost of the GreenPower Program should be recovered via a fee on individuals or firms set at fully distributed cost. The pathway through the cost recovery decision framework is represented as 1, 2d, 3, 4, 6, 8, 10a, 11, 13a, 15 recommending a fee set to achieve fully distributed cost recovery (see Appendix A).

The current annual GreenPower Generator fee is \$0 for generators with less than 1MW capacity, and \$1,000 for generators with a capacity of 1MW or greater. Companies with multiple accredited Generators pay a maximum of \$5,000. GreenPower Provider fees pay fees based on the volume of GreenPower accredited electricity they sell. Fees currently start at \$5,000 per year for sales of less than 5,000 MWh, and increase on a sliding scale up to \$130,000 per year for sales of more than 500,000 MWhs.

Key performance measures:

Output performance indicators:

1. Increase awareness of, and engagement in, the program through the implementation of a social media strategy.
2. Undertake an independent review of the program to ensure it is operating efficiently and effectively.
3. Ensure the publication of the annual audit to maintain consumer confidence.

Output measures:

1. Sales of GreenPower increase by 10% per annum over a five year period.
2. At least three new generators accredited by program annually for next five years.
3. GreenPower program review completed with recommendations to Minister by 30 June 2015.
4. 2014 annual audit published by end of September 2015.

Outcome performance indicators:

1. Increase consumer awareness of energy products and energy suppliers covered by the program (measured by survey).
2. Increase consumer trust in renewable electricity claims by energy products and energy suppliers covered by the program (measured by survey).

Outcome measures:

1. Reduced emissions from the generation of electricity annually.

<p>Option 2.</p> <p>Change Program Management</p>	<p>Description:</p> <p>The existing National GreenPower Accreditation Program managed by the Clean Energy Regulator instead of the National GreenPower Steering Group and NSW Trade & Investment.</p> <p>The Clean Energy Regulator, part of the Australian Government, could be a logical location for the management of the national GreenPower Program as it already administers the RET. Program management by the Clean Energy Regulator could potentially streamline management processes, while strengthening the national focus and maintaining independence from industry.</p> <p>Potential benefits include true national coverage and alignment with existing programs and legislation in areas such as renewable energy, energy efficiency and carbon offsets. Some administration costs may also be saved.</p> <p>However, this option would require Australian Government support, which has not previously been forthcoming whenever this option has been proposed in the past. This would require GreenPower to come under Commonwealth legislation through an Act of Parliament (most likely under the Renewable Energy Act). This would expose the program to a higher degree of political influences and may impact its environmental credentials. Also, any streamlining of processes, and associated cost savings, would be minor as GreenPower already utilises the CER market infrastructure.</p> <p>Resourcing requirements:</p> <p>At least initially, as per option 1.</p> <p>Governance arrangements:</p> <p>Instead of the National GreenPower Steering Group overseeing management of the Program, as for option 1, the Clean Energy Regulator (part of the Australian Government) would oversee the management of the Program through the Renewable Energy Act.</p> <p>Consultation strategy:</p> <p>Most likely as per option 1.</p> <p>Proposed program pricing strategy:</p> <p>At least initially, as per option 1.</p> <p>Key performance measures:</p> <p>Most likely as per option 1.</p>
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<p>Option 3.</p> <p>Expand Program Marketing</p>	<p>Description:</p> <p>Raise additional funds from GreenPower Providers to establish a central marketing and promotion function.</p> <p>If GreenPower Providers expressed willingness to pay higher fees, a clear marketing and promotions strategy could be developed to strengthen the GreenPower brand and benefit all GreenPower Providers.</p> <hr/> <p>Resourcing requirements:</p> <p>Additional outsourced resources would be required to undertake the marketing and promotion activities. Funding for these resources would come from higher fees paid by GreenPower Providers.</p> <hr/> <p>Governance arrangements:</p> <p>As per option 1.</p> <hr/> <p>Consultation strategy:</p> <p>As per option 1.</p> <hr/> <p>Existing or proposed program pricing strategy:</p> <p>Additional outsourced resources would be required to undertake the marketing and promotion activities. Funding for these resources would come from higher fees paid by GreenPower Providers.</p> <hr/> <p>Key performance measures:</p> <p>As per option 1.</p>
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<p>Option 4.</p> <p>Industry Self- Regulation</p>	<p>Description:</p> <p>Moving the control and management of the GreenPower Program out of government. Industry would then self-regulate program controls for their collective benefit.</p> <p>Most international renewable electricity accreditation schemes are governed by non-government organisations, often established for the specific purpose of governing the scheme. The key advantage of this option is to insulate the Program from shifting government policy priorities. A non-government organisation that is focused on this single mission could also, potentially, offer more responsive and flexible management of the Program to adapt to consumer and market trends quickly and to grow support for the program.</p> <p>However, international experience also indicates that industry run programs have a lower level of consumer trust than government run programs. This may reduce sales and the effectiveness of the program. There may also be issues with conflict of interest and setting up a new organisation to administer the program is likely to be an expensive exercise.</p>
	<p>Resourcing requirements:</p> <p>Unknown but at a higher cost than option 1 if a new entity needs to be established.</p>
	<p>Governance arrangements:</p> <p>Management and control of the program would move a non-government organisation. This could be a purpose-built organisation or an existing organisation, such as the Clean Energy Council. Possibly a representative Board may support the organisation, with membership from government, industry and customer groups.</p> <p>It should be noted though that the Clean Energy Council has already declared that they are not willing to take over program governance. No other existing organisation has declared an interest in managing the program.</p>
	<p>Consultation strategy:</p> <p>Unknown but likely to initially be as per option 1.</p>
	<p>Proposed program pricing strategy:</p> <p>At least initially, as per option 1, but with a large financial input required to set up new organisation.</p>
	<p>Key performance measures:</p> <p>As per option 1.</p>

Other Options Considered

Closure of program

This option was dismissed as this would kill a viable market and jeopardise financial arrangements for some generators.

Only accepting new and innovative technologies as accredited generation

This option was dismissed as it would significantly limit the amount of renewable energy that can be accredited under the program. It is therefore likely to kill a viable market and jeopardise financial arrangements for some generators. It also adds a significant administrative burden and may increase costs.

Product labelling

Changing the nature of the program to a product labelling scheme was considered and dismissed as it would not achieve the fundamental aims of the program and is likely to achieve a lower overall net benefit to consumers, the renewable energy industry and the environment.

Step 3 – Options Assessment			
<i>Shortlist options by qualitatively listing below the benefits and costs of each option relative to the base case of 'no program'. If the program contains sub-components, it may be easier to consider the benefits and costs of each subcomponent.</i>			
	Benefits	Costs	Qualitative assessment of net impact
Option 1. Existing National GreenPower Accreditation Program	Increased sales of renewable energy of approximately \$127 million in 2013 ¹ Reduced greenhouse gas emissions from electricity generation of around 1.4 million tonnes in 2013 ²	\$0.7 million per year. Costs fully recovered from firms participating in the program.	Benefits outweigh costs. Option ranking = 1 - after consideration of lack of Australian Government support in Option 2. Ranking 1
Option 2. Change Program Management	As per option 1.	As per option 1, but costs may be slightly lower if there are administrative efficiency gains.	Benefits outweigh costs. The Australian Government currently does not support this option, lowering the option ranking. Ranking 2
Option 3. Expand Program Marketing	As per option 1, but benefits may be higher if the program has a greater number of customers following the expanded marketing.	As per option 1, but with slightly higher costs as a result of increased marketing and promotion activities.	Benefits outweigh costs. Compared to option 1 the extra benefits may not exceed the extra costs. Ranking 3
Option 4. Industry Self-Regulation	Likely to see lower greenhouse gas reductions due to lack of consumer trust	Overall costs likely to be higher than other options.	Costs outweigh benefits. Ranking 4

¹ Based on a wholesale electricity price of \$40/MWh, an LGC price of \$30/MWh plus a 30% retail margin (including retailer's recover of administrative fees paid to program manager).

² Based on a ration of 1 tonne CO2 equivalent per MWh

Appendix A: Cost Recovery Decision Framework

