EXECUTIVE SUMMARY

Key points

- The objectives of the Renewable Energy Target (RET) are to: encourage the additional generation of electricity from renewable sources; reduce greenhouse gas emissions in the electricity sector; and ensure that renewable energy sources are ecologically sustainable.
- The RET has encouraged significant new renewable electricity generation, which has almost doubled as a result of the scheme. Installations of small-scale systems have exceeded expectations, with output from these systems already exceeding levels anticipated for 2020. To date, the RET has delivered a modest level of emissions reductions.
- With the renewables industry now established in Australia, the main rationale for the RET hinges on its capacity to contribute towards the Government's emissions reduction target in a cost effective manner. However, the RET is a high cost approach to reducing emissions because it does not directly target emissions and it only focuses on electricity generation. It promotes activity in renewable energy ahead of alternative, lower cost options for reducing emissions that exist elsewhere in the economy. In the presence of lower cost alternatives, the costs imposed by the RET are not justifiable.
- The economic landscape has changed significantly since the current RET was adopted in 2010. In particular, demand for electricity has been declining and forecasts for electricity demand in 2020 are now much lower. Rather than adding generation capacity to meet growth in electricity demand, the RET is contributing to a large surplus of generation capacity.
- The current RET would require a further $22 billion cross-subsidy to the renewables sector in net present value (NPV) terms over the remainder of the scheme (in addition to the $9.4 billion cross-subsidy provided from 2001 to 2013) and encourage more than $15 billion (in NPV terms) of additional investment in renewable generation capacity to 2020. This investment comes at the expense of investment elsewhere in the economy and the additional generation capacity is not required to meet the demand for electricity.
- Analyses suggest that, overall, the RET is exerting some downward pressure on wholesale electricity prices. This is not surprising given that the RET is increasing the supply of electricity when electricity demand has been falling. Artificially low wholesale electricity prices can distort investment decisions in the electricity market and are unlikely to be sustained in the long term. Over time, all other things being equal, wholesale electricity prices could be expected to rise to better reflect the cost of generating electricity.
- The direct costs of the RET currently increase retail electricity bills for households by around four per cent, but modelling suggests that the net impact of the RET over time is relatively small. The impact on retail electricity prices for emissions-intensive trade-exposed businesses and other businesses is significantly greater. The RET does not generate an increase in wealth in the economy, but leads to a transfer of wealth among participants in the electricity market.
- The Expert Panel has recommended options to the Australian Government for both the Large-scale Renewable Energy Target and the Small-scale Renewable Energy Scheme. The Panel considers the Government should emphasise alternative, lower cost approaches to reducing emissions in the Australian economy. In putting forward its recommendations, the Expert Panel has been mindful of the impacts particular options will have on those who have invested in renewables on the basis of the RET as currently legislated.

The Renewable Energy Target review

On 17 February 2014, the review of the Renewable Energy Target (RET) scheme was jointly announced by the Hon Ian Macfarlane MP, the Minister for Industry, and the Hon Greg Hunt MP, the Minister for the Environment. The Australian Government appointed an Expert Panel (the Panel) to undertake the review, comprising Mr Dick Warburton AO LVO (chair), Dr Brian Fisher AO PSM, Ms Shirley In't Veld and Mr Matt Zema, with support provided by a Secretariat in the Department of the Prime Minister and Cabinet.

The Terms of Reference for the review direct the Panel to examine the operation, costs and benefits of the RET, including the economic, environmental and social impacts, the extent to which the objectives of the scheme are being met and the interaction of the RET with other Commonwealth and state and territory policies.

The Panel consulted with a wide range of stakeholders to inform its review. The Panel received around one thousand general submissions and over 23,000 campaign submissions and held meetings with over 200 different stakeholders around the country.

To assist the Panel, ACIL Allen was commissioned to model scenarios that examine the impacts of the RET as it stands and potential changes to the scheme. While this modelling and other modelling provided by stakeholders has helped the Panel understand the impacts of the RET, the Panel recognises the limitations inherent in these exercises. In forming its recommendations, the Panel has considered the modelling results alongside the information received in submissions and stakeholder meetings.

The objectives and impacts of the RET

The RET has been operating in various forms since the Mandatory Renewable Energy Target (MRET) commenced in 2001. As set down in legislation, the objectives of the RET are to: encourage the additional generation of electricity from renewable sources; reduce greenhouse gas emissions in the electricity sector; and ensure that renewable energy sources are ecologically sustainable. The expanded RET scheme, which commenced in January 2010, is designed to ensure at least 20 per cent of Australia's electricity comes from renewable sources by 2020. To achieve this, the legislation contains annual targets for large-scale renewable generation, expressed in gigawatt hours (GWh) that rise each year to 41,000 GWh in 2020. It also provides upfront support for the installation of small-scale renewable energy systems.

The Panel found that the RET has broadly met its objectives. It has encouraged significant additional renewable electricity generation, with output from large-scale renewable generators having almost doubled as a result of the scheme. Installations of small-scale systems have exceeded expectations, with output from these systems already exceeding levels anticipated for 2020. To date, the RET has delivered a modest level of carbon dioxide equivalent (CO_2-e) emissions reductions. Commonwealth, state and territory environmental regulation provides a framework for ensuring that the RET promotes the use of ecologically sustainable renewable energy sources.

Since the current RET scheme commenced the economic landscape has shifted significantly, leading to questions about whether the objectives for the RET remain appropriate. Over the past five years demand for electricity has been significantly lower than forecast and electricity demand in 2020 is now expected to be much lower than when the current RET was adopted. At the same time the cost of renewable technologies has fallen, particularly for rooftop solar photovoltaic (PV) systems. These factors mean that the RET could achieve a 26 per cent share of electricity from renewable sources by 2020.

Australia's climate change policy framework has also changed since the expanded RET scheme began. The Government is committed to achieving Australia's five per cent CO_2-e emissions reduction target through the Direct Action Plan. In particular, the Government has repealed the carbon tax and intends for the $2.55 billion Emissions Reduction Fund (ERF) to be the primary mechanism to reduce CO_2-e emissions.

Under current settings, the RET could be expected to result in a further $22 billion cross-subsidy to the renewables sector (in NPV terms) over the remainder of the scheme (in addition to an estimated $9.4 billion (NPV) provided over the period 2001 to 2013) and encourage additional investment of $15 billion in new renewable generation capacity. However, this investment is not required to meet likely growth in the demand for electricity, which could largely be met from existing generation capacity. Hence, the RET would be diverting resources from more productive uses elsewhere in the economy, lowering productivity and national income. While the RET has visibly increased employment in the renewable energy sector, this has come at the cost of (less visible) reduced employment in other sectors.

Analyses suggest that, overall, the RET is exerting some downward pressure on wholesale electricity prices, largely because it is contributing to an increase in the supply of electricity when electricity demand has been falling. However, the net impact of the RET on retail electricity prices and electricity bills appears to be small and does not diminish the economic costs associated with the scheme. Also, it does not represent an increase in wealth in the economy, but a transfer of wealth among participants in the electricity market. In addition, artificially low wholesale electricity prices can distort investment decisions in the electricity market and are unlikely to be sustained in the long term. Over time, all other things being equal, electricity prices could be expected to rise to better reflect the cost of generating electricity.

With the renewables industry now established in Australia, the main rationale for the RET hinges on its capacity to contribute towards the Australian Government's CO_2-e emissions reduction target in a cost effective manner. However, the RET is a high cost approach to reducing CO_2-e emissions because it does not directly target CO_2-e emissions and it only focuses on electricity generation. It promotes activity in renewable energy ahead of alternative, lower cost options for reducing CO_2-e emissions that exist elsewhere in the economy.

Although many representatives of the renewables sector favour at least maintaining the current RET, the Panel is of the view that the interests of the broader community should take precedence and that, as the RET in its current form is imposing significant costs on the economy, it should be substantially reformed, with greater emphasis placed on lower cost alternatives for meeting the Australian Government's CO_2-e emissions reduction target.

Options for reforming the Large-scale Renewable Energy Target (LRET)

The Panel considered various options proposed by stakeholders for reforming the LRET. These include extending the target to achieve a 'real 30 per cent' share of generation by 2030, reducing the target to achieve a 'real 20 per cent' share of generation in 2020, setting a target that corresponds to a '50 per cent share of new growth' in electricity demand, 'closing the LRET to new entrants' and 'repealing' the LRET scheme.

Setting a target to achieve a 'real 30 per cent' share of renewables by 2030 would have the effect of reducing the 2020 target (although it would still be higher than a 'real 20 per cent' target) and allowing the targets to rise between 2020 and 2030. The Panel considers that the adoption of a higher target and/or extension of the scheme beyond its current timeframe are inconsistent with the objective of reducing the cost of the scheme and would prolong a relatively inefficient approach to reducing CO_2-e emissions.

Adopting a 'real 20 per cent' target would involve reducing the legislated target for large-scale renewable generation to a level consistent with 20 per cent of the latest projections of electricity demand in 2020, taking into account higher than previously expected growth in small-scale renewables. While many stakeholders were in favour of this approach, the Panel is concerned about fixing targets once again in legislation based on electricity demand forecasts that are inherently uncertain. If electricity demand to 2020 is higher or lower than currently forecast, a 'real 20 per cent' target will not be achieved, and if demand is lower than forecast, the RET will continue to add generation capacity that is surplus to the requirements of the

market. Consequently, if the Government wishes to consider a 'real 20 per cent' target, the Panel suggests that targets be periodically updated as electricity demand projections are revised.

Stakeholders in the renewables industry expressed concerns that complete repeal of the legislation would substantially affect both existing and future investments, constituting sovereign risk. The Panel considers that the risk of significant policy change is better characterised as regulatory risk and is always present. Nonetheless, the Panel recognises that repeal may result in adverse financial implications for existing investors.

The Panel has therefore recommended two options to the Government for the LRET. The first is to allow the LRET to continue to operate until 2030 for existing and committed renewable generators, but closing it to new entrants, otherwise known as 'grandfathering'. This will provide investors in existing renewable generation with continued access to certificates so as to avoid substantial asset value loss and retain the CO_2-e emissions reductions that have been achieved so far. Importantly, this approach avoids the costs to the community associated with subsidising additional generation capacity that is not required to meet electricity demand.

Alternatively, the Panel suggests that the LRET could be modified to increase in proportion with growth in electricity demand, by setting targets one year in advance that correspond to a '50 per cent share of new growth'. This would protect investors in existing renewable generators and would support additional renewable generation when demand is growing. Targets would not be mandated for future years, exposing renewable energy investors to the same market risk (that future levels of electricity demand are unknown) that other investors in the sector currently face. If the current forecasts of electricity demand prove accurate, this approach would result in renewables making up a 20 per cent share of forecast electricity demand in 2020, but the share may be different if demand is higher or lower than expected. Importantly, this approach would protect the broader community from the cost of subsidising unnecessary additional generation capacity if electricity demand continues to fall.

Options for reforming the Small-scale Renewable Energy Scheme (SRES)

Small-scale renewable energy systems supported by the SRES generated or displaced around 6,400 GWh of electricity in 2013, which is above the original expectation for the SRES of achieving a minimum of 4,000 GWh of annual generation by 2020. Based on information provided during the review, the Panel considers that the significant cost reductions of small-scale solar PV systems combined with the increase in retail electricity prices means that the small-scale renewable energy industry is becoming commercially viable. Additionally, the cost of the CO_2-e emissions reductions achieved by the SRES is very high, in the order of $100-$200 per tonne and at least two or three times that of the large-scale scheme.

Given these factors, the Panel considers that there is a strong case for winding back the SRES, through either closing the scheme immediately or accelerating the phase-out of the scheme.

Modelling indicates that repeal of the SRES would have an immediate effect of reducing the install rates of rooftop PV by at least 30 per cent and the number of solar water heaters by around 16 per cent. However, by the early 2020s, the rate of small-scale solar PV systems installed each year would recover to a rate similar to that if the SRES was left in place.

If the Government is concerned about the immediate impacts of repeal of the SRES and does not wish for the industry to contract below its long-term sustainable level, rather than immediately closing the scheme the Government could bring forward its closure from 2030 to 2020. Under this approach, the Panel recommends additional measures to reduce the cost of the scheme, including earlier reductions in the levels of support (certificate deeming periods) provided for the installation of solar PV and solar water heater systems. The Panel also recommends reducing the size eligibility threshold for rooftop solar PV systems from no more than 100 kilowatts to no more than 10 kilowatts, to ensure the scheme is targeted towards households.

Exemption arrangements

The direct (certificate) costs of the RET are borne by electricity consumers, both households and businesses, through electricity prices. Businesses conducting emissions-intensive, trade-exposed (EITE) activities receive an exemption for a portion of RET costs in recognition that these businesses are price takers in a global market. Many EITE businesses claim that the current exemption is not sufficient to prevent a loss of global competitiveness as a result of the additional cost of the RET.

If adopted, the Panel's recommendations on both the LRET and the SRES would reduce the costs of the RET for all electricity consumers, including EITE businesses. The Panel does not consider that an increase in the EITE exemption is warranted in addition to these changes, as this would increase the cost of the RET faced by all other electricity users, including other manufacturers, some of which are also trade-exposed. If the Government does wish to consider extending the EITE exemption, the Panel suggests that the electricity they consume be excluded from calculations of the target in order to avoid imposing additional costs on other electricity users (although this would be difficult to achieve if the RET is closed to new entrants).

The RET also provides an exemption for entities that generate and use their own electricity - the self-generation exemption. Strict eligibility requirements result in more limited access to this exemption than appears to have been intended. The Panel therefore recommends that the self-generation exemption be amended to extend the distance limit between the point of generation and use, and to include a threshold to permit self-generators to supply incidental amounts of electricity to third parties without attracting a RET liability.

Native forest wood waste

The Panel supports the Government's election commitment to reinstate the eligibility of native forest wood waste as a renewable energy source. It considers that reinstatement should be based upon the regulations previously in place, which allowed eligibility on the condition that native forest wood waste was being harvested under a Regional Forestry Agreement, complied with relevant government planning and approvals processes, and was demonstrated to be genuine waste. The Panel has not been presented with any evidence that these regulations resulted in unsustainable logging activities.

The interaction of the RET scheme with other policies

A range of national and state based climate change and energy policies affect the renewables industry and potentially have an impact on the operation and effectiveness of the RET.

The ERF is the centrepiece of the Government's Direct Action Plan. There is some potential for duplication between the ERF and RET schemes and the Panel is of the view that projects should not be eligible for funding under the ERF if they are eligible for support under the RET. In a similar vein, the Panel considers that projects that receive support under the RET should not be eligible to receive further assistance from the Clean Energy Finance Corporation or the Australian Renewable Energy Agency.

The Panel is supportive of the continuing development of a nationally consistent energy market framework. This framework should minimise differences between jurisdictions and eliminate excess regulation and duplication. The Panel also supports the reforming of network regulation. This will minimise cross subsidies between different customers and should lead to more efficient investment and energy choices, including whether to invest in solar PV systems.

Administrative arrangements, frequency of reviews and implementation of recommendations

Based on its consultations, the Panel considers that the administration of the RET scheme is generally efficient and meets the expectations of most stakeholders. Nonetheless, it identified some areas that could be improved. The Panel has put forward suggestions that could provide greater certainty for liable entities over their RET obligations, reduce compliance costs of the scheme and improve the efficiency of the scheme's operation.

The Panel recommends that the requirement for statutory reviews be removed from legislation. The Government can initiate a review of the legislation at any time it considers appropriate and the Panel heard from a wide range of stakeholders that frequent statutory reviews undermine investor certainty, hinder the achievement of the scheme's objectives and reduce the likelihood of any renewable energy target being met.

The Panel has identified some implementation issues associated with its recommendations on the LRET, the SRES and the self-generation exemption. In general, these concern ensuring stable certificate markets and support for existing investments that were undertaken on the assumption of the continuation of the current RET scheme. The Panel considers that consultation on the detail of implementation arrangements would be required once the Government has decided its preferred approach.

LIST OF RECOMMENDATIONS

Recommendation	Detail
1	The Renewable Energy Target (RET) should be amended in light of the changing circumstances in Australia's main electricity markets and the availability of lower cost emission abatement alternatives.
2	The Large-scale Renewable Energy Target (LRET) should be amended in one of the following two ways: *Option 1 – Closed to new entrants ('grandfathering')* In order to reduce the cost of the LRET and its impact on electricity markets, the Panel recommends that the LRET should be closed to new entrants. a. The LRET is closed to new renewable energy power stations (subject to limited exceptions described below). The Clean Energy Regulator (CER) should set targets annually based on estimated output from accredited power stations. b. In addition to those renewable energy power stations already accredited under the scheme, eligibility would be extended to: i. Renewable energy power stations already under construction. ii. Renewable energy power stations to be constructed where project proponents can demonstrate that there is full financial and contractual commitment to the project (e.g., final investment decision, engineering and procurement contract) within one month of the announcement of this approach. c. The last year of the operation of the LRET is 2030. *or* *Option 2 – Share of growth in electricity demand* In order to provide support for new renewable power stations and contribute to Australia's emissions reduction target while achieving less reduction than Option 1 in the cost of the LRET, the Panel recommends that the target be set to allocate a share of growth in electricity demand to renewables in the following manner: a. The target is set annually by the CER, increasing each year to 2020 by an amount equivalent to 50 per cent of projected growth in national electricity demand, ensuring that new renewable energy power stations are only supported under the RET where electricity demand is increasing. b. Where national electricity demand is projected to remain flat or fall, the target is held at the previous year's level. c. From 2021 onwards, the target is fixed at the 2020 level until 2030, the last year of the operation of the LRET. Based on current electricity demand forecasts, this approach would achieve a 20 per cent share of renewables in the electricity generation mix by 2020.
3	The Small-scale Renewable Energy Scheme (SRES) should be amended in one of the following two ways: *Option 1 – Abolition* In order to address the cost of the SRES (and its effect on electricity markets), the Panel recommends that it be closed immediately in the following manner: a. The SRES should terminate upon announcement. b. Those who contracted before the announcement for the installation of a small-scale system should receive the certificates they would have done.

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or

Option 2 – Bring forward the phase-out of the SRES

In order to reduce the cost of the SRES while providing some support for new small-scale renewable energy systems, the Panel recommends that the phase-out of the SRES be brought forward in the following manner, to take effect immediately:

a. Bring forward the last year of operation of the SRES from 2030 to 2020.

b. Reduce the period for which certificates may be created for rooftop solar PV systems from 15 years to 10 years, and in each year from 2016 onwards further reduce the period for which certificates may be created, as set out below:

Rooftop solar PV: period certificates may be created

Year installed	Period
Prior to announcement	15 years
From announcement	10 years
2016	9 years
2017	8 years
2018	7 years
2019	6 years
2020	5 years
2021	Scheme closed

c. Reduce system size eligibility threshold for rooftop solar PV systems from no more than 100 kilowatts to no more than 10 kilowatts.

d. Reduce the period for which certificates may be created for solar and heat pump water heaters by one year each year, commencing in 2016, as set out below:

Solar and heat pump water heaters: period certificates may be created

Year installed	Period
Prior to 2016	10 years
2016	9 years
2017	8 years
2018	7 years
2019	6 years
2020	5 years
2021	Scheme closed

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<tr><td>4</td><td>The current partial exemption arrangements for emissions-intensive trade-exposed businesses should be maintained.</td></tr>
<tr><td>5</td><td>The self-generation exemption should be amended to extend the one kilometre radius restriction and to permit self-generators to supply incidental amounts of electricity (below a set threshold) to third parties without attracting a RET liability. The Government should consult with affected parties to determine an appropriate distance limit and threshold for incidental off-takes.</td></tr>
<tr><td>6</td><td>The Government's commitment to the reinstatement of native forest wood waste as a renewable energy source under the LRET should be implemented through the reintroduction of the relevant regulations in force prior to 2011.</td></tr>
<tr><td>7</td><td>The requirement for statutory reviews of the scheme should be removed from the *Renewable Energy (Electricity) Act 2000*.</td></tr>
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8	Projects, or components of projects, receiving support under the RET should be excluded from participating in Emissions Reduction Fund auction processes.
9	Projects that receive support under the RET should not be eligible to receive further assistance from the Clean Energy Finance Corporation or the Australian Renewable Energy Agency.
10	To further reduce the costs of the RET the Government should consider the following proposals to improve the operation of the scheme: a. Bring forward the dates for setting the Small-scale Technology Percentage and the Renewable Power Percentage from 31 March in the compliance year to a date prior to the commencement of the compliance year (e.g., 1 December). b. Align the acquittal of LRET and SRES obligations so that both are acquitted six monthly, and allow liable entities to carryover a shortfall of small-scale technology certificates (as is currently the case for large-scale generation certificates). c. Publish the RET liable entity with whom an EITE business will negotiate the provision of the Partial Exemption Certificate. d. Update guidelines for determining the renewable components in waste for electricity generation.
11	The Government should consult with affected parties on implementation of the Panel's recommendations for the RET including: a. Measures for ensuring that large-scale generation certificates trade in a suitable price range that provides an appropriate level of support for accredited power stations. b. Methods for setting targets. c. Setting the distance limit and threshold for third party off-takes for the self-generation exemption.
12	The Panel's recommendations for progressively reducing the deeming rate for solar PV installations and reducing the size eligibility threshold from 100 kilowatts to 10 kilowatts should take effect from the date of announcement. Transitional arrangements should be provided for parties that have entered into contracts on the basis of the current policy at the date of announcement.