



COAG WORKING GROUP ON CLIMATE CHANGE AND WATER

Design Options for the Expanded National Renewable Energy Target Scheme

Making a submission

The COAG Working Group on Climate Change and Water invites interested stakeholders to comment on the two renewable energy target scheme design approaches outlined in this paper. The working group is particularly interested in any data or other information in support of comments on the design issues that may help the working group assess the design approaches.

Submissions should be provided by 30 July 2008 to:

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Copies of this paper are available on the Department of Climate Change website at www.climatechange.gov.au. Hard copies are available on request.

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Confidentiality

It will be assumed that submissions are not confidential and may be made publicly available. If you would like your submission, or any part of it, to be treated as confidential, please indicate this clearly when forwarding your submission.

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1. Background

This section outlines the broad concepts behind the expanded national renewable energy target (RET) scheme and summarises the operation of the current mandatory renewable energy target (MRET) scheme.

1.1 Introduction

The Australian Government has committed to implementing an expanded national RET scheme that will:

- ensure the equivalent of at least 20 per cent of Australia's electricity supply—approximately 60 000 gigawatt-hours (GWh)—is generated from renewable sources by 2020
- increase the MRET to 45 000 GWh to ensure that together with the approximately 15 000 GWh of existing renewable capacity, Australia reaches the 20 per cent target by 2020
- bring both the national MRET and existing state-based targets into a single national scheme
- count only renewable energy towards the target and keep the same eligibility criteria as in the current MRET scheme
- phase out the RET between 2020 and 2030 as emissions trading matures and prices become sufficient to ensure a RET is no longer required.
- retain the eligibility of all renewable energy projects that have been approved under existing state-based schemes.

The design of the RET scheme is being developed in cooperation with the states and territories through the Council of Australian Governments (COAG). In December 2007, COAG established the Working Group on Climate Change and Water. One of the working group's tasks is to ensure an effective national response to climate change, including a nationally consistent set of climate change measures to support an emissions trading scheme (ETS) and the expanded national RET.

COAG asked the working group to present at the COAG meeting in October 2008 a final expanded national RET scheme design. The working group established the Renewable Energy Sub Group, involving representatives from the Australian Government and state and territory governments to assist in designing the RET scheme for presentation to COAG. The Renewable Energy Sub Group developed the two broad design approaches for the RET scheme presented in this paper.

After considering comments received on the two broad approaches and key design issues identified in this paper, the Renewable Energy Sub Group will work towards developing a final design for the RET scheme by September 2008. The working group will present the final design to COAG in October 2008. Once COAG approves a RET scheme design in principle, Commonwealth legislation will be amended. It is intended that the amended legislation will be in place by mid-2009.

1.2 Mandatory renewable energy target (MRET)

The MRET scheme is designed to increase the deployment of renewable energy in Australia's electricity supply. It guarantees a market for additional renewables-based generation (backed by a legislative obligation), using a mechanism of tradeable renewable energy certificates (RECs). One REC is equivalent to one megawatt-hour (MWh) of renewable energy.

Demand is created by legally obliging parties who buy wholesale electricity (retailers and large users) to source an increasing percentage of their electricity purchases from renewables-based generation in the form of annual targets that ramp up to 9500 GWh in 2010 and remain at that level until the measure concludes. Liable parties can acquire and surrender RECs to demonstrate compliance. Alternatively, they can pay a shortfall charge of \$40/MWh.

RECs can be created by a number of providers, including pre-existing renewable energy generators, if they provide electricity above an agreed preset annual baseline. The right (or eligibility) to create RECs is separate from the obligation on wholesale electricity purchasers. RECs can be generated both by commercial-scale renewables-based power generators, and smaller-scale wind power, hydro, and rooftop photovoltaic systems and solar water heaters.

More detail on the operation of current RET schemes—the MRET and state-based schemes—is at Attachment A.

The Office of the Renewable Energy Regulator (ORER) administers the MRET scheme in accordance with the underpinning legislation. The ORER will administer the expanded scheme once the required amending legislation is in place.

2. Design issues

The Renewable Energy Sub Group of the COAG Working Group on Climate Change and Water has identified key design issues that need to be addressed in determining the most appropriate RET design approach. These issues reflect the differences between the MRET scheme and the existing and proposed state and territory RET schemes. They also recognise the significant increase in the target from the current 9500 GWh to 45 000 GWh. Issues identified include:

- liability and annual targets
- eligible sources—including treatment of solar water heaters and native forest wood waste
- banking of RECs
- scheme duration and phase-out
- project eligibility periods
- treatment of existing generators
- compliance mechanisms—shortfall charge
- treatment of trade-exposed electricity-intensive industries

The issues are briefly defined below and discussed later in more detail in the context of two possible design approaches. Discussion of state RET scheme designs is confined to the Victorian and New South Wales schemes, which are complete and have either existing legislation (Victoria) or legislation before parliament (New South Wales¹).

Stakeholders' views are sought on the scope of design issues under consideration, their interactions, and other issues that should be addressed during design of the expanded scheme.

2.1 Liability and annual targets

Australia's existing or fully designed RET schemes (the MRET and the Victorian and New South Wales schemes) include annual targets set in GWhs that ramp up towards the scheme's overall GWh target and thereafter remain flat or ramp down to the end of the scheme.

- Each annual target represents the total additional renewables-based electricity for that year that parties liable under the scheme are collectively obliged to source.
- Liable parties do not need to source the additional electricity directly. Compliance is demonstrated by surrendering to the scheme administrator RECs purchased from accredited renewable energy generators or from RECs traders.
- One REC is equivalent to one MWh of eligible renewable energy.

The expanded national RET scheme will have a legislated target of 45 000 GWh in 2020. At present:

- Under the MRET scheme, the maximum annual target of 9500 GWh is reached in 2010 and remains at that level until the scheme expires in 2020.

¹ The New South Wales legislation is on hold pending the outcomes of the RET design process.

- Under the Victorian RET scheme, the maximum annual target of 3274 GWh is reached in 2016. The target remains at that level until 2022, then ramps down until the scheme expires in 2030.
- Under the proposed New South Wales scheme, the maximum target of 7250 GWh is reached in 2020 and remains at that level until the scheme expires in 2030.

The profile of annual targets has implications for investment profile, generation achieved, technology mix, degree of compliance in the early years and overall cost of the scheme.

Stakeholders' views are sought on possible approaches to setting annual targets and their implications for investment mix, generation profile and cost of the measure.

2.2 Eligible sources

RET schemes include a list of eligible renewable energy sources and technologies that can create RECs. Sources include wind, solar, hydro, wave, geothermal and biomass sources, such as crops, plantations and forests, and the biomass components of municipal, agricultural and manufacturing waste streams.

Specific conditions are placed on the eligibility of some sources. For example, the MRET allows native forest biomass as an eligible fuel subject to this biomass being a harvest residue or processing waste, with further conditions around the harvesting operation. By contrast, native forest harvesting residue is excluded under the Victorian and New South Wales schemes.

Some schemes also allow RECs to be created for renewable energy produced by technologies that do not generate electricity, but rather displace energy from fossil fuels (for example, solar water heaters). Specifically, under the MRET scheme—but not under the Victorian or New South Wales schemes—a REC can also be created at the time of installation for each MWh of energy (either electricity or heat) deemed to be displaced by an eligible solar water heater over a period of 10 years of operation.

A similar deeming process is used under the MRET scheme and the Victorian and proposed New South Wales schemes for small-scale wind, photovoltaic and micro-hydro-electricity generating systems in recognition of the transaction and metering costs of treating them like larger generation systems.

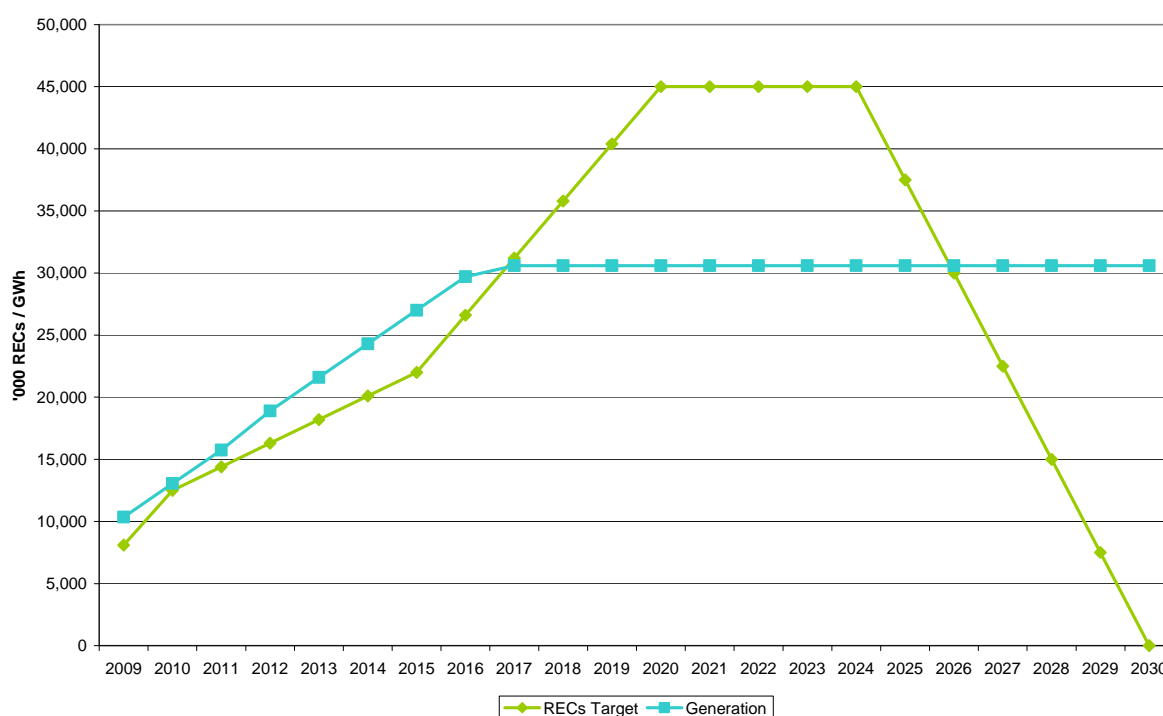
Treatment of solar water heaters under the expanded national RET scheme will have implications for the cost of the scheme, the liquidity of the RECs market, the technology mix and the amount of electricity generated by renewables in 2020.

Stakeholders' views are sought on the treatment of renewable energy sources and technologies, including the treatment of forest biomass and solar water heaters.

2.3 Banking

RECs created or purchased by liable parties to meet annual targets can be ‘banked’ by the owners for sale or surrender in later years of the scheme. RECs for surrender at a later date can be created for generation that exceeds annual targets. This can create a strong early-mover incentive for investors, particularly if the project eligibility period (see section 2.4) extends to the end of the scheme. Enabling RECs to be banked for future years will help to reduce the overall cost of the scheme as the excess supply of RECs from earlier years will lower the cost of RECs on the market. Early-mover activity will also have an effect on infrastructure. In later years liable parties could partially meet RECs targets by surrendering RECs produced by earlier generation, potentially reducing the level of physical generation capacity required to meet later targets.

Figure 2.1 Unlimited banking, potential implications for generation



Note: Figures are indicative only.

All current Australian schemes include unlimited banking; that is, RECs remain valid until the end of the scheme or until they are surrendered.

The approach adopted for banking has implications for a liquid RECs market, the overall cost of the scheme and the technology mix. The banking period can also strongly influence whether or not sufficient capacity is installed to enable 45 000 GWh of electricity to be generated under the scheme in 2020.

Stakeholders’ views are sought on approaches to banking of RECs and their potential impacts on investment profile, generation level and technology mix and on the cost of the measure.

2.4 Project eligibility periods

The project eligibility period is the number of years during which a renewables-based power station that is accredited under a scheme is entitled to create RECs. RECs created during this period can be sold to derive an additional project revenue stream, on top of the revenue from sale of the physical electricity that underpins the RECs.

The MRET scheme allows all accredited power stations to create RECs for the duration of the scheme. In contrast, the Victorian and proposed New South Wales schemes limit eligibility to 15 years.

Restricting the eligibility period to, say, 15 years would moderate the early-mover incentive to invest in renewable energy generation that would otherwise result from allowing projects that come on line early in the life of the scheme to create RECs for longer periods of time.

The eligibility period has implications for the level and profile of investment and for the overall cost of the scheme. For example, if there is an incentive to invest in renewable energy generation to create RECs as early as possible, there will be a greater tendency for market-ready technologies to be used in response to this incentive. This will affect the mix of technologies that are developed under the scheme and may have implications for transmission networks. Upfront investment will have an impact on infrastructure.

Stakeholders' views are sought on the implications of restricting the eligibility period for projects under the scheme.

2.5 Existing generators

Renewable energy schemes are intended to encourage additional generation of renewable energy. Additional generation can occur through deployment of new power stations or through expansions and refurbishments of existing generation capacity.

Under the MRET, eligible plant (mainly hydro and biomass) that existed before the MRET was announced in 1997 can create RECs each year of the scheme for electricity production above a predetermined annual baseline that reflects an historical average level of generation.

Under the Victorian and proposed New South Wales schemes, no generation capacity in commercial operation before 1 January 2007 may participate in the scheme. However, capacity additions can create RECs in some circumstances. For example, generation from a new turbine added to an existing power station could count as eligible generation.

In relation to the expanded national RET, two types of pre-existing generators accredited under the MRET need to be considered:

- power stations built before the introduction of the MRET—currently able to create RECs for generation above annual baselines until the scheme expires in 2020
- power stations built after the introduction of the MRET and before December 2007—able to create RECs for all generation until the scheme expires in 2020.

A third category, power stations eligible under the Victorian scheme, will be considered separately because of a Commonwealth undertaking that renewable energy projects approved under existing state schemes will be eligible under the national scheme.

Treatment of pre-existing power stations under the expanded national RET has implications for the supply of RECs in the market after 2020 and for the cost of the scheme. Depending on the profile of annual targets and the phase-out approach, investors could become concerned that RECs produced by pre-existing generators would crowd out the post-2020 market. This could lead to insufficient investment in generating capacity to achieve 45 000 GWh of renewables-based electricity in 2020.

Treatment of pre-existing generators could also have implications for the credibility and effectiveness of the scheme in driving additional generation, if it is perceived that windfall gains after 2020 could accrue for business-as-usual generation by investments made in the expectation that a RECs revenue stream would be available only until 2020.

Stakeholders' views are sought on how projects already in operation should be treated and whether projects predating 1997 should be treated differently from those predating 2007.

Stakeholders' views are also sought on the treatment of additional generation created, for example, through capacity additions or refurbishment.

2.6 Duration and phase-out

A RET scheme's expiry year sets the end of both the liability period and the period over which renewable energy investors could expect to benefit from the additional revenue stream available from the sale of RECs.

The duration of the scheme, in combination with annual targets, has implications for the cost of the scheme. It also affects the period over which the scheme can be expected to encourage project investment, as capital-intensive renewable energy projects need an extended RECs revenue stream—10 to 15 years or more, depending on RECs prices—to secure investment.

The expanded national RET scheme is intended to provide interim stimulus for the deployment of renewables-based electricity during the early years of an ETS. The scheme is to be phased out between 2020 and 2030 as electricity prices rise under an ETS to allow renewables-based electricity to compete without the price support provided by the RET.

Phase-out could be achieved by mechanisms including:

- ramping down annual targets
- restricting accreditation of new power stations after a particular year
- reducing the non-compliance penalty
- a combination of the above.

Currently the Victorian scheme includes a ramp-down in annual targets from 2022 to 2030. The MRET and the proposed New South Wales schemes have a flat profile of annual targets for the last 10 years instead of a phase-out mechanism.

The approach to phase-out could interact with the duration of the scheme and would have implications for overall cost, RECs price volatility and investment profile. The emissions trading scheme that will commence in 2010 and the associated incentive in the form of a price signal it will deliver for renewable technologies will also be factors to consider for the RET phase-out.

A review of the RET once it has been in operation for some time would allow for the impact of the ETS to be considered and would provide important insight into how the scheme could be phased out.

Stakeholders' views are sought on methods and timing for phasing out the RET scheme between 2020 and 2030 and on their implications for investment profile, generation level, technology mix, and the cost of the measure.

2.7 Compliance mechanisms

Under RET schemes, electricity retailers and wholesale purchasers of electricity are required to surrender each year a number of RECs equal to their liability under the scheme or pay a non-compliance charge per unit of shortfall.

For each MWh for which a liable party fails to surrender a REC, it must pay a shortfall charge. Under the MRET scheme, the shortfall charge is set at \$40/MWh (after tax). Under the Victorian and proposed New South Wales schemes, the shortfall charge is set at \$43/MWh, indexed to the consumer price index (CPI) for Melbourne from the September 2006 quarter onwards.

The shortfall charge can therefore act as both an incentive to comply with the scheme through purchase of RECs and a cap on the REC price. However, if the REC price exceeds the cap, liable parties would probably choose to pay the shortfall charge rather than purchase and surrender RECs. This would discourage investment and lead to a shortfall in the generating capacity needed to achieve 45 000 GWh of renewables-based electricity in 2020.

The need to index the shortfall charge to the increase in the CPI depends on whether inflation is already taken into account in the shortfall charge. For example, a shortfall charge that is set to be just above the projected peak REC price over the life of the RET scheme would already incorporate projected CPI increases.

The shortfall charge can have a significant impact on both cost and investment through its impact on the RECs market. A critical consideration in setting the shortfall charge will be ensuring consistency with the other design issues discussed above.

Stakeholders' views are sought on the appropriate level of the shortfall charge, in particular on whether it should be set at a very high level to encourage compliance or at a level only slightly above the maximum expected REC price.

2.8 Trade-exposed electricity-intensive industries

Liable parties under Australian schemes are electricity retailers and other large purchasers of wholesale electricity. While the majority are electricity retailers, some trade-exposed electricity-intensive users are also liable through their wholesale electricity purchases. Liable parties are required to surrender RECs equal to their liabilities under the scheme or pay the shortfall charge.

The MRET scheme does not include exemptions for trade-exposed electricity-intensive or any other end-use industries.

The Victorian scheme allows specified electricity purchases to be exempted. The only exemptions granted so far have been for purchases made by Victoria's two aluminium smelters. Under the proposed New South Wales scheme, purchases by trade-exposed electricity-intensive users designated by the relevant minister would be exempt.

Trade-exposed electricity-intensive industries that purchase retail electricity are also affected to the extent that their electricity retailer is able to pass through the costs of compliance by charging more for electricity.

The legislation underpinning the MRET scheme and the Victorian and proposed New South Wales schemes does not impede or facilitate cost pass-through.

Any assistance provided to trade-exposed firms to address the impact of the expanded national RET would need to be balanced against the burden that this would impose on other sectors of the economy, including households, which would ultimately have to pay more for electricity.

In the context of an ETS, the Australian Government has committed to addressing the competitive challenges facing emissions-intensive trade-exposed industries in Australia, recognising the perverse incentives the introduction of a carbon price ahead of effective international action can lead to with regard to industries relocating or sourcing production offshore. The nature of the mechanisms to address these challenges is under consideration.

The treatment of trade-exposed electricity-intensive users under the national RET will be considered in the context of decisions around the treatment of trade-exposed emissions-intensive firms under an ETS and will be subject to a separate consultation process.²

² Emissions intensity refers to a broader range of economic activity and emissions than would be the case under the RET, which applies only to electricity generation.

3. Design approaches

In discussions on the key design issues for the national RET within the COAG Renewable Energy Sub Group, two broad approaches to the expanded national RET have emerged. These design approaches represent two general perspectives on the overall rationale for design.

Expert modelling and analysis of design impacts being commissioned by the Australian Government, in consultation with the Renewable Energy Sub Group (see Chapter 4 for further details) will focus primarily on these design approaches.

Approach 1 is based closely on the existing MRET scheme. Its primary focus is on achieving the 2020 RECs target at least cost. It creates a strong investment incentive early in the scheme and encourages the early creation of RECs that can be used in future years to help minimise RECs prices over the duration of the scheme.

Approach 2 seeks to balance the least-cost considerations outlined under Approach 1 with managing the risk that in addition to all RECs targets being met, 45 000 GWhs of renewable electricity is not generated in 2020. This approach seeks to encourage a smoother investment profile to help bring forward new technologies in the latter part of the scheme.

The RET will impact on the economy through higher electricity prices as liable parties pass on their compliance costs to consumers.

While difficult to quantify the differences between the two approaches in relation to costs incurred, intuitively Approach 2 would tend to result in higher costs being borne by energy users than Approach 1.

The key design features of each approach are outlined in more detail in the following section and summarised in Table 3.1.

3.1 Approach 1

The combination of design features in Approach 1 will achieve emissions reductions and renewable energy deployment at low cost by facilitating a liquid RECs market and maximising the contribution of renewable energy sources. For instance, allowing projects to create RECs for the life of the scheme, combined with including solar water heaters for energy displacement and gradually increasing the target in the early years, will generate a large number of RECs at relatively low prices. In addition, the gradual increase in the targets in the early years, combined with unlimited banking and no limit on a project's eligibility period for RECs, will create an incentive for projects to take advantage of the scheme as early as possible.

While unlimited banking of RECs would encourage early investment in renewable energy generation, because of the potential for RECs in excess of the earlier targets to be banked and used to acquit liability in the latter part of the scheme, the target levels of generation might not occur in latter years.

As shown in Figure 3.1 and Figure 3.2, the initial annual targets would involve a substantial increase from the original MRET level to cover the expanded target, and to incorporate existing and proposed state and territory targets. For example, in 2010, the target is expected to be at least as high as the 2010 targets under the MRET scheme and the existing and proposed state and territory schemes. In recognition of the initial increase, the subsequent rate at which the target increases in the early years is lower to allow the renewables industry to develop gradually; the rate then increases at a faster pace to 2020 as technologies and economies of scale improve.

Renewable energy generators that were in existence before the MRET scheme was announced (baseline set pre-1997) and the Victorian RET scheme was introduced (pre-2007) would be excluded from participating in the scheme after 2020. While this is not the lowest-cost approach, it would avoid windfall gains to investments made on the basis that the MRET scheme would run only until 2020.

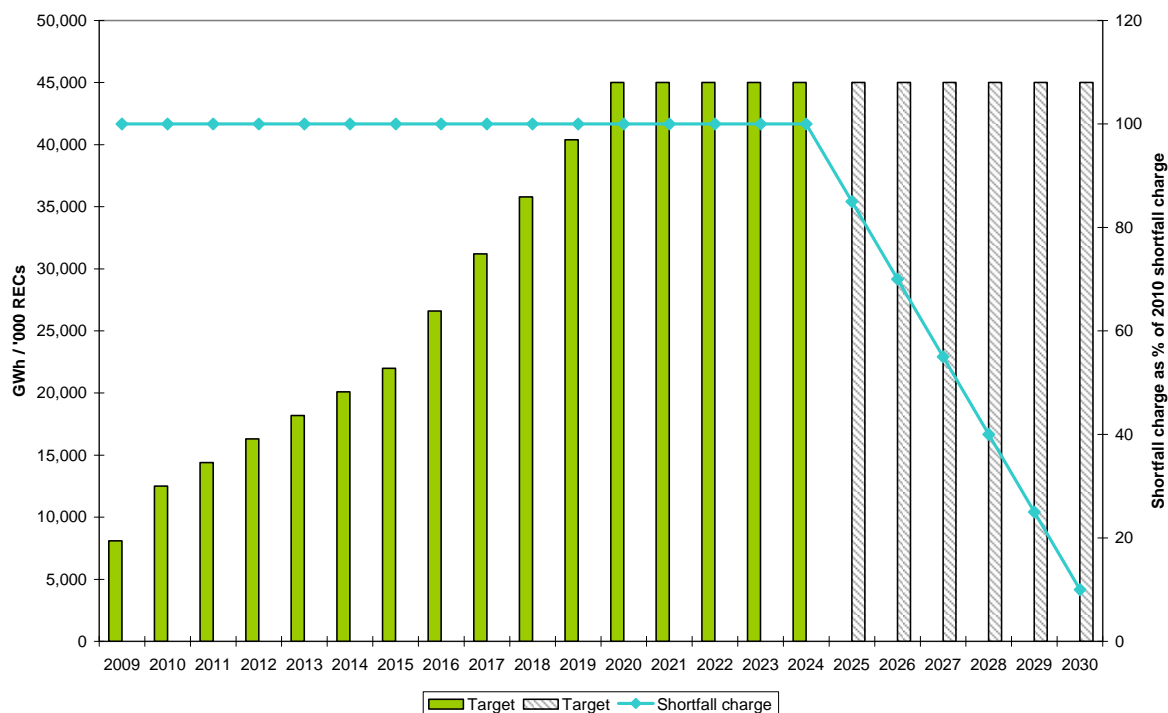
The approach would incorporate a review of the scheme in 2015 to assess whether the scheme was functioning effectively and meeting its objectives.

The shortfall charge would be set above the projected maximum RECs price to encourage compliance; that is, the charge would seek to encourage liable parties to meet their targets every year by surrendering RECs rather than by paying the shortfall charge. The shortfall charge would not be indexed.

Option 1—phasing out the scheme using the shortfall charge

Under Option 1, the RET scheme would be phased out by reducing the shortfall charge by a constant amount each year from 2025 to 2030. This method would assist in phasing out the scheme while enabling the target to be maintained at 45 000 GWh from 2020 to 2030.

Figure 3.1 Approach 1, Option 1—phase-out by shortfall charge

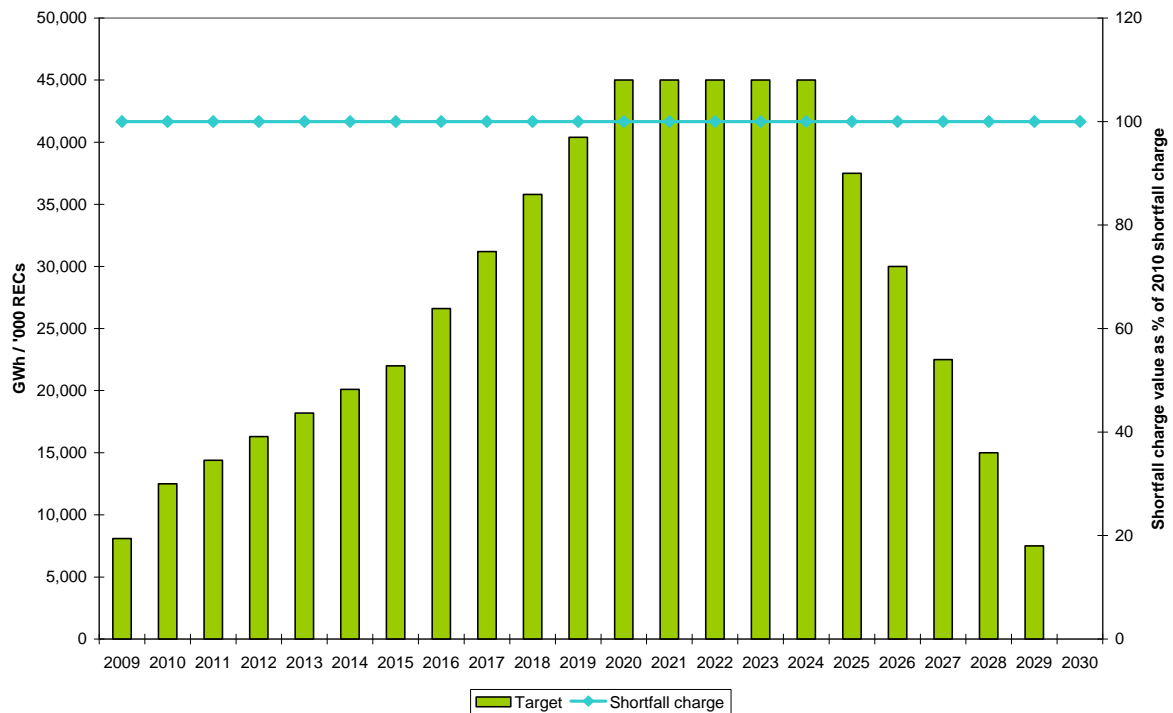


Note: The shortfall charge is indicative only.

Option 2—phasing out the scheme using annual targets

Figure 3.2 illustrates an alternative way of phasing out the scheme under Approach 1 to achieve the same outcome; that is, by keeping the shortfall charge constant while reducing the annual targets from 2025 to 2030.

Figure 3.2 Approach 1, Option 2—phase-out by reducing annual targets

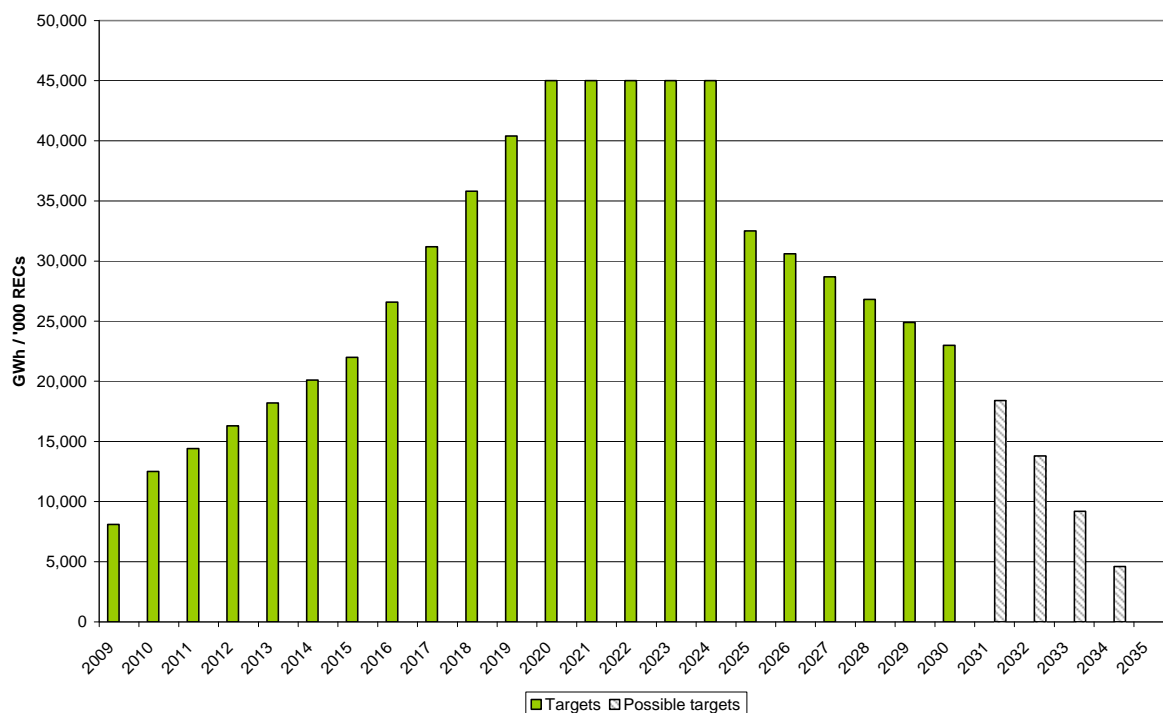


Stakeholders' views are sought on the phase-out options under Approach 1.

3.2 Approach 2

In Approach 2, the design features have been combined to balance the objectives of emissions reduction and renewable energy deployment at low cost with encouraging new generation capacity to meet the 45 000 GWh target in 2020. The approach would facilitate liquidity in the RECs market by allowing eligible sources to participate in the scheme for a substantial time. It would limit the risk of not meeting 45 000 GWh target from actual generation in 2020 by limiting the time that projects would be eligible to create and bank RECs, thereby encouraging greater industry development to meet the renewable target in 2020.

Figure 3.3 Approach 2, target profile



The profile of annual interim targets, combined with limits on banking and a limit on the project eligibility period, is designed to encourage a substantial increase in generation capacity over the life of the measure.

Approach 2, like Approach 1, contains a dual-linear profile of interim annual targets, recognising that industry capacity will develop more gradually in the earlier years and more quickly towards 2020 as economies of scale and learning improve, and as other signals (such as carbon price) factor in to encourage increased deployment of renewables-based electricity generation.

However, Approach 2, by limiting the period in which projects are able to create RECs and by limiting the time projects can bank RECs, would reduce the incentive in Approach 1 to develop projects early to make the most of RECs that would be available for the life of the project. However, as with Approach 1, the initial annual targets would still be substantially increased from the original MRET level to cover the existing and proposed state and territory targets.

While the target through to 2024 is intended to be the same as under Approach 1, the annual targets beyond 2025 are reduced by the same amount that they increased by 15 years earlier, reflecting the inclusion of a 15-year project eligibility period.

There would also be scope for the phase-out of the target to be adjusted after the review in 2015, which will be built into the scheme to assess the investment profile and emerging impact of the carbon price, and determine the most appropriate target levels to phase out the scheme.

Approach 2 treats existing generators in the same manner as Approach 1. To encourage new projects and to eliminate windfall gains to incumbent generators, generators accredited before January 2008 would be unable to create RECs after 2020.

Approach 1 seeks to maintain the inclusion of solar water heaters, as under the MRET scheme. However, as solar water heaters do not contribute to generation of electricity, Approach 2 seeks to phase them out. This approach envisages that circumstances after 2020 (such as the impact of the emissions trading scheme and other incentives such as regulatory requirements) will be sufficient to maintain a significant market for solar water heaters.

In another common feature with Approach 1, Approach 2 involves a shortfall charge that would be set to encourage the relevant liability every year to be met through surrendering RECs rather than paying the shortfall charge.

Table 3.1 Comparison of features of the two design approaches

Features	Approach 1	Approach 2
Annual interim targets	Annual interim targets (set in MWhs) are designed to gradually increase each year to 2020 on a dual-linear basis; that is, the rate of increase is lower in the earlier years of the target to 2015 and higher in the latter years to 2020.	
Treatment of existing generators	Pre-1997 and pre-2007 MRET generators are excluded after 2020 to avoid windfall gains to investments made on the basis of a scheme running to 2020.	
Compliance mechanism—shortfall charge	The shortfall charge would be set above the projected peak REC price (not indexed) for both approaches. However, Approach 1 contains an option to phase out the scheme by reducing the shortfall charge.	
Scheme duration and phase-out	After the annual targets are maintained from 2020 to 2024, the scheme would be phased out by either reducing the shortfall charge or the annual interim targets by a constant amount from 2025 to 2030. A review of the scheme in 2015 would assess its effectiveness and functioning.	After the annual targets are maintained from 2020 to 2024, the annual interim targets would initially be planned to phase out towards 2030 more gradually than under Approach 1. A review of the scheme in 2015 would assess its effectiveness and functioning, with a view to possibly refining the phase-out profile.
Eligible sources	Solar water heaters included, with a 10-year deeming period, until the scheme is wound up in 2030. Native forest wood waste treatment would remain as under the MRET scheme.	Solar water heaters phased out to 2020 and excluded thereafter. Native forest wood waste treatment would remain as under the MRET scheme.
Project eligibility period	All pre-1997 and pre-2007 projects, except those accredited under the Victorian scheme, would remain eligible until the end of 2020. There would be no time limit on the eligibility of projects accredited after December 2007.	All pre-1997 and pre-2007 projects, except those accredited under the Victorian scheme, would remain eligible until the end of 2020. Projects accredited from 2007 would be eligible to create RECs for a maximum of 15 years.
Banking	There would be unlimited banking of RECs.	There would be limited banking of RECs, subject to modelling outcomes.

4. Modelling and analysis

The Department of Climate Change, in consultation with the Renewable Energy Sub Group, has engaged a consultant to conduct economic and electricity market modelling and analysis to inform objective evaluation of design options.

The modelling and analysis will provide information on national and state impacts of scheme design, including:

- economic costs
- investment profile
- technology mix
- network infrastructure
- greenhouse gas abatement
- electricity prices.

The consultancy will be used to test the impacts of interaction of various scheme design parameters, such as banking, in the process of coming to a single final scheme design.

5. Transition and administration

This section discusses how arrangements will be made to incorporate the state-based RET schemes and the MRET scheme into the expanded national RET scheme, as well as the administration of the expanded national RET scheme.

5.1 Transition arrangements

The expanded national RET scheme will absorb all existing and proposed state-based schemes. In addition, all renewable energy projects approved under existing state-based schemes will be eligible under the expanded national RET to ensure that no developments already approved are disadvantaged.

The only renewable energy scheme that has been legislated, other than the MRET, is the Victorian renewable energy target (VRET) scheme, which commenced on 1 January 2007.

The Australian Government and the Victorian Government are discussing how to best manage the transition of the VRET and MRET schemes into the expanded national RET scheme. Transition arrangements should be agreed later this year, at the same time as the Council of Australian Governments considers the design of the expanded national RET.

5.2 Administration

The ORER is a statutory authority established to oversee the implementation of the Australian Government's MRET scheme. The role of the ORER has been established through the *Renewable Energy (Electricity) Act 2000*, the *Renewable Energy (Electricity) (Charge) Act 2000* and the *Renewable Energy (Electricity) Regulations 2001*.

The Renewable Energy Regulator, through the Office of the Renewable Energy Regulator:

- maintains several registers, including registers of registered persons, accredited power stations, RECs, and applications for accredited power stations
- accredits eligible renewable energy power stations
- registers RECs for accredited renewable energy power stations and solar water heater and small generation unit installations
- monitors compliance.

The Australian Government is providing the ORER with \$15.5 million of new funding over five years to administer the national RET. This funding will be used to upgrade the computer hardware and software that the REC registry uses and to increase the staffing capacity of the ORER to address the larger workload associated with the expanded RET.

6. Next steps

This paper is part of a public consultation strategy on the development of the expanded national RET scheme. Responses to this paper will contribute to the formulation of a preferred design for the scheme. The outcomes of the modelling commissioned by the Department of Climate Change to assess the impacts of design options, as well as discussions with the Victorian Government and stakeholders on transitional arrangements from the Victorian RET to the expanded national RET, will also contribute to design decision making.

Following consultation on the two approaches, analysis of submissions and consideration of the outcomes of the analytical modelling, a preferred approach will be developed with a view to achieving agreement between the Australian Government and state and territory governments at the September meeting of the COAG Working Group on Climate Change and Water. COAG endorsement of the approach will be sought at the COAG meeting scheduled for October.

The necessary legislative and regulatory changes will then be drafted for early introduction into the Commonwealth Parliament so that the new arrangements can be in place by mid-2009.

Attachment A

The existing MRET and existing and planned RET schemes

Mandatory renewable energy target scheme

- The MRET scheme came into force in April 2001.
- The scheme's underpinning legislation cites three interrelated objectives:
 - to encourage the additional generation of electricity from renewable sources
 - to reduce emissions of greenhouse gases
 - to ensure that renewable energy sources are ecologically sustainable.
- The MRET scheme creates a guaranteed market for an additional 9500 GWh per year of renewable electricity by 2010.
- The MRET is a market-based measure that encourages renewable energy deployment by creating an incentive for electricity retailers and large users to purchase RECs that are created by renewable energy generators.
- A legislative framework creates the structure and rules for the market to operate effectively. This framework includes the *Renewable Energy (Electricity) Act 2000*, an associated charge Act to set the non-compliance penalty, and a set of regulations.
- The legislation places a legal liability on wholesale purchasers of electricity (retailers and large users) to contribute proportionately towards annual targets that ramp up to 9500 GWh in 2010 and remain at that level until the scheme expires in 2020.
- Demand is created by legally obliging parties who buy wholesale electricity (retailers and large users) to source an increasing percentage of their electricity purchases from renewables-based generation, or pay a penalty of \$40 per MWh of shortfall.
- A supply incentive is created by enabling an extra revenue stream to be earned for generating this additional renewables-based electricity. This revenue stream, which is additional to the price a generator would receive for the physical electricity, is achieved by creating a tradeable REC.
- The measure provides that one REC may be created for each MWh of electricity generated by accredited power stations using eligible renewable energy sources. RECs can also be created for eligible installations of solar water heaters.
- The MRET scheme allows pre-existing power stations to contribute via a baseline approach where these power stations may create RECs for generation above an annual baseline. The baselines were generally set as an average of the levels of generation leading up to 1997 (the year in which the MRET scheme was announced).
- Parties who are liable under the MRET scheme are able to acquire and surrender RECs to demonstrate compliance. The REC price is essentially capped by the non-compliance charge of \$40 per MWh of shortfall. Features that provide flexibility in the way participants engage in the market include:
 - RECs may be traded independently from physical electricity. RECs may be traded in financial markets that are separate from the physical electricity markets.

- RECs may be banked; that is, they may be traded or surrendered at any time before the MRET scheme ends in 2020.
- An internet-based central registry set up to track RECs from creation to surrender and help minimise transaction costs for participants.
- Flexibility has been built into compliance conditions to encourage full compliance. For example, liable parties may roll forward up to 10 per cent of their obligation to the next year.
- The independent Renewable Energy Regulator administers the scheme in accordance with the Act and regulations. Responsibilities include managing accreditation of renewables-based power stations and overseeing eligibility of renewable energy sources, the REC registry and compliance processes.

State-based renewable energy target schemes

The expanded national RET is designed to absorb and replace existing state renewable energy targets. The status and nature of state and territory commitments are set out in Table A1. The Victorian scheme is the only state scheme in place.

While the existing and proposed schemes are broadly similar, there are some design differences, including the types of eligible technologies (for example, treatment of solar water heaters) and energy sources (for example, the inclusion of native forest wood waste), whether existing generation projects can generate RECs and, if so, under what timeframes, and exemptions for energy-intensive trade-exposed industries.

Table A1 Commonwealth and state renewable energy target schemes

	Existing MRET	Expanded RET	Victoria	NSW	Qld	SA	WA	ACT
Stage of implementation^a	Legislative mandate	Announced; under development	Legislative mandate	Legislation before Parliament	Announced May 2007	Legislated	Announced, design paper released	Announced July 2007
Proposed start of scheme	2001	New targets from 2010	2007	2008	2010	Not available	2011	Not available
Energy above pre-existing level (GWh)^b	9500	45 000	3274	7250	Approx. 6700 ^c	Approx. 1500 ^d	2469	Approx. 500
Peak target to be reached in	2010	2020	2016	2020	2030	2014	2020	2020
Measure ends	2020	2030	2030	2030	2030	Not available	2035	Not available

a Where schemes have not been legislated, information relates to proposed settings.

b Commonwealth estimates of peak targets using publicly released information on the schemes, with percentage targets converted where relevant to GWhs, based on Australian Bureau of Agricultural and Resource Economics (ABARE) electricity projections.

c Queensland's scheme is a low emission target; that is, it includes fossil fuel power stations with carbon capture and storage rather than being just a renewable energy target.

d South Australia's legislated target is expressed as an absolute 20 per cent share of electricity. The estimated additional energy required in GWh is a Commonwealth calculation based on ABARE electricity projections.