

14 November 2012

Mr B W Fraser Chairman, Climate Change Authority GPO Box 1944 Melbourne VIC 3001 By email: submissions@climatechangeauthority.gov.au

Dear Mr Fraser

## Submission to the Review of the Renewable Energy Target (RET) Scheme's Discussion Paper

The Australian Coal Association (ACA) appreciates the opportunity to make further comment on the Climate Change Authority's RET Review. The ACA also welcomes the importance that the Authority is placing on an open and transparent review process. The Review's Discussion Paper and the consultation roundtables are welcome aspects of that process given the very tight timeframe available for the Authority to complete its work.

The mandating of fuel sources or technologies reduces choice, distorts markets and increases costs. The ACA notes that this view is shared by the Australian Chamber of Commerce and Industry, the Business Council of Australia and the Minerals Council of Australia. As a result, the RET:

- Contributes to unnecessarily high electricity costs for households and businesses
- Acts as a tax on a fundamental business input
- Does not stimulate necessary RD&D in low emissions renewables technologies
- Does little to promote energy security
- Does not make any difference to the achievement of Australia's overall abatement target
- Does not achieve abatement at least cost

A summary of the ACA assessment of these issues is provided in Attachment A.

Whilst a number of the preliminary recommendations provided in the Authority's Discussion Paper have the potential to provide savings to industry and improve the operation and regular review of the RET, the ACA considers that the Authority has missed an opportunity to make recommendations that would enhance the competitive position of Australian industry. Moreover, some recommendations, if implemented, would further add to investment and operating costs, without any apparent net benefit to the Australian economy.

The ACA's supplementary submission focuses on four of the preliminary recommendations and some issues raised in discussion at a Roundtable in Sydney on 5 November 2012.

## 1. The Discussion Paper does not provide a cost/benefit assessment of the RET

A guiding principle of government regulation should be that it does not restrict competition, unless the benefits of any restriction on the community as a whole outweigh the costs. In reality, the objectives of the RET legislation can only be achieved by restricting competition through mandating a source of electricity in the generation mix. This comes at considerable resource cost to the economy with the heaviest impact falling on established baseload electricity generators, energy-intensive industries and export industries including coal, whose product prices are determined in international markets.

Importantly, some of this resource cost is a permanent 'deadweight loss' to the economy altogether. 'Deadweight loss' in this instance refers to the loss of economic efficiency that results from the mandating of high-cost renewables. The deadweight loss is borne by households and businesses, which are forced to pay a higher marginal cost for electricity than would occur in a competitive market.

A rational argument would look for some environmental or other benefit to offset the cost. However, as Attachment A explains there are no offsetting benefits under the RET, given that a carbon price is now in place.

In addition, the RET adds significantly to the cost of achieving Australia's 2020 target by bringing into the mix established technologies (wind and solar PVC) at a higher cost than warranted under an open market approach that takes into account Australia's comparative advantage in energy resources.

Australia has long-benefited from affordable, reliable and safe coal-fired generation. Coal is Australia's principal source of competitively priced, reliable, baseload power underpinning energy security domestically. There is no other fuel – fossil or renewable – that can perform this competitive role in the power generation mix. This baseload power typically operates at a 75 per cent to 90 per cent annual capacity factor compared to peaking plant that operates at annual capacity factors of between 1 per cent and 10 per cent. <sup>1</sup>

Owing to the intermittency of wind, the percentage of the installed wind generation capacity that is actually available on average in Australia is only between 25 per cent and 40 per cent According to the Australian Energy Market Operator:

"This means that while wind generation may be used effectively to meet regional energy requirements (reducing the need for energy driven investments), it cannot be used to the same extent when meeting capacity requirements." <sup>2</sup>

Additional information on this issue is provided in **Attachment B**.

International experience demonstrates that increasing the share of intermittent renewables comes at a high cost to electricity consumers. For example, German businesses and households pay more than twice as much for their electricity than Australian consumers (see **Attachment C**). The German Minister for the Economy Philipp Roesler recently argued that Germany should adapt her ambitious renewable energy target (of 35 per cent by 2020) to protect jobs and competitiveness. Further, Germany's new energy policy reaffirms the essential role of conventional fuel sources in driving a modern economy because the German Government's decision to retire its nuclear fleet of 17 power stations has necessitated the construction of 23 new coal-fired power stations.

## 1.1 The RET is now solely a form of industry assistance

The Grattan Institute submission to the Review argues:

"Our overall conclusion is that the policy case for the RET, to the extent it was ever valid, is no longer so. The RET does not contribute to either the efficacy or the efficiency of the ETS. In particular, the current energy and climate change policy framework strongly suggests that the RET is now solely a form of industry assistance. This is not to say there is no sound policy basis for supporting low-emission technologies, and renewable energy in that context, but that the RET is not the appropriate vehicle to do so." <sup>4</sup>

<sup>&</sup>lt;sup>1</sup> AGL (2012), Submission to the NSW Parliament's Public Accounts Committee Inquiry into the economics of energy generation, p 2.

<sup>&</sup>lt;sup>2</sup> Australian Energy Market Operator (2011), Electricity Statement of Opportunities Executive Briefing, p 12.

<sup>&</sup>lt;sup>3</sup> Reuters (2012), German ministers cast doubt on green energy targets, 17 July.

<sup>&</sup>lt;sup>4</sup> Grattan Institute (2012), Submission 165 in response to the 2012 Renewable Energy Target review, p 1.

## IPART makes a similar point:

"If the RET is retained its objectives should be amended to make explicit that it addresses industry assistance and not emission reductions (which are more efficiently addressed by the carbon price). We consider industry assistance is best provided transparently from government revenue, rather than through the RET and therefore electricity prices." <sup>5</sup>

The primary goal for Australian economic policy and of industry policy should be achieving high levels of sustainable economic growth for industry and Australians. As it is now a business program, the RET should be evaluated in a framework of market failure principles requiring evidence of the capacity of governments to effect demonstrably beneficial change on the economy.

Interventions (such as taxes on business inputs imposed by the RET) constrain industry development and should be evaluated against the same market failure principles. Intervention justified on market failure grounds should not be viewed or officially documented as assistance (e.g. the Fuel Tax Credit Scheme).

The Productivity Commission has recommended an approach to assessing business programs. This is set out in **Attachment D** together with a brief assessment of the RET against the criteria. This assessment illustrates that it is difficult to establish an economic justification for the RET. It is not addressing any market failures and is adding unnecessarily to costs in the economy.

A logical result of the application of the Productivity Commission's approach is that a business program, such as the RET, that does not meet application of the market failure principles should be withdrawn. Existing property rights (including for waste coal mine gas used in electricity generation) should be grandfathered or compensated.

## 1.2 Recommendations 2 to 4: The Large-scale Renewable Energy Target (LRET)

The Authority's preliminary views on the LRET follow from its premise about the role of the mandatory renewable energy target in the Australian economy. But the resulting ambiguity about the role of the RET means that the Authority is not able to present a clear benefit/cost assessment of its recommendations.

The Authority is essentially concerned with the (renewable energy industry) confidence effects of maintaining the RET cross-subsidy. In essence, the argument is if you take away the subsidy the confidence goes with it, which is in some sense costly. This is a partial analysis, however, as consideration of the confidence effects of an inappropriate RET does not seem to be taken into account in the analysis.

Given that there is some problem in justifying the scheme, there may be some argument for minimising the harm it could do (or maximising its conditional net benefits). This may provide an argument for lowering the target e.g. 'we know that the scheme is costly and economically inefficient, but it may be playing a role in the presence of uncertainty'. In this case, Australia should be extremely cautious on how ambitiously it targets the scheme.

The Authority considers that while there would be resource cost savings from lowering the target, these are offset by the increase in uncertainty. This latter point is not demonstrated, merely asserted. Further, there is no analysis of who bears the incidence of this uncertainty and whether this constitutes a true welfare loss to the community. After all, saving of resource costs would have some confidence benefits as well.

<sup>&</sup>lt;sup>5</sup> Independent Pricing and Regulatory Tribunal, NSW (2012), *Submission 81 in response to the 2012 Renewable Energy Target review Issues Paper*, p 2.

## 1.3 The RET may reduce wholesale prices but this is not a 'benefit' of the RET

It has been argued that the imposition of the RET has led to lower wholesale prices than in the absence of the target. This reduction in wholesale prices reflects the need to ensure that the mandated renewable energy supply is actually taken up in the market, particularly if the incremental supply from renewables is greater than the incremental demand in the market.

This reduction in wholesale prices is not, however, an indicator of 'benefits' from the RET. Rather, it reflects an adjustment mechanism within the market to take up the <u>mandated</u> supply. Because renewable energy sources are more expensive than current baseload sources, the economy must divert additional real resources to supply renewable energy. This cost is reflected in the certificate price, which is in turn passed on to consumers. Thus while wholesale prices may fall, retail prices must increase as the economy incurs additional generation costs. Part of the burden of this increased generation cost is born by baseload generators given the crowding out effect that the RET is having on their ability to despatch electricity competitively into the grid.

While the modelling undertaken for the Authority provides considerable detail on the electricity market it does not provide a systematic benefit/cost analysis. In particular, it does not provide a detailed sense of the flows of benefits and costs both within and outside the electricity market.

On the question of certainty, effectively taxing consumers to provide a subsidy to a narrow set of energy sources only provides certainty to one part of the economy at the expense of other sectors of the economy.

 Recommendation 20: The preliminary view of the Authority is that there is no strong case for the exemption from liability under the Renewable Energy Target for self-generation, and that the exemption should be removed for new self-generation (but retained for existing self-generators).

The Discussion Paper suggests there is no strong case for the exemption of off-grid electricity generation from the RET and that the exemption should be removed for new self-generators. Whilst noting the proposed grandfathering of existing self-generators and recommendations for transitional arrangements for those in the process of installing self-generating facilities the ACA argues strongly that the exemption should continue to exist for new and existing self-generators for the following reasons:

- The exemption from liability under the RET for self-generators is an important component of the RET and has been in place since the inception of the MRET scheme.
- Retention of the self-generation exemption provisions is supported by the Council of Australian Governments Renewable Energy Sub Group in its Report to the COAG Select Council on Climate Change, March 2012.
- The original MRET scheme was based on grid generation in recognition of the vast distances in Australia, the remote location of many resource projects (which means there is little alternative to self-generation) and the difficulties of deploying renewable energy where the need is for a constant and reliable energy source 24/7. Where practical, renewable and other sources of energy are used for example hydroelectricity on the Ord River, renewables for train signalling and communications in the Pilbara and the Goldfields Gas Pipeline, built by the mining industry to provide electricity to Newman, Mount Whaleback, and the gold mining and nickel mining and processing industries).
- The mining industry was consulted in the design of the MRET criteria governing this aspect. The majority of stakeholder feedback to the relevant COAG Renewable Energy Sub Group review once again argued the provisions are unduly restrictive and do not fully take into account the size and complexity of remote resource project requirements.
- In addition to the considerable capital costs of this generation investment most are run on diesel fuel, which now has a 6 cents a litre charge under the carbon pricing mechanism.

Electricity generated by a coal miner for their sole use occurs in Australia using both Waste Coal Mine Gas in conventional generation technology or, in one demonstration project in NSW, using Ventilation Air Methane in Regenerative Thermal Oxidation technology. The conventional technologies are only viable if the methane from the Waste Coal Mine Gas is of sufficient volume and purity for beneficial use. In both cases the greenhouse gas emissions from flaring or from electricity generation are essentially the same. Adding these off-grid activities into the RET would impact their viability without a concomitant environmental benefit. It is recommended these activities also continue to be exempt from the RET.

The ACA would be happy to respond to any enquiries the Authority may have in relation to this submission. For further information, please contact Mr Peter Morris, Director Economic Policy, on 02 6120 0200 or via email: <a href="mailto:peter.morris@australiancoal.com.au">peter.morris@australiancoal.com.au</a>.

Yours sincerely

**Greg Sullivan** 

DEPUTY CHIEF EXECUTIVE OFFICER

## A SCORECARD FOR THE RENEWABLE ENERGY TARGET

What do we get for the cost of the RET? The RET involves devoting real resources to renewable energy. According to the modelling undertaken for the Climate Change Authority (CCA), this real resource cost is around \$7.8 billion for the period 2013-2031.

- Abatement? The RET might result in lower domestic emissions, but it does not make any difference to achieving Australia's overall abatement target. While it encourages relatively more domestic abatement (abatement within the Australian economy) compared with the purchase of international abatement, it does so at a very high abatement cost. The CCA's own estimates indicate that this is \$36/t, while other studies have indicated a range from \$37/t to as high as \$290/t. Compared with the existence of a carbon price, the RET does not generate additional efficient abatement.
- Encouraging R&D? The RET is not in itself an R&D measure. While it encourages the installation of new renewable capacity, most of this is of established technologies purchased from overseas suppliers. In contrast, there are a range of other specific R&D measures in place and currently being developed as part of the Government's overall carbon package that directly address R&D questions.
- Enhancing energy security? The Australian Government defines energy security as encompassing adequacy (the provision of sufficient energy to support economic and social activity), reliability (the provision of energy with minimal disruptions) and affordability (the provision of energy at a price that does not adversely impact the competitiveness of the economy and supports continued investment in the energy sector). Adequacy thus includes the existence of energy alternatives. Affordability refers to the price (the real cost) of those alternatives. Reliability refers to the overall ability of the economy to adjust to shocks to the energy system (it is closely related to vulnerability). While the RET may have some influence on adequacy, it does not contribute to either affordability or reliability. As noted, the RET involves high resource costs and implementing very high cost generation methods. This tends to increase prices rather than to increase affordability. Further, at the margin, the resources devoted to the RET are unavailable for use elsewhere in the economy and could, in principle, reduce reliability.
- Providing certainty? Effectively taxing consumers to provide a subsidy to a narrow set of
  energy sources only provides certainty to one part of the economy at the expense of other
  sectors of the economy.
- Providing a backup policy should the carbon price fail? Both major parties have distinct policies aimed at reducing greenhouse gas emissions. The most effective way of reducing emissions is through a market mechanism with access to international abatement. Given that it is well established that the RET is an expensive abatement measure, the response to uncertainties in the carbon price should be to address those uncertainties directly, not to retain or introduce more expensive (sub-optimal) policies that are locked in for decades.

#### NOTE ON WIND AND SOLAR PVC TECHNOLOGIES AND PEAK DEMAND

The RET brings into the mix established technologies (wind and solar PVC) at a higher cost than warranted under an open market approach that takes into account Australia's comparative advantage in energy resources.

As a result of the success of this pull-through of more expensive technologies, the Australian Electricity Market Operator has introduced measures to make wind-produced electricity coming into the grid "controllable" to ensure its variability does not adversely impact grid stability. In addition, the Australian Energy Regulator has noted that rooftop solar PVC installations are being subsidised not only by government but also by other electricity customers, including those households who do not have an installation. <sup>6</sup>

The AER has also pointed out that it is necessary to ensure back up of wind electricity, for example in South Australia, because of its intermittent nature and the fact that it is not typically available during periods of peak electricity demand. This is illustrated in **Chart B1**, which shows demand on peak summer days. Wind's profile runs counter to demand so that, while the RET is encouraging wind generation, it makes an almost negligible contribution to peak events. Meeting these peak events is a major challenge for the generation industry – billions of dollars of investment is required to ensure capacity is available even if it is only used for a few days of the year. This of course is adding to the cost of electricity for consumers.

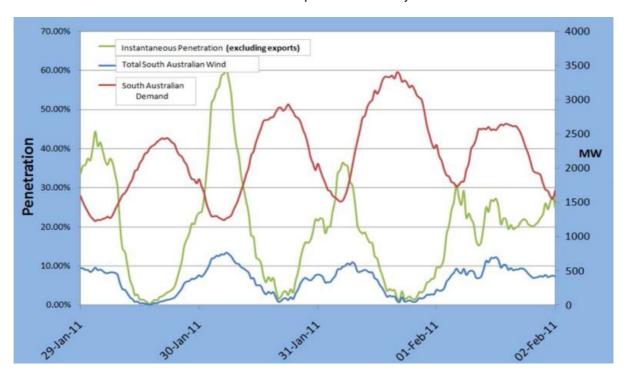


Chart B1: South Australian demand and wind on peak summer days

**Source**: Australian Energy Market Operator (2012), *South Australian Wind Study Report*, Appendix B2 and reproduced from Ecar Energy, "Wind Integration in Electricity Grids: International Practice and Experience". October 2011.

<sup>&</sup>lt;sup>6</sup> AEMO (2011), *National Transmission Network Development Plan*, Chapter 4, page 4-9 explains that "The ability to reduce generation output through dispatch [controllability] is important for managing power system security. In Australia this is implemented through the semi-dispatch of generation registered as semi-scheduled, to maintain generation output at or below a specific level." See also AEMO (2011), *Wind Integration In Electricity Grids: International Practice And Experience*, 2 October.

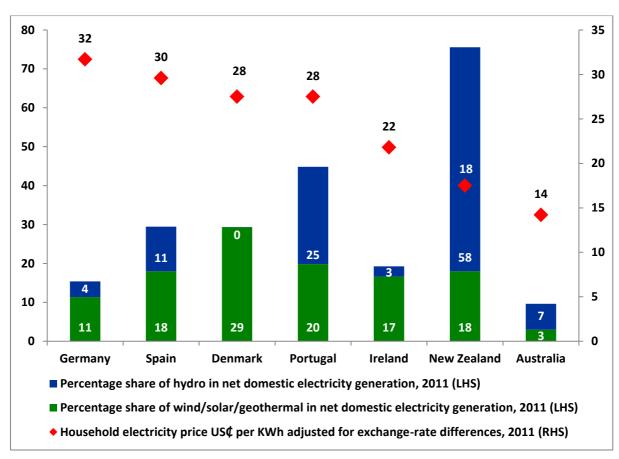
# THE COST OF MANDATING INTERMITTENT RENEWABLES - INTERNATIONAL LESSONS

International experience shows that regulatory requirements to increase a nation's share of intermittent renewables – notably wind, solar and tidal power – results in relatively high retail electricity prices.

This follows from the inescapable physical fact that wind, solar and tidal power are not continuously available and electricity cannot be stored at large-scale for future use. Since intermittent renewables by definition cannot provide a reliable supply of electricity, they must be backed up by conventional fuel sources such as coal, gas, hydro or nuclear.

In other words, intermittent renewables cannot replace conventional fuel sources; they can only displace them temporarily and not on demand. Consumers of electricity must ultimately pay for the additional infrastructure and operating costs that are required to integrate wind, solar and tidal into the grid. (The notion that renewables provide energy 'for free' is no more true than the harvesting and transport of fruit is free.) Moreover, nations whose governments mandate the deployment of intermittent renewables must accept the loss of competitiveness that results from taxing an essential business input.

Chart C1: Household electricity prices for advanced economies with a share of intermittent renewables in net domestic electricity generation ≥ 10% – compared to Australia, 2011



**Sources:** Department of Resources, Energy and Tourism, Senate Select Committee on Electricity Prices – Responses to questions from the 25 September 2012 Public Hearing, p. 4 and International Energy Agency, Monthly Electricity Statistics, July 2012.

Chart C1 above plots the household price of electricity in US cents per kilowatt hour (adjusted for purchasing power parity) for advanced economies whose share of intermittent renewables in net domestic electricity generation is 10 per cent or more. Australia, which only has a 3 per cent share of intermittent renewables, is included for comparison. Chart C1 also shows the share of hydro for each of these economies.

It is evident that households in economies with a high penetration of wind and solar pay significantly more for their electricity than Australian households. In particular, consumers in Germany, Spain, Denmark and Portugal pay at least twice as much for their electricity as those in Australia. In addition, Denmark and Portugal both have to import electricity to sustain their high share of renewables: Denmark draws on hydroelectric power sourced from Norway, while Portugal imports coal from Colombia and the USA.

The exception to this pattern of high-cost intermittency is New Zealand, whose household electricity price (US 18¢ PPP/KWh) is less than the OECD average (US 21¢ PPP/KWh). This unusual result can be attributed to New Zealand's comparative advantage in hydro and the geographical concentration of its electricity grid. Indeed, those OECD economies with a very high share of renewables but a relatively low price of electricity – such as Norway, Sweden and Switzerland – generally have a substantial share of hydro and a negligible share of intermittent renewables.<sup>7</sup>

Germany provides a striking case study of the economic impact of a long-term mandatory renewable energy target. In 2011, Germany's share of renewables in net domestic electricity generation was 15 per cent, with intermittent renewables accounting for 11 percentage points (or 73 per cent) of this share (refer to Chart C1 on the previous page). Further, Germany is committed to an aggressive renewable energy target of 35 per cent by 2020 and 80 per cent by 2050, despite having one of the highest retail electricity prices in the OECD. At US 32¢ PPP/KWh, German consumers pay more than double for their electricity than Australians (US 14¢ PPP/KWh).

Nonetheless, senior German ministers are now emphasising the need to make German power more affordable. The Minister for the Economy has declared that the Federal Government should adapt its ambitious renewable energy target to protect jobs and competitiveness. Similarly, the Minister for the Environment has pointed out that German's goal of reducing electricity consumption by 10 per cent by 2020 would require an enormous effort and might not even be possible.<sup>8</sup>

In addition, the German Government's shift away from nuclear power is reinforcing the importance of coal in the nation's energy mix. Germany is constructing 23 new coal-fired power stations to offset the planned retirement of its 17 nuclear plants. Germany has decided to switch to coal because it is less expensive than gas and more reliable than wind and solar. As the Premier of Saxony, Stanislaw Tillich, noted at the recent opening of a brown coal-fired power plant in his state:

"Our domestic brown coal is an important partner for renewable energy because it guarantees security of supply."<sup>10</sup>

Germany's decision to replace her nuclear fleet with coal means that the latter will be locked in as a source of electricity generation for at least thirty years. 11

As noted earlier in this submission, the predominance of coal in Australia's electricity mix explains why we have long enjoyed relatively affordable electricity by international standards. However, the Renewable Energy Target is undermining Australia's comparative advantage in low-cost and reliable power. Until the RET is phased out, business and households will continue to pay a heavy price for a policy that is reducing our national competitiveness without efficiently reducing CO<sub>2</sub> emissions.

<sup>8</sup> Reuters (2012), <u>German ministers cast doubt on green energy targets</u>, 17 July.

<sup>&</sup>lt;sup>7</sup> See International Energy Agency (2012), Monthly Electricity Statistics, July.

<sup>&</sup>lt;sup>9</sup> Cecilia Jamasmie (2012), <u>Germany's coal power revival to boost energy change</u>, mining.com, 20 August.

<sup>&</sup>lt;sup>10</sup> Diarmaid Williams (2012), New 675 MW coal fired power plant opens in Germany, Power Engineering International, 12 October

October.

11 Stefan Nicola and Tino Andresen (2012), Merkel's Green Shift Forces Germany to Burn More Coal, Bloomberg, 21 August.

## ATTACHMENT D

## CHECKLIST FOR ASSESSING PROPOSED OR EXISTING BUSINESS PROGRAMS

A. Threshold questions		Assessment of the RET scheme
•	Are there externalities, information deficiencies or policy impediments that warrant government involvement?	Complementary measures, such as the RET, can only be justified if they address a demonstrable market failure that is not already ameliorated by the carbon pricing mechanism or other initiatives or by the Clean Energy Finance Corporation.
•	Are there significant costs if nothing is done, and do they exceed the costs of government intervention?	Mandating fuel sources or technologies reduces choice, distorts markets and increases costs.
•	Is a business program the only, or the best, way to address the problem?	It is difficult to establish an economic justification for the RET in the presence of both a carbon pricing mechanism and the Clean Energy Finance Corporation. Essentially the only justification is political risk and price uncertainty around the carbon pricing scheme.

B. Design and delivery questions  If the answer to all of the above questions is yes:	Assessment of the RET scheme
Does the program target the problem explicitly?	No: there are two market failures to be addressed:  (a) <i>Pricing greenhouse gas emissions</i> – the RET does not make any difference to achievement of Australia's overall abatement target but the abatement it produces is at a significantly higher price than other sources of abatement.  (b) <i>The public good nature of research, development and demonstration (RD&amp;D)</i> – the RET does not target this either as it effectively mandates mature and expensive renewable technologies instead of supporting RD&D and motivating market players to commercialise the most efficient low emissions renewable technologies.
Is its emphasis on supporting additional activity?	Yes: the scheme aims to increase the share of (higher cost) renewables in the generation mix, This comes at a cost as it displaces more cost effective alternatives.
Is the program open to any firm and, if not, why not?	No: the program mandates available renewable technologies
Is there scope to reduce compliance costs without adversely affecting broad outcomes, or reducing the capacity of the managing agency to monitor the program?	Possibly: This criterion is not as relevant given the nature of the assistance scheme.
<ul> <li>Does the program avoid duplication with other Commonwealth or state and territory programs?</li> </ul>	Yes: the original conception of the scheme was to replace state/territory schemes though some still exist. The national expanded RET scheme was agreed to by the Council of Australian Governments in April 2009.

•	Is the support provided to firms transparent?	No: The actual cost of the RET (eg in promoting solar PVC and wind) is not transparent nor is the cost to industry and final consumers. The support is off budget and therefore is not scrutinised as part of the annual budget process.
•	Does the program have clear eligibility criteria which avoid undue administrative discretion?	Yes: although it is open to all renewables it is effectively focussed on currently available technologies.
•	Is there a requirement for public reporting of outcomes achieved and the beneficiaries of assistance?	There appears to be extensive administrative reporting but clear and accessible reports of environmental achievements and industry beneficiaries would be welcome.
•	Does the program have a sunset clause and is there provision for independent, periodic review?	Yes: the nature of the scheme has changed since it was first conceived. It will have operated for about 30 years when it finally concludes as currently designed. There is scope for review but the review process of the Productivity Commission would be preferable given its long-established role as an objective arbiter of government policy.
•	Where the program involves a service to business, is delivery contestable and are users required to contribute to costs?	Limited contestability: the RET mandates investment in renewables and in associated transport infrastructure (poles and wires). The charge for the latter is not transparent.

Criteria sourced from: Industry Commission (1997), Submission to the Review of Business Programs, page vii or Ian Bickerdyke and Ralph Lattimore (1997), "Reducing the regulatory burden: does firm size matter?", Industry Commission Staff Research Paper, December, page 141.