RET Review Secretariat

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Attention: Brad Archer

EXPERT PANEL REVIEW OF THE RENEWABLE ENERGY TARGET

1 EXECUTIVE SUMMARY

The Australian Industry Greenhouse Network (AIGN) welcomes the opportunity to provide input into the Renewable Energy Target (RET) Review.

In offering a response to the Review Panel's Discussion Paper, AIGN notes its broad range of members, which results in a wide diversity of views on greenhouse and energy policy. This response accords with the views of AIGN members generally, but it does differ from the positions of some individual member associations and companies. Therefore it is important that the Review Panel takes AIGN's feedback alongside member responses, in which they highlight issues of greatest importance to them.

The energy and commercial sector, as well as the policy environment, have changed considerably since the expanded RET was first announced. Demand for electricity has continued to decline, and realistically this trend can be expected to persist given changes in energy use in the household and manufacturing sectors. The policy environment is now expected to change again with the abolition of the carbon price, establishment of the Emissions Reduction Fund (ERF) in July 2014, and implementation of the safeguard mechanism from July 2015.

In this environment AIGN considers it valid to revisit the role of the RET within Australia's suite of climate change policies. This should occur as part of a dialogue about how best to achieve the primary objective of lowest cost abatement while maintaining Australia's economic stability and international competitiveness. The underpinning principles of the RET should be revisited and assessed within this new policy and operating environment.

AIGN's preference for greenhouse gas mitigation strategies is the application of market solutions to market failures where they exist and when, with intervention, it is reasonably assured that there will be substantial net benefits. The RET reflects a particularly interventionist policy approach that encourages investment by one sector of the economy (the renewables sector) on the basis of substantial subsidies from households and industry (particularly energy intensive industry), and, as has become apparent, a cost transfer from existing generators.

Whilst the RET has encouraged an increase in renewable generation capacity, analysis presented in this submission indicates that on a cost benefit analysis, the RET fails to meet the Government's objective of lowest cost abatement. Different parts of the economy, particularly industry, incur significant costs due to the RET.

AIGN's submission highlights the distributional impacts of the RET on industry with a particularly heavy burden borne by the Other Metals sector and other energy intensive sectors. The burden is imposed on a few highly exposed sectors, and is contrary to the general proposition that climate policies should allow for economic growth.

AIGN analysis is supported by the recognition of the Climate Change Authority (CCA), in its 2012 review (as well as a number of independent experts) that the RET is not a least cost abatement mechanism. Any claimed benefits from the RET, such as lower wholesale prices and increased employment, can be attributed to the payment of a subsidy borne by other sectors of the economy. Based on past analysis (where the cost of abatement was estimated between $40 to nearly $300 per tonne) the cost of abatement under the RET is likely to considerably exceed the likely reasonable benchmark price under the ERF. As such the high cost of abatement under the RET is at odds with the Government's broader climate change policy approach reflected in its Direct Action policy. It is also contrary to the Government's industry policy approach and the reduction in the payment of subsidies or protection (exemplified in decisions on support of the automotive industry).

Overall, the long run reduction in GDP resulting from the RET is around 0.2 per cent each year (this is the reduction in GDP compared with what it would have been without the RET)[1]. This is a large impact for a single policy. The GDP cost needs to be assessed against the claimed benefits of the RET.

AIGN considers that the ERF should be Australia's major climate change policy to the future with its focus on lowest cost abatement. Noting the costs associated with the RET, AIGN recommends that the RET be abolished in the shortest possible time frame to minimise the cost to households, trade-exposed industries and existing generators, while protecting the investment made by renewable suppliers to date.

However, should these factors be ignored and a decision made to retain the RET, AIGN proposes a compromise position of, as a minimum, reducing the RET target to a 'true' 20 per cent of generation. This position is augmented by a number of further options the Review Panel should consider to reduce the cost borne by industry. Should the RET continue then AIGN supports the inclusion of an increased number of renewable energy sources, including sustainably harvested forest residues, heat, and liquid transport fuels.

Also in a compromise scenario where the RET is retained, the SRES should be reviewed and its abolishment considered on the basis of its vast over-delivery and the nature of this component of the RET subsidy, which protects current small-scale generators from risk. AIGN also recommends that the exemption for self-generators should be continued and extended to allow incidental offtakes in the event of the RET's continuation.

2 INTRODUCTION

AIGN welcomes the independent review into the RET and is conscious of the short time frame allowed for this review, given its link to the Energy White Paper process. In-depth consideration and consultation into the future of the RET is required, particularly an evaluation of the RET's objectives within the current economic and policy environment. This requires the modelling of a range of possible future scenarios for the RET, including the scope for immediate actions that could be taken to alleviate the electricity cost pressures on significant parts of the Australian industrial sector.

Australia's economy is led by a range of industries that have developed here due to the availability of, and access to, competitively priced energy and resources. Indeed, our natural resources advantage underpins our prosperity. Australia's energy endowment and energy industries should continue to provide a competitive advantage to the economy. It remains a fact that, for the foreseeable future, the Australian economy will continue to rely heavily on fossil fuel based energy for a significant part of its economic growth. As the Prime Minister, the Hon Tony Abbott MP, commented in an interview with 2GB on 9 January 2014, "Australia should be…the affordable energy capital of the world. We have a super abundance of coal. We have a super abundance of gas. These are the drivers of prosperity and let's make sure we can get access to them at the lowest possible price".[2]

Major sectors of Australian industry have faced a significant increases in the cost of electricity over the past five years, which has adversely impacted international competitiveness despite considerable investment in improved energy efficiency at facility and corporate levels.

The RET encourages investment by one sector of the economy (the renewables sector) on the basis of subsidies from both households and industry. The implications of this subsidy and its failure as a low cost abatement policy are considered further at Sections 4 and 5 below. AIGN's preference with regard to

[1] GDP costs of this order of magnitude are similar to other studies, including, for example BAEconomics (2012) *Implications of the RET for the Australian Economy*, report prepared for APPEA, September (available at www.baeconomics.com.au/wp-content/uploads/2012/09/baeconomics-appea-ret-report-8sep12.pdf).
[2] Tony Abbott, *Interview with Andrew Moore on 2GB*, 9 January 2014. Available from: http://www.pm.gov.au/media/2014-01-09/interview-andrew-moore-radio-2gb-0.

greenhouse gas mitigation strategies is for the application of market solutions to market failures where they exist and when, with intervention, it is reasonably assured that there will be substantial net benefits.

Whilst the RET has encouraged an increase in renewable generation capacity, analysis undertaken by AIGN indicates that on a cost benefit analysis, the RET fails to meet the objective of lowest cost abatement and therefore incurs significant costs to different parts of the economy

AIGN's submission examines the policy rationale and theoretical underpinnings of the RET, undertakes a cost-benefit analysis and provides recommendations for the future of the RET, most notably its cessation.

3 POLICY RATIONALE FOR THE RET

It is noted that the objectives of the REE Act are to:

1. Encourage the additional generation of electricity from renewable sources;
2. Reduce emissions of greenhouse gases in the electricity sector; and
3. Ensure that renewable energy sources are ecologically sustainable.

The RET has successfully led to the additional generation of electricity from renewable sources. It must be pointed out, however, that it has done so at a high cost, and with a full subsidy to renewable generators; this rate of subsidy is highly unusual, and quite singular, in the Australian policy environment. The Act does not set out the rate of increase of renewable generation required under the RET, although a bipartisan commitment to increasing Australia's share of renewable energy to 20 per cent of consumption by 2020 has been in place since at least 2008 (when the expanded RET was being designed). Taking note of an emerging trend of falling demand against increasing capacity being forced online, it is pertinent for the Panel to ask, how much more renewable generation should the RET encourage, and at what cost? AIGN believes there is a compelling argument supporting the view that this objective has been achieved.

Whilst the RET has led to additional greenhouse gas abatement, it only indirectly targets emissions and is a very costly way of doing so. The objects of the Act pay no attention to the cost of abatement and AIGN welcomes the intent of the Review Panel to examine whether "there (are) more efficient and effective approaches to achieving these objectives." In the context of the ERF and its focus on low cost abatement, it makes no sense to support a policy with a higher cost of abatement than the Government would accept – that is, higher than the likely reasonable ERF benchmark price which will prevent projects bid at auctions above this price to secure ERF funding.

As for the third listed objective, it is AIGN's view that the policy has been so zealous in this respect that certain ecologically sustainable renewable energy sources have not been able to access the RET. These include non-electricity sources such as renewable heat and biofuels, and forest residues (where either outright bans or de-facto bans by way of difficult regulation have presented barriers).

At times, commentators provide alternate objectives for the RET. Sometimes it is seen as encouraging development of new technologies. However the RET is a production subsidy, not a research and development subsidy. It encourages production of the currently lowest cost existing technologies; it does not fund R&D into currently high cost, pre-commercial technologies. This is demonstrated by the preponderance of investment into wind energy.

It has also been argued that the RET functions as an energy security measure, but security is not the key policy concern with non-renewable technologies. An increase in cost is not an energy security target.

It has further been claimed that the RET delivers:

- Employment benefits (which are not benefits, but costs); and
- Subsidised reductions in wholesale or retail prices (which do not reflect lower costs, but merely reflect a cross subsidy).

These issues are considered further below.

4 THEORETICAL UNDERPINNINGS OF THE RENEWABLE ENERGY TARGET: CONSUMERS AND EXISTING GENERATORS FACE COSTS

In broad terms, the RET is a regulatory scheme which pays a subsidy to renewable producers in order to increase the supply of renewables into the electricity market. How this subsidy is funded depends on the time frame and a variety of other factors at work within the electricity market. Figure 1 provides a stylised long run representation of key features of the RET.

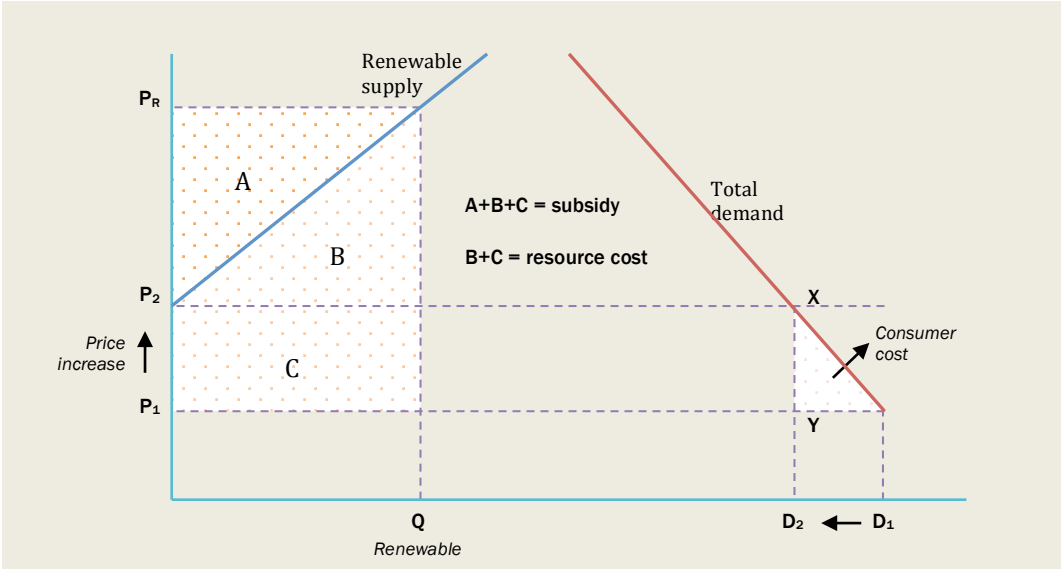

Figure 1: Long run representation of the RET.

Before the introduction of the RET, prices are at P1 and demand is at D1. The RET requires a renewable quota (Q) which in turn requires that renewable suppliers receive a price PR in order to fund the renewable supply to the quota level. In the practical operation of the RET, this price is achieved through the requirement that retailers and selected other energy suppliers purchase renewable energy certificates. The difference between PR and P1 is, in effect, the certificate price. This price is paid on all supply of renewables required by the quota, implying a total subsidy of (PR – P1)*Q (the shaded areas of the chart). This subsidy is made up of two elements: the areas B and C, which together form the resource cost of generating the additional renewable supply; and the area A which represents the producer surplus to renewable generators.

The total subsidy (A+B+C) is, in this representation, funded by consumers through an increase in electricity costs (brought about in practice through the certificate price). Consumers include all users of electricity, both household and industry.

Electricity costs increase in the long run because of the introduction of higher cost electricity supplies. In this illustration, there is no renewable supply in the market initially as the cost is too high (the supply curve for

renewables does not intersect with the initial supply price (P1) from conventional generators). The total amount paid by consumers is the area P1P2XY, which is equal to the area A+B+C. Note, however, that in this illustration, some of the cost to consumers is not transferred to renewable producers — this is the red shaded area and represents a deadweight consumer cost.

While stylised, this representation of the RET illustrates a number of important points.

- The RET involves a subsidy to renewable producers. This subsidy (which consists of more than just the incremental resource costs of the additional supply) is one of the elements of the cost of the RET.
- The resource costs of the RET include all the additional resources (capital, materials, labour) that must be applied in order to generate the additional renewable capacity. In this understanding (and in line with good practice of benefit cost analysis) the employment generated by the renewable subsidy is, in fact, an element of the cost of the subsidy and not — as is sometimes claimed — one of the benefits. Put another way, the incremental employment from the RET is all subsidised employment.
- To the extent that the RET increases the prices faced by consumers, it will also result in a net consumer cost. This cost must be included along with the subsidy cost of the RET when comparing the costs and benefits of the RET.

Figure 1 also illustrates the rate of subsidy that arises from the RET. Essentially, all incremental renewable production is subsidised, an output subsidy of 100 per cent. In reality the subsidy may vary over time, as evident, for example, in the SKM modelling undertaken for the Climate Change Authority.

This rate of subsidy is extremely high by contemporary Australian standards. For example, a recent estimate of effective rate of assistance for the motor vehicles sector (historically one of the most highly assisted) is around 9 per cent. (Productivity Commission, *Trade and Assistance Review 2011-12*.)

While the illustration above implies that all the costs of the RET are paid by consumers, this is not necessarily the case — particularly in the shorter term. Figure 2 illustrates a slightly more complex situation where, in the short term, the RET leads to lower wholesale prices than would otherwise have been the case. This wholesale price effect is discussed in more detail at section 5.2 below, but essentially arises because the lower operating cost of renewables lowers the bid price in the electricity market (the so called 'merit order effect').

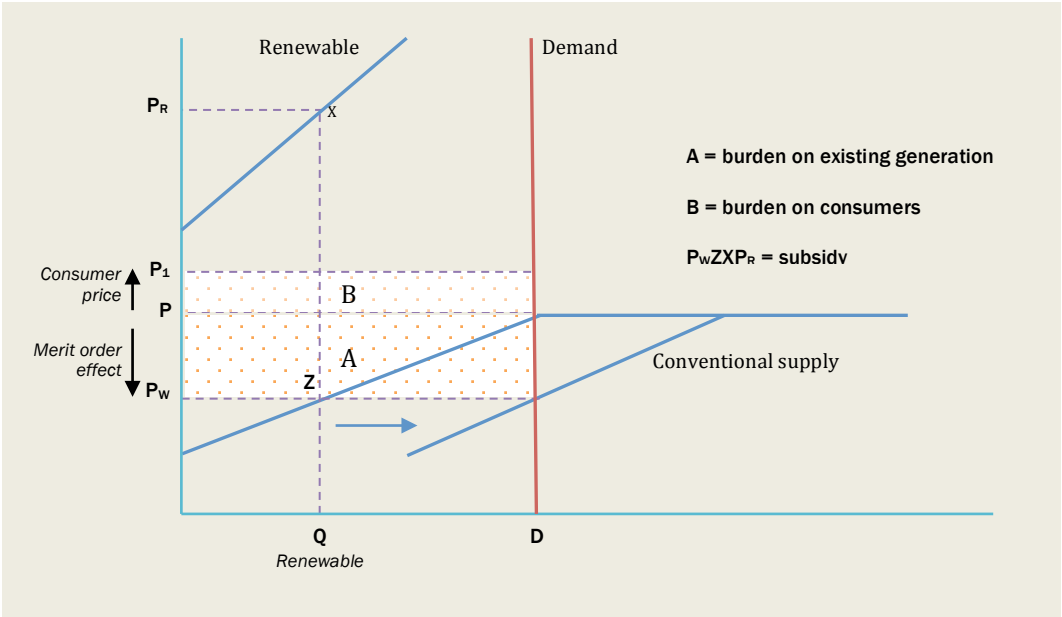

Figure 2: Distribution of the burden of the renewable energy subsidy.

In Figure 2, the overall quota is Q as before although for simplicity demand is represented as being inelastic at quantity D. The subsidy to renewable producers to achieve the quota is the area PwZXPR, where the difference PR-PW is the certificate price (the same as in chart 1). In this representation, however, the wholesale price (PW) falls following the introduction of the RET as a consequence of the merit order effect. The consumer price increases, however, once the certificate price is added to the wholesale price.

As before, the subsidy to renewable generators must be paid from somewhere. In this case it is paid by a combination of conventional producers and consumers. The area B is paid by consumers through higher prices. The area A is paid by conventional producers through lower wholesale prices, noting that there remains substantial Government ownership of conventional producers and the cost is borne by shareholders (which, in the case of Government-owned entities, is the public).

The extent of a wholesale price reduction resulting from the RET depends on a variety of factors, particularly the relationship between the expansion of the target and any growth in demand.

The most important point here is that the merit order effect does not in any way change the fact that a subsidy (again consisting of resource costs and incremental profits) is paid to renewable producers. In this case, conventional generators are, in effect, paying for the wholesale price reduction. This highlights how the costs of the RET are passed on through households, industry and existing generators. These theoretical costs have real world implications.

5 REAL-WORLD COSTS

AIGN supports the Government's focus on pursuing least cost abatement policies in regard to climate change to minimise the cost to industry and consumers, and to support Australia's international competitiveness.

The Climate Change Authority (CCA) in its 2012 review of the RET, whilst recommending the continuation of the RET (for policy stability reasons), did conclude that the RET is **not** a least-cost abatement mechanism, and the increase in the total resource cost of energy generation from the use of renewable energy (compared to non-renewable sources) is around $9 billion to 2030-31 – equivalent to a 6per cent increase in total energy resource costs.

A key problem is that the RET delivers very expensive abatement compared with other alternatives. While estimates of the cost of abatement under the RET vary considerably, they are generally in the range of $40 to almost $300 per tonne of CO2. Figure 3 highlights the significant costs of the RET, as has been established by a range of independent analysis.

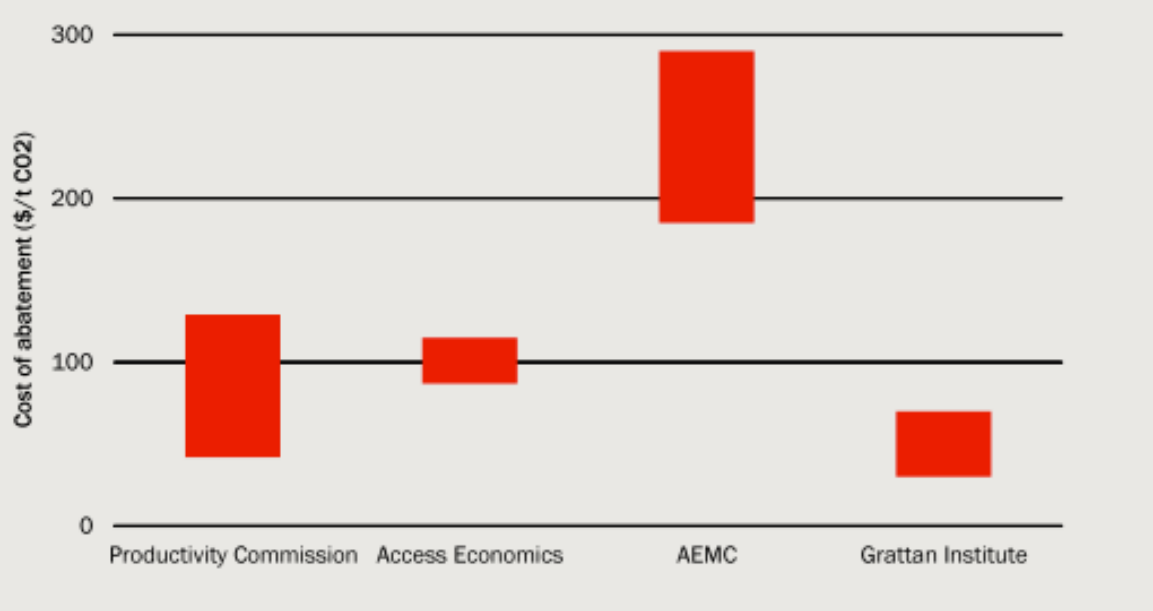

Figure 3: Costs of the RET.

Source: Centre for International Economics, *The Renewable Energy Target: How it Works and What it Costs* 2013.

Significantly, the RET costs give cause to a rise in costs for industry, particularly Emission Intensive, Trade Exposed (EITEs) sectors which are by their nature major consumers of electricity.

The demand for energy from the EITE industry sector is estimated at present to be approximately 45-50TWh. This represents approximately 20 per cent of total electricity demand, although as a share of total energy demand it is falling - reflecting the difficult trading conditions for many companies. The CCA concluded that costs to business customers are estimated to increase by around 5 per cent as a consequence of the RET, ranging from $20 million to $30 million for food processing, up to $120 million per annum for iron, steel and aluminium industries. The Australian Aluminium Council has indicated an annual cost from the RET for the aluminium smelting industry of $80 million.

5.1 Simulation results

In order to understand the distribution of the burden of the increased cost in the energy system resulting from the RET, we used an economy-wide (CGE) model (the CIE-REGIONS model) to simulate the broad industry effects of the resource cost increase resulting from the RET[3]. Figure 4 presents the key industry results. The chart shows the simulated change in the output of each industry that results from the introduction of the RET. That is, the results show a comparison of 'without RET' and 'with RET' industry output. Results are expressed in an index form, where the change in output of the Other Metals sector is set at -100. This is designed to illustrate the relative burden on different industries.

Results are presented for two different time frames: the short run (a period in which industry capital stocks are fixed, and most movements of resources around the economy are due to movements in labour); and the long run (a period in which capital invested in industries is flexible, and will move to reflect relative rates of return).

[3] Inputs to the simulation, in terms of the net resource cost of additional generation, were taken from the SKM modelling undertaken for the Climate Change Authority. Full details of this modelling are available online at http://climatechangeauthority.gov.au/ret.

The core idea underlying an economy-wide simulation is that it is able to show the final incidence of the costs induced by the RET once all economic adjustments have taken place. As is true of many contexts, the final incidence may be quite different to the initial statutory incidence of a regulation.

Several key points emerge from these results.

- The largest burden, in both the short and long run, is the Other Metals sector, which includes aluminium. That is, this sector experiences the largest decline in activity as a consequence of the RET.
- In the short run, the relative burden largely follows the pattern of electricity purchases by sector. That is, the most energy intensive sectors have the largest relative reduction in output.
- In the long run, the movement of capital around the economy tends to emphasise the burden on the most energy intensive sectors. Decline in relative rates of return in the most energy intensive sectors leads to a reallocation of capital towards other sectors in the economy. Because this is a relative reallocation, it tends to accentuate the differences in outcomes between sectors. In some cases, reallocation of capital and real exchange rate effects mean that some sectors actually expand as a consequence of the RET.
- It is important to note that these results account for the partial offset for some trade exposed industries available from Partial Exemption Certificates (PECs).
- Despite this, the largest burden of the RET is still on energy intensive and trade exposed industries. There are two reasons for this.
    - First, the EITE treatment only allows a partial offset of increased costs.
    - Second, a significant proportion of the effect on any given industry is through general electricity cost increases distributed throughout the economy. Put another way, most energy intensive sectors also purchase electricity embodied in other goods and services. This cost is passed through to trade exposed sectors without any compensation.

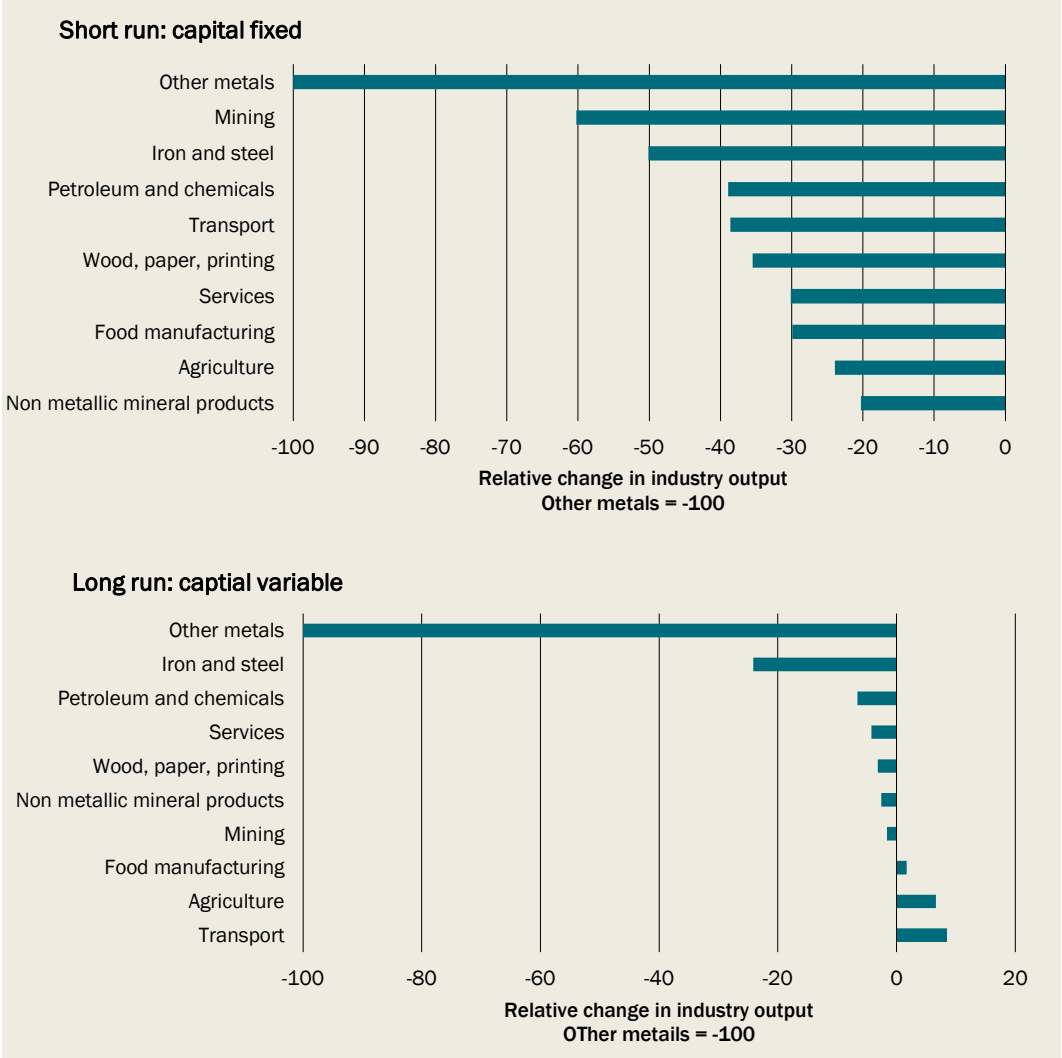

Figure 4: Short run and long run distribution of costs.

Data source: Simulations with CIE-REGIONS

These results further illustrate the inappropriate nature of the RET in the current policy context: that the burden is imposed on a few highly exposed sectors is contrary to the general proposition that climate policies should allow for economic growth.

Overall, the long run reduction in GDP resulting from the RET is around 0.2 per cent each year (this is the reduction in GDP compared with what it would otherwise have been without the RET)[4]. This GDP cost needs to be assessed against the claimed benefits of the RET.

5.2 Wholesale Price Impacts

AIGN notes that a number of recent reports have either explicitly or implicitly claimed benefits resulting from the RET in terms of lower wholesale prices (and in some cases retail prices).[5]

[4] GDP costs of this order of magnitude are similar to other studies, including, for example BAEconomics (2012) *Implications of the RET for the Australian Economy*, report prepared for APPEA, September.

AIGN would like to emphasise a number of features of these results and to make some recommendations for careful examination in the Panel's own work.

A reduction in wholesale prices (or even consumer prices) is not a measure of the benefits of the RET.

Were prices to fall because of improvements in technical efficiency, this would unambiguously be a benefit. However, in this case prices fall not because of a technical improvement, but because of a cross subsidy paid to renewable producers (and in this case paid also by conventional generators). Indeed, in this case, prices fall despite an increase in overall energy costs through the introduction of renewable sources.

In a cost benefit analysis, the price reductions that emerge from some electricity market models cannot be counted as a benefit of the RET. Rather, the causes and long term consequences of the price falls must be considered in much more detail.

The RET encourages higher cost generation, where cost is measured to include the full capital costs of renewable supply which must be recovered somehow.

That renewables are higher cost should not be controversial.

That the RET encourages higher cost generation is clearly evident in the positive certificate price. The renewable quota requirement has a positive shadow price; without the quota in place renewable energy would not be purchased. Were the renewable sources genuinely cheaper, there would be no need for the RET, and even if it were in place certificates would not have a positive price.

These points are a matter of logic and empirical observation and could hardly be disputed by any participant.

Why then does the introduction of the RET lead to lower wholesale prices in the modelling quoted? This result is also well understood, and is a consequence of a 'merit order effect' in electricity markets[6]. Under this effect, low short run marginal cost (operating cost) suppliers will, in some circumstances, drive down bid prices in the wholesale market, leading to lower wholesale prices than would otherwise have been the case.

But as already noted, this effect is the consequence of a subsidy to renewable production effectively paid by existing generators. This suppression of prices through the introduction of more costly technology will not have long run economic benefits and indeed poses substantive risk for new (unsubsidised) investment.

The RET cannot lead to long term real cost reductions in the electricity market until renewables are lower cost than conventional generation (at which point the certificate price will be zero, and the target will not be binding).

The only viable long run market equilibrium is that costs and hence prices must increase, and as argued elsewhere in this submission, the burden of this will be borne by trade exposed industries. If, in the long run, prices do not increase to reflect the high cost electricity system, then there will be significant concerns with the long term viability of that system.

It is also worth pointing out that even in the short term, there are significant barriers to the reduction in prices as a result of the RET. Most of the modelling results seem to refer to the spot price. However many customers (and many renewable producers) are covered by long term contractual arrangements, obviously limiting the scope for price reductions.

Finally, even if the proposition that the RET lowers wholesale prices in the long term is accepted, rather than demonstrating any benefits, this outcome simply reinforces how far the RET has moved from its original policy objectives. It was not the original intent of the RET to impose long term and potentially punitive subsidy costs in the existing generation sector. The potential for the RET to do so in the current environment is the

[5] See, for example, SKM (2013) *Estimating the Impact of Renewable Energy Generation on Retail Prices* (June), and ROAM Consulting (2014*) RET Policy Analysis*, Report to the Clean Energy Council, April.
[6] See, for example, the detailed discussion in Nelson et al 'Queensland Solar Feed-In Tariffs and the Merit-Order Effect' *Economic Analysis and Policy*, Vo. 42, No 3, December 2012, and the references quoted.

symptom of a serious policy imbalance. Indeed, this sort of outcome directly violates the thrust of current government policy, which is to spread the cost of abatement much more evenly throughout the economy.

6 WHERE TO FOR THE RET

Other than reducing emissions and encouraging investment in renewable generation capacity, albeit at a high cost, AIGN does not believe the RET delivers a number of claimed benefits such as encouraging development of new technologies, promoting energy security, sustainable reductions in wholesale and retail prices, and employment benefits.

AIGN's view, expressed to the Climate Change Authority (CCA) during its 2012 review of the RET, is that the policy argument for the RET has been overtaken by a changed electricity market and policy environment. As canvassed in the preceding sections, electricity demand has been progressively falling, with increasing instability in the generation market as wholesale prices have fallen. The Australian Energy Market Operator (AEMO) has significantly revised down its forecast of annual energy demand over the next 10 years across the National Electricity Market (NEM).

The drivers behind this decline in demand include:

- A greater uptake of rooftop solar power as a result of the SRES and generous feed-in tariffs and other subsidies reducing demand from the network
- The economic pressures on Australian manufacturing, including energy intensive minerals processing, resulting in falling electricity demand
- Milder seasonal weather patterns; and
- A greater than expected demand-side response from households to higher electricity prices.

We have also seen the introduction of a number of Government policies directed at reducing emissions, which were not in existence at the time of the creation of the former Mandatory Renewable Energy Target (MRET) in 2001. Whilst the policy environment is again changing with the Clean Energy Future package to be repealed and replaced by Direct Action, the new policy environment poses some serious questions as to how the RET can be reconciled with broader climate policy.

For example, the recent Emissions Reduction Fund White Paper indicates:

- A strong commitment to achieve low cost abatement within the Australian economy; and
- An efficient auction mechanism to achieve low cost purchase of abatement.

Part of the proposed auction mechanism, as a means of ensuring value for money, is a proposal that the Clean Energy Regulator (administering the auction) apply a 'benchmark price' specifying the maximum amount that it will pay at auction.

While the White Paper provides no indication of what that benchmark price would be, given the Government's desire to repeal the current Carbon Pricing Mechanism because of its high costs, it seems reasonable to presume that the current price would provide a reasonable benchmark. Prices under the CPM are currently set at $24.15 per tonne in 2013-14, and $25.40 per tonne in 2014-15.

This strongly implies that the cost of abatement under the RET will considerably exceed the benchmark price under the Emissions Reduction Fund.

On this basis, it is very hard to maintain a case for the continued existence of the RET, given that it will impose much higher abatement costs on one sector of the economy than are acceptable elsewhere. Additionally the Government has indicated, through recent decisions on assistance to the automotive industry and Ardmona SPC, that it is no longer willing to provide one sector of the economy with a subsidy that is borne by other

sectors of the economy to their competitive disadvantage. As highlighted in Section 4 above, the subsidy for renewable electricity generation, which is about 100 per cent, is borne by those sectors of the manufacturing industry that are particularly energy intensive and can ill afford such a cost impost in the existing environment. Consistency with the Government's objectives strongly suggests that the RET should be abolished.

6.1 Make the RET a Real Target

If the strong arguments for the cessation of the RET are ignored and it is maintained in some form, then it will be crucial that such a compromise encompasses ways of lowering overall costs in order to come closer to achieving the 'value for money' objective of current Government policy. There are a number of options for minimising the cost of the RET that should focus on the RET target, and which are canvassed in this section.

It is worth noting that frequently, discussions around changing the RET lead to debate on the issue of sovereign risk. Sovereign risk generally refers to the effect of policy changes (particularly unexpected or unannounced changes) on existing investments. An investment expecting a return because of policy A, may receive a much lower return when policy A is changed to policy B. Risks to large groups of investors would arise if there were a tendency for frequent and unpredictable changes in policy. Sovereign risk is distinct from other types of risk that all businesses deal with on a regular basis because it is particularly associated with actions and choices of governments.

Some government policy has a tendency to transfer risks around the economy. For example, a policy designed to effectively guarantee a market for a particular set of technologies will have the indirect effect of increasing risk for other technologies. This is, of course, how the RET works: it provides a subsidy to one set of industries at the expense of other sets of industries.

What sort of sovereign risk is generated by changing the RET? This depends on the nature of the contemplated change. It is clear, however, that changes announced in advance, and that pay some regard to existing investments (that is, committed capacity) are unlikely to generate sovereign risk. Correcting for the current issues in the operation of the scheme (which imposes unintended costs on the economy) is likely to reduce risk overall.

In the transition from MRET to RET, the Australian Government set a goal that in 2020, 20 per cent of Australia's electricity would be generated from renewable sources. In order to establish the expanded RET, this 20 per cent goal was converted to a fixed GWh target. Based on market modelling, it was assumed that 2020 demand would be 300TWh, therefore the 20 per cent goal would represent 60TWh from renewable sources. The pre-existing renewables baseline under the MRET was 15,000GWh, so the RET was set at 45,000GWh (45TWh) of new/ additional renewables by 2020. The 2020 target has since been split into the LRET (capped at 41TWh) and SRES (with a nominal target of 4TWh, although the SRES is in fact an uncapped scheme).

However total demand in 2020 is now estimated to be less than 300TWh. Potentially, this reduction in demand will mean that the combined LRET and SRES targets will deliver more than the goal of 20 per cent renewables in 2020 – estimates suggest a market share of around 25-30 per cent. This presents a major risk for both electricity market participants and end-users. Falling demand growth, coupled with the maintenance of the existing RET, will create pressure on fixed and regulated costs and highlight the distortions caused by the RET. Such an outcome will result in higher costs to electricity customers as a result of the significant wealth transfer through regulated subsidies to the renewable industry.

While an objective of the RET is to encourage the additional generation of electricity from renewable sources, the cost to electricity users must be contained. AIGN also recognises that investments have been made on the basis of the current RET rules and that these investments should not be stranded (noting that the investments of existing non-renewable generators are at risk of being stranded in the current policy environment).

Decisions on when to change the arrangements applying to the RET to move to a 'real' target could be based on protecting projects which are under construction or are financially committed. The AEMO statement of

opportunities could be used to assess firm investment proposals in the NEM, and market operators in other jurisdictions could provide similar advice.

Maintaining the current LRET will add unnecessary costs to business and households and continue to distort investment decisions. Addressing this problem provides an opportunity to reduce the burden upon industry generally, and specifically the electricity-intensive trade exposed industries.

6.2 Lower the cost of the RET

In this context, if the RET is to be retained there needs to be some flexibility to adjust the legislated 2020 target to one that is a more accurate reflection of expected levels of demand by 2020. There is also the option to take action that will have an immediate impact on the target in the forthcoming years rather than waiting till 2020. This would have the advantage of alleviating existing cost pressures upon industry.

If the RET is maintained in some form, then it will be crucial to find ways of lowering its overall costs in order to achieve the 'value for money' objective of current Government policy. There are a number of options for minimising the cost of the RET. AIGN recommends that the Panel carefully consider each of these and use their commissioned model based analysis to consider them in detail.

6.2.1 No further expansion in the target

One simple way to avoid any incremental costs from the RET is to hold the target at its current level. This would effectively lock in existing subsidies to current producers, but would not allow the cost of subsidies to increase in the future.

A variation of this option that would effectively 'grandfather' returns for recent renewable investments would be to cease expansion after the next two years. This is based on the likelihood that existing renewable investments were predicated on a series of increments to the target. A time horizon of around two years is designed to account for this.

6.2.2 Calibrate any future expansion in the RET to increases in demand

A major influence of outcomes under the RET is the extent of future changes in demand for electricity. As noted above, the relationship between the RET target and growth in demand has a significant influence on the distribution of costs of the RET: with lower demand growth, more of the burden is borne by existing generators.

Under this option, expected future demand growth would be explicitly considered in determining expansion in the RET target. If demand growth is expected to be low, then expansion would be low or zero. Where demand growth is expected to be higher, the target could be increased. The practical upshot of this is that there would likely be no expansion of the target in the near term, but it would remain an option over the longer term.

6.2.3 Calibrate expansion of the RET to take advantage of falling renewable costs

Most estimates of renewable costs suggest that these are falling steadily over time. If this is the case, then it implies that the costs of the RET now are unnecessarily high given the potential for lower technology costs in the future.

One way of binding the costs of the RET while still providing incremental support for the renewable industry is to calibrate expansions in the RET to expected renewable cost reductions. Indeed, this method could be used to find the path of RET expansion that minimises the overall cost of any particular target in 2020. In practice this is likely to imply a slower rate of expansion than currently proposed.

6.3 Reducing costs to consumers

As commented earlier the demand for energy from the emissions-intensive, trade-exposed (EITE) industries in Australia is, at present, approximately 20 per cent of total electricity demand; however as a share of total energy demand it is falling. Should the RET be retained but the target modified there is still the option to take immediate action to reduce the cost burden on consumers, particularly on industry.

While EITEs are eligible for partial exemptions under the RET (in recognition of the extent of added costs and the inability to pass these on to customers), the exemption only applies to the increase in the target above the original MRET target of 9.5TWh and a Renewable Energy Certificate (REC) price above $40. Therefore the effective rate of exemption is considerably smaller than the headline figures of 60 per cent and 90 per cent - for example, for the aluminium smelting and steel making sectors, this would translate to an effective exemption rate of about 70 per cent by the time the LRET target reaches 41TWh. The proportion of RECs representing the original MRET target have also risen in price, and the cost of the RET to an entity that receives a 90 per cent exemption, is therefore considerably higher than 10 per cent of their calculated liability.

6.3.1 Abolish the Small Scale Renewable Energy Scheme (SRES)

In the context of the Government's desire to reduce energy prices, and the difficult trading environment for industry, the RET should offer more substantial exemptions to industry to genuinely maintain international competitiveness. AIGN recognises this needs to be achieved without transferring the financial burden onto households. The means to achieve a reduction in the cost burden immediately without affecting existing assets or sovereign risk is the abolition of the Small Scale Renewable Energy Scheme (SRES).

The SRES is a significant cost of the RET. As the Consultation Paper points out, the SRES accounted for 30 per cent of renewable electricity generation under the RET in 2012 and 60 per cent of costs in 2012-13. The SRES is more costly than the LRET and imposes costs on business and households that can be avoided through more cost-effective renewable generation. Small-scale investments under the SRES are typically provided with full credit in advance; this is substantially different to commercial investments that receive certificates through the LRET as energy is produced. Therefore, the SRES can be abolished at short notice without stranding investments or causing sovereign risk.

The aim of the SRES was to provide 4,000 GWh of the 45,000 GWh, or 8.8 per cent of renewable energy for the RET. SKM MMA modeling for the CCA's Review of the RET (cited in the Consultation Paper) notes that the SRES currently contributes 5,000 GWh of renewable energy under the RET. The SRES has surpassed the amount of renewable energy that it was intended to provide. In 2012 the SRES represented 30 per cent of renewable generation under the RET compared to the intended 8.8 per cent. Small-scale renewable energy has been deployed at a faster rate than anticipated. These two factors highlight that the SRES aims have already been achieved and consequently there is no need for the Government to continue to encourage small-scale renewable energy generation.

Whilst there has been an increase in the proportion of renewable energy derived from the SRES, primarily through the uptake of solar PV systems, it has been at a high cost relative to other greenhouse gas abatement options. Interference with the market in order to favour particular technologies adds a further layer of cost to the SRES, distorts the efficacy of the market, and undermines the principle of using the market to determine the uptake of renewable energy generation.

Reducing the cost burden through abolishing the SRES should be complemented by improving the operation of exemptions. Entities currently eligible for partial exemptions under the RET nonetheless struggle to absorb the cost impost of their liabilities and remain internationally competitive; entities who are ineligible for exemption are facing similar pressures. AIGN recommends that levels of assistance should be increased as follows:

- Highly EITE entities currently receiving a nominal 90 per cent exemption should receive a full exemption from their full liability;

- Moderately EITE entities currently receiving a nominal 60 per cent exemption should receive a true 80 per cent exemption from their full liability;
- Modestly EITE entities currently receiving no assistance should receive a 50 per cent exemption from their full RET liability; and
- Transferring additional costs to households would be avoided by reducing the overall target of the RET in line with sinking demand forecasts.

In this way the RET would meet its 2020 objective without burdening either households or industry with insupportable costs.

6.4 New Sources of Abatement

Residues from Australia's forest, wood and paper products industry hold great potential as alternatives to fossil fuels for energy generation. Forest biomass can also be utilised for renewable heat and liquid fuels, which tend to be more efficient than electricity generation. Despite having the highest area of forest per capita of the developed nations, Australia lags behind in the use of bioenergy, which represents just 0.8 per cent of energy production. The lack of incentives for the use of forest biomass in energy generation creates a serious imbalance in the renewable energy market and misses some of the lowest cost opportunities for emissions abatement. The Government should develop renewable energy opportunities for these sources, including renewable biomass for electricity, renewable heat capture and biofuels.

Biomass residues sourced from sustainably managed natural forests are currently excluded as an eligible source to produce renewable energy under the RET. If the RET is maintained, it should be amended to recognise these legitimate sources of renewable energy, including biomass sourced from sustainably managed natural forests and renewable heat capture. AIGN welcomes the statement by the Government that it will introduce amendments allowing appropriately scaled renewable energy initiatives using forest biomass, to benefit from initiatives available to other renewable energy.

Industrial waste gas can also be used to provide low or zero emission generation. The arguments for the inclusion of industrial waste gas are the same as for waste coal mine gas. This would encourage further investment in energy recovery in the manufacturing sector and reduce transmission and distribution costs as generation occurs near existing energy networks. At the very least, industrial waste gas should be eligible for the self-generator exemption.

6.5 Self-Generator Provisions

Currently, self generators of electricity (typically major resource developments located in remote areas) are exempt from the RET if electricity is sourced form an isolated grid that has more than 100MW of installed capacity, and they meet the following criteria:

- Produce and use the electricity for themselves with no offtakes from a third party; or
- In cases where the self-generator is the primary, but not the only, user, the electricity must be used with a one kilometre radius of its production by the entity that generated it.

The original policy intent of those provisions was to exclude self-generation from RET liabilities, thereby encouraging investment in self-generation which is generally lower in emissions than grid electricity. The provision of electricity, particularly in remote locations, is technically challenging and significantly more costly than grid connection. The self-generator provisions remove some of the distortion that the RET creates.

However, the nature of these provisions unduly restricts the amount of legitimate self-generated electricity that can be claimed as exempt from liability, particularly for large resource projects in remote regions. AIGN

supports a less restrictive approach to these provisions that better reflect the policy intent and the importance of self-generation, particularly in off-grid areas.

The self-generator exemption should be extended; for example, it could apply where the corporation that owns the electricity generated from a power station is a member of the same group as the corporation that owns the assets that make use of the electricity. The flexibility this provision would provide will be particularly important for future developments with a potentially larger onshore footprint, such as coal seam gas.

The one kilometre radius restriction for the self-generator exemption is unnecessarily prescriptive and does not take into account the operation of large industries, such as steel manufacturers. For example, a significant amount of Port Kembla Steelworks' manufacturing activities lie outside the one kilometre radius from point of generation used in the self-generator exemption. It is also not always possible for the transmission line from the self-generated electricity to be used solely for transmission between the point of generation and point of use. These restrictions are unnecessarily prohibitive for large industries.

6.6 Incidental electricity offtakes

As previously highlighted, to be eligible for the self-generator exemption on a grid above 100 MW capacity, the self-generator must not provide any offtakes to third parties, or must be the primary consumer of the electricity generated and consume that electricity within one kilometre of where it was generated.

A number of AIGN members investing in large resource projects provide electricity to remote communities located in close proximity through the provision of self-generated electricity where there are few other alternatives for electricity provision. The criteria that need to be met in order to obtain the exemption, such as the one kilometre limit and the need for a dedicated line between generation and use, do not align with the physical characteristics of large resource projects and do not recognise the importance of this electricity supply to those living and working in remote areas where there are few or no cost effective alternatives. In consideration of these issues the CCA commented in its 2012 Review that "whilst it is not an objective of the RET to ensure electricity is provided for remote community purposes, it is economically inefficient for small organisations in remote locations to develop their own electricity generation sources when self generator can supply the incidental at low cost and lower emissions."

The CCA recommended further work for the development of "…arrangements to allow for incidental electricity off-takes under the self-generation exemption, which provides benefits in remote locations." (CCA RET Report 2012).

6.7 Administrative Improvements

The CCA also considered a number of administrative improvements to enhance the operations and flexibility of the RET. The adoption of AIGN's recommendations around a revised target to apply and changes to the exemption provisions for industry removes the need for consideration around opt-in provisions and the tradeability of PECs.

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