

**Renewable Energy Target Review
Discussion Paper October 2012
Feedback and Comment**



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Background and Context

The commentator is a master taxation lawyer, retired public accountant and real estate agent. He is an accredited solar photovoltaic (pv) installation designer¹ and authorised to service Fronius enabling equipment.² He is registered with the Clean Energy Regulator (CER) to create large-scale generation certificates (LGCs) for the Carnarvon Solar Farm and to create small-scale renewable energy scheme certificates (STC) for third parties.³

He has been creating, purchasing and trading renewable energy credits since 2006. As a senior accountant he carries out all of the accounting and recording functions to administer the accounts of the Solex project and to hold STCs on behalf of others by way of trust.

Involvement in solar pv systems began in 2002 when he initially installed a trial 1.92kW solar pv system in December 2003 in Carnarvon Western Australia. In 2005 he designed and built Western Australia's first privately owned and operated solar farm in Carnarvon WA. In 2007 he increased the farm 46 kW using centralised inverters. In 2008 he designed and incorporated wind generators into the existing solar infrastructure investigate prolonging production time beyond daylight hours.

To investigate methods of product enhancement he constructed and incorporated a commercial ice-works into the solar/wind farm in 2009. Rising fossil fuel costs to competitors have resulted in the Solex Solar Ice-works becoming the principle manufacturer and supplier of recreational ice in the Gascoyne Region.

In addition the commentator has been assisting with individuals, state authorities and utilities, solar pv material suppliers, tradespeople and other interested parties to design and install dispersed embedded solar pv systems in the Gascoyne region, Broome, Exmouth and Denham since 2005. Those communities are now among the highest densities of solar pv penetration in Australia.⁴

Since 2005 the commentator has also provided field data to the University of New South Wales' Centre for Energy and Environmental Markets (CEEM).⁵

1 Clean Energy Council Accreditation A8633507

2 Fronius Pty Ltd service partner AU-1149.

3 Australian Government, Clean Energy Regulator, Registered person 932.

4 Total annual energy solar pv portion for Carnarvon 3.8 per cent (records kept by A R Fullarton and Horizon Power annual reports.). A moratorium has been placed on further solar pv installations by the energy utility responsible for that region and further installations have been prevented since 2011.

5 Robert Passey et al, *Study of Grid-connect Photovoltaic Systems: Benefits, Opportunities and Strategies* (2009); Simon Lewis et al, *Carnarvon : A Case Study of Increasing Levels of PV Penetration in an Isolated Electricity Supply System* (2012).

Draft Recommendations – General Comments

The Climate Change Authority is complimented on this comprehensive review to the challenge of monitoring the target of expanding non-polluting renewable energy to meet Australia's energy demand and reduce environmental damage. The challenge is made greater by the range of domestic, commercial and industrial interests which are often in conflict.

Further not only is there differences in philosophy as to the impact of fossil fuel generation to the social and physical environments but there are a range of interests in how to meet those challenges. Economic interests of current industries not only interact with each other but solutions to alternative energy demands also compete in the energy market.

One of the key elements of difference is that between commercial interests, which favour utility sized generation systems which focus on the sale of energy to consumers, and individual or domestic interests which focus on self-generation of energy. It is noted that many of the renewable energy systems commercially available to 'prosumers'⁶ are small generation units (SGUs) capable of providing the energy requirements for individual residences, businesses and to a lesser extent, small to medium industry. These prosumers compete with utility scaled energy producers and can be envisaged as increasing energy costs to other consumers. This differentiation has been addressed in Chapters Four and Five of the discussion paper.

The Renewable Energy Target (RET) is attempting to reach a goal of having at least 20 per cent of Australia's energy demand met by non-pollution renewable energy generators by 2020. It faces many challenges, both social and economic, in implementing that goal. There is a natural human aversion to change. However in modern times, the advent of the Internet has encouraged change at rates hitherto unknown in human history.

A significant amount of economic mathematical modelling is used in the discussion paper to attempt to forecast energy requirements and responses over the next 20 years. That is, at best, a very admirable view but it is a hostage to fortune. A raft of global events is likely to change the path of those economic predictions.

Philosophically, the move from fossil fuel energy generation probably will not occur from economic expedience it will be encouraged for physical and social reasons. The RET sets a goal which gives society a point to strive to.

This paper discusses whether the goal is achievable. Some submissions argue that the goal is unattainable. Others argue that as the goal is unlikely to be achieved, it should be abandoned. From an economic perspective fossil fuelled energy generation is cheaper and there is no economic driver to move toward alternative energy.

That perspective is driven from the concept that only the cost of fuel is considered when accounting for energy costs. Until now the cost of the exhaust of poisonous gases produced from energy generation has not been considered. Bluntly, if exhaust fumes do not kill then one may lock oneself in a confined space with an internal combustion engine.

⁶ A term coined by Alvin Toffler to describe producers who consume their own products. In effect it describes the concept of self-sufficiency. For further research refer to Alvin Toffler *The Third Wave* (1980).

It is the commentator's opinion that the RET is an essential economic driver to encourage change away from destructive human activities. The RET should not be removed or reduced in any way whatsoever.

This commentary now moves to consider the draft recommendations of the discussion paper.

Draft Recommendations – Specific Comments

Chapter 3

1. Agreed. Periodical review is necessary however two year cycles are too rapid to give accurate assessment of changes to policy. Society and industry cannot 'settle in' to rapid changes and compliance falls and possibly fraud arises from the confusion caused by rapid changes in administration or policy. Four year cycles permits education and compliance matters to be addressed before anticipating future changes.

Chapter 4

2. Agreed. To obtain a percentage level rather than an objective point a percentage rather than a fixed volume would be a better approach. However that would require further assumptions and uncertainty.

3. Agreed. There being no other reliable economic evidence of data in place the target is reasonable. To encourage certainty the numerical target should be maintained. That target can be reviewed if physical, social and economic circumstances alter in the future.

4. Agreed. This recommendation follows logically from the discussion in recommendation 1.

Chapter 5

5. Agreed. Deemed units which are essentially estimates based on available scientific data should be accounted for separately from actual metered production. It is noted that the 1.92kW trial solar pv installation has a theoretic annual production of 3114 kWh. Actual data from the commentators log over four years reveals the annual average to be 2856 kWh or 92 per cent of the theoretic energy harvest.

While the difference is largely immaterial in the broad view of renewable energy generation it is clear there will be some discrepancy between theoretic and actual generation values. Good accounting practise requires the differentiation to be disclosed. The differentiation between SRES and LRET should be retained.

6. Agreed. The threshold for a small-scale solar pv system to be reduced to 30kW. The 100kW limit appears to have developed from an intention to maximise the deeming principle for SRES. In Carnarvon that results in over 160MWh per annum or 2430 STCs being permitted for a 100kW system. Further, in 2010 the application of the multiplier to create 'bonus' STCs would have created an additional 2433 'phantom' STCs.

While the concept of the 'bonus' STCs may have been an attempt to enforce fossil fuel energy generators to subsidise the installation of small generation units (SGUs), in economic

terms it created an inflationary driver which created STC ‘inflation’ and devalued the STC. A well intentioned concept had the unintended, but economically predictable, effect of devaluing the STCs.

It is suggested that from practical application of a standard Email 0350 meter that 30kW or 10kW per phase be accepted as the limit of the definition of SMALL.

7. Agreed. In the interests of consistency, and that the open market has never achieved \$40 raising the price cap will have no impact on the market. This price cap should be revised only after the impacts of the multiplier have been cleared from the market. Any shortfall arising from a reduction in supply of STCs will be reflected by an increase in the value of STCs on the open market in ordinary economic principles. It is suggested that the review take place in 2016 with the general RET review.

8. Disagreed. The concept of a multiplier either greater than 1 or less than 1 has the economic effect of artificially altering the volume of supply of STCs. The inflationary effect of a multiplier greater than 1 has been experienced in that it reduces the value of the unit of the STC. A multiplier of less than 1 will have the reverse effect in economic terms however it also has the effect of creating inaccuracy of actual value of small-scale generation systems. It introduces further complexity and, based on research on taxation systems, reduces compliance. It increases the costs of administration and creates more ‘artificiality’ into the concept of renewable energy installations.

It is suggested that the Renewable Power Percentage (RPP) ⁷ be the only variable factor to control the market demand for STCs. In economic terms an increase in the RPP will have the effect of increasing demand and therefore raising the market value of STCs. A caveat is also suggested that supply of STCs is also dependent upon the rate of installation small-scale systems. Other factors may reduce the volume of STCs and cause unforeseeable variations in the market value of STCs.

9. Agreed. Discussion as for recommendation 8 above.

10. Disagreed. It makes no difference to the overall market where the STCs are ‘stocked’. The overall supply of STCs will not alter if they are in the hands of owners, agents or placed on the clearing house floor. Such an amendment will serve only to restrict access to market trade and move market control into the hands of large organisations which may become market controllers. The owners of small parcels will be forced to become ‘price-takers’ under the control of traders.

The principle of a \$40 guarantee was implied by the government. That the value of the STC was eroded by the over-supply, largely caused by the issue of ‘bonus’ STCs does not erode the concept of the clearing house. It is noted that the value of the STC appears to be related to the economic concept of supply and demand rather than the value of the avoided penalty by way of a shortfall charge.

7 S 39(1) Renewable Energy (Electricity) Act 2011

Chapter 6

11. Agreed. The 100MW size threshold of grid really applies only to very remote Australian regions. The commentator asserts that a number of power stations were constructed marginally under the 100MW capacity as a 'tax avoidance' measure. A number of such power stations around 95-99MW were identified in the Northwest of Western Australia. Action was taken by the then Office of Renewable Energy Regulator (ORER) to ensure these operations were compliant and subject to the *(Renewable Energy Electricity) Act 2001*. To reduce the threshold size will have the net result of increasing the cost of fossil fuelled energy to those already subject to very high costs due to isolation – those in remote Australia.

12. Neither agreed nor disagreed. It is unlikely that any enterprise will voluntarily comply with a tax to which it is not lawfully subject. Such payment could be viewed as a 'donation' to government. That is a noble philosophy but in the commentators experience very unlikely. The commentator's experience and research indicates taxpayers are more likely to avoid or evade tax rather than voluntarily pay a tax to which they are not subject.

However some STC owners, with very small parcels, have voluntarily surrendered their RECs and STCs which is a similar concept. The recommendation is possible from an administrative view however what penalties could be levied if the consumers decided not to comply.

13. Agreed. The current system appears to be functioning. It is not in the interest of consistency to alter the system of calculating liability.

14. Agreed. Certainty is an essential for a 'good' tax system not only as to liability but also as to timeliness. The RPP should be set as early as possible to permit liable parties to organise their businesses to comply with the shortfall charge and other compliance matters.

15. Agreed. As for the discussions as to certainty throughout this paper.

16. Agreed. The market value of STCs and LGCs is less than the shortfall charge avoided and likely to remain in that situation for some time. There is no practical economic advantage in altering the shortfall charge. Currently the before tax value of a LGC is around \$93 at 30 per cent company tax rate. LGCs are trading at just over \$40. Liable parties are benefiting by a factor of 230 per cent by purchasing LGCs in lieu of paying the shortfall charge. Review in 2016.

17. Agreed. Philosophically it is difficult to justify an exemption for emissions-intensive industries from the liability for pollution on the basis that they would be unviable if they were subject to the shortfall charge. Almost all taxpayers would be happy not to pay tax on the basis that they would have more revenue if they did not have a tax liability. The philosophy of the REE is to reduce emissions from electrical energy generation.

Exemptions, particularly to the highest producers of pollution, negate the primary intent of the legislation. It appears convoluted to enforce the 'cleaner' industries to pay the charge but not the 'dirtier' ones. This is similar to providing a penalty on a normally law abiding citizen

but excusing the habitual criminal from the same penalty on the basis that he contributes to a higher crime rate.

If Government wishes to subsidise such industries for other economic reasons then separate and accountable, grants or rebates should be applied – not by way of exemption from the shortfall charge. If the industries become unviable due to their liability for tax to which all other industries are subject then perhaps they should be assisted to become viable or abandoned. There are many industries that have ceased to exist due to changing technologies and socio-economic conditions. Rarely are arrow-smiths or black-smiths or dirigible manufactures encountered in the modern age. The asbestos and tobacco industries which used to employ significant workforces are not assisted to compete in the modern world.

18. Agreed. However this has the unintended consequence of creating another level of tradable REC. On the other hand it would have the effect of reducing the supply of partial exemption certificates.

19. Disagreed. There does not appear to be an economic relationship. While a raft of factors should be considered in decisions for government to intervene in commerce and industry the RET appears to have little relevance to a specific employment program. The prime directive of a RET is to move energy generation from fossil fuel and its associated emissions, to the reliance on less polluting energy sources. How industry deals with that is largely a matter of the entrepreneurial decision making process.

20. Agreed. Unless self-generation is required for the reasons outlined in the discussion paper⁸ exemptions should be removed for self-generators, subject to a grandfather clause to permit existing systems to remain. Self-generation could be viewed as a tax avoidance strategy.

Chapter 7

21. Agreed. Uniform national licensing and registration of commerce and industry has long been to goal of Australian society since Federation. To create multiple and no doubt profit-making, bodies for the examination and registration of designers and installers will foster an environment for fraudulent activity. If created those organisations will have to be supervised to ensure standardisation of qualifications and ensure a high level of integrity is maintained. The ‘Pink Batts’ home insulation experience should be clear evidence of the need for a single national and uniform body to be maintained. There is no administrative advantage in fracturing such a critical regulatory function.

22. No comment. The discussion is outside the parameters of the commentator’s field of expertise.

23. No comment. The discussion is outside the parameters of the commentator’s field of expertise.

⁸ Australian Government: Climate Change Authority, *Renewable Energy Target Review Discussion Paper* (2012) 117.

24. No comment. The discussion is outside the parameters of the commentator's field of expertise. However it appears convoluted to encourage the harvest of native forest products when examining a RET.

25. Agreed. The continual introduction of new technologies requires administrators to maintain processes which encourage the introduction of further renewable energy technologies. This must be conducted by continual review not delayed for up to four years.

26. No comment. The discussion is outside the parameters of the commentator's field of expertise.

27. No comment. The discussion is outside the parameters of the commentator's field of expertise.

28. No comment. The discussion is outside the parameters of the commentator's field of expertise.

Chapter 8

29. Agreed. Consistency of administration is critical at this review. However new technologies should be considered as per recommendation 25.

Chapter 9

30. Disagreed. As for recommendation 21 above. A central national registration system should be maintained. Other bodies will join the accreditation process with a view of making a profit. That will not be in the National interest.

31. Agreed. All renewable energy systems must have accredited designers and installers.

32. Agreed. 15 years is a reasonable deeming period. Owners may opt for an annual registration as has the commentator.

33. Disagreed. This recommendation appears contrary to recommendation 32 above. This is not necessary if the 30kW limit is adopted.

34. Agreed. The requirement is largely unnecessary and superfluous to scientific requirement on a matter that is well settled.

35. Neither agreed nor disagreed. The Out-of-Pockets requirement was to declare is a profit was being made due to rebates and subsidies exceeding installation costs. In some cases it did as the infrastructure costs fell faster than administrative and policy makers could react. It is a very easy accounting function and makes very little effort for compliance. It might be a convenient monitoring tool. The requirement exists and is largely complied with. It will make very little difference to the registration process whether it remains or not. It is largely un-auditable but may serve as a guide to policy makers.

Summary

Generally the commentator agrees with most recommendations and the reasons are given at each individual item. Key items of disagreement are the proposals to issue 'bonus' or 'discounted' STCs. The value of STCs should be influenced at the 'demand' end by reviewing the RPP at the end of each calendar year. That review should be no later than the 30th November to permit industry planning for compliance for the forthcoming year. Further the clearing house should remain unchanged to permit SGU owners access to the open market without being obliged to use agents or other aggregating organisations.

The accreditation process should be retained by the Clean Energy Council in the interest of consistency and uniformity. It is suggested that if the accreditation process becomes privatised it will be subject to strict regulation and open to careless or fraudulent activity. In any even the administrative process will not become cheaper or more efficient.

The value of STCs and LGCs should be more overtly linked to the before tax cost of the shortfall charge rather than becoming a derivative. It is suggested that the concept of 'bonus' STCs by way of the multiplier had the reverse effect of lowering the value of STCs rather than creating a subsidy to renewable energy systems owners. This was chiefly due to owners being ignorant of the true value (avoided tax) of the STC and unscrupulous installers and agents trading the STCs as a profit making enterprise.

Outside the scope of this commentary is the suggestion for more public education on the RET, carbon tax and the carbon tax credit trading schemes.