

## Submission Template

### COAG Review Discussion Paper 3 – Support for small-scale off-grid renewable generation

#### Overview

This submission template should be used to provide comments on:

#### ***COAG Review Discussion Paper 3 – Support for small-scale off-grid renewable generation***

The purpose of this discussion paper is to provide an introduction to the key issues relating to support for off-grid renewable generation within the Renewable Energy Target (RET), and to encourage input on these issues from individuals, businesses and organisations to inform the review process

Stakeholders are asked to use the template provided to answer the questions posed in the discussion paper. The Department will also accept any other documents, further information, costing tables etc that are attached to the submission template.

#### Contact Details

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#### Confidentiality

All submissions will be treated as public documents, unless the author of the submission clearly indicates the contrary by marking all or part of the submission as 'confidential'. Public submissions may be published in full on the Department of Climate Change website, including any personal information of authors and/or other third parties contained in the submission. If any part of the submission should be treated as confidential then please provide two versions of the submission, one with the confidential information removed for publication.

A request made under the *Freedom of Information Act 1982* for access to a submission marked confidential will be determined in accordance with that Act.

**Do you want this submission to be treated as confidential?**       Yes       No

## Submission Instructions

Submissions should be made by **close of business 30 October 2009**. The Department reserves the right not to consider late submissions.

Where possible, submissions should be lodged electronically, preferably in Microsoft Word or other text based formats, via the email address - [RET@climatechange.gov.au](mailto:RET@climatechange.gov.au).

Submissions may alternatively be sent to the postal address below to arrive by the due date.

Renewable Energy Sub Group Secretariat

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**Question 1:** Solar Credits currently apply up to the first 1.5 kilowatts (kW) of capacity installed. Should Solar Credits or a similar 'REC multiplier' mechanism under the RET be used to provide further incentives for off-grid renewable generation? If so, what level of eligible capacity (such as 20 kW) should apply? How would this compare with the level of support under the RRP GP and what size 'REC multiplier' would be appropriate?

Should we be asking the question; **Is the MRET / RECs scheme simply a politically motivated funds Vs votes mechanism, or is it a developed policy with a serious, pragmatic approach to the economics of global warming responses?**

If it is the former then perhaps myself, the department and respondent stakeholders are wasting time better spent attempting to make the best of the tedious, re occurring conflicted bungle that is Australian environmental policy.

If the latter why not also ask; **why cap the scheme at 1.5kW?** 1.5kW equates to about a quarter of the self sufficiency requirement for the "average Australian home". Its much less than that for business environments and multiple tenancy applications, where people want RE generation and it could be used to great effect.

Surely this capping is a spastic approach to encouraging the RE Industry? At best it's conflicted, at worst its confirmation of a politically motivated approach. A cynic might suggest that the capping is in place to limit growth and keep big industry on side. Increase the cap & increase the targets correspondingly and the industry will grow, leave it in place and the industry will stagger and lurch into the future with mediocre results and dubious benefits.

To answer the question, YES, the RECs scheme should of course cover ANY RE generation system which complies with Australian Standards and will supplant fossil fuel alternatives. Regardless of size, application or location. However on its own the RECs scheme will be of minimal benefit to an industry previously supported by RRP GP or the Fringe of Grid programs. At this time RECs are worth about \$25 each and the price is not set to improve much until the new financial year. Where upon it will again peak and then trough for an extended period. This makes investment in RE RAPS a dubious proposition.

Even at the best price (rather less than the \$50 still touted by some out there) RECs by themselves will not come anywhere close to replacing the same funding base made available via the RRP GP.

By way of example Let's look at a simple AC coupled solar / diesel hybrid system proposed for a National park facility currently running solely on diesel.

With the RRP GP the cost to supply, install & commission an 80% RE hybrid generator capable of supplying 10Kw peak and 20kW/hrs per day with a 2 day battery autonomy is around \$100k au. (ballpark estimate based on a feasibility study).

With an **uncapped** RAPS RECs scheme, at the current market rate the same generator will cost \$150k au. after discounting in exchange for RECs created.

If, as we are to believe, the governing ethos has an improvement to the current scenario in mind, obviously the RECs scheme on its own does not cut it.

Perhaps if the RECs multiplier where tripled (3 times the multiplier already in place for GC systems) for systems previously supported by the RRP GP and not capped below 100kW (arbitrary figure) it might go some way toward replacing the RRP GP. However as discussed the fluctuating RECs market makes the scheme of dubious value, especially for a RAPS application.

RAPS projects are an order of magnitude more complex than a GC RE systems. The process involved with the accurate load profiling, environmental studies, custom design, pricing, & remote installation logistics means there is a prohibitively long lead time between the initial appraisal / feasibility study and the installed systems eventual commissioning. Anticipating the eventual RECs price makes pricing difficult and carrying the unreturned capital risky.

You would have to anticipate that only larger generator project investors, of a magnitude over 1MW would perceive of any real benefit from such a scheme. Unfortunately, large centralised energy generation infrastructure is of limited value in remote areas due to the distances between settlements.

It is unlikely that the industry will be able to benefit or grow with any support scheme which involves just RECs.

**Question 2:** What other eligibility criteria should apply and what would be an appropriate process for phasing out the incentive?

If the scheme is to have any integrity. If the credibility of a governing ethos which claims to be approaching climate change response policy seriously, is to be maintained. Then the only eligibility criteria should be that an installed RE generator uses CEC approved / AS approved components and has been designed and installed to the appropriate Australian Standards.

Also of course that the generator is required to fulfil a purpose need, that is supply energy requirements for an actual or developing load profile.

There should be no other eligibility requirements. If the RE generator is going to supplant a fossil fuel powered alternative regardless of size, location or load demand type, it should be eligible for RECs. That is consistent with the principles and claimed purpose of the scheme.

Further, as the scheme is itself an exit strategy for an economy reliant on fossil fuel / CO2 producing energy infrastructure, the logic follows that there will be no exit strategy needed until the task is complete.

To phase out any scheme supporting the changeover to environmentally responsible technology before the changeover is complete is to sacrifice any resources committed to waste and folly.

The effective implementation and end point for any such scheme can only be qualitatively derived from a result which includes a sustained to predictive null, negative growth in CO2 / fossil fuel derived industry whilst RE derived industry is still positive.

## Experience of the Renewable Remote Power Generation Programme

**Question 3:** Are the RRPGP program parameters still relevant if incentives for off grid renewable generation are provided under the RET? Views are sought on:

whether 1km from a main grid is an appropriate definition for remote 'off-grid';

whether the \$30,000 connection costs threshold is appropriate for sites that are considered close to a main grid; and

Whether support equivalent of up to 50 per cent of the cost of the renewable generation and essential enabling equipment is appropriate.

The best possible future for RE fringe of grid and RAPS technology in an environment which includes human growth is one where interconnectivity is anticipated.

For example an RE system designed 20 years ago which might have included a diesel Genset was designed as an absolute stand alone system. That is there was no anticipation that as grid networks evolve and remote communities proliferate; for a local supply system to augment or be augmented by another, or series of other small energy generation systems.

Traditionally, the complexities and inherent risks of attempting to synchronise multiples of small generators to an AC grid network are well understood by those with experience at the supply end of the industry. Diesel gensets stall, go up in smoke, very large things bend or break as immense resources are channelled into conflict, because they are a moment out of synchronisation.

Fortunately the RE RAPS industry has evolved; current practice for RAPS design includes what is known as AC coupling. This means that multiple small generator systems can tie to an AC grid network and contribute or draw down excess energy demand or resource. This is done with no fuss, no risk, cost effectively and efficiently.

This means that fringe of grid systems if designed & installed appropriately (and there is no additional expense when compared to traditional "parallel" stand alone systems) can anticipate at a later date a possible connection to the supply authority grid and provide an RE contribution for future needs.

Effectively becoming a grid connect RE generator.

This also means that it's feasible to anticipate larger interconnected networks in fringe or remote areas where hybrid systems are able to evolve and develop in pace with need, negating the requirement for large (mega - giga watt) centralised base load infrastructure.

The current cost to run transmission lines over 1 km is prohibitive, making the investment in a local Generator the usual considered option. Often the capital costs involved with RE generation systems is prohibitive when compared to a standalone Diesel Genset. Despite the lifecycle costing advantages for RE / diesel back up alternatives, small communities / businesses / government facilities / independent organisations have difficulty finding capital purchase funds to make the choice. A 10kW diesel Genset costs less than \$10k au, the equivalent RE / Diesel hybrid system will cost over \$150k au.

A simulator program (i.e. Homer) will usually show that the life cycle costing which takes into account the costs to supply distillate for a 100% diesel supply system makes a favourable comparison (for RE) over a 15 year cycle for RE at 90%+ in a diesel /RE hybrid combination, however not many groups can put their hands on large tranches of forward capital in anticipation of a benefit 10 years down the track. That is the business of a forward thinking government.

All proposed RE generation systems which are able to supplant a diesel Genset alternative, where that diesel Genset is seen as a viable alternative to the extension of the supply authority grid which derives its major supply component from fossil fuels, regardless of the distance of that RE generator from the grid, should be eligible for a capital purchase grant, made by the government in anticipation of future savings, for the health of the natural environment, the people with in it and the economy.

As discussed RE RAPS is an order of magnitude more complex than urban GC RE. The PV component which is subsidised by the RECs scheme is the major cost component for a GC system. A RAPS system however has other capital costs associated with amongst other things, balance of system components, batteries, battery management systems, much greater installation costs and the economics of remote area service provision.

A 50% capital support incentive is still relevant, even more so considering the urgency of the environmental problem exacerbated by fossil fuel alternatives.

Cost of renewable generation

**Question 4:** Information is sought on the costs of different small-scale off-grid renewable generation systems for example in different geographical locations, in particular:

the capital cost of the technology, including installation;

annual running costs, including maintenance;

the effective life of the system;

the capacity factor of the system, if applicable; and

how this compares to fossil fuel based generation (such as diesel).

***Please refer to attached docs. Appraisal / capital costings and life cycle costing simulator for 2 proposed RAPS. projects***

Impact on existing eligible technologies and REC market

**Question 5:** Would providing incentives for off-grid renewable generation have a major impact on the deployment of existing eligible technologies?

Remote Indigenous communities

**Question 6:** What would be the wider economic and social benefits of renewable generation under the RET for remote Indigenous communities? How can these benefits be used to close the gap in Indigenous disadvantage?

*"Bushlight" systems is a government support remote communities RE RAPS facilitation organisation based in Alice Springs. The people it employs are possibly amongst the best qualified in Australia to answer this question.*

Any other additional comments

**Get real.**

