ENERGY VALUE OF DISTRIBUTED GENERATION

Distributed Generation Inquiry Stage 1 Draft Report

Comments on the Draft Report

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Dear Essential Services Commission,

Pre-amble

First off, the ESC (Essential Services Commission) is to be given due positive recognition for the depth, structure, time and effort that has gone into its draft report into the Energy Value of Distributed Generation.

For expediency and efficiency, the acronyms used in the ESC draft report (April 2016) will be used throughout this response.

As a concerned person living in the wider Melbourne area, and, as an Australian with a qualification as a professional engineer plus considerable industrial experience, I have significant concerns about the changes to the climate of this planet that are currently occurring and the on-going consequences of these changes. These changes are most likely being caused by the increase in the carbon dioxide levels in the planet's atmosphere (more than 90% of the world's eminent scientists believe this to be the case) and, I do believe that there is a pressing need for action to be taken, including action by the ESC via the vehicle of its current report and the eventual submission of its final report to the Victorian government.

On a personal front, I have undertaken measures to reduce my family's environmental foot-print including home insulation, roof top solar panels, rain water collection, storage and use, energy monitoring and subsequent changes to electricity use patterns, choice of vehicles, size and use patterns plus more frequent use of public transport. Other opportunities (eg. battery storage systems for roof top solar panel electricity) will be considered and undertaken, if considered appropriate, as technological advances occur.

Comments on the ESC draft report (April 2016)

After having read through the draft report (April 2016), I find that there are some of the report's recommendations that need to be re-considered by the ESC.

To keep this response brief and to the point, I have copied the report's draft recommendations and added my comments / opinions (which are highlighted in blue) after each draft recommendation.

Draft Recommendation 1: Basis for calculating the Feed – In Tariff
The feed - in tariff should continue to be calculated annually, having regard to wholesale market prices and any distribution and transmission losses avoided in Victoria by the supply of distributed generation electricity.
The FiT (feed - in tariff) should have regard to the retail market price for electricity (not just the wholesale price) as the retail price is the cost basis that small scale electricity users use as the primary driver for the installation of small scale roof top PV panels. The whole sale price of electricity (assuming the power generated is coal based, which is 90%+ of the

producers) takes into account coal excavation, supply and power generation. However, it does not consider the other costs of electricity distribution and retail to customers.
As an example, the cost of grid supply electricity is typically 28 – 30 cents/kwh. My current contract with a retailer is for the supply of electricity at 28 cents/kwh and I receive an FiT of 5.5 cents/kwh for electricity that is fed into the grid from my PV system. This FiT rate is unfair and unjust as it does not cost electricity retailers this amount (typically 28 – 30 cents/kwh) for the electricity, even allowing for a profit margin for the energy distributors and retailers. More importantly, at an FiT rate of 5.5 cents/kwh, I am cross subsidising the electricity retailers by a significant amount. Combine the hundreds of thousands of Victorian small scale roof top PV panel installations that supply into the electricity grid, this cross subsidisation via the FiT rate amounts to a significant amount.

An FiT that was substantially higher, perhaps double or even triple the current level (knowing that the FiT rate is state government mandated) would seem to be most appropriate. In turn, an FiT at a higher level would drive a significant expansion of roof top solar panel installations and the benefits from this would be quite substantial, including reduced greenhouse emissions, reduced reliance on the electricity grid and coal fired power stations, hasten the closure of the "dirty" older coal fired power stations, most likely increase overall employment, embracing of new technology would occur, etc.

Consideration should be given for any distribution and transmission losses in the supply network. The ESC recommends this in Draft Recommendation 5.

The proposed annual calculation of FiT is supported.

Draft Recommendation 2: Eligibility for payments
Solar photovoltaic (PV), wind, hydro and biomass remain eligible technologies for receipt of feed - in tariff payments, and eligibility be retained for units up to a generating capacity of 100kW.
This recommendation is supported.

Draft Recommendation 3: Multi - rate feed - in tariffs
The current single tariff should be replaced by a framework that allows for a time and location varying feed - in tariff that more closely reflects the underlying wholesale price of electricity.
This recommendation is supported.

Draft Recommendation 4: Time - varying feed - in tariffs
The Commission sets a multi - rate feed - in tariff to align with the time blocks operating for flexible retail prices (namely: peak, shoulder and off peak). The time varying feed - in tariff should be supplemented with a 'critical peak' tariff that would be paid when the wholesale price of electricity is equal to or exceeds $300 per MWh. The time varying feed - in tariffs should be calculated by the Commission on an annual basis.
This recommendation is supported.

Draft Recommendation 5: Locational feed in tariffs
The Commission sets a multi - rate feed - in tariff that divides Victoria into two regions reflecting the different average line losses across the state. The two regions would consist of (i) Melbourne, Geelong and the east of the state; and (ii) the north and west of the state. Higher line losses would apply in the north and west of the state.
This recommendation is supported.

Draft Recommendation 6: Fully reflective feed in tariff

If an electricity retailer is able to offer a feed - in tariff that fully reflects the half hourly prices in the wholesale market, and the distributed generator provides express and informed consent when accepting that tariff option, then the retailer's obligation to offer the regulated feed - in tariff rates as proposed in this draft report should be suspended for the duration of that agreement
This recommendation is supported.

Draft Recommendation 7: The environmental and social value of distributed generation.
The environmental and social value of distributed generation should be reflected in a deemed output tariff that is paid to a distributed generator based on the deemed output of the distributed generation system, where that output can be reliably estimated. The Commission considers that the deemed output of solar and wind systems can be reliably estimated using factors published in the Renewable Energy Target (Electricity) Regulations 2001 (Cth). The deemed output of other distributed generation systems cannot be estimated reliably at this time.
This recommendation is not supported. There should be a way to provide an estimate of the deemed output of other distributed generation systems at a conservative, reduced level, even if it is not totally reliable, perhaps as a proxy estimate, so that these other systems are included sooner rather than later.

Draft Recommendation 8: The value of avoided emissions
The deemed output tariff for 2017 should be calculated to account for the value of the greenhouse gas emissions avoided as a result of distributed generation displacing the marginal generator in the wholesale electricity market. Avoided emissions should be calculated by the Commission on an annual basis for each of the eligible technologies.
This recommendation is supported.

Draft Recommendation 9: Minimum tariffs
The regulated tariff structure should continue to impose a minimum obligation on retailers. Retailers should be able to offer higher rates on any one or more of the components of the minimum feed-in tariff, deemed output tariff or both, as set on an annual basis by the Essential Services Commission.
This recommendation is supported.

Draft Recommendation 10: Reviewing tariffs
Each year, the Commission should review the value of the feed-in tariff and the deemed output tariff for the year ahead. If additional, reliable information becomes available, the deemed output tariff should be adjusted at yearly intervals to reflect other social and environmental benefits.
This recommendation is supported.

Draft Recommendation 11: Reviewing the tariff structure
The time block structure and location zones of the flexible feed-in tariff, once established, should remain unchanged for an appropriate period. As a starting point, this period should be three years unless market characteristics change widely enough to warrant the Commission reviewing the tariff structure in an earlier timeframe.
This recommendation is supported.

BOX 7.1 QUESTIONS FOR RESPONSE
Wholesale market value of distributed generation exports
The proposed multi-rate tariff is intended to make payments to distributed generators

better reflect the 'market value' of the generator's exports. To achieve this outcome, the multi-rate structure includes payments that vary according to time and location.
1. Does the proposed multi-rate feed-in tariff (FiT) allow for payments to distributed generators to better reflect the market value of their exports? If not, why not?
The proposed multi-rate FiT does appear to slightly improve the payments to distributed generators for their exports, but, I consider that it does not go anywhere near far enough. Being currently paid 5 to 5.5 cents/kwh with a potential slight increase is unfair and unjust (as mentioned above). It costs energy retailers significantly more than this for the electricity that they on sell to customers. To put fairness and proper balance into the system, multi-rate FiT rates need to be significantly increased.

2. Do you support the proposal to amend the FiT framework to enable multi-rate tariffs for distributed generation? If so, which of the options do you favour and why? If not, why not?
The proposal to amend the FiT framework to enable multi-rate tariffs for distributed generation is supported.
The flexible component of the proposed DGT is favoured because, as stated in the Draft Report, the tariff is more "market reflective". Market forces are considered to be a better driver of the true value of the benefit of a DGT.

Environmental and social value of distributed generation electricity
Our analysis of the environmental and social value of distributed generation focused on establishing that a given benefit could be reliably linked to a given unit of output from distributed generation.

3. Are there additional data and analyses that the Commission should consider in assessing the environmental and social benefits of distributed generation, specifically in terms of identifying, quantifying and valuing those benefits of distributed generation?
No comment.

Implementation (retailers and distributors)
Implementing the proposed distributed generation tariff (DGT) framework would impose administrative costs on retailers and distributers.

4. What would be the implications for electricity retailers and distributors of moving to the proposed DGT framework? Specifically, what are the cost implications of implementing the proposed DGT framework? And what evidence can be provided with regard to those costs? Are there ways these costs could be reduced?
No comment as the cost implications involved need to be commented on by electricity retailers and distributors.

Batteries
Electricity storage (batteries) products are becoming more widely available in the Australian market.

5. What impact, if any, would deployment of electricity storage systems have on the assumptions and analysis underpinning the proposed distributed generation tariff framework outlined in this draft decision?
The deployment of electricity storage systems (batteries) has the potential for a significant number of household electricity users with roof top solar panels (Note: This could apply to all types of distributed generation) to choose to make a number of changes, including:
- store daytime solar electricity for use at night time
- move away from grid supplied electricity completely (ie. be totally independent of the grid)

- store daytime solar electricity and sell it back into the grid at times of peak demand to maximise return at the FiT rate
- produce solar electricity locally during the day and sell excess daytime solar electricity across a 24 hour period to a local user at an agreed price (local producer to local user) that is independent of electricity distributors and retailers whilst incurring significantly lower distribution and transmission line losses.

I trust that the above comments are of value and input to the Distributed Generation Inquiry Stage 1 Draft Report.

If there are any items in the above comments that the ESC would like to clarify or discuss further, please feel free to do so. My contact details are below.

There are no items in my above comments that are of a nature that would warrant restriction from publication on the ESC website.

Yours sincerely,

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