



**Australian Paper**

a member of the Nippon Paper Group

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14<sup>th</sup> May, 2015

Dear Sir / Madam,

## **Response to Stakeholder Consultation on Victorian Energy Efficiency Target**

### **Summary**

The Victorian Energy Efficiency Target (VEET) scheme has been instrumental in bringing energy efficiency to the fore in households and small to medium enterprises (SME) with consequent benefits to consumers overall. The activities available to be accessed under the VEET scheme are aimed at this target market focussing heavily upon heating, lighting and whitegoods. In this respect the VEET program has been successful and should be continued.

The expansion of the scheme to larger businesses has not brought with it the additional range of activities that could be of benefit to these businesses. To a limited extent such businesses can benefit from improvements in HVAC and lighting but with very limited returns compared to the energy usage of larger businesses.

Methodology used in modelling the savings and benefits from the application of VEET raises a number of concerns once the impact moves away from households and SME. The lack of “behind the meter” measurements and reliance upon deemed energy costs and savings casts doubt upon the validity of the modelling results.

In particular, claims for benefits arising from deferred network service provider (NSP) investment and reduced generation costs due to the impact of VEET are very ambitious. The impact of household Photovoltaic (PV) installations and the closure of manufacturing industry in Victoria significantly exceed any contribution from VEET. Given the current over-capacity in the electricity generation market, and the relative low volume of energy reduction from VEET compared with PV and industry closures, it is hard to perceive how any offset generation costs can be claimed as a VEET benefit.

Similarly the level of over-investment in NSP businesses in the period 2007-2014 has led to a “poles and wires” system that is significantly over-engineered for current and anticipated demand levels. It is plausible to argue that no investment in NSP businesses would be required in the remaining lifetime of the VEET scheme and hence no benefits can be attributed to VEET.

The current VEET target of 5.4 Mt Co<sub>2</sub>-e was set with a number of large businesses being exempt from the scheme due to their involvement with Environment and Energy Resources Efficiency Plan (EREP). At the time of setting the current target, and extending the range of businesses included in VEET, consideration was given to including EITE businesses in the

exemptions. In the event, the consultant of the day concluded that in Victoria 99.3% of the EITE businesses were also registered in EREP and hence there was no need to include a separate exemption category for EITE. With the winding up of the EREP scheme there is now a rationale for including EITE businesses in the VEET exemption. Doing so would not have any impact upon the VEET target nor the achievement of that target as the businesses in question were already exempt and excluded by virtue of EREP. Applying an EITE exemption would align the Victorian scheme with the equivalent NSW energy savings scheme (ESS).

### **Australian Paper**

Australian Paper is a subsidiary of the Japanese-based organisation, Nippon Paper Industries (NPI), which has an overseas network of manufacturing subsidiaries and affiliates in Asia, Oceania, Europe, North and South America and Africa, covering production of pulp, paper, timber and chemicals.

Australian Paper, Australia's only fine paper manufacturer, employs approximately 900 people at its Maryvale pulp and paper manufacturing plant in the Latrobe Valley, 191 at its Preston envelopes and stationary manufacturing and office papers distribution business and a further 108 in its sales, marketing and head office in Mount Waverley. This is a total of approximately 1,200 direct employees in Victoria, with wages and salaries totalling \$150 million annually. In addition, there are a significant number of on-site operations managed and operated by other companies to provide goods and services to Australian Paper and to process by-products from its operations.

Past economic studies by Western Research Institute in 2006 have demonstrated a flow on of a further 143% to 188% to household incomes in the community.

Total sales of Australian Paper's Victorian manufacturing businesses are just under \$800 million, again with a flow on of a further 120 – 152% to the community, much of this in regional Victoria.

With the completion of its recent pulp mill redevelopment, Australian Paper is much less reliant on imported pulp for its paper manufacture and therefore a much larger part of the sales revenue remains in Victoria.

AP has a substantial investment in the Australian economy, including an additional \$1 billion outlay over the past 15 years.

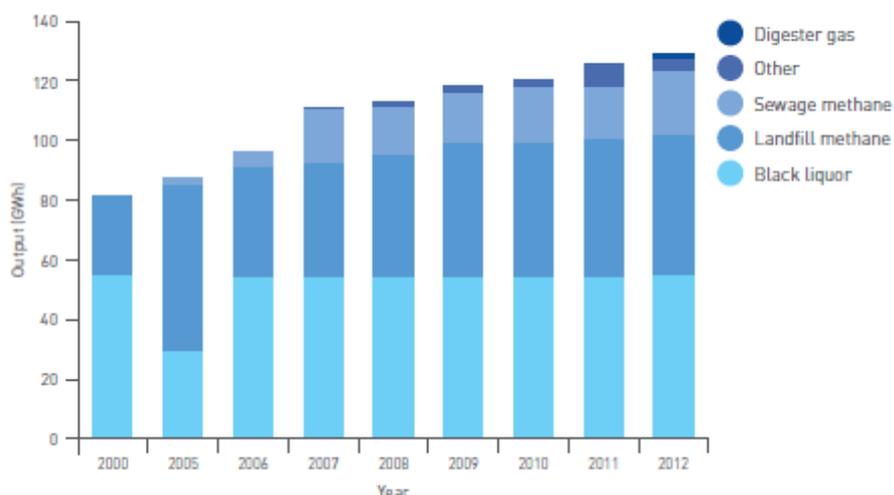
Of note, over 2006-09, we invested \$600 million to replace and expand our renewable energy generation and pulping infrastructure at the Maryvale site. This was the largest private industry investment in Victoria during that period, and the largest Australian industry investment outside the minerals processing and energy sectors. The move has made our Maryvale operation Victoria's largest industrial producer of renewable energy, generating base-load power on a 24 hour, seven-day per week basis, equating to 240,000 mega-watt hours annually of renewable electricity. AP also produces more than half of its energy needs from black liquor bio-fuel. Further, our Maryvale operations spend over \$500 million annually with regional suppliers, 90% of it locally, including around \$74 million in private investment.

Complementing our pulp mill investment outlined above, Australian Paper has just completed a further \$90 million investment in a de-inked pulping facility (DIP) that allows our operations to increase the use of recycled office papers in creating top-quality recycled product for Australia whilst simultaneously reducing the volume of waste sent to landfill.

Further investment is essential for our ongoing sustainability in a low-carbon economy. However, the current operating environment, which is characterised by low-cost competitors in overseas markets and an unfavourable Australian dollar, is challenging the viability of any further outlay in Australian manufacturing. This is despite the sector incorporating some of the most innovative and cost-effective practices in the world.

Our EITE operations at the Maryvale Mill pulp and paper facility consume some 18PJ of energy annually making us one of the largest, if not the largest, energy users in Victoria. Some 55% of our energy requirements are generated on site from renewable energy and we have the largest bioenergy power plant in Victoria accounting for 42% of the installed bioenergy capacity of the State. Our renewable energy power plant, fuelled by Black Liquor, typically generates in excess of 240 GWh of electricity each year.

Capacity of bioenergy generators by fuel and by year



Source: Clean Energy Council: Renewable Energy in Victoria Report 2012

Note: Outputs quoted for Black Liquor in the chart are LREC certificate volumes not total generation.

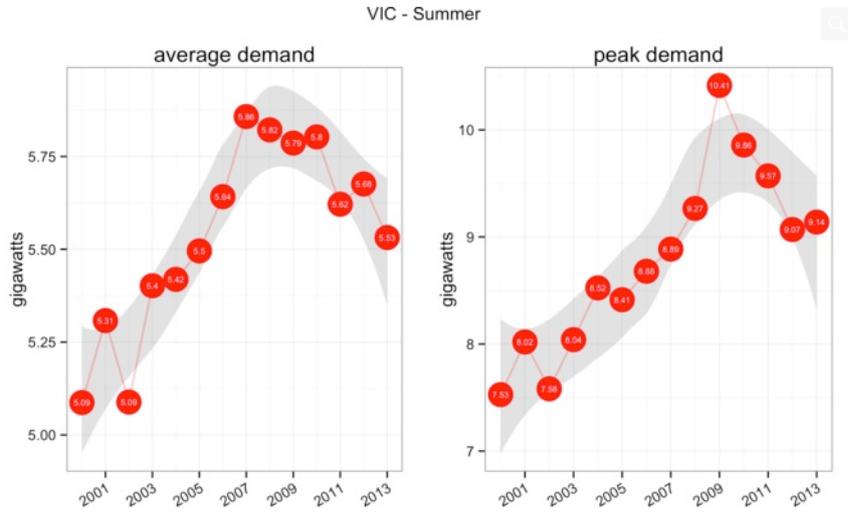
## Background

The Victorian energy efficiency trading scheme (VEET) commenced in January 2009 following the establishment of the Victorian Energy Efficiency Target Act 2007 and corresponding VEET Regulations in 2008. The efficiency incentive scheme was aimed at residential consumers with the objective of promoting household energy efficiency and reduced electricity costs. Initially the scheme had a target of 2.7 Mt CO<sub>2</sub>-e which was raised to 5.4 Mt CO<sub>2</sub>-e in 2011 when the scheme was expanded to include Small to Medium Enterprises (SME).

During the period in which the initial VEET scheme was being considered the electricity market was assumed to be rising in demand year on year by at least 3% pa. The forecast of increasing demand was used extensively in the electricity sectors submissions to the Australian Energy Regulator (AER) when the Network Service Providers (NSPs) were putting forward their energy demand forecasts and consequent expansion and augmentation of the electricity networks poles and wires businesses. NSP augmentation and investment was allowed on the basis of these submissions for two successive regulatory reset periods. This led to what has become known as Gold Plating of the networks. It is only in the current round of regulatory resets that this practice is being challenged but the AER in its determinations to date is still allowing excessive investment as reductions from the claimed NSP expenditure is largely limited to varying the WACC and risk provisions. However the inefficient and excessive investment of the NSP's in the past now forms part of the Regulated Asset Base (RAB) and consumers pay for this excess on a continuing basis.

Actual electricity demand in Victoria has consistently fallen from a peak value in 2007-08 according to information set out in successive Australian Energy Market Operator (AEMO) demand forecasts and Statements of Opportunities (SOO). Copied below is an extract from a presentation made by Professor Mike Stanford, Professor of Geology and Director of Melbourne Energy Institute at University of Melbourne.

**Extract from “The Conversation”, March 2013, Summer on the NEM by Mike Sandiford.**



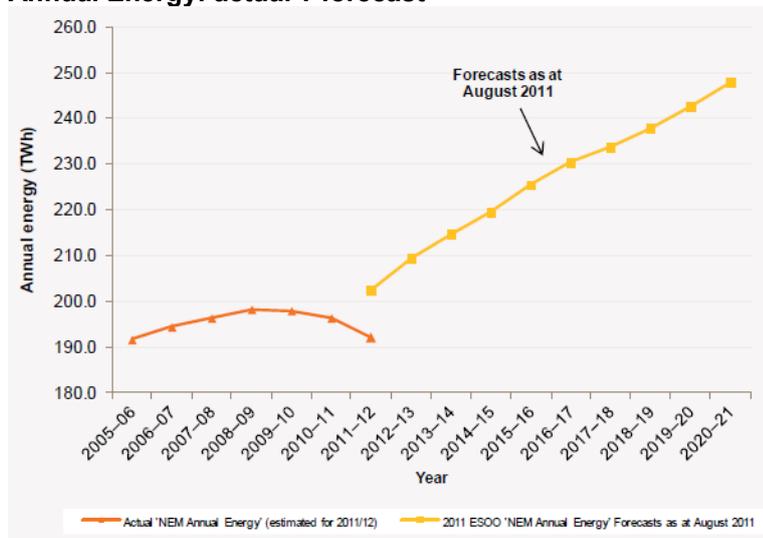
Average (left) and peak (right) VIC for Summer months (Dec, Jan, Feb) demand Data from AEMO, image by Mike Sandiford.

To put these numbers in context we need to take step back in time. Up until about 2008, peak demand was growing at around 3% each year. So back then the expectation was for peak demand to rise another 15% or so by 2013. In Victoria that meant planning for a 2013 peak demand of around 12 gigawatts, some 25% higher than we actually achieved.

The situation is not much different for average summer demand. In Victoria average demand was down 150 megawatts to levels not seen since before 2005.

One obvious contributor to the general decline in demand for electricity dispatch by the NEM, and the lack of extreme peaks, is solar PV. Because domestic solar PV is used locally, it reduces demand for electricity dispatched by the NEM across the poles and wires. And because solar PV capacity has been ramped up so quickly, the way it is impacting is readily assessed by comparing this summer daily average demand profile to that of a few years ago.

**Annual Energy: actual v forecast**



Regulated expenditure allowances for NSPs (Poles & Wires businesses) were allowed on the basis of Forecast Load Demand.

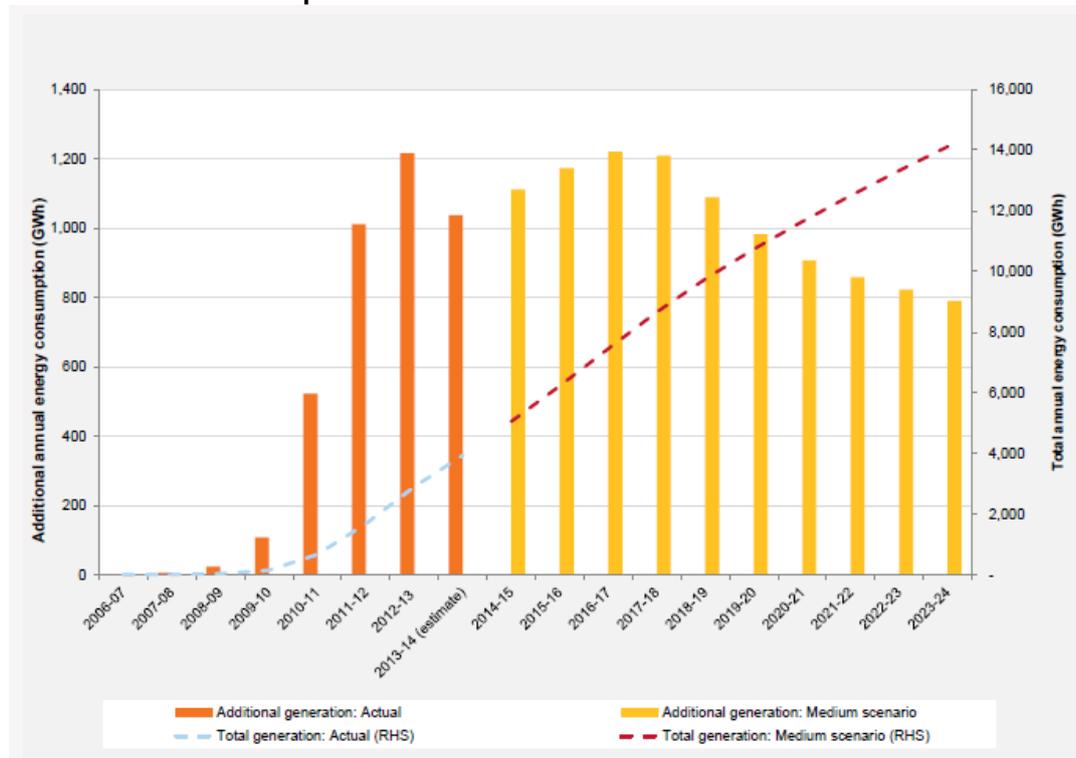
As can be seen from the chart on the left, this allowance grossly exceeds what was required and has now been “locked in” to the Regulated Asset Base (RAB).

Source: AEMO 2011 SOO update

Graph shows the shift from an expected 3% pa increase to an actual decline of 2%

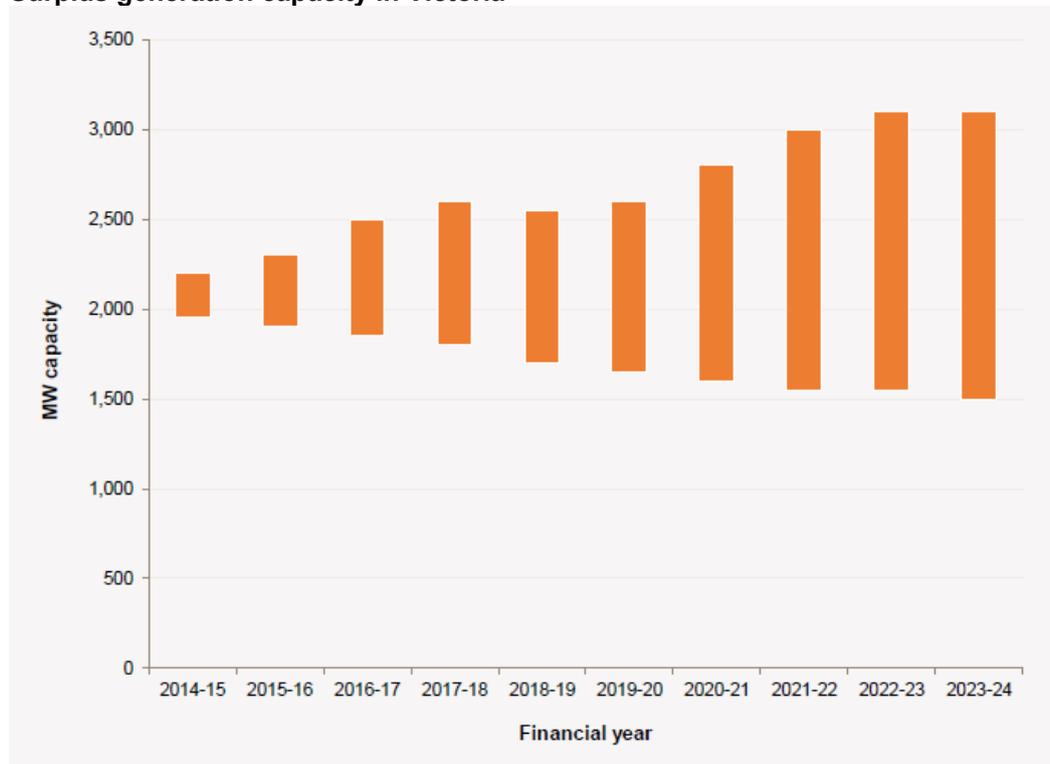
Both the Renewable Energy Target (RET) Review and the AEMO SOO of 2014 attribute the falling level of electricity demand predominately to the decline of large industrial load, especially energy intensive manufacturing, and the uptake of rooftop in solar PV systems. The impact is shown graphically in the following two charts.

### Generation from rooftop PV



Source: AEMO SOO 2014

### Surplus generation capacity in Victoria



Source: AEMO SOO 2014

### **Expansion to Include Industry (2011)**

The VEET scheme was expanded to include SME's in 2011 coincident with an increase in the VEET target to 5.4 Mt CO<sub>2</sub>-e. A Regulatory Impact Statement (RIS) was issued prior to the change and this specifically excluded large business from the change. In the event, large business was included in the scheme but there were virtually no projects that large business could avail to offset the costs of the scheme.

Exemptions for several business sectors were debated but the prevailing view of department's consultant, ACIL Tasman, at the time was that the majority of businesses that could be made exempt by consideration of EEO and/or EITE status were covered by the EREP exemption. Consequently no further consideration to qualifying exemptions was undertaken. There was a revision to the "less than 5000 customers" exemption to ensure market entry by new entrants would not skew the existing market.

It remains a point of contention with many large businesses that they are now exposed to the scheme and its costs without being able to offset the impost through VEEC creations.

### **VEET Targets and Measurement**

The original target for households and revised target for the expanded scheme operating from 2011, have delivered savings to the household and SME consumer. The extent of the saving is debatable for reasons that will be addressed in the following section. However, the scheme has made energy efficiency a sought after goal and to this extent the scheme is successful and to be applauded.

Using a deemed approach to determine savings and benefits is a suitable method for smaller load consumptions. However, it is not a preferred approach to larger loads where *behind the meter* measurements should be used to determine savings and benefits for larger users.

Energy savings and benefits appear to be based upon deemed reductions and estimated costs of energy for various sectors. The information given in the energetics' Appendix A would appear to over-estimate the cost of energy to large industrial's contracted loads by several magnitudes. This will also inflate the deemed benefits from undertaking energy saving initiatives under the VEET scheme.

Given the concerns raised in the section on Modelling Approach, it is considered that the current target, 5.4 Mt CO<sub>2</sub>-e, should be adopted for a further 3-year period pending review of project methods and measurement considerations.

### **Modelling Approach**

Australian Paper is concerned at the approach taken to model the benefits of the existing and proposed expanded VEET scheme. The decline in electricity demand and subsequent impact upon the network service providers and electricity generators is seen as a means of delivering savings in the form of reduced network charges and lower electricity generation costs. The value of any benefit from these assumptions is challenged:

- **Reduced NSP charges**

NSP's receive regulated income from the 4-yearly determinations made by the AER at the Regulatory Resets. During the last two reset periods the NSP's have argued for increased expenditure and expanded assets based upon a forecast growth in electricity demand. Actual demand has decreased during each of these periods.

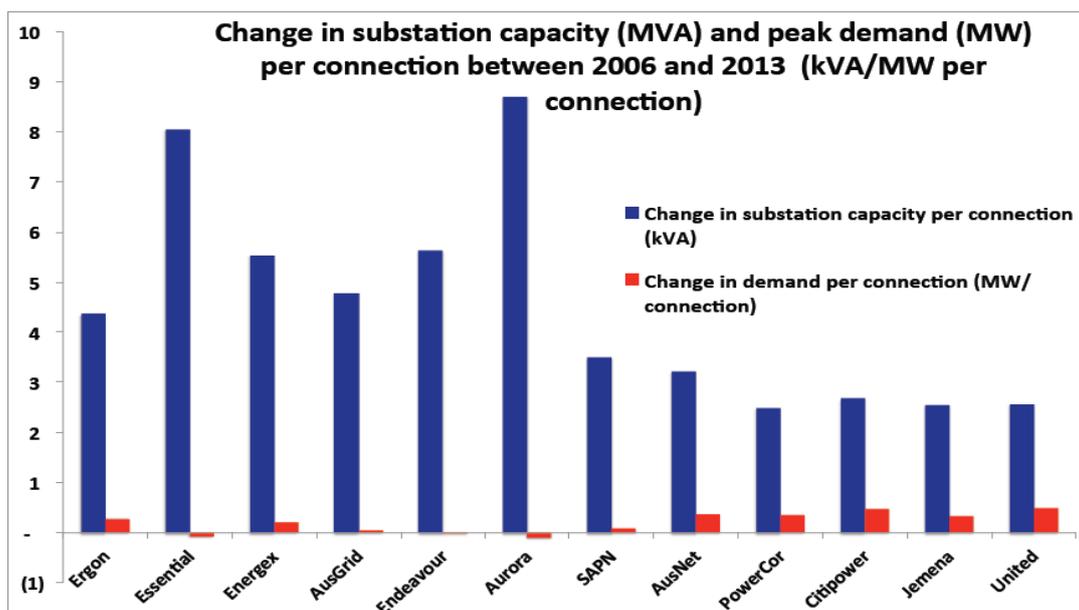
The NSP's submissions were, in the main, accepted by the AER and revenues agreed

upon that basis. The revenues are guaranteed insofar as a fixed sum is agreed which the NSP's then levy upon their customers. If the actual demand goes down then the unit charge per kWh increases to maintain the agreed regulated return to the NSP.

Once the expenditure has been approved and the augmentation of the network completed, the increased Regulatory Asset Base (RAB) is included in the next scheduled regulatory reset. This is, in effect, a compounding of inaccurate forecasting of increased load demand.

There is no provision for unnecessary or stranded assets to be removed from the RAB so consumers continue to pay for this inefficient expenditure regardless of actual electrical load demand. Consequently, there is no mechanism for consumers to gain financial relief from falling electricity demand.

The modelling assumption that VEET would lead to reduced expenditure in NSP's is flawed: the system peaked in 2007-08, during which time the networks coped with the demand. Two subsequent regulatory resets have since allowed network expansion and augmentation based upon forecast load increases that, history shows, were actually load decreases. Consequently there were eight years of network expansion and investment that was both unnecessary and inefficient. It could be argued that with a combination of expanded network capability and forecast annual load decreases, further augmentation of the NSP's facilities would not be needed within the lifetime of the VEET scheme. That is, there are no real savings to be realised. Thus claiming deferred network expenditure as a result of VEET initiatives is not a valid assumption.

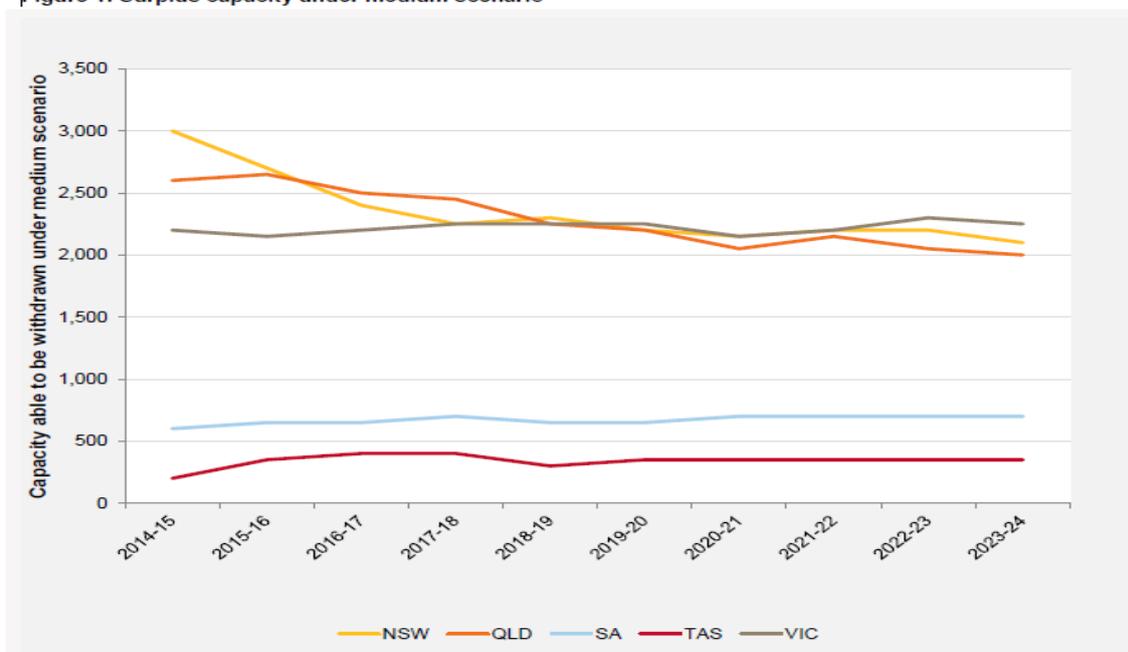


Source: Bruce Mountain presentation to AER Queensland distributor preliminary decision conference, May 2015

- **Lower Generation Costs**

The modelling assumes a perfect market with Generators removing capacity from the market as electricity demand falls. This is not the case with AEMO data showing there is an excess of generation capacity that has not been removed from the market.

**Figure 1: Surplus capacity under medium scenario**



The range of possible surplus capacity represents the different operational consumption growth rates per scenario. The low scenario forecasts a decline in operational consumption, which means that less generation would be needed. The high scenario forecasts growth in operational consumption, which means that more generation would be needed, resulting in less surplus capacity.

**Table 2: Surplus capacity by region across high, medium, and low growth scenarios**

Region	2014–15	2023–24
Queensland	Between 2,200 MW and 2,850 MW	Between 1,100 MW and 3,650 MW
New South Wales	Between 2,800 MW and 3,100 MW	Between 1,500 MW and 3,450 MW
Victoria	Between 1,950 MW and 2,200 MW	Between 1,450 MW and 3,100 MW
South Australia	Between 550 MW and 600 MW	Between 350 MW and 1,050 MW
Tasmania	Between 150 MW and 200 MW	Between 250 MW and 750 MW
Total	Between 7,650 MW and 8,950 MW	Between 4,650 MW and 12,000 MW

Source: AEMO SOO 2014

In reality, Generators are receiving the same value for their generation that they received 10 years ago. The revenue to generators from selling electricity is actually falling, as would be expected in an over-supplied market, and the ever-rising electricity costs borne by consumers is due to the spiralling costs of NSP charges and white certificate schemes.

It is not clear how the VEET scheme can be claimed to reduce the cost of generated electricity when the available market evidence lays the reason for excess generation capacity at the door of rooftop solar PV and falling industrial and manufacturing load.

The AEMO SOO 2014 attributes reduced electricity consumption to the following:

Reasons for reduced electricity consumption in the short-term (2013–14 to 2016–17) include:

- A decline in energy-intensive industries, including closure of the Point Henry aluminium smelter in Victoria.
- Strong growth (24% average annual) in rooftop PV installations, particularly in Queensland and Victoria.
- Strong growth (10% average annual) in total energy efficiency savings.

Point Henry aluminium smelter has closed with the loss of 3,000 GWh of electrical demand, or approximately 7% of the Victorian electricity production. Over the next two years further loss of some 465 GWh of demand will occur with the closure of vehicle manufacturing in Victoria: Ford 200 GWh; GMH 167 GWh; and Toyota 98 GWh. This does not take into account any further demand destruction from the loss of industry supporting car manufacturing. These combined losses amount to some 9% of total demand in Victoria. In addition the AEMO 2013 NEFR forecasts a further loss of 273 GWh (1%) of large industrial load – have these losses been accounted for and excised in deriving net benefits from the VEET scheme? The above figures take into account the reduced load demand of Pt Henry following the phased closure of the plant. When in full production, within the timeframe of the VEET scheme, the Pt Henry facility consumed almost 25% of the Victorian energy demand.

The modelling for industrial loads is, in part, based upon ANZIC sector data and assumes that loads in Victoria reflect the National Average. The AEMO 2013 NEFR update breaks down large industrial load by State: Qld 22%, NSW 17%, SA 16%, Vic 18%, and Tas 55%. It would appear difficult to take a national average approach to modelling industrial load variations.

In Appendix A of the energetics report there is a table setting out electricity and gas prices for large customers: the values depicted here are not representative of prices that would be paid by large industrial users following a tender process with retailers and generators. Consequently there is the potential for savings from energy efficiency to have been grossly over-estimated.

The biggest savings for larger customers are grouped into a category called *Various industrial systems* but no breakdown appears to have been provided to demonstrate what these systems are nor the individual benefit derived from such systems.

### **Greenhouse Gas Coefficient**

Victoria forms part of the National Electricity Market (NEM) operating on the east coast of Australia. This is an integrated market with electrons flowing across interconnectors linking South Australia, Tasmania, Victoria, New South Wales and Queensland. At times Victoria is both importing and exporting electricity across these various interconnectors.

Natural gas is delivered by a series of high-pressure pipelines, mainly owned by APA and Jemena. Extensive work has recently been undertaken to ensure, in the case of APA owned pipelines, that gas can flow in either direction along the pipeline. This enables gas from SA and Vic to be moved to NSW and Queensland or vice versa.

Given the interconnection of the gas and electricity networks, consumers are unable to determine where the electrons and molecules they are using originated. Consequently it would appear to be a reasonable approach to use the National Greenhouse Accounting Factors combined with the published NEM average greenhouse intensity figures when determining GHG abatement.

### **Approach to Valuation of Greenhouse Gas Emissions**

Our concerns lie not in adopting the Federal Climate Change Authorities methodology, rather in the volume of energy reductions that are being attributed to the VEET scheme.

From AEMO data there has been a contribution of over 3,860 GWh of generation from rooftop PV systems. Included in the above figure is the AEMO estimate of 1020 GWh for the partial data available for the 2013-14 year.

Industrial closures in Victoria have amounted to over 3,000 GWh with the closure of Pt Henry smelter and a further 738 GWh of announced closures in the period 2015-17. The actual figures may be higher as the volumes quoted are what is available in the public domain.

Taken together, the above represents the reduction of 7,598 GWh (17%) of generation: reductions that would fall outside the level of reductions that could be attributed to VEET. From the detail provided at the various forums run by the Department it is not apparent that these reductions have been excised from volumes used to determine net benefits of the VEET scheme and consequent reduction in GHG emissions.

### **Exclusion of Business Sectors**

With the winding up of the EREP scheme there are now reasonable grounds to consider additional exclusions to the VEET scheme. In particular, energy intensive trade exposed (EITE) businesses should be exempt from participation in VEET. This could be accomplished with no impact upon the scheme target as the current targets were set with EREP exemptions considered to be ongoing.

Previous reports by ACIL Tasman determined that 99.3% of EITE businesses located in Victoria were also listed on the EREP register, a position that was upheld by subsequent submissions made to the Department on this issue.

Under the NSW energy savings scheme (ESS) EITE businesses are exempt from counting towards a retailer's ESS liability. Applying the same exemption to the VEET scheme would align the treatment of EITE businesses across Victoria and NSW. This would also remove the anomaly of EITE businesses potentially being exposed to the costs of the VEET scheme whilst not being able to derive benefits from the scheme due to the lack of suitable projects.

EITE businesses cannot avail themselves of the vast majority of activities covered by VEET as these activities are essentially aimed at the household and SME consumer. Similarly, there is no benefit from a deemed reduction in retail energy costs as EITE businesses invariably contract with Generators or the C&I division of large retailers. By virtue of the trade exposed nature of the business, passing on additional costs to the market is not possible hence the EITE business has to absorb these costs which can be substantial. For example, had Australian Paper been included in the 2012 VEET year the additional cost of energy via pass-through VEET charges would have amounted to \$7.26 million – none of which could have been mitigated or recovered.

Energy efficiency is already a high priority for EITE businesses by virtue of the high energy usage in the processes. As such, energy efficiency schemes have already figured highly in the business plans e.g. Australian Paper spending over \$700 million to upgrade the business employing the best available technology and energy-efficient equipment.

There is an argument that some large businesses could avail themselves of energy efficiency projects and derive benefit from being included in a VEET scheme. It is considered that this would be a minority of businesses with the vast majority, especially in the EITE area, having already undertaken all energy efficiency projects that were financially viable.

However, both positions could be addressed by providing a list of eligible businesses that qualified for an exemption from the VEET scheme. Businesses on that listing would have to notify their energy supplier that they were on the approved list of exempted businesses and that they were electing to *Opt Out* of the VEET scheme. Electing to be in or out of the scheme would be binding upon the business for the duration of the VEET period i.e. a

subsequent VEET review or modification of VEET Target would be required before a business could change its election choice. Should a proposal such as this be adopted, businesses that could identify energy saving projects could participate in the VEET scheme and energy-efficient businesses could opt out. There would not be a situation whereby businesses could *double dip* by opting in for part of a period and opting out for the remainder.

In order to minimise red tape it is suggested that, to the extent possible, existing reporting methods should be utilised in determining the category in which a business was placed. For example, using the Clean Energy Regulator's listing of EITE industries and the NGERS reporting to establish volumes of energy consumed by a business. Again, to minimise red tape, determinations should be made at the commencement of a VEET period and remain in force until the commencement of a subsequent period whereupon determinations would be reviewed. Such periods would be for 3 years or 5 years depending upon the length of the VEET Target period.

### **Support for low income households**

This is an important aspect of the VEET scheme. As our expertise lies in the area of large manufacturing and energy-intensive industry we are not in a position to add to this debate. There are other organisations with the experience and expertise needed to provide input to the department on this issue.

### **Expanding Activities**

A range of project based activities should be available to large businesses from the point at which they are brought into the scheme failing to do so expose business to the costs of the scheme without any compensating benefits.

The benefits derived by large businesses should be determined by metered data and not average industry assumptions. This is underlined by the listing of energy pricing for large business in the energetics Appendix A which has the potential to substantially over-estimate the benefit of any energy savings to large business.

### **Additional Activities**

For larger businesses thermal energy can be a significant part of the overall energy demand. Expanding the scheme to recognise and reward thermal energy reductions would be a welcome addition.

### **Changes to Improve the VEET Scheme**

Larger businesses with operations in several States are currently forced to tailor their energy management practices to a State by State level. This is both inefficient and costly and can be remedied by alignment of the various State schemes for consistent application across the range of a business's enterprises.

For further information or in the event of any queries, all correspondence should be addressed to Brian Green.

Yours sincerely,



Brian Green  
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Australian Paper