



## COVER SHEET FOR SUBMISSIONS

### Independent Review into the Future Security of the National Electricity Market

#### Overview

Please include this cover sheet with your submission on the Preliminary Report of the Independent Review into the Future Security of the National Electricity Market.

#### Background

The Preliminary Report outlines the Panel's observations about the current state of the NEM and offers questions on the major issues the Panel has identified. The questions are designed to elicit suggestions or answers that may help form the Panel's final recommendations.

The Preliminary Report serves as an issues paper for broad public consultation. As such, the questions and views will be subject to further consideration and discussion, in anticipation of the final blueprint being produced in 2017.

Stakeholders are encouraged to keep their submissions as succinct as possible, and include a one-page executive summary.

#### Contact Details

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

### Submission Instructions

The submission period will be open until close of business on Tuesday **21 February 2017**.

All submissions should be emailed to the NEM Security Review at the mailbox:  
NEMSecurityReview@environment.gov.au

24 February 2017

Dr Alan Finkel  
Chair of the Expert Panel  
Independent Review into the Future Security of the National Electricity Market.

Via: NEMSecurity Review@environment.gov.au

Dear Dr Finkel

Thank you for the opportunity to provide a submission under the *Independent Review into the Future Security of the National Electricity Market*.

The Australian Sugar Milling Council provides a policy forum for Australia's sugar milling sector, representing over 95.1% of Australia's raw sugar milling production, and Queensland's second largest source of renewable energy generation.

Australian sugar mills are embedded throughout regional coastal communities, and have been generating electricity for over one hundred years. As a source of dispatchable, renewable electricity generation, sugar mills contribution to regional energy security is generally unrecognized.

ASMC welcomes an independent review on the future security of the National Electricity Market, and the opportunity to demonstrate the continued value of embedded generation to local communities. ASMC's response to the independent review is focused on three key themes of the discussion paper:

- Chapter 3: The Transition to a Low Emissions Economy is Underway
- Chapter 4: Integration of Variable Renewable Electricity
- Chapter 6: Prices Have Risen Substantially

Should you have any further queries regarding this submission, please contact Ms Sharon Denny, Senior Executive officer, on (07) 3231 5003 or [Sharon.Denny@asmc.com.au](mailto:Sharon.Denny@asmc.com.au).

Yours sincerely



Dominic V Nolan  
Chief Executive Officer



## **ASMC response to the Independent Review into the Future Security of the National Electricity Market (Preliminary Report)**

### **Chapter 3: The Transition to a Low Emissions Economy is Underway**

**Policy uncertainty continues to be the largest barrier to investment in the electricity sector. The Renewable Energy Target (RET) has been instrumental in supporting a transition to a lower emissions economy, and yet the viability of the scheme continues to be undermined by politicisation around need.**

Since the RET policy was introduced, the sugar industry has directly invested over \$600 million in expanded cogeneration projects in regional Queensland. These are renewable energy (biopower) projects. A (previously) bipartisan supported policy has driven advances in technology, refurbishment of milling infrastructure to improve efficiency and export more electricity, and the creation of new jobs. These significant investments (15-20 year payback) increase industry confidence, and broader investment across the sugar mill's community. In addition, these investments enhance regional energy security, supplying directly to their local communities.

Critically, the more recent investment of the sugar industry has focused on ensuring electricity generation outside of the cane crushing season. Where mills typically generate electricity during the crush, from June - December, increasingly, companies are investing in cogeneration capacity duration, to generate during the first quarter of the year (Q1) and meet localized and state peak electricity demand. For example, Racecourse Sugar Mill expanded its cogeneration capacity in 2012, to operate year round, supplying one third of Mackay's electricity. During the heatwave of the second and third week of February 2017, Racecourse Sugar Mill provided load curtailment services to the regional distribution network. Racecourse Mill generated continuously throughout the period, increasing output where requested to supply the growing demand as the peak shifted into the evening of each day, and subsequently reducing output as demand receded. Very clearly, sugar mills have a role to play in filling the void of variable renewable electricity.

The period of 2017-2020 has the potential to drive biopower generation investment across the sugar milling sector. Multiple mills within the industry are facing significant investment decisions as key equipment approaches 'end of life'. Where there is policy certainty, mills would likely choose to invest in a costly system upgrade (similar to Racecourse Mill) that would significantly enhance the efficiency and capacity of electricity generation, with substantial refurbishment of the plant to support the higher technology requirement. However, the absence of policy certainty will result in a range of investment decisions across companies, from replacing "like with like", to lower efficiency electricity generation - with the best opportunities compromised by policy risk.

Enduring bipartisan policy certainty is critical to the investment profile and transition of energy infrastructure in Australia's NEM.



## Chapter 4: Integration of Variable Renewable Electricity

There is no question that as the energy generation composition of the national electricity network transitions from higher to lower emissions profile, system stability will become an increasing issue. However, Australia's experience is not unique, with developed and developing countries around the world already responding to grid integration challenges. Solutions have included a range of combinations to generate flexible systems for both supply and demand, such as energy storage, active power controls, construction of new transmission networks, smarter grids, interconnection with neighbouring grids, advanced resource forecasting and dispatchable renewable energy plants<sup>i</sup>.

Biopower, that is, modern biomass generation, currently provides 2.0% of global electricity production<sup>ii</sup>. Along with reservoir hydro, geothermal power and concentrated solar power (CSP) with storage, biopower generators are dispatchable renewable energy plants. In 2015, the world's largest users of biomass generation (including biogas) were the United States, Germany, China, Brazil and Japan. The utilisation of these facilities to provide systems balancing, as dispatchable generation, has been a critical contribution to the growth of biopower installations<sup>iii</sup>. However the potential of these generators remains largely untapped in the Australian electricity market.

While cognisant of the requirement for innovative approaches to adjust to the changing needs of the NEM, the potential of existing biopower generators to fulfil this role remains largely unrecognized. Sugar mills, embedded throughout regional Queensland communities, are synchronous generators that remain largely underutilised. Similarly, a range of manufacturing industries around Australia, such as sugar, meat processing, paper/forestry and waste facilities (biogas) are able to participate in enhancing grid stability, particularly throughout regional communities. This issue was recognized by the Qld Renewable Energy Expert Panel, who concluded that specific reverse auctions, enabling "renewable synchronous generation" should be included as part of the Queensland Government's 50% Renewable Energy Target. These generators increase localised reliability and responsiveness, enhancing regional, and whole of system stability. In parallel, the investment in diversified activity further enhances job creation and the local economies wherever these generators are located.

However, there has been little to no incentive for networks to engage with biopower generators to date. An artefact of the renewable energy target (RET) has been to encourage the installation of renewable energy at locations leading to the lowest cost of project debt recovery, rather than the lowest cost of delivering uninterrupted electricity. These are two very different outcomes. Consequently, the location, and typically integrated manufacturing process associated with biopower projects results in a higher levelised cost of energy - which remains unattractive to distribution networks in the absence of sufficient market responsibility for networks to actively contribute to stabilisation. This concept was most recently confirmed by an investigation undertaken by ASMC, in partnership with the Queensland Government. During this energy intelligence exercise, it became clear that should mills actively invest in energy efficiency that would lead to enhanced grid stability and network utilisation, and further extend mill generation into Q1, a direct windfall would be created for the network operator that is not passed through to the investing mills. ASMC is currently working with the Queensland Government to resolve this concern.

There is significant opportunity, as Australia moves into the next phase of renewable energy integration, to enable a holistic approach to future generation investment, based



on energy security. Partnerships between diverse sources of renewable generation rather than mono-technological solutions must necessarily be the new norm.

### **Chapter 6: Prices Have Risen Substantially**

While ASMC cannot comment at length on other distribution networks, it is our experience that the National Electricity Market Rules are insufficient to drive fair and transparent pricing in the Queensland regional distribution network. While not challenging the need for cost reflective pricing, the assumptions used in the current model by Ergon continue to be questioned by the sugar industry, Queensland agriculture and regional households.

Regional Queensland is currently saddled with a highly inefficient and costly network because successive Queensland Governments have deliberately traded off efficiency against exploitation of resources. In particular, successive governments have relied on coal fired generation being sufficiently low cost to offset the escalating cost of supply chain inefficiency. This is a fundamental failure in government risk management - and a legacy regional Queenslanders are increasingly expected to fund through “cost reflective prices”. Government ownership of coal fired generation, a distribution network and retail operation means that opportunities to optimise local grid efficiency through embedded generation are effectively in competition with a whole supply chain - not just another generator. This inequity is further driven by the structure of the State’s Community Service Obligations - which are nominally based on “everyone pays the same”. ASMC has continually argued that a focus on equalisation of the cost of delivering energy across the state - that is the cost of delivering energy anywhere in the state is equal - would drive a whole of supply chain efficiency, from generation through to avoided transmission and network investment in over-capacity for one of the world’s largest ribbon networks.

ASMC and its reciprocal grower peak body, Canegrowers, have each expended significant resources in highly credentialed analysis by research consultants such as CME, Enernoc and Sapere, clearly demonstrating fundamental flaws in the assumptions used for the “Network + Retail” model, that continues to be endorsed by the Australian Energy Regulator. The industry is also aware that similar concerns to the findings of these reports have also been raised in other states regarding local distribution networks. After five years of continuous review into energy policy at a national and state level, there seems to be no federal appetite to resolve these identified internal inconsistencies.

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<sup>i</sup> REN 21. Renewables 2016 Global Status Report. Pg 34. <http://www.ren21.net/status-of-renewables/global-status-report/>

<sup>ii</sup> REN 21. Renewables 2016 Global Status Report. Pg 32. <http://www.ren21.net/status-of-renewables/global-status-report/>

<sup>iii</sup> REN 21. Renewables 2016 Global Status Report. Pg 46. <http://www.ren21.net/status-of-renewables/global-status-report/>