



Enquiries: Natalie Stodart

6 June 2018

Jessica Shaw MLA
Chair of the Economics and Industry Standing Committee
Parliament House
Level 1, 11 Harvest Terrace
WEST PERTH WA 6005

Dear Ms Shaw

ECONOMICS AND INDUSTRY STANDING COMMITTEE – INQUIRY INTO MICROGRIDS AND ASSOCIATED TECHNOLOGIES

On behalf of the Technology and Industry Advisory Council (TIAC), I would like to thank you for providing TIAC members with the opportunity to attend the Economics and Industry Standing Committee's (EISC) public hearing in regard to its Inquiry into Microgrids and Associated Technologies.

I acknowledge that TIAC has received the draft transcript of the hearing and the three additional questions based on TIAC's submission. I am pleased to answer those questions in this letter.

Has Synergy responded to WATIAC's proposal in your advisory report of May 2017 "Should Synergy continue to be a solar system retailer; the government should remove Synergy from any role in the approvals process for behind the meter systems"?

In September 2017, the 'TIAC Advisory Energy Report' was circulated to the Premier, Hon. Mark McGowan, Minister MacTiernan, Minister Wyatt as well as Mr Darren Foster, Director General, Department of Premier and Cabinet, Ms Kristin Berger, Senior Policy Advisory, Department of Premier and Cabinet and Professor Margaret Seares, Panel Member, The Service Priority Review. TIAC did not send a copy of the report to Synergy, nor has TIAC initiated or received any formal correspondence from Synergy.



One of the questions you discussed for your report was “Are the existing energy system providers now in the market offering viable alternatives for prosumers to take market share?” What was the outcome of this question?

As stated in our report, prosumers have little regard for the historical electrical system, rather they focus on better power reliability, ‘going green’ and reducing the cost of power supply. There is certainly a greater interest in new energy technologies that support prosumers’ demands; and as the up-front costs involved in developing these ‘off-the-grid’ systems reduces, the greater the demand for these systems will be.

Like all changes in the market place the energy system providers will need to adjust to retain market share. TIAC is pleased to note that new technology solutions for fringe-of-grid/off-the-grid electricity are being investigated and trialled by energy suppliers. This is slow change, but a change none the less. The Government could consider developing a network and generation transition strategy to support this evolution.

You note on page 3 of your submission that “One of the fastest energy technologies in development is battery storage. The battery market, with decreasing prices will expand and new business and delivery models will evolve.” How many jobs does WATIAC think could be established in WA from an expanded lithium/battery industry?

TIAC’s main focus within the Advisory Energy Report was on the opportunity presented by new energy technologies to reduce the pressure of rising energy prices to Western Australian businesses.

The development of new energy technologies and specifically microgrids are still in the early stage of development, with early trials and economic studies purposed on reliability, resilience and reducing of the cost of supplying power, so ascertaining economic modelling relating to job impact is difficult.

However, jobs will be created in the construction operation and maintenance of renewable energy installations, as well as in related industries such as lithium and battery technologies. Many of these jobs will be additional to the economy, though location and skills may differ from those currently in demand. Some assumptions on job numbers could be drawn on modelling undertaken by the Climate Council – *Renewable Energy Jobs: Future Growth in Australia*.



This identified that for both a Business As Usual (BAU) and 50% Renewable Energy Usage scenario, growth in electricity demand and new renewable generating capacity over the period 2014 to 2030 will provide additional jobs of 28,000 nationwide. For Western Australia this would be an increase of just under 2,000 jobs.

However, in the scenario of BAU and only a 28% Renewable Energy Usage scenario, electricity sector employment in 2030 would be lower, with around 6,600 fewer net jobs than BAU. This reflects fewer jobs required for large-scale wind and solar farm construction and operation. The impact of fewer net jobs in the electricity sector would be in NSW, Queensland and South Australia. Western Australia would show no net increase in jobs.

These job numbers do not reflect upstream or downstream employment opportunities. For example if battery production develops in Australia to support the storage of electricity, there will be job increases. WA mines over 60% of the world's supply of lithium and produces all other minerals necessary to domestically manufacture batteries.

Magellan Power, a WA based company, manufactures a range of power systems and grid supporting energy storage equipment including lithium batteries. Like a lot of businesses Magellan grew significantly during the WA resource boom, supplying a majority of the major projects with their traditional industrial products. During the down turn Magellan saw a dramatic reduction in orders and shrunk to a team of 25. Using the downturn in their resources related business Magellan saw this as an opportunity to diversify their technology and start developing energy storage and microgrid technology, the business has now returned to 45 staff.

The new lithium refinery in Kwinana, a joint venture between Sociedad Quimica y Minera de Chile and Kidman Resources, is expected to create almost 400 jobs during the construction of the refinery. Additionally, the company's lithium mine and concentrator will create about 300 jobs during construction and 150 jobs during the operational phase.

Further evidence to support job growth numbers in the lithium battery industry, is the recent announcement in South Australia of German company, 'Sonnen' establishing a battery production plant in Adelaide which is projected to create 430 manufacturing and installation jobs. Sonnen will produce 50,000 energy storage systems over the next five years. The Sonnen batteries use lithium-ion phosphate technology, with their products guaranteed for 10,000 cycles, equal to about 27 years.



An economic impact analysis of lithium battery manufacturing in the US, by the American Chemistry Council, identified that if the US replaces its current \$1.312 billion imports of lithium ion and lithium metal batteries with manufacturing output of the same amount, that it would generate employment of 13,753, broken down into direct 3,352; indirect 4,527 and induced effect 5,874.²

TIAC supports the State Governments provisional funding of \$5.5 million to the Minerals Research Institute of Western Australia (MRIWA) to support development and manufacturing of technology metals and renewable energy sources; and drive global demand for local products, services and solutions.

I trust that TIAC's response to the EISC's additional questions provides greater clarity to our submission and your inquiry and I look forward to the opportunity to participate in a follow-up hearing if applicable.

Yours sincerely

Mr Alan Bansemer
CHAIR

¹ WA Government Media Statements – “New Kwinana lithium refinery to create more WA jobs”. Available from: <https://www.mediastatements.wa.gov.au/Pages/McGowan/2018/05/New-Kwinana-lithium-refinery-to-create-more-WA-jobs.aspx> [accessed June 5 2018]

² American Chemistry Council “Lithium – An Economic Overview”. Available from: <https://www.americanchemistry.com/ProductsTechnology/Lithium-Battery-Materials/Lithium-An-Economic-Overview.pdf> [accessed May 29 2018]