

NZWEA 2018

The year in review



1. Introduction

In last year's review, we concluded that future for renewables in NZ and globally looked very good. As we now look back on 2017 we stand by that view, but sometimes good things take time.

The new Labour-led Government has come to power with an ambitious environmental reform agenda. The establishment of a Climate Commission and setting of targets of 100% renewable electricity generation in an average hydrology year by 2035 and a net zero carbon position by 2050 are positive for wind energy. Having clear targets is great but, as we all know, the development and implementation of strategies to achieve the desired outcomes is never easy, especially for such audacious targets.

In this review, we update the domestic and international outlook, provide an overview of NZWEA's activities during the past year and an overall summary.

2. The Outlook for New Wind Activity in NZ

The year (2017) started with little expectation of a flood of activity but hopeful that a new wind farm might be announced. Tilt's 130MW Waverley Wind Farm was given the consent green-light and Blueskin Energy's Environment Court appeal declined but there were no new builds announced.

As we travel into 2018 it's easy to feel the winds of positive change as the reasons for a lack of recent new wind development dissipate:

- **Demand Uncertainty.** Electricity demand increased 1.1% in 2017 albeit off a low 2016 production level. What's most important is the level of confidence around future growth. MBIE 2016 Electricity Demand and Generation Scenarios has annual growth ranging from 0.4% to 1.3% based on electricity supply assisting decarbonisation.
- **Future of the NZ Aluminium Smelter.** Aluminium prices are up based on increased demand for high quality product. Last year the consensus view was the NZ Aluminium Smelter would remain, this year this has been confirmed with the smelter contracting for an additional 50MW through to the end of 2022 to restart line four. Indeed, having a smelter supplied by renewable electricity is a great hedge against the future price of carbon.
- **System Security Margins.** Margins have fallen from pre-2015 historic levels of 25-30% to less than 17% today and we are seeing increasing spot price volatility signalling the need for new investment.
- **Climate Change Direction.** The establishment of a Climate Change Commission and setting of higher targets for renewable electricity generation and achieving a net zero carbon emission position provides a clear pathway for the growth of wind energy.
- **Carbon Price.** The price of NZU's has recently passed the \$20 mark and, with the ETS as the key mechanism to lower emissions, it is easy to see the future price tracking upwards particularly if signalled ETS reforms are implemented.

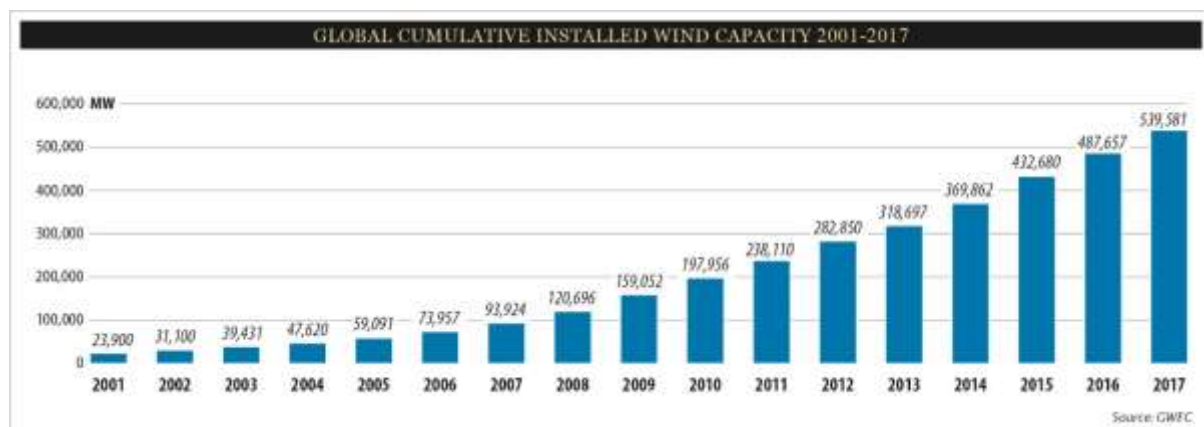
- **Aging Thermal Plant.** As existing thermal plants, especially the Huntly Power Station which was commissioned in 1983, get closer to the end of their economic life key decisions will be required on alternatives to meet an increasing electricity demand. A key challenge will be landing the right generation mix to ensure summer / winter demand differences and continuity of supply during periods of low hydro lake levels are managed.

The adage that change is constant, while a truism, really does not seem sufficient to describe the transformation of the energy sector as we change direction to a low-emissions future. The role of renewable electricity generation in the transformation is largely unquestioned. That New Zealand has at its fingertips access to a vast quantity of high quality wind resource presents a significant opportunity for sector growth in support of future economic prosperity.

Don't be surprised to see late 2018 or early 2019 as the restart of a period of managed growth in the NZ wind energy sector.

3. Global Trends

The Global Wind Energy Council (GWEC) annual market statistics confirm the energy transition continues. Total installations in 2017 were 52,573 MW, bringing the global total to 539,581 MW.



The increase is slightly less than the growth in 2016 of 54,977 MW. GWEC notes the transition to fully commercial market-based operation has left policy gaps in some countries, and the global 2017 numbers reflect that, as will installations in 2018. In the Association's view the rapidly improving economics and deployment of solar is also displacing some new wind projects.

Europe, India and the offshore sector had record years. Key growth markets were China (19.5 GW), USA (7.1 GW) and Germany (6 GW). Offshore installations of more than 3,000 MW are a harbinger of things to come.

Key GWEC take-outs from the annual market statistics are:

1. The numbers show a maturing industry, in transition to a market-based system, competing successfully with heavily subsidised incumbent technologies.
2. Wind is the most competitively priced technology in most markets; and the emergence of wind/solar hybrids, more sophisticated grid management and increasingly affordable storage begin to paint a picture of a fully commercial fossil-free power sector.
3. Cratering prices for both onshore and offshore wind continue to surprise. Markets in such diverse locations as Morocco, India, Mexico and Canada range around \$US 0.03/kWh.

4. Direct corporate purchase of renewables plays an increasing role in wind's growth particularly in the US.
5. The dramatic price drops for wind technology has put a big squeeze on the profits up and down the whole supply chain.

Of note is that in the period since New Zealand's last major wind farm build in 2014 global capacity has increased 170GW or 46% and that in 2017 wind was 44% of Denmark's electricity supply.

4. NZWEA Strategic Direction

In December NZWEA's board approved a change to the Association's vision of wind energy providing 20% of NZ's electricity requirements by 2030 with the target date moving to 2035. The change was to reflect the lack of recent new wind development and to align with the Government's 100% renewable electricity generation in an average hydrology year.

The 20% by 2035 objective is a demanding stretch target which will require on average one new significant wind farm per annum and see total wind capacity increase from the current 690MW to 3,100MW.

The Association's strategy remains focused on three key areas:

1. Leverage NZ's emission reduction target to raise awareness of the benefits of renewable electricity generation, particularly wind energy.
2. Promote domestic emission mitigation options to increase demand for electricity and support new generation build activity through the electrification of industries that are high carbon emitters.
3. Continue to raise the profile of wind energy and ensure the regulatory environment supports wind farm development.

5. NZWEA Activities

Activities have been principally directed towards meeting the Association's mission of promoting the uptake of wind energy and supporting achievement of the vision. Key Activities during 2017 include:

- **Low carbon future.** In a positive move towards determining the opportunity for domestic carbon mitigation the Government tasked the Productivity Commission to provide recommendations on how the country can lower net emissions. The focus of the report will be on how to manage a transition to a lower net-emissions economy, while maintaining or improving incomes and wellbeing. The Commission's work programme includes an Issues Paper which was released in August. NZWEA submission included supporting a preference for New Zealand to address its emissions footprint domestically as ultimately a net zero position needs to be achieved under the Paris Agreement and investment should be focused on achieving this outcome for the benefit of all New Zealanders.

The Association also noted that as the price of carbon increases, future competitive advantage can be obtained by utilising New Zealand's natural renewable energy advantages and supported the electrification of high carbon emitting activities. Our submission can be viewed here:

<http://www.windenergy.org.nz/productivity-commission-review>

- **RMA Reform.** The Association has been working with members to address the shortcomings of the National Policy Statement for Renewable Electricity Generation (NPS-REG). In December

2016 the Ministry for the Environment published an Outcome Evaluation Report which highlighted that NPS-REG had not noticeably increased the consistency across regional policy statements or regional or district plans and that there has been no noticeable increase in certainty for resource consent applicants. The Association continues to progress the revision of the NPS-REG as a key enabler of renewable electricity development.

In the interim, the proposed introduction of national planning standards supports the wind industry as council plans will be required to ensure consistency with noise metric standards including New Zealand Standard Acoustics – wind farm noise (NZS 6808). The change will prevent the imposition of physical set-backs and provide increased certainty when lodging wind farm consents and removes the need for the industry to push for the development of a National Environmental Standard for Wind Farm Noise.

- **Emissions Trading Scheme.** The Ministry for the Environment has completed a review of the ETS and several in-principle decisions made including introducing auctioning of units which align the ETS to climate change targets, limiting the use of international units and developing a different price ceiling to replace the \$25 fixed price option. MOTU Foundation (Economic and Public Policy Research) in 2017 published a review of the scheme and recommended a number of enhancements including a supply cap, introduction of price bands and long-term price signals. The Association supports the continued development of the ETS particularly as it's the Government's key market vehicle for lowering emissions. In particular, the Association would like to see clearly defined emission reduction targets set for the Scheme and auction allocations managed to reflect these targets. This would result in the carbon price adjusting to reflect the need to reduce emissions and encourage investment in renewables.
- **Wind Farm Consents.** In a positive decision for the wind industry Tilt's 130MW Waverley Wind Farm was given the green-light in July. In a set-back for community wind Blueskin Energy's Environment Court appeal was declined in September. The decision also demonstrated the shortcomings of the NPS-REG.
<http://www.windenergy.org.nz/blueskin-bay-wind-turbine-environment-court-decision>
- **Wind Offer Arrangements.** The Electricity Authority (EA) consulted in September 2017 on proposed changes to allow wind farm owners to offer their generation into the market in five price bands like other forms of generation. NZWEA supported the change as it recognised that there is a short run marginal cost to wind production and that remaining a price taker with a one cent offer price disadvantages wind generation. Overall the proposed change is a positive move in affording wind generation the same flexibility as other forms of generation. In April the EA confirmed that it will be changing the Industry Code. To view the Association's submission:
<http://www.windenergy.org.nz/ea>
- **Wind Positioning.** The Association continues to promote renewable energy and wind as a key enabler of a low carbon economy. The focus is on providing educational content to teachers and students by way of student fact sheets and teacher lesson plans which are available on the Association's website:
<http://www.windenergy.org.nz/resources/for-teachers>

The Association has also been working on the repositioning of wind from focusing on how we produce electricity (with pictures of wind turbines) to the benefits of renewable wind energy in enhancing wellbeing and our quality of life.

- **Wind Energy Conferences and AGM.** The Association’s 2017 conference “Transitioning to a Low Carbon Economy with Wind Energy” focused on developing an understanding of the implications and opportunities for renewable generation arising from the need to reduce the use of fossil fuels. The Conference was well supported and provided a fantastic opportunity to network. Over 85 attended the event which included speakers from the USA, India and Australia. The workshop was on electricity supply resilience. Presentations are available here: <http://www.windenergy.org.nz/activities/conference-2017>

The AGM was held in November with Elizabeth Yeaman from EECA as our guest speaker. Elizabeth provided a most interesting update on the implementation of the EV strategy and future trends:

<http://www.windenergy.org.nz/agm-2017>

- **Health and Safety.** The Health and Safety Group has met regularly throughout the year in February, July and November 2017. Agenda topics have included crane lifting guidelines, service lift incidents, dropped objects, rope access, safety communications, peer-based change programmes and wind industry benchmarking. Members also had presentations from outside organisations including Crane Association of NZ, Federated Farmers and WorkSafe. It’s great to see such a high-level of focus on health and safety and support from members as we collaboratively work to ensure our people get to go home safely.
- **Training.** In conjunction with several members, NZWEA has been progressing development of a new industry wide training programme for wind farm technicians. The NZ Certificate in Wind Farm Maintenance (level4) covers electrical, mechanical and hydraulic components of wind farm maintenance and has been registered under the NZQA framework. The development of the training programme is an exciting initiative for the industry as it will offer a development path for technicians and positions the industry to be able to develop the skills to meet future wind farm growth. Further details are available here: <http://www.windenergy.org.nz/wind-farm-technician-training-programme>
- **Palmerston North City Council Plan Changes.** In September 2016, the PNCC released its decision document on plan changes which restricted wind farm development and risked creating a precedent that other councils would follow. New rules included a 700m setback from site boundaries rather than using NZ6808 noise contour, defining repowering of wind farms as an activity requiring a new consent and introducing a Taranaki range landscape protection area that would impact the repowering of existing wind farms and potentially the utilisation of an existing consent. Four NZWEA members appealed the Council decision and NZWEA joined each appeal as an interested party. Following mediation agreement was reached in December 2017 which included adopting the NZ6808 noise contour, repowering conditions and recognising existing wind farm consents. More details here: <http://www.windenergy.org.nz/wind-energy/nz-industry-latest-updates/palmerston-north-city-council-plan-review>

- **Board.** The Board met six times during 2017. Activities included reviewing the Association's strategy and reviewing submissions. The Board also continued its programme of meeting with industry participants and key stakeholders to develop relationships and share information including with Transpower, Electricity Networks Association, EECA, Ministry for the Environment and Productivity Commission.

6. Summary

The warmest January on record and numerous weather events have significantly lifted awareness of the implications of climate change. The new Labour-led Government has also strongly promoted the environmental agenda.

The need to address fossil fuel emissions and the essential role of renewable electricity generation as part of the solution is widely understood. The challenge now is to ensure a roadmap is developed which balances security of supply, affordability and environmental impacts. This work is underway, and the Productivity Commission's Inquiry forms a key part of the 2018 Wind Energy Conference.

NZWEA actively supports the development of the roadmap and is focused on implementing its key strategies. Strengthening the National Policy Statement for Renewable Electricity Generation and ensuring an effective missions trading scheme is in place to assist members make sound commercial decisions to invest in new wind farms remain a priority and are essential if the renewable generation target is to be met.

In summary, the longer-term outlook for wind energy in NZ remains very positive. We know the system can support wind providing 20% of NZ's electricity requirements and planets are aligning.

The Association would not exist without member support so above all thank you for your continued membership of NZWEA and sustaining our work programme. We hope you find value in all we do to promote wind energy in New Zealand.

Kind Regards

Grenville Gaskell
June 2018