

NZWEA 2023 AGM

AGENDA

- | | | |
|----|--|--------|
| 01 | Members arrive – AGM Commences | 3:00PM |
| 02 | Welcome | 3:15PM |
| 03 | Ballot to appoint Associate/Individual (2) directors | 3:20PM |
| 04 | Chair & CE reports | 3:25PM |
| 05 | Vote to accept Annual Performance Report | 3:50PM |
| 06 | New director election results | 3:55PM |
| 07 | AGM ends – Introduce guest speaker | 4:00PM |

New Zealand Wind Energy Association

2023 Annual General Meeting

Chair's Report

Blair Walter | Chair, New Zealand Wind Energy Association



25 October 2023



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About NZWEA

1. Industry Association

- Established in 1997 to promote the development of wind as a reliable, sustainable, clean and commercially viable energy source
- Policy & regulatory advocacy, public awareness and industry development

2. Represents **72** companies & over **500** individuals

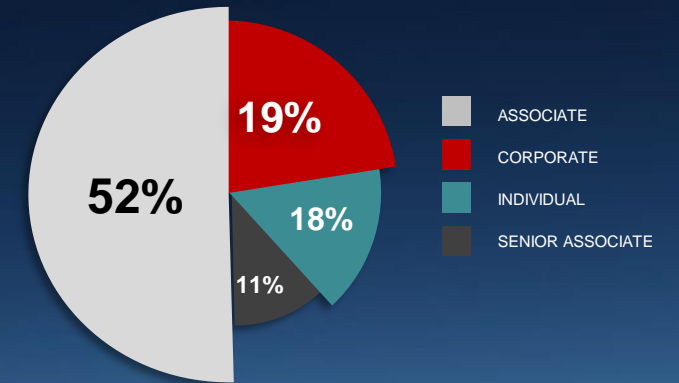
- Generators, wind farm developers, turbine manufacturers, equipment suppliers & consultants
- Offshore wind and grid scale solar stakeholders represent excellent growth opportunities

3. Utility & community scale wind generation

- 65% grid & 35% distribution system connected
- Community and small-scale wind developments have been slow to materialise due to challenging consenting regimes

4. Working Groups

- Health and Safety
- Offshore Wind (established 2021)



NZWEA Board Members

Incumbent Board Members (1-year terms remaining)

Name	Category	Company
Jarek Pole	Corporate	BlueFloat
Stephanie Cook	Corporate	Mercury Energy
Will Thorpe	Associate	Elemental Group
Peter McCafferty	Associate	BECA

Retiring Board Members

Name	Category	Company
Blair Walter (Chair)	Corporate	Aurecon
Chris Moore	Corporate	Meridian Energy
Todd Mead	Corporate	Manawa Energy
Rose Divjak	Associate	DNV GL
Paul Botha	Associate	Roaring 40's Wind Power

New Board Member Nominations

Name	Category	Company	Voting Status
Chris Moore	Corporate	Meridian Energy	Appointed ¹
Jim Pearson	Corporate	Manawa Energy	Appointed ¹
Tim Stringfield	Corporate	Aurecon	Appointed ¹
Alistair Tippett	Associate	Hiringa	1 st polling candidate
Paul Botha	Associate	Roaring 40's	2 nd polling candidate
Rose Divjak	Associate	DNV	AGM Ballot ²
Anne Probert	Associate	Venture Taranaki	AGM Ballot ²
Jon Bennetts	Associate	GHD	AGM Ballot ²
Graeme Tonks	Associate	Higgins	AGM Ballot ²

Notes:

1. Three Corporate nominations received for 3 open positions; no ballot necessary.
2. Six Associate/Individual nominations received for 2 open positions; run AGM ballot.
3. No nominations were received for a new Chairperson, Board selection.

NZWEA Mission & Vision

Mission

- *Enable the development of NZ's exceptional wind resource as a reliable, sustainable, clean and commercially viable energy source*

Vision

- *Wind energy is the favoured form of electricity generation providing 20% of NZ's installed capacity by 2035*

Strategy

Three Strategic Priorities:

1. Leveraging NZ's emission reduction imperative to enable the energy transition to renewables, particularly wind energy
2. Promoting wind energy's market position and ensure the regulatory environment supports onshore and offshore wind farm development
3. Expanding the opportunity for wind energy development to enable new growth in utility, industrial & community scale wind projects including the integration with other renewable technologies.



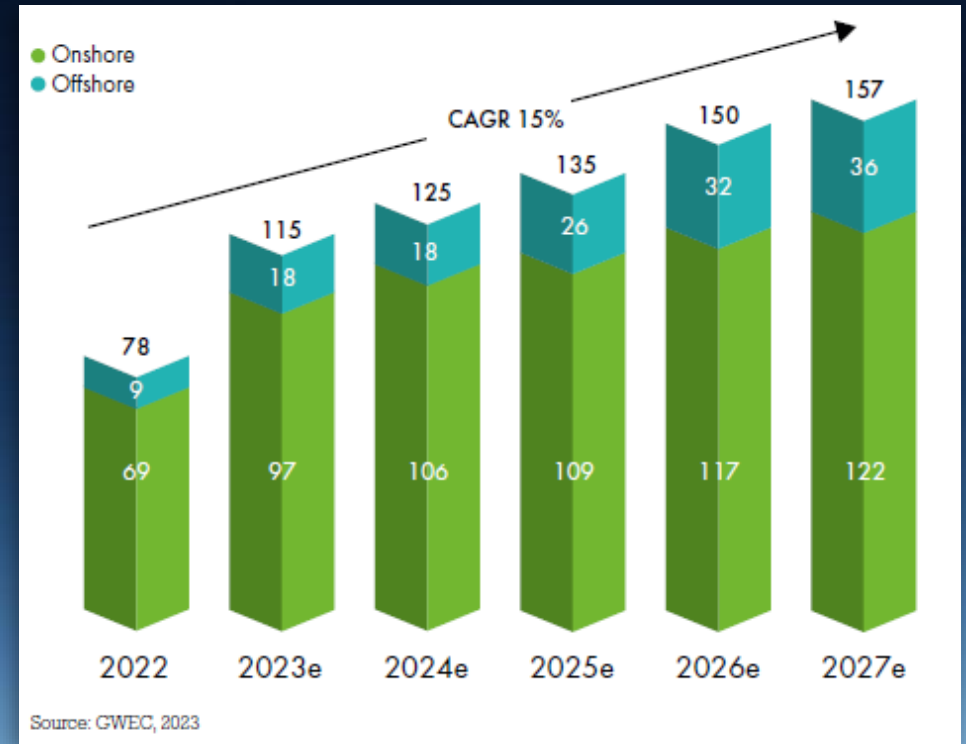
Financial Performance

- **Following the positive momentum building in the wind energy sector, along with a successful 2022 Conference, the operating performance of the Association has improved.**
- **FYE 2022/23 Highlights**
 - Annual revenue = \$357,367 (previous FYE = \$164,159)
 - Surplus of \$64,101 (previous FYE -\$57,664)
 - Total equity = \$110,989 (previous FYE \$46,888)
 - Association membership growth, 72 today with opportunities for growth of approximately 10%-15%
 - Invested in new capacity:
 - New CE commenced on 1st May (32 hours per week)
 - New Comms Director commenced on 12th June (32 hours per week)

International Trends

Market Status

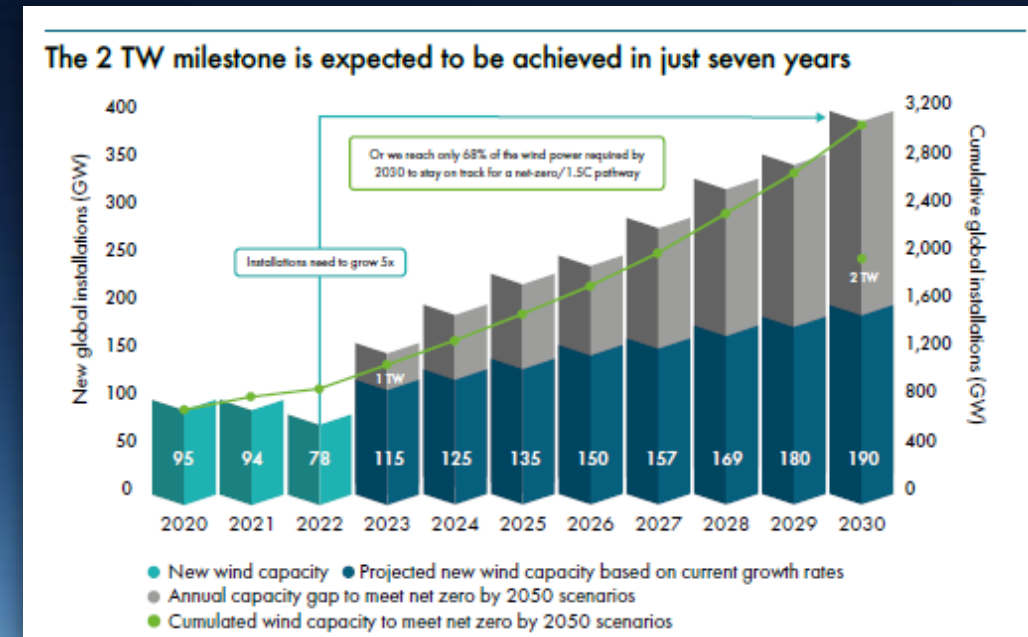
- Nearly 78 GW of wind power capacity was added globally last year, the lowest level in the past three years but still the third highest year in history.
- The total global installed wind capacity increased to 906 GW, a year-on-year (YoY) growth of 9%.
- Onshore wind added 68.8 GW (offshore contributed 9.2 GW), which was a 5% reduction from 2021.
- China was the largest contributor of this new capacity at 54%, while slowdowns were experienced in Latin America, Africa, the Middle East and the US.
- The slowdown in these markets is due to the increasing supply chain challenges and grid connection issues.
- China continued to lead global offshore wind development, although its new installations dropped to 5 GW.



International Trends

Market Outlook

- The unprecedented twin challenges of ensuring secure and affordable energy and meeting climate targets have propelled wind development into an extraordinary new phase of growth.
- After a challenging year, the global wind market is ready to bounce back in 2023/24, exceeding 100 GW of new wind for the first time.
- With a double-digit growth rate of 15%, the mid-term outlook for wind energy looks very positive.
- GWEC Market Intelligence expects that 680 GW of new capacity will be added in the next five years and is expected to reach 2 TW by 2030 (double the installed capacity of 2023).
- The forecast CAGR for onshore wind in the next five years is 12%.
- The global offshore wind market is expected to grow from 8.8 GW in 2022 to 35.5 GW in 2027, bringing its share of total new global installations from today's 11% to 23% by 2027.



International Trends

Global Supply Chains

- As renewable energy proves itself as the most cost-effective form of energy, wind energy runs the risk of seeing its progress thwarted by the practical limitations of untapping its growth potential.
- Europe and the US are facing the risk of supply chain shortfalls as soon as 2026.
- Starting in 2026, Europe's existing offshore turbine nacelle assembly capacity will no longer be able to support growth outside of Europe, and by 2030 it will have to double from current levels to meet European demand alone.
- China dominates the global supply chain for other crucial components such as castings, forgings, slewing bearings, towers and flanges, with a market share of more than 70%.
- As countries and regions compete for investment and resources, the winners will be those with the most attractive market conditions and the most effective regulation.

	Demand vs supply analysis 2023-2030 (MW)							
	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e
Europe	14500	17750	18920	20950	23290	23500	24000	25000
US	8000	9000	10000	13000	15000	17000	18000	20000
LATAM	5860	5362	5200	5050	5030	5000	5000	5000
China	60000	60000	60000	60000	60000	65000	65000	65000
India	3400	4200	4500	4700	4500	4500	5000	5000
RoW	5619	9955	10424	13580	13705	14000	14300	15000
Global	97379	106267	109044	117260	121525	129000	131300	135000

Source: GWEC Market Intelligence, March 2023

● Sufficient ● Potential bottleneck

New Zealand Wind Energy Association

2023 Annual General Meeting

Chief Executive Report

Kevin Hart | CE, New Zealand Wind Energy Association



25 October 2023

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Focus Areas

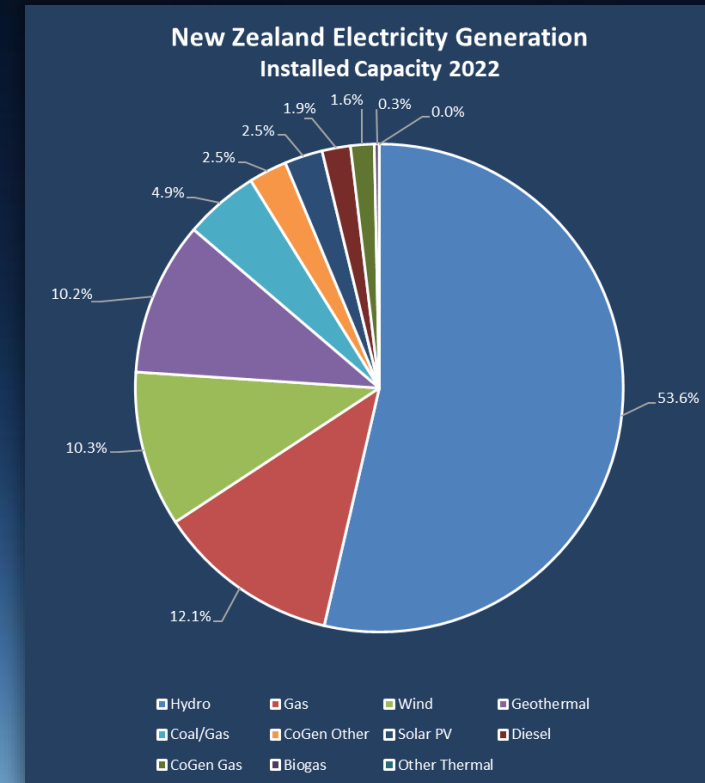
Industry Update



- Wind energy now represents 10.6% of NZ's total installed generation capacity (excluding Kaiwera Downs Phase 1 and Harapaki currently being built), increasing to 12.8%.
- In September 2023, wind generation achieved a new record 13.6% dispatched energy, up from an average of 7% in 2022 and 6.4% in 2021.
- To date, 2.3 GW of new onshore wind projects are in the pipeline, with 1.1 GW already consented or likely to be consented.
- The offshore wind value proposition continues to gain momentum with 5 investors progressing projects in NZ, with a total of 6 GW - 7 GW under consideration.
- Three future electricity demand studies confirm that NZ will require an additional 68% of new generation by 2050, or 12 GW to meet its net zero carbon targets, with 6 GW forecast to be delivered by wind.

Industry Update (cont.)

- Overall in 2022, renewable generation delivered 87% of NZ's electricity, dispatching 90% on a regular basis in 2023.
- The **onshore** wind pipeline continues to grow with unexpected entrants now investigating wind generation, such as Beach Energy's Kupe wind farm project.
- RMA reforms progressed with draft NPS-REG, NPS-ET & NBA policies consulted on.
- Offshore regulatory framework consultation phase 1 complete, and phase 2 in play.

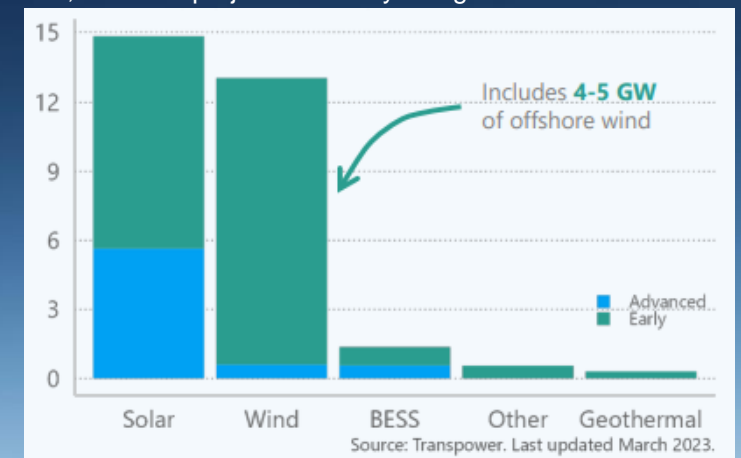


New Zealand Challenges

- It took 27 years to build the first wind GW, but we must now build 6 times this amount within the next 27 years.
- While there is a pipeline of 23 GW of early-stage generation investment interest, with over 12 GW from wind, many of these projects are unlikely to progress.
- NZ's remaining thermal plants are in question, where the Taranaki Combined Cycle 360 MW gas turbine will close in 2024, and Huntly's 3 x Rankine units (750 MW) are forecast to close in 2028-2030.
- Dry year risks due to our reliance on hydro and the recent peak demand increases, place further pressure on firm base load generation to meet winter peak demands.
- While the NZ Battery Project is expected to address the dry year risk, the industry is not confident that the Lake Onslow option is viable.
- Global demand for wind energy and the supply chain constraints are creating head-winds to advance NZ's energy transition... resulting in a 35% increase in onshore wind development costs in 2022.*

Generation Enquiry Type

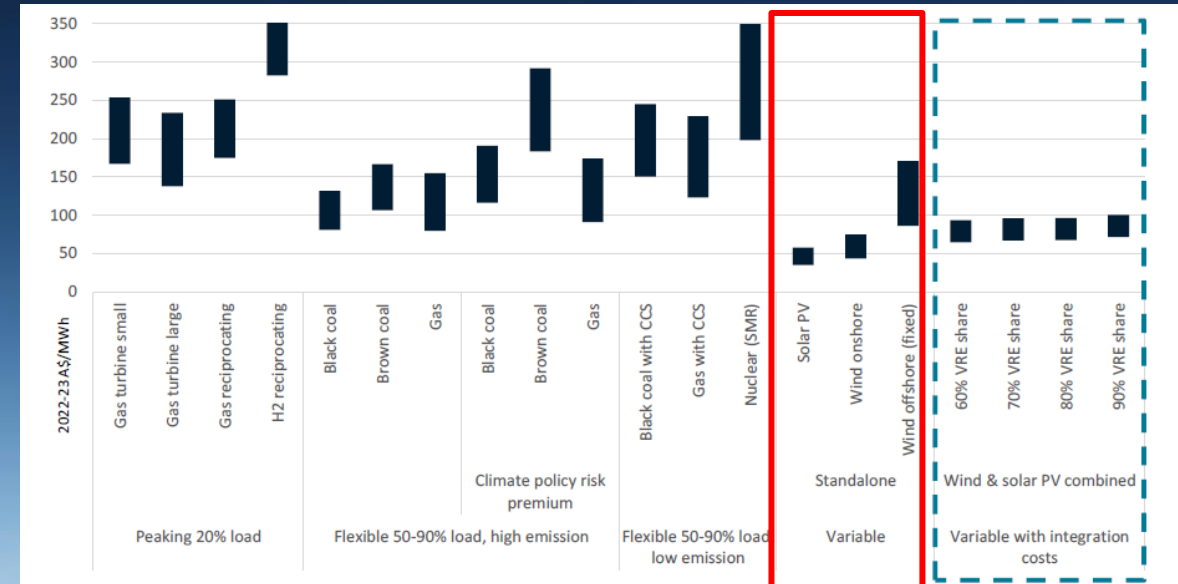
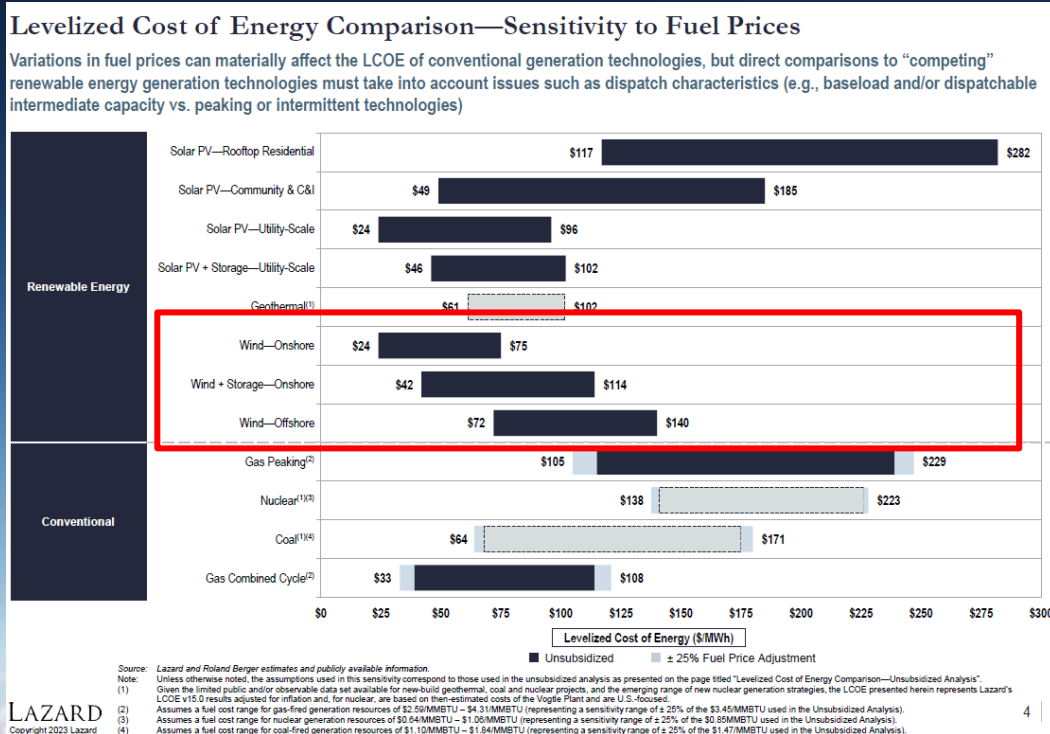
GW, excludes projects currently being delivered



*Source: Transpower - The Whakamana i Te Mauri Hiko Monitoring Report – March 2023

New Zealand Opportunities

- RMA reforms (if progressed) are likely to deliver faster consenting decision timelines, increasing investor confidence.
- In 2023, the CSIRO & Lazard reports assessed the levelised costs of electricity (LCOE), confirming that onshore wind and grid scale solar are the least cost forms of electricity*.
- Offshore wind is now on par with gas and coal technologies.
- Collaboration with our Australian partners will help to increase NZ's market attractiveness, especially offshore wind.



ES Figure 0-2 Calculated LCOE by technology and category for 2030

*Source: Commonwealth Scientific and Industrial Research Organisation (CSIRO) GenCost Report 2022/23

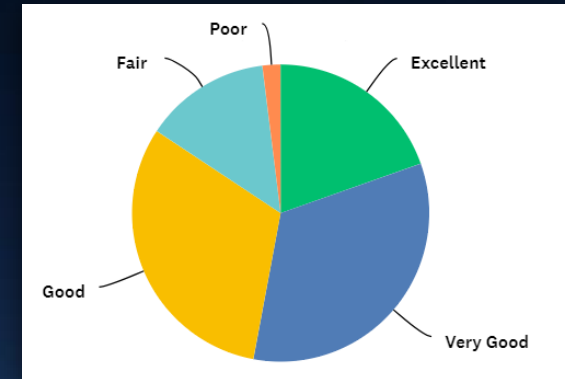


2023 Wind Energy Summit Report Out

- This year's conference was a 2-day Summit, with day 1 focusing on the broader wind value proposition noting it was also an election year.
- Day 2 was run in partnership with Ara Ake and focused on the offshore wind value proposition as a continuation of the regional offshore wind forum typically held in March.
- There were 213 registrations, a very broad mix of attendees comprising *56% NZWEA members and 44% non-members*.
- The Summit delivered a positive financial result to the Association which relies on this event to maintain financial sustainability.
- Based on feedback, the 2024 event will move to a new venue and/or regional location.

Summit Rating

84% of attendees rated the summit as being good - excellent



Agenda Rating

70% of attendees rated the agenda as being good - excellent



New Zealand Wind Energy Pipeline



- Currently, there are 19 onshore wind farms operating generating 1045 MW capacity
- A further 2 projects are under construction, Harapaki and Kaiwera Downs Ph 1, delivering a total 1264 MW to the grid
- The onshore development pipeline consists of:
 - Consented or likely to be consented, 8 projects = 1,102 MW
 - Under active investigation, 9 projects = 1,200 MW
- The offshore development pipeline is growing, with at least 6 GW – 7 GW of projects under investigation, between Taranaki, Waikato, Wellington and Southland

New Zealand Wind Energy Pipeline (cont.)

NZ Wind Farm Projects New Wind Generation Pipeline *		Operational (MW)	Being built (MW)	Consented or Likely to be Consented (MW)	Consent Possible - Fast Track (MW)	Going for Consent (MW)	Under Investigation (MW)
Developer	Wind Project Name						
Operational Wind Farms at June 2023		1045					
Beach	Kupe						216
Contact	Wyndham (Southland Wind Project)				300		
Genesis	Castle Hill			300			
Hiringa & Balance	Kapuni			24			
LET Securities	Waiuku Wind Farm				80		
MainPower	Mt Cass			95			
Manawa	Huriwaka					230	
Mercury	Kaiwera Downs (ph1, commission Oct 23)		43				
Mercury	Kaiwaikawe			74			
Mercury	Kaiwera Downs (ph 2)			185			
Mercury	Mahinerangi (ph 2)			164			
Mercury	Puketoi			228			
Meridian	Harapaki		176				
Meridian	Mt. Munroe (start construction 2025)					90	
NZ Wind Farms	Te Rau Hau (repowering)				39		
Southern Generation	Jericho Station					35	
Ventus Energy	Taumatotara			32			
Ventus Energy	Kaimai					168	
Yinson Renewables	Pahiatua					40	
Sub-Total		1045	219	1102	419	563	216
Cumulative Capacity		1045	1264	2366	2785	3348	3564

*Published wind farm projects only. New projects are also under investigation or are being considered by numerous investors that have now disclosed the size or location of their proposed projects.

NZWEA Focus Areas

- Two NZWEA Committee focus groups:
 - Health and safety – chaired by K Hart
 - Offshore wind value proposition – chaired by N Cozens
- Regulatory support and consultation for the development of renewables
 - RMA reforms, NPS-REG, NPS-ET, NBA, etc.
 - Offshore renewable energy licensing & regulatory framework
- Supporting the development of NZ's integrated Energy Strategy
- Promoting wind to support the Power-to-X opportunities
- Risk assessment of wind farms to birds and bats



NZWEA Focus Areas (cont.)

- Promoting the NZ market to international turbine and equipment suppliers to ensure we access equipment when needed
- Connexis wind farm technician programme promotion and ongoing development
- Expansion of annual conference (venue and/or location)
- Closer alignment and partnership approach to Taranaki Regional Offshore wind forum (and other regions)
- Increased awareness and promotion for wind as a key energy transition enabler
- Website platform re-development



Wind Farm Maintenance
Level 5
🔍 NZQA #4261 | 🏆 60 Credits | 🕒 9 Months
If you're a big fan of renewable energy, get your crew signed up to this New Zealand recognised qualification now!
connexis.org.nz

Wind Farm Maintenance
Level 4
🔍 NZQA #5795-2 | 🏆 80 Credits | 🕒 12 Months
Generate a recognised career pathway for your crew with this

Offshore Renewable Energy Forum
EVENT PROGRAMME
8 - 9 March 2023 | The Devon Hotel, New Plymouth

venture TARAMAKI
Ara Ake

new zealand wind energy association

Thanks to our retiring Chair!



- 10 years as NZWEA's Chair
- Over 16 years as NZWEA director

On behalf of all members, we thank you for your valuable and committed service to the industry!



THANK YOU