




energy³

Your trusted partner in
reliable **wind energy data,**
monitoring, and **reporting.**



With over 20 years of expertise, **Energy3** delivers tailored wind energy solutions that balance performance, environmental impact, and economic viability—helping clients transform wind resources into bankable, sustainable energy projects.

Expert solutions

Energy3 has been a trusted leader in wind measurement solutions for over two decades, providing specialist advice and end-to-end project management for wind measurement campaigns.

From site selection and equipment supply to installation, maintenance, data management, and reporting, our experienced team ensures seamless execution at every stage.

With a strong foundation in independent small- and large-scale wind farm development in New Zealand, we understand the vital role of accurate wind data in energy yield analysis.

Our expertise ensures the precise integration of masts, instruments, and communication systems while maintaining data integrity. Committed to safety and continuous improvement, **Energy3** delivers reliable, high-quality wind measurement solutions tailored to your needs.

At **Energy3**, our goal is to provide cost-effective solutions that are accurate, reliable, to provide fast delivery of wind measurement data.



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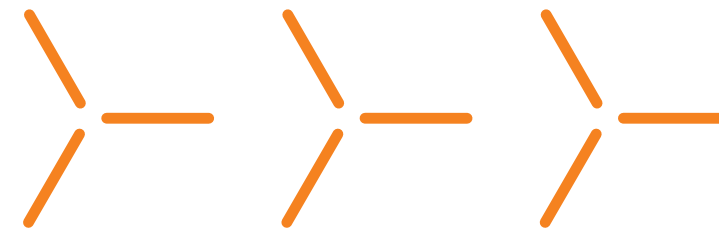
Wind measurement and data accuracy

As one of New Zealand's leading providers of meteorological masts, Lidars, Sodar systems, and digital asset monitoring solutions, **Energy3** specialises in securing accurate wind resource data for our customers.

Our solutions include:

- Tilt-up masts up to 80 m and lattice masts up to 165 m, along with various instrumentation packages, data communication solutions, and power supplies tailored for remote locations

- Lidar devices – We are an official agent for ZX Lidars in New Zealand and Australia, and the official agent for Vaisala WindCube in New Zealand
- AQSystem AQ510 Sodar



Our solutions

Foundations and anchor installation

- Site layout and survey
- Correct anchor choice for ground conditions (screw, rock, concrete etc)
- Foundation choice to match mast requirements
- Low-cost installation

Mast installation

- Qualified mast installers
- Experience with different mast types
- Specialised lifting equipment supplied
- As Built documentation – detailed record of mast and site

Instrument package installation

- Qualified instrument installers
- Experience with a wide variety of different instruments and data loggers
- Experience with cellular, radio and satellite communications
- As Built" documentation – detailed record of mast and site

Data download and reporting

- Regular check of data integrity and instrument status
- Data warehousing with secure backup
- Full wind analysis for use with industry standard software
- Regular delivery of raw data and analysis reports



Mast and instrument maintenance

- Remote monitoring of instrument systems
- Repairs of faulty instruments and sensors
- Scheduled mast and instrument maintenance inspections
- Detailed inspection and repair reports

Lidar operational support

- Supply of remote power packs to suit electrical demands
- Remote communications are integrated as part of power supply
- Supply of transport equipment for rugged terrain
- Refuelling, relocating and full operational support

Remote power solutions

We understand that wind monitoring campaigns are predominantly situated in remote and harsh locations, which is why we have developed our custom designed and custom made stand-alone power solutions.

Our remote power solutions offer a dependable, autonomous power source for your wind monitoring equipment, delivered as part of a robust power trailer solution which is easily deployed even in challenging terrain, ensuring continuous and reliable data collection.

Solar monitoring

Our cutting-edge solar monitoring stations are designed to measure solar irradiance using the highest quality solar instrumentation to meet exacting ISO standards.

They are easily deployed and relocated and can be combined with existing infrastructure. Additional options include manual or advances soiling stations.



Comprehensive wind resource assessment and planning

Energy3 offers end-to-end expertise in wind measurement and project planning, guiding clients from site selection to energy production analysis.

Our services ensure the highest-quality wind data, optimised layouts, and seamless integration with environmental and regulatory requirements.

Site selection

Preliminary site assessment

Before launching a wind monitoring campaign, we conduct a high-level feasibility and economic study to determine site viability. Using meteorological reanalysis datasets, we assess wind resource potential while considering grid connection options, site access, and possible environmental or cultural impacts. A financial analysis is also performed to support investment decisions.





Preliminary wind farm design

Wind resource assessment

We create a representative long-term wind dataset based on monitoring campaign data. Using industry-standard software, we model and analyse wind speed, direction, shear, and turbulence at various turbine hub heights to provide a clear understanding of the overall wind resource.

Optimised wind farm layout

Using advanced wind modelling software, we design efficient turbine layouts that maximise energy yield while addressing infrastructure constraints, connection, ecological and cultural sensitivities, turbine suitability, noise and visual impact.

Civil design

Our team collaborates with civil engineers and contractors to refine site layouts, incorporating foundation, road, and infrastructure requirements for optimal site development.

Geotechnical assessment

We coordinate with geotechnical experts to conduct high-level ground condition studies, supporting foundation and infrastructure design.

Energy yield calculations

Energy3 provides realistic long-term energy production estimates based on site-specific wind resource data and optimised layouts, ensuring accurate investment projections.

Economic analysis

Through our proprietary E3 models, we conduct in-depth financial analysis, including capital investment, planning and development costs, turbine installation, maintenance expenses, and overall project feasibility.



Environmental and regulatory compliance

Visual impact assessment

We create photomontages illustrating how the wind farm will appear from various viewpoints, aiding stakeholder engagement and approval processes.

Preliminary noise assessment

By partnering with acoustics experts, we measure pre-construction noise levels and estimate post-construction noise levels in accordance with regulations.

Shadow flicker assessment

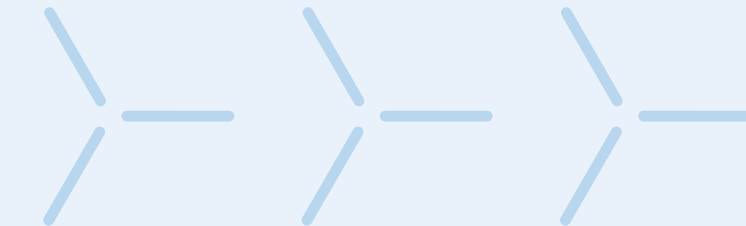
Using industry-standard Software, we generate reports detailing the impact of turbine shadow flicker on nearby dwellings, in accordance with international guidelines.

GIS mapping and affected parties' identification

Our multi-layered Geographic Information System (GIS) maps provide detailed information for resource consent applications, ensuring a clear understanding of affected areas.

Ecological impact assessment

Energy3 supports clients in assessing local flora and fauna data, ensuring compliance with environmental regulations and facilitating resource consent approvals.



Energy3 provides comprehensive wind resource assessment and planning, offering end-to-end expertise from site selection through to energy production analysis.



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