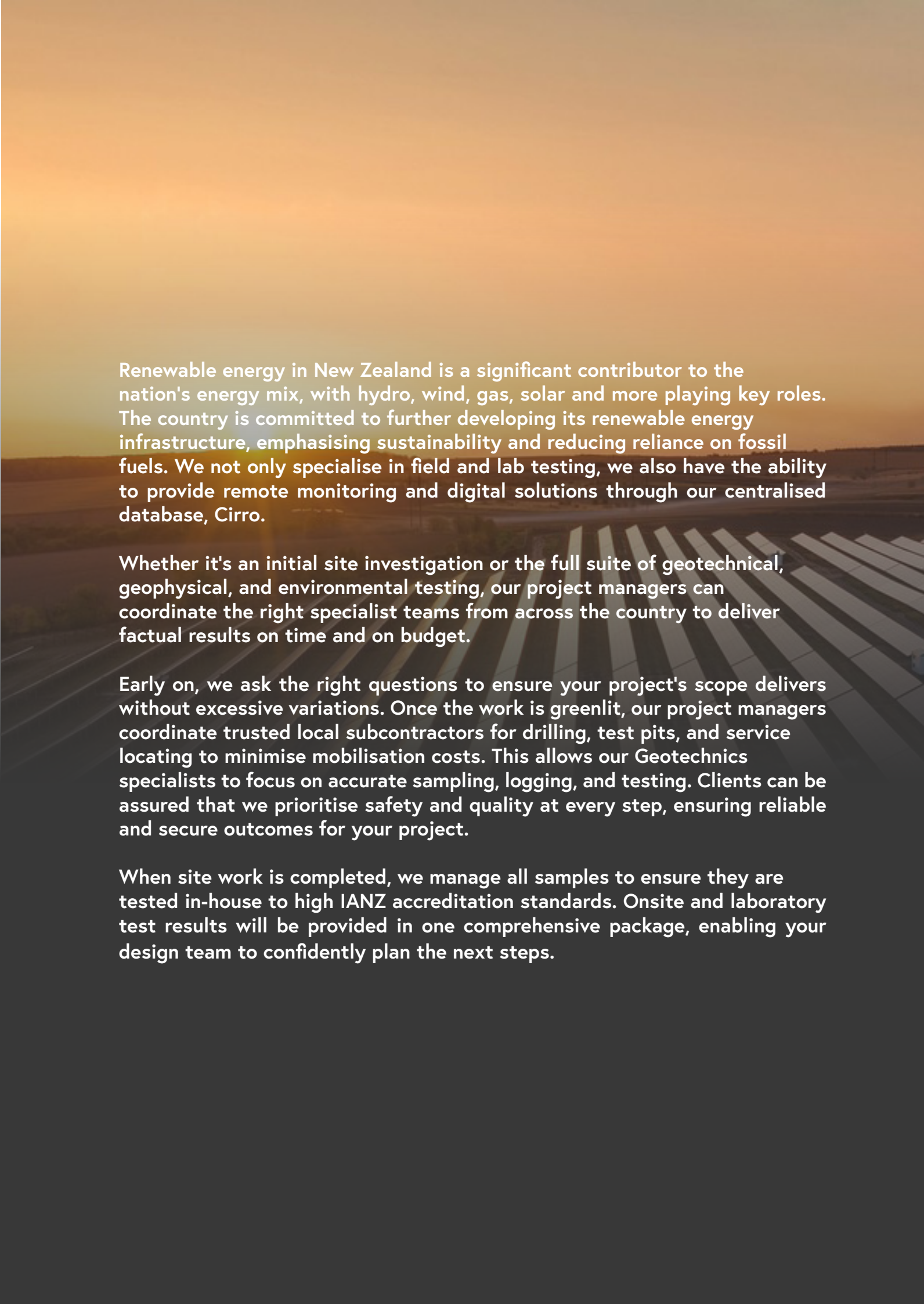




RENEWABLE ENERGY

www.geotechnics.co.nz

Auckland | Pukekohe | Hamilton | Tauranga | Hawkes Bay | Wellington | Nelson | Christchurch



Renewable energy in New Zealand is a significant contributor to the nation's energy mix, with hydro, wind, gas, solar and more playing key roles. The country is committed to further developing its renewable energy infrastructure, emphasising sustainability and reducing reliance on fossil fuels. We not only specialise in field and lab testing, we also have the ability to provide remote monitoring and digital solutions through our centralised database, Cirro.

Whether it's an initial site investigation or the full suite of geotechnical, geophysical, and environmental testing, our project managers can coordinate the right specialist teams from across the country to deliver factual results on time and on budget.

Early on, we ask the right questions to ensure your project's scope delivers without excessive variations. Once the work is greenlit, our project managers coordinate trusted local subcontractors for drilling, test pits, and service locating to minimise mobilisation costs. This allows our Geotechnics specialists to focus on accurate sampling, logging, and testing. Clients can be assured that we prioritise safety and quality at every step, ensuring reliable and secure outcomes for your project.

When site work is completed, we manage all samples to ensure they are tested in-house to high IANZ accreditation standards. Onsite and laboratory test results will be provided in one comprehensive package, enabling your design team to confidently plan the next steps.

Our services

- Laboratory testing of soil, concrete and aggregate.
- Thermal resistivity testing in field and laboratory.
- Electrical resistivity testing in field and laboratory.
- Vibration installation and monitoring with Cirro.
- Telemetry and automated data collection solutions with Cirro.
- In-situ density and strength of trench materials in field.
- Topography survey and aerial imagery by drone.
- Geological investigation - logging into NZGS 2005 and factual reporting by investigations conducted by hand or machine.
- Pumice content by heavy liquid

Installation and Monitoring

- Inclinator
- Profilometer
- Vibrating Wire Piezometers
- Crack and Strain Gauges
- Tilt Sensors
- Extensometers

Agressistivity Suite of Tests

- Chloride content
- Sulphate content
- Electric conductivity
- PH

IANZ Accreditation

Auckland
Christchurch
Tauranga
Wellington
Hamilton

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Key Projects

Rangitāiki Solar Farm

The Rangitāiki Solar Farm is on a 1022ha farm near Taupo. There were two investigation stages included in this project. Stage one was completed in 2023 and stage two in 2024. We managed and carried out a series of geotechnical, geophysics and geochemical investigations. With our teams range of skill sets and our company's suite of equipment we could deliver all the data required in a tidy package.

Services we delivered:

- Test pits
- Piezo installation
- Borehole drilling and logging
- DCP's and hand augers
- Thermal resistivity (field and laboratory tests)
- Electrical resistivity
- Soil and groundwater sampling and aggressivity testing
- Suite of geotechnical tests (PSD, MDD's, CBR's)

Kowhai Park

The project covers a 270-hectare area and includes a 140 MWac solar development. It features two substations and 10 kilometers of access roads next to an international airport. We carried out a ground investigation with boreholes, trial pits, DPSH, and Scala penetrometer testing, as well as Thermal resistivity testing to gather data. We also did a site survey of all above-ground features to help the developer with providing site information for EPC tenders.

Services we delivered:

- Project management, including procurement of traffic management and other subcontractors.
- Test pits
- Borehole drilling and logging
- DPSH testing
- DCP's
- Thermal resistivity (field and laboratory tests)
- Electrical resistivity
- Soil and ground water sampling and aggressivity testing
- Suite of geotechnical tests (PSD, MDD's, CBR's)

Bunnythorpe Solar Farm

Bunnythorpe solar farm is proposed on a 280ha farm (split across two sites) located southeast of the township of Bunnythorpe. This project would generate enough electricity to power 5000 homes every year. Our team managed and carried out a series of geotechnical, geophysics and geotechnical investigations, despite the tricky access and a series of intersecting gulleys.

Services we delivered:

- Test pits
- Piezo installation
- Borehole drilling and logging
- DCP's and hand augers
- Thermal resistivity (field and laboratory tests)
- Electrical resistivity
- Soil and groundwater sampling and aggressivity testing
- Suite of geotechnical tests (PSD, MDD's, CBR's)

Omeheu Solar Farm

This 30-hectare solar farm will harness the sun's energy to generate approximately 41 GWh of electricity per year, which is enough to power over 5,800 homes. We conducted a series of laboratory tests for the geotechnical engineers to help identify the site's ground conditions. Additionally, our Hamilton team provided technical and observational support for pile testing.

Services we delivered:

Geotechnical lab testing provides a technical understanding of ground conditions for any earth moving, construction (substations), large cabling trenching, backfill requires and more.

Pile testing provides data on the soil's holding capacity. Engineers use this data to decide the best type and depth of piles to use, ensuring the solar farm will be stable and safe.