

Case Study:

Moree

Moree, Australia

PROJECT FACTS

Size: 70MW

Developer: FRV

EPC:

Elecnor (Green Light Contractors Pty Ltd)

Financier:

FRV (Fotowatio Renewable Ventures), with the support of the Australian government through a grant of AUD\$101.7 million from the Australian Renewable Energy Agency (ARENA) and debt on commercial terms from the Clean Energy Finance Corporation (CEFC).

Self-Powered Tracker Rows: 2,800

Modules: 224,000

Piers: 30,800

Project Benefits:

- 5,700 hours of labor saved
- 95,000 tons of CO₂ emissions avoided per year
- 140 miles of ground wired saved

Project Overview

Deployed on the wide open plains of northern New South Wales, in a region with one of the highest Direct Normal Irradiance (DNI) in the world, NX Horizon's expansive arc harvests the full solar potential of Australia. Combining the highest irradiance and the most powerful tracking technology on the planet with a reduced total cost of ownership makes the Moree Solar Farm an outstanding PV model project.

Challenge: Working with Clay

Solar array design and installation remain as some of the most costly components of tracker installation. The heavy, cracked clay found in the floodplains of Australia's Mehi River requires tailor-made foundations to address the clay's extremes of expansion and contraction. What did Elecnor and FRV do when faced with the challenges of a complicated foundation and the realities of the project's economics? They turned to NEXTracker.

Moree Solar Farm

NEXTracker Solution: NX Horizon™

NEXTracker's engineering team partnered with Elecnor and the pier manufacturer Blade Pile to deliver the Moree Solar Farm's unique solar pier foundation. Blade Pile's geodynamic design addresses the challenges posed by shifting clay – stabilizing the tracker foundations as the clay sets around the piers.

Adding tailor-made components could easily break a project's budget. However, because NX Horizon's mechanically balanced design and optimized components use less steel and require up to 33% fewer piers, the number of these vital – yet costly – components was greatly reduced.

With no row linkages to further complicate the anchoring of the foundations, NEXTracker's NX Horizon's independent row architecture and long span between piers resulted in an agile mechanical system that withstands the challenges posed by shifting clay. NX Horizon's streamlined design empowered Elecnor to overcome the challenges of working with dynamic soil, helping them to deploy Australia's largest solar tracking system in difficult terrain.

Additionally, NEXTracker's system has a $\pm 8^\circ$ advantage over the competition, allowing for a 120° tracking span that fully soaks in the 275 W/m^2 of solar irradiance beaming down on this desert region. These optimizations result in a more efficient drive system that effortlessly powers an entire row. In projects of this size, the small details translate into large savings.

Benefits: Replacing Coal with Clean Technology

The Moree Solar Farm, outfitted with NEXTracker's proven robust technology, will supply clean reliable electricity to the region, generating the equivalent electricity to power 15,000 homes – and 95,000 tons of CO₂ emissions will be avoided annually. This clean power plant will help the region save approximately 165,000 mega liters of clean drinking water – as compared to the operation of a coal-fired power station. The successful development of Moree Solar Farm promises to accelerate of the growth of Australia's clean energy economy.



NEXTracker's NX Horizon technology is an excellent tracker solution for this challenging project. The Company has developed a unique foundation solution that addresses the challenging soil conditions found at this project site in Australia. This solution minimizes site grading and grounding requirements – and simplifies design, installation, and maintenance.

– Pedro Fernandez
Elecnor Project Manager

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