



Port Gregory Wind Farm

McDowall Affleck

CONSULTING ENGINEERS | PROJECT MANAGERS

Responsive. Reliable. Results.



Port Gregory, WA

Advanced Energy Resources

Overview

Advanced Energy Resources, is currently building a 3.5MW wind and solar farm with battery storage at Port Gregory in Western Australia. Located approximately 50km south of Kalbarri, adjacent to the famous Hutt Lagoon (Pink Lake), the project consists of a 2.5MW wind farm using five refurbished Enercon wind turbines, a 1MW solar farm and a 2MW/0.5MWh battery energy storage system (BESS) utilising an innovative, Australian first connection topology. The project will supply energy to GMA Garnet's operation in Port Gregory with excess generation being exported into the local electricity network.

Type of Engineering Work

Structural Engineering

Work Timeframe

February 2018 - September 2019

Contract Value

Commercial in confidence

McDowall Affleck Contact

Alberto Puccini

Scope of Work

- Planning and management of geotechnical investigation
- Concept design and comparison of alternative options
- Detailed design and certification of five Wind Turbine Generators foundations
- Assistance during tender and construction
- Site inspections

Project Challenges

- Lack of information regarding interface loads
- Interface loads provided not in accordance with current Australian and International standards
- Topographic survey and civil design levels not available

How we managed this

- Identification of the critical load combinations to design the foundation of the Wind Turbine Generators in accordance with Australian and International standards
- Comparison with the original design loads was undertaken
- Typical sections were provided to Advanced Energy Resources and geotechnical engineers for various terrain topography

Value Engineering

- McDowall Affleck and partner Studio Techne' provided Advanced Energy Resources with 20 years experience in design of wind farms
- Design optimisation of the foundation and comparison with the one originally designed
- Provision of advice on turbine erection

