



# OAKLANDS HILL WIND FARM

Oaklands Hill Wind Farm is made up of 32 wind turbines that will provide 63 MW of renewable wind energy to its domestic, commercial and industrial customers for at least 25 years. The green energy produced by the wind farm powers approximately 35,000 average Australian households per year, resulting in significant emissions savings of over 185,000 tonnes of greenhouse gases every year.

# REPOWER AUSTRALIA POWERING A GREENER TOMORROW

Awarded the turnkey contract for the delivery of the Oaklands Hill Wind Farm in 2009, by AGL Energy Limited, REpower Australia was responsible for the engineering, procurement and construction delivery of the entire project.

OAKLANDS HILL WIND FARM / REPOWER AUSTRALIA



Left & Below Sunrise at Oaklands Hill Wind Farm

With a highly experienced and professional global workforce, REpower Australia which combined forces with Suzlon Energy Australia in 2011 and remains a Suzlon Group Company, has a renowned international reputation for delivering a complete range of efficient, cost effective and ecologically sustainable wind energy solutions.

Offering an extensive range of both Suzlon and REpower Australia products, as well as a variety of Engineering, Procurement and Construction (EPC) services, REpower Australia ensures the provision of optimum product choice and project solutions for all of their customers. Delivering more than just wind turbines, the REpower Australia team brings together over 190 people including experienced power plant professionals, with long standing wind industry expertise and capabilities, backed by proven procedures and an Integrated Management System, certified to ISO 9001, ISO14001 OHSAS18001 and AS/NZS 4801 standards.

Providing the Australian wind energy market turbines suitable for almost any location, REpower Australia has a product range spanning rated outputs of 1.8 MW to 6.15 MW and rotor diameters of 82 meters to 126 meters. Given the fact they offer a fully wrapped EPC turnkey delivery of sustainable power plants, plus ongoing service and maintenance, they were also recently involved on the Oaklands Hill Wind Farm project in Australia.

The site, which spreads more than 2,300 hectares over undulating agricultural farmland, is comprised of 32 x S88-2.1 MW wind turbines, which generate a total output capacity of 63 MW. The green energy produced by the wind farm powers approximately 35,000 average Australian households per year, resulting in significant emissions savings of over 185,000 tonnes of greenhouse gases every year.

Awarded the turnkey contract for the delivery of the Oaklands Hill Wind

Farm in 2009, by AGL Energy Limited, REpower Australia was responsible for the engineering, procurement and construction delivery of the entire project.

Throughout its involvement on the wind farm, REpower Australia was responsible for the design and manufacture of the state-of-the-art turbines, detailed in-house wind turbine micro-siting, grid dynamic studies and the design, construction and maintenance of more than 25 kilometres of new access roads.

Furthermore, the team of highly knowledgeable staff delivered the design and construction of footings and hardstands for each individual tower; the design, fabrication and installation of the steel turbine towers and was responsible for the management of the shipping, installation and commissioning of the turbines.

Given its combined international expertise and know-how in regards to wind turbine technology, REpower Australia also designed and installed a 33kV underground electrical feeder system, which linked the turbines to Powercor's 66kV overhead transmission line. The team also designed and installed a 66kV/33kV substation, incorporating a 66kV/33kV transformer and bus, as well as an integrated SCADA system.

As a result of its sophisticated research and development capabilities, as well as a committed and dedicated approach to completing the project, in both a time and cost efficient manner, REpower Australia successfully fulfilled its extensive Oaklands Hill Wind Farm responsibilities. Additionally, the team will continue to provide on-going service and maintenance of the entire wind farm operation in the future.

With an unrivalled product range, technology, unsurpassed EPC capabilities and the delivery of profitable, environmentally friendly, end-to-end wind power solutions every time, it is without

a doubt REpower Australia will be the 'company of choice' in the delivery of innovative wind power solutions for major stakeholders throughout the Australia.



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Left & below Sinclair Knight Merz was responsible for the provision of plant engineering advice and solutions for the Oaklands Hill Wind Farm



**Sinclair Knight Merz (SKM)** is a global strategic consulting, design and delivery firm, focused on delivering positive outcomes for clients, employees, the environment and society.

Specialising in the provision of outstanding project management services, including financial and economic expertise, technical and contract skills, SKM strives to deliver complex capital projects on time and within budget.

Committed to high standards of safety and business ethics, as well as developing cooperative and long-term relationships with its clients, SKM has achieved outstanding project results for clients within its primary markets of power, oil and gas, mining, civil works, infrastructure, buildings and environmental works.

Over the past five years, SKM has been involved with the design and ongoing delivery process of about 750 MW of wind farm services for AGL, Australia's largest integrated renewable energy company.

General Manager Power and Energy Patrick Hill said, "It's an important sector for us to continue to develop. This continued pipeline of work for one of our key clients is in line with SKM's overarching renewable energy strategy. SKM's work on wind farms for Australian developers currently totals over 1200MW of installed capacity.

Stretching over more than 2,300 hectares of agricultural farmland, Oaklands Hill Wind

Farm comprises of 32, S88, 2.1 megawatt wind turbines, with an export capacity of approximately 63 megawatts.

SKM Project Director Charles Barrett said that throughout the company's involvement on the wind farm, which commenced at the initial development stages, SKM's team provided engineering definition and assisted AGL in the EPC procurement process.

"Being committed to providing professional project consultation advice, we contributed to the overall delivery of the Oaklands Hill Wind Farm, providing project engineering and cost and quality monitoring for our client," he said.

Working closely with AGL, our team of engineers oversaw the EPC process, including engineering and consulting services during the design definition, installation and construction process.

"We have a history of working with AGL on a range of wind farm projects throughout Australia and are again proud to work alongside them on the Oaklands Hill Wind Farm," Mr Barrett said.

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With a renowned reputation and more than twelve years experience, TerraCulture is a heritage-consulting firm that has successfully completed an extensive number of archaeological assessments and Cultural Heritage Management Plans (CHMP) throughout Victoria.

Comprising of a highly skilled team of archaeologists, cartographers, field technicians and GIS specialists, TerraCulture is well versed in all aspects of heritage consulting, including legislation, historic research, artefact analysis and field techniques.

With a broad range of clientele, including roads authorities, private developers, local and state governments, architects and landscape designers, TerraCulture is able to provide a range of specific heritage studies and assessments, including Historical Management Plans, Local Government Heritage studies and assessments for proposed development and re-zoning.

Given their extensive industry expertise and the wide scope of projects they have been involved on, TerraCulture also recently provided their outstanding services on the Oaklands Wind Farm Project.

Stretching over more than 2,300 hectares of agricultural farmland in Victoria's Southern Grampians, Oaklands Wind Farm comprises of 32, S88-2, IMW wind turbines, with a total output capacity of approximately 63 mega watts.

Dr Catherine Webb, Managing Director of TerraCulture, said that during their involvement on the significant project, they provided the Aboriginal Cultural Heritage consultation requirements for the major client.

"This consultation has been carried out since the initial construction stages of the Oaklands Wind Farm, in the form of a desktop assessment in 2006, an expert witness statement for Planning Panels Victoria, as well as a VCAT Hearing in 2007 and a Cultural Heritage Management Plan, (CHMP) in 2008," Dr Webb said.

"More recently, we were also responsible for the completion of a Due Diligence Assessment, resulting from the altered layout in 2010, as well as an additional CHMP for the Wind Farm's new landscape design.

"We also provided cultural heritage advice for Powercor, the company who provided the

electricity to connect the wind farm to the main distribution grid; and subsequently, additional CHMP's were carried out and completed in 2010," she said.

During their assessments, TerraCulture discovered a number of Aboriginal Heritage places, and as required, registered these along with the surface and sub-surface testing results, with the Victorian Aboriginal Heritage Register.

Furthermore, the standard and complex assessments were undertaken in conjunction with and approved by the Martang, who are the statutory authority for the area of the site.

"We liaised closely alongside the Martang, who are the Registered Aboriginal Party for the area, their Cultural Heritage Officers and Elders, as well as the client, to ensure the newly implemented Aboriginal Heritage Act requirements were successfully met," Dr Webb said.

"Following the alteration of the initial Oaklands Wind Farm layout, one site was avoided and another was impacted, as per the recommendation in the CHMP.

"In addition, our team of dedicated personnel guided the client through the rather complex Heritage Acts, ensuring the deliverance of competent and achievable outcomes in regards to Cultural Heritage and for the Wind Farm," she said.

Given their absolute commitment to delivering the Aboriginal Cultural Heritage consultation for the Oakland Wind Farm, TerraCulture successfully completed all of the required major tasks involved with the project, from the initial project planning through to gaining statutory consents and approvals.

With a long-standing reputation as the Cultural Heritage Assessments experts, and a long list of satisfied clients and successfully completed projects, TerraCulture will continue to preserve Australia's culturally sensitive and Heritage-listed land.

**For more information contact TerraCulture,** 340 Separation Street Northcote VIC 3070, phone 03 9486 4524, fax 03 9481 2078, email: [inquiries@terraculture.com.au](mailto:inquiries@terraculture.com.au), web: [www.terraculture.com.au](http://www.terraculture.com.au).



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Below Boom Logistics supplied the main lift and support cranes, the Liebherr LR1750 lattice boom crawler crane, as well as an extensive range of technical engineering services.



**The Oaklands Hill Wind Farm, stretching more than 2,300 hectares** over agricultural farmland in Victoria, comprises of 32, S88\_2.1MW wind turbines, each complete with an 80 metre hub height, a 124 metre blade tip height and a total capacity output of 63 mega watts.

Specialising in crane logistics and heavy haulage, as well as wind farm maintenance, Boom Logistics were recently engaged by Suzlon Energy to supply the main lift and support cranes, their Liebherr LR1750 lattice boom crawler crane, as well as their extensive range of technical engineering services.

Mr Brenden Mitchell, Managing Director of Boom Logistics, said that whilst working on the Oaklands Hill Wind Farm, his professional team had worked closely together with other onsite contractors to ensure their responsibilities were completed in a timely, safe and cost efficient manner.

“We lifted all of the specific equipment, including the blades, nacelles and bases, required for the wind farm safely and two weeks ahead of schedule,” Mr Mitchell said.

“We did this using our modern fleet, such as our 750 tonne Crawler, including 6 onsite cranes and team of 23 experienced staff,” he said.

Despite adverse weather conditions, the LR1750, which was fitted with two metre-wide tracks, easily handled the difficult and wet ground conditions. These wide tracks, which provide 38 percent less ground-bearing pressure, ensured minimal impact to the construction site was upheld.

“The LR1750 comfortably handled the installation of the rotor and blade assembly erection, in a single lift, providing the client with outstanding results,” Mr Mitchell said.

With a well-known reputation for providing leading crane logistics and heavy haulage services, as well as an astute team of staff, Boom Logistics will continue to be the preferred choice for major projects within Australia.

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