Case Study: Growth of Solar Trackers in Australian Mining

Leading Australia's mining industry with the highest performing PV system

Australia's mining industry is steadily shifting its preferred fuel source from diesel to renewables, driven by cost-efficiencies, the security of local supply, and investor pressure. With energy accounting for up to 40% of a mine site's expenditure, miners are looking to lock in more cost-effective solutions with the highest availability to meet their energy needs. According to Bloomberg's New Energy Outlook 2020 report, the lowest global LCOE on solar farms is achieved with solar trackers in Australia at $39/MWh, a figure which is forecast to push below $20/MWh by 2030.

Owned by Flex, a $25B investment-grade company, Nextracker holds 32% market share globally and 54% in Australia, where our flagship product NX Horizon™ has cemented its place as the mining industry's preferred tracking technology.

System reliability and uptime top the mining industry's energy supply priorities, owed to the high cost of lost productivity. With unbeatable uptime across our 50 GW global fleet, Nextracker's superior quality and reliability, independent rows, machine learning and extreme weather resilience combined offer mining companies the most reliable source of renewable energy in the market.

Name of project	**Agnew Hybrid Renewable Power Station**
Location	Gold Fields' Agnew Mine, Leister, Western Australia
Project Size	**4 MW**
Developer	EDL
EPC	JUWI

Supplies **50-60%**
of mine's power requirements

Project Details: Gold Fields' Agnew mine in Leister Western Australia, broke records in 2020 to become the first major mine in the world to combine solar, wind, battery storage and back-up gas generators. Equipped with Nextracker's NX Horizon™, the 4 MW Agnew Hybrid Renewable Power Station supplies the Agnew mine with reliable power 24/7 averaging around 54% renewables. The landmark $112 million project will supply power to Gold Fields through a 10-year power purchase agreement from power plant owner, EDL. Built by engineering, procurement and construction company, Juwi, the project was supported through a $13.5 million in recoupable funding from The Australian Renewable Energy Agency (ARENA). Nextracker's NX Horizon smart solar trackers were chosen to maximise the solar system's output and provide protection from environmental threats.

Name of project	**Image Resources Boonanarring Mine**
Location	80km north of Perth
Project Size	**3 MW**
Developer	Sunrise Energy Group
EPC	Avora Energy

Supplies **25%**
of mine site's power requirements

> For the energy-intensive mining sector, selecting high quality technology partners is paramount. From scoping to handover, Nextracker supported Sunrise Energy with efficient project planning, on time delivery, and easy and fast tracker technology to install.
>
> **– Neil Canby, Managing Director of Sunrise Energy Group**

Project Details: In 2019, Image Resources (ASX: IMA) entered into an offtake agreement for Sunrise Energy Group to design and construct a 3 MW solar farm at their Boonanarring Mineral Sands Mine - a high-grade, zircon-rich, mineral sands project located in North Perth. The 3 MW site takes advantage of Nextracker's PV solution to increase the production curve, extending power generation into the afternoon. Configured as a "behind the meter" embedded network solution, the solar farm supplies around 25% of the mine's total power requirement. The strength of Nextracker's local presence factored heavily in their selection, with Nextracker involved in geotechnical planning and design from one year prior to construction. Nextracker's Australian team of 25 had a number of people working side-by-side with the Sunrise Energy Group and Avora Energy to ensure things ran smoothly from scoping through to operational handover.

Name of project	**Sandfire's Degrussa Gold & Copper Mine**
Location	900km north-east of Perth
Project Size	**10.6 MW**
Developer	Neoen
EPC	JUWI/OTOC

5 million
litres of diesel annually

Project Details: Constructed in 2016 and one of Australia's largest solar PV system at a mine site, the landmark DeGrussa project is equipped with 10.6 MW of solar PV integrated with the pre-existing 19 MW diesel facility. Single axis tracking provided by Nextracker was selected to boost energy generation, whilst lithium ion battery storage was installed to maximise solar utilisation, resulting in the displacement of 5 million litres of diesel consumption annually. Nextracker's self-powered drive system with integrated backup power allows for greater autonomy and cost savings compared to other trackers that require AC wiring. The DeGrussa Mine project is a prime example of how solar can provide a clean, renewable and reliable alternative to diesel for remote mine sites.