
• QUARTERLY INSIGHTS

Insights Publication

Quarter One **2027**

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ISO 45001:2018 Accreditation

Underscoring our commitment to employee safety in utility-scale solar PV projects.

Tranex Power, a leading utility Engineering and Construction company, proudly announces its successful accreditation to **ISO 45001:2018**, reinforcing the company's commitment to health and safety. With decades of construction expertise and a proven track record of delivering large-scale projects across Australia, Tranex Power continues to set the standard for safe, reliable solar delivery.

ISO 45001:2018 sets stringent standards for occupational health and safety management systems, aligning closely with Tranex Power's core value; 'Do It Right'. This accreditation reflects the company's dedication to fostering a safe working environment and ensuring the well-being of its people.

As Tranex Power expands its national footprint, this accreditation positions the company to meet regulatory standards and enhance its safety performance across every project site.

Tranex Power remains at the forefront of the solar energy industry, leveraging its extensive construction experience to deliver innovative and reliable power system projects. The company's commitment to occupational health and safety achieves a benchmarked standard for excellence within the sector.

Looking ahead, Tranex Power plans to engage closely with stakeholders, ensuring the broader community benefits from its safety-focused approach.

45001

Certified OH&S
management system

Do It Right

Guiding Safety Value

Zero

Harm target on every site



Solar Energy

Frequently Asked Questions

What is solar energy?

Solar energy is the radiant energy emitted by the sun, harnessed and converted into usable power through technologies such as photovoltaic cells or solar thermal systems.

How do solar panels work?

Solar panels convert sunlight into electricity using photovoltaic cells. These cells generate a flow of electrons when exposed to sunlight, creating a direct current (DC) that is then converted into alternating current (AC) for use in homes and businesses.

What are the benefits of using solar energy?

Solar energy is a clean, renewable resource that helps reduce greenhouse gas emissions, lowers electricity bills and provides energy independence. It also requires minimal maintenance and has a long lifespan.

What is a ground-mounted solar panel system?

A ground-mounted system is a solar power installation where the panels are mounted on structures situated on the ground, rather than on a rooftop.

How are ground-mounted solar panels installed?

They are typically installed by securing a framework to the ground and mounting the panels on this structure. The framework may be fixed or equipped with tracking systems that follow the sun for increased efficiency.

What are the advantages over rooftop installations?

Ground-mounted systems often have a higher capacity for electricity generation and are easier to access for maintenance. They also allow for optimal positioning and tilt, maximising energy production throughout the day.

What is a solar tracking system, and how does it work?

A solar tracking system allows panels to follow the sun's path throughout the day, optimising the angle of sunlight exposure. This can significantly increase overall energy yield, especially in locations with high solar exposure.

What is the efficiency of a solar panel, and how is it measured?

Efficiency refers to a panel's ability to convert sunlight into electricity, measured as the percentage of incident sunlight converted into electrical power. Typical efficiencies for commercial panels range from 15% to 22%.

Can solar panels generate power on cloudy days?

Yes - panels still generate power in low-light conditions, although output is reduced. Some advanced panels are designed to capture diffused sunlight, improving performance in less-than-ideal weather.

How is system capacity measured?

Capacity is measured in kilowatts (kW) or megawatts (MW) and represents the maximum power output under optimal conditions. Systems should be sized appropriately to the energy needs of the intended application.

Are there different types of inverters?

Yes - including string inverters, microinverters and power optimisers. Each has its advantages; the choice depends on factors such as system size, shading conditions and budget.

Can solar panels be recycled?

Yes - recycling recovers materials such as glass, aluminium and silicon for reuse. Proper recycling minimises the environmental impact of disposal and ensures responsible handling of end-of-life panels.

SmartBuild™

Next Generation Integrated Project Methodology

By absorbing all the custom details, requirements, priorities and challenges that **4+ GW of Projects** have presented, Tranex Power knows how to deliver cost-effective solutions that result in the highest-quality operating assets for solar companies and utilities.

Nathan Cottrell

Head of Construction



Nathan is an electrician by trade with extensive experience across commercial, industrial, and mining environments throughout Australia. Originally from Hobart, Tasmania, he has built his career in the delivery of large-scale renewable energy infrastructure, with a strong focus on utility-scale solar development.

His early project experience includes involvement in the New England Solar Farm in New South Wales with GLC Elecnor and Tranex, where he contributed to site delivery and gained exposure to the complexity of major energy infrastructure projects. Following this, he progressed into roles supporting projects across Western Australia, spanning Port Hedland through to Perth, further strengthening his capability in high-demand, geographically dispersed environments.

He has since continued his career within the renewable energy sector and recently joined Tranex, bringing with him prior experience from his time at Beon Energy Solutions, including his role on the Quorn Park Solar Hybrid project. This progression reflects a clear trajectory from hands-on electrical execution into project management and broader delivery responsibilities within the renewables space.

Nathan combines strong technical grounding with growing leadership capability, supported by practical field experience across complex solar and hybrid energy projects.

FAVOURITE QUOTE

“Discipline equals freedom.”

Jocko Willink



Maximizing Solar Energy

Comparing Fixed Tilt & Tracker Systems

In the pursuit of sustainable energy solutions, solar power emerges as a beacon of promise. Two predominant categories of solar systems have surfaced - fixed tilt and tracker systems - each presenting distinct advantages, rendering the selection between them a pivotal decision for solar energy investors.

Fixed Tilt Systems	Tracker Systems
Fixed tilt systems are stationary and set at a fixed angle relative to the ground, typically optimised for maximal energy production and total installed capacity. Simplicity & reliability Relatively simple in design, with no moving parts - translating to lower maintenance and higher reliability over time. Lower initial cost Generally lower CAPEX & OPEX, attractive for budget-constrained projects, though with lower yield than single-axis trackers. Ease of installation No moving components to assemble or calibrate, leading to shorter installation times and reduced labour costs. Higher ground coverage ratio Can be designed with a higher ground coverage ratio than single-axis trackers, enabling more total installed capacity.	Tracker systems integrate mechanisms enabling panels to dynamically track the sun's trajectory throughout the day, optimising exposure to sunlight. Smart algorithms Include algorithms such as backtracking to avoid row-to-row shading and improve tracking behaviour. Increased energy production Continuously adjusting orientation can significantly increase production versus fixed tilt - especially in regions with high solar insolation. Maximised efficiency Capturing more sunlight across the day leads to higher energy yields and improved return on investment over the system lifespan. Adaptability & peak-hour performance Adapts to changing weather and seasonal sun paths, and tilts to capture morning and evening sun - valuable for time-of-day compensation schemes.

Real-World Statistics & Benefits

When evaluating the viability of solar energy systems, understanding the real-world statistics and benefits is paramount. Delving into empirical data and tangible advantages of both fixed tilt and tracker systems provides crucial insights for investors, policymakers and consumers alike.

25–35%

Energy production increase achievable with tracker systems versus fixed tilt, depending on location, technology and system design.

ROI

While trackers carry higher upfront costs, superior energy production can lead to faster payback periods and higher long-term returns in favourable solar conditions.

Environmental impact

Both fixed tilt and tracker systems offer significant environmental benefits by reducing reliance on fossil fuels and mitigating greenhouse gas emissions. Trackers' higher energy production per unit of installed capacity can further amplify these benefits over their operational lifespan.

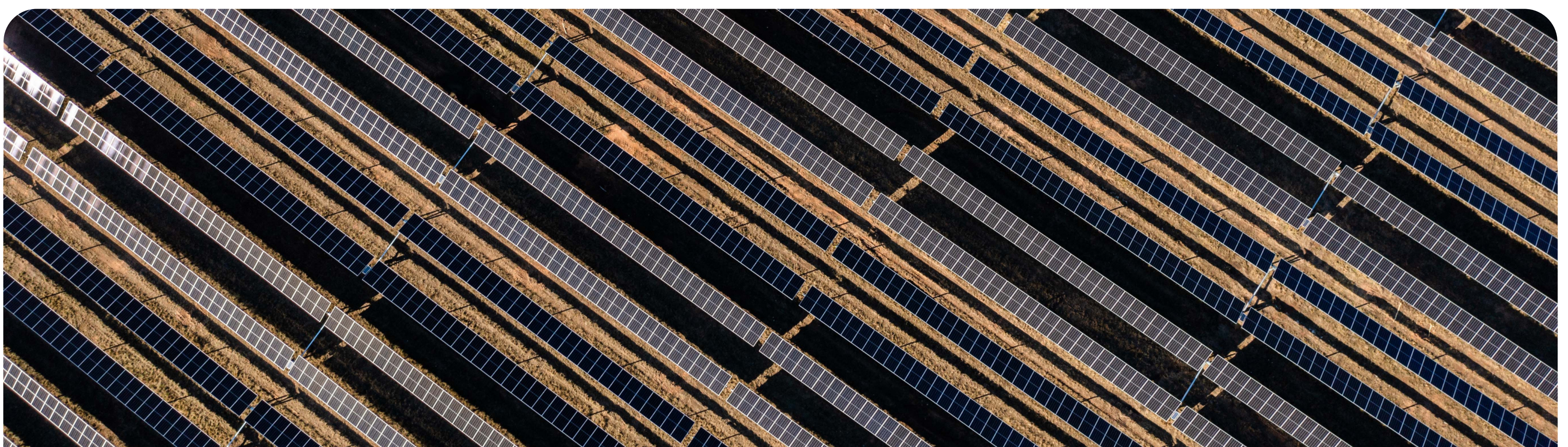
In conclusion

Both systems have their place in the solar energy landscape. Fixed tilt provides simplicity, reliability and lower upfront costs - well suited to large-scale deployments with fixed budgets. Tracker systems excel in maximising energy production, efficiency and adaptability - ideal where output and ROI are paramount. Ultimately, the choice should be guided by careful consideration of site-specific factors, energy goals and financial objectives.



TALK TO TRANEX POWER

Planning a utility-scale solar project? Our team can help you select and deliver the right system for your site.





Australia's Most Trusted Power System Provider,
delivering large-scale power infrastructure and
advanced energy systems with precision, safety
and performance at scale.

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