Building the world’s largest clean energy park

Gujarat, India

In the vast salt flats of Gujarat, set against the challenging backdrop of the Great Rann of Kutch, India is ambitiously building the world’s largest renewable energy park – enough to power almost 18 million homes. The project is taking shape in one of the country’s most extreme environments and Keller’s playing a pivotal role in its development.

The project

At over 700km2 – roughly the size of Singapore – the Khavda solar and wind energy project will generate 30GW of clean energy once it's completed later this decade. The huge investment is part of the Indian government's efforts to increase renewable energy to 500GW by the end of the 2020s and reach net zero by 2070.

The country's strong commitment to renewable energy development also presents a strategic growth opportunity for Keller India to extend its specialist geotechnical expertise into a rapidly expanding sector.

"We've been involved in this landmark project since 2020 when we conducted initial ground improvement trials," says Sridhar Valluri, Business Development Director. "Following the successful trials, we commenced site operation in 2023 and from there our involvement, scope and presence has grown significantly."

Managing multiple projects simultaneously

Due to its size, the scheme is divided into multiple projects run by several organisations. Keller secured successive packages as the team demonstrated its capabilities.

"By the end of 2025, we had completed three large projects with another six on the go, working for both private and public clients," adds Sridhar. "We have more than 500 personnel now, which really demonstrates Keller's ability to scale quickly for massive infrastructure projects."

Keller's scope of work is to improve the soil strength to support the construction of massive wind farms and large, high-capacity grid substations and associated ancillary equipment foundation. In total, the crew is installing almost one million linear meters of vibro stone columns – densely compacted columns of stone aggregate using specialised state of the art vibro equipment manufactured in Keller's in-house manufacturing facility in Germany. Not only is the method more sustainable than many other techniques, it also improves the ground's load-bearing capacity and mitigates liquefaction potential in the event of seismic activity.

Prioritising worker welfare

Running and delivering several projects of this size concurrently is challenging, made more difficult by the harsh desert environment. The remote location and extreme temperatures place a strong emphasis on workforce welfare, with structured regular mandatory breaks, comprehensive HSE controls and on-site accommodation to reduce lengthy travel (the nearest habitable areas are 40-50km away). There are also plenty of entertainment activities to help workers relax once the day's work is done.

With this high-profile project running for several more years, there will be many opportunities for Keller to continue supporting India's transition to cleaner energy generation.

Project facts

Owner(s)
confidential

Keller business unit(s)
Keller Asia

Main contractor(s)
confidential

Solutions
Bearing capacity / settlement control

Markets
Power

Techniques
Vibro stone columns / Vibro replacement