



CASE STUDY

Sunny, Salty, and 254 Meters Below Sea Level

With ample sunshine, Jordan is a prime location for solar. However, high corrosion and heat levels near the saline-heavy Dead Sea pose challenges for the installation and longevity of solar tracking structures. Array's DuraTrack® HZ v3 solar trackers proved the perfect solution to meet these challenges.

PROJECT LOCATION:

Karameh, Jordan

OPERATIONAL SINCE:

2018



BACKGROUND

The owners of a restorative wellness spa and hotel overlooking the Dead Sea in Karameh, Jordan envisioned clean energy as part of their holistic approach to health and healing.

CHALLENGE

At 254 meters below sea level, the location is one of the lowest points on earth and features an extra-terrestrial environment with high heat and corrosive salt levels. Batteries would be problematic in this area, due to their inability to withstand extreme high temperatures. High power density and reliable solar trackers resilient against corrosion would be crucial to the project's success.

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QUICK AND EASY TO INSTALL - GETTING OUT OF THE HEAT

The selected engineering, procurement, and construction (EPC) company sought a solar tracker with simple and flexible installation and good long-term durability. Array's DuraTrack HZ v3 solar trackers stand alone with 167x fewer components than competitive trackers, making them exponentially easier to install and requiring zero scheduled maintenance over the 30 year lifecycle of the plant.

Kits preassembled off-site saved time for the installers, getting the project online faster and keeping labor costs low. With a single clamp per module, one fastener per clamp, and 15,000 fewer fasteners per megawatt than competitors, Array's DuraTrack HZ v3 solar trackers were the clear solution.

REDUCING LONG-TERM MAINTENANCE COSTS IN A HARSH ENVIRONMENT

For the site owners, long-term reliable power and low maintenance costs were paramount. They turned to Array for greater power density, highest field-proven uptime in the industry, and lifetime lowest cost of energy (LCOE). In a climate that can reach the lower 100°F (38°C) in summer, heat resistance was another essential requirement. The DuraTrack HZ v3 single-axis tracker met this challenge with its design to withstand temperatures of -30°F to 140°F (-34°C to 60°C). Another benefit, Array's trackers do not require batteries, which are proven unreliable in high heat.

The biggest maintenance concern in this region was corrosion from the Dead Sea. While the luxurious sea salt levels may be healing for human visitors, they cause rusting and require frequent hardware updates for metal solar trackers. Array Technologies' equipment is specially certified to resist the high corrosion levels. Array's anti-corrosive coating guarantees trackers are able to withstand abrasive climates, for years to come.

CONCLUSION

The solar contractors were able to install the Array DuraTrack HZ v3 solar trackers with ease, thanks to the engineered simplicity of the design. Site owners can focus on their hotel business knowing the trackers are suitable for the corrosive atmosphere and high heat. This means the best return on investment for decades to come. With 30 years of experience, Array Technologies has developed the optimal product for even the most challenging environments.

The Jordan solar site now provides the hotel and spa with zero-emission power to serve their visitors. The solar trackers are integrated within the natural beauty of the area, providing clean renewable energy. The site exemplifies health and longevity on an entirely new level – 254 meters below sea level, to be exact.



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