Bifacial Module Mounting Solution

One of the most promising product technology trends in solar today is the bifacial PV module. Under the right conditions, bifaciality allows the absorption of sunlight on the backside of the module, creating the potential for significant additional power production and lower overall levelized cost of energy (LCOE) compared to standard monofacial modules. The benefits of bifacial module technology can be significantly amplified when mounted on NEXTracker's NX Horizon™ self-powered, independent-row single-axis solar trackers.

The optimal site conditions for bifacial modules used with trackers are a combination of the following:

- High albedo (ground reflectance).
- Low to moderate ground cover ratio.
- Optimized tracker rear-side view factor, including bifacial specific array heights.

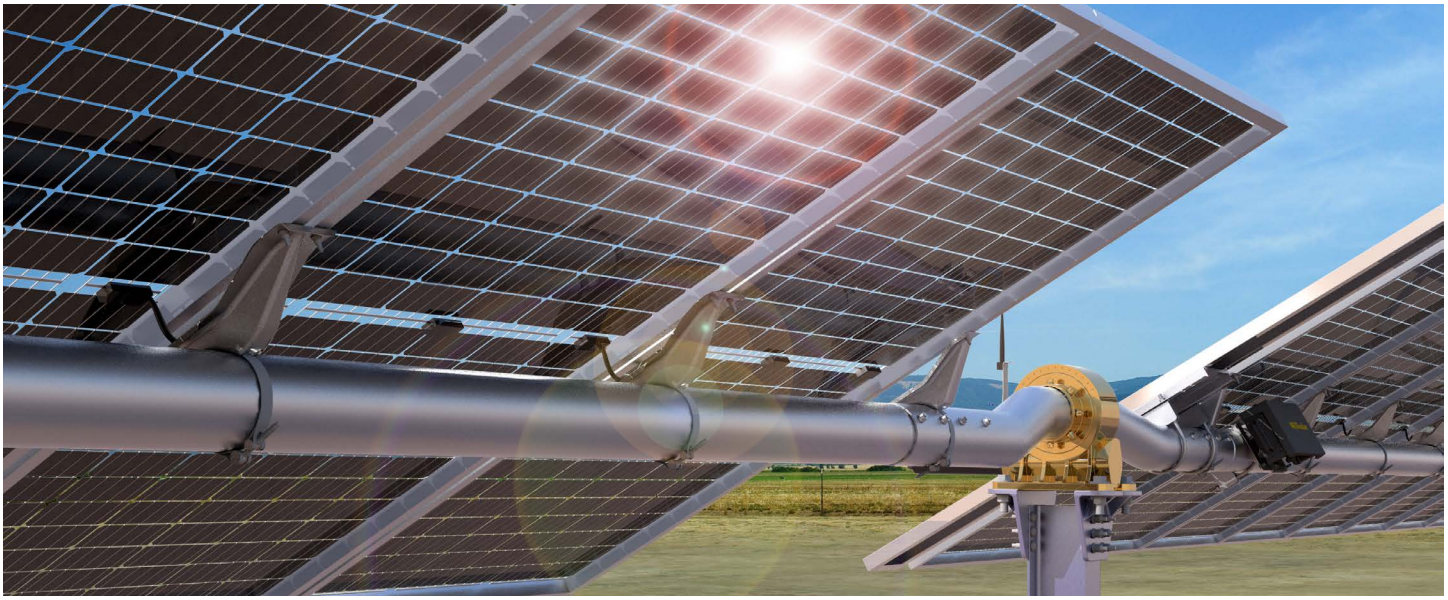
Maximized Rear-Side Irradiance

Since NX Horizon is built at rotation-axis elevations up to 100% of the total PV panel width, its large height-to-width aspect ratio maximizes module rear-side irradiance and helps maintain consistent irradiance along the underside of the modules, something which is difficult and costly to accomplish with larger-format trackers. To help customers select the most optimal array elevation for their projects, NEXTracker performs a site-specific analysis comparing the increased energy production versus added foundation costs for a range of elevations.

Optimized Mounting Rails

NX Horizon trackers are now available with bifacial-optimized mounting rails, which are designed to enhance rear-side irradiance and are compatible with other innovative technologies, such as modules featuring half-cut cells and center busbar architectures. With increased distance between the PV panel and the round torque tubes, back-side shadowing is minimal. Added clearance to the tubes ensures that in the case of center junction-box modules, no contact occurs, even in severe wind conditions. These rails also include a center gap to enable easy DC cable management and time-efficient installation.

Field tests have shown that mono-PERC bifacial PV modules can generate as much as 14% more energy when paired with NX Horizon.



No Direct Shading from Bearings and Piers

NX Horizon's structural design is bifacial-friendly, with the tracker incorporating bearing and pier gaps for the PV panels, so that they do not cover or shadow the top of bearings, piers or slew gear. This design feature eliminates direct shading and greatly reduces mismatch losses.

Bifacial + TrueCapture = A Winning Combination

Not only does the performance of bifacial modules excel when mounted on NX Horizon trackers, the combination can benefit from even better energy harvest when connected with NEXTracker's TrueCapture™ smart control system. Bifacial energy gains are additive to TrueCapture, which translates to as much as 20% more energy harvest than traditional single-axis trackers using monofacial modules—as well as lower system LCOE. TrueCapture's diffuse-light tracking mode matches especially well with bifacial technology, with algorithms tuned to optimize both front- and back-side irradiance.

Contact your NX sales representative to learn more about our bifacial module mounting solution: salesteam@nextracker.com

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