



# NX Horizon Cold Pak

Equip your solar project for cold climates and winter conditions





## When the Temperature Plummets, Nextracker Rises to the Occasion

As more utility solar plants are developed and built in northern latitude regions, the need for reliable, high-performing tracker systems that can perform in the dead of winter has become mission critical. Trackers can deliver 12-18% more annual energy than fixed-tilt systems in these cold climate locations, and must be built to operate reliably in low temperatures and deal with heavy snowfall to deliver this additional energy.

As of spring 2023, Nextracker has deployed and contracted over 85 GW of tracking systems. Of these, over 13 GW and 220 projects are in cold climate regions which face sometimes brutal winter conditions, including Travers Solar, the largest solar plant operating in Canada. The experience gained from these projects has provided unique insight into what is needed to optimize tracker construction, uptime and performance for subzero temperatures, including frost-heave-capable foundation piling solutions, rigorous testing of our ruggedized cold-weather control systems, enhanced bifacial smart panels for tracker powering, and advanced snow-stowing capability.



Nextracker's tracker solutions can deliver **12-18% more** annual energy in winter conditions.

## Winning Combination for Cold Weather Environments

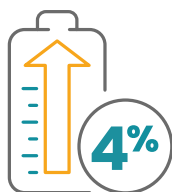
Collectively, winter-hardened NX Horizon™ smart solar trackers, TrueCapture™ energy yield enhancement and the NX Navigator™ advanced monitoring and control platform deliver more value throughout the entire solar project lifecycle versus competing solutions. Key benefits of this combined technology include the following:



**Build Faster and Easier**



**Reduce Project Risk**



**Generate More Energy**



**Operate More Efficiently**





Nextracker helical pile foundations unlock lower total installed foundation cost and **shorter, more predictable installation schedules** versus traditional foundation piles.



## Build Faster and Easier

- For regions susceptible to frost-heave, Nextracker helical pile foundations increase installation productivity, prevent delays and reduce total installed cost versus conventional driven piles. **Our complete solution includes project engineering, piles, and mounting hardware.** Compatibility solutions for other specialty foundation types are also available.
- For projects with undulating terrain, upgrading to the 10GW proven NX Horizon-XTR™ terrain-following tracker can **eliminate or massively reduce grading volume, soil disturbance, and steel usage** with up to 36-inch shorter foundation piles.
- NX Horizon's self-powered control system **simplifies construction and commissioning**, with fewer scheduling dependencies and reduced installation costs.

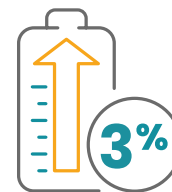


## Reduce Project Risk

- NX Horizon's mechanically balanced design minimizes torque requirements to move the tracker, enabling **rapid movement to most safety stow positions in 2 minutes or less**, more than 4x faster than most traditional trackers. With its innovative offset rotation axis, demand on the drive motor is less affected by snow accumulation than traditional unbalanced trackers, which may experience stalling. Additionally, each NX Horizon tracker controller includes an integrated UPS, ensuring safety stowing functionality is preserved in the event of a grid outage.
- NX Horizon's structural design for high snow-load environments considers high tilt-angle stowing for both wind and snow, to facilitate snow shedding and **complete structural protection in combined wind and snow events**. Other tracking systems may rely on low tilt angles for wind, risking structural damage during large snow events or instability in high wind.
- Frost-heave has damaged or disabled solar projects in cold climates. **Properly accounting for frost-heave forces and preventing seasonal pile displacement is a must for a stable, reliable project over the long term.** Nextracker foundation solutions including helical piles mitigate frost-heave risk, and NX Horizon is more tolerant to vertical misalignment than other trackers.

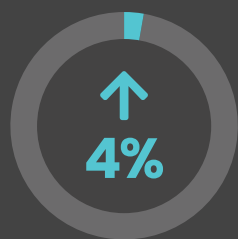


The system's mechanically balanced design enables rapid movement to most safety stow positions in **2 minutes or less**.



## Generate More Energy

- **TrueCapture delivers IE-validated energy production gains.** As of Spring 2023, Nextracker has provided TrueCapture on over 38 GW of projects, including over 5.5 GW in cold climates with gains up to 3%.
- Bifacial panels can boost annual energy production 5-10% by capturing sunlight reflected off the ground. Cold-weather sites may experience even more gain in the winter due to the high reflectivity, or albedo factor, of snow. **NX Horizon's bifacial-optimized design** can deliver more than 1% additional annual energy versus traditional tracking systems when equipped with bifacial panels. For more information, read our bifacial white paper here: (<https://info.nextracker.com/en/quantifying-your-bifacial-gains>).
- NX Horizon trackers are engineered for **maximum uptime** in extreme conditions. Low-friction bearings use **stainless-steel pivot pin technology**, preventing fouling by snow and ice, which may occur on traditional bearings. Nextracker bearings are **thermal-expansion tolerant**, designed for large temperature swings from -40°C to 50°C. Unlike linked-row systems, NX Horizon drive and control components are elevated from snow exposure, mounted at torque tube height.

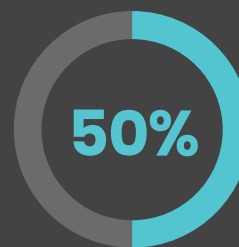


Better inherent bifacial performance plus TrueCapture **delivers 4%+ more energy** than traditional tracking systems.



## Operate More Effectively

- The **NX Horizon tracker sheds snow in three ways** to combat snow accumulation: normal tracking, an automatic response via snow-depth sensors, or real-time operator commands. **NX Navigator snow management features** help plant operators configure and implement these capabilities quickly and easily. In addition, high tilt angle night-stow positioning keeps snow accumulation to a minimum.
- NX Horizon's **independent-row architecture is optimized for maintenance**, making it easier and safer for personnel to access their site for mowing, cleaning, snow clearing and other general maintenance activity. Compared to linked-row trackers with drivelines that block personnel and equipment access and may become hidden under snow drifts, operators of NX Horizon can **save up to 50% in personnel and machine time to perform most maintenance tasks**.
- NX Horizon's self-powered control system with **bifacial, snow-shedding panels and integrated UPS** ensures tracker uptime during periods of low temperature, low irradiance, and snowfall. An AC-powered variant is also available to support continuous operation in locations experiencing extreme overnight low temperatures.



Operators of NX Horizon can **save up to 50%** in personnel and machine time

## Nextracker Has the Answer

When asset owner-operators are uncertain about how well their PV plants will perform in harsh winter conditions, Nextracker's suite of field-proven engineered solutions and operational protocols bring peace of mind—and bolster their bottom line.

For more information on how Nextracker's cold-weather bundle can help optimize power plant performance in extreme winter conditions, contact XXX or visit [xxx.com](https://www.nextracker.com)

FEATURES	NX HORIZON	NX HORIZON COLD PAK	TRADITIONAL TRACKERS
Independent rows	✓	✓	✗
Mechanically balanced architecture	✓	✓	✗
Row-level control w/ integrated UPS	✓	✓	✗
Bifacial-optimized design	✓	✓	✗
85GW core track record	✓	✓	✗
High-tolerance, low friction bearings	✓	✓	✗
Bifacial, snow-shedding, self-powering panels		✓	✗
Snow-depth sensors & automated snow stow		✓	✗
XTR terrain following with 10GW track record	Available	Available	✗
IE-validated TrueCapture yield enhancement	Available	Available	✗
NX Navigator™ premium w/ snow-shed modes		Available	✗
Helical piles, adapters & engineering		Available	Limited
-40°C rated AC powering option		Available	Limited

