

Asses Your Next Project with a Smarter View: Tracker Designs and Lifetime Costs

Centralized vs. Decentralized Tracker Designs Compared

Recently RINA, an independent global testing, inspection, certification, and engineering consultancy services firm, compared the lifetime costs of the two most common utility-scale photovoltaic (PV) single-axis tracker designs using a modeling tool they created called PVTrax®.

The surprising results?

Array's centralized design creates appreciable savings and significantly improves asset profitability over the lifetime of the PV solar plant. Key drivers in the lower lifetime costs of the centralized tracker architecture are higher uptime and lower corrective maintenance.

On a 100 MW, utility-scale photovoltaic power plant model, analysis highlighted that Array's flagship tracker, DuraTrack® HZ v3:



Lowers tracker lifetime costs by over 7%



Increases Net Present Value (NPV) over 1.3 million dollars for asset owners



Lower Levelized Cost of Energy (LCOE)



Substantial energy output increases



Total lifetime OPEX of the tracker is reduced by 42% by using the Array tracker vs. the modelled distributed row architecture



This RINA research and modeling tool, PVTrax, directly helps developers, lenders, owners, and EPCs proactively address lifetime costs and component performance.



The Case Study: Comparing Centralized vs. Decentralized Tracker Architectures

Location	Southern California
Project Size	100 MW
Tracker Capital Expenditure	\$12 Million USD
Site Irradiation	1,966 kWh/m2
PPA Rate	0.05 USD/kWh

Tracker A

Configuration	Centralized, featuring Array's DuraTrack HZ v3 rotating driveline tracker
Number of Components	247
Corrective Maintenance Events	20,541
Lifetime Hrs of Downtime for Repair	218

Tracker B

Configuration	Decentralized
Number of Components	17,150
Corrective Maintenance Events	44,208
Lifetime Hrs of Downtime for Repair	1,374

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