

Wood Mackenzie Report Finds Fixed DC-Coupled Architecture Improves Cost and Performance in Solar-Plus-Storage Systems, Helping to Accelerate Deployments

Ampt String Optimizers make up a significant percentage of total front-of-the-meter DC-coupled systems in the U.S., according to the report

Fort Collins, CO — December 6, 2022 — [Ampt](#), the #1 DC optimizer company for large-scale photovoltaic (PV) systems, has been recognized by global energy consultancy, Wood Mackenzie as the world's leading supplier of solutions that enable Fixed DC-coupled solar-plus-storage systems in a new [report](#), *How to Maximize the Potential of Solar-Plus-Storage*. The report highlights Ampt String Optimizers, which are DC/DC converters that lower the cost, improve performance and help accelerate the pace of utility-scale solar-plus-storage system deployments.

Through an analysis of the three main solar-plus-storage architectures available to the market today, including AC-coupled, variable voltage DC-coupled ("Variable DC-coupled"), and high fixed voltage DC-coupled ("Fixed DC-coupled"), Wood Mackenzie found the Fixed DC-coupled architecture provides superior cost and performance compared to the other options. Specifically, systems that use Ampt's Fixed DC-coupled configuration deliver power at a high fixed voltage which reduces current requirements for components across the system to lower costs compared to systems that do not use Ampt technology and have a low and variable voltage. The report also notes that a significant percentage of total front-of-the-meter DC-coupled systems in the United States are supplied by Ampt, as the company is on track to triple shipments of its String Optimizers in 2022.

In addition to naming Ampt as the world's leading enabler of Fixed DC-coupled solar-plus-storage systems, Wood Mackenzie's report:

- Provides the most up-to-date market data related to the growth of grid-scale solar-plus-storage systems in the United States and internationally.
- Identifies key economic, policy, and grid resiliency drivers behind the growth of solar-plus-storage installations.
- Compares and contrasts the pros and cons of the three primary solar-plus-storage system architectures on the market today.
- Offers examples of Fixed DC-coupled applications in use today, including peaker plant replacements, peak shifting, storage as a transmission asset (SATA), and grid response.

As more clean energy resources are added to the grid, the integration of storage is critical to manage renewable intermittency and ensure a reliable and resilient power grid. In the U.S., Wood Mackenzie reports that grid scale solar-plus-storage installations increased from just 105 MW in 2020 to 1.9 GW in 2021. Ampt has shipped well over 1 GW of its optimizer products that enable Fixed DC-coupled solar-plus-storage projects.

"Improved economics, increased climate policy adoption, and the critical need for technologies that can support both grid resilience and reliability while delivering low-carbon electricity are

driving rapid growth in solar-plus-storage deployments in the United States and around the world,” said Levent Gun, CEO of Ampt. “We’ve seen continually growing demand for our power optimization technology for DC-coupled systems and we’re pleased to be recognized by Wood Mackenzie’s world-renowned analysts.”

“During our research, we found industry knowledge gaps pertaining to the fundamental differences between various solar-plus-storage configurations,” said Vanessa Witte, senior energy storage analyst at Wood Mackenzie. Many stakeholders were unaware that Fixed DC-coupled solar-plus-storage configurations can reduce total ownership costs and improve performance by using fewer components that can handle more power. Ampt’s architecture is especially well-suited to helping grid-scale solar power plant developers and owners cost-effectively achieve their clean energy and decarbonization goals.

About Ampt

Ampt delivers innovative power conversion and communication technology that are used to lower the cost and improve performance of new PV systems, repower existing systems, and enable lower-cost DC-coupled storage. With installations and experience serving markets around the world, Ampt is the number one DC optimizer company for large-scale systems. The company is headquartered in Fort Collins, Colorado, and has sales and support locations in North America, Europe, and Japan as well as representation in Asia, Australia, and the Middle East. For more information, visit www.ampt.com and follow Ampt on [LinkedIn](#).

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