

ABOUT CIEES

Center for Integrated Energy Systems (CIEES) is part of the New York State network of Centers for Advanced Technology (CAT) that strives to transform the electric energy sector and spur economic development.

CIEES collaborates with industry leaders, capitalizing on the wealth of technical and intellectual resources provided by Stony Brook University and Brookhaven National Laboratory fostering innovative technologies integration into the electric grid or energy market.



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CIEES

CENTER FOR INTEGRATED
ELECTRIC ENERGY SYSTEMS

AT STONY BROOK UNIVERSITY

PROMOTING INDUSTRY GROWTH IN NEW YORK BY SUPPORTING INDUSTRY EXPERTS





OUR MISSION

Center for Integrated Electric Energy Systems (CIEES) enhances the development and integration of cutting-edge technologies into electric energy systems, working with industry partners and leveraging the technical and intellectual assets of Stony Brook University and Brookhaven National Laboratory.

Our goal is to make New York a global leader in the technologies that will accelerate the progress of renewable energy as one of the mainstream resources displacing fossil fuel-based electric power worldwide by facilitating the integration of renewable sources into the electric grid.



EXAMPLES OF CIEES RELATED OSW PROJECTS

- Energy Storage Solutions: We're developing cutting-edge energy storage solutions to enhance transmission planning and grid stability in the presence of massive offshore wind farms.
- Benefits to NYS of Hydro Power and NYS OSW: CIEES is pioneering models examining mutual benefits of CHPE and the current NYS wind projects for the efficient and reliable grid operation of offshore wind energies.
- Grid Resilience Improvement: We're boosting grid resilience through the utilization of next-generation modeling, ensuring the reliability of our energy systems.
- Ultra-Scale Offshore Wind Integration: CIEES is working towards enabling the reliable integration of offshore wind energy into New York's power grids through the design of intelligent grid protection and control systems
- Meshed Offshore Grid and Resilience- Enabling HVDC Transmission for Ultra-Scale Offshore Wind Integration in New York Grids.
- Comparable Study & Benchmarking of Power Electronics Architectures for OSW HVDC
- Understanding the economic viability of green H2 production in a wind farm with wake field interactions.



SBU – OFFSHORE WIND INDUSTRY OVERVIEW

Stony Brook University has been a trailblazer in offshore wind (OSW) innovation, fostering collaborations with industry leaders and stakeholders over the last three years, including:

- \$5M Multiyear Sunrise Wind R&D Agreement: CIEES is currently in the second phase of projects within a multiyear R&D agreement with industry leaders Ørsted and Eversource.
- Collaborations with Industry Leaders: Our OSW-related projects extend to collaborations with key industry stakeholders such as GE Renewable Energy, NE ISO, GE Global Research, and Hydro Quebec. We've also garnered significant interest from Tier 1 companies like Siemens Energy and Nexans.

