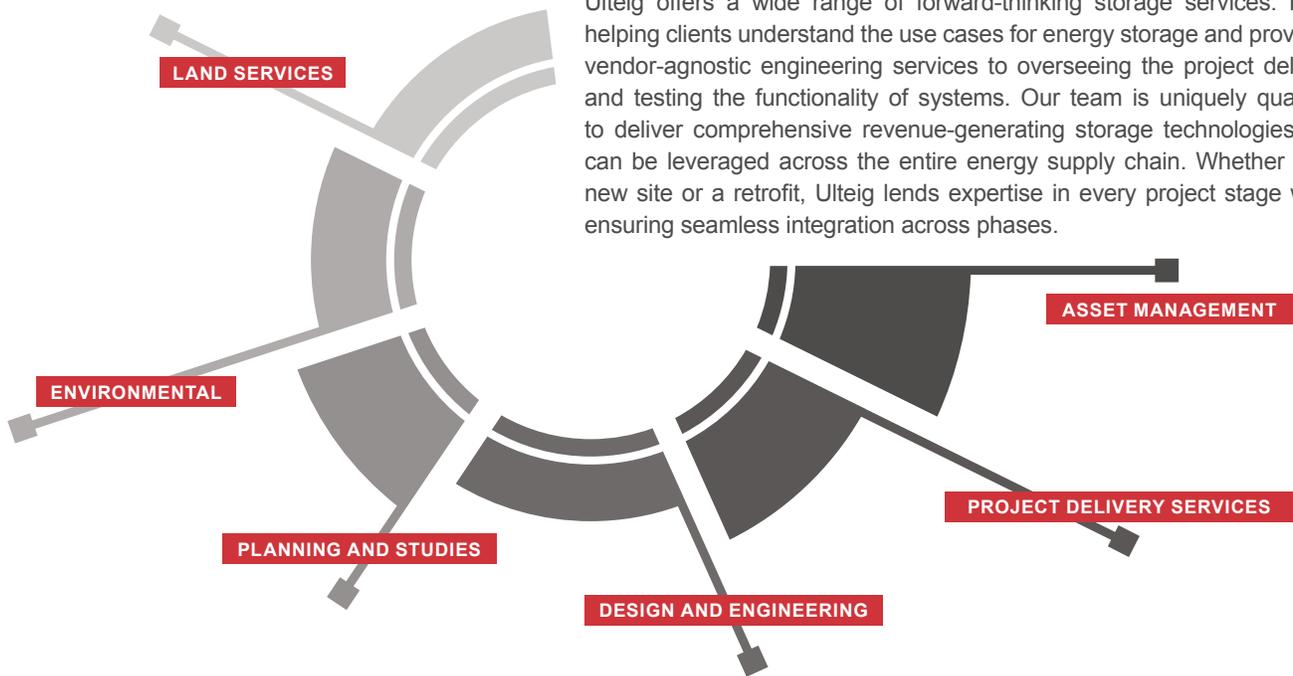


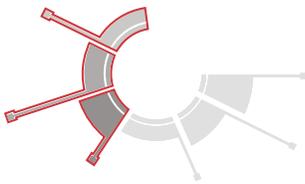
ULTEIG ENERGY STORAGE: ENSURE THE ENERGY SUPPLY MEETS YOUR DEMANDS.

Ulteig



Ulteig offers a wide range of forward-thinking storage services. From helping clients understand the use cases for energy storage and providing vendor-agnostic engineering services to overseeing the project delivery and testing the functionality of systems. Our team is uniquely qualified to deliver comprehensive revenue-generating storage technologies that can be leveraged across the entire energy supply chain. Whether it's a new site or a retrofit, Ulteig lends expertise in every project stage while ensuring seamless integration across phases.

ENERGY STORAGE SOLUTIONS FOR EVERY PROJECT PHASE



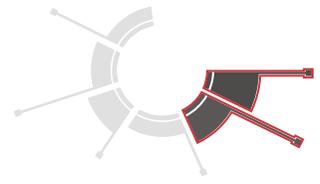
We provide certainty around energy storage development and investment decisions.

- Modeling and studies
- Business case development
- Owner's engineer support
- Interconnection and permitting
- Technical bid support
- Decision making road map (Siting, Application and Size)



Our experienced multi-discipline teams deliver context-sensitive designs to meet your unique needs.

- Conceptual design
- Balance of plant/system engineering
- High-voltage engineering
- Owner's engineering
- EPC support
 - Permitting
 - Environmental
 - Survey & staking
 - Procurement & logistics



We've completed 10+GW of utility-scale SCADA design, programming, and commissioning across North America.

- Use-case consulting
- AC/DC coupled & stand-alone
- Plant-level PV & storage integration
- SCADA
- Power plant control
- Performance & financial reporting
- Commissioning
- Networking & NERC/CIP security
- Hardware & software supply

We align with our clients' requirements and objectives to ensure safe and timely project delivery.

- Project and construction management
- Equipment FAT support
- Testing and commissioning (third-party)
- Asset management
- Analytics
- O&M
- Construction surveying
- Environmental monitoring

ULTEIG RENEWABLES + STORAGE

The energy professionals at Ulteig can help you model an optimum standalone battery storage system or help design a new renewables plus storage project to help you minimize costs and maximize revenue. We leverage expertise across Lifeline Sectors and Service Disciplines to provide a comprehensive project approach.

PROJECT PROFILE



NORTHWEST OHIO WIND, SOLAR & BATTERY STORAGE
HAVILAND, OH

Paulding County, in northwest Ohio, is considered the flattest land in the state. Its soil is dark, rich and among the best in Ohio for farming. And it's here, near the small town of Haviland, that in 2009 a group of farmers saw the potential of wind power.

Ulteig was the substation design engineer when, in September 2018, the Northwest Ohio Wind project—a 105-megawatt (MW) wind energy farm located on 10,000 acres and comprised of 42 wind turbines, each generating 2.5 MW of wind energy—started reliable commercial operations. Building on its success, CMS Enterprises commissioned Ulteig to design and engineer the addition of a solar park and battery energy storage system (BESS) in early 2020.

DESIGNING FOR RELIABILITY

The intent of adding solar power and a BESS to Northwest Ohio Wind is to improve reliability and diversity. Core components of the project included:

BATTERY STORAGE – The new BESS is a 1 MW by 3.4 MW/hour facility feeding the central inverter via DC coupling. The BESS facility consists of SunGrow short-duration (up to 8 hours) lithium-ion batteries housed inside prefabricated enclosures/containers, power conversion systems, auxiliary power electrical equipment racking system; and will utilize concrete pier foundations.

SOLAR FARM – Built on roughly 30 acres, the solar farm is comprised of up to a total of 3.5 MW(DC power) solar PV modules connected to an AC-power “central” inverter. The inverter outputs to an adjacent/integrated step-up transformer to bring the system to 34.5 kV and will be terminated to the substation via a single underground AC circuit.

TRANSFORMER – The solar and storage generation will tie into the existing NWO Wind substation at 34.5 kV through a step-up transformer and new feeder addition at the substation.

ENERGY MANAGEMENT SYSTEM – Ulteig partnered with Ontario-based NLS Engineering* to design the energy management system (EMS). This partnership provided a control system design for the solar and storage addition to the existing NWO Wind site. The solar park and battery storage system's EMS system can source some information from the wind farm to make decisions.

CIVIL ENGINEERING – The civil engineering design on the 30-acre site included new access roads, perimeter fencing, erosion control, and site grading to improve the drainage on-site and meet the specifications needed for racking and pile installation.

**In May 2021, Ulteig acquired NLS Engineering, turning our long-standing partner into part of the Ulteig team.*

“ WE VIEWED HIRING ULTEIG TO BE A ‘BUILDING SUCCESS ON SUCCESS,’ ESPECIALLY WHEN MANY OF ULTEIG’S RENEWABLE SUBSTATION TEAM MEMBERS WERE MADE AVAILABLE TO US.”

- CMS ENERGY



Chad Crabtree
Market Director
- Renewables

CONTACT US ABOUT YOUR NEXT PROJECT

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We listen. We solve.®