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PXiSE Energy Solutions

Green Hydrogen

PXiSE offers a software-based, hardware agnostic energy management system that equips green hydrogen production facilities with the ability to manage and coordinate localized renewable power production and battery storage resources.

Optimal resiliency, power quality and economic benefits for owners and operators of green hydrogen production facilities. Independently balancing real and reactive power, the software efficiently dispatches resources to ensure consistent power quality for hydrogen electrolyzers to stabilize production.

Product applications

Our software is installed on-site for direct interface with energy resources and can be integrated with a remote operating center for islanded or grid-tied green hydrogen production facilities, effectively creating a secure microgrid to support green hydrogen production.

Power assurance and control

Maintain reliable, renewable power during any type of expected or unexpected weather conditions without sacrificing power quality or consistency.

- Autonomous two-stage approach combines optimization with high-speed control to set and execute the resource power flow schedule.
- Real-time high-speed measurements inform the autonomous dispatch of the battery energy storage system (BESS), managing variability instantly and guaranteeing operation within point-of-interconnection (POI) and electrolyzer system constraints.

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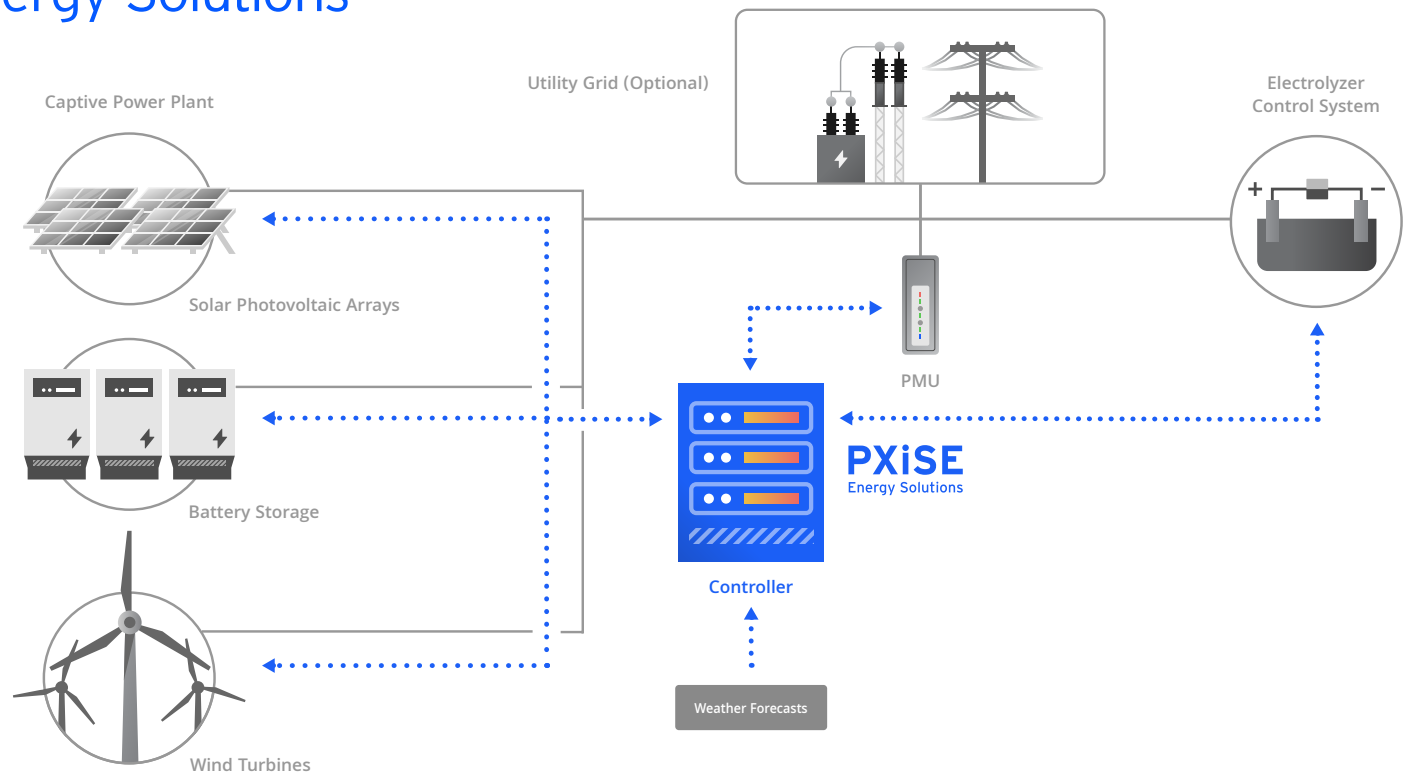

Maximize plant profit

Integrated optimization engine ensures your green hydrogen production schedule is met using the best economics.

- Proprietary optimization engine forecasts load and schedules asset dispatches
- Optimization can be set to address single or multiple business objectives, such as maximizing green hydrogen production (by prioritizing power delivery to the electrolyzer) or maximizing renewable energy export to the grid
- 24-hour schedules are re-optimized up to every five minutes while the software handles real-time control at the sub-second level

Precise power export management

Rely on precise, autonomous management of power flow at the POI for regulatory and net metering purposes while simultaneously improving efficiency and cost reductions through centralized control that consolidates any mix of battery, solar PV, and wind assets.

- Manages power flow at the POI using patented phasor measurement unit (PMU) based high-speed control to stay within interconnection constraints including capacity and ramp rate requirements
- Facilitates participation in real-time and day-ahead energy market programs

Future-proof

Software-based control solution allows flexibility over time to add renewables, batteries, and electrolyzers without incurring hefty hardware costs.

- Manages everything autonomously, reducing reliance on specialized staff training and support
- Supports efficient operation in remote communities with control interfaces that can be appropriately scaled in complexity or level of automation based on end-user requirements

Visit pxise.com/gh
for more information.