

PLEXOS® for Renewables

Plan, invest, and operate renewable energy systems with clarity

As renewable energy grows, power systems become more complex, uncertain, and interconnected. PLEXOS® helps you navigate this transition with simulations across all time horizons, connecting long-term decarbonization goals to near-term operational and market outcomes.

Organizations around the world use PLEXOS®, including utilities, system operators, regulators, traders and renewable developers. It supports renewable energy decision-making with transparency and flexibility.



Why PLEXOS® for renewables



Make decisions under uncertainty

Test build-out, storage, and transmission strategies across a range of possible futures.



System-wide co-optimization

Understand interactions between generation, storage, demand, and reserves within a unified platform.



Faster analysis with embedded AI

PLEXOS® Intelligence highlights anomalies, explains outcomes and reduces reliance on specialist modelers.



From policy to investment outcomes

Explore decarbonization pathways, market design, and investment strategies in one transparent platform.

What PLEXOS® enables for renewable energy systems

Platform capability	What it enables
Sub-hourly simulation	Capture intermittency, volatility, congestion, and curtailment risk
Energy and reserves co-optimization	Assess grid reliability with high renewable penetration and evaluate asset performance across energy and ancillary service markets
Storage and flexibility modeling	Quantify the system value of batteries and demand-side resources
Stochastic simulation	Assess risk from weather, price, performance, policy and other sources of uncertainty
Investment optimization	Identify the optimum timing, location, and scale for renewable investments

Renewable planning and integration across time horizons

PLEXOS® supports your work from early-stage planning through operational analysis:

- Optimize renewable and storage technology mix
- Determine how much capacity to build, where, and when
- Evaluate the impact of policy, market design, and grid constraints
- Maintain system reliability as renewable penetration increases

Investment, risk, and revenue certainty

Make informed, data-backed decisions about renewable investments:

- Optimize investments in generation, storage, and transmission
- Explore policy, market, and price variability using stochastic analysis
- Assess Power Purchase Agreement (PPA) value, return distribution, and downside risk for both buyers and sellers

Supporting energy transition with embedded AI

PLEXOS® combines advanced optimization, embedded AI, and cloud scalability to support renewable energy planning:

- AI-assisted analysis surfaces key risks and explains outcomes
- Automation reduces time to insight across large systems
- Cloud-based execution enables secure collaboration and repeatable decisions

Together, these capabilities help you move from data to decision, faster.

Support beyond the platform



Expert support and implementation

Global teams provide model builds, back-casting, automation and performance reviews.



Validated datasets

Access zonal and nodal datasets that have been thoroughly tested, with custom builds available.



Training and enablement

Learn through courses and in-platform resources designed for users at every skill level.



Take the next step

Discover how [PLEXOS®](#) can support your renewable energy strategy.

