GUROBI OPTIMIZATION

Mastering the Energy Transition with Optimization

The Power Sector's Pivotal Moment

The power sector is changing like never before. Renewable energy is surging, electrification is accelerating, and extreme weather events are becoming the new normal. Grid operators, utilities, and innovators must balance cost, reliability, and sustainability across an increasingly complex landscape.

This moment demands smarter, faster, and more transparent decision-making. That's where mathematical optimization excels. It enables energy stakeholders to find the best possible decisions—whether for day-ahead dispatch, long-term investment, or distributed resource orchestration.

Optimization isn't just a technical tool—it's a strategic capability.

From Dispatch to Decarbonization

For decades, ISOs and RTOs have used optimization for unit commitment and economic dispatch. Today, optimization is being applied widely for:

- Integrated resource planning under clean energy mandates
- Workforce automation and dispatch
- DER coordination and VPP scheduling
- Battery dispatch and market bidding
- Resilience planning for wildfire, storms, and cold-weather events

These use cases require scale, speed, and explainability. Mathematical optimization delivers all three.

Why Now?

- New market participants resulting from FERC Order 2222 create challenges and opportunities to leverage optimization.
- Extreme Events: Grid hardening and resource readiness must be optimized against uncertainty.
- Decentralization: More DERs mean more decisions—automation through optimization is essential.

Gurobi: Solver Power Meets Community

Gurobi isn't just a solver. It's the center of a growing optimization practitioner community in the power sector. At the Gurobi Energy Innovation Summits, grid operators, analysts, and researchers exchange optimization strategies that directly accelerate decarbonization and grid modernization.

For ISOs, IOUs, IPPs, municipal and cooperative utilities, developers, traders, and operators, Gurobi helps energy leaders:

- Cut costs through better asset utilization
- Enhance transparency in planning and market operations
- Improve resiliency under tough conditions

Let's Build Smarter Energy Together

Not sure where to start? Gurobi offers:

- Evaluation licenses to test your models
- Expert advisory on performance and scalability
- Training and support for teams new to optimization

Mathematical optimization is how we operationalize the energy transition. Let's shape the future of energy with smarter tools, shared knowledge, and real impact.

Example Customers

Here is a selection of Gurobi customers that use mathematical optimization to revolutionize their electric power transmission and distribution operations:

SILENT DIG, 50hertz, FGH, New York ISO Independent System Operator, nationalgrid, TRANSNET BW, BNetzA, TEA The Energy Authority, PSE, TenneT Taking power further, TSCNET Services, amprion connects