



Product overview

Nodal Advisory Services

Experienced professionals, proven solutions, trusted results

ABB's Nodal Advisors are experienced professionals who provide innovative, customized and cost-effective approaches to solve your business issues. We apply ABB's industry-leading software and intelligence to a wide range of consulting services in the areas of:

- Electricity market modeling
- Planning and portfolio optimization
- Transmission systems constraints
- Regulated and merchant generation
- Strategic studies and public service proceedings
- Expert witness testimony

Our internationally-recognized team is a trusted resource for electric utilities, system operators, independent power producers, regulators, consultants, analysts and industrial electric users worldwide. The Nodal Advisors perform both zonal and nodal analysis using ABB's PROMOD market simulation software and Simulation Ready Data.

PROMOD provides a realistic hour-by-hour representation of generation and transmission system operations. It is the most comprehensive and reliable market simulation software available and is used by over 100 clients including utilities, transmission owners and developers, independent system operators (ISOs),

regional transmission organizations (RTOs), regulators (including FERC), power marketers, traders, universities and consultants. ABB's Simulation Ready Data is the industry-leading database of detailed information required to model the wholesale power markets across the US and Canada.

Each of the interconnected pools is individually dispatched, as in the real marketplace, and is also allowed to make economic energy exchanges with neighboring pools, subject to interconnection capacity. Monte Carlo stochastic simulation is available.

The energy industry is constantly changing. Major factors influencing the energy industry today include:

- Federal regulations and state renewable portfolio standards
- Low natural gas prices
- Wind, solar PV, and distributed generation
- Energy efficiency and demand response
- Environmental regulations
- Cost allocation for transmission expansion
- The emerging role of grid energy storage

ABB's Nodal Advisors can help you develop and test innovative and successful business strategies to address these uncertainties.

Nodal Advisory offerings

Transmission system studies



- Curtailment risk for renewables
- Financial transmission rights valuation (FTR/TCC/TCR/CRR)
- Transmission expansion benefit/cost analysis
- Line outage management
- Available transmission capacity analysis
- Loss factor calculations
- Binding constraints

Generation and portfolio applications



- Unit dispatch and profitability assessment
- Generation retirement/retrofit/repower analysis
- Asset valuation
- Project siting and sizing
- Power purchase/sale evaluation
- Contract modeling
- Fuel forecasting and budgeting

Power markets and economic analysis



- Locational marginal price (LMP) forecasting
- Energy market simulation & analysis
- Zonal market prices
- Production cost modeling
- Energy and ancillary service co-optimization
- Market-based planning
- Risk assessment (transmission and generation outages)
- Market efficiency studies

Strategic studies and system analysis



- Renewable integration studies
- Environmental regulation
- Reliability analysis (LOLE & EUE calculations)
- Demand response & energy efficiency
- Energy storage revenues and system benefits
- Market rule change impacts
- ISO/RTO cost/benefit analysis and cost allocation
- ISO/RTO change in membership/footprint

About ABB's Enterprise Software product group

We provide industry-leading software and deep domain expertise to help the world's most asset-intensive industries such as mining, energy, and utilities solve their biggest challenges, from plant level, to regional network scale, to global fleet-wide operations.

Our enterprise software portfolio offers an unparalleled range of solutions for asset performance management, operations and workforce management, network control, and energy portfolio management to help customers reach new levels of efficiency, reliability, safety and sustainability. We are constantly researching and incorporating the latest technology innovations in areas such as mobility, analytics and cloud computing.

We offer unmatched capabilities to integrate information technologies (IT) and operational technologies (OT) to provide complete solutions to our customers' business problems.

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