ABB Ability™ Velocity Suite

Accelerated time to insight
for today's data-driven decisions.

ABB Ability Velocity Suite is the energy industry's premier analytical source for energy information.

It doesn't just provide the latest information on markets, entities, and transactions – it also provides the advanced tools to analyse that information, make connections, visualise trends, and focus on what matters to you. It dramatically accelerates your time to insight through a combination of:

Quality
The data proofing and normalising we do behind the scenes gives you the confidence that the information you see is the best available – in the format you need.

Timeliness
We continually monitor data sources to give our subscribers quick access to the latest information.

Flexibility
We put the power of analysis into users' hands with our extremely flexible query tool which gives you the ability to slice and aggregate our data to answer each specific question.

Scope
If an industry data source matters, it is part of Velocity Suite. If a new essential source emerges, we add it, making Velocity Suite the energy industry's most comprehensive database.

Transparency
We clearly disclose any modelling or supplemental analysis we do on the data we provide, so you know exactly what you're getting.

Accessibility
We manage all data sources into a common entity backbone, which creates a level of consistency across the myriad of data sources that makes it easier to access the data you need and simpler to generate new insights.

Visual analysis
Graphical and reporting tools in Velocity Suite enable you to understand the story behind the numbers to get a fresh perspective on the data you analyse.

Let your analysts analyse

Velocity Suite automates complex data collection, aggregation, proofing, and normalising that are the prerequisites of sound analysis. That means analysts can focus on analysing data, not managing it.

Precision views, comprehensive sweep

Velocity Suite consolidates data from the industry's leading sources of electric power, transmission, natural gas, coal, energy market, geospatial and meteorological intelligence. No other tool gives you the same ability to drill down into root causes, while providing the same end-to-end view of cross-industry drivers and trends.

Expert support from industry insiders

Velocity Suite was designed by analysts, for analysts – so you get the support of our energy industry veterans who understand why you need the data you need and how you use it. Think of us as an extension of your staff. We're always available to suggest new ways to use Velocity Suite and approach analytical challenges.

The industry's most trusted analytical resource

The decisions that drive today's energy markets start with Velocity Suite. Our clients include:

- The top US generators
- The top retail providers
- Coal, oil and natural gas producers
- Independent System Operators (ISOs)
- The EPA, FERC, EIA, DOJ, NETL, and NREL
- Leading consulting groups, utilities, financiers and traders
- Renewable and battery storage developers

Sample Velocity Suite data analysis
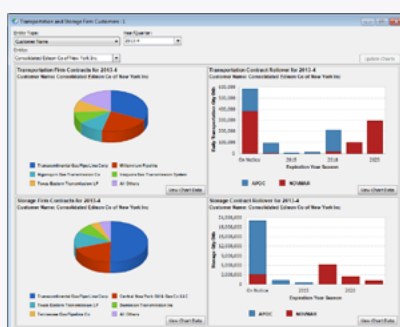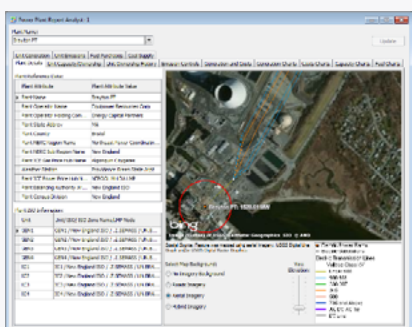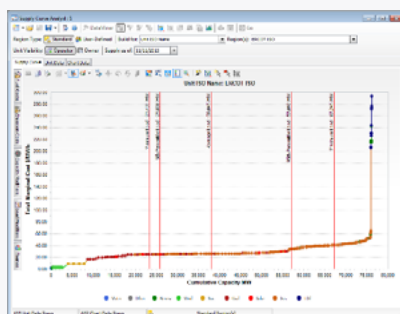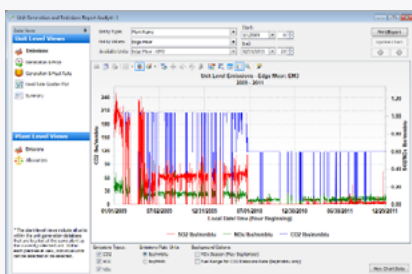
Energy markets are moving faster than ever – and the volume of data they generate grows exponentially each day. The success of each decision, each transaction, absolutely depends on having the right information at the right time at the right level of detail, all in ONE location.

EV Power

Decision-makers in the electric industry need the ability to identify and monitor sector-wide trends and track causes and impacts at the regional, plant, and even asset levels. EV Power can help you analyse the power market as an integrated whole and understand the role of individual IOUs, generation and transmission cooperatives, distribution cooperatives, municipal utilities, non-regulated market participants, and generating assets. It delivers key insights that support competitive analysis, performance benchmarking, pricing estimates and analysis, and project planning – at virtually any level of detail.

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How you can use EV Power

- Benchmark your organisation against the competition to see if you're more efficient and how you are performing financially.
- Track the development of capacity changes to the market from the earliest planning stages through project completion or cancellation.
- Analyse key operational and financial metrics for electric retail sales activity.
- Isolate operational and maintenance cost data at a company or plant level.
- Evaluate trends in renewable generation/capacity growth.
- Monitor the development of new and the operation of existing emission controls.
- Research the cause, duration, and impact of nuclear plant outages.

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Sample EV Power data analysis

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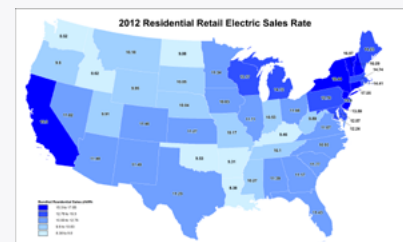
Key features

Supply Curve Analyst – Access modelled historical and forecast supply curves for a given region, and tailor your view by importing custom fuel costs, emission costs, and other data.

Spot Price Basis and Spark Spread Analyst – Compare gas and power price series data and refine your analysis by setting a heat rate for the conversion of gas to electricity.

Power Plant Report Analyst – View a data-rich display of grids, charts, and maps built from multiple data sources, and analyse all available data about a power plant in one formatted report.

New Entrants Report Analyst – Track any increase or decrease in capacity to the market for a breakdown of activity, including details such as generator manufacturer, project timelines, power purchase contracts, and all reference notes found by our staff related to the project.

Regional Report Analyst – Analyse industry trends in the region of your choice, including data on the biggest owners of operating and planned capacity, fuel mixes, and largest plants by fuel type, and prices.

QuickStats – Perform quick on-demand queries on a wide spectrum of electric and market price data, from retail electric sales to new entrants' projects to the largest regional generators.

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Primary data sources

- ABB proprietary research
- FERC
  - Quarterly and annual financials
- EIA
  - Monthly and annual industry statistics
- Independent System Operators
  - Current unit assignments, capacity, and interconnections queues
- Enerfax and NYMEX
  - Daily trades

EV Energy Map

Spatial data can yield fresh insights into energy industry dynamics and trends — insights that aren't always available with raw data alone. EV Energy Map combines proprietary map layers with data from other Velocity Suite modules, as well as your own imported proprietary data, and presents it geospatially, adding a new dimension to your analysis of the industry and its key players. It helps you understand historic trends in pricing, generation, and installed capacity and delivers a new perspective into competitor projects and decisions.

Use it to find the optimal location for new projects based on proximity to existing and proposed energy infrastructure, including power plants, transmission lines, substations, gas pipelines, and other essential energy layers. EV Energy Map also includes an array of geospatial tools that enhance your analytical capabilities.

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How you can use EV Energy Map

- Locate existing and proposed infrastructure and understand how they relate from a geospatial perspective.
- Research projects in a given region, monitor their progress, and track key details such as ownership, fuel type, and capacity.
- Create cartographic quality maps for presentations.
- Track the historical evolution of market prices in an area.
- Perform in-depth analyses on nearby competitor plants to understand where they source fuels, their financial performance, and any reported issues they encounter (such as transmission congestion).
- Calculate the impact of location on delivered fuel costs.
- Keep tabs on M&A activity by visualising the asset configuration of key players and the way their market strategies can overlap.
- Renewable project siting with highly detailed, accurate transmission and substation locations.

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Sample EV Energy Map data analysis

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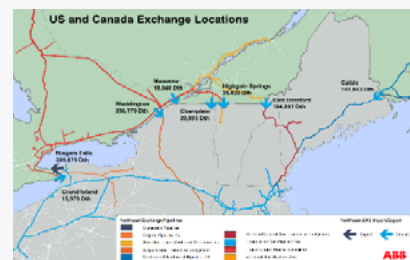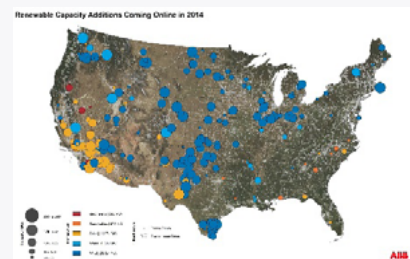
Key features

Time Series Animator – Create an animated progression of historic and forecasted data at an hourly, daily, monthly, quarterly, or annual timeframe.

Grid thematics – Generate heat or contour maps showing prices, generation, temperature, and other data points.

Legend Designer – Build multiple customised cartographic legends, overview maps, and insets.

Refreshable maps – Create maps that automatically update from linked saved queries or spreadsheets.

Site Analyst reports – Research key geographical details of features near a power plant or any other site.

Embedded Bing™ imagery – Choose aerial, road, or hybrid imagery modes.

QuickMaps – Download commonly requested maps such as NERC regions, ISO zones, storm paths, and coal consumption.

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Primary data layers

- **Electric infrastructure** (transmission lines, power plants, substations, units, LMP points, flowgates, branches, wind farms, wind farm boundaries, service territories, holding companies, balancing authority areas, planning areas, ISO zones, load regions, transmission zones, transmission areas, RTO regions, Independent System Operators, and NERC regions and subregions)
- **Natural gas infrastructure** (gas pipelines, storage facilities, LNG facilities, receipt delivery points, oil and gas platforms, natural gas processing plants, gas utility service territories, holding companies, natural gas basins, shale gas plays, tight gas plays, and oil and gas fields)
- **Coal infrastructure** (coal mines, coal docks and ports, mineral mines, coal basins, railroads, standard point location codes [SPLC], and navigable waterways)
- Reference data, climate data, hydrologic features, demographic data, geopolitical regions, and market indicators

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EV Market Ops

Each minute, the energy market produces a flood of data on prices and demand – as well as valuable hourly inputs including generation, heat rates, and emission details. When combined, these data segments can offer answers to crucial questions on the performance of key players in the energy industry. But analysts often find it challenging to isolate the trends and developments that matter most.

EV Market Ops is all about the details. It collects, proofs, and models data on nodal prices, unit level generation, hourly load forecasts, and other granular information from throughout the energy industry – and makes that data available across Velocity Suite for further analysis. EV Market Ops offers solutions to clarify strategy and assist with sound, data-driven decisions on trade support, operations, and investing.

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How you can use EV Market Ops data

- Identify the impact of new environmental regulations on regional emissions, dispatch, and marginal costs.
- Estimate unit profit and revenue streams based on historic generation and LMPs.
- Develop viable trading strategies based on current and historic congestion trends in the ISO markets.
- Review pricing trends based on demand and fuel mix by location and zone.
- Research hourly supply and demand trends across North America.
- Benchmark hourly unit performance across prime mover, fuel, time of day, and market.

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Key features

Unit and Market analytics – Drill into unit and location level data to identify economic dispatch, hourly pricing movements, and time-series based tendencies using hourly data and statistical summaries.

Unit Generation and Emissions Report Analyst – View data-rich display of unit-level hourly generation combined with emissions, heat rate, allowance, and price data.

Hourly Path Spread and Hourly Market Spread – Compare hourly data by source, sink, and market pairs to identify value opportunities in a range of scenarios including virtual trading, congestion hedging and unit siting and power purchase agreements.

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Sample EV Market Ops data analysis
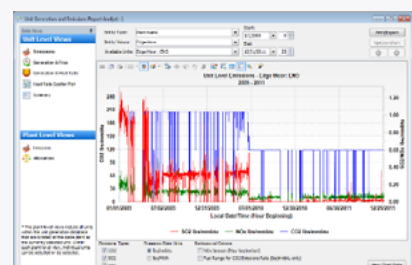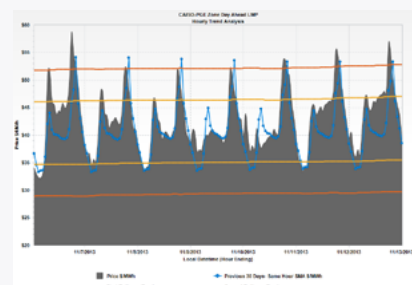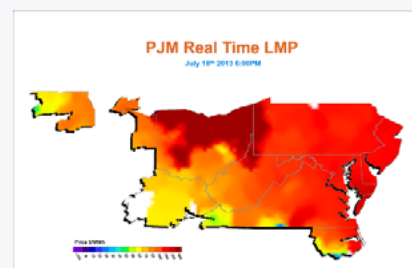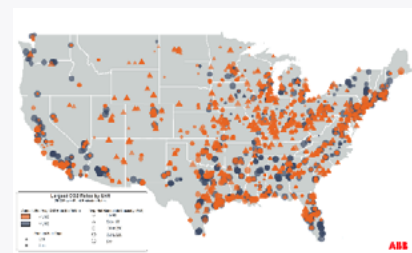
Reserve and Capacity Margins – Combine demand data from multiple sources for the most complete demand picture available, with capacity data illustrating historic, current, and future reserve margins.

ISO Generation and Price Analyst – Track hourly LMP prices, hourly zonal load, and hourly unit generation by fuel type for a user-specified ISO zone and see how generator behavior responds to changes in price and load.

Unit Benchmark Analyst – Analyse and compare units using a variety of performance factors, including marginal cost by capacity factor, heat rate by capacity factor, and marginal cost by LMP.

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Primary data sources

- Independent System Operators: CENACE, PJM, MISO, CAISO, SPP, ERCOT, NYISO, ISONE, IESO (Ontario), AESO (Alberta), NMISA, and NBSO
  - Energy, ancillary, and capacity market results
  - Demand and demand forecast
  - Regional generation, forecast generation, and forecast outages
  - Model definitions and node attributes
- US EPA CEMS
  - Hourly generation, emissions and heat input data
  - Modelled heat rates, ramp rates and operational statistics
- FERC 714
- Canadian generation and emissions
- NERC ES&D
- Balancing authorities
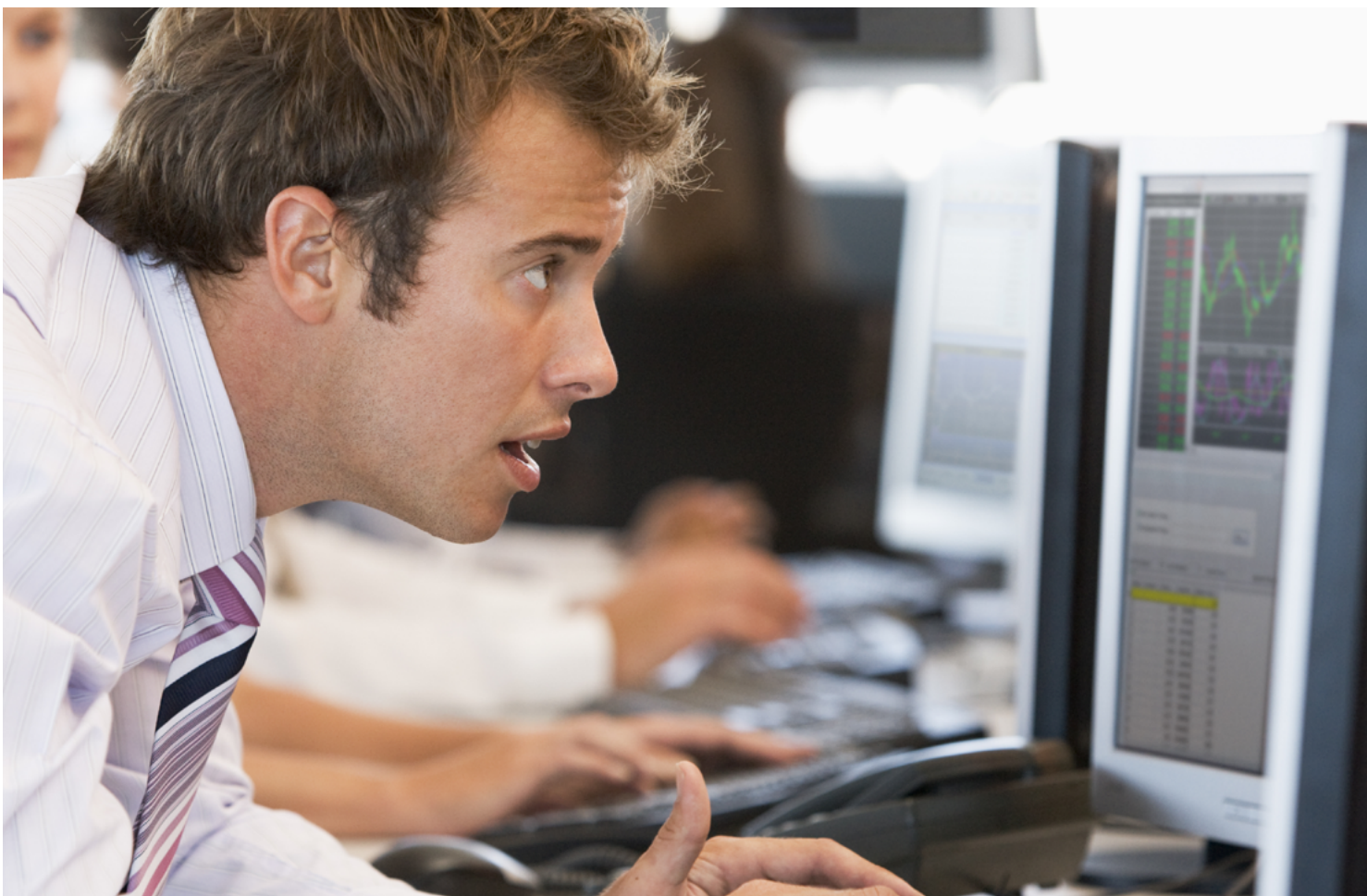
EV Fuels

Today's fuel supply market is a complex web of cause, effect, and interdependencies. One coal producer's revenue depends on the price of natural gas. Emissions data in one sector directly affects pricing in another. With EV Fuels, traders, analysts, project planners, and utilities can see beyond siloed views of the coal and gas sectors for a comprehensive, integrated perspective on market activity that can help them understand pricing and production trends, assess the competitive landscape, and make smarter purchasing and resource allocation decisions.

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How you can use EV Fuels

- Track the level of gas in storage at a specific facility and monitor the average daily net change.
- Check on the current reported natural gas production by basin.
- Determine how a proposed project will affect the gas transportation market.
- Monitor daily scheduled pipeline flows across the US, Canada, and Mexico by pipeline, point, or interconnecting party.
- Track the US coal market from the supply and demand sectors.
- Benchmark against the competition to maximise profits on coal sales and purchases.
- Verify who owns firm capacity on a pipeline.
- Perform in depth transportation analyses from the coal mine to the electric plants, including detailed component breakdowns of pricing and mileage.

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Sample EV Fuels data analysis

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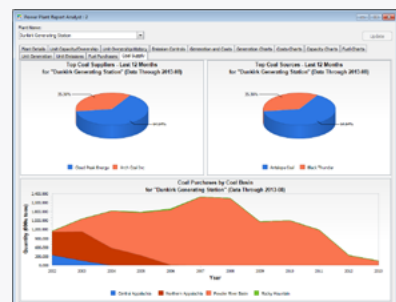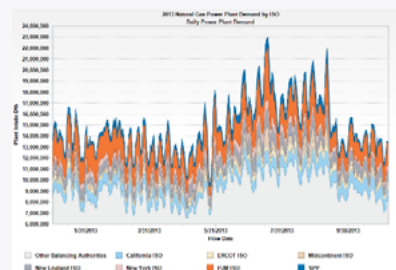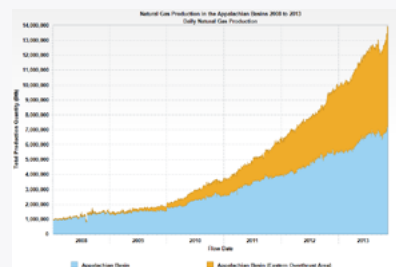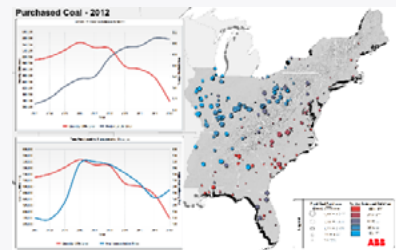
Key features

Derived Operationally Available Capacity Datasets – Access the following eight datasets to enrich your analysis: Daily Natural Gas Production: Gulf of Mexico Gas Flow; Daily Storage Capacity; Daily LNG Sendout; Daily Gas Import/Export; Daily Regional Hub Report; Daily Power Plant Demand; and Daily Natural Gas Demand by Customer Type.

Transportation and Storage Firm Customers – Quickly generate graphs illustrating firm transportation and storage contract market share, as well as contract expiration rollover of a gas pipeline or customer.

Pipeline Notices – Monitor notices for unplanned outages and severe issues as well as planned service outages.

Spot Price Basis and Spark Spread Analyst – Compare two gas or power price series, and analyse gas versus power prices by setting a heat rate for the conversion of gas to electricity.

Coal Production Analyst – Compare production and productivity information for two entities such as mines, coal companies, and regions using data from MSHA quarterly production reports.

Coal Shipment Report Analyst – Analyse detailed coal shipment data from the consumer and supplier perspectives.

Spot Price Basis and Spark Spread Analyst – Compare two gas or power price series, and analyse gas versus power prices by setting a heat rate for the conversion of gas to electricity.

Coal Supply Profile Analyst – Research coal transactions between selected plants and mines.

Estimated Coal Stockpile Analyst – Review detailed coal stockpile data at the plant, operator, and holding company levels and aggregate data by state, NERC region, or NERC subregion.

QuickStats – Access the latest data on the top-50 coal producers, major US coal mines, coal generation and fuel prices, coal deliveries by basin, and new/expired/amended gas contracts.

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Primary data sources

• Pipeline websites, daily trades and ABB proprietary research
  - Operational capacity
  - Current effective rates
  - Pipeline notices
• FERC and EIA
  - Monthly, quarterly, and annual industry statistics
  - Index of customers
  - Natural Gas Monthly
• MSHA
  - Quarterly coal production, violations and citations, and mine accident and injury
• CoalDesk
• Enerfax and NYMEX

EV Transmission

An in-depth understanding of the grid is essential to making high-stakes decisions within complex energy markets. Knowing the location and history of constraints on the system is a key to the success of your analysis. Analysts, planners, and operational personnel also need the latest information on scheduled and emergency transmission outages to complete the picture.

EV Transmission is the industry's premier source for accurate and reliable transmission data, providing a broad view of constraints, outages, and flows in the day-ahead and real-time markets. We help users translate difficult–to-use transmission data to the physical elements of the grid, so they can see important connections and make sense of the drivers of congestion and high prices in today's energy markets.

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How you can use EV Transmission

- Analyse planned outages and how they affect markets.
- View binding constraints and their effect on LMP.
- Review historical trends in congestion and price.
- Understand relationships between outages and constraints.

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Key features

Mapping of Transmission Infrastructure – Understand how transmission facilities map to a physical line or substation in EV Energy Map and to a bus or branch from the NERC Powerflow models.

Transmission Path Analyst – View on-demand graphics for hourly transmission flows and limits.

QuickStats – Access the latest data on ISO scheduled outages (including next day, 7 days out, and 30 days out) and monthly net scheduled flows and interchange.

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Primary data sources

- Independent System Operators, NERC and ABB proprietary research
- Scheduled and actual transmission outages for ISO markets
- ISO Binding constraints and NERC transmission loading relief (TLR) events
- Hourly transmission flow for North American ISO markets and regional balancing authorities
- Complete transmission infrastructure integrated into EV Energy Map

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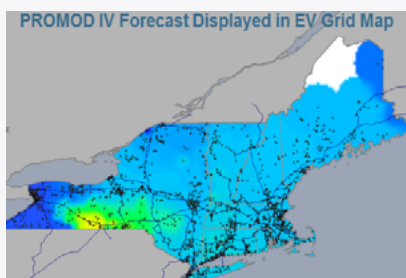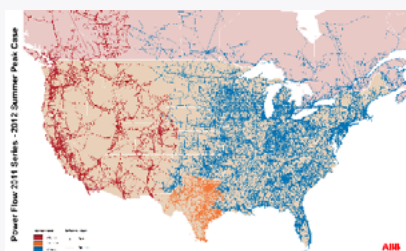Sample EV Transmission data analysis
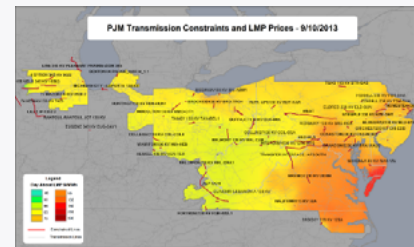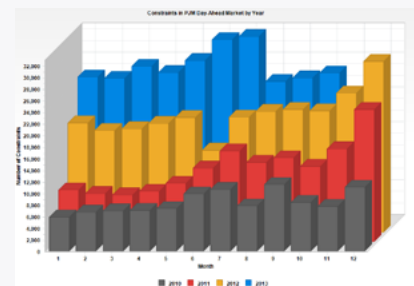
EV Grid Map

Whether you are planning for 10 years from now or preparing for the day ahead market, you need the ability to interpret your model results to make sound decisions. With EV Grid Map, you can visualise bus-level simulation data, locate buses and branches at their exact geospatial location, and create data-rich heat maps to pinpoint high prices and identify constraints on the grid.

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Sample EV Grid Map data analysis

EV Grid Map also equips you with the data and capabilities to examine forecasted model results alongside historical LMP prices, flowgates, FTR portfolios, proposed generation and transmission projects, and more – presented in a dynamic visual display that yields a fresh perspective and new insight into your most pressing questions.

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How you can use EV Grid Map

- Use our highly accurate bus locations to determine the best injection point for new generating units.
- Overlay old and new powerflow models to see anticipated changes to the grid.
- Generate visual representations of nodal forecast models.
- Find connections between transmission congestion and LMP prices.
- Easily generate colored heat maps for streamlined analysis and compelling presentations.
- Create time series animations of changes in pricing data.

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Key features

Bus/Branch Visualisation – Analyse highly accurate representations of buses and branches from the most recent power flow cases.

EV Energy Map Integration – Access electric, natural gas, and ISO infrastructure data from EV Energy Map to enrich your analysis.

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Primary data sources

- WECC, ERCOT, MMWG, and ABB proprietary research
- WECC, ERCOT, and MMWG power flow buses and branches map layers
- Buses, branches, and transformers datasets
- Power flow bus relationships to units and transmission zones
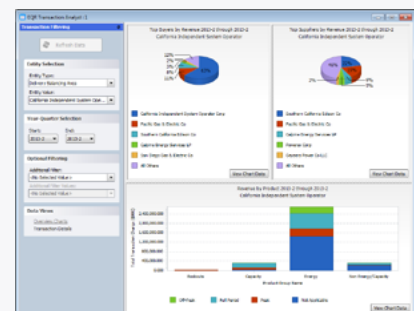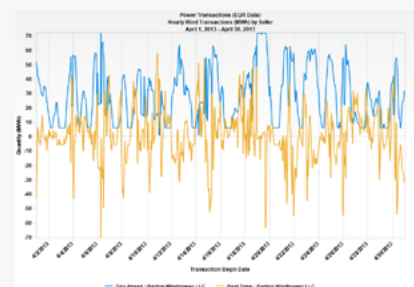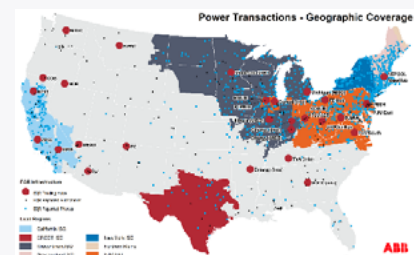
Power Transactions

Power Transactions mapping, isolation, and aggregation tools can dramatically improve business decisions across all stages of market participation and analytics. FERC Electric Quarterly Reports (EQRs) are an under-utilised and often misunderstood component of the energy industry. But in-depth analyses of these complex reports can provide unparalleled discovery into current, future, and historic power purchase agreements.

EQRs can provide a new level of wholesale market transparency around energy, capacity, and ancillary transactions. These quarterly, monthly and hourly filings contain a wealth of data on contractual terms and conditions between respondents, buyers, and sellers.

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How you can use Power Transactions data analysis

- Benchmark your PPAs against competitors in the same market area.
- Calculate hourly, daily, monthly, and seasonal renewable revenue for renewable energy plants.
- Review historical trends associated with power transactions by fuel type.
- Monitor and assess regional energy and ancillary services market sales.
- Identify the price for power delivered to different balancing authority areas.
- Evaluate the EQRs data from the respondent, seller, and buyer's perspectives.
- Analyse EQR transactions from the unit and plant points of view.

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Sample Power Transactions data analysis

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Key features

EQR Contracts – Research quarter by quarter contractual details including buyer, seller, product, executed date, rate description and terms.

EQR Transactions – Access hourly, daily, monthly, and quarterly transactional data, including buyer, seller, product, point of delivery, and rate and quantity detail.

EQR Transaction Virtual Analyst – Get a summary of all respondent, seller, buyer, balancing authority, and EQR product activity.

Point of Delivery Analysis Tools – Review reports and summaries based on transaction point of delivery, with delivery points linked to price nodes, substations, balancing authorities, and trading hubs for enhanced market transparency.

QuickStats – Generate on-demand queries on key EQR transactions and contracts, including the top 50 EQR buyers and sellers, monthly summaries of wind transactions, and quarterly summaries of energy sales and by ISO regions.

Advanced Mapping – Create comprehensive balancing authority, NERC region and subregion, and point of delivery specific locations maps with prices and quantities.

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Primary data sources

- FERC Electric Quarterly Reports (EQRs) and ABB proprietary research
- Summarised contractual terms and conditions for jurisdictional services, including market-based power sales, cost-based power sales, and transmission service
- Transaction information for short- and long-term market-based and cost-based power sales
- Detailed power purchased agreements with prices
- Comprehensive ancillary services data
- Reported hourly transaction quantities and prices, including renewables and natural gas respondents

FTR Trader

FTR Trader delivers unparalleled insight into congestion hedging data from all ISOs at virtually any level of detail. Day to day changes in portfolio and path results can be difficult to monitor, but FTR Trader simplifies the task through specialised datasets focusing on market results, clearing prices, day ahead settlements, and participant attributes. It also allows you to review trading and result patterns by season, region, and portfolio.

FTR Trader includes features for in-depth analysis of path performance, risk, performance groupings, time-series based trends, and other facets of congestion hedging.

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How you can use FTR Trader

- Track potential path and portfolio performance on an hourly, daily, monthly, seasonal, and auction-by-auction timeframe.
- Quickly calculate the current and forward value of trades.
- Determine the most profitable paths ranked by net value, return on investment, and risk factors.
- Identify the largest traders in the market and their net positions.
- See which paths are traded the most and at the highest premium.
- Monitor competitor portfolio performance and strategy.

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Sample FTR Trader data analysis
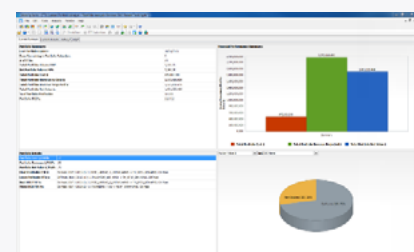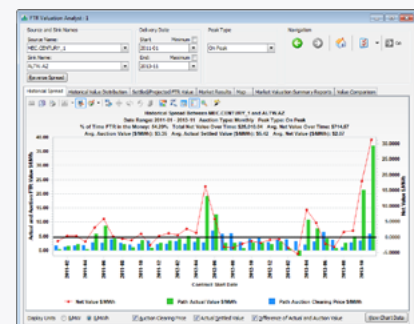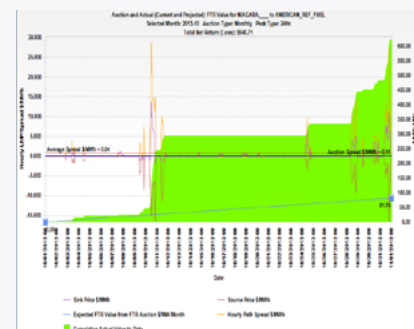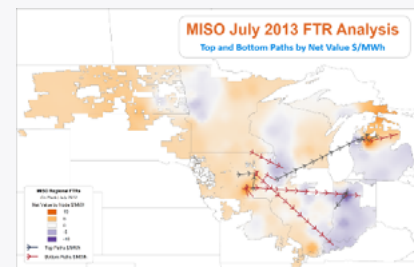
Key features

FTR Market Results Analyst – Analyse the historic performance of FTR positions, current participant portfolios, and the value of portfolio holdings.

FTR Valuation Analyst – Develop a path-level analysis for any combination of nodes reporting clearing prices, including data such as monthly and hourly reports, clearing price comparison by market, and settled value analytics over time.

FTR Portfolio Manager – Create a customised, hypothetical portfolio for analysis and testing.

QuickStats and Market Reports – Access detailed data on estimated funding adequacy, pricing trends, historic paths, project values, and top holding companies.

Monthly Valuation – Review data for all market types for normalisation across results.

Managed Model Updates – Track name changes, reassignments, and new nodes as new models become active in each ISO.

Primary data sources

Independent System Operators: PJM, MISO, CAISO, SPP, ERCOT, NYISO, and ISONE

- Obligation and option market results from all ISOs and all auctions
- Path and nodal clearing prices
- Calculated settlement values from energy market results
- Supplemental bid data and binding constraints
- ISO calendars
- ISO market participant reports

EV Weather

Weather conditions are the single most influential variable on energy markets – and the most volatile. Even the slightest change in temperature can sway demand and the market operations throughout a region. To gauge the impact of weather variability on a market, analysts need access to historical data and trends and comprehensive forecasts of upcoming conditions.

EV Weather combines the best available sources of North American weather data and puts it in the context of energy supply and demand, providing the industry's most comprehensive view of weather's impact on energy markets.

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How you can use EV Weather

- Understand how weather variability translates to electricity demand, market prices, and fuel costs.
- Compare loads under historical and/or typical weather conditions.
- Access detail on more than 300 hourly and 900 daily station observations from across North America.

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Key features

Weather Demand Analyst – Generate a visual representation of how the demand response to temperature varies by region, what temperature is the neutral balance point between heating and cooling, and how this varies by season and for peak and minimum loads.

Historical Weather – Research hourly records from 1997 to the present day, and daily records from the 1940s onwards.

Population Weighted Heating and Cooling Degree Days – Track the connection between temperature and demand.

Weather Enhanced Content – Get instant access to the appropriate weather data presented with energy market data through capabilities linking weather stations to most database objects, including generating plants, storage facilities, and LMP price nodes.

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Primary data sources

- National Centers for Environmental Information (NCEI) and National Weather Service data
- Hourly weather observations
- 7-day weather forecasts
- Weather normalised load
- 30 year climate normals
- Heating and cooling degree days
- Climate indexes
- Hydro generation in the Northwest
- Severe weather events (drought conditions, tropical storms)

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Sample EV Weather data analysis

ABB
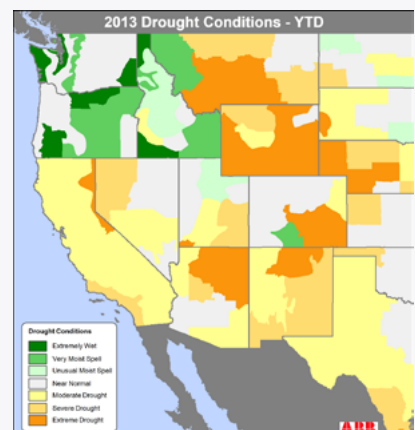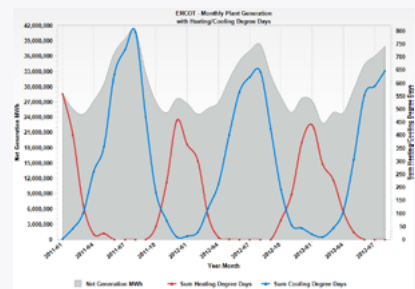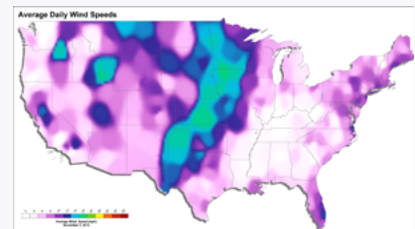
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