

Energy Forecasting Services

MILLIUM

Decision Support to Drive Better Business Outcomes



Itron Forecasting Services can help any utility CFO sleep better at night by providing highly accurate financial forecasts. Utilizing meter data, Itron's services provide a daily sales and revenue tracking system which enables the utility to track financial outcomes against budget forecast on a day-today basis at the rate-class level.

For four decades, Itron has helped energy companies understand and anticipate changes in energy demand; changes that drive both strategy and business operations. Itron combines industry leading forecasting knowledge with innovative software solutions and services to deliver distinctive business intelligence and outcomes.

Our customers tell us that Itron forecasting methods and solutions provide valuable perspective looking backward, helping them to understand what happened and why, and clear visibility into the future, allowing them to plan with confidence and precision.

"Itron's expertise and software have greatly improved and clarified our forecasting processes." -Dennis Kelter, CommonWealth Edison

Our forecasting solutions address the full spectrum of energy forecasting needs, factoring in economic, technical, behavioral, climate and policy forces that shape demand for energy. Since the 1970s, we have built expertise in all aspects of forecasting, ranging from the very short term (five minutes ahead) to the very long term (30 years ahead). This expertise enables Itron to deliver the outcomes needed to support a broad array of forecasting stakeholders and business users:

» For energy system operators, we can help you save valuable resources by improving the accuracy of day-ahead forecasts.

- » For financial analysts, we can help you significantly improve your budget and revenue forecasts, and build better processes to understand variances from budget.
- » For long-term planners, we can help you anticipate resource needs in an increasingly complex future with renewable generation, storage, electric vehicles, and other technology developments.
- » For energy suppliers, we can help you anticipate the requirements of your customer portfolio to minimize the cost of meeting your energy obligations.

Our goal is to provide the results you need to improve operations, reduce uncertainty, and increase confidence that important decisions are based on understanding business fundamentals supported by solid data.

Our software solutions are backed by a team of industry experts with deep experience in operational forecasting, financial forecasting, and long-term planning. Through our work around the world, we have developed a set of proven approaches and a clear understanding of industry best practices. Our forecasting services range from model review and process consulting to full outsourcing of the entire forecasting function. Energy providers throughout the world look to Itron as their strategic partner to meet their energy forecasting needs.

OUR SERVICES

Over the last 40 years, Itron has developed a set of proven and tested approaches and a clear understanding of industry best practices. Our service levels are flexible and fall into these categories:

» Forecast Process Review. Review forecasting process, models, and results. Compare to industry standards, and provide recommendations for improvement.

"Itron takes the time to understand the details behind the forecast. Their responsiveness to our periodic requests is second-to none." *-Rob Bingel, Green Mountain Power*

- » Forecast Process Update. Implement or support implementation of recommended process improvements.
- » **Support.** Provide analysis and advice on an as-needed basis. This often follows a forecast process update project.

- » Project Work. Serve as an extension of staff to perform specific analysis tasks and support special projects.
- » **Training.** Web-based or on-site training on forecast methods, analysis methods, and software usage.

"The one-on-one training was well worth the cost!" -Sally Witt, East Kentucky Power Cooperative

» Forecast Outsource. Provide expert services to perform all aspects of the forecasting process.

"Outsourcing the forecasting process to Itron has greatly improved visibility and confidence in the forecast." *-Mark Haddad, City of Redding*

» Rate Case Support. Provide written and live testimony to regulatory authorities in support of forecasts and forecast processes.



FINANCIAL FORECASTING SERVICES

Most utilities follow annual forecasting cycles combined with monthly analysis processes. Forecasts look forward to anticipate changes in energy-use patterns and the resulting revenues, while analysis processes look backward to explain the most recent results and improve accuracy going forward. Itron financial forecasting services improve the following processes.

- » Budget forecasting for customers, sales, revenues and peak loads
- » Weather normalization of monthly energy and billing determinants
- » Monthly variance analysis to isolate sources of variance from budget forecasts
- » Daily tracking against forecasted levels to improve management visibility
- » Long-run forecast of customers, sales, peaks, and hourly loads



LONG-TERM FORECASTING SERVICES

Itron has unmatched expertise and experience in long-term energy forecasting using statistical and end-use models. We provide data products and services to help the industry understand what has changed at the end-use level and how it will change into the future. Our focus is on understanding what makes the meter spin, how that changes over time and how it will impact your business.

Energy Forecasting Group (EFG)

This subscription service provides participants with a valuable stream of regional data for end-use saturation and efficiency. Both history and forecasts are provided. EFG members represent about 75 percent of electricity and 25 percent of natural gas delivered in North America. The annual EFG conference provides a great opportunity to keep up to date and to talk with forecasting peers.

> "A wonderful conference! Every year I think it can't get any better but it does." *-Joanna Cucchi, City of Roseville*

Statistically Adjusted End-Use Models (SAE)

This approach was pioneered by Itron to combine the strengths of statistical modeling with the information content of end-use analysis. The approach builds on the data available through the EFG. The result is a statistical model that is calibrated to local data and explicitly accounts for important changes in lighting, heating, cooling and other end uses, as well as saturation of new technologies such as rooftop solar and electric vehicles.

> "Itron methods have helped us understand changes in load growth and communicate these changes to management." -Dennis Kelter, CommonWealth Edison

SHORT-TERM FORECASTING SERVICES

Efficient operations require accurate shortterm forecasts. Itron is at the forefront of statistical modeling approaches and is widely recognized as a leader in this area. The Itron Demand Forecasting System, used by transmission system operators and energy companies worldwide, automates and tracks the entire forecasting process. Itron services in short-term forecasting include:

- » Process Improvement. Itron helps you define your business and forecasting requirements, providing a blueprint for system implementation.
- » System Implementation. Itron configures and installs the Demand Forecasting System on your servers. This powerful and proven system supports advanced modeling capabilities that can be optimized for your data. Itron trains you to operate, maintain and expand your system.
- » Model Development and Tuning. Drawing on our modeling expertise, Itron will build and review forecasting models to optimize results and to provide the most accurate forecast possible. For electricity, this includes incorporating the impact of solar photovoltaic generation.

Short-Term Forecast as a Service

The full capabilities of the Itron Demand Forecasting System are also available in a cloud-based solution running on Microsoft Azure. With this approach, Itron is responsible for system and model maintenance and monitoring. All you need to do is provide updated energy data, and the Itron Forecast Service delivers updated forecasts. You get the power and accuracy of the Itron system without incurring the upfront cost of acquiring hardware and software, or incurring the on-going cost of operating and maintaining the system.

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