



Oil and Gas Company Demand Driven Planning and Optimization

Challenges

One of the world's largest oil companies lacked transparency and forecast certainty around the demand for its products. As a result, they were unable to create monthly production targets for gasoline, diesel, aviation fuel, crude and other petroleum products. Given this uncertainty and lack of accurate targets, the company often tried to over-produce to provide a safety factor. This adjustment was highly inaccurate and increased production costs, inventory levels and inventory carrying costs. Even with these adjustments, there were many out-of-stock events with lost sales revenues.

Solution

- The company developed a demand and supply planning solution using SAS Demand Driven Planning and Optimization (DDPO). The solution was designed and deployed to address the above challenges. The solution included the following elements:
- An annual demand forecast with discrete forecast for each of the twelve months
- A two-week forecast showing the daily forecast for each day during that period. This two-week forecast was re-run at the end of the period for the following two weeks and then repeated at the end of each two weeks.
- Demand was forecast by market segment including manufacturing, agribusiness, utilities, and transportation, and by customer within each segment
- The forecast was integrated with the calendar to accommodate seasonality and holidays, government policy changes, weather conditions, macro-economic factors, customer inputs and other causal factors
- The solution allowed the simulation of what if demand and supply scenarios with associated financial information
- Demand and supply plans were integrated using a consensus planning process that leveraged data science and business knowledge to create the best business and financial outcomes.

Results & ROI

A significant gain in forecast accuracy increased sales revenues and reduced the cost and investment impact of downstream decisions. The elimination of out of stock conditions increased sales revenues. The accurate forecast improved the accuracy of downstream production decisions, and reduced production costs, inventory levels and inventory carrying costs. The accurate forecast increased planning certainty and eliminated the practice of overproducing to create safety stocks. This further reduced inventory levels and costs.