PRODUCT QUALITY GIVEAWAY REDUCTION

ENERGY MARKETING CASE

TRINDENT CONSULTING



A leading European integrated refinery and petrochemicals operator sought a non-capital solution to boost margins and minimize quality giveaway on both gasoline and distillate . During a 28-week engagement, Trindent implemented 12 targeted process enhancements that reduced quality giveaway by 50%, unlocking $17,350,000 in annual margin improvement.

53%
REDUCTION IN FLASH POINT GIVEAWAY

$17,350,000
ANNUALIZED SAVINGS

47%
REDUCTION IN VOLATILITY GIVEAWAY

How we Made it Happen™

Planning and Optimization

- Implemented a Flash Point optimization process to define unit operating targets based on blending targets and refinery asset performance.
- Improved LP model accuracy by implementing blend laws for key properties, reviewing component quality predictions and replacing artificial constraints with justified limits.
- Installed a regular monthly meeting to challenge LP constraints and explore margin improvement opportunities.
- Established a process to review internal quality giveaway targets and planning buffers based on site measurement precision and method reproducibility.
- Installed a volatility forecasting tool for downstream base terminals and established a structured planning process to drive continuous improvement in phase-down planning while reducing planning buffer.

Execution Excellence

- Restored core online blend controller capabilities for gasoline and diesel, rebuilt team expertise, and standardized blend execution processes.
- Standardized sampling procedures and facilities in accordance with ISO 3170 to ensure consistent and reliable sampling practices.
- Enhanced the header sample cross-check tool to compare laboratory results with online analyzer readings, enabling board operators to identify potential blending issues.
- Established a weekly cross-functional Blend Review Meeting using per-blend root cause analysis to identify and address the causes of quality giveaway.
- Developed gasoline and distillate giveaway training and technical guidance to enhance knowledge sharing and support board operators in using the online blend controller.
- Installed statistical quality control for online analyzers to continuously monitor prediction variance and implemented a bias management procedure.

Measurement Accuracy

- Implemented Statistical Quality Control (SQC) in the laboratory to monitor equipment performance, identify drifts, and troubleshoot root causes.
- Developed a butane quality estimation tool leveraging rundown GC analysis to provide more representative quality estimates and reduce blending recipe variability.
- Installed a NIR model management process to adopt a common model across laboratory and online analyzers.
- Implemented a regular Measurement Review Meeting to increase visibility and ownership of measurement performance and drive corrective actions.

"Your team worked alongside our Planning & Scheduling, Operations, Process Controls, and Laboratory functions to establish a disciplined framework for quality management […]. Your ability to not only highlight areas of improvement but also to help us implement and sustain those improvements sets your firm apart."

Production Director