A major ethylene producer benefited over $1MM in the first year by installing Ember on 7 furnaces to alleviate combustion constraints and optimize operations.

KEY ISSUES

Plant throughput was furnace limited due to CO emissions excursions, stack temperature limitations, and tube metal temperature imbalances.

- Limited key performance indicators and visibility to determine current state of burner combustion
- Significant time and operator involvement was required to diagnose and troubleshoot combustion related operational issues

RESULTS

Physics based insights provided by Ember allowed the furnace to be optimized in a single shift and allowed operations to maintain optimum furnace operation using Ember’s burner-by-burner recommendations.

- Reduced fuel consumption by 6%
- Increased feed throughput by 8%
- Reduction in NOx by 4%
- Reduced CO emission excursions by 50%

CUSTOMER SCALED EMBER ACROSS ALL ETHYLENE FURNACES WHICH TRANSFORMED PLANT OPERATIONS BY:

- Providing plant operational flexibility through data-driven decision-making to maximize value
- Institutionalized knowledge for combustion equipment
- Real-time recommendations to adapt to changing process conditions and requirements

SIGNIFICANT THROUGHPUT INCREASE WITH LESS ENERGY USAGE