

Energy Management & Optimazation in a steel Manufacturing Plant

Use case Proficy CSense

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Challenge

A steel manufacturing plant faces high operational costs due to complex energy consumption patterns and the use of multiple energy sources. The plant consumes large amounts of electricity, natural gas, and renewable energy, with costs fluctuating based on market conditions. Additionally, inefficiencies in energy use and the lack of real-time monitoring lead to excessive energy consumption, high costs, and increased environmental impact.



Solution

Proficy CSense can optimize energy consumption and management through the following approach:

STEP

01

Collect real time data from sensors and energy meters across the plant to monitor energy consumption.

STEP

02

Use Proficy CSense Troubleshooter to analyze energy consumption patterns and identify correlations between different processes and time periods.

STEP

03

Train models that predict future energy consumption based on historical data and external factors.

STEP

04

Integrate energy consumption measurements from various sources into Proficy CSense Architect and use these to forecast future consumption.

STEP

05

Utilize non-linear optimization techniques within Proficy CSense Architect to determine the optimal energy mix. This optimization considers cost, availability, and environmental impact.

STEP

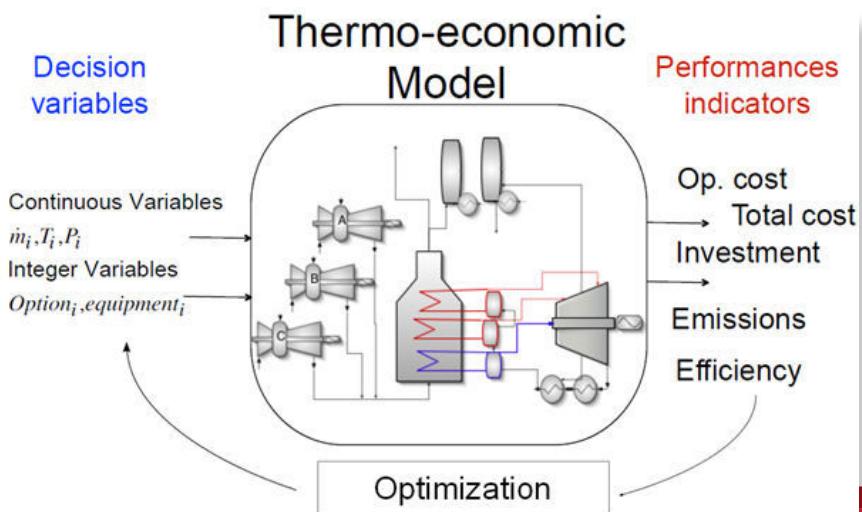
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Deploy the optimized solution to Proficy Runtime Manager and automate energy-saving actions through integration with plant control systems.



Result

Implementing a Proficy CSense solution in a steel manufacturing plant leads to reduced operational costs through optimized energy consumption, enhanced energy efficiency by minimizing wastage, and improved visibility via real-time monitoring and analytics. It ensures regulatory compliance, supports sustainable operations by lowering the carbon footprint, and optimizes energy source utilization for cost-effective and environmentally friendly practices.



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