Real-Time Energy Management

Author: Peter G. Martin PhD, VP Corporate Marketing, Invensys

What’s Inside:
1. Background
2. Invensys Real-Time Energy Management
3. Real-Time Energy Management as Part of an Enterprise Approach
4. Conclusion
1. Background

Over the last several years energy costs have more than doubled! In the process manufacturing industries, with energy costs often comprising as much as 80% of the overall variable cost of operating a plant, this has created a crisis. Many manufacturers have responded to this crisis with programs aimed at reducing the overall energy consumption of an operation or looking to alternate, lower cost fuels. Although these initiatives may provide a good starting point in the battle to reduce energy costs, they are not adequate to meet the needs of today’s real-time business environment.

Historically, the price of energy could often be dealt with as a constant over a prolonged time period. Large energy users could develop contracts with energy suppliers for six months to a year, effectively setting the price of energy during that time period. Today, long-term energy contracts are the exception. In most parts of the world the price of energy changes in real-time.

It is essential that industrial companies manage their business in the time frame at which the business variables change. Otherwise the business is completely out of control. When it comes to managing industrial energy, real-time energy management is required in real-time.

2. Invensys Real-Time Energy Management

Invensys has pioneered Real-Time Energy Management that is driving significant business value improvements wherever it is deployed. Real-Time Energy Management is the first approach designed specifically to match today’s real-time business environment to manage energy in real-time within process plants. Real-Time Energy Management expands the traditional approaches through real-time energy measurement and business empowerment that transitions the control and optimization of energy cost to a real-time model. The result – energy optimization at the speed of today’s business.

Real-Time Energy Management is based on a simple four-component model designed to match the demanding requirements of industrial operations.
Real-Time Energy Management

Real-Time Energy Measurement
• Model-based real-time measurement of energy accounting and key performance indicators at each consumption, production, transfer, import or export point in the plant
• Plant-wide real-time energy accounting that includes non-energy production and feedstock values that are impacted by energy usage and based on energy contract data retrieved from the ERP system or external power supplier

Real-Time Energy Empowerment
• Multi-level energy role specific intelligence views that empower personnel
• Empowerment of critical plant personnel delivers a reduction in energy costs by an average of 3 - 5%
• Real-Time Energy Empowerment includes real-time updates of critical production, feedstock, safety, and environmental variables that are directly or indirectly impacted by energy and provide a balanced approach to energy cost management across a production operation

Real-Time Energy Control
• Base-level improvements from actions of personnel through situational energy intelligence that helps them identify available choices and their priorities
• Invensys Consultants specializing in energy improvements analyze current control strategies, maintenance processes, and recommend specific actions to drive improvements with the projected cost and value of each improvement
• Invensys Delivery Specialists team with client engineering to implement improvements

Real-Time Energy Optimization
• Invensys Energy Consultants analyze current operational and business strategies and recommend actions to drive improvements and value of each improvement
• Improvements are derived by optimizing energy cost across functional silos and provide the infrastructure to execute more holistic approaches
• Invensys Delivery Specialists team with client engineering to implement improvements
• Improvements from Real-Time Energy Control and Optimization deliver additional reductions in energy cost of 3 - 8%

Invensys and plant teams drive value, sustainability, and continuous improvement by making the business impact of plant decisions and activities visible through the Real-Time Energy Measurement dashboards and scorecards, driven from the Real-Time Energy Empowerment system.

3. Real-Time Energy Management as Part of an Enterprise Approach

Real-Time Energy Management addresses specific plant floor energy management issues that drive immediate and measurable bottom line value within industrial plants. There are a number of energy management offerings that are much broader in scope. Invensys’ Real-Time Energy Management is designed to complement these broad energy management programs and increase their overall effectiveness.
4. Conclusion

Industrial companies may have executed energy management programs designed to reduce the consumption of energy by the operation, but consumption is only part of the challenge. Reducing energy consumption during peak pricing periods and operating energy intensive operations during low pricing periods may have a broader impact on the bottom line of operations. This, along with overall consumption reductions, while driving production value, feedstock costs, safety, and environmental stewardship is what Invensys Real-Time Energy Management is all about.

Real-Time Energy Management from Invensys adds power and improves results. You operate in a real-time world, to increase your effectiveness you must also operate in real-time. The result, according to Hannes Mittermaier, who leads SASOL’s information management team, is “a real-time system that aligns the company’s manufacturing strategy with its financial goals...these processes...put the company in a position to execute the proper business strategy regardless of market conditions.”

Your key to bottom line results is Real-Time Energy Management – From Invensys!