

# Successful Cost Control in a Volatile Electricity Market: 6 Fundamentals for Evaluating Buying Strategies for Industrials

## Executive Summary

*Is it possible for industrial businesses to extend cost control measures to their electricity procurement activities in the midst of a highly volatile energy market? Following a conventional request for proposal (RFP) approach, an enterprise's electricity budget for a year or longer can be largely dictated by market conditions on the day of the contract signing. This situation essentially allows one of the company's most significant expenditures to be largely dictated by chance, and the business may miss opportunities for more advantageous pricing that emerges in the short term.*

*Industrials can exert greater control over their electricity expenditures by evaluating and deploying electricity strategies within a context of cost control opportunities and business cycle realities. High-consumption industrial businesses have the advantage of direct access to the wholesale electricity market, which creates the opportunity to implement a portfolio-type buying strategy that supports cost control measures and broader business objectives.*

*This white paper describes how industrial businesses can successfully implement a custom procurement approach by evaluating electricity buying strategies in a new way. It sets forth criteria for the RFP review process and guides the reader through a focused discussion on cost control opportunities within expectations for business performance. Case studies demonstrate the benefits that two industrial businesses have gained by adopting this portfolio approach.*

## Introduction

Faced with global competition and rising domestic production costs, management across all departments of the industrial business must continually scan their enterprise for cost control opportunities that will improve overall competitiveness. Such measures can affect every aspect of the business — from introducing lean production strategies to enhancing worker safety training for downtime reduction.

Cost control campaigns can often hit a roadblock in the area of energy management. Policies and equipment that curb energy use are often the most obvious and manageable solutions, with a clearly traceable demonstration of return on investment (ROI). On the other hand, energy procurement is often perceived as an unpredictable and uncontrollable cost center. Many industrial businesses in particular have found their bottom lines punished by volatile energy market conditions over the past several years, especially in the months following Hurricanes Katrina and Rita in 2005.

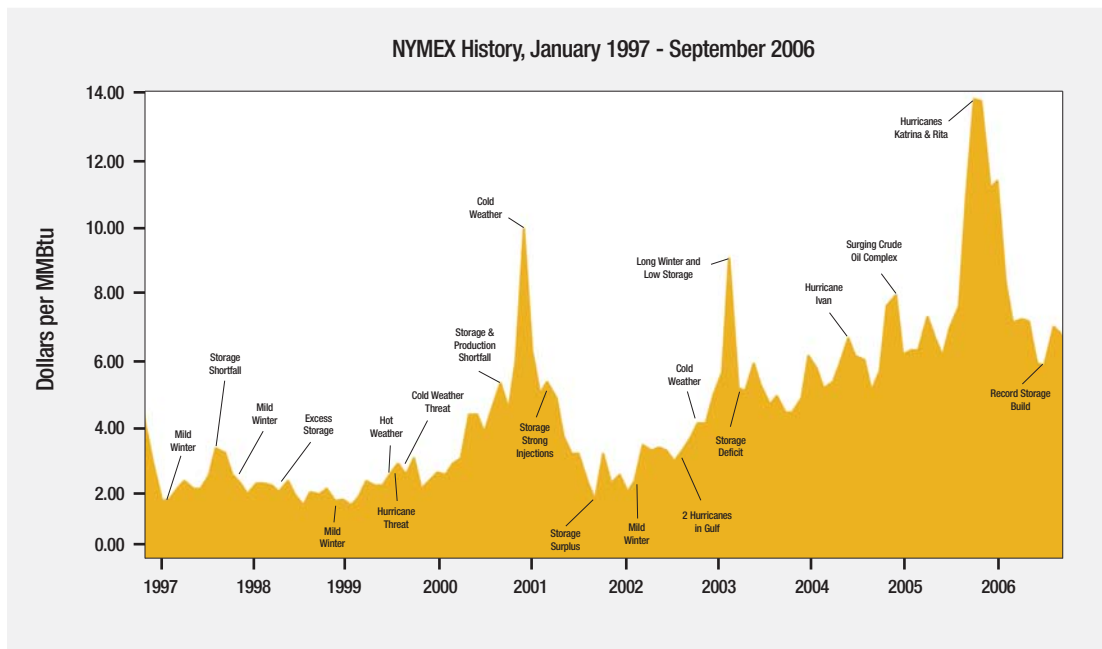
Volatility within the electricity market has become the norm. However, for industrial enterprises with facilities in deregulated markets, spikes and dips in pricing can present opportunities for improved business performance. The means to taking advantage of these opportunities resides within the wholesale electricity market and requires a departure from traditional procurement approaches.

To successfully manage costs, the electricity buy must be closely aligned with broader business objectives. Cost control opportunities emerge from a more profound understanding of the usage profile, risk tolerance throughout the business cycle and implementation of a custom portfolio of procurement strategies that supports business objectives with opportunistic, value-added buys.

### Today's Market: Unprecedented Volatility, with No End in Sight

NYMEX natural gas futures contracts drive 80-95 percent of changes in electricity pricing, and the factors that affect natural gas futures trading are in continual flux. In recent years the market has been subject to a confluence of unpredictable occurrences in nearly every factor of the natural gas supply and demand equation. Extreme weather conditions, geopolitical unrest, infrastructure destroyed by hurricanes and even the welcome arrival of new supply sources have triggered radical price fluctuations.

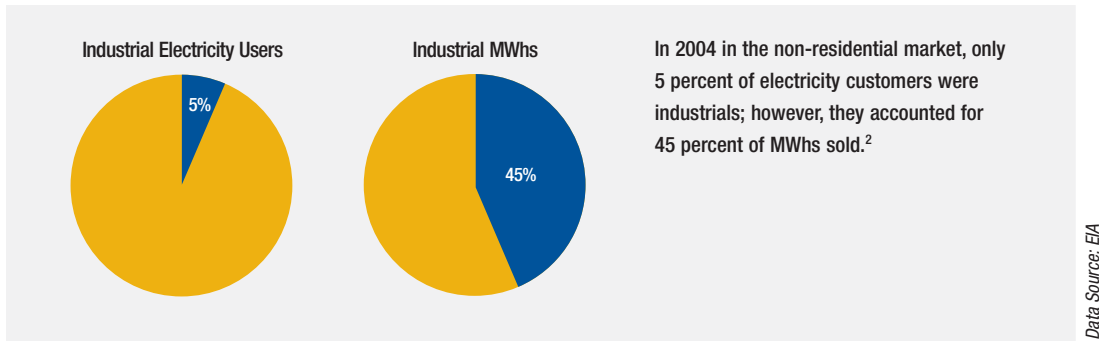
Our dependency on natural gas for the electricity generation process is expected to exist for at least a decade, until alternative generation facilities are online and operating at full capacity. Industrial businesses that wish to remain competitive can do well by preparing the enterprise to stand resilient amidst energy market volatility.



### Challenges and Advantages of High Electricity Consumption

Electricity typically represents a substantial portion of the total energy spend for industrial businesses. In terms of units, electricity accounts for 11% of industrial energy consumption.<sup>1</sup> The average industrial electric customer consumes 10 times the amount of electricity as a commercial electric consumer.<sup>2</sup> As such, the combination of high electricity loads and low operating margins produce a scenario in which

small fluctuations or adjustments can create a significant impact on the bottom line. Preparedness for these fluctuations is a necessity for successful cost control.



High volume consumption also offers advantages. Industrials with a peak demand of 1 MW or greater can gain direct access to the wholesale electricity market, with the ability to construct a portfolio of procurement options similar to those for natural gas. Like any commodities market, the portfolio approach to successful electricity procurement must begin with an understanding of risk tolerance. All procurement opportunities must be examined through the lens of business cycles and long-term objectives. This business intelligence becomes the platform of a buying strategy that supports energy budget goals, long-term cost control and continual improvement.

### Defining Cost Control

First, it's important to provide a clear definition of cost control within the context of a volatile electricity market. It should go without saying that cost control should not be confused with immediate cost savings; although, wisely calculated buying decisions may produce cost savings over time or at moments in time.

To experience the greatest benefits and most sustainable competitive position, the business must commit to defining and implementing an electricity buying strategy that advances the business towards production and profitability targets over the long term. This distinction is important: To achieve maximum value, all elements of the supply contract should support continuous improvement of cost management practices. Price becomes just one factor in determining the value of the electricity supply product.

### The Fixed Price Approach: Reexamining the Myth of Low Risk

On the surface, an electricity procurement contract that locks the entire load at a fixed price would appear to give the greatest degree of budget certainty and, in turn, the greatest degree of cost control. Estimates for load requirements are based on historical data and forward projections, and price is locked in for a predetermined amount of time. The fixed price approach is typically perceived as a shield from the risks of market volatility. However, from a different perspective, it becomes clear that a purely fixed price procurement plan is not entirely free of risk. The fixed price product delivers maximum cost control in only two conditions:

- If actual usage does not significantly depart from estimates (+/- 10-20 percent).
- If the lock-in price secured through a formal RFP is timed, by chance, for a period when pricing is historically low.

Volatile energy market conditions make it particularly difficult to gain assurances that the price set at contract is truly advantageous for the long term. The procurement contract is driven by a deadline to ensure continued supply; the market is driven by diverse factors that have no regard for contract expiration dates. Incorporating a market-based product into the buying strategy enables opportunistic buys, including the lock-in of low-end prices for forward positions.

## Six Fundamentals for Evaluating Buying Strategies with a Cost Control Perspective

Industrials can best prepare for procurement on the wholesale market by preparing and committing to a long-term cost control strategy. When evaluating buying strategies, management should conduct a thorough review of the business with discussions in the following six fundamental areas. These discussions can be conducted in-house between energy and financial management leadership or in partnership with a potential supplier.

### 1. Understand the Effects of Energy Policy on the Business

As the largest energy consumers, industrial businesses may be particularly sensitive to changes in electricity industry regulations, with concerns amplified for industrials that have multiple facilities governed by different regulatory districts. Regulations that govern the generation, supply and procurement aspects of the electricity market are subject to continual change, and their impact on the business is twofold.

First, the announcement or anticipation of new regulations, particularly those affecting large or multiple service areas, can produce spikes and dips in the wholesale electricity market. Second, regulatory changes may force change in how industrials conduct the business of electricity procurement. The governance of rate changes, methods of applying service charges, contract structures and targets for power generation from renewable resources can work its way deep into the business and the bottom line.

A procurement strategy with the aim of cost control must take into account the current state and federal regulatory landscapes, as well as policy changes on the horizon. The flexibility of a customized buying strategy can also position an industrial business to adequately prepare and respond to policy changes that will ultimately affect the bottom line.

#### Considerations for Discussion:

- Do we have a firm grasp on policies that currently affect our procurement options and electricity budget? Are we making the most of the opportunities available within this regulatory climate?
- Do we have a clear picture of pending legislation or policies that could affect our business?
- Does the current procurement strategy allow sufficient flexibility to respond to changing policies?
- Should we respond by adjusting the buying strategy, or does the magnitude of the change demand our participation in the rule-making process?

### 2. Assess the Reliability of Sources for Information about Market Dynamics

Today's market volatility is unprecedented, and understanding the nuances of market dynamics requires constant monitoring and deep knowledge of historical market behaviors. Such intelligence is essential to anticipating market fluctuations.

In addition, the market moves quickly. If the delivery of vital market information and recommendations to key management personnel lags, you may miss opportunities for cost control. The more direct the connection between your information source and the wholesale market, the better equipped you will be to make opportunistic buying decisions. Furthermore, your organization must determine if raw market data will provide adequate insight for buying decisions or if there is a greater value in obtaining objective analysis for procurement strategy guidance.

**Considerations for Discussion:**

- Do we have the organizational capacity to constantly gather and analyze market information?
- If we obtain our market information from external sources, do we understand their methods for obtaining and interpreting the data? Are they reporting from an objective position?
- What is the experience level of our external information source?
- Does the external source provide us with information in a timely manner that enables us to make proactive decisions?
- Can our information conduit also execute our strategy, or are these responsibilities owned by separate entities? If separate, are the communication channels between our company and these entities effective, or is there a drag that results in missed opportunities?
- Does the external advisor represent other businesses on the market? Where does our business sit in the information delivery queue?
- Can we compare the value of the information offered by the entities competing for our business?

**3. Devise and Commit to a Buying Strategy Based on Business Objectives**

If a cross-functional management team agrees that improved cost management practices can enhance the company's overall performance, then all business decisions should be evaluated for their ability to support the execution of cost control activities.

In this context, electricity procurement can bring the greatest value to the company when it permits flexibility that supports production cycles and profitability goals. Procurement is then no longer following a strictly prescribed formula that applies to the entire contract term. The value-added procurement strategy blends fixed-price buys, which minimize risk exposure for short- and long-term cycles, with market-based buys, which seize opportunities while respecting business constraints.

A customizable, flexible electricity procurement approach should not be confused with the lack of a clear plan. Instead, the procurement strategy is more fully integrated with the business objectives. Devising such a plan requires an understanding of the interplay between your business objectives, usage profile, load requirements and market conditions.

The industrial business is a dynamic operation that will experience natural variances from forecasted business constraints throughout the fiscal year. When the electricity procurement plan is also dynamic, the business is better positioned to make operations adjustments and gain cost control. (Two examples are demonstrated in Case Studies on page 8.)

Successful cost control also requires full consensus on the buying strategy and an agreement that the ultimate objective is predictable profitability over the long term. Management personnel should clearly understand their responsibilities in executing the strategy, so when opportunities to lock in advantageous pricing arise, the company is positioned to respond quickly.

**Considerations for Discussion:**

- What philosophy drives our budgeting practice? Is our sole purpose to meet or beat the budget projections at all times, or do we allow for variances that are viewed within long-term objectives?
- Who is ultimately responsible for planning and executing our procurement strategy? Are all parties in agreement on business objectives, and do they understand how they contribute to decisions?
- How does electricity factor into our cost of goods sold? Can we accept periodic variances?
- Can we pass through electricity costs to our customers?

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- Do we have control over electricity consumption patterns in association with a demand response event? Can we modify load requirements to coincide with energy procurement strategies?
- If we operate multiple sites, do we evaluate them individually or in aggregation? If we change our current evaluation position, can we gain new insights for cost control?
- How do we forecast load requirements? Is the previous year a good indication of the upcoming year's estimated spend, or do operational changes make that data irrelevant?
- How does the energy procurement process support our internal compliance requirements?

#### 4. Extract Valuable Information from Billing Statements

Billing statements that present all fees with full transparency enable industrial businesses to conduct accurate assessments on usage profiles, buying strategy performance, enterprise productivity, and other factors that enable cost control.

Billing statements for a custom buying strategy are typically more complex than those produced for a straight fixed-price contract. Once you become familiar with the data, it can provide valuable insights for improving business performance and help management uncover new cost control opportunities throughout the company.

For example, a billing statement should clearly indicate variances that contribute to cost overruns. If your charges spike unexpectedly during a monthly cycle, you want to be able to determine if the increase resulted from external factors, such as an up-tick in market pricing, or from internal factors, such as increased consumption to serve unexpected production demands. This information can help industrials more accurately forecast expenditures and true production costs.

##### Considerations for Discussion:

- Are supplier charges isolated from other charges? Do we have a clear understanding of the fees charged by our supplier? Do supplier fees follow a predictable model that helps us prepare budgets and assess the supplier's value?
- Does the bill accurately reflect the true wholesale market price for our spend?
- Are ancillaries and losses clearly delineated and accurately valued?
- Are the sources for each charge on the bill noted in a level of detail that allows true cost comparison?

#### 5. Review Data That Reveals Opportunities for Improving Performance

If the right data is available and applied across the industrial enterprise, management can become better equipped to successfully forecast budgets, plan production cycles for optimal profitability and manage credit and cash flow.

As explained above, industrials that adopt an informed planning approach proactively manage the interplay between load requirements and wholesale market pricing and, in turn, can gain greater cost control over the short and long term.

When the electricity buying strategy is aligned with business objectives, cost control opportunities are no longer isolated to the energy line item. A frequent review of reports available from the energy supplier can position companies for benchmarking and continuous improvement initiatives throughout the enterprise.

**Considerations for Discussion:**

- Does this procurement approach include reports (other than billing statements) that we can apply to our continuous improvement strategies?
- How does estimated spend compare with actual? Can we explain variances? Is the reporting delivered in time to make mid-month adjustments that enable cost containment? Is our business agile enough to make monthly adjustments?
- Do we receive clear information on daily wholesale market pricing?
- Can we monitor our forward purchasing for the long-term position?
- Are we receiving reports in a manner that supports prudent cash flow management?
- Is the year-to-date spend presented in a singular report?
- Do the reports help us understand and prevent usage anomalies?
- Do we have a clear snapshot of our current risk exposure? Is our risk synchronized with earnings expectations?
- Can off-peak load opportunities strengthen our overall performance?
- Can we compare and evaluate the performance of different facilities?
- Can we easily determine our supplier's performance based on these reports? Are the recommended strategies supporting our business objectives?
- Are we provided with reports that help us monitor production benchmarks?
- Can we access information that explains budget variances and helps us modify consumption patterns for greater cost control?

**6. Calculate the True Costs of Electricity Procurement**

As in all segments of the industrial business, the true costs of electricity procurement must include the overhead of contract management activities in addition to the electricity spend. When evaluating any buying strategy — be it a traditional retail, fixed price or a custom portfolio — consider the added costs required to execute procurement responsibilities.

**Considerations for Discussion:**

- What internal or external human resources are required to issue RFPs, review bids and execute contracts? How frequently do we incur these costs? How do these responsibilities ultimately affect our productivity in other areas of business management?
- Does the format of the bill simplify our auditing and validating process? Does it facilitate compliance with internal requirements?
- Does the implementation of the proposed strategy require technology or equipment upgrades or extensive personnel training?
- How much and how frequently will this strategy require hands-on personnel time?
- Do reports from the service provider enable agile decision making in their current state, or are we required to invest additional time to extrapolate and analyze meaningful data that pertains to our unique business objectives?

## Case Study 1: Achieving Cost Control with Flexible Buys and Usage

A large industrial enterprise in Texas sought a new electricity procurement strategy that would better support their cost control efforts. The company's electricity budget accounts for one-third of their total product output costs. With an annual consumption exceeding 30,000 MWhs, they decided to approach the wholesale electricity market with an eye on flexibility that would allow customization of both procurement and usage, with buying strategies that support internal compliance guidelines.

With guidance from an objective energy supplier in their deregulated market, the energy management and finance teams determined that their ideal procurement portfolio would use short-term purchasing strategies as part of an overall long-term approach.

A flexible structure and ongoing guidance made it possible for the business to respond quickly to market conditions by optimizing their mix of day-ahead and real-time prices as well as forward purchases. By layering in relatively small forward purchases, they reduced costs compared to the alternative of locking in the bulk of their power at a single point in time.

The flexibility also allows them to look for value in the term markets and often make forward purchases for just one month at a time. Rather than lock in most of the power for that month with a single purchase, they break the buy into several

purchases, rarely taking out more than 15 percent at one time. With a minimal investment of time into daily strategy calls with their dedicated portfolio advisor, they understand daily market conditions that drive short-term strategy. Often, they change their balance between day-ahead power and hourly power (for unhedged load) as they pursue value in both the forward and short-term markets.

Business objectives and risk tolerance drive the buying strategy; conversely, buying opportunities drive operational decisions. By using their flexible procurement portfolio to work in concert with their demand response program, they shed load on very short notice. As they track hourly prices, they curtail load if prices stretch beyond their pre-determined comfort level. This approach helps the business avoid the significant price spikes common in a volatile market.

The business also uses the flexibility to synch cost-effective purchasing strategies with annual plant maintenance duties, when they operate at only 20 percent of capacity. Working with their advisor, they develop a short-term strategy around the maintenance period to avoid being long in the forward market. Excess power is sold back into the market at hourly index prices. With recent hourly prices trending lower, this strategy helps the business avoid potential losses from being long on power purchases.

## Case Study 2: Preserving Cost Certainty with a Conservative Buying Strategy

An international business with a large California facility was in the unfortunate position of electricity contract expiration in the wake of Hurricane Katrina. The company had typically preferred a long-term, fixed-price approach that provided the strongest sense of cost certainty. However, the unfavorable market conditions at the timing of their RFP prompted them to consider a new approach.

With an annual electricity consumption of approximately 270,000 MWhs, the electricity spend accounts for about 5 percent of their total costs and is therefore not a driving force to their bottom line. However, their business model does not allow them to pass through electricity rate hikes to their customers. The company establishes an annual electricity budget based on historical and predictive data and seeks a procurement approach that will abide by the annual budget. At the same time, they are willing to take some risk for additional savings to the bottom line.

The business departed from its straight fixed-price approach to deploy a custom, portfolio-style buying strategy driven by a conservative approach. Working in a new relationship with an objective electricity supplier, they established clear benchmarks based on the predetermined electricity budget. In addition, they would assess the performance of the new

strategy against its traditional fixed-price contract by comparing their actual expenditures against the rates available at the time of their contract expiration.

With guidance from their supplier's procurement portfolio manager, the business navigated the market volatility of Katrina's wake by taking short-term defensive positions to protect against additional price risk. They sought out good value points in forward or day-ahead pricing as part of a long-term strategy that was implemented as the market declined in 2006. Participation in the day-ahead market provided significant savings with minimized risk exposure through placing strategic hedge purchases in the forward market.

By structuring a portfolio that balanced short-term defensive positions to minimize price spike exposure with long-term value-seeking strategies, the company achieved its fiscal targets with the preferred conservative approach. When evaluating performance of the new strategy over 12 months, the customer determined that the custom portfolio approach not only met their budget benchmarks but also yielded savings of at least 25 percent over the fixed-price options available at the time of contract.

## Conclusion

Even amidst the daunting conditions of a highly volatile energy market, industrial enterprises can develop an electricity procurement strategy that operates in full support of the organization's cost control efforts. To do so requires an understanding of direct wholesale market buying opportunities and a new method for evaluating procurement contracts. When procurement is designed to support the company's most critical business objectives, industrials can benefit from cost control that supports sustainable competitiveness.

### Presented by Strategic Energy

For 20 years, Strategic Energy has helped organizations across all sectors maximize their energy purchasing strategies and secure some of the lowest electricity prices available. The company is one of the largest competitive retail energy providers in the United States with extensive hands-on experience in helping industrial enterprises in deregulated markets implement custom energy purchasing strategies. To learn more, visit [www.strategicenergy.com](http://www.strategicenergy.com) or call 800.830.5923.

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<sup>1</sup> Energy Information Administration. "Monthly Energy Review, August 2006." [www.eia.doe.gov/emeu/mer/pdf/pages/sec2.pdf](http://www.eia.doe.gov/emeu/mer/pdf/pages/sec2.pdf)

<sup>2</sup> Energy Information Administration. "Electric Sales, Revenue & Price, 2004." [www.eia.doe.gov/cneaf/electricity/esr/esr\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/esr/esr_sum.html)