



Greater Louisville Inc.
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WHITE PAPER **Maximizing Return on Energy Assets to Improve Earnings per Share**

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PRICE VOLATILITY AND GLOBALIZATION EXPAND ENERGY OPPORTUNITIES

The preceding two decades have seen a radical shift in energy markets. Once the province of regulation, energy has transformed from being viewed as a relatively predictable element in an organization's budgeting process to a volatile commodity that not only has a material impact on the financial statement, but can significantly impact the overall performance of the entire enterprise. At the same time, however, the evolution of the energy marketplace is allowing proactive and forward-thinking organizations to drive down costs, streamline operations and otherwise take advantage of market opportunities.

ENERGY COSTS ARE NOW ENERGY ASSETS

The very nature of deregulation has taken the once predictable make-up of energy costs and transformed them into fungible assets that can be strategically managed by the organization. This process begins with a shift in organizational mindset: the nature of energy costs in a deregulated marketplace means that every cost component is now an asset. Elements like price, capacity, generation, supply, contracting and a myriad of other components that once comprised energy "cost" are now all fluid assets that can be negotiated, combined, traded and repurposed to not only reduce overall cost, but to provide significantly greater flexibility and managerial control.

Positioned properly, energy assets can be strategically leveraged to improve earnings per share and enhance an organization's financial performance. Improvement of \$0.05 per share or more is not out of the question as a result of an enterprise-wide approach to energy management. While many organizations continue to treat energy as just another expense that is managed at the site level, strategic energy management can contribute substantially to the bottom line.

What comprises an organization's energy assets? Components include the following:

- Energy production facilities (on-site generation, alternative/renewable energy systems)
 - ▶▶ Opportunity — can be leveraged to reduce energy purchases or sell excess energy based on market price
- Energy consuming equipment (lighting, HVAC, boilers, chillers, air compressors, etc.)
 - ▶▶ Opportunity — can be leveraged to optimize energy efficiency and generate revenue based on pre-determined operating parameters
- Energy information (billing information, meter information, equipment control data)
 - ▶▶ Opportunity — can be leveraged to benchmark performance, target opportunities and validate program success
- Building/process automation systems monitoring and controlling energy use
 - ▶▶ Opportunity — can be leveraged to increase/decrease energy consumption to support demand response or regulation service programs at the utility or independent system operator (ISO) level
- Transmission, distribution and storage capacity
 - ▶▶ Opportunity — can be managed to reduce dependence on volume flexibility in energy purchase agreements or to sell excess capacity into high value markets



- Site energy consumption patterns
 - ▶▶ Opportunity — can be adjusted to minimize energy purchase prices and maximize revenue from demand response and/or regulation service programs
- Energy-related financial positions
 - ▶▶ Hedging at the corporate level mitigates energy price risk and may initiate opportunities to buy or sell into beneficial market conditions
- Energy procurement contracts
 - ▶▶ Can be leveraged to adjust buy/sell volumes to benefit from opportune market conditions

ENERGY IS AN ENTERPRISE ISSUE

Energy impacts all levels of an organization. The procurement and legal organizations are typically involved in energy purchasing decisions. Information technology, accounting and finance may be involved in data capture, processing and reporting of energy information. Engineering and operating departments are involved with the identification, installation and operation of energy equipment and associated monitoring and control systems. Recently, sustainability initiatives are bringing environmental, health and safety and the office of sustainability into the energy decision-making process, as well. Since energy impacts so many levels of an organization on a regular basis, employee behaviors can positively or negatively impact energy efficiency.

In many cases, individual departments are not focused on the energy impact of department operations. As such, these impacts are not centrally managed and individual decisions may actually have negative impacts on energy efficiency and associated energy cost. An example to illustrate this point: assume an organization manufactures a product 16 hours per day, 5 days per week. At 5:00 a.m. each morning, the operations department arrives at the plant and starts up all the equipment in preparation of employees arriving at 7:00 a.m. When all the equipment is started up simultaneously, the plant establishes a peak electric demand that increases the cost of energy for the site on an ongoing basis. Alternatively, had equipment startup been phased in over the two-hour period from 5:00 a.m. to 7:00 a.m., demand would have been reduced, thereby reducing total cost of energy for that location.

Integrating all locations into an enterprise-wide energy management program will lead to the development and implementation of efficiency-related best practices across the organization. Integrating the energy purchasing program will lead to maximum negotiating leverage in the marketplace and allow the implementation of a corporate energy risk management strategy that will minimize execution costs and assure identification of the best available contract terms and conditions across the organization.

In addition, it is important to coordinate strategies pertaining to energy consumption with those surrounding energy pricing and contracting to ensure that the two initiatives do not lead to conflicting outcomes. An example to illustrate this point: assume a site implements an energy efficiency program that reduces energy consumption by 20 percent through the installation of higher efficiency equipment and establishment of more efficient operating practices. The energy supply contract for this site included a tolerance band around electricity consumption. Outside the band, pricing would increase. The energy efficiency program pushed consumption outside of tolerance, leading to a higher energy cost per unit and thus negating some of the benefits of the energy efficiency initiatives.

RISK MANAGEMENT

Along with the opportunity to strategically leverage energy assets comes the need to manage associated risks. There are three primary risks associated with an enterprise's energy assets: price risk, operating risk and regulatory risk. Price risk is associated with the volatile nature of energy commodity pricing. Energy price volatility is among the highest of all traded commodities. Managing this risk requires the development and implementation of a price risk management



strategy that matches the strategic goals of the organization. Operating risk is associated with ensuring ongoing operation of the organization. A loss of energy service can have serious consequences for an organization as can failure of a particular energy related piece of equipment. The reliability of energy supply and the reliability of energy-consuming assets must both be managed within the context of an enterprise energy strategy. Regulatory risk is associated with the continuing liberalization of energy markets and the changing utility rate structures associated with energy transmission and distribution service. In addition, regulations surrounding sustainability and environmental controls may impact the price and reliability of energy. Managing regulatory risk requires a proactive monitoring of regulatory initiatives, analysis of potential impacts on an organization, and development of mitigation strategies that minimize the impact of energy and environmental regulatory changes on the continuing viability of an organization.

Things change very quickly in energy markets. Energy prices change on a minute-by-minute, hour-by-hour basis. Energy efficiency, renewable energy and energy efficiency-related technologies are improving on a continuing basis. Regulations frequently change on a jurisdiction-by-jurisdiction, state-by-state, country-by-country basis. Globalization of organizations and the continuing evolution of world energy markets make it challenging for an organization to remain current on enterprise-wide opportunities. Managing all the moving parts of an energy program is not a core competency of most organizations. Enlisting the support of a company whose exclusive focus is energy can lead to greater returns on an enterprise energy management program.

DEVELOPING AN ENTERPRISE ASSET MANAGEMENT STRATEGY

What is necessary to develop and implement an enterprise energy asset management strategy? First, energy must be identified as an enterprise level opportunity. Next, a champion must be identified at the senior leadership level that is responsible for overseeing the energy management process with the authority to develop and implement solutions across the organization. All the stakeholders (purchasing, legal, IT, accounting, finance, facility operations, engineering, environmental health and safety, and sustainability, for starters) must be involved in the process to gain buy-in and ensure compliance with program requirements. A database is also required to assess and benchmark energy performance across the organization and to assist in targeting the greatest areas of opportunity and validate the performance of the program.

It is essential that a senior leader be involved in an enterprise energy management program because energy has traditionally been managed on a decentralized basis. Decisions for energy supply and energy demand do not typically reside in the same department; they may even have been decentralized within separate departments at the individual site level. Turf protection is typically an issue with transition to a centralized approach to energy management. A senior leader can step in to ensure goals across the various departments are aligned, that initiatives are advanced based on the financial rather than political outcome of the decision and that accountability for driving organizational improvement is shared by all involved.

An enterprise energy management program simultaneously addresses all aspects of energy within an organization: energy data, energy supply, energy demand and sustainability. Energy data is leveraged to benchmark site performance and identify areas of improvement. Load profile is managed to create the most attractive buying scenario. Purchasing is coordinated to leverage market power. Purchase contracts are managed to create incremental opportunities to liquidate excess volumes when market prices are high and purchase incremental energy when prices are low. Energy producing/consuming assets and monitoring and control systems are leveraged to maximize service reliability, which creates opportunities to generate revenue from the market for agreement to produce or consume in a pre-defined manner that supports grid reliability.



CONCLUSION

Through development of an enterprise energy management program, energy assets can be fully leveraged, reducing energy costs and generating revenue opportunities in the market. The result is lower costs and improved financial performance. Through a full integration of energy data, supply and demand as well as sustainability programs, an organization can enhance their return on energy assets and improve their financial performance by \$0.05 per share or more depending on the size of the organizational energy spend and the sophistication of the current energy program. Organizations with energy management as a core competency are available to assist in these efforts. To be sure your organization is realizing the full benefit from energy asset management, look within your organization to see how you can assist in coordinating the efforts associated with an enterprise energy asset management program.

Fellon-McCord is an energy and sustainability management firm working with its clients to optimize their energy costs and enhance their sustainability on a global basis. A pioneer in energy management since 1992, it focuses on the physical, financial, asset management, regulatory and legislative components of the global energy markets. Fellon-McCord serves industrial, commercial, higher education, municipal and cooperative utility clients. To learn more, visit www.fellonmccord.com.

