Energy Buying

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Abstract. Today's energy markets continue to be extremely volatile and pose an incredible challenge to supply professionals who need to manage these costs. The price volatility and risk exposure associated with purchasing energy, specifically electricity and natural gas, are tremendous compared to most other commodities. Companies failing to understand and manage the three areas of price risk associated with purchasing electricity and natural gas in deregulated markets are subject to pricing exposure that could significantly and unnecessarily impact the bottom line. In short, the three areas of price risk are: 1) the commodity component of the delivered cost of natural gas; 2) the transportation component of the delivered cost of natural gas, and 3) the generation and transmission components of the delivered cost of electricity bundled together. Creating a plan to identify and control these energy costs is imperative for an organization to succeed in reducing its level of risk exposure to the movement of energy commodities.

Introduction. Deregulation in the U.S. and Canadian electricity and natural gas markets has provided many companies with more choices than ever on how to buy these commodities. However, along with these opportunities come many pitfalls if an organization fails to create, implement and execute a risk management strategy and plan for these purchases. This presentation will: 1) introduce you to the basics of energy purchasing in a deregulated market; 2) identify and assess areas of energy pricing risk; and 3) show you how to create and implement an effective energy purchasing strategy.

Energy Purchasing in a Deregulated Market. Through various legislative and regulatory actions over the last 30 years, the traditional delivery model for natural gas and electricity to the consumer has changed dramatically. It has set in motion a series of battles and opportunities between the "traditional" players and the "new" players in both industries as their roles continue to evolve, providing a new playing field for energy consumers. This increasingly complex realm is full of both opportunity and potential problems for the often inexperienced and uneducated consumer. The new world of "Energy Choice" has brought with it many challenges along with rewards as organizations continue to try and manage their purchasing risk in the ever changing energy landscape.

Areas of Energy Pricing Risk. To better understand the areas of energy pricing risk, it is essential to appreciate the components of the total delivered cost of the commodity for natural gas and electricity, the risk associated with them and what tools are available to control this risk.

Natural gas has three components that make up its delivered cost to a consumer: 1) *commodity* or *natural gas*, 2) *transportation* and 3) *distribution*. The commodity or natural gas is found in one of the many producing regions of North America such as, Texas, Louisiana, or

Alberta. Transportation is typically the movement of the natural gas from the producing region to the interconnect with the local distribution company via the interstate pipeline. Distribution is the service performed by the local distribution company or utility who receives the natural gas at its city gate or one of its interconnects with the interstate pipeline and redelivers it to the consumer's burner tip – industrial, commercial or residential user.

Pricing risk for the *commodity* portion of the delivered cost can be managed using financial products or tools that are derived from a financial market like NYMEX. Many companies today employ risk managers who help quantify and protect the budget from pricing swings in commodities that can be managed through a financial market. However, even some of these organizations are not always in sync because they do not always have up to date usage forecasts or the physical commodity is not being purchased on a NYMEX - based pricing mechanism, to name just a few common problems.

The second component of the delivered cost, *transportation,* or *basis,* as it is referred to in the industry, means transportation plus all of the other supplier charges or markups that it takes to move the supply from a known point of origination, such as Henry Hub Louisiana where the NYMEX contract is traded, to the consumer's city gate, such as PSEG, a local distribution company that serves customers throughout New Jersey. This component is also very volatile, but cannot be managed through a financial market like NYMEX. Transportation or basis pricing is therefore a physical risk to the natural gas consumer that has very little market transparency or visibility, but can swing $.50 - $1.50 per MMBtu over a one-year period depending on the delivery area. This can potentially cost the buyer's organization millions of dollars depending on its energy profile.

Distribution is the third component of the delivered cost, and for most consumers, the distribution rate is defined by a utility tariff. However, in some cases where the energy user has leverage points that may impact the amount of natural gas it requires to be redelivered by the local utility, like fuel switching capabilities, processes that can be shifted to another production location, or a utility bypass option. Then, the utility will frequently agree to a negotiated distribution rate in order to maximize its throughput and expected revenue.

Electricity, like natural gas, also has three primary components that make up its delivered cost to a consumer: 1) *generation* 2) *transmission*, and 3) *distribution*. Except for the ownership and control of the three primary components and the movement and storage of the energy, the concept of the delivery chain is similar to natural gas. However, unlike natural gas there are no financial markets that a risk manager can use to help protect their electricity budget from pricing swings. Therefore, in a deregulated market, the consumer must try and protect himself from physical pricing risk associated primarily with the generation and transmission portion of the delivered cost, which are commonly bundled together and priced at the interconnection between the transmission grid and the electric utilities' distribution system. As a result, although a very large slice of the total delivered cost of electricity (80-90%) can be negotiated between a consumer and a power supplier, in the absence of financial markets, the burden of proactive price discovery and a thorough understanding of the complexity of the variables in the pricing mechanisms and the purchasing agreements falls completely on the buyer. This makes it even more important for buyers to find and use tools that can help them see electric pricing movement and highlight the different pricing products available in the market and the risk associated with each.

Creating an Effective Energy Purchasing Strategy. There are several steps to creating an effective energy purchasing strategy, which are highlighted below:

1) *Senior Management Support*. If its going to be truly strategic, then senior management has to buy in on the amount of risk that the organization is willing to take, the role of each functional area of the organization (finance, purchasing, risk management, plant operations, etc.), and the role of a third party advisor and/or supply manager. Management must also appreciate the impact of these factors on the organization's bottom line.

2) *Centralization*. Centralization is one of the keys to a successful energy purchasing strategy. Although many companies pride themselves on the level of autonomy within business units, this is one area where the benefits of a more uniform energy purchasing strategy outweigh the value of perceived independence -- especially when energy is a relatively larger share of the budget. At the very least, centralization allows for more cross-fertilization or expertise sharing within the organization and most importantly it provides a full view of the company's true risk exposure.

3) *Determine the Risk Profile.* Some companies address risk from the top down, but many use a survey method to support their decisions, probing the stakeholders with questions like, "Can you pass unfavorable energy variances to your customer?" or, "What is the maximum premium you would pay to assure stable energy rates in the future?" or, "is a monthly unfavorable variance acceptable if it is necessary to achieve an annual savings?"

4) *Create a Database*. In many cases, buyers are not in a position to create an energy purchasing strategy because they do not have sufficient information to know how much they spend on energy – natural gas, electricity, water, etc. -- nor do they know where it is spent. In order to create, implement and execute a strategic purchasing plan, buyers must work with someone inside or outside their company to build a comprehensive database. The database should include the following: 1) a library of all supplier/utility/pipeline agreements; 2) copies of utility and supplier invoices; 3) a list of primary operations contacts; 4) historical and forecasted usage profiles and 5) an understanding of fuel switching and alternate fuel opportunities by each location. Ideally this information should be accessible by a third party who would be required to review it and assist the organization in creating its energy purchasing strategy.

5) *Prioritize Opportunities*. There are many filters that can be used to prioritize an organization's opportunities, but among the most common are: 1) the size of the location's energy budget; 2) identification of deregulated purchasing opportunities; 3) aggregation opportunities; 4) timing of the termination of existing deals; and 5) strategic importance of a location or business unit to the overall organization.

Conclusion. The price volatility and risk exposure associated with purchasing energy, specifically electricity and natural gas is extremely complex and difficult to manage. However, if companies are willing to take the time to better understand the specific risk components, create, implement and execute a comprehensive energy purchasing strategy, and be more proactive and thoughtful when purchasing these commodities, then their organization will benefit from greater market visibility, and the ability to better control and/or reduce these costs.