Energy & Store Development Conference

E+SD 2013

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Energy Risk Management and Product Structures

Agenda

- Risk
  - Definition
  - End User's Energy Related Risks
  - Risk Evaluation
  - Risk Objectives
- Product Structures & Risk Profile
- Procurement Options
- Price Components
- Managed Approach
- Brookshire Grocery Company Case
- Managed Approach Savings
- Conclusion
- Q&A

Risk

Definitions:

- ***Risk*** - Is the potential that an action or inaction will lead to a loss (or an undesirable outcome).

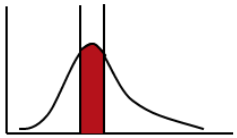
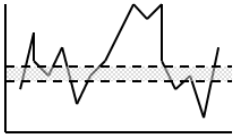
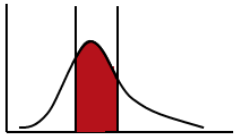
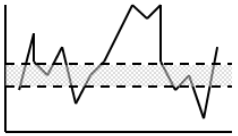
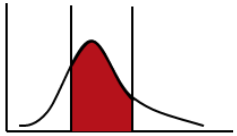
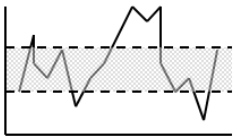
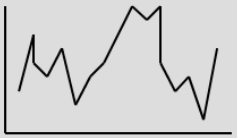
End Users Energy Related Risks

- ***Price Risk*** - Energy end users are naturally "short" physical energy, meaning that they have to buy energy to supply their energy consumption. Therefore price risk is the potential of commodity prices rising when an end user is exposed to variable pricing.
- ***Budget Risk*** - Is the risk of exceeding fiscal year budget targets.
- ***Opportunity Risk*** – Is the risk of market prices going below previously locked Fixed Prices.
- ***Volumetric Risk*** – Is the risk that future consumption is materially different than contracted volumes.

Risk (cont.)

- ***Transaction Risk*** – Is the risk of a single supplier quoting a price above the market Offer Price.
- ***Regulatory Risk*** – Is the risk of price uncertainty due to the enforcement of statues, implementation of new statues, disclosure demands, environmental policy.
- ***Contract Risk*** - Besides the purchase of energy an end user should be cognizant that Master Agreement Terms and Conditions from different REP's vary. Likewise, the language related to: pricing structure, material change, settlement outside of bandwidth, and the method in which meter additions and deletes will be handled need to be scrutinized. *How these are written can represent significant embedded risk if not managed carefully.*

Risk Evaluation

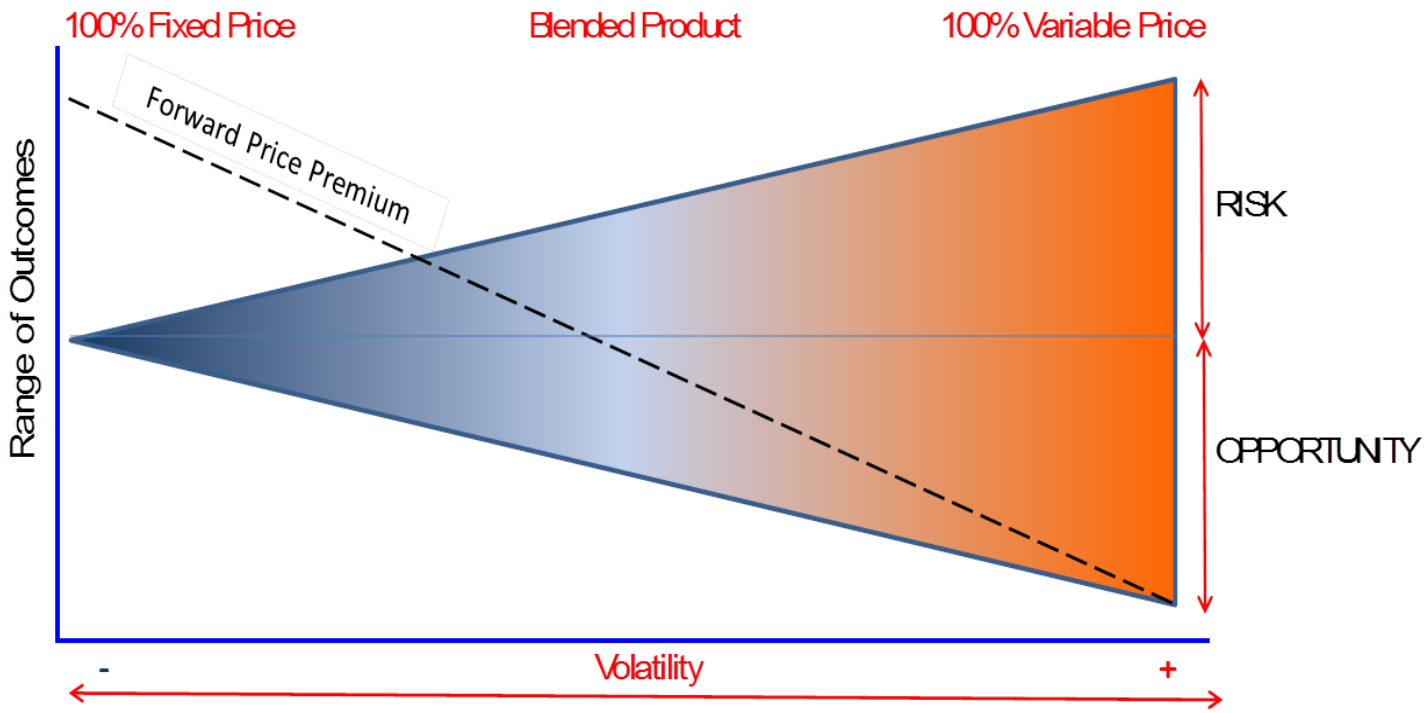
Appetite	Risk	Market Position	Risk Perspective	Performance Expectations
Completely Risk-Averse			Strict need to set entirely fixed budget in advance with no changes	Budget Only
Moderate Risk-Averse			Need to adhere to a budget and would like to set it as low as possible	Budget *then* Market
Balanced Risk-Taking			Willing to risk a small portion of the budget in order to best the market price some of the time	Budget *and* Market
Moderate Risk-Taking			Energy utilities not strictly budget driven, willing to accept greater risk to create savings opportunities	Market *then* Budget
Maximum Risk-Taking			Energy utilities have almost no impact on P&L, therefore not worth the effort to evaluate potential savings opportunities	Market Only

Risk Management Objectives

- Risk Profile Assessment
- Measure cost uncertainty, define boundaries
- Statistical approach to energy budgets and price-lock decisions
- Establish performance metrics that are meaningful

Balance cost certainty with price opportunity

Procurement Options



	PROS	CONS
100% Fixed Block	Budget Certainty Simple Low Maintenance	High Forward Price Premium Low Flexibility High Opportunity Risk
100% Variable	High Flexibility Cost Savings	High Volatility Budget Uncertainty

Electricity Product Structures & Risk Profile

	Product Structures And Risk Profile			
	Index	Block & Index (Heat Rate or Fixed Price)	Heat Rate (Blocks or Load Following)	Fixed Price (Load Following)
Customer Risk Profile:	Aggressive Risk Taker	Heat Rate- Moderate Risk Taker Fixed Price Moderate Risk Averse	*Moderate Risk Taker	Conservative Risk Averse
Customer Risk Tolerance:	High	*Medium to High	Medium	Low
Price Risk:	High	*Low to Medium	Medium	Low
Budget Risk:	High	*Low to Medium	Medium	Low
Opportunity Risk:	Low	*Low to Medium	Medium	Medium to High
Volume Risk:	Low	*Low to Medium	Medium	Low

*Risk is a function of product selected: Heat Rate/Fixed Price, Blocks/Load Following

Product Structures Risk vs. Reward

	Index Product	Fixed Price Product	Heat Rate Product
Risk Appetite	• Maximum Risk-Taking	• Completely Risk-Averse	• Moderate Risk-Taking
Description	• Energy Component 100% variable	• Locks generation (HR) and fuel (natural gas) components of Price	• Locks generation component of the Price
Risk	• Adverse movement on Prices • High volatility • No budget certainty	• High opportunity risk • Concedes Forward Curve Premium • Liquidation risk • Low Flexibility	• Low opportunity risk • Open exposure to NG • Increase in NG forward prices • Transmission Improvements and New Generation
Reward	• No Payment of forward price premium • Historically Real Time index prices have settled below forward Prices • High flexibility	• Budget Certainty • Hedge against natural gas price increase in a tight market • Low maintenance	• Hedge against tight market • Market participation in price downturns • Ability to set tight price targets to be able to protect budget goals

Energy Price Components

PRICE COMPONENTS	TYPE	% OF TOTAL COST	RISK MANAGEMENT	VOLATILTY
Energy Volumetric Swing Premium Losses UFE Basis (Congestion) Ancillary Services (Market)	Market	50-90%	Can be Hedged	High
*Capacity	Market/ Regulatory	10-40%	Auction/Tariff	
Ancillary Services (Regulatory) ISO/Fees Regional Portfolio Standard	Regulatory	2-9%	Most Can Not Be Hedged	Low
Transmission	Regulatory	2-5%	Tariff	

*High volatility in parts of PJM

- In most deregulated markets Energy and Losses account for up to 75% of your energy spend
- Besides understanding each component, it is critical to know the risk associated with open price component exposures

Managed Product Approach

- Why the need for a Managed Approach?
  - Buying electricity today is more complex than ever
  - Higher volatility of price components (e.g. Capacity Charges in PJM)
  - Changes in Generation mix (Retirement of Coal Fired power plants and Development of NG fired plants).
  - Find the right balance between certainty and energy cost
  - Need to proactively manage energy risks

Managed Product Approach (cont.)

- **Pros**
  - Flexibility in selecting product structures and terms
  - Lower opportunity risk
  - Market Transparency
  - Ability to set price targets to meet budget goals
- **Cons**
  - Some budget volatility, which is a function of open exposures
  - Active management of forward positions

Brookshire Grocery Company (BGC) Case

- **First Step - Pricing**
  - Compared traditional procurement approach vs. Managed Approach
  - Projected saving from Managed Approach
  - Performed BGC's Risk Tolerance Assessment
  - Projected saving from Managed Approach

Brookshire Grocery Company (BGC) Case (cont.)

- **Next Steps - Implementation**
  - Define Framework for Hedging Strategy (e.g. Hedge Summer exposure with Heat Rate Blocks and define price guidelines
  - Simulate outcomes of energy cost
  - Monitor market to assess favorable versus unfavorable price environments for hedging

Brookshire Grocery Company (BGC) Case (cont.)

- **Product Structure Selection**
  - Selected different product structures for different Meter Types (i.e. Scalar and IDR)
  - Bought Fixed Price Full Requirement product for Scalar Meters (10% of the load)
  - Combination of Real Time (Index product) during Shoulder and Winter months
  - Heat Rate Product during Summer Months
    - Actively Monitored natural gas market to execute price locks

Managed Product and Cost Savings

Managed Product Strategy Savings:

- From MAY2012 – APR2013 Brookshire's saved $13.52/MWh against budget goal, or 28%

Transaction Cost Savings:

- Wholesale Contract allows BGC to execute Block purchases with Third Party suppliers
- The ability to get offers from multiple electricity suppliers has provided the following savings:
  - SUMMER2012 Heat Rate Block Hedge- $45,500
  - SUMMER2013 Heat Rate Block Hedge- $22,000
  - SUMMER2014 Heat Rate Block Hedge- $111,000
  - Total Transaction Savings = $178,500

Conclusion

- Understanding Risk Profile is critical to developing the right risk management and hedging strategy for your business

- Energy sourcing has become more complex than ever. A disciplined, proactive, and holistic approach is the key to taking advantage of all market opportunities available (including Demand Response)

- Taking calculated risks can be very economically beneficial when compared to traditional procurement approaches
  - Defining hedging guidelines and setting price targets takes emotion out of the decision making process

- Purchasing energy via a Managed Product provides consumers with the flexibility to protect against a rising market while participating in market downturns

Q&A