



## SACUBO

Fall Workshop  
Savannah, Georgia

November 2-4 2008



## Hedge Fuel Purchasing

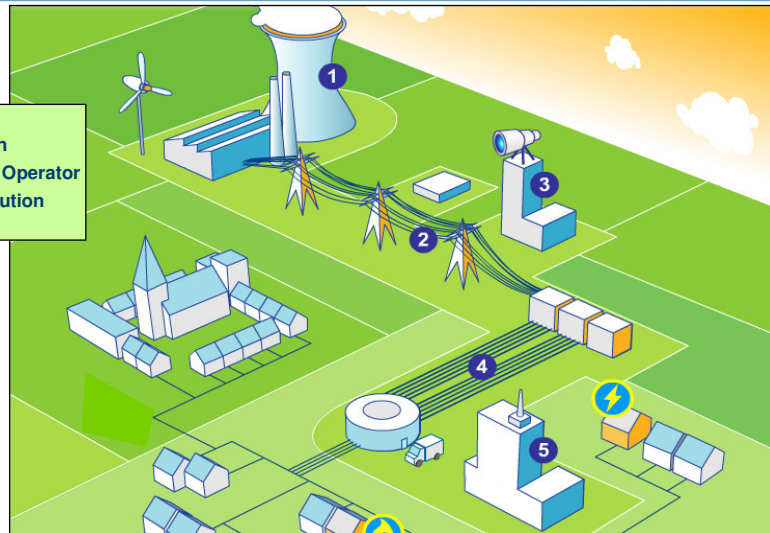
### Presenters:

- David A. Browning  
Vice President for Business Affairs  
Wofford College  
Spartanburg, South Carolina
  
- Tony Shaker  
Vice President, Operations & Maintenance  
UGL Unicco  
Boston, Massachusetts

“ Are you a rate payer or a risk taker”

## Overview

1. Generator
2. Transmission
3. Independent Operator
4. Local Distribution
5. Customers



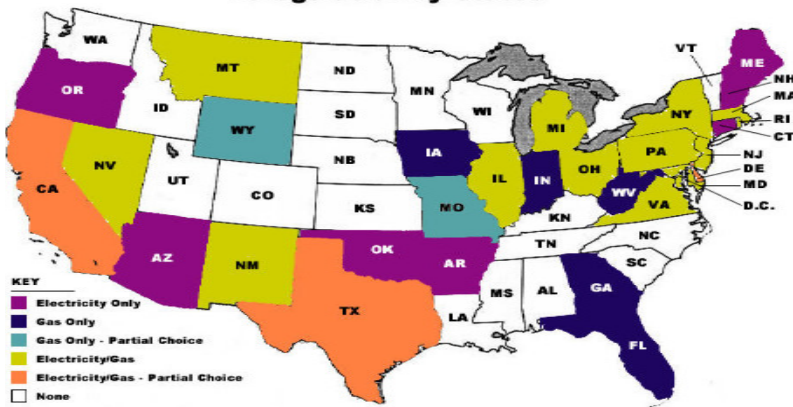
# Energy Market Overview

## Do You Know What You're Paying For?

Type of Charge	% of Bill	Choice?
<b>Generation/Energy</b> – This is based on the kilowatt hours you consume, billed on a \$ per kilowatt hour basis, measured by your utility meter hourly.	70%	<b>Yes!</b>
<b>Demand</b> – This is billed on a \$ per kilowatt basis, and consists of transmission and distribution charges. This is based on your peak monthly usage for a one hour period and is billed to by your "wires" company – the utility.	15%	No
<b>Congestion</b> – This is often referred to as FMCC (Federally Mandated Congestion Charges). These are levied against your utility, by ISO-NE and FERC, and passed through to customers	7%	No
<b>Competitive Transition Charges</b> – These are charges, billed on both a demand and kilowatt hour basis, that cover the utility's cost to prepare for an open, competitive market. Eventually, these go away.	5%	No
<b>Public/System Benefit Charge</b> – Often referred to as "PBC" or "SBC," this includes socialized charges associated with programs meant to encourage conservation, renewable energy, and supporting low income households that can't afford energy. These are typically DPUC mandated for the state.	3%	No

# Overview of Deregulated Markets

## Deregulation by States



Map of Deregulated States – Energy Deregulation Color Coded Map for United States – Energy Deregulation by States

## Energy Deregulated States in the United States

<u>State</u>	<u>Electricity</u>	<u>Gas</u>
Alabama	No	No
Alaska	No	No
Arizona	Yes	No
Arkansas	Yes	No
California	Yes	PC – Partial Choice
Connecticut	Yes	No
Colorado	No	No
Delaware	Yes	PC – Partial Choice
Florida	No	Yes
Georgia	No	Yes
Hawaii	No	No
Idaho	No	No
Illinois	Yes	Yes
Indiana	No	Yes
Iowa	No	Yes
Kansas	No	No
Kentucky	No	No
Louisiana	No	No
Maine	Yes	No

## Energy Deregulated States in the United States

<u>State</u>	<u>Electricity</u>	<u>Gas</u>
Maryland	Yes	Yes
Massachusetts	Yes	Yes
Michigan	Yes	Yes
Minnesota	No	No
Missouri	No	PC - Partial Choice
Montana	Yes	Yes
Nebraska	No	No
Nevada	Yes	Yes
New Hampshire	Yes	No
New Jersey	Yes	Yes
New Mexico	Yes	Yes
New York	Yes	Yes
North Carolina	No	No
North Dakota	No	No
Ohio	Yes	Yes
Oklahoma	Yes	No
Oregon	Yes	No
Pennsylvania	Yes	Yes

## Energy Deregulated States in the United States

<u>State</u>	<u>Electricity</u>	<u>Gas</u>
Rhode Island	Yes	Yes
South Carolina	No	No
South Dakota	No	No
Tennessee	No	No
Texas	Yes	PC - Partial Choice
Utah	No	No
Vermont	No	No
Virginia	Yes	Yes
Washington	No	No
Washington DC	Yes	Yes
West Virginia	No	Yes
Wisconsin	No	No
Wyoming	No	PC - Partial Choice

## Background

### Why Purchase Electricity from a Competitive Supplier?

- When natural gas prices rise, as they during the first half of 2008, utilities locked in electric rates to cover additional exposure – these costs are passed on to all customers
- When natural gas prices drop, customers who remained on Standard Offer Service paid significantly more than the wholesale market price, as these prices dropped significantly in 2006-2007
- Utilities are saddled with having to purchase energy for all load shapes, subsidizing the increased costs for poor load shapes (e.g., “peaky” demand) with the decreased costs of advantageous load shapes (e.g., flat or off-peak). Additionally, customers with poor credit ratings are subsidized by those with good credit ratings.
- Utilities also have much less tolerance for risk, partly due to company structure and partly due to regulatory scrutiny. As a result, utilities are willing to pay a premium for price certainty.
- Ultimately, competitive suppliers are able to focus on the best types of customers, without needing to worry about subsidizing less attractive classes of customers, typically resulting in better deals for their customers.

## Why Purchase from Competitive Markets?

- Hedge against rising electricity costs
- Budget certainty compared to utility rates
- Identify market opportunities
- Choose term length that fits business needs
- Active management of electricity purchasing

## Determining your energy budget

2009 Electricity Budget

Billing Month	kWh	kW	Dist.	Supply	Total	\$/kWh
Jan	449,120	1,250	\$18,451	\$86,395	\$104,846	\$0.2334
Feb	521,120	1,252	\$24,873	\$100,246	\$125,118	\$0.2401
Mar	472,320	1,194	\$22,069	\$90,658	\$112,927	\$0.2391
Apr	464,880	1,316	\$27,172	\$65,198	\$122,370	\$0.2473
May	481,120	1,382	\$27,019	\$22,551	\$119,570	\$0.2485
Jun	620,460	1,412	\$59,758	\$119,359	\$179,145	\$0.2887
Jul	616,160	1,382	\$52,995	\$118,528	\$171,523	\$0.2784
Aug	609,440	1,404	\$57,712	\$117,235	\$174,947	\$0.2871
Sep	637,280	1,402	\$56,113	\$122,591	\$178,704	\$0.2804
Oct	577,280	1,362	\$26,276	\$111,049	\$137,325	\$0.2379
Nov	676,800	1,220	\$26,721	\$130,193	\$156,914	\$0.2318
Dec	464,800	1,156	\$25,174	\$89,412	\$114,585	\$0.2465
<b>CY '09</b>	<b>6,622,800</b>	<b>1,318</b>	<b>\$224,359</b>	<b>\$1,273,614</b>	<b>\$1,697,974</b>	<b>\$0.2585</b>

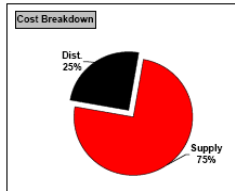
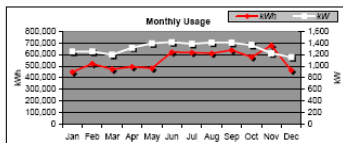
Electricity Cost Breakdown '09	
Supply	¢19.2366 / kWh
Dist.	¢6.4095 / kWh
<b>Average Cost</b>	<b>¢25.6460 / kWh</b>

Supply Assumptions	
Commodity Cost '09	¢17.75 / kWh

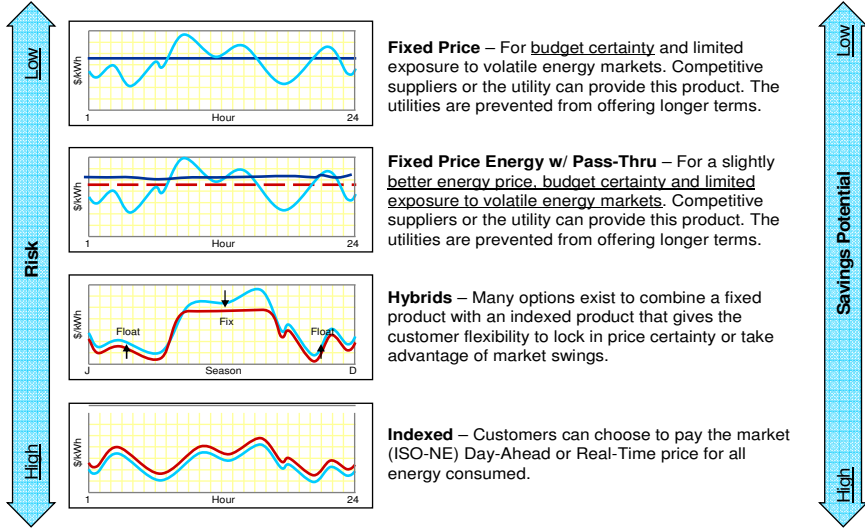
Quarterly Cost	
First Quarter '09	\$342,891
Second Quarter '09	\$421,084
Third Quarter '09	\$525,174
Fourth Quarter '09	\$408,825
<b>TOTAL</b>	<b>\$1,697,974</b>

Delivery Assumptions	
Utility	ConEd
Rate Class	RA411

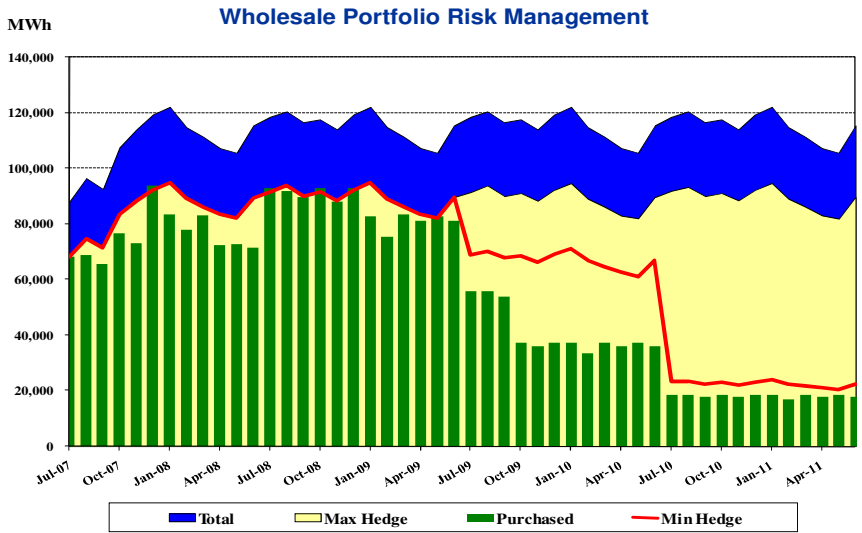
Other Assumptions	
Sales Tax	8.375%
GRT	2.407%



# Electricity Purchasing Options



# Portfolio Hedging Strategy



## Hedge

- a means of protection or defense (as against financial loss) *Merriam – Webster*
- making an investment to reduce the risk of adverse price movements in an asset. Normally, a hedge consists of taking an offsetting position in a related security, such as a futures contract *Investopedia*

## Hedges – where do we use them?

- Interest rate swaps used to manage the risks of fixed or variable rate debt
- Investments to manage the risks of price changes – derivatives and alternative investments
- Procurement to protect against price fluctuations

## Hedges – where do we use them?

As protection from our neighbor



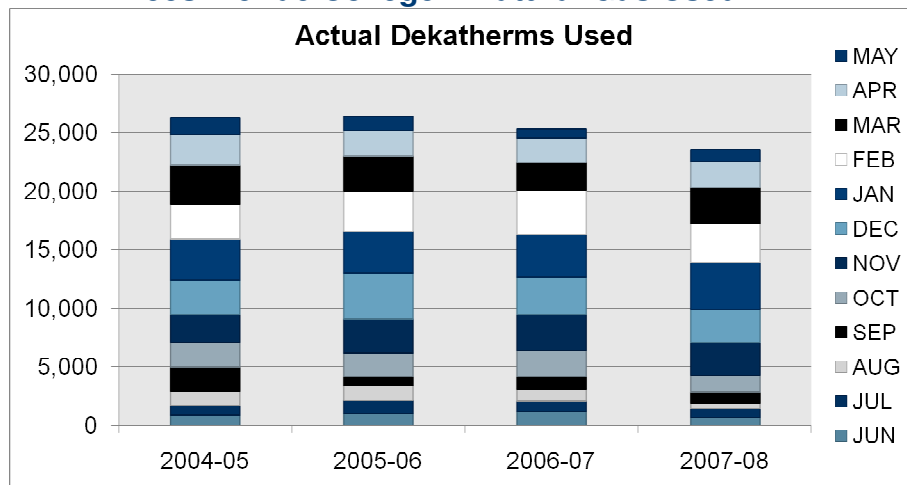
## Accounting for Derivative Instruments and Hedging Activities

- Fair value hedge – a derivative that manages the risk of the changes of the fair value of assets or liabilities
- Cash flow hedge – a derivative that manages the risk of variable cash flows
- Foreign currency hedge – a derivative that manages the exposure to fluctuations in foreign currency

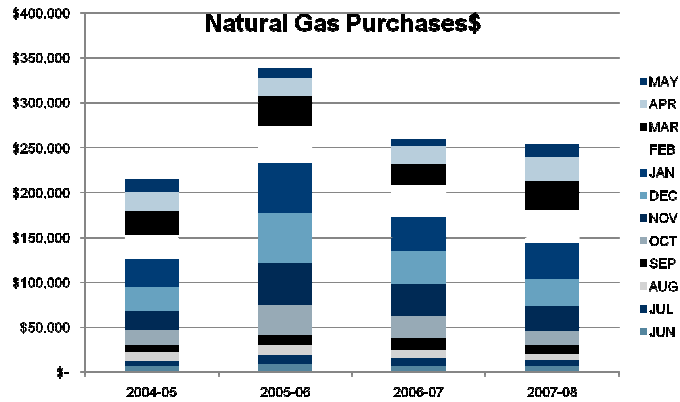
*Fuel procurement hedging activities creates a derivative instrument and FAS 133, FAS 161 and FAS 157 (fair value accounting) applies.*

- Small 4-year institution in the North Carolina Mountains
- History of different fuel sources for the central steam plant from coal to fuel oil to natural gas *or* fuel oil since 2001
- In 2004 started purchasing 50% of annual natural gas usage through a fixed contract.
- In 2007 increased fixed contract purchases to approximately 75% of expected annual usage.
- Contract facilities management by Aramark from 1997 to 2005 and by UGL Unicco since 2005.

### Lees-McRae College – Natural Gas Used



## Lees-McRae College – Natural Gas Purchases



## Lees-McRae College – Natural Gas Hedging Activity

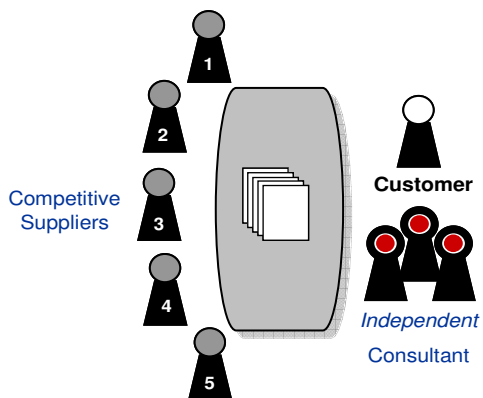
### 2006-07

Contract Price -12,000 Dekatherms @ \$8.61	\$103,320
Market Cost – 12,000 Dekatherms @ \$10.65	127,800
<b>Savings</b>	<b>24,480</b>

## Natural Gas Prices – Recent Trends City Gate Price – per thousand cubic feet (approximates Dekatherm)

	2002	2003	2004	2005	2006	2007
US	4.12	5.85	6.65	8.67	8.61	8.11
SC	4.91	6.71	7.66	10.00	9.51	9.17
NC	4.52	6.79	7.45	10.11	9.42	8.55
GA	4.55	6.25	6.81	9.85	9.37	8.15

## Consider a Consultant



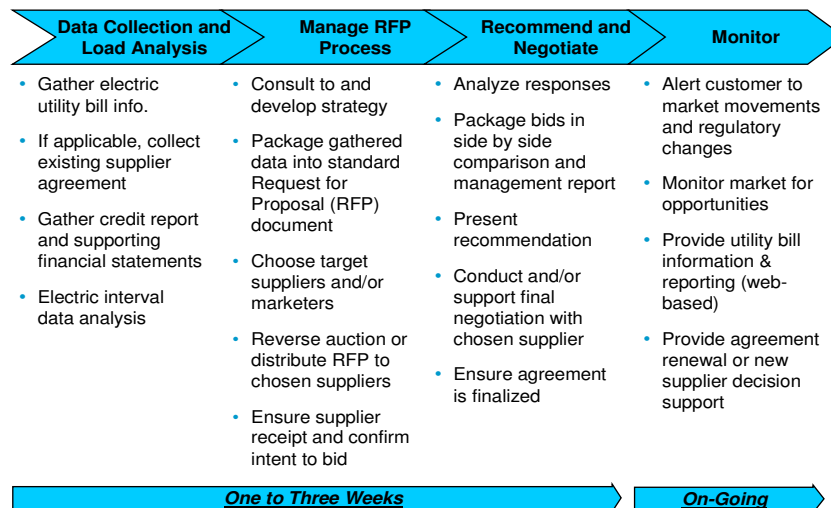
### Benefits of Consultant Services

- Sit on the same side of table as you - *no allegiance to supplier*
- Assess *risk and potential savings* from status quo
- Help you *choose the right product* for your facility
- Compete your business – *eliminating supplier advantage*
- Provide management reports to *support and simplify* decision making
- On-going *market monitoring, analysis, and reporting*
- Substantial *staff time and resources saved* – efficient interface with a complex, changing competitive suppliers market

## Typical Energy Advisory Services

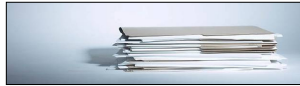
- Strategy development, monitoring & implementation
- Data collection & reporting
- Market information
- Utility & supplier interface
- Contract negotiation
- Regulatory interface
- Cost analysis, bill check, rate schedule & tax audit
- Accounting accruals & budgeting

## Typical Energy Procurement Consulting Services



## Multiple Procurement Methods

- **Manual RFP for Procurement**
  - Standard paper process
  - RFP issued, responses received and then evaluated
  - Turnaround time: XX days
- **Reverse Online Auction**
  - Transparent process
  - Secure environment
  - Overtime Bidding
  - Auditable



## Phased Approach to Energy Investment Management

Energy procurement consulting fits within a comprehensive energy management offering meant to deliver 20%+ total energy bills savings.

### Total Energy Management

