



Impact of Energy Trends in Managing your Facility

Catherine Luthin, President
Luthin Associates
(732) 774-0005
cluthin@luthin.com



GovEnergy
www.govenergy.gov



Energy prices are going up!

Price Instability = Increased Risk



The importance of recognizing trends and capitalizing on opportunities is a necessary ingredient in managing your facility





Everyone needs to set a budget

Energy budget projections must be realistic...

- The stakes are higher
- Recent price increases result in substantial overages
- Senior management more engaged in process
- Fight mentality of arbitrary budget cuts
- Budgeting is both a one time and ongoing process
- Need for monthly performance analysis



Specifics

A realistic budget projection includes...

- Energy Price Trends (fuel mix)
 - Economic forecasts
 - Lifetime averages & seasonality
(contact your local oil/gas supplier for this trend analysis)
 - Storage reports
(<http://www.eia.doe.gov>)
 - Weather
 - Geo-political concerns
- Tax changes
- Utility rate cases / Projections
- Changes in usage due to new facilities / operating procedures etc.



Budget Development

Utility Delivery Unit Cost (T&D)	\$ 0.047
Consumption (kWh) Gross up	1.5%
Energy (ESCO) Commodity Bid	\$ 0.1120
Gross Receipts Tax	2.4066%

← Calculated based on previous year actuals grossed up by 5.2% to account for electric rate case increase

← Based on anticipated load growth due to addition of new equipment

← Based on ESCO bid (reflective of current market trends)

Month	Energy Consumption (KWh)	Grossed Up Consumption (KWh)	Energy (ESCO) Unit Cost w/GRT	Utility Delivery (T&D) Unit Cost	Total Cost Energy (ESCO)	Total Cost Delivery (Utility)	Total Delivered Cost (\$\$)	Delivered Unit Cost
Jul	9,121,845	9,258,673	\$ 0.1147	\$ 0.047	\$ 1,061,927	\$ 435,158	\$ 1,497,085	\$ 0.1617
Aug	9,084,198	9,220,460	\$ 0.1147	\$ 0.047	\$ 1,057,544	\$ 433,362	\$ 1,490,906	\$ 0.1617
Sep	9,382,468	9,523,205	\$ 0.1147	\$ 0.047	\$ 1,092,268	\$ 447,591	\$ 1,539,858	\$ 0.1617
Qtr 1	27,588,511	28,002,338	\$ 0.1147	\$ 0.047	\$ 3,211,739	\$ 1,316,110	\$ 4,527,849	\$ 0.1617
Oct	8,684,075	8,814,337	\$ 0.1147	\$ 0.047	\$ 1,010,964	\$ 414,274	\$ 1,425,238	\$ 0.1617
Nov	8,182,196	8,304,929	\$ 0.1147	\$ 0.047	\$ 952,537	\$ 390,332	\$ 1,342,869	\$ 0.1617
Dec	9,688,764	9,834,095	\$ 0.1147	\$ 0.047	\$ 1,127,925	\$ 462,202	\$ 1,590,128	\$ 0.1617
Qtr 2	26,555,036	26,953,361	\$ 0.1147	\$ 0.047	\$ 3,091,426	\$ 1,266,808	\$ 4,358,234	\$ 0.1617
Jan	7,387,545	7,498,358	\$ 0.1147	\$ 0.047	\$ 860,027	\$ 352,423	\$ 1,212,450	\$ 0.1617
Feb	9,139,190	9,276,278	\$ 0.1147	\$ 0.047	\$ 1,063,946	\$ 435,985	\$ 1,499,931	\$ 0.1617
Mar	8,670,882	8,800,945	\$ 0.1147	\$ 0.047	\$ 1,009,428	\$ 413,644	\$ 1,423,072	\$ 0.1617
Qtr 3	25,197,617	25,575,581	\$ 0.1147	\$ 0.047	\$ 2,933,401	\$ 1,202,052	\$ 4,135,454	\$ 0.1617
Apr	7,837,977	7,955,547	\$ 0.1147	\$ 0.047	\$ 912,465	\$ 373,911	\$ 1,286,375	\$ 0.1617
May	8,432,971	8,559,466	\$ 0.1147	\$ 0.047	\$ 981,731	\$ 402,295	\$ 1,384,026	\$ 0.1617
Jun	8,859,856	8,992,754	\$ 0.1147	\$ 0.047	\$ 1,031,427	\$ 422,659	\$ 1,454,087	\$ 0.1617
Qtr 4	25,130,804	25,507,767	\$ 0.1147	\$ 0.047	\$ 2,925,623	\$ 1,198,865	\$ 4,124,488	\$ 0.1617

YTD Total	104,471,968	104,471,968	\$ 0.1147	\$ 0.0470	12,162,190	4,983,835	17,146,025	\$ 0.1593
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Energy Purchasing

- Now, it's time to buy some energy...
- Some of you are buying competitively, others are not
- Being aware of key energy trends is important to everyone in the audience



Trends - Purchasing from a Utility

- Fuel adjustment/Market Supply Charges
 - Weather (degree day data)
 - Understanding your fuel mix
 - Coal, Nuclear, Hydro, Natural Gas, Fuel Oil
 - Correlated fuel sets marginal price
- Explore options to negotiate your rate
 - Potential to build a Cogen plant
 - Cost of alternate fuel (e.g. dual fuel facilities)
 - Potential to build in-house boiler (steam rate negotiations)
 - Evaluate utility fuel cost hedging programs



Purchasing competitively...

- First Step
 - Determine your Risk Profile
 - Supply products contain varying levels of budget risk

<u>Supply Product</u>	<u>Budget Risk</u>	<u>Mitigation</u>	<u>Energy Trend</u>
Fixed Price	Usage variation	Increased conservation	Low market prices that meet established target
Hybrid Products Ex. Block with Residual load at market	Usage variation Variability of cost (to lesser degree)	Demand reduction during peak periods	Moderate market prices (Partial Hedge Strategy)
Floating (Index -Real Time/Day Ahead Market, Platt's Oil posting, Transco Zone 6 Nat Gas)	Usage variation Variability of cost	Demand reduction during peak periods	High market prices (Float and enter into a fixed/hybrid strategy at opportune time)

- Energy trend analysis will help in arriving at the appropriate decision

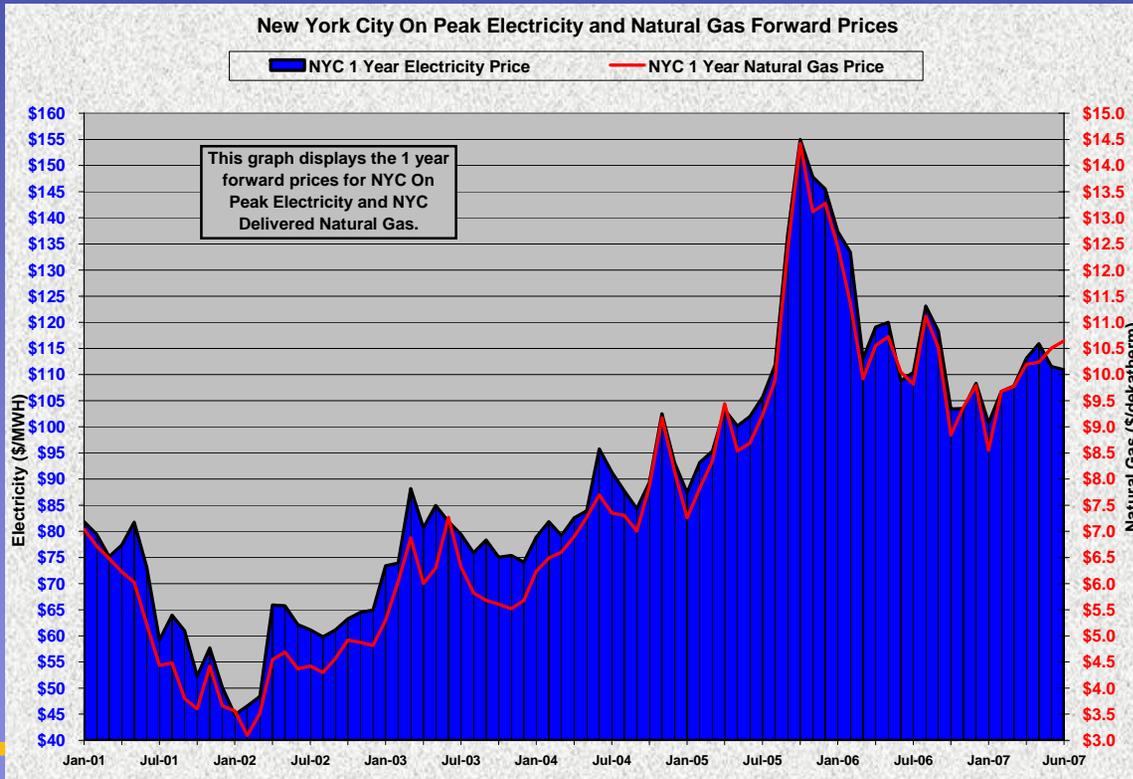




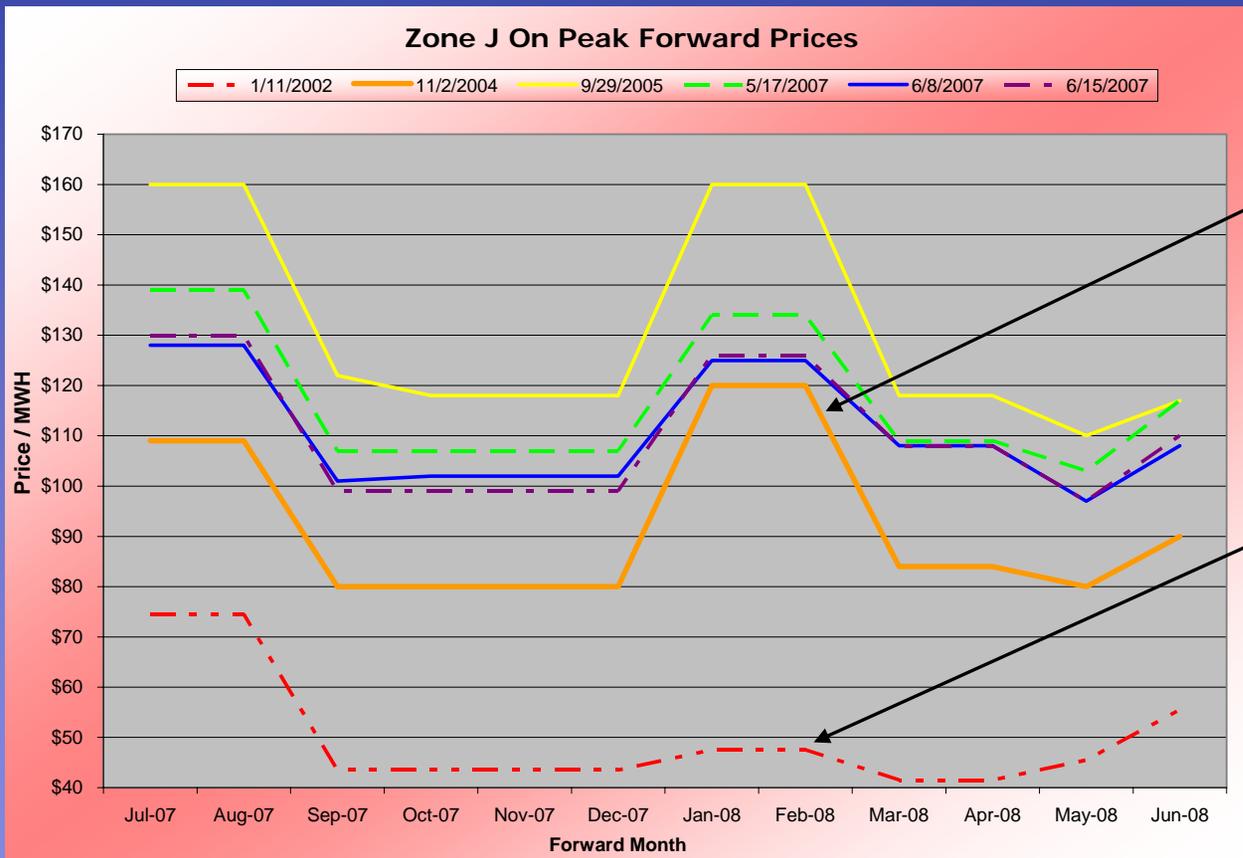
Trend Analysis

Electric – Gas Correlations (NY)

Determine the commodity which sets the marginal price for electricity in your area and track the trend



Seasonal Trends Electricity (NYISO - Zone J)



2004 onwards -
Winter electric prices are about as high as summer electric prices

2002 - Winter electric price is relatively flat



Trends – Market Activity

- How is the market is trading (lifetime averages)

Market Report November 13, 2006					
	NYMEX DATA per Dth		LIFETIME		
Month	Closing Price	Daily Change	High	Low	% of Lifetime Range
December-06	7.89	0.10	12.18	4.78	42%
January-07	8.33	0.02	12.55	5.02	44%
February-07	8.39	0.02	12.49	4.98	45%
March-07	8.25	0.02	12.26	5.10	44%
April-07	7.77	0.02	10.00	4.73	58%
May-07	7.73	0.02	9.78	4.77	59%
June-07	7.82	0.02	9.85	4.82	60%
July-07	7.91	0.02	9.92	4.83	60%
August-07	7.97	0.01	9.98	5.17	58%
September-07	8.02	0.01	10.02	5.28	58%
October-07	8.11	0.01	10.09	5.31	59%
November-07	8.58	0.01	10.74	5.72	57%

Comparison of gas settlement Price against historical high/low for the month

Daily closing price posted on NY Mercantile Exchange (NYMEX)

Source: Colonial Energy Market Report



Demand Side Management (DSM)

- In some areas, price signals that come from the Regional Transmission Organizations (Day Ahead Market) can help control your load
- Keep abreast of your utility's rate structure (on/off peak hours, peak demand window) to optimize your operational policies
- Knowledge of energy trends helps evaluate accurate ROIs for energy conservation measures (ECMs)



Tool to Successful Energy Management

Energy Trend Analysis helps you better conserve and manage your facilities energy needs...

