





# Utility Information Management

August 4, 2008



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# Agenda

- Advantage IQ Introduction
- Utility Data: Foundation for Energy and Environmental Management
- Managing Usage Risk: Leveraging the Value of Metrics in Your Organization
- Managing Energy Financials
  - Developing a Budget
  - Analyzing Variance

# Advantage IQ, Inc. Corporate Overview

- We currently manage over \$12.3B in expenses for 450+ clients
- In the last two years, we have saved our clients more than \$149 million in expenses
- We currently process and pay over 660,000 bills/month supporting more than 210,000 sites nationwide
- Headquartered in Spokane, WA with offices in Cincinnati, Denver and Atlanta - employing over 600 people
- Leaders in providing energy management and sustainability services for multi-site customers



# Total Energy and Environmental Management





# Managing Usage Risk

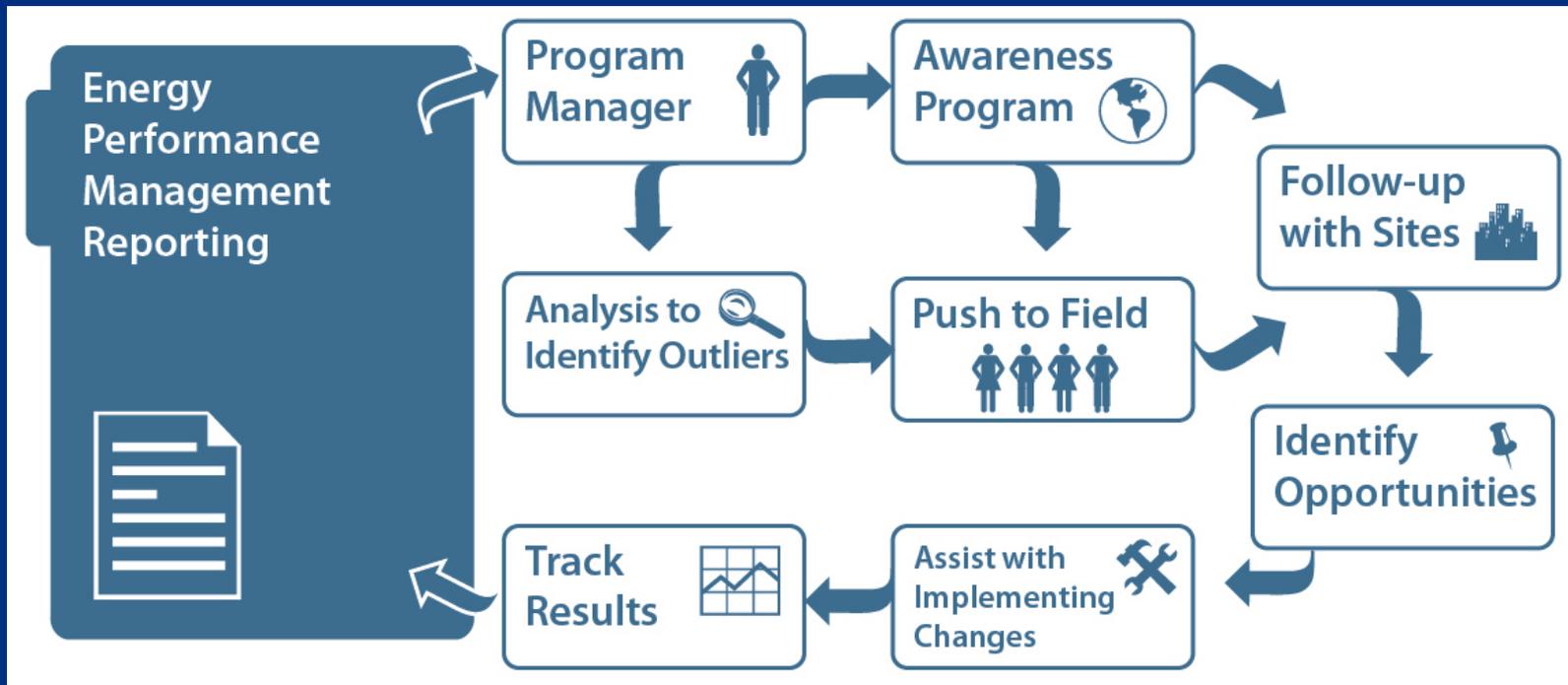


# Building a Culture of Energy Conservation

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- For maximum program impact – make energy conservation part of everyone’s responsibility
- Key premises – people:
  - Have a substantial impact on energy consumption
  - Want to do the right thing
  - Are interested in saving money and resources
  - Avoid situations where they could be criticized
  - Respond to rewards and recognition
- “You can’t manage what you can’t measure”

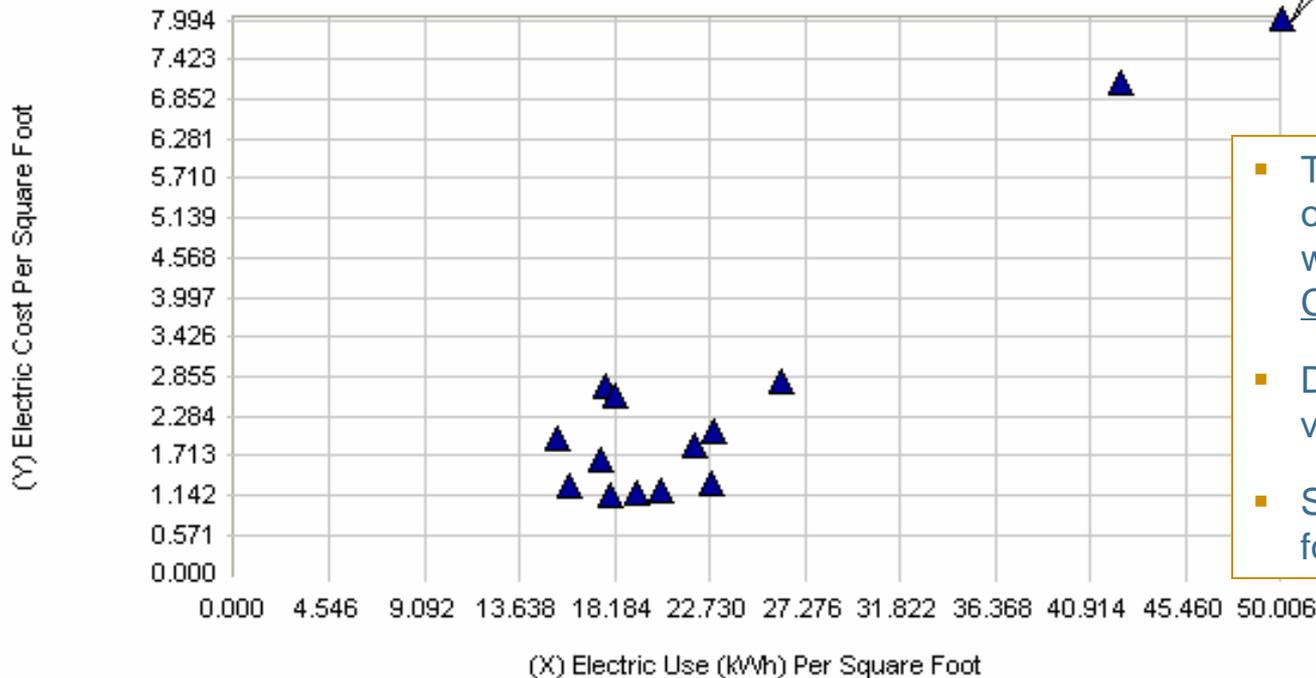
# Energy Performance Management



# EUI/ECI Analysis - 01 AIQ Demo Client

Electric (Region: East [BC - Store])

Monday, January 01, 2007 thru Friday, August 31, 2007 vs. Prior Year



- The EUI/ECI Analysis output is a **scatter graph** which plots both Use and Cost together
- Double-click on a triangle to view the site & its details
- Switch to the tabular view for additional options

**Note:**

**Data Source:** NORMALIZED DATA. Last updated 11/20/07:08:29

-Excludes LATE and MISC Data.

Scatter Graph

Tabular

Run a New Report

## EUI/ECI Analysis - 01 AIQ Demo Client

Electric (Region - East [BC - Store])

Monday, January 01, 2007 thru Friday, August 31, 2007 vs. Prior Year

Site Name	Square Feet	Cost/Square Foot			Use/Square Foot		
		Current	Prior	Change	Current	Prior	Change
<b>019-Manhattan</b>	25,000	\$7.996	\$7.578	5.51%	50.012	49.211	1.63%
<a href="#">022-New York</a>	25,650	\$7.093	\$6.033	17.57%	42.339	38.939	8.73%
<a href="#">015-Houston</a>	21,644	\$2.782	\$2.853	-2.51%	26.141	27.206	-3.92%
<a href="#">041-White Plains</a>	25,000	\$2.717	\$2.716	0.06%	17.747	18.136	-2.15%
<a href="#">027-Paramus</a>	26,000	\$2.583					
<a href="#">020-Miami</a>	25,000	\$2.074					
<a href="#">010-Costa Mesa</a>	24,169	\$1.971					
<a href="#">004-Austin</a>	21,918	\$1.870					
<a href="#">007-Chicago</a>	23,011	\$1.644					
<a href="#">001-Arlington</a>	28,984	\$1.309					
<a href="#">003-Atlanta 2</a>	28,763	\$1.290					
<a href="#">038-Vienna</a>	19,260	\$1.226					
<a href="#">036-St Louis</a>	23,787	\$1.190					
<a href="#">013-Denver</a>	25,244	\$1.154					
<b>Average:</b>	<b>24,674</b>	<b>\$2.636</b>					
<b>Total:</b>	<b>345,430</b>	<b>\$36.899</b>					

- From the **tabular** view, see the sites organized from worst performers to best
- Click on a particular site to drill into it's monthly details

Bar Graph

Tabular

Run a New Report

## Use/Cost Index Report - 01 AIQ Demo Client

Site Specific - Electric (kWh)

Monday, January 01, 2007 thru Friday, August 31, 2007 vs. Prior Year

### 019-Manhattan

Month	Square Feet	Cost/Square Foot			Use/Square Foot			Billing Days		
		Current	Prior	Change	Current	Prior	Change	Current	Prior	Change
January	25,000	0.941	1.111	-15.30%	6.15	5.55	10.81%	31	31	0.00%
February	25,000	0.754	0.765	-1.44%	5.43	5.12	6.05%	28	28	0.00%
March	25,000	0.888	0.772	15.03%	5.92	5.99	-1.17%	31	31	0.00%
April	25,000	0.917	0.703	30.44%	5.86	5.33	9.94%	30	30	0.00%
May	25,000	1.066	0.849	25.56%	6.44	6.55	-1.68%	31	31	0.00%
June	25,000	1.141	1.065	7.14%	6.33	6.61	-4.24%	30	30	0.00%
July	25,000	1.238	1.191	3.95%	6.9	7.09	-2.68%	31	31	0.00%
August	25,000	1.051	1.121	-6.24%	6.99	6.97	0.29%	31	31	0.00%
<b>Total:</b>	<b>200,000</b>	<b>\$7.996</b>	<b>\$7.577</b>	<b>5.53%</b>	<b>50.0200</b>	<b>49.2100</b>	<b>1.65%</b>	<b>243</b>	<b>243</b>	<b>0.00%</b>
<b>Average:</b>	<b>25,000</b>	<b>\$1.000</b>	<b>\$0.947</b>	<b>5.60%</b>	<b>6.2525</b>	<b>6.1513</b>	<b>1.65%</b>	<b>30</b>	<b>30</b>	<b>0.00%</b>



# Delivering Data in Meaningful Ways

- Web reporting – site access
- Customized pushed reporting
  - Delivered to email inbox
  - Package in small pieces – site/regional level analysis
  - Tied to other corporate metrics – Performance Management Processes



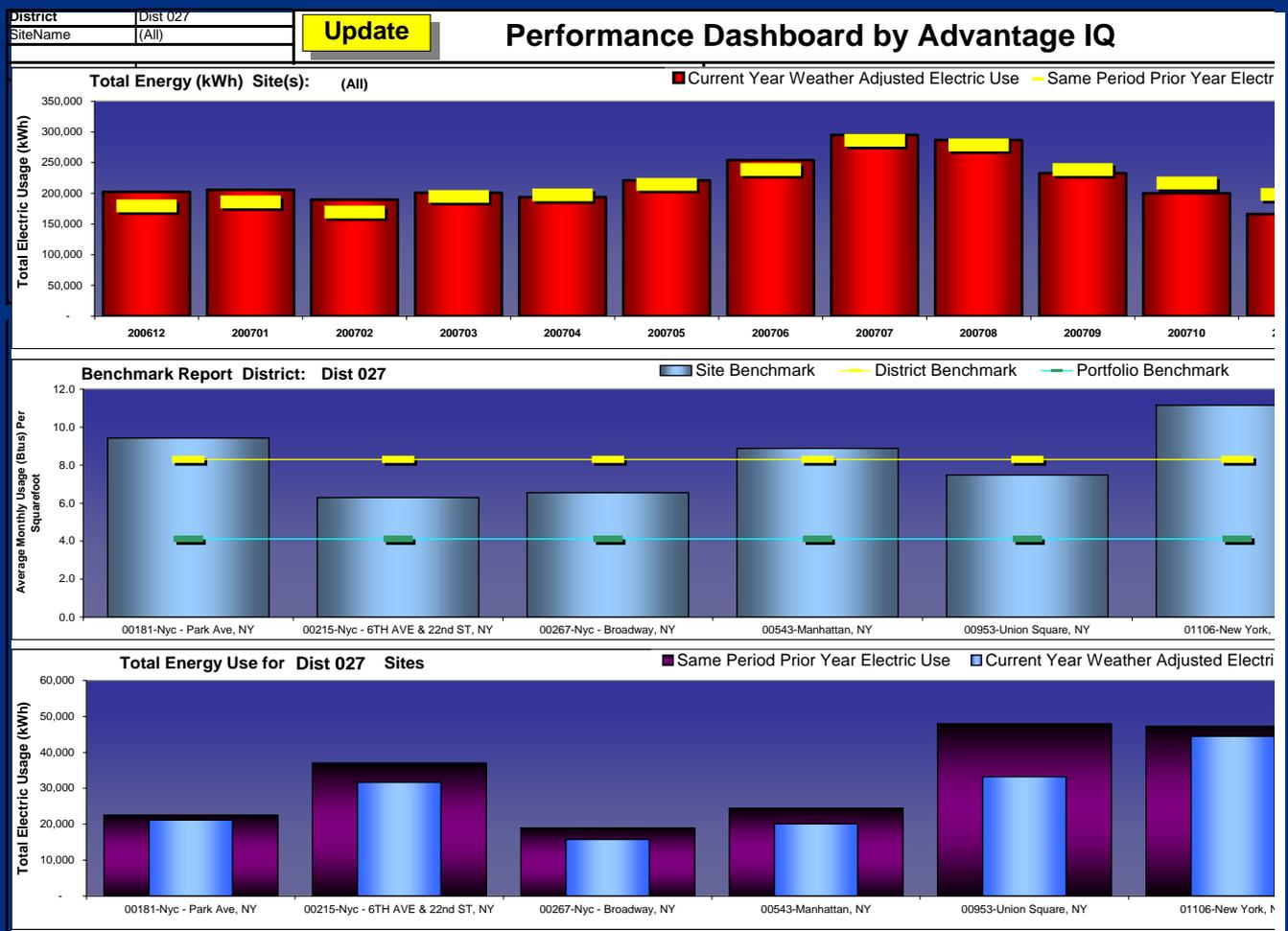
# Normalizing Results for Analysis

- What should I normalize for?
  - Definite: Weather, square footage/production
  - Possible: Operating hours, design, sales/transactions...
- Why do it?
  - Eliminate excuses – hold people accountable for elements truly in their control
  - More accurate comparisons between sites
- How to approach?
  - Gather necessary data
  - Statistical analysis to determine variables with correlation
  - Apply physics where possible (e.g. cooling/heating degree days)



# Customized Performance Dashboard for Energy Metrics

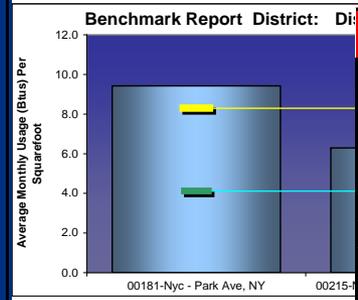
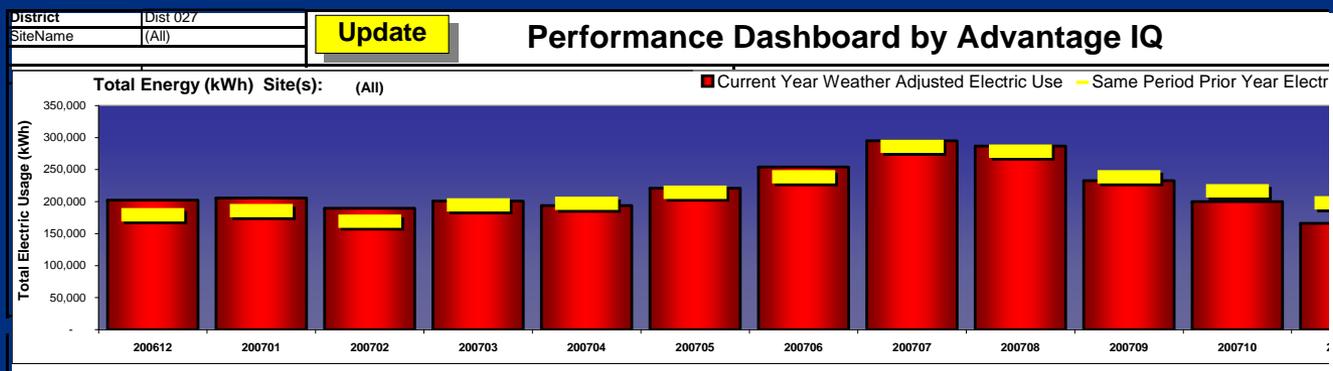
## How do I identify best practices and reward performance?





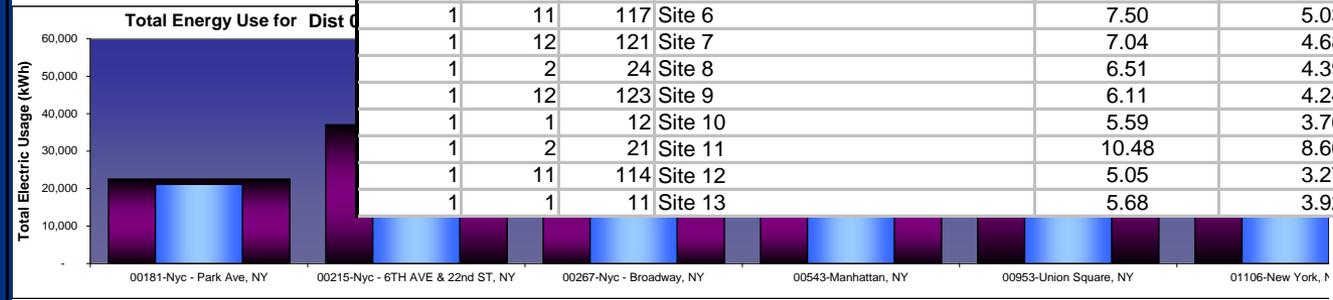
# Customized Performance Dashboard for Energy Metrics

## How do I identify best practices and reward performance?



### Benchmark Top 50

Division	Region	District	SiteName	Site Average *	District Average	Difference
1	2	21	Site 1	13.51	8.66	4.85
1	2	26	Site 2	7.65	4.33	3.32
1	12	125	Site 3	7.46	4.45	3.01
1	2	27	Site 4	11.16	8.30	2.86
1	2	22	Site 5	7.74	5.25	2.49
1	11	117	Site 6	7.50	5.03	2.47
1	12	121	Site 7	7.04	4.68	2.36
1	2	24	Site 8	6.51	4.39	2.11
1	12	123	Site 9	6.11	4.24	1.88
1	1	12	Site 10	5.59	3.76	1.83
1	2	21	Site 11	10.48	8.66	1.82
1	11	114	Site 12	5.05	3.27	1.77
1	1	11	Site 13	5.68	3.92	1.76





# Customized Performance Dashboard for Energy Metrics

## How do I identify best practices and reward performance?

District: Dist 027  
 SiteName: (All)

Update

### Performance Dashboard by Advantage IQ

**Total Energy (kWh) Site(s): (All)**

**Benchmark Report District: Dist 027**

**Total Energy Use for Dist 027**

Trending Top 50

Division	Region	District	SiteName	Weather ** Adjusted Electric Use	PY Period Electric Use	Increase in Usage	Percent Change
1	01	Dist 011	Site 1	51,957	44,636	7,321	16.40%
1	01	Dist 015	Site 2	73,444	65,372	8,071	12.35%
1	01	Dist 013	Site 3	95,059	84,860	10,199	12.02%
1	01	Dist 014	Site 4	53,887	48,403	5,484	11.33%
1	01	Dist 015	Site 5	79,689	72,512	7,177	9.90%
1	01	Dist 015	Site 6	67,777	62,240	5,536	8.89%
1	01	Dist 014	Site 7	83,055	77,623	5,432	7.00%
1	01	Dist 011	Site 8	68,346	63,943	4,404	6.89%
1	01	Dist 014	Site 9	45,994	43,235	2,759	6.38%
1	01	Dist 014	Site 10	66,977	63,354	3,623	5.72%
1	01	Dist 011	Site 11	81,990	78,245	3,745	4.79%
1	01	Dist 014	Site 12	92,410	88,320	4,091	4.63%
1	01	Dist 011	Site 13	75,536	72,442	3,094	4.27%
1	01	Dist 014	Site 14	87,303	83,936	3,367	4.01%
1	01	Dist 015	Site 15	76,742	74,005	2,737	3.70%
1	11	117	Site 6	7.50	5.05	2.47	
1	12	121	Site 7	7.04	4.68	2.36	
1	2	24	Site 8	6.51	4.39	2.11	
1	12	123	Site 9	6.11	4.24	1.88	
1	1	12	Site 10	5.59	3.76	1.83	
1	2	21	Site 11	10.48	8.66	1.82	
1	11	114	Site 12	5.05	3.27	1.77	
1	1	11	Site 13	5.68	3.92	1.76	



# Value Return

- Savings have shown: 2-10% across portfolios
- Energy awareness is often the best return on investment you will make in your program, often exceeding 10:1
- Allows customers to fully leverage money already spent in bill payment/data collection fees
- Quick implementation – no capital costs
- Measurement of results is part of the program
  - Stripping out the impact of other initiatives can be important



# Managing Utility Financials

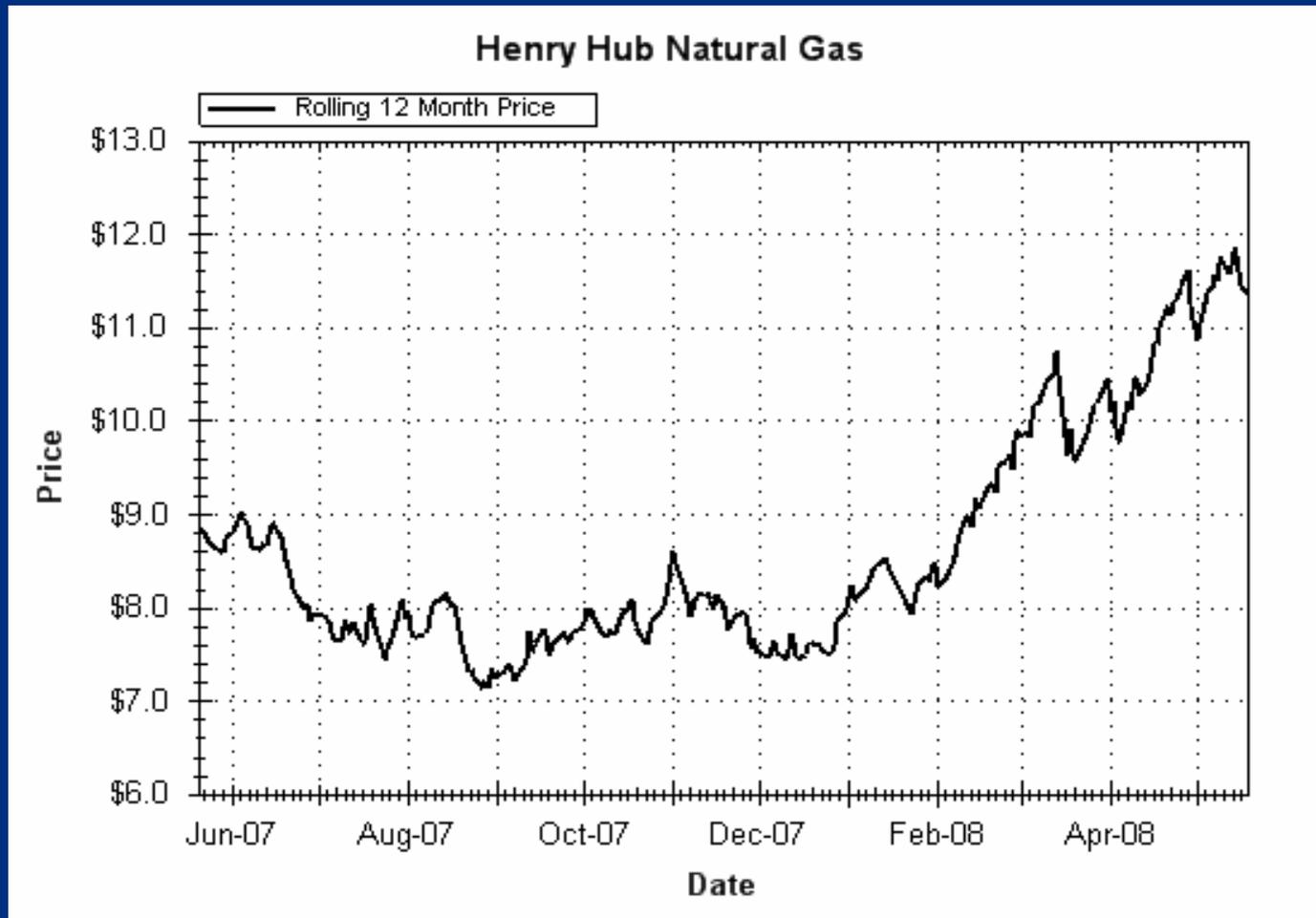


# Building a Utility Budget: Desired Results

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- Accurate
  - Accounts for energy market changes
  - Built from a clearly-defined baseline
- Defendable
  - Documented base assumptions
  - Ability to identify and separate key cost drivers
- Enables successful accountability
  - Site / regional / corporate level views
  - Tied to organizational and financial structure

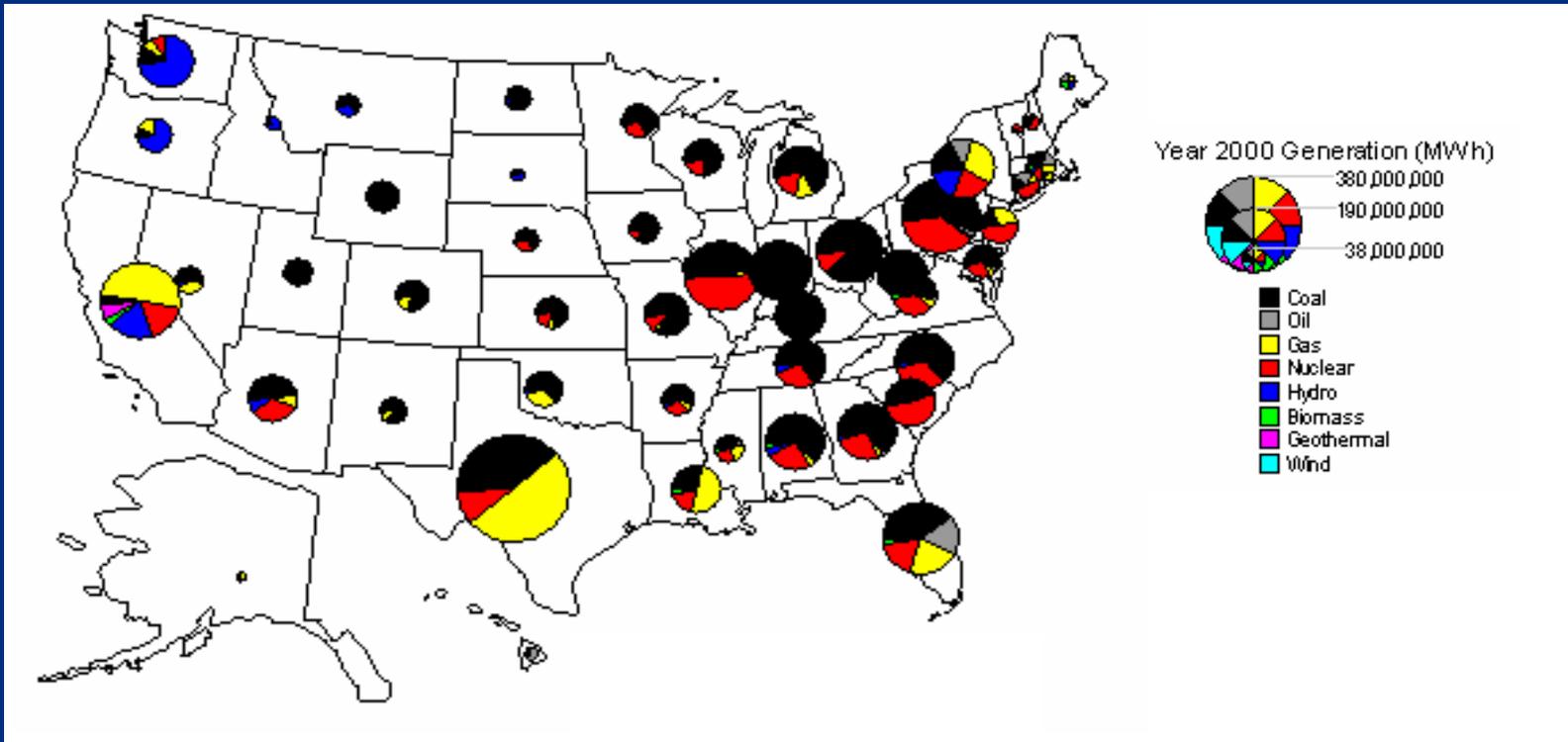
# NYMEX Prices for a Rolling 12 Month Strip



Data by Futuresource



# Electrical Generation Mix



The impact of natural gas price volatility varies by region, largely driven by generation fuel mix.



# Regulatory Rules Can Make Matters Worse

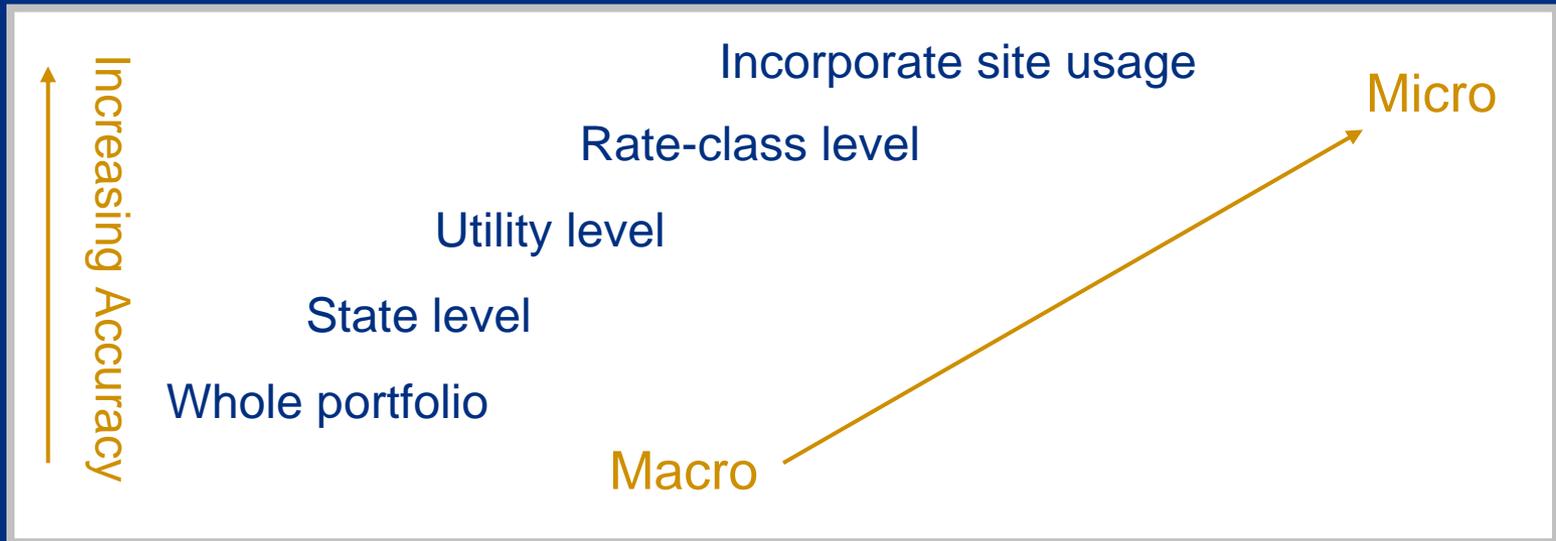
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- Base rates recover forecast expenses and fuel costs
- Base rates are usually unchanged until a utility presents a formal rate change request to their regulators
- Utilities are typically allowed to recover 100% of their fuel expenses
- Fuel expenses exceeding the level included in base rates are also passed on through fuel adjustment rates



# Common Budgeting Methodologies

- Blind / top down: Take last year's spend, cut it by \_\_\_% (shared cost reduction target)
- Assume usage is same as last year – apply supply pressures





# Macro-Approach to Budgeting

- Utilize national / regional pricing trends to generate an overall energy budget
- Possible source
  - Energy Information Administration (EIA) national / regional data
- Advantages
  - Simple
  - Can be referenced
- Disadvantages
  - Accuracy
  - Accountability difficult to manage



# EIA Short Term Outlook

## 2009 Electric Pricing

Table 7c. U.S. Regional Electricity Prices															
Cents per Kilowatthour															
	2007				2008				2009				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2007	2008	2009
<b>Commercial Sector</b>															
New England	14.6	14.5	14.9	14.2	15	15.1	15.9	15.3	15.6	15.9	16.7	15.9	14.6	15.4	16
Middle Atlantic	12.3	13.1	14.1	13	12.7	13.4	14.8	13.4	13	13.9	15.3	13.9	13.1	13.6	14.1
East North Central	8.3	8.8	8.7	8.7	8.9	8.9	9	8.7	8.7	9.2	9.3	9.1	8.6	8.9	9.1
West North Central	6.2	6.9	7.3	6.4	6.4	7.1	7.5	6.5	6.5	7.2	7.7	6.6	6.7	6.9	7
South Atlantic	8.5	8.6	8.8	8.7	8.7	8.9	9.1	9.1	8.9	9.1	9.4	9.3	8.6	8.9	9.2
East South Central	7.8	8.1	8	8.1	8.1	8.2	8.2	8.3	8.3	8.5	8.5	8.6	8	8.2	8.5
West South Central	9.2	9.4	9.5	9.4	9.3	9.6	10	9.6	9.5	9.9	10.3	9.9	9.4	9.7	9.9
Mountain	7.4	7.8	7.9	7.8	7.5	8	8.1	7.9	7.7	8.2	8.3	8.1	7.7	7.9	8.1
Pacific	10.1	11.1	12.4	10.8	10.2	11.4	12.6	10.9	10.7	11.7	13	11.2	11.2	11.3	11.7
U.S. Average	9.3	9.7	10	9.6	9.6	9.9	10.4	9.9	9.8	10.3	10.8	10.2	9.7	10	10.3
<b>Industrial Sector</b>															
New England	12.7	12.2	12.3	12.7	13.2	13	13.3	13.3	13.7	13.5	13.9	13.8	12.5	13.2	13.7
Middle Atlantic	7.8	8.1	8.4	7.9	8	8.2	8.6	8.2	8.3	8.4	8.9	8.4	8.1	8.3	8.5
East North Central	5.8	5.7	6	5.7	5.7	5.8	6.1	5.9	5.9	6	6.3	6.1	5.8	5.9	6.1
West North Central	4.8	5.2	5.5	4.8	4.9	5.3	5.7	5	5.1	5.5	5.9	5.2	5.1	5.3	5.4
South Atlantic	5.3	5.5	6.1	5.7	5.6	5.7	6.3	5.9	5.8	5.8	6.4	6	5.6	5.9	6
East South Central	4.8	5.2	5.4	5.1	5	5.3	5.7	5.2	5.1	5.5	5.9	5.3	5.1	5.3	5.5
West South Central	7	7.1	7.1	7	7.2	7.4	7.7	7.6	7.4	7.7	8	7.8	7.1	7.5	7.7
Mountain	5.4	5.6	6.2	5.6	5.5	5.8	6.3	5.7	5.6	5.9	6.4	5.9	5.7	5.8	6
Pacific	7.4	7.7	8.5	7.9	7.6	7.9	8.6	7.9	7.8	8.1	8.9	8.2	7.9	8	8.3
U.S. Average	6.1	6.3	6.7	6.3	6.3	6.5	6.9	6.5	6.5	6.7	7.2	6.7	6.4	6.6	6.8

Mark Breuker



# EIA Short Term Outlook

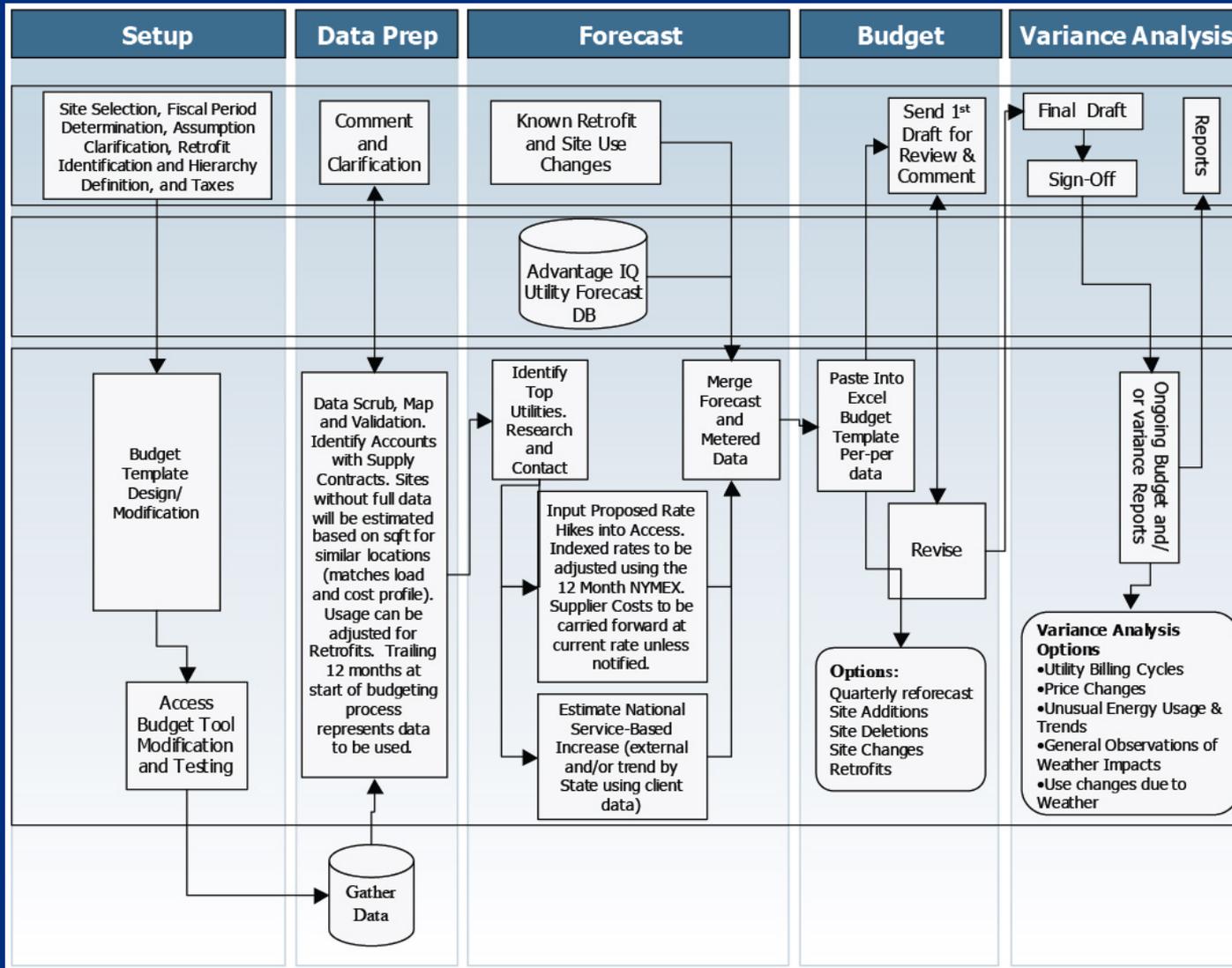
## 2009 Gas Pricing

**Table 5c. U.S. Regional Natural Gas Prices**

Dollars per Thousand Cubic Feet

Commercial	2007				2008				2009				2007	2008	2009
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
New England	14.12	14.2	13.45	13.69	14.49	15.96	15.29	16.23	16.71	15.75	14.83	15.78	13.97	15.27	16.11
Middle Atlantic	12.45	12.08	10.91	12.29	13.22	14.47	13.62	14.39	14.65	13.71	12.95	13.75	12.14	13.87	14.02
East North Central	10.67	11.12	10.86	10.14	10.76	12.99	13.25	12.53	12.56	12.5	12.69	12.17	10.66	11.91	12.46
West North Central	10.62	10.84	10.63	9.92	10.73	12.99	12.91	12.76	12.97	12.39	12.43	12.22	10.46	11.81	12.62
South Atlantic	12.71	12.82	12.68	12.77	13.33	14.85	14.72	14.52	14.62	14.29	14.37	14.28	12.74	14.28	14.43
East South Central	12	12.53	12.88	12.6	12.64	14.37	14.25	14.29	14.22	13.85	13.71	13.71	12.34	13.6	13.96
West South Central	9.66	10.61	10.51	10.75	10.82	12.62	12.43	12.92	12.62	12	11.98	12.34	10.22	11.92	12.33
Mountain	9.67	10.03	10.64	9.25	9.79	12.13	12.6	11.9	11.95	12	12.2	11.69	9.72	11.1	11.91
Pacific	11.06	11.04	10.72	10.55	11.45	12.85	12.42	12.65	13.11	12.29	12.01	12.29	10.86	12.25	12.53
U.S. Average	11.35	11.59	11.23	10.99	11.66	13.62	13.41	13.35	13.52	13.08	12.92	12.9	11.3	12.74	13.2
<b>Industrial</b>															
New England	12.87	12.51	10.48	11.98	13.04	14.11	13.52	14.81	15.9	14.07	12.87	14.09	12.21	13.8	14.57
Middle Atlantic	11.64	10.83	9.74	10.9	11.94	12.95	12.62	13.79	14.55	12.27	12.11	13.16	10.94	12.77	13.25
East North Central	9.65	9.99	9.68	9.29	10.21	11.86	11.45	11.54	11.81	10.99	10.86	11.15	9.62	11.06	11.34
West North Central	8.85	8.07	6.94	7.78	9.16	10.41	9.88	10.58	11.12	9.57	9.35	10.12	7.95	9.97	10.1
South Atlantic	9.38	9.4	8.74	9.35	10.56	11.8	11.55	12.2	12.25	10.89	10.83	11.53	9.24	11.57	11.41
East South Central	8.88	8.87	7.99	8.45	9.63	11.05	10.73	11.49	11.53	10.29	10.17	10.98	8.58	10.75	10.78
West South Central	6.99	7.61	6.21	6.8	8.06	9.67	9.33	9.73	9.7	8.83	8.82	9.22	6.89	9.22	9.14
Mountain	9.44	9.07	8.51	8.55	9.41	10.95	10.71	11	11.33	10.32	10.18	10.58	8.92	10.48	10.64
Pacific	9	8.12	7.54	8.68	9.81	10.08	9.86	10.9	11.07	9.27	9.5	10.62	8.34	10.17	10.11
U.S. Average	7.97	8.07	6.74	7.5	8.94	10.18	9.8	10.45	10.66	9.35	9.26	9.92	7.58	9.84	9.82

# A Micro Approach to Utility Budgeting





# Set-up and Data Prep

- Determine the appropriate source of baseline data
- Resolve billing period discrepancies (normalized data)
- Map data to appropriate budget groups
- Break into usage and unit cost components

# Define the Baseline Usage and Structure

Site Name	State	SQFT	Primary Electric Utility	Period 1 Use	Period 2 Use	Period 3 Use	Period 4 Use	Period 5 Use
Site 00001	FL	21,350	Florida Power & Light Company (FPL)	45,743	48,884	87,799	65,309	73,747
Site 00002	FL	23,225	Florida Power & Light Company (FPL)	58,894	60,470	122,374	76,090	71,239
Site 00003	FL	20,759	Florida Power & Light Company (FPL)	41,289	40,586	46,722	45,323	41,334
Site 00004	FL	21,350	Florida Power & Light Company (FPL)	69,079	52,363	81,736	60,549	73,041
Site 00005	GA	21,674	Georgia Power	46,846	37,915	48,300	41,014	50,393
Site 00006	TX	23,247	Strategic Energy-643249	39,705	44,085	79,388	72,436	78,875
Site 00007	GA	20,533	Georgia Power	82,120	59,892	55,496	48,655	61,572
Site 00008	TX	22,159	Strategic Energy-643249	34,806	39,927	49,756	59,225	68,207
Site 00009	TX	24,859	Strategic Energy-643249	42,277	42,143	59,674	58,726	67,603
Site 00010	TX	23,781	Strategic Energy-643249	74,891	40,743	73,443	45,028	57,589
Site 00011	FL	24,371	Florida Power & Light Company (FPL)	37,225	38,369	71,713	43,674	46,430
Site 00012	TX	22,659	Strategic Energy-643249	56,976	71,751	98,741	62,233	84,770
Site 00013	FL	23,093	Florida Power & Light Company (FPL)	43,582	52,165	62,216	53,813	47,308
Site 00014	TN	22,953	Nashville Electric Service	43,903	38,018	49,862	37,657	55,404
Site 00015	FL	20,704	Progress Energy/Florida Power Corp	40,285	39,598	76,866	53,734	59,238
Site 00016	FL	20,580	JEA/Jacksonville Electric Authority	50,380	48,069	75,593	54,969	70,345
Site 00017	FL	21,143	Florida Power & Light Company (FPL)	53,584	42,557	61,684	63,172	84,025
Site 00018	KY	22,268	Louisville Gas & Electric	34,322	33,180	45,811	41,153	37,008
Site 00019	MO	21,148	Ameren UE/66301	37,140	47,528	55,786	44,062	56,884
Site 00020	FL	23,112	JEA/Jacksonville Electric Authority	36,132	45,223	71,629	45,281	53,012
Site 00021	FL	24,255	Progress Energy/Florida Power Corp	25,399	23,394	47,057	44,499	49,108
Site 00022	TX	21,115	City of Austin, TX	29,893	32,202	41,225	40,577	37,336
Site 00023	NC	24,298	Duke Energy/70516	30,021	25,193	41,087	30,455	44,856
Site 00024	MO	22,249	Ameren UE/66301	31,129	31,749	46,818	45,578	59,461
Site 00025	FL	20,601	Florida Power & Light Company (FPL)	52,631	65,312	90,953	66,907	63,007
Site 00026	TN	22,407	KUB-Knoxville Utilities Board	48,940	47,662	63,498	47,603	76,463
Site 00027	NC	24,304	Duke Energy/70516	32,139	33,334	36,897	39,890	33,554
Site 00028	KY	22,492	KU-Kentucky Utilities Company	63,916	88,626	103,697	66,251	60,857
Site 00029	MO	22,337	Ameren UE/66301	38,385	35,706	44,428	51,377	46,925
Site 00030	FL	21,381	Florida Power & Light Company (FPL)	71,049	54,691	62,863	75,679	66,860
Site 00031	FL	22,287	Florida Power & Light Company (FPL)	63,055	73,426	98,420	71,558	92,049
Site 00032	OK	21,972	AEP/24421 Public Service Company of OK	54,813	60,775	62,250	58,595	69,615

# Baseline Information From Facility IQ

01 AIQ Demo Client (Normalized) - Cognos PowerPlay Web Explorer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Facility IQ PowerPlay Web Explorer 01 AIQ Demo Client (Normalized) FACILITY IQ

Time Accounts Services Vendors Responsibility Center Site Status Reporting Periods MEASURES

MEASURES as values		2007/Jan	2007/Feb	2007/Mar	2007/Apr	2007/May	2007/June	2007/Jul	2007/Aug	2007/Sep	2007/Oct	2007/Nov	2007/Dec	
<b>007-Chicago</b>	<b>Electric</b>	<u>Usage (Converted)</u>	51,802	42,430	46,409	46,914	17,934	43,541	75,301	78,322	70,668	60,951	50,530	50,658
		<u>Cost per Unit (with Tax)</u>	\$0.087	\$0.099	\$0.105	\$0.106	\$0.104	\$0.099	\$0.103	\$0.105	\$0.104	\$0.101	\$0.098	\$0.097
	<b>Natural Gas</b>	<u>Usage (Converted)</u>	1,453	1,896	902	407	148	105	12	12	16	178	1,121	2,415
		<u>Cost per Unit (with Tax)</u>	\$1.152	\$1.159	\$1.252	\$1.334	\$1.501	\$1.400	\$4.105	\$4.105	\$3.259	\$1.230	\$1.079	\$1.063
	<b>Water</b>	<u>Usage (Converted)</u>	11	10	12	12	15	15	23	24	18	18	14	15
		<u>Cost per Unit (with Tax)</u>	\$1.352	\$1.357	\$1.356	\$1.356	\$1.329	\$1.327	\$1.327	\$1.327	\$1.345	\$1.345	\$1.339	\$1.339
<b>034-Schaumburg</b>	<b>Electric</b>	<u>Usage (Converted)</u>	52,019	47,297	51,535	53,109	63,951	71,861	79,234	66,128	21,038	62,910	53,213	48,934
		<u>Cost per Unit (with Tax)</u>	\$0.082	\$0.089	\$0.091	\$0.096	\$0.091	\$0.089	\$0.093	\$0.095	\$0.097	\$0.096	\$0.092	\$0.099
	<b>Natural Gas</b>	<u>Usage (Converted)</u>	1,097	1,362	1,144	254	203	3	9	5	37	183	648	1,297
		<u>Cost per Unit (with Tax)</u>	\$0.842	\$0.868	\$0.968	\$1.221	\$1.183	\$6.012	\$7.999	\$14.338	\$2.418	\$1.146	\$0.885	\$0.840
	<b>Water</b>	<u>Usage (Converted)</u>	17	12	13	13	1	12	15	15	10	8	8	10
		<u>Cost per Unit (with Tax)</u>	\$4.574	\$4.741	\$4.681	\$4.592	\$4.576	\$4.533	\$4.514	\$4.504	\$4.604	\$4.629	\$4.628	\$4.582
<b>027-Paramus</b>	<b>Electric</b>	<u>Usage (Converted)</u>	53,640	48,548	55,747	58,704	70,497	69,786	82,923	77,219	71,606	67,583	53,757	49,983
		<u>Cost per Unit (with Tax)</u>	\$0.116	\$0.117	\$0.121	\$0.124	\$0.144	\$0.149	\$0.170	\$0.168	\$0.170	\$0.133	\$0.131	\$0.130
	<b>Natural Gas</b>	<u>Usage (Converted)</u>	358	525	372	116	46	31	33	38	55	54	127	261
		<u>Cost per Unit (with Tax)</u>	\$1.345	\$1.359	\$1.447	\$1.422	\$1.567	\$1.632	\$1.563	\$1.409	\$1.317	\$1.429	\$1.434	\$1.412
	<b>Water</b>	<u>Usage (Converted)</u>	19	14	15	9	14	14	14	18	13	13	12	16
		<u>Cost per Unit (with Tax)</u>	\$23.829	\$29.792	\$32.458	\$40.303	\$31.104	\$27.236	\$30.952	\$26.341	\$31.099	\$34.166	\$36.681	\$35.427

2007/Jan Internet



# Forecasting Unit Cost and Usage Changes

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- Track and apply supply changes by period
- Ensure % change applies to the right portion of the bill
  - Supply vs. distribution
- Model commodity contracts
  - Index exposure – hedge in advance if possible
  - Examine contract expiration dates

# Forecast by Period for Maximum Accuracy

Budget sample.xls												
	A	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
1	Site Name/Number	Unit Cost Period 8	Unit Cost Period 9	Unit Cost Period 10	Unit Cost Period 11	Unit Cost Period 12	Forecast Period 1	Forecast Period 2	Forecast Period 3	Forecast Period 4	Forecast Period 5	Forecast Period 6
3	10000001	0.0548	0.0523	0.0479	0.0492	0.0526	1.00	1.00	1.00	1.00	1.00	1.05
4	10000002	0.0560	0.0511	0.0475	0.0498	0.0547	1.00	1.00	1.00	1.00	1.00	1.05
5	10000003	0.0566	0.0485	0.0490	0.0490	0.0536	1.00	1.00	1.00	1.00	1.00	1.05
6	10000004	0.0573	0.0530	0.0503	0.0516	0.0554	1.00	1.00	1.00	1.00	1.00	1.05
7	10000005	0.0590	0.0508	0.0508	0.0528	0.0557	1.00	1.00	1.00	1.00	1.00	1.05
8	10000006	0.0511	0.0490	0.0470	0.0481	0.0511	1.00	1.00	1.00	1.00	1.00	1.05
9	10000007	0.0592	0.0558	0.0569	0.0587	0.0599	1.00	1.00	1.00	1.00	1.00	1.05
10	10000008	0.0522	0.0494	0.0496	0.0506	0.0522	1.00	1.00	1.00	1.00	1.00	1.05

Primary Electric Utility	State	Period 1	Period 2	Period 3	Period 4	Period 5					
Access Energy	IA	1.96%	1.96%	1.34%	1.34%	1.34%	1.00	1.00	1.00	1.00	1.05
AEP/24002-Ohio Power	OH	1.77%	1.77%	1.77%	1.77%	1.77%	1.00	1.00	1.00	1.00	1.05
AEP/24407/24412-Indiana Michigan	MI	1.77%	1.77%	1.77%	1.77%	1.77%	1.00	1.00	1.00	1.00	1.05
AEP/24413/24415-Appalachian Power	OH	1.77%	1.77%	1.77%	1.77%	1.77%	1.00	1.00	1.00	1.00	1.05
AEP/24418-Columbus Southern Power	OH	1.77%	1.77%	0.00%	0.00%	0.00%	1.00	1.00	1.00	1.00	1.05
AEP/24421 Public Service Company of OK	OK	2.17%	2.17%	1.77%	1.77%	1.77%	1.00	1.00	1.00	1.00	1.05
AEP/24422-Southwestern Electric Power	OK	2.17%	2.17%	1.77%	1.77%	1.77%	1.00	1.00	1.00	1.00	1.05
Alabama Power	AL	6.13%	6.13%	6.13%	6.13%	6.13%	1.00	1.00	1.00	1.00	1.05
Alameda Power & Telecom	CA	2.11%	2.11%	2.11%	2.11%	2.11%	1.00	1.00	1.00	1.00	1.05
ALLEGHENY POWER - ACCT NUMBERS 1	PA	1.64%	1.64%	1.64%	1.64%	1.64%	1.00	1.00	1.00	1.00	1.05
ALLEGHENY POWER-ACCT NUMBERS 2	PA	1.64%	1.64%	10.30%	10.30%	10.30%	1.00	1.00	1.00	1.00	1.05
Alliant Energy IES Utilities	IA	1.96%	1.96%	1.96%	1.96%	1.96%	1.05	1.05	1.05	1.05	1.05
Alliant Energy/Interstate Power Company	IA										
Alliant Energy/WP&L	IA										
Ameren CIPS/66875	MO										
Ameren UE/66301	MO										
Ameren UE/66529	MO										
AmerenCILCO - 66826	MO										
AmerenIP	IL										
APS/Arizona Public Service	AZ										
Aquila, Inc.	IL										
Atlantic City Electric /4875	NJ	1.64%	1.64%	1.64%	1.64%	1.64%	1.05	1.05	1.05	1.05	1.05
Avista Utilities	WA	2.17%	2.17%	2.17%	2.17%	2.17%	1.05	1.05	1.05	1.05	1.05
Baltimore Gas & Electric (BG&E)	PA	1.64%	1.64%	15.00%	15.00%	15.00%					

- Current year unit cost determined
- Forecast year price escalation estimated unique for each provider and period

# Complete Budget by Site and Period

*Rollup as Needed*

Budget sample.xls													
	A	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG
1	Site Name/Number	Costs Period 1	Costs Period 2	Costs Period 3	Costs Period 4	Costs Period 5	Costs Period 6	Costs Period 7	Costs Period 8	Costs Period 9	Costs Period 10	Costs Period 11	Costs Period 12
3	10000001	3,505	2,983	3,369	5,088	4,121	4,222	4,986	3,482	3,171	3,685	2,790	2,967
4	10000002	7,285	5,910	6,692	9,812	7,954	8,852	10,645	6,464	6,262	7,713	6,128	6,161
5	10000003	7,031	5,899	7,252	9,874	8,282	8,612	9,652	6,684	5,863	7,498	5,920	5,917
6	10000004	6,437	5,643	6,389	9,619	8,236	8,372	9,712	6,161	5,772	7,072	5,576	5,871
7	10000005	6,427	5,412	6,587	9,145	8,020	8,406	9,556	6,246	5,369	6,575	5,303	5,410
8	10000006	6,759	5,430	6,178	9,415	7,780	8,023	8,904	6,033	5,767	7,098	5,756	5,911
9	10000007	9,454	8,043	9,549	13,175	10,495	10,396	10,779	8,558	8,054	10,138	7,354	7,412
10	10000008	7,364	5,837	6,849	10,096	8,329	8,773	9,535	6,775	6,106	7,750	6,058	6,328
11	10000009	9,469	7,519	8,135	10,033	9,209	8,562	11,433	8,162	7,907	9,882	7,982	7,741
12	10000010	10,680	8,689	9,090	13,722	11,483	11,631	13,662	8,700	8,246	10,300	8,373	8,641
13	10000011	6,730	5,662	6,268	8,402	7,290	7,580	8,171	5,812	5,267	6,383	5,316	5,444
14	10000012	7,162	6,287	6,922	10,015	7,748	8,203	9,701	6,934	6,279	7,928	6,181	5,779
15	10000013												
16	10000014	8,285	6,724	6,846	9,014	7,394	7,799	9,655	7,390	7,173	8,768	7,474	7,470
17	10000015	6,491	5,437	6,150	8,265	6,289	6,819	8,333	5,510	5,229	6,350	5,138	4,964
18	10000016	8,449	6,873	7,434	11,041	10,959	12,304	13,561	7,639	7,209	9,005	6,929	6,989
19	10000017	6,321	5,357	5,814	8,993	6,800	7,509	8,393	5,287	5,147	6,283	4,962	4,896
20	10000018	6,398	5,333	6,114	8,712	7,190	7,852	8,876	5,610	5,576	6,678	5,242	5,319
21	10000019	5,348	4,736	6,091	8,758	6,465	6,406	6,845	4,682	4,777	5,453	3,835	4,023
22	10000020	11,216	9,536	9,751	12,588	10,556	10,321	12,579	10,101	10,163	12,221	9,493	9,818
23	10000021	10,281	8,330	9,372	12,945	10,190	10,764	13,796	9,500	9,030	11,210	8,964	8,921
24	10000022	4,437	3,892	4,082	5,448	4,744	4,825	5,945	4,256	4,080	4,756	3,805	3,767
25	10000023	8,772	7,306	8,199	10,737	8,639	8,969	10,496	8,379	7,795	9,036	7,177	7,592
26	10000024	6,759	5,866	6,346	9,344	7,600	7,874	8,877	6,598	6,474	8,305	6,735	6,600
27	10000025	6,844	6,046	6,789	9,471	8,001	8,104	8,921	6,984	6,684	8,195	6,414	6,631
28	10000026	10,566	8,932	8,848	12,567	10,148	10,379	12,453	9,651	9,263	9,724	8,843	9,005
29	10000027	6,481	5,408	7,375	12,399	10,017	10,259	10,078	5,306	5,296	6,411	4,987	4,998
30	10000028	7,250	6,620	9,372	11,383	9,288	9,271	7,713	5,803	5,651	6,641	5,556	5,606
31	10000029	6,102	5,677	9,138	11,514	9,846	9,287	6,768	5,015	4,973	5,730	4,723	4,705
32	10000030	7,660	6,369	7,761	15,669	12,493	12,340	13,423	6,741	6,922	8,850	6,972	7,249
33	10000031	7,348	6,287	6,922	10,015	7,748	8,203	9,701	6,934	6,279	7,928	6,181	5,779



# Summary

- Markets are changing rapidly – driving uncertainty in utility pricing
- Fuel mix and the regulatory landscape influence how these changes are passed to your sites
- Macro-level approaches are available through EIA and other national organizations
- A micro-level approach provides the greatest accuracy and visibility and drives accountability
- Data within the a web-based utility management system can provide a great baseline to start your budget



# For More Information

- Would you like to know more about this session?

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Don't forget to fill out and drop off your session evaluations!