



# How to Analyze Your Energy Bills- Natural Gas

August 8, 2007



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# For More Information

- Would you like to know more about this session?
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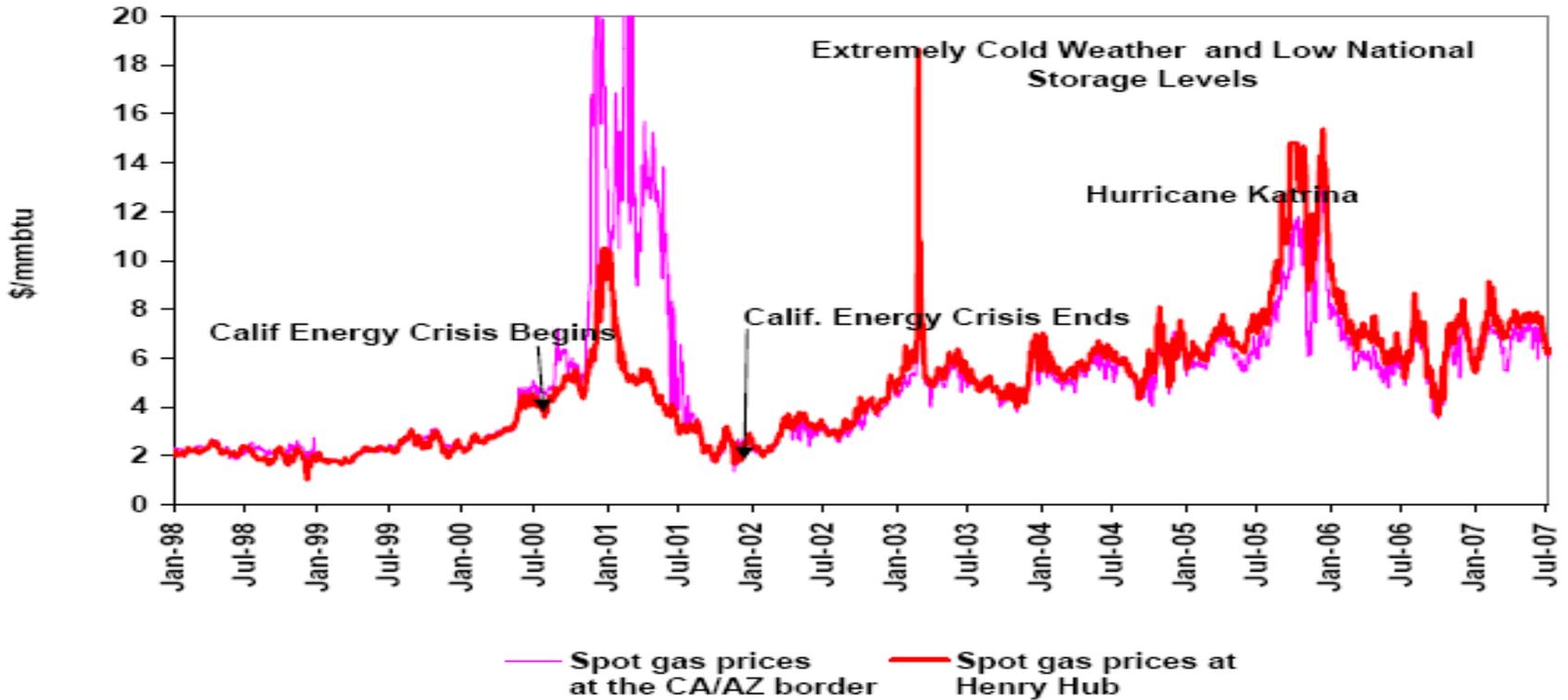
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# Agenda

- Common Terms
- Natural Gas Market Overview
- Your Bill- What it Covers
- How to Analyze your Bill
- Analysis for Business Decisions
- Resources

# Why Should You Analyze Your Utility Bill?



Source: Spot gas prices from Btu's Daily Gas Wire - - [www.btu.net](http://www.btu.net)

# Common Terms - Market

- MMBTU
- Decatherm
- NYMEX
- Index
- Monthly Bid Week Price
- Strip
- Futures
- Basis
- Heat Rate
- Spark spread



# Common Terms- Utility

- Therm
- BTU Factor
- Fees
- Taxes
- WACOG
- Cubic Foot (CF)
- Heating Value
- Cycle
- Tier
- Transportation
- Commodity
- Non-Core
- Core
- Pressure Delivery



# Natural Gas Market Overview

*Enerfax Daily*

**NORTH AMERICA'S POWER & GAS INFORMATION SOURCE**

**PHYSICAL GAS PRICES**

**Tuesday, July 17, 2007**

**No. 2259**

**Gulf/Eastern Region**

Agua Dulce	6.12
ANR SE	6.29
Carthage TG	6.07
Chicago Citygate	6.24
Columbia Gulf Onshore	6.26
Dominion South Point	6.77
Henry Hub	6.32
Houston Ship Channel	6.02
Katy Hub	6.07
NGPL – LA Pool	6.13
NGPL - Midcontinent	5.79
NGPL STX	6.07
NGPL TX/OK	6.01

NNG Demarc.	5.99
FGT Zone 3	7.16
PEPL Pool	5.78
Sonat Tier 1	6.32
TCO IPP Pool	6.58
TETCO E.La	6.31
TETCO M-3	6.93
TETCO S.TX	6.12
TGP Zone 0	6.10
TGP Zone 1 (500 Leg)	6.28
TGT Zone SL	6.29
New York Citygate	7.01
Transco Station 65	6.37
Transco Zone 6 (NY)	6.95

Trunk E.La	6.31
<b><u>Western Region</u></b>	
California Border	5.99
El Paso Permian	5.89
El Paso San Juan	5.46
Waha Hub	6.04

**Canadian/Rockies Region**

Nova/Aeco \$/MMBtu	5.19
Dawn Hub/Union	6.48
Northwest Stanfield	5.74
Wyoming Pool	2.93
Opal	3.28
PGT-Malin	5.87
Huningdon/Sumas	5.67





# Natural Gas Market Overview

## Natural Gas NYMEX Volume

Month/Yr	Volume	Open	Int
Aug '07	51620	66486	
Sep '07	22171	128155	
Oct '07	11664	75976	
Nov '07	2388	35556	
Dec '07	1321	47573	
Jan '08	3781	39795	
Feb '08	171	32657	
Mar '08	1070	49676	
Apr '08	929	43114	
May '08	459	27169	
Jun '08	91	14428	
Jul '08	45	6543	
Aug '08	13	9420	
Sep '08	80	6574	
Oct '08	1429	25313	
Nov '08	254	10718	
Dec '08	10	13731	
Jan '09	1779	25397	
Feb '09	2	3371	
Mar '09	756	19196	
Apr '09	214	17724	
May '09	0	8211	
Jun '09	515	3282	
Jul '09	0	2944	

*Enerfax Daily* - Section 8 - July 17, 2007

## NYMEX NATURAL GAS FUTURES

Traded 7/16/07

### NYMEX Natural Gas Futures

<b>03 Month Strip</b>	\$6.4890	-0.3020
<b>06 Month Strip</b>	\$7.2900	-0.2635
<b>12 Month Strip</b>	\$7.6423	-0.2101
<b>18 Month Strip</b>	\$7.9136	-0.1823

Month	Open	High	Low	Last	Change
<b>AUG</b>	6.527	6.527	6.314	6.365	-0.297
<b>SEP</b>	6.670	6.670	6.418	6.462	-0.308
<b>OCT</b>	6.875	6.875	6.590	6.640	-0.301
<b>NOV</b>	7.586	7.610	7.410	7.485	-0.236
<b>DEC</b>	8.325	8.325	8.160	8.210	-0.226
<b>JAN</b>	8.680	8.680	8.520	8.578	-0.213
<b>FEB</b>	8.685	6.685	8.530	8.560	-0.233
<b>MAR</b>	8.478	8.478	8.325	8.350	-0.236
<b>APR</b>	7.760	7.780	7.700	7.730	-0.131
<b>MAY</b>	7.670	7.716	7.651	7.678	-0.126
<b>JUN</b>	7.730	7.790	7.730	7.790	-0.092
<b>JUL</b>	7.865	7.890	7.850	7.860	-0.122



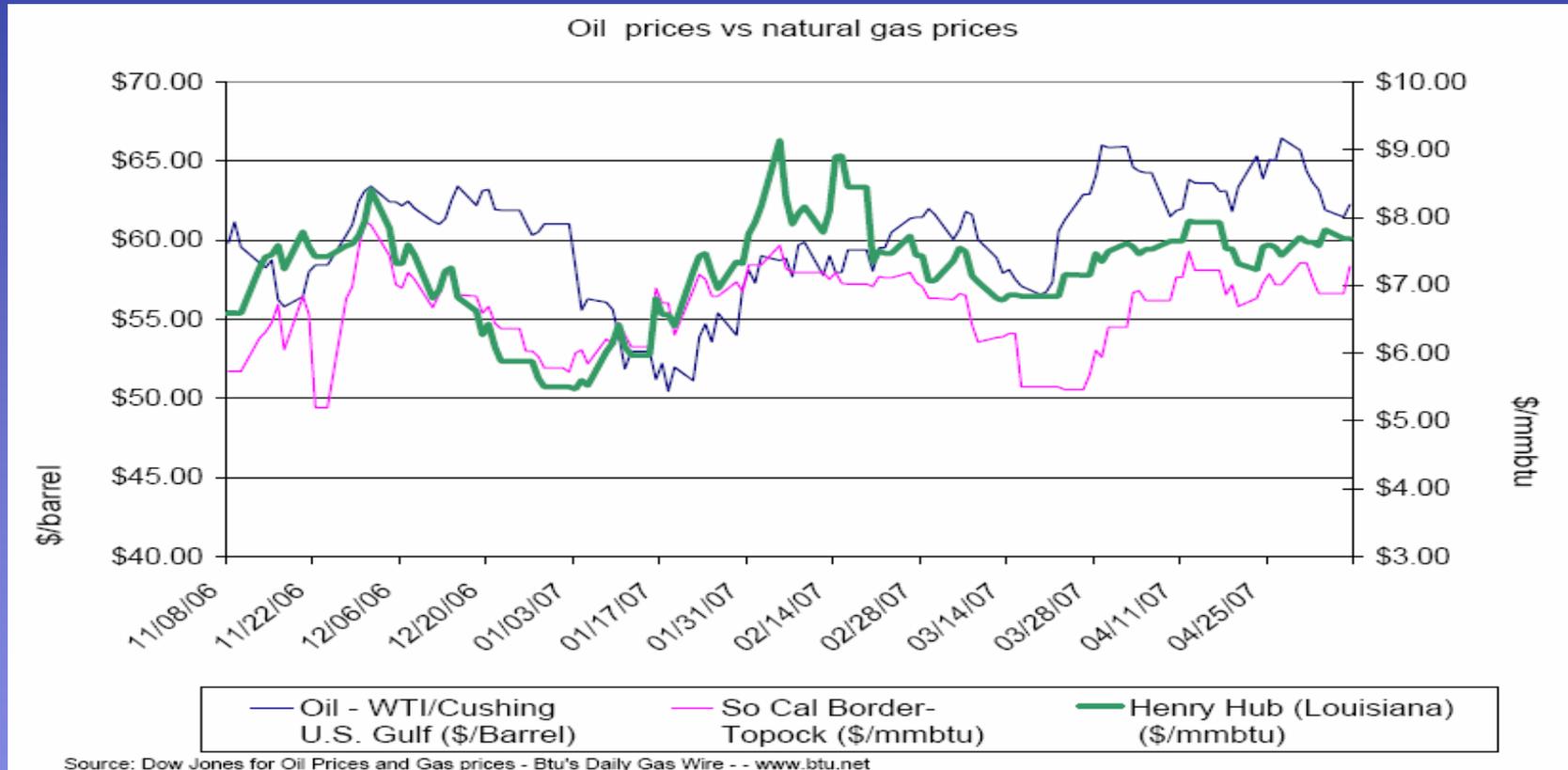
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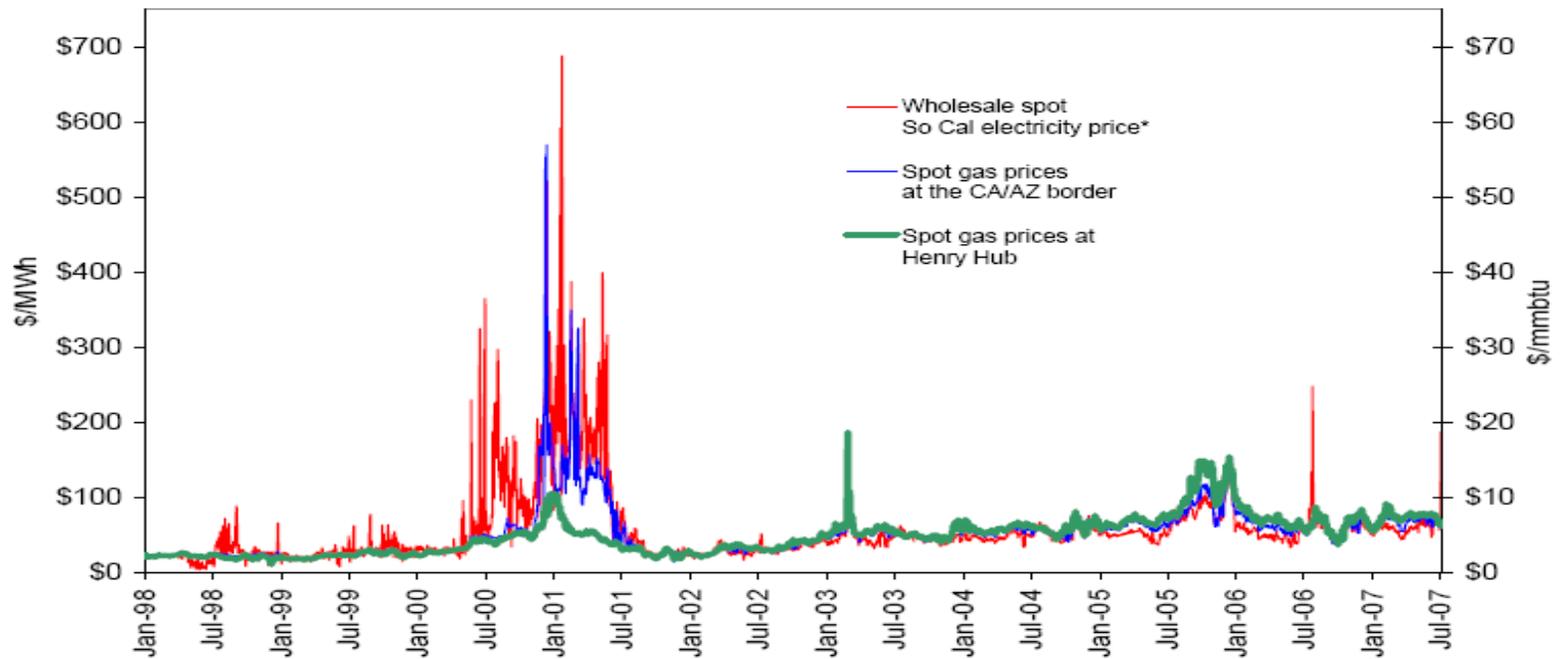
August 8

# Natural Gas Market Overview



# Natural Gas Market Overview

## Wholesale Gas & Electricity Price Comparison

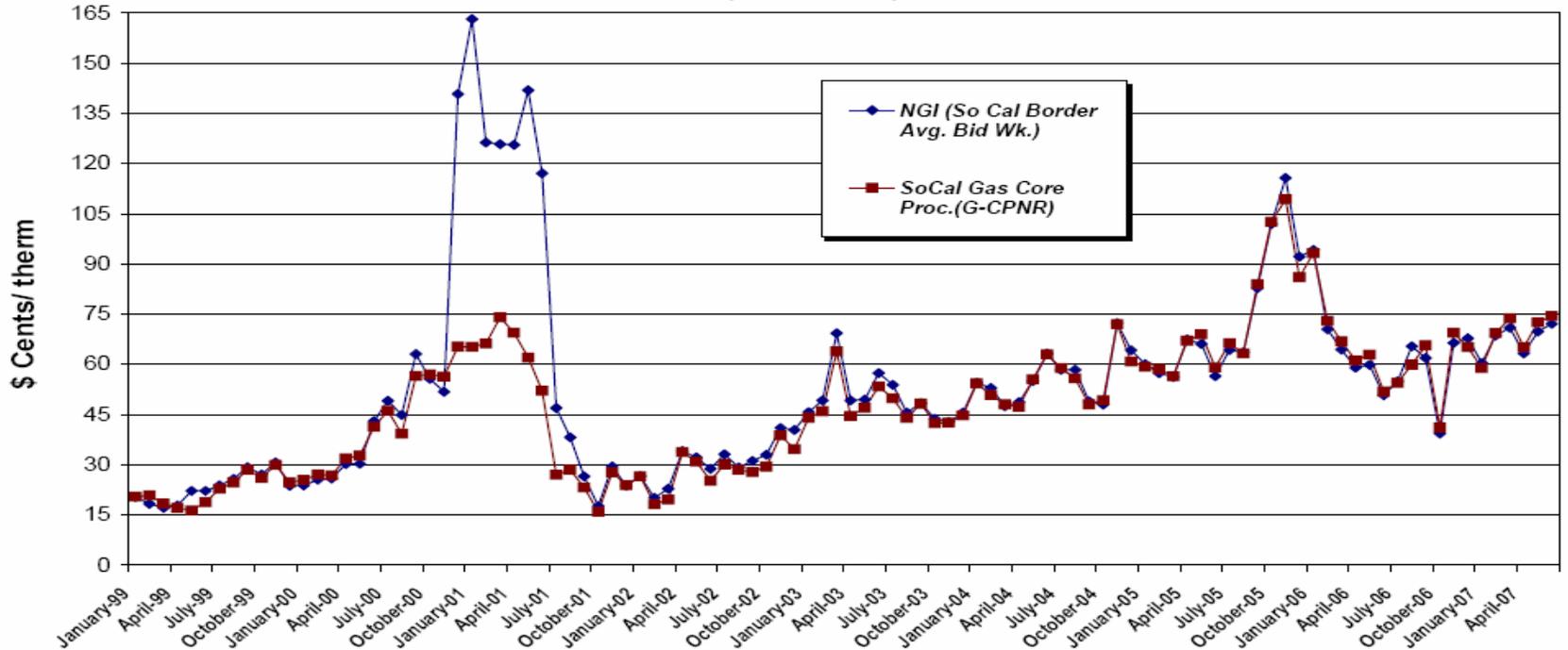


SP15\* - Average Hourly SP15 CA PX Constrained Price through 01/31/01, SP15 On-peak and off-peak hour weighted average SP 15 Dow Jones index (Wall St. Journal) from 02/01/01, 05/23/2001 to 11/15/2003 Reuters, from 11/16/2003 Dow Jones, -1/19/2006 - 04/09/2006 ICE - Energy Velocity Spot gas prices at the CA/AZ border from Btu's Daily Gas Wire -- www.btu.net Stage 3 CA ISO Alerts - Dec. 4, 2000, Jan. 11, 12, 16-31, Feb. 1-16, Mar. 19-20, May 7-8 2001.



# Natural Gas Market Overview

### NGI(So Cal Border Avg. Bid Week Price) vs. SoCal Gas Core Procurement Rate(G-CPNR) 1999 - Present



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# Your Bill- What it Covers

- Bundled/Regulated-  
Unbundled/Deregulated/3<sup>rd</sup> Party
- The Charges
- Storage



# Utility- Core- Transportation and Commodity

072 725 2600 0



24-Hour Service and Info:

(800) 427-2000 (English)  
(800) 427-6029 (Español)

H

Date Paid: Feb 22, 2007						
Rate	Climate zone	Cycle	The Gas Company's Gas Commodity			
GN-10	1	13	\$0.69362/Therm			
Billing Period	Meter	Readings	Diff.	Pres.	BTU	
From To	Number	Prev Pres	=CCF	Factor	Factor=	Therms
01/18/07 02/20/07	05289198	564321 580546	16225		x 1.019=	16533
Next Meter Reading Date on or about: Mar 21 2007						

## Summary of Charges

	Amount
Customer Charge	33 Days x 0.49315= \$ 16.27
Commodity Tier 1	250 Therms x 1.09592= 273.98
Commodity Tier 2	3917 Therms x 0.87469= 3,426.16
Commodity Tier 3	12366 Therms x 0.69864= 8,639.38
<b>Gas Charges</b>	<b>12,355.79</b>
State Regulatory Fee	16533 Therms x 0.00076= 12.57
<b>Taxes &amp; Fees on Gas Charges</b>	<b>12.57</b>
<b>Total Gas Charges Including Taxes and Fees</b>	<b>12,368.36</b>

Last Payment 08 2007 9,902.02

Total Current Gas Charges 12,368.36

**Total Amount Due 12,368.36**

.7% Late Payment Charge Due if Paid After Mar 16, 2007



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# Utility- Non Core- Transportation Only

<b>Customer Name</b>	[REDACTED]		<b>Last Payment</b>
<b>Service Address</b>	[REDACTED]		<b>Date</b> 2/23/2007 <b>Amount</b> \$18,873.27
<b>Account Number</b>	[REDACTED]		
<b>Old Account Number</b>	D26		
<b>Billing Period:</b>	<b>From</b> 2/1/2007	<b>To</b> 3/1/2007	<b>Therms Used</b> 175,110

**SUMMARY OF BILLING CHARGES:**

Description Of Charges	Amount
Customer Charge	350.00
Transmission Charge	12,415.95
Take Or Pay / Use Or Pay Charge	1,447.58
State Mandated Charges	1,985.74
<b>TOTAL CURRENT CHARGE</b>	<b>Past Due If Not Paid By 03/26/07</b> <b>\$16,199.27</b>
<b>PREVIOUS BALANCE</b>	<b>\$0.00</b>
<b>TOTAL AMOUNT DUE</b>	<b>0.7% Late Payment Charge Due If Paid After 03/29/07</b> <b>\$16,199.27</b>

# Utility- Non Core- Transportation Only

## BILLING SCHEDULE:

Tariff	Contract Allocations % Therms/month	Therms	Monthly Use or Pay
GTF3D	330,960	175,110	73,110
GTI3D	1	0	0

## CUSTOMER CHARGE:

Tariff	Amount
GCS3D/GTF3D/GTI3D	350.00
<b>Total Customer Charge</b>	<b>\$350.00</b>

## TRANSMISSION CHARGE:

Tariff	Eff. Date	Therms	X	Rate	=	Amount
GTF3D	2/1/2007	20,833		0.13829		2,881.00
GTF3D	2/1/2007	62,500		0.08414		5,258.75
GTF3D	2/1/2007	83,334		0.04950		4,125.03
GTF3D	2/1/2007	8,443		0.02475		208.96
		<b>Total Volumetric Charge</b>				<b>\$12,473.74</b>
GTF3D	2/1/2007	175,110		(0.00033)		(57.79)
		<b>Total Interstate Transition Cost Surcharge</b>				<b>(\$57.79)</b>
		<b>Total Transmission Charge</b>				<b>\$12,415.95</b>

# Utility- Non Core- Transportation Only

## TAKE OR PAY / USE OR PAY:

Description						Therms
Monthly TOP/UOP						73,110
Tariff	Eff. Date	Therms	X	Rate	=	Amount
GTF3D	2/1/2007	73,110		0.01980		1,447.58
<b>Total Use Or Pay Charge</b>						<b>\$1,447.58</b>
<b>Total Take Or Pay / Use Or Pay Charge</b>						<b>\$1,447.58</b>

## STATE MANDATED CHARGES:

Tariff	Eff. Date	Therms	X	Rate	=	Amount
<b>Municipal Surcharge</b>						
GTF3D	2/1/2007	175,110		0.01058		1,852.66
<b>Total Municipal Surcharge</b>						<b>\$1,852.66</b>

# Utility- Non Core- Transportation Only

## STATE MANDATED CHARGES:

Tariff	Eff. Date	Therms	X	Rate	=	Amount
State Regulatory Fee GTF3D	2/1/2007	175,110		0.00076		133.08
<b>Total State Regulatory Fee</b>						<b>\$133.08</b>
<b>Total State Mandated Surcharges</b>						<b>\$1,985.74</b>

## METER INFORMATION:

Meter Number	Effective Date	Total CCF	Billing Factor	Total Therms
10907154	2/1/2007	106565	1.060	112,958
10907152	2/1/2007	58635	1.060	62,152
<b>Total</b>		<b>165200</b>		<b>175,110</b>

# 3<sup>rd</sup> Party Commodity Only

**LOCAL DISTRIBUTION COMPANY:** Southern California Gas Company (SoCal)  
**CONTRACTOR:** BP ENERGY COMPANY  
**CUSTOMER:** [REDACTED]

**DELIVERIES:** MAY 2007

**ORDER NUMBER:** [REDACTED]

	Quantity (DTH)	Debit	Total Cost
Consumption (EPA)	57821		<u>\$402,995.02</u>
Consumption (Firm Fixe- Gas Cost/DTH (EPA)	0	\$ [REDACTED]	\$0.00
Gas Cost/DTH (FF)	\$0.0000		
STORAGE FEE			\$784.62
Monthly Totals	57,821		\$403,779.64

**ACCOUNT #**

[REDACTED]

53,195

4,626

57,821

**POC PAYMENT OFFICE:** [REDACTED]



# Utility- Storage

<b>Customer Name</b>	[REDACTED]		<b>Last Payment</b>
			<b>Date                      Amount</b>
			06/22/2007                      \$3,972.11
<b>Account Number</b>	[REDACTED]		
<b>Old Account Number</b>	[REDACTED]		
<b>Billing Period:</b>	<b>From</b>	<b>To</b>	
	06/01/2007	07/01/2007	

### SUMMARY OF BILLING CHARGES:

Description Of Charges	Amount
Storage Charge	3,915.92
<b>TOTAL CURRENT CHARGE</b>	<b>\$3,915.92</b>
<i>Past Due If Not Paid By 07/25/07</i>	
<b>PREVIOUS BALANCE</b>	<b>\$0.00</b>
<b>TOTAL AMOUNT DUE</b>	<b>\$3,915.92</b>
<i>0.7% Late Payment Charge Due If Paid After 07/30/07</i>	

# Utility- Storage

## CURRENT TRANSPORTATION DELIVERIES:

OCC ID	Mktr ID	P/L ID	Receipt Pt	Description	Therms
					0
<b>Total Transportation Deliveries</b>					<b>0</b>

## STORAGE:

Reservation Charge	Decatherms	X	Rate	= Total
BSS Injection	24,707		0.09425	2,328.63
BSS Inventory	23,900		0.21400	5,114.60
BSS Withdrawal	3,414		11.58400	39,547.78
Annual Reservation Charge				46,991.01
<b>Monthly Installment</b>				<b>\$3,915.92</b>

	Basic Service Therms
June Transactions	
Prior Storage Total	193245
Current Storage Therms	193245



# How to Analyze Your Bill

- Usage- Verify usage
- Rates – Are you on the “right” rate and is the rate being applied correctly?
- Charges- Are charges correct- Taxes, Fees, Public Purpose Programs?



# Analysis for Business Decisions

- Rates- Compare Rates.
- Charges – Make sure the right charges are accounted for in your analysis
- Energy Efficiency- What impact to your utility bill will your energy project make? Are you really getting your savings?

# Analysis For Business Decisions

## COMMERCIAL & INDUSTRIAL Rate Comparison Federal Customer

Rates currently in effect May, 2007

All Gas commodity prices (core procurement & NGI) are the last 12 months actual prices.

### **DISCLAIMER**

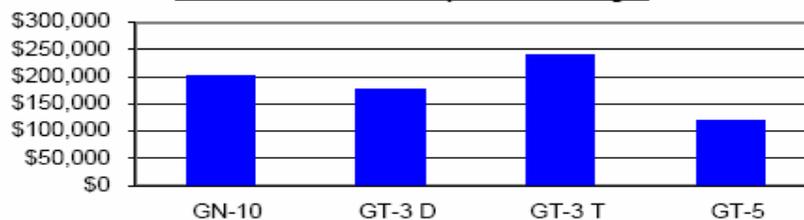
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### **Monthly Consumption Used for Analysis (therms):**

Jan	392,406
Feb	316,052
Mar	299,496
Apr	273,589
May	239,368
Jun	135,771
Jul	159,658
Aug	173,442
Sep	182,193
Oct	243,481
Nov	275,247
Dec	354,650

Annual Usage = 3,045,353

**Estimated Annual Transportation Charges**



# Analysis For Business Decisions

	GN-10	GT-3 D	GT-3 T	GT-5
Customer Charge	\$180	\$4,200	\$8,400	
Transport Charge	\$198,166	\$172,112	\$229,422	\$118,525
State Regulatory Fee G-SRF	\$2,314	\$2,314	\$2,314	\$2,314
Public Purpose Surcharge G-PPPS	\$171,727	\$83,199	\$83,199	
Municipal Surcharge G-MSUR				
Interstate Transition Cost Surcharge ITCS		(\$1,005)	(\$1,005)	(\$1,005)
Assigned Interstate Capacity Charge				
Utility User Tax (on non-gas charges)				
<b>Est. Annual Transportation Charges</b>	<b>\$372,000</b>	<b>\$261,000</b>	<b>\$322,000</b>	<b>\$120,000</b>
<b>Average Trans. Cost: Cents per Therm</b>	<b>12.2</b>	<b>8.6</b>	<b>10.6</b>	<b>3.9</b>
<b>Estimated Cost of Gas (based on 12-month historical prices):</b>				
Core Procurement	\$2,209,830			
Utility User Tax				
12-month Historical NGI Index		\$2,125,656	\$2,125,656	\$2,125,656
Utility User Tax (on gas charges)				
Los Angeles Municipal Transport Tax				
Fees Paid on NGI Index				
<b>Estimated Annual Gas Costs</b>	<b>\$2,209,830</b>	<b>\$2,125,656</b>	<b>\$2,125,656</b>	<b>\$2,125,656</b>
<b>Average Gas Cost: Cents per Therm</b>	<b>72.6</b>	<b>69.8</b>	<b>69.8</b>	<b>69.8</b>
<b>Estimated Annual Total Cost</b>	<b>\$2,582,000</b>	<b>\$2,387,000</b>	<b>\$2,448,000</b>	<b>\$2,246,000</b>
<b>Average Total Cost: Cents per Therm</b>	<b>84.8</b>	<b>78.4</b>	<b>80.4</b>	<b>73.8</b>

# Analysis For Business Decisions

- Energy Efficiency Project
- Replace Boiler – 5 mmbtu/hour w/ 2 higher efficiency 2 mmbtu/hr boilers that are staged for production.
- Factors- Input, Load Factors, Efficiency, Operational Hours
- 25,000 annual therms savings x Avg. cost per therm of gas - \$0.85 = \$21,250 annual savings.  
Cost of Project - \$50,000, Simple Payback – 2.35 years



# Resources

- GSA – Energy Center of Expertise
- F.E.M.P.
- Energy Information Administration (EIA)
- D.E.S.C.
- Utility
- Others-N.G.I., Enerfax, A.E.E.





# 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.



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