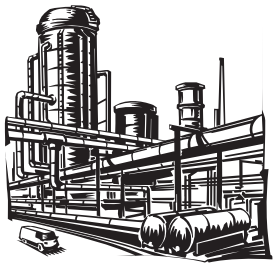
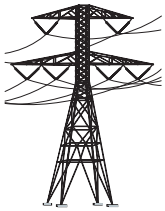
LOUISIANA ENERGY FACTS ANNUAL





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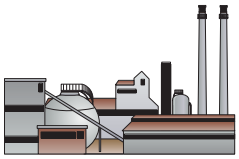

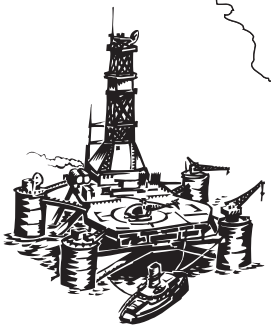

DEPARTMENT OF NATURAL RESOURCES
Technology Assessment Division
January 20, 2010

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LOUISIANA ENERGY FACTS

ANNUAL 2009

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January 20, 2010

General Questions and Comments

The **Louisiana Energy Facts Annual - 2009** (**Annual**) was published by the Technology Assessment Division of the Louisiana Department of Natural Resources under the direction of Manuel Lam. The division director is T. Michael French, William J. Delmar, Jr., is Assistant Director.

General questions and comments regarding the **Annual** may be referred to Technology Assessment Division staff at (225) 342-1270. Questions concerning specific areas of the **Annual** may be directed to the Technology Assessment Division staff members listed below.

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INTRODUCTION

ABOUT THIS PUBLICATION

The **Louisiana Energy Facts Annual** (**Annual**) is published to provide a comprehensive compendium of Louisiana related energy production and use statistics on a yearly basis. The data tables are supplemented with numerous graphs and charts to aid in the interpretation of the data and the discernment of trends. The **Annual** is published as soon as sufficient data for the previous calendar year is available. Due to time lags in the availability of some of the data, there is approximately a nine month lag before the current **Annual** can be published. Some changes have been introduced in order to incorporate the latest available data.

If you receive our monthly **Louisiana Energy Facts** newsletter, you may find that some of the previously published data has been revised in the **Annual**. This data, by its nature, continues to be revised, sometimes years after its initial publication. We try to bring attention to these changes by marking them as revisions.

The most recent **Louisiana Energy Facts** monthly newsletter may contain even more updates. Please refer to the recent monthlies for the very latest data. The **Louisiana Energy Facts** monthly newsletter is available in print and online at our website:

http://www.dnr.louisiana.gov/tad

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Note: the data in these tables will be updated throughout the year. The data files are not audited and will change as more reliable data becomes available.

The state oil and gas production data has been modified. Starting with the 2002 Annual, current production data and all future reports will reflect changes due to modifications in the reporting system by the DNR Office of Conservation, Production Audit Section. The new data for oil does not include crude oil, condensate, or raw make recovered from gas plants. In the past, these products were added to the state production as crude oil or condensate. A separate report on gas plant liquids production is not available at present. The gas data system was adjusted to reflect production from the well on the date produced. It was previously reported on the date first purchased.

Also the producing oil and gas well data since 2000 reflect changes due to modifications in the reporting system by the Department of Natural Resources Office of Conservation. The new data for oil and natural gas producing wells count them as productive if they had any production in the month, previous system counted only the producing wells at the end of the month.

This new reporting system aims to produce more accurate and timely data. The Technology Assessment Division is not the source of the data, but merely reports data provided to us by the responsible agency. We understand that users of our time series data need consistency and, for that reason, our time series have been adjusted backward to reflect these new modifications.

We hope you find this document useful, and we welcome any comments or suggestions.

Any comments or suggestions about this publication should be directed to the Technology Assessment Division staff members listed on the General Questions and Comments page.

2009 HIGHLIGHTS

The data in the 2009 **Louisiana Energy Facts Annual** contains some recent trends.

2009 crude oil prices and natural gas prices were on a roller coaster ride
Gas spot price average was $9.21 per MCF in 2008, and it was $4.07 per MCF in 2009; which is 55.8% lower than in 2008. The Louisiana natural gas spot market average in January 2009 was $5.77 per MCF, bottom out in September at $2.89 per MCF, and recovered to $5.30 per MCF on December. The 2010 average price for gas is expected to be around $5 per MCF.

Light Louisiana Sweet (LLS) average spot crude oil price was 64.28 per barrel in 2009 and it was $102.29 per barrel in 2008, a 37.2% drop. The LLS crude oil spot market average in January 2009 was $47.17 per barrel, bottom out in February at $45.63 per barrel, and rose to $76.08 per barrel in December. The 2010 LLS average spot price is expected to be around $70 per barrel.

Oil and gas production decreased
Louisiana state crude oil and condensate production, excluding the federal Outer Continental Shelf (OCS), was 69 million barrels in 2009, a 5.0% decrease from 2008. Louisiana state natural gas and casinghead, excluding OCS production was 1.46 TCF in 2009, a 7.3% increase over 2008. The decline in oil was caused by low drilling and depletion; the increase in gas was driven by new production in the Haynesville area.

Drilling activity declined in most state areas with the exception of the North
The overall rig count in Louisiana, including the OCS area, decreased 10.3% from an average of 167 rigs operating in 2008 to 150 in 2009. On state areas the South shows drilling activity dropped 51.1% and the North Louisiana shows an increase of 31.1% over 2008. The North Louisiana drilling increased due to high activities in the Haynesville shale areas; and the decline in the South is caused by the falling energy prices and shifting resources to the North.

Other significant items
Louisiana's proved oil reserves were lower in 2008 than in 2007. The lower oil reserves were the reflection of weak oil drilling in the state areas. Louisiana's proved gas reserves were higher in 2008 than in 2007. The high gas reserves were the result of strong drilling activities in the Haynesville shale areas.

Louisiana refineries' 2009 daily crude oil average runs to stills were 2.41 million barrels per day, 1.2% lower than the 2008 average reflecting the downturn in consumption due to recession.

Average employment in the oil and gas extraction industries was 50,541 in 2008, an 8% increase over 2007.

SUBDIVISIONS OF LOUISIANA

Table 1

LOUISIANA STATE CRUDE OIL PRODUCTION

Excluding OCS
(Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1988	23,966,252	88,701,776	22,800,047	135,468,075
1989	22,249,645	78,352,396	20,890,198	121,492,239
1990	22,681,173	72,770,216	21,356,618	116,808,007
1991	22,693,470	69,567,532	22,498,111	114,759,114
1992	21,914,801	68,285,536	21,820,087	112,020,424
1993	20,088,542	65,698,407	21,593,063	107,380,012
1994	17,236,407	59,754,375	21,163,672	98,154,453
1995	16,643,923	59,472,528	20,140,864	96,257,315
1996	16,900,516	58,970,676	19,117,088	94,988,280
1997	17,099,931	60,458,696	17,213,800	94,772,427
1998	15,607,719	60,784,952	15,120,246	91,512,918
1999	12,904,010	56,035,888	12,098,536	81,038,434
2000	11,740,980	53,090,500	11,131,564	75,963,044
2001	10,894,643 r	51,355,403 r	9,330,512 r	71,580,558
2002	9,783,288 r	43,558,030 r	7,664,577 r	61,005,894
2003	9,249,374 r	42,407,022 r	8,491,699 r	60,148,095
2004	8,755,584 r	41,804,382 r	7,032,177 r	57,592,143
2005	8,628,554 r	37,316,842 r	5,606,166 r	51,551,562
2006	8,405,302 r	36,905,015 r	4,655,982 r	49,966,299
2007	8,228,068 r	39,307,081 r	5,473,474 r	53,008,624 r
January	711,147 r	3,202,426 r	376,205 r	4,289,778 r
February	679,895 r	3,048,327 r	369,062 r	4,097,284 r
March	725,975 r	3,298,214 r	385,941 r	4,410,130 r
April	705,191 r	3,232,072 r	377,222 r	4,314,485 r
May	718,011 r	3,312,104 r	383,983 r	4,414,098 r
June	708,362 r	3,264,677 r	379,315 r	4,352,353 r
July	720,754 r	3,357,000 r	387,818 r	4,465,572 r
August	680,779 r	3,216,802 r	370,263 r	4,267,844 r
September	476,654 r	1,653,695 r	147,088 r	2,277,438 r
October	751,509 r	2,923,513 r	267,925 r	3,942,947 r
November	708,606 r	3,066,446 r	286,776 r	4,061,828 r
December	681,087 r	3,141,518 r	268,199 r	4,090,804 r
2008 Total	**8,267,970 r**	**36,716,795 r**	**3,999,796 r**	**48,984,561 r**
January	716,149	2,900,867	350,948	3,967,964
February	640,243	2,654,314	345,337	3,639,894
March	650,028	2,994,862	394,767	4,039,657
April	641,967	2,992,071	388,826	4,022,864
May	660,681	3,050,874	396,189	4,107,744
June	631,144	2,962,927	377,710	3,971,781
July	630,378	2,982,987	378,296	3,991,661
August	645,067	3,031,162	390,319	4,066,547
September	693,466	3,068,821	364,988	4,127,275
October	624,124 p	2,745,861 p	330,561 p	3,700,546 p
November	587,224 p	2,777,167 p	328,670 p	3,693,061 p
December	626,614 p	2,939,672 p	344,134 p	3,910,420 p
2009 Total	**7,747,086 p**	**35,101,585 p**	**4,390,743 p**	**47,239,414 p**

e Estimated r Revised p Preliminary

Table 2

LOUISIANA STATE CONDENSATE PRODUCTION

Excluding OCS
(Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1988	2,780,394	27,008,968	1,739,471	31,528,833
1989	2,979,706	26,767,411	1,856,899	31,604,016
1990	3,341,804	26,878,867	1,686,289	31,906,959
1991	4,009,441	26,227,271	1,685,555	31,922,267
1992	3,787,973	25,395,894	1,601,573	30,785,440
1993	3,647,665	25,236,291	1,629,298	30,513,254
1994	3,726,903	23,751,352	1,497,320	28,975,575
1995	3,927,927	22,866,531	2,177,611	28,972,069
1996	5,162,593	26,495,266	2,313,383	33,971,242
1997	4,397,384	24,247,395	2,737,982	31,382,760
1998	3,962,756	24,405,878	2,400,173	30,768,807
1999	3,555,355	24,032,940	2,233,271	29,821,566
2000	3,670,053 r	25,212,928	2,339,594	31,222,575
2001	3,352,988 r	28,003,761 r	1,933,594 r	33,290,343
2002	2,926,737 r	27,980,334 r	1,761,536 r	32,668,607
2003	2,789,398 r	25,616,633 r	1,850,882 r	30,256,912
2004	2,926,460 r	21,468,353 r	1,684,363 r	26,079,176
2005	3,270,729 r	19,685,719 r	1,171,950 r	24,128,398
2006	3,682,224 r	18,262,702 r	2,063,292 r	24,008,218
2007	4,193,850 r	18,062,445 r	2,117,929 r	24,374,224 r
January	418,233 r	1,478,076 r	207,578 r	2,103,887 r
February	394,084 r	1,387,982 r	198,711 r	1,980,777 r
March	426,799 r	1,509,050 r	211,929 r	2,147,778 r
April	411,660 r	1,469,682 r	206,429 r	2,087,771 r
May	434,461 r	1,552,483 r	209,619 r	2,196,563 r
June	396,837 r	1,438,543 r	208,443 r	2,043,824 r
July	422,984 r	1,542,162 r	216,466 r	2,181,612 r
August	400,227 r	1,441,676 r	202,344 r	2,044,247 r
September	278,245 r	762,471 r	80,602 r	1,121,318 r
October	433,253 r	1,254,736 r	139,410 r	1,827,399 r
November	416,035 r	1,330,161 r	163,300 r	1,909,496 r
December	404,034 r	1,356,904 r	179,157 r	1,940,095 r
2008 Total	**4,836,852 r**	**16,523,926 r**	**2,223,989 r**	**23,584,767 r**
January	387,475	1,349,514	174,127	1,911,117
February	330,736	1,257,868	160,626	1,749,230
March	328,683	1,400,511	172,457	1,901,650
April	313,685	1,344,398	165,724	1,823,806
May	319,653	1,348,544	164,759	1,832,956
June	295,713	1,288,663	161,896	1,746,272
July	297,449	1,300,183	159,990	1,757,622
August	291,313	1,269,864	155,951	1,717,127
September	286,065	1,193,106	132,309	1,611,480
October	340,847 p	1,369,226 p	155,578 p	1,865,651 p
November	321,534 p	1,379,162 p	157,854 p	1,858,550 p
December	323,592 p	1,416,929 p	165,976 p	1,906,497 p
2009 Total	**3,836,744 p**	**15,917,965 p**	**1,927,248 p**	**21,681,957 p**

e Estimated r Revised p Preliminary

Table 3

LOUISIANA STATE CRUDE OIL and CONDENSATE PRODUCTION

Excluding OCS
(Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1988	26,746,646	115,710,745	24,539,518	166,996,908
1989	25,229,350	105,119,808	22,747,097	153,096,255
1990	26,022,976	99,649,083	23,042,907	148,714,966
1991	26,702,911	95,794,803	24,183,667	146,681,381
1992	25,702,774	93,681,430	23,421,660	142,805,864
1993	23,736,207	90,934,698	23,222,361	137,893,266
1994	20,963,310	83,505,726	22,660,992	127,130,028
1995	20,571,849	82,339,060	22,318,475	125,229,384
1996	22,063,110	85,465,942	21,430,471	128,959,522
1997	21,497,315	84,706,090	19,951,782	126,155,187
1998	19,570,475	85,190,830	17,520,419	122,281,725
1999	16,459,365	80,068,828	14,331,807	110,860,000
2000	15,411,033	78,303,428	13,471,159	107,185,619
2001	14,247,632 r	79,359,164 r	11,264,106 r	104,870,901
2002	12,710,024 r	71,538,364 r	9,426,112 r	93,674,501
2003	12,038,771 r	68,023,655 r	10,342,581 r	90,405,007
2004	11,682,045 r	63,272,735 r	8,716,540 r	83,671,319
2005	11,899,283 r	57,002,561 r	6,778,116 r	75,679,960
2006	12,087,526 r	55,167,718 r	6,719,273 r	73,974,517
2007	12,421,919 r	57,369,526 r	7,591,403 r	77,382,848 r
January	1,129,380 r	4,680,502 r	583,783 r	6,393,665 r
February	1,073,979 r	4,436,309 r	567,773 r	6,078,061 r
March	1,152,774 r	4,807,264 r	597,870 r	6,557,908 r
April	1,116,851 r	4,701,754 r	583,651 r	6,402,256 r
May	1,152,472 r	4,864,587 r	593,602 r	6,610,661 r
June	1,105,199 r	4,703,220 r	587,758 r	6,396,177 r
July	1,143,739 r	4,899,162 r	604,284 r	6,647,184 r
August	1,081,005 r	4,658,479 r	572,607 r	6,312,091 r
September	754,900 r	2,416,166 r	227,690 r	3,398,756 r
October	1,184,762 r	4,178,249 r	407,335 r	5,770,346 r
November	1,124,641 r	4,396,606 r	450,077 r	5,971,324 r
December	1,085,121 r	4,498,422 r	447,356 r	6,030,899 r
2008 Total	**13,104,823 r**	**53,240,720 r**	**6,223,785 r**	**72,569,328 r**
January	1,103,625	4,250,381	525,075	5,879,081
February	970,979	3,912,182	505,963	5,389,124
March	978,711	4,395,373	567,223	5,941,307
April	955,651	4,336,469	554,550	5,846,670
May	980,334	4,399,417	560,948	5,940,700
June	926,857	4,251,590	539,606	5,718,053
July	927,827	4,283,170	538,285	5,749,283
August	936,380	4,301,025	546,269	5,783,674
September	979,531	4,261,927	497,298	5,738,755
October	964,971 p	4,115,087 p	486,139 p	5,566,197 p
November	908,758 p	4,156,328 p	486,525 p	5,551,611 p
December	950,206 p	4,356,601 p	510,110 p	5,816,917 p
2009 Total	**11,583,830 p**	**51,019,551 p**	**6,317,991 p**	**68,921,371 p**

e Estimated r Revised p Preliminary

LA DNR Technology Assessment Division

Figure 1

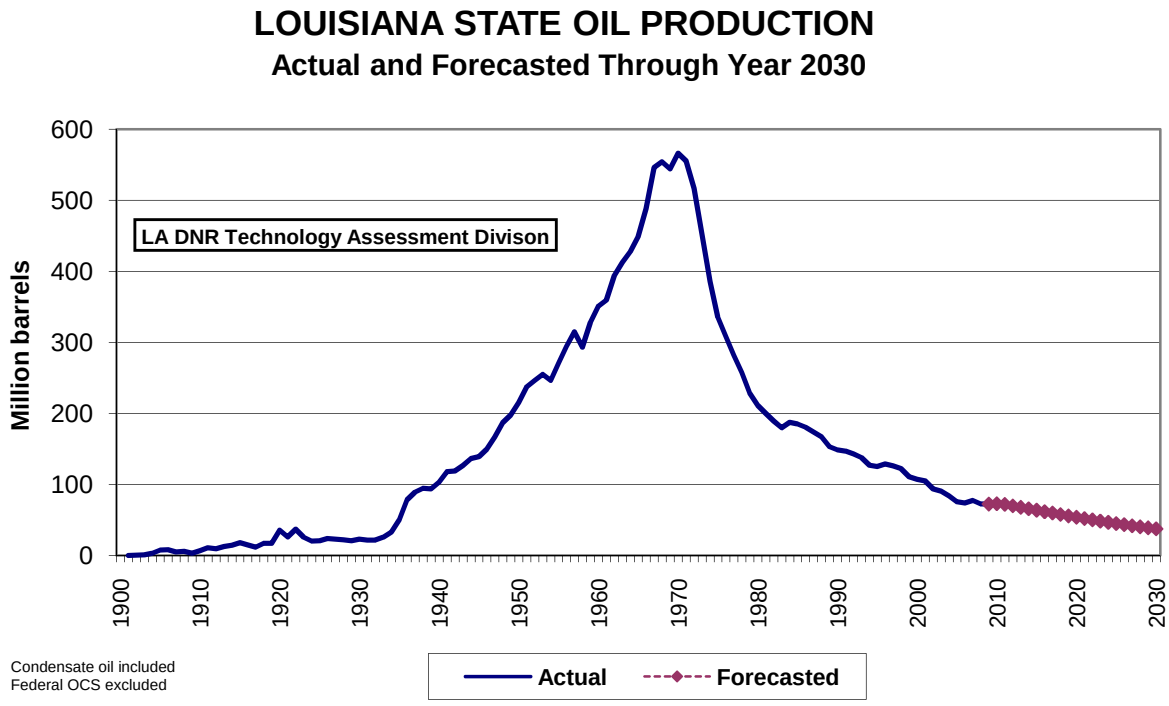

Figure 2

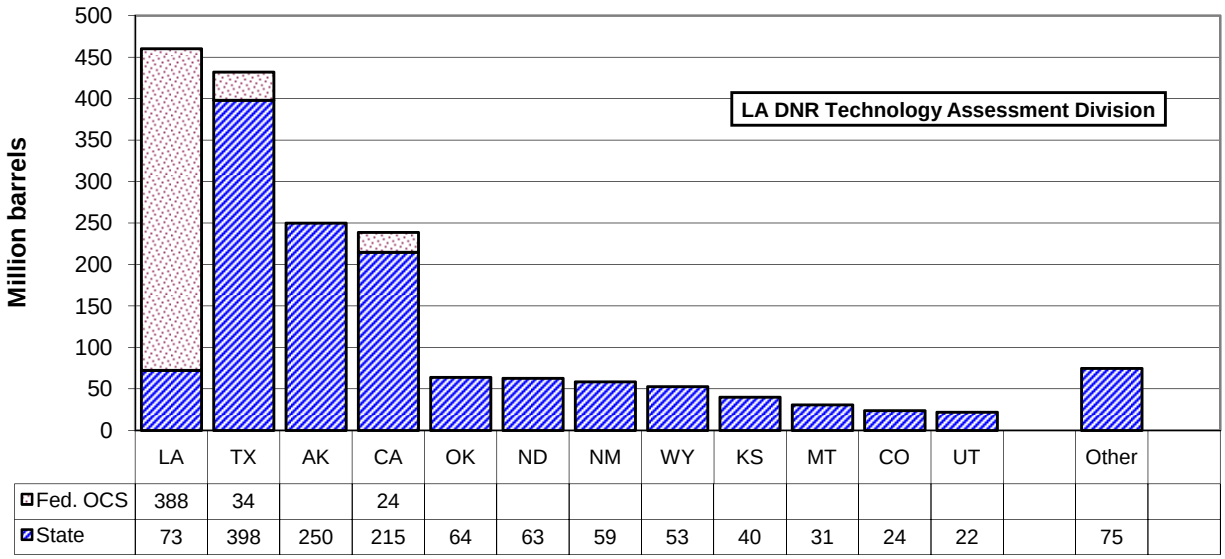

Table 4

LOUISIANA TOTAL CRUDE OIL and CONDENSATE PRODUCTION

(Barrels)

DATE	ONSHORE	OFFSHORE		TOTAL
		State	Federal OCS	
1988	142,457,390	24,539,518	261,936,530	428,933,438
1989	130,349,158	22,747,097	246,207,653	399,303,908
1990	125,672,059	23,042,907	264,670,535	413,385,501
1991	122,497,714	24,183,667	262,647,733	409,329,114
1992	119,384,204	23,421,660	288,918,208	431,724,072
1993	114,670,905	23,222,361	293,443,881	431,337,147
1994	104,469,036	22,660,992	293,077,191	420,207,219
1995	102,910,909	22,318,475	320,255,087	445,484,471
1996	107,529,051	21,430,471	349,101,048	478,060,570
1997	106,203,405	19,951,782	399,536,004	525,691,191
1998	104,761,306	17,520,419	425,865,901	548,147,626
1999	96,528,193	14,331,807	451,391,454	562,251,454
2000	93,714,460 r	13,471,159 r	477,645,662	584,831,281
2001	93,606,795 r	11,264,106 r	502,115,031	606,985,932
2002	84,248,389 r	9,426,112 r	508,630,349	602,304,850
2003	80,062,426 r	10,342,581 r	505,203,116	595,608,123
2004	74,954,779 r	8,716,540 r	477,182,586 e	560,853,905 e
2005	68,901,844 r	6,778,116 r	407,154,253 e	482,834,213 e
2006	67,255,244 r	6,719,273 r	419,555,392 e	493,529,909 e
2007	69,791,445 r	7,591,403 r	427,033,161 e	504,416,009 e r
January	5,809,882 r	583,783 r	36,839,408 e	43,233,073 e r
February	5,510,288 r	567,773 r	35,382,589 e	41,460,650 e r
March	5,960,038 r	597,870 r	37,074,464 e	43,632,372 e r
April	5,818,605 r	583,651 r	36,079,013 e	42,481,269 e r
May	6,017,059 r	593,602 r	36,862,026 e	43,472,687 e r
June	5,808,419 r	587,758 r	36,470,164 e	42,866,341 e r
July	6,042,900 r	604,284 r	38,735,487 e	45,382,671 e r
August	5,739,484 r	572,607 r	35,829,062 e	42,141,153 e r
September	3,171,066 r	227,690 r	6,532,353 e	9,931,109 e r
October	5,363,011 r	407,335 r	23,677,067 e	29,447,413 e r
November	5,521,247 r	450,077 r	30,106,880 e	36,078,204 e r
December	5,583,543 r	447,356 r	34,148,040 e	40,178,939 e r
2008 Total	**66,345,543 r**	**6,223,785 r**	**387,736,552 e**	**460,305,880 e r**
January	5,354,006	525,075	36,725,610 e	42,604,691 e
February	4,883,161	505,963	34,249,001 e	39,638,125 e
March	5,374,084	567,223	38,700,845 e	44,642,152 e
April	5,292,120	554,550	40,322,209 e	46,168,879 e
May	5,379,752	560,948	44,137,683 e	50,078,383 e
June	5,178,447	539,606	42,666,546 e	48,384,599 e
July	5,210,998	538,285	47,636,271 e	53,385,554 e
August	5,237,405	546,269	40,350,542 e	46,134,216 e
September	5,241,457	497,298	43,982,377 e	49,721,132 e
October	5,080,058 p	486,139 p	37,411,417 e	42,977,614 e p
November	5,065,086 p	486,525 p	N/A	5,551,611 p
December	5,306,807 p	510,110 p	N/A	5,816,917 p
2009 Total	**62,603,380 p**	**6,317,991 p**	**406,182,500 e**	**475,103,871 p**

e Estimated r Revised p Preliminary

Table 5

LOUISIANA STATE OIL PRODUCTION* BY TAX RATES AS PUBLISHED IN SEVERANCE TAX REPORTS[8]

(Barrels)

DATE	FULL RATE	INCAPABLE WELLS RATE	STRIPPER WELLS RATE	TAXED VOLUME
1988	142,605,746	3,288,994	8,242,330	154,150,151
1989	139,442,253	3,265,429	7,429,510	150,165,554
1990	131,140,448	3,274,774	7,154,125	141,577,610
1991	136,212,521	3,888,128	8,112,117	148,212,765
1992	133,399,849	3,665,298	7,718,696	144,783,843
1993	128,699,431	3,448,387	7,240,065	139,387,883
1994	118,109,958	3,691,802	6,347,047 e	128,148,807 e
1995	108,373,913	4,239,717	6,230,454 e	118,844,084 e
1996	103,524,192	3,786,147	6,240,956 e	113,551,295 e
1997	101,772,533	3,466,389	6,101,247 e	111,340,169 e
1998	89,083,365	2,878,225	5,892,007 e	97,853,597 e
1999	85,207,438	2,786,515	5,690,984 e	93,684,937 e
2000	88,411,207	2,783,268	5,322,515	96,516,990
2001	83,994,058	2,576,683	5,175,142	91,745,883
2002	79,038,703 e	2,571,901 e	4,681,607 e	86,292,211 e
2003	75,070,785	2,565,017	4,912,890	82,548,691
2004	73,133,821	2,852,851	4,838,681	80,825,353
2005	61,356,971	2,754,911	4,784,530	68,896,412
2006	61,520,365	2,621,592	4,786,820	68,928,778
2007	64,036,607	2,612,497	4,531,456	71,180,560
January	5,490,146	219,983	399,429	6,109,558
February	4,526,833	207,434	432,833	5,167,100
March	5,252,980	174,947	409,016	5,836,944
April	5,567,585	161,546	371,905	6,101,036
May	5,924,849	482,316	363,612	6,770,778
June	5,564,100	-4,424	493,185	6,052,861
July	5,240,982	171,024	381,486	5,793,492
August	3,265,091	188,964	380,158	3,834,214
September	6,900,280	279,252	363,298	7,542,830
October	6,124,346	236,712	471,280	6,832,338
November	3,409,740	252,079	474,287	4,136,106
December	4,253,177	194,782	434,470	4,882,429
2008 Total	**61,520,109**	**2,564,615**	**4,974,960**	**69,059,684**
January	5,217,007	168,996	390,949	5,776,953
February	4,509,139	90,707	330,351	4,930,197
March	5,710,417	181,508	400,459	6,292,384
April	3,409,997	126,093	321,008	3,857,098
May	4,520,571	183,832	328,228	5,032,630
June	5,183,681	187,830	422,785	5,794,296
July	5,363,386	213,601	360,739	5,937,726
August	4,579,529	75,485	379,369	5,034,382
September	3,188,873	120,165	255,944	3,564,982
October	5,020,463	231,161	480,000	5,731,624
November	4,204,575	175,688	368,839	4,749,102
December	4,304,837	172,412	326,325	4,803,573
2009 Total	**55,212,475**	**1,927,478**	**4,364,995**	**61,504,949**

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* Due to reporting time lag and well exemptions the above figures are different from actual production. See footnote in Appendix B.

Figure 3

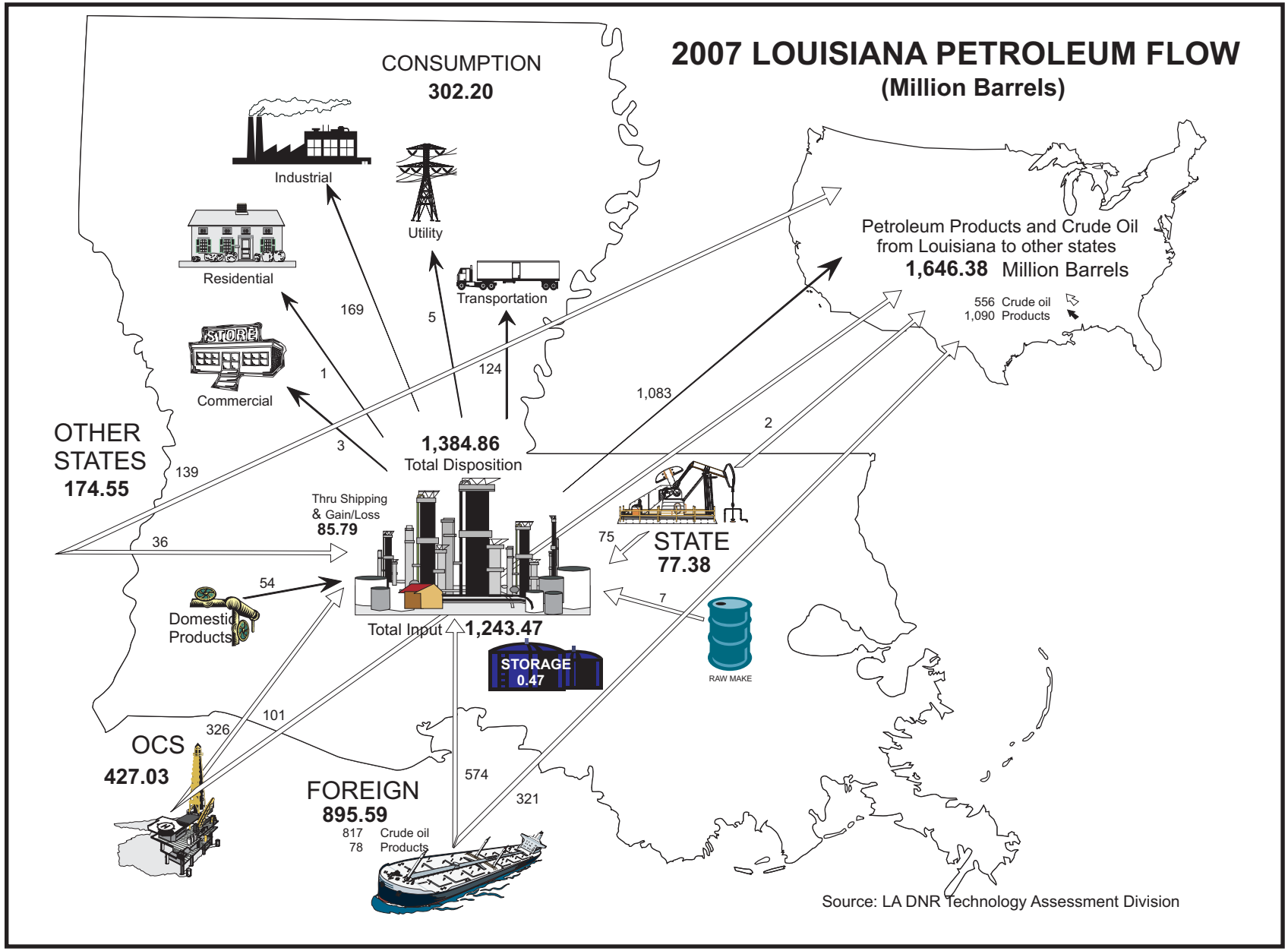
2007 LOUISIANA PETROLEUM FLOW
(Million Barrels)
CONSUMPTION
302.20
Industrial
Utility
Residential
Transportation
Commercial
169
5
1
124
3
1,384.86
Total Disposition
OTHER
STATES
174.55
139
36
Thru Shipping
& Gain/Loss
85.79
54
Domestic
Products
Total Input
1,243.47
STORAGE
0.47
RAW MAKE
75
STATE
77.38
7
1,083
2
Petroleum Products and Crude Oil
from Louisiana to other states
1,646.38 Million Barrels
556 Crude oil
1,090 Products
OCS
427.03
326
101
574
321
FOREIGN
895.59
817 Crude oil
78 Products
Source: LA DNR Technology Assessment Division

Table 6

UNITED STATES OCS CRUDE OIL AND CONDENSATE PRODUCTION[12]

(Barrels)

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
1963	104,526,436	52,804	0	104,579,240
1964	122,495,173	4,953	0	122,500,126
1965	144,964,868	3,747	0	144,968,615
1966	187,831,472	882,598	0	188,714,070
1967	218,995,828	2,865,786	0	221,861,614
1968	263,825,359	3,110,642	2,059,889	268,995,890
1969	300,159,292	2,759,851	9,940,844	312,859,987
1970	333,411,492	2,247,048	24,987,628	360,646,168
1971	385,760,351	1,685,047	31,103,548	418,548,946
1972	387,590,662	1,733,018	22,562,213	411,885,893
1973	374,196,856	1,617,829	18,915,314	394,729,999
1974	342,435,496	1,381,825	16,776,744	360,594,065
1975	313,592,559	1,340,136	15,304,757	330,237,452
1976	301,887,002	1,054,554	13,978,553	316,920,109
1977	290,771,605	909,037	12,267,598	303,948,240
1978	278,071,535	2,107,599	12,085,908	292,265,042
1979	271,008,916	3,595,546	10,961,076	285,565,538
1980	256,688,082	10,502,007	10,198,886	277,388,975
1981	255,875,717	14,284,661	19,605,027	289,765,405
1982	275,513,489	17,263,766	28,434,202	321,211,457
1983	298,093,559	19,710,197	30,527,487	348,331,243
1984	318,024,622	21,960,086	30,254,306	370,239,014
1985	338,901,863	20,640,957	29,781,465	389,324,285
1986	340,152,276	19,835,882	29,227,846	389,216,004
1987	307,950,881	24,634,142	33,556,686	366,141,709
1988	261,936,530	26,115,776	32,615,118	320,667,424
1989	246,207,653	25,887,841	33,072,161	305,167,655
1990	264,670,535	24,970,114	33,312,719	324,423,181
1991	262,647,733	24,380,908	29,146,090	323,831,064
1992	288,918,208	23,639,788	41,222,801	346,053,626
1993	293,443,881	20,376,996	50,078,144	358,655,540
1994	293,077,191	26,819,958	57,229,464	371,300,873
1995	320,255,087	20,419,104	71,254,440	416,293,300
1996	349,101,048	25,841,553	67,804,200	436,634,538
1997	399,536,004	28,718,405	58,279,489	469,873,968
1998	425,865,901	27,837,631	40,636,231	484,861,417
1999	451,391,454	31,758,296	42,071,101	537,198,889
2000	477,645,662	35,044,216	34,373,524	557,370,524
2001	502,115,031	42,991,844	34,763,192	592,514,727
	GULF OF MEXICO		**PACIFIC**	**TOTAL**
	CENTRAL	**WESTERN**		
2002	478,652,767	88,169,359	29,783,000	596,606,889
2003	476,746,239	83,696,697	30,001,000	590,477,590 r
2004	447,625,460	86,932,724	27,052,000	561,629,979 r
2005	327,825,527	74,791,038	26,554,000	429,172,427 r
2006	393,445,174	76,794,758	26,113,000	496,352,933 r
2007	407,038,554 r	59,225,206 r	24,599,000 r	490,878,085 r
2008	374,023,100	48,976,616	24,145,000	447,187,828

NOTE: Starting in 2002 MMS has not formally published production by state adjacent areas

Table 7

UNITED STATES CRUDE OIL AND CONDENSATE PRODUCTION AND IMPORTS

(Thousand barrels)

DATE	ALL OCS[12]	DOMESTIC PRODUCTION[7]	IMPORTS OTHER[7]	IMPORTS SPR[7]
1988	320,667	2,979,240	1,850,247 r	18,758 r
1989	305,168	2,778,745	2,112,413 r	20,348 r
1990	324,423	2,684,575	2,141,615 r	9,772 r
1991	323,831 r	2,707,205	2,110,532 r	0
1992	346,054 r	2,617,998	2,222,747 r	3,594 r
1993	358,656 r	2,495,933	2,471,863 r	5,367 r
1994	371,301 r	2,418,981	2,573,587 r	4,485
1995	416,293 r	2,383,404	2,638,810 r	0
1996	436,635 r	2,368,535	2,747,839 r	0
1997	469,874 r	2,339,981	3,002,299 r	0
1998	484,861 r	2,293,763	3,177,584 r	0
1999	537,199 r	2,162,752	3,183,622 r	3,041
2000	557,371 r	2,130,706	3,316,810 r	3,006
2001	592,515 r	2,117,512	3,400,982 r	3,912 r
2002	596,607 r	2,097,124	3,330,408 r	5,767
2003	590,478 r	2,073,454	3,527,696	0
2004	561,630 r	1,983,300	3,692,063	0
2005	429,172 r	1,890,107	3,677,082	18,889 r
2006	496,353 r	1,862,259 r	3,689,995	3,086 r
2007	490,878 r	1,848,450 r	3,658,701	2,703 r
January	42,404 r	158,086 r	312,017 r	519
February	40,800 r	148,536 r	279,439 r	0
March	42,659 r	159,671 r	297,636 r	1,076
April	41,355 r	153,505 r	298,851 r	522
May	42,250 r	158,154 r	296,685 r	2,899
June	41,863 r	152,932 r	299,231 r	1,297
July	44,244 r	159,113 r	313,292 r	800
August	41,531	151,702	320,049	0
September	9,313	117,899	253,396	0
October	26,923	144,747	312,681	0
November	34,682	150,720	298,309	0
December	39,163	156,751	291,995	0
2008 Total	**447,188**	**1,811,816**	**3,573,581**	**7,113**
January	41,756	162,627	305,416	0
February	38,827	145,358	257,735	0
March	43,186	163,363	285,803	6,861
April	45,489	156,825	278,276	3,909
May	49,580	163,784	275,824	1,045
June	47,864	155,485	272,473	2,687
July	52,589	162,213	286,024	0
August	43,800	163,857	274,872	499
September	47,887	163,327	275,728	973
October	N/A	168,069	265,536	0
November	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A
2009 Total	**410,977**	**1,604,908**	**2,777,687**	**15,974**

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Table 8

LOUISIANA STATE ROYALTY OIL, GAS AND PLANT PRODUCTS
CALCULATED VOLUMES, Excluding OCS

DATE	OIL (Barrels)	GAS (MCF)	PLANT LIQUIDS (Barrels)
1988	7,544,770	69,991,244	456,976
1989	7,184,774	69,936,929	461,237
1990	6,781,765	66,417,089	348,776
1991	6,923,565	61,809,109	933,307 r
1992	6,837,552	57,911,258	1,689,942 r
1993	6,721,350	67,052,274	698,857
1994	6,288,843	54,798,617	600,660
1995	6,385,269	57,013,225	925,825
1996	6,489,394	60,326,587	477,640
1997	6,534,913	60,778,002	1,440,435 r
1998	6,604,124	56,691,269	331,767
1999	6,030,138	51,051,870	204,124
2000	6,366,604	53,780,835	355,112
2001	7,059,789	65,034,347	983,641
2002	4,707,772	53,434,290	800,697
2003	4,910,469	53,135,969	1,459,006
2004	4,222,899	45,261,610	2,185,235
2005	3,340,640 r	34,454,802 r	1,101,153 r
2006	3,604,071 r	40,575,394 r	1,397,470 r
2007	4,558,116 r	42,872,759 r	1,406,022 r
January	361,930 r	3,674,617 r	117,314 r
February	363,472 r	3,444,613 r	123,320 r
March	383,382 r	3,724,005 r	122,449 r
April	392,033 r	3,573,213 r	171,847 r
May	413,923 r	4,303,405 r	143,429 r
June	388,535 r	4,340,224 r	134,439 r
July	433,083 r	4,613,329 r	223,699 r
August	391,388 r	4,225,596 r	118,700 r
September	136,220 r	1,641,734 r	47,104 r
October	303,276 r	3,443,509 r	100,623 r
November	329,928 r	3,805,435 r	91,090 r
December	358,280 r	3,162,095 r	56,857 r
2008 Total	**4,255,450 r**	**43,951,774 r**	**1,450,869 r**
January	337,876	3,406,546	76,789
February	301,142	3,546,898	44,897
March	345,485	3,409,956	56,519
April	340,572	3,440,596	50,750
May	347,952	3,707,496	57,110
June	341,948	3,264,415	45,344
July	336,740	4,277,879	46,031
August	392,727	3,327,332	63,780
September	337,359	3,236,664	47,368
October	345,355	N/A	N/A
November	N/A	N/A	N/A
December	N/A	N/A	N/A
2009 Total	**3,427,155**	**31,617,781**	**488,589**

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Table 9
LOUISIANA STATE NATURAL GAS PRODUCTION
WET AFTER LEASE SEPARATION
Excluding OCS and Casinghead Gas
(Thousand Cubic Feet (MCF) at 15.025 psia and 60 degrees Fahrenheit)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1988	322,955,920	1,058,079,256	191,498,869	1,572,534,045
1989	335,963,137	1,035,013,840	180,876,988	1,551,853,965
1990	354,696,578	1,040,239,002	160,569,034	1,555,504,613
1991	345,612,948	1,022,125,055	129,387,685	1,497,125,688
1992	343,439,890	994,039,578	123,902,708	1,461,382,176
1993	333,395,251	970,764,461	130,660,784	1,434,820,496
1994	334,564,842	925,335,735	134,106,599	1,394,007,176
1995	344,719,040	908,236,089	140,906,019	1,393,861,148
1996	392,345,447	933,446,378	166,901,010	1,492,692,835
1997	405,754,260	871,963,879	165,420,090	1,443,138,229
1998	394,713,751	846,071,218	158,947,618	1,399,732,587
1999	361,118,420	814,417,104	134,177,750	1,309,713,274
2000	356,736,642 r	879,570,029 r	93,402,455 r	1,329,709,126
2001	359,838,271 r	891,566,277 r	88,500,331 r	1,339,904,880
2002	360,500,403 r	794,934,425 r	79,517,917 r	1,234,952,744
2003	392,093,349 r	769,518,243 r	66,148,663 r	1,227,760,254
2004	453,726,430 r	729,320,714 r	54,112,647 r	1,237,159,791
2005	518,141,279 r	629,103,389 r	42,016,631 r	1,189,261,298
2006	552,018,658 r	646,125,183 r	57,859,611 r	1,256,003,452
2007	589,801,989 r	599,547,704 r	62,112,569 r	1,251,462,263 r
January	53,675,197 r	45,563,964 r	6,826,145 r	106,065,306 r
February	51,442,188 r	42,468,055 r	6,156,663 r	100,066,907 r
March	54,502,870 r	46,551,585 r	6,923,404 r	107,977,860 r
April	53,267,931 r	45,486,152 r	6,742,275 r	105,496,359 r
May	56,068,863 r	48,234,071 r	7,119,788 r	111,422,723 r
June	54,735,867 r	47,058,522 r	6,922,636 r	108,717,024 r
July	56,847,383 r	49,215,861 r	7,183,349 r	113,246,592 r
August	55,489,428 r	48,025,917 r	6,985,200 r	110,500,545 r
September	46,435,444 r	31,294,542 r	4,527,513 r	82,257,499 r
October	57,966,442 r	42,002,423 r	5,697,861 r	105,666,726 r
November	58,143,230 r	42,999,424 r	6,190,883 r	107,333,537 r
December	57,975,697 r	43,079,739 r	6,176,986 r	107,232,422 r
2008 Total	**656,550,541 r**	**531,980,257 r**	**77,452,702 r**	**1,265,983,500 r**
January	53,719,720	49,392,258	5,758,617	108,870,594
February	49,646,712	45,954,145	5,238,054	100,838,911
March	53,385,658	52,106,132	6,022,852	111,514,643
April	52,500,303	51,839,948	5,988,721	110,328,972
May	54,880,177	55,440,182	6,387,291	116,707,650
June	53,067,995	53,701,643	6,102,753	112,872,391
July	55,577,039	56,128,670	6,497,438	118,203,147
August	56,403,259	58,531,347	6,342,791	121,277,397
September	56,702,595	55,423,641	5,784,140	117,910,376
October	58,094,206	57,132,346	5,944,707	121,171,259
November	54,964,685 p	54,735,442 p	5,790,933 p	115,491,061 p
December	54,469,789 p	55,244,081 p	5,728,970 p	115,442,840 p
2009 Total	**653,412,139 p**	**645,629,835 p**	**71,587,266 p**	**1,370,629,241 p**

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Table 10

LOUISIANA STATE CASINGHEAD GAS PRODUCTION, WET AFTER LEASE SEPARATION, Excluding OCS

(Thousand Cubic Feet (MCF) at 15.025 psia and 60 degrees Fahrenheit)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1988	51,642,390	111,388,728	22,754,523	185,785,641
1989	43,226,234	95,636,544	22,432,765	161,295,543
1990	35,720,964	97,403,093	21,463,782	154,587,839
1991	36,360,803	94,750,220	20,506,337	151,617,360
1992	28,776,676	130,335,922	23,086,767	182,199,364
1993	20,416,003	134,059,073	23,177,673	177,652,749
1994	19,490,914	102,313,166	21,100,651	142,904,730
1995	18,712,027	100,070,988	23,542,867	142,325,882
1996	24,806,243	93,986,744	18,713,358	137,506,345
1997	36,266,759	103,835,554	20,423,408	160,525,721
1998	42,665,167	114,280,211	20,701,170	177,646,548
1999	33,073,036	96,225,193	15,421,052	144,719,281
2000	23,035,862 r	98,235,830 r	13,295,200 r	134,566,892
2001	30,894,085 r	101,755,189 r	22,712,799 r	155,362,073
2002	26,503,370 r	81,693,512 r	18,712,454 r	126,909,336
2003	24,573,596 r	75,705,695 r	17,311,853 r	117,591,144
2004	21,642,683 r	77,085,355 r	14,013,215 r	112,741,254
2005	19,263,388 r	64,797,890 r	11,530,516 r	95,591,793
2006	19,409,228 r	65,037,044 r	9,370,163 r	93,816,435
2007	21,900,298 r	72,990,345 r	9,324,855 r	104,215,498 r
January	2,626,555 r	6,039,040 r	648,474 r	9,314,069 r
February	2,234,256 r	4,922,947 r	551,041 r	7,708,244 r
March	2,285,964 r	5,259,666 r	562,872 r	8,108,502 r
April	2,191,768 r	5,044,734 r	538,953 r	7,775,455 r
May	2,296,930 r	5,288,677 r	564,050 r	8,149,657 r
June	2,261,212 r	5,208,316 r	554,529 r	8,024,057 r
July	2,415,720 r	5,554,336 r	590,571 r	8,560,626 r
August	2,229,623 r	5,128,293 r	544,331 r	7,902,247 r
September	1,621,344 r	2,844,032 r	311,401 r	4,776,777 r
October	2,367,287 r	4,505,638 r	461,083 r	7,334,008 r
November	2,476,446 r	4,846,842 r	511,784 r	7,835,072 r
December	2,637,180 r	5,163,295 r	544,248 r	8,344,723 r
2008 Total	**27,644,286 r**	**59,805,816 r**	**6,383,335 r**	**93,833,437 r**
January	1,800,384	5,087,096	619,235	7,506,715
February	1,639,631	4,682,160	589,114	6,910,905
March	1,832,292	5,480,340	679,218	7,991,850
April	1,838,033	5,486,967	682,567	8,007,566
May	1,943,946	5,794,613	723,477	8,462,037
June	2,013,303	5,958,464	748,477	8,720,244
July	2,219,458	6,497,738	818,003	9,535,199
August	2,586,720	7,590,988	986,066	11,163,774
September	2,949,961	8,287,482	1,103,407	12,340,850
October	3,513,553	9,615,150	1,235,472	14,364,175
November	2,142,747 p	5,839,216 p	751,559 p	8,733,522 p
December	2,226,822 p	5,980,791 p	768,035 p	8,975,648 p
2009 Total	**26,706,851 p**	**76,301,004 p**	**9,704,630 p**	**112,712,485 p**

e Estimated r Revised p Preliminary

Figure 4

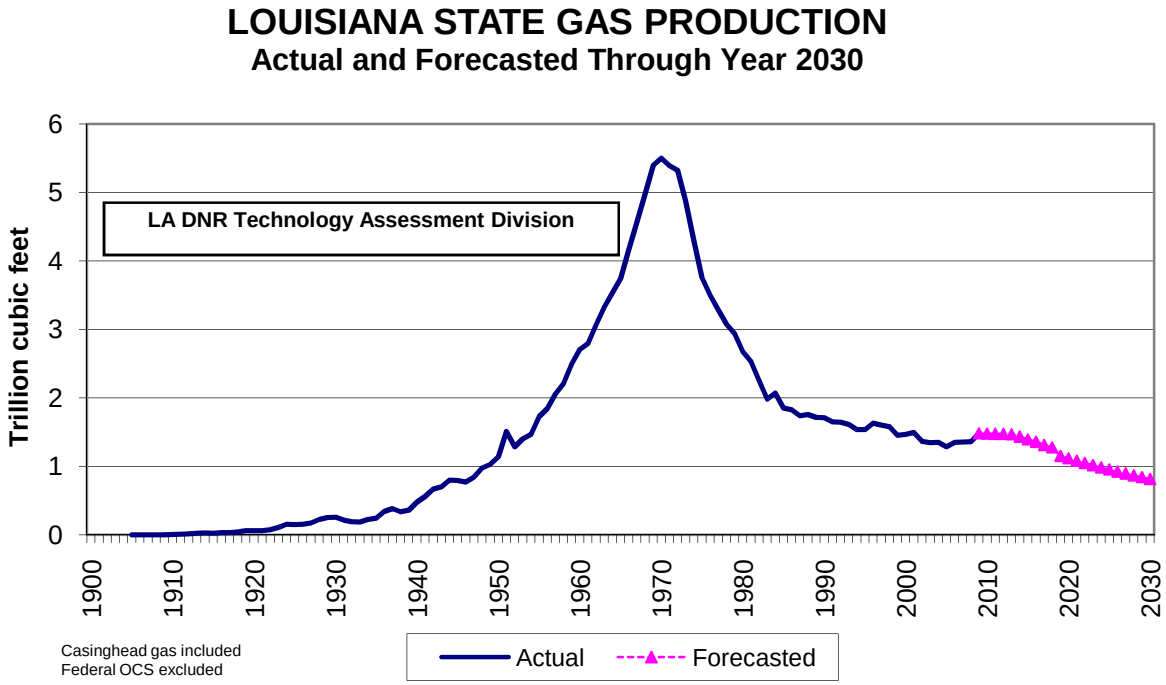

Figure 5

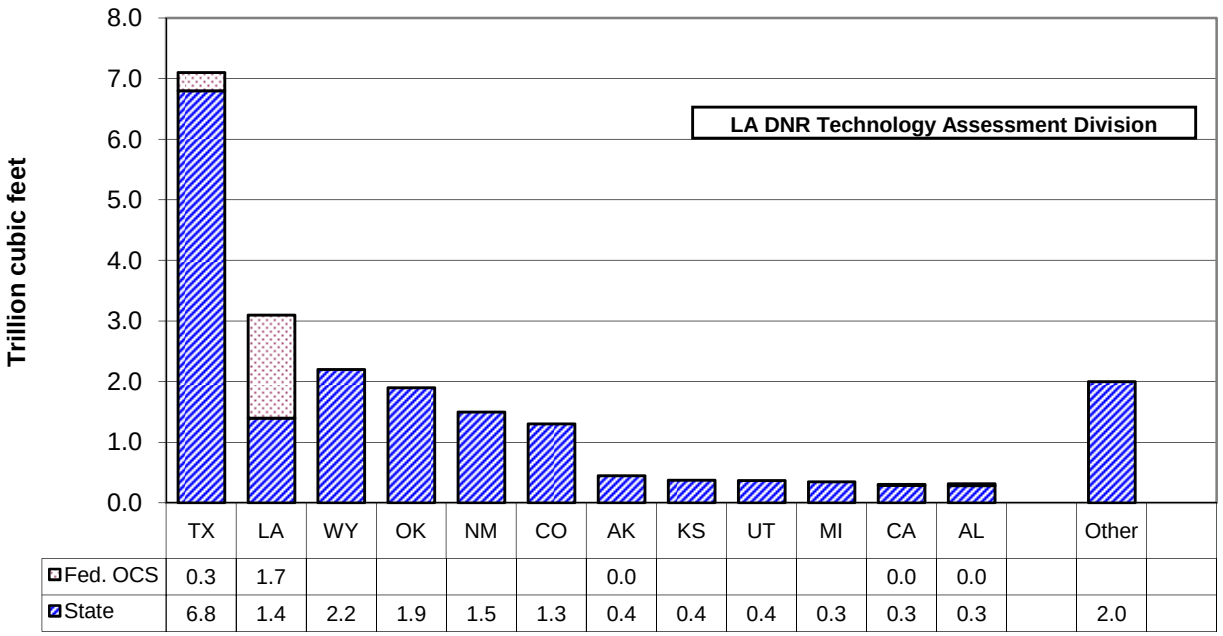

Table 11

LOUISIANA STATE GAS PRODUCTION, WET AFTER LEASE SEPARATION

Natural Gas and Casinghead Gas, Excluding OCS

(Thousand Cubic Feet (MCF) at 15.025 psia and 60 degrees Fahrenheit)*

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1988	374,598,311	1,169,467,984	214,253,392	1,758,319,686
1989	379,189,370	1,130,650,385	203,309,753	1,713,149,508
1990	390,417,542	1,137,642,094	182,032,816	1,710,092,452
1991	381,973,751	1,116,875,275	149,894,021	1,648,743,048
1992	372,216,566	1,124,375,499	146,989,475	1,643,581,540
1993	353,811,255	1,104,823,534	153,838,456	1,612,473,245
1994	354,055,756	1,027,648,900	155,207,250	1,536,911,906
1995	363,431,067	1,008,307,077	164,448,886	1,536,187,030
1996	417,151,690	1,027,433,122	185,614,368	1,630,199,180
1997	442,021,019	975,799,433	185,843,498	1,603,663,950
1998	437,378,918	960,351,429	179,648,787	1,577,379,135
1999	394,191,456	910,642,297	149,598,802	1,454,432,555
2000	379,772,504 r	977,805,859 r	106,697,655 r	1,464,276,018
2001	390,732,356 r	993,321,467 r	111,213,130 r	1,495,266,953
2002	387,003,773 r	876,627,936 r	98,230,371 r	1,361,862,080
2003	416,666,945 r	845,223,937 r	83,460,516 r	1,345,351,398
2004	475,369,114 r	806,406,069 r	68,125,862 r	1,349,901,045
2005	537,404,666 r	693,901,278 r	53,547,146 r	1,284,853,091
2006	571,427,886 r	711,162,227 r	67,229,774 r	1,349,819,887
2007	611,702,287 r	672,538,050 r	71,437,424 r	1,355,677,761 r
January	56,301,753 r	51,603,004 r	7,474,618 r	115,379,375 r
February	53,676,444 r	47,391,003 r	6,707,704 r	107,775,151 r
March	56,788,834 r	51,811,252 r	7,486,276 r	116,086,362 r
April	55,459,700 r	50,530,887 r	7,281,228 r	113,271,814 r
May	58,365,794 r	53,522,748 r	7,683,838 r	119,572,380 r
June	56,997,079 r	52,266,837 r	7,477,165 r	116,741,081 r
July	59,263,102 r	54,770,196 r	7,773,919 r	121,807,218 r
August	57,719,051 r	53,154,211 r	7,529,530 r	118,402,792 r
September	48,056,788 r	34,138,573 r	4,838,914 r	87,034,276 r
October	60,333,729 r	46,508,061 r	6,158,944 r	113,000,734 r
November	60,619,676 r	47,846,266 r	6,702,667 r	115,168,609 r
December	60,612,877 r	48,243,034 r	6,721,234 r	115,577,145 r
2008 Total	**684,194,827 r**	**591,786,073 r**	**83,836,038 r**	**1,359,816,937 r**
January	55,520,104	54,479,353	6,377,852	116,377,309
February	51,286,344	50,636,304	5,827,168	107,749,816
March	55,217,951	57,586,472	6,702,070	119,506,493
April	54,338,336	57,326,915	6,671,287	118,336,538
May	56,824,123	61,234,796	7,110,768	125,169,687
June	55,081,298	59,660,107	6,851,230	121,592,635
July	57,796,497	62,626,407	7,315,441	127,738,346
August	58,989,979	66,122,335	7,328,857	132,441,171
September	59,652,556	63,711,123	6,887,547	130,251,226
October	61,607,759	66,747,496	7,180,179	135,535,434
November	57,107,433 p	60,574,658 p	6,542,492 p	124,224,583 p
December	56,696,610 p	61,224,872 p	6,497,005 p	124,418,488 p
2009 Total	**680,118,990 p**	**721,930,839 p**	**81,291,896 p**	**1,483,341,725 p**

e Estimated r Revised p Preliminary

* See Appendix D-1 for corresponding volumes at 14.73 psia and footnote in Appendix B.

Table 12

LOUISIANA TOTAL GAS PRODUCTION, WET AFTER LEASE SEPARATION

Natural Gas and Casinghead Gas

(Thousand Cubic Feet (MCF) at 15.025 psia and 60 degrees Fahrenheit)*

DATE	ONSHORE	OFFSHORE		TOTAL
		State	Federal OCS[12]	
1988	1,544,066,294	214,253,392	3,036,077,646	4,794,397,332
1989	1,509,839,755	203,309,753	2,947,545,132	4,660,694,640
1990	1,528,059,636	182,032,816	3,633,554,307	5,343,646,759
1991	1,498,849,027	149,894,021	3,225,373,562	4,874,116,610
1992	1,496,592,065	146,989,475	3,272,561,370	4,916,142,910
1993	1,458,634,789	153,838,456	3,320,312,261	4,932,785,506
1994	1,381,704,656	155,207,250	3,423,837,064	4,960,748,970
1995	1,371,738,144	164,448,886	3,564,677,663	5,100,864,693
1996	1,444,584,812	185,614,368	3,709,198,609	5,339,397,789
1997	1,417,820,452	185,843,498	3,825,354,038	5,410,100,330
1998	1,397,730,348	179,648,787	3,814,583,541	5,400,353,243
1999	1,304,833,753	149,598,802	3,836,619,562	5,347,968,497
2000	1,357,578,363 r	106,697,655 r	3,761,812,062	5,215,724,146
2001	1,384,053,823 r	111,213,130 r	3,818,657,416	5,226,088,080
2002	1,263,631,709 r	98,230,371 r	3,457,864,868	5,313,924,369
2003	1,261,890,882 r	83,460,516 r	3,276,387,510 e	4,819,726,948 e
2004	1,281,775,183 r	68,125,862 r	2,840,552,489 e	4,621,738,908 e
2005	1,231,305,945 r	53,547,146 r	2,185,591,643 e	4,190,453,534 e
2006	1,282,590,113 r	67,229,774 r	2,048,437,877 e	3,470,444,734 e
2007	1,284,240,337 r	71,437,424 r	**2,022,058,582** e	3,398,257,764 e r
January	107,904,757 r	7,474,618 r	170,246,080 e	285,625,455 e r
February	101,067,447 r	6,707,704 r	162,321,632 e	270,096,783 e r
March	108,600,086 r	7,486,276 r	168,316,429 e	284,402,791 e r
April	105,990,586 r	7,281,228 r	154,025,943 e	267,297,757 e r
May	111,888,542 r	7,683,838 r	154,871,635 e	274,444,015 e r
June	109,263,916 r	7,477,165 r	155,616,734 e	272,357,815 e r
July	114,033,299 r	7,773,919 r	164,177,938 e	285,985,156 e r
August	110,873,262 r	7,529,530 r	150,954,400 e	269,357,192 e r
September	82,195,362 r	4,838,914 r	37,387,810 e	124,422,086 e r
October	106,841,790 r	6,158,944 r	96,748,880 e	209,749,614 e r
November	108,465,942 r	6,702,667 r	107,683,864 e	222,852,473 e r
December	108,855,911 r	6,721,234 r	121,226,699 e	236,803,844 e r
2008 Total	**1,275,980,899 r**	**83,836,038 r**	**1,643,578,043** e	**3,003,394,980 e r**
January	109,999,457	6,377,852	133,708,447 e	250,085,756 e
February	101,922,648	5,827,168	126,175,512 e	233,925,328 e
March	112,804,423	6,702,070	141,442,164 e	260,948,657 e
April	111,665,251	6,671,287	137,097,420 e	255,433,958 e
May	118,058,919	7,110,768	139,742,248 e	264,911,935 e
June	114,741,405	6,851,230	144,452,175 e	266,044,810 e
July	120,422,905	7,315,441	151,998,160 e	279,736,506 e
August	125,112,314	7,328,857	130,412,208 e	262,853,379 e
September	123,363,679	6,887,547	127,460,531 e	257,711,757 e
October	128,355,255	7,180,179	121,159,925 e	256,695,359 e
November	117,682,091 p	6,542,492 p	N/A	124,224,583 p
December	117,921,483 p	6,497,005 p	N/A	124,418,488 p
2009 Total	**1,402,049,829 p**	**81,291,896 p**	**1,353,648,790 e**	**2,836,990,515 p**

e Estimated r Revised p Preliminary

* See Appendix D-2 for corresponding volumes at 14.73 psia and footnote in Appendix B.

Table 13

LOUISIANA MARKETED AND DRY GAS PRODUCTION

(Billion Cubic Feet (BCF) at 15.025 psia and 60 degrees Fahrenheit)*

	MARKETED			EXTRACTION	
DATE	State	OCS[12]	Total[3]	LOSS[3]	DRY[3]
1967	4,549 e	1,055	5,605 e	113	5,492
1968	4,918 e	1,372	6,290 e	138	6,153
1969	5,317 e	1,769	7,086 e	176	6,910
1970	5,429 e	2,206	7,635 e	189	7,446
1971	5,367 e	2,556	7,923 e	191	7,732
1972	5,020 e	2,797	7,816 e	194	7,622
1973	5,115 e	2,966	8,081 e	203	7,878
1974	4,351 e	3,251	7,601 e	191	7,411
1975	3,717 e	3,234	6,951 e	186	6,766
1976	3,472 e	3,397	6,869 e	169	6,700
1977	3,533 e	3,540	7,073 e	163	6,910
1978	3,302 e	4,028	7,330 e	158	7,171
1979	3,087 e	4,036	7,124 e	162	6,961
1980	2,908 e	3,896	6,804 e	139	6,664
1981	2,661 e	3,986	6,647 e	140	6,507
1982	2,359 e	3,692	6,050 e	126	5,924
1983	2,147 e	3,080	5,227 e	122	5,106
1984	2,237 e	3,473	5,711 e	130	5,581
1985	1,890 e	3,025	4,915 e	115	4,800
1986	1,958 e	2,842	4,799 e	113	4,686
1987	1,935 e	3,086	5,022 e	122	4,899
1988	2,073 e	3,006	5,079 e	118	4,961
1989	2,060 e	2,918	4,978 e	119	4,859
1990	1,542 e	3,597	5,139 e	117	5,022
1991	1,742 e	3,193	4,936 e	127	4,809
1992	1,617 e	3,201	4,818 e	130	4,688
1993	1,642 e	3,252	4,893 e	128	4,765
1994	1,658 e	3,410	5,068 e	126	4,942
1995	1,650 e	3,358	5,008 e	143	4,865
1996	1,596 e	3,590	5,186 e	137	5,049
1997	1,505	3,580	5,085	144	4,882
1998	1,552	3,580	5,132	139	4,933
1999	1,567	3,565	5,132	158	4,912
2000	1,455	3,592	5,047	165	4,928
2001	1,502	3,550 e r	5,052 e r	153 e	4,899 e r
2002	1,362	3,183 e r	4,545 e r	157 e	4,388 e r
2003	1,350	3,008 e r	4,359 e r	125 e	4,234 e r
2004	1,353 r	2,569 e r	3,922 e r	133 e r	3,788 e r
2005	1,296	1,960 e r	3,256 e r	103 e r	3,153 e r
2006	1,361 r	1,874 e r	3,235 e r	105 e r	3,130 e r
2007	1,364 r	1,828 e r	3,192 e r	111 e r	3,081 e r
2008	1,316	1,502 e	2,818 e	114 e	2,704 e

e Estimated r Revised p Preliminary

* See Appendix D-3 for corresponding volumes at 14.73 psia and footnote in Appendix B.

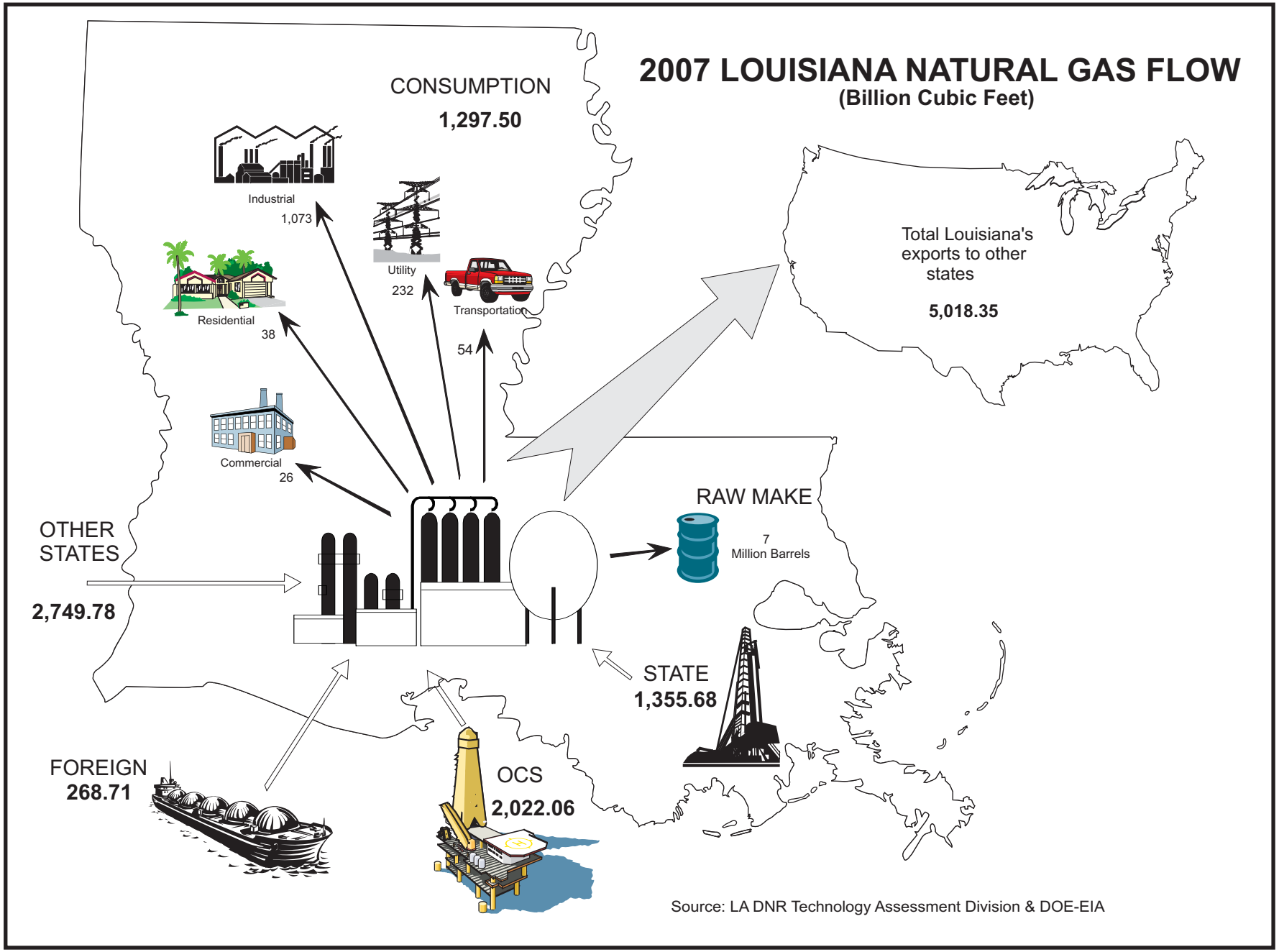
2007 LOUISIANA NATURAL GAS FLOW
(Billion Cubic Feet)
CONSUMPTION
1,297.50
Industrial
1,073
Utility
232
Transportation
54
Residential
38
Commercial
26
Total Louisiana's exports to other states
5,018.35
RAW MAKE
7
Million Barrels
OTHER STATES
2,749.78
STATE
1,355.68
FOREIGN
268.71
OCS
2,022.06
Source: LA DNR Technology Assessment Division & DOE-EIA

Table 14

LOUISIANA STATE GAS PRODUCTION BY TAX RATES

AS PUBLISHED IN SEVERANCE TAX REPORTS[8]

(MCF at 15.025psia and 60 degrees Fahrenheit)

DATE	FULL RATE	INCAPABLE GAS WELLS RATE	OTHER RATES	TAXED VOLUME
1988	1,487,438,834	54,709,819	22,370,768	1,564,519,421
1989	1,529,057,929	54,419,642	31,800,386	1,615,277,957
1990	1,525,451,737	53,547,797	19,438,902	1,598,438,436
1991	1,492,986,396	52,500,178	35,820,609	1,581,307,183
1992	1,499,489,622	55,146,661	25,466,874	1,580,103,157
1993	1,463,723,027	46,017,071	13,839,450	1,523,579,548
1994	1,410,035,722	52,417,334	13,688,870	1,476,141,926
1995	1,334,980,887	53,491,942	13,759,192	1,402,232,021
1996	1,354,105,430	52,368,159	11,191,715	1,417,665,304
1997	1,343,182,922	57,663,413	9,951,387	1,410,797,722
1998	1,191,471,607	60,242,544	11,733,098	1,263,447,249
1999	1,151,493,116	57,308,865	10,617,631	1,219,419,612
2000	1,217,171,149	53,797,867	8,195,799	1,279,164,815
2001	1,264,513,132	74,687,708	7,806,688	1,347,007,528
2002	1,068,512,639	75,724,074	7,748,258	1,151,984,971
2003	1,091,483,424	80,659,914	7,963,553	1,180,106,891
2004	1,139,626,885	83,441,736	5,507,456	1,235,308,986
2005	1,130,014,025	91,951,579	4,642,451	1,227,085,699
2006	1,134,544,485	113,490,843	5,545,802	1,253,870,355
2007	1,070,511,169	122,399,829	7,365,200	1,200,461,343
January	85,134,647	10,694,516	529,805	96,358,968
February	95,247,522	11,995,084	715,551	107,958,157
March	86,245,743	9,746,823	603,738	96,596,304
April	75,431,836	9,986,625	643,251	86,061,712
May	93,069,866	14,349,916	559,474	107,979,256
June	86,575,149	11,031,237	572,999	98,179,385
July	102,915,391	13,390,052	668,183	116,973,626
August	36,492,269	5,275,993	144,853	41,913,115
September	140,396,102	16,889,543	944,605	158,230,250
October	91,329,296	11,762,050	416,418	103,507,764
November	65,390,930	10,865,459	265,079	76,521,468
December	86,647,972 r	11,866,344 r	334,836 r	98,849,152 r
2008 Total	**1,044,876,723 r**	**137,853,642 r**	**6,398,792 r**	**1,189,129,157 r**
January	95,461,922	14,142,443	453,524	110,057,889
February	66,148,399	9,842,570	402,867	76,393,836
March	109,481,245	17,111,665	432,463	127,025,373
April	54,931,970	9,886,569	-884,588	63,933,951
May	87,682,229	13,931,510	373,025	101,986,764
June	89,722,650	12,510,568	408,603	102,641,821
July	98,845,266	17,674,895	512,376	117,032,537
August	78,816,556	12,224,659	406,178	91,447,393
September	89,280,595	17,510,353	556,701	107,347,649
October	76,248,240	12,224,816	479,822	88,952,878
November	67,970,265	15,667,336	536,328	84,173,929
December	79,767,302	16,066,447	812,559	96,646,308
2009 Total	**994,356,639**	**168,793,831**	**4,489,858**	**1,167,640,328**

e Estimated r Revised p Preliminary

See footnote in Appendix B.

Table 15

UNITED STATES OCS GAS PRODUCTION[12]

Natural Gas and Casinghead Gas
(MCF at 15.025 psia and 60 degrees Fahrenheit)*

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
1964	609,524,401	0	0	609,524,401
1965	632,914,005	0	0	632,914,005
1966	946,433,484	41,233,595	0	987,667,078
1967	1,065,915,553	97,990,476	0	1,163,906,029
1968	1,385,715,670	107,752,805	783,984	1,494,252,460
1969	1,786,760,423	124,601,568	4,750,708	1,916,112,699
1970	2,228,516,212	130,683,192	11,989,041	2,371,188,444
1971	2,582,297,962	124,857,371	15,363,786	2,722,519,119
1972	2,824,792,196	144,267,198	9,836,582	2,978,895,976
1973	2,995,634,220	145,754,588	7,143,485	3,148,532,293
1974	3,283,413,450	156,838,375	5,464,209	3,445,716,035
1975	3,266,745,456	120,166,178	3,874,047	3,390,785,681
1976	3,431,149,749	90,764,667	3,406,969	3,525,321,386
1977	3,575,898,616	85,236,246	5,416,969	3,666,551,831
1978	4,068,255,571	227,305,175	5,166,368	4,298,964,864
1979	4,076,873,552	501,546,069	5,431,117	4,581,230,155
1980	3,934,902,550	612,378,333	5,900,020	4,550,326,904
1981	4,025,867,929	715,937,640	12,763,654	4,754,321,224
1982	3,729,057,653	841,173,981	17,751,403	4,587,634,037
1983	3,111,576,348	834,112,318	24,168,672	3,961,398,338
1984	3,508,475,799	913,008,621	46,363,000	4,448,745,360
1985	3,055,687,773	818,533,627	64,558,000	3,922,420,326
1986	2,870,347,386	959,161,285	59,078,000	3,871,359,539
1987	3,117,669,167	1,180,839,487	54,805,000	4,338,690,093
1988	3,036,077,646	1,155,285,485	49,167,000	4,225,255,011
1989	2,947,545,132	1,142,237,197	50,791,000	4,117,796,204
1990	3,633,554,307	1,321,607,333	49,972,000	4,992,936,873
1991	3,225,373,562	1,161,671,524	51,855,000	4,426,874,003
1992	3,272,561,370	1,215,055,449	55,231,000	4,593,647,066
1993	3,320,312,261	1,007,755,289	52,150,000	4,444,381,437
1994	3,423,837,064	994,291,314	53,561,000	4,565,582,229
1995	3,564,677,663	890,682,224	54,790,000	4,600,143,070
1996	3,709,198,609	953,772,416	66,784,000	4,925,771,640
1997	3,825,354,038	946,381,458	73,345,000	4,977,314,878
1998	3,814,583,541	850,572,237	74,985,000	4,740,449,969
1999	3,836,619,562	798,140,396	77,809,000	4,894,344,157
2000	3,761,812,062	869,068,079	76,075,000	4,879,959,028
2001	3,818,657,416	898,035,393	70,947,000	5,114,612,578

	GULF OF MEXICO		PACIFIC	TOTAL
	CENTRAL	WESTERN		
2002	3,510,522,709	999,720,152	67,816,000 r	4,582,765,251 r
2003	3,326,281,736	1,065,770,532	58,095,000 r	4,478,836,241 r
2004	2,883,809,634	1,099,125,084	54,655,000 r	4,050,732,992 r
2005	1,935,105,938	773,450,925	54,088,000 r	2,764,108,550 r
2006	2,122,733,551	779,987,637	40,407,000 r	2,943,406,324 r
2007	2,095,397,494	635,587,701	45,516,000 r	2,822,458,130 r
2008	1,703,189,682	481,140,859	35,016,839 e	2,354,959,716 e

NOTE: Starting in 2002 MMS has not formally published production by state adjacent areas
e Estimated r Revised p Preliminary

* See Appendix D-4 for corresponding volumes at 14.73 psia and footnote in Appendix B.

Figure 7

LOUISIANA OIL PRODUCTION AND PRICE

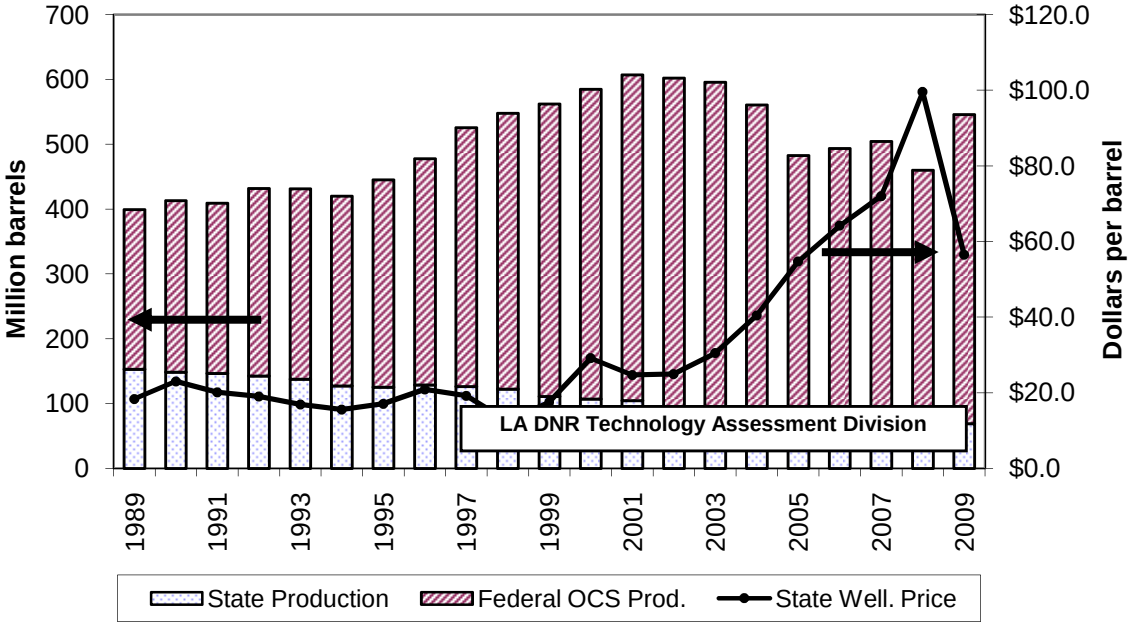

Figure 8

LOUISIANA GAS PRODUCTION AND PRICE

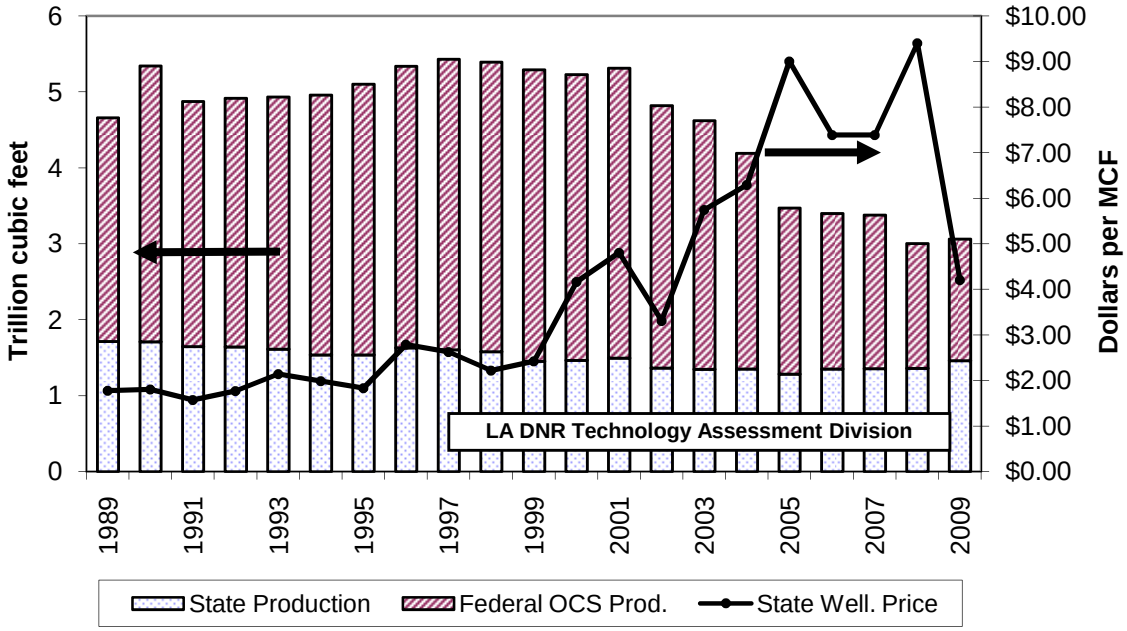

Table 16

UNITED STATES NATURAL GAS AND CASINGHEAD GAS PRODUCTION[3]

(Billion Cubic Feet (BCF) at 15.025 psia and 60 degrees Fahrenheit)*

DATE	GROSS	WET AFTER LEASE SEPARATION	MARKETED	DRY	GROSS IMPORTS
1988	20,587	17,706	17,567	16,767	1,268
1989	20,661	17,879	17,740	16,971	1,354
1990	21,100	18,376	18,229	17,460	1,502
1991	21,322	18,336	18,169	17,351	1,738
1992	21,698	18,509	18,344	17,490	2,096
1993	22,279	18,832	18,609	17,740	2,304
1994	23,118	19,547	19,323	18,451	2,572
1995	23,277	19,402	19,123	18,233	2,785
1996	23,640	19,690	19,423	18,484	2,880
1997	23,737	19,727	19,475	18,531	2,935
1998	23,635	19,670	19,569	18,650	3,090
1999	23,355	19,524	19,416	18,462	3,515
2000	23,699	19,890	19,801	18,805	3,707
2001	24,020	20,261	20,166	19,231	3,899
2002	23,471	19,627	19,530	18,591	3,937
2003	23,645	19,678	19,582	18,724	3,866
2004	23,499	19,230	19,134	18,226	4,175
2005	22,996	18,672	18,555	17,696	4,256
2006	23,046	19,129	19,001	18,113	4,104
2007	24,055	19,872	19,756	18,899	4,517
January	2,137 r	1,744 r	1,735 r	1,661 r	382 r
February	2,025 r	1,661 r	1,651 r	1,581 r	343 r
March	2,189 r	1,794 r	1,784 r	1,708 r	360 r
April	2,079 r	1,723 r	1,712 r	1,637 r	316 r
May	2,138 r	1,784 r	1,774 r	1,696 r	291 r
June	2,085 r	1,749 r	1,738 r	1,667 r	281 r
July	2,160 r	1,827 r	1,815 r	1,740 r	317 r
August	2,129 r	1,820 r	1,810 r	1,735 r	322 r
September	1,891 r	1,548 r	1,539 r	1,479 r	308 r
October	2,130 r	1,752 r	1,741 r	1,669 r	315 r
November	2,140 r	1,752 r	1,743 r	1,673 r	314 r
December	2,200 r	1,806 r	1,798 r	1,733 r	358 r
2008 Total	**25,303 r**	**20,960 r**	**20,841 r**	**19,977 r**	**3,906 r**
January	2,207	1,840	1,831	1,759	353
February	2,032	1,682	1,673	1,606	316
March	2,246	1,862	1,851	1,775	318
April	2,148	1,797	1,786	1,712	315
May	2,195	1,842	1,831	1,752	259
June	2,107	1,790	1,778	1,703	276
July	2,145	1,832	1,821	1,743	310
August	2,136	1,845	1,834	1,756	323
September	2,071	1,752	1,741	1,663	300
October	2,186	1,844	1,833	1,750	301
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2009 Total	**21,473**	**18,085**	**17,981**	**17,220**	**3,072**

e Estimated r Revised p Preliminary

* See Appendix D-5 for corresponding volumes at 14.73 psia and footnote in Appendix B.

Table 17

LOUISIANA AVERAGE CRUDE OIL PRICES

(Dollars per Barrel)

	LIGHT LOUISIANA SWEET		ALL GRADES AT WELLHEAD			
	Spot	Refinery		OCS	Severance	State
DATE	Market[10]	Posted	State[6]	Gulf[6]	Tax[8]	Royalty
1988	16.13	15.75	15.22	14.71	16.38	14.67
1989	19.75	18.97	18.39	17.83	17.87	17.92
1990	25.11	23.35	23.04	22.40	22.54	22.76
1991	21.70	20.60	20.15	19.40	21.13	19.90
1992	20.77	19.72	19.01	18.38	19.31	19.10
1993	18.56	17.27	16.72	16.17	17.39	16.84
1994	17.25	15.84	15.61	14.72	15.46	15.52
1995	18.60	17.16	17.06	16.16	16.98	17.06
1996	22.32	20.77	20.87	20.00	20.56	21.24
1997	20.69	18.90	19.23	18.63	19.80	19.22
1998	14.21	12.17	12.52	12.03	13.47	12.31
1999	19.00	16.73	17.55	16.46	16.09	17.22
2000	30.29	27.88	29.14	27.57	28.10	25.96
2001	25.84	23.23	24.70	23.36	26.23	19.81
2002	26.18	23.14	24.92	23.36	25.17	24.39
2003	31.20	27.88	30.50	28.69	30.28	29.77
2004	41.47	37.85	40.43	37.54	38.34	39.06
2005	56.86	52.75	54.68	50.97	54.62	52.20
2006	67.44	62.41	64.17	60.62	63.55	63.10
2007	74.60	68.96	71.98	67.62	64.14	72.04 r
January	96.12	89.72	93.57	89.00	91.05	93.87 r
February	98.45	94.12	94.97	91.10	90.94	92.27 r
March	107.45	101.82	104.87	96.68	92.34	99.00 r
April	115.13	109.05	111.72	104.68	92.09	110.29 r
May	128.74	122.16	124.42	114.81	102.10	121.43 r
June	137.91	131.19	133.42	125.90	111.80	133.17 r
July	137.80	131.23	133.74	130.06	124.51	124.42 r
August	119.41	113.39	116.80	123.56	123.46	114.65 r
September	107.07	101.09	104.29	117.29	132.61	105.69 r
October	78.78	73.68	78.13 r	90.11 r	118.52	77.27 r
November	56.74	54.20	58.66 r	68.67 r	98.89	59.02 r
December	43.93	37.25 r	39.79 r	48.19 r	80.01 r	35.51 r
2008 Average	**102.29**	**96.57 r**	**99.53 r**	**100.00 r**	**104.86 r**	**97.22 r**
January	47.17	37.87	38.11	39.16	58.12	36.30
February	45.63	35.50	36.31	38.77	39.23	36.14
March	50.08	44.58	46.68	44.36	39.06	45.28
April	52.32	46.78	48.27	46.32	34.55	45.67
May	60.29	55.43	56.13	50.57	46.72	54.83
June	71.15	65.97	66.52	58.59	47.33	63.79
July	66.79	72.50	62.41	64.26	54.12	60.54
August	74.31	67.41	69.02	64.65	64.92	58.56
September	70.18	65.72	68.23	68.96	56.00	66.94
October	76.43	N/A	72.94	68.84	65.52	72.07
November	79.62	N/A	N/A	N/A	63.35	74.03
December	77.33	N/A	N/A	N/A	64.40	N/A
2009 Average	**64.28**	**54.64**	**56.46**	**54.45**	**52.78**	**55.83**

e Estimated r Revised p Preliminary

See footnote in Appendix B.

Figure 9

CRUDE OIL AVERAGE PRICES

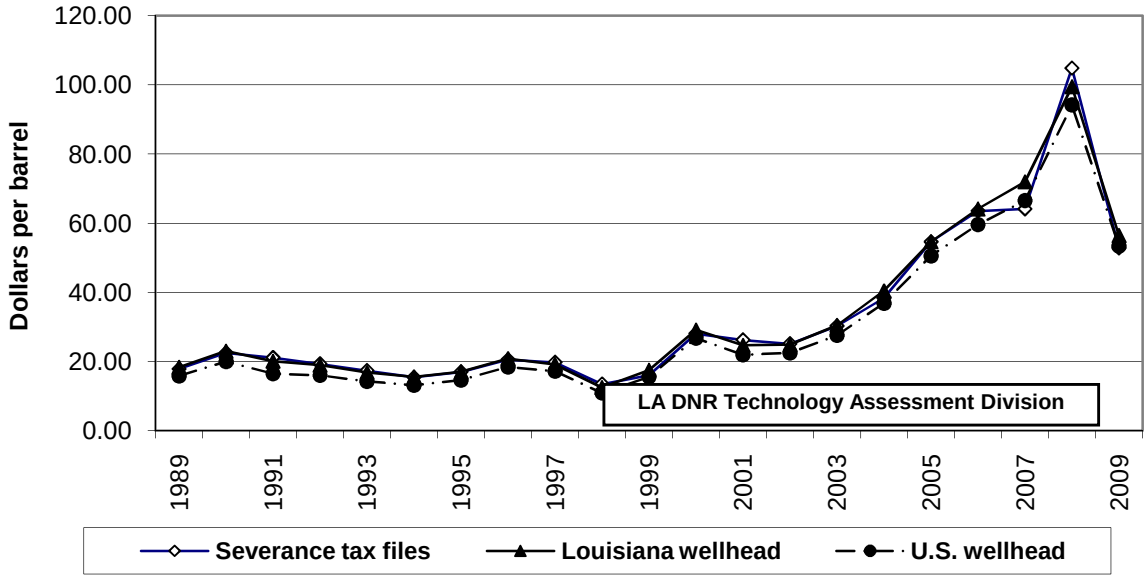

Figure 10

NATURAL GAS AVERAGE PRICES

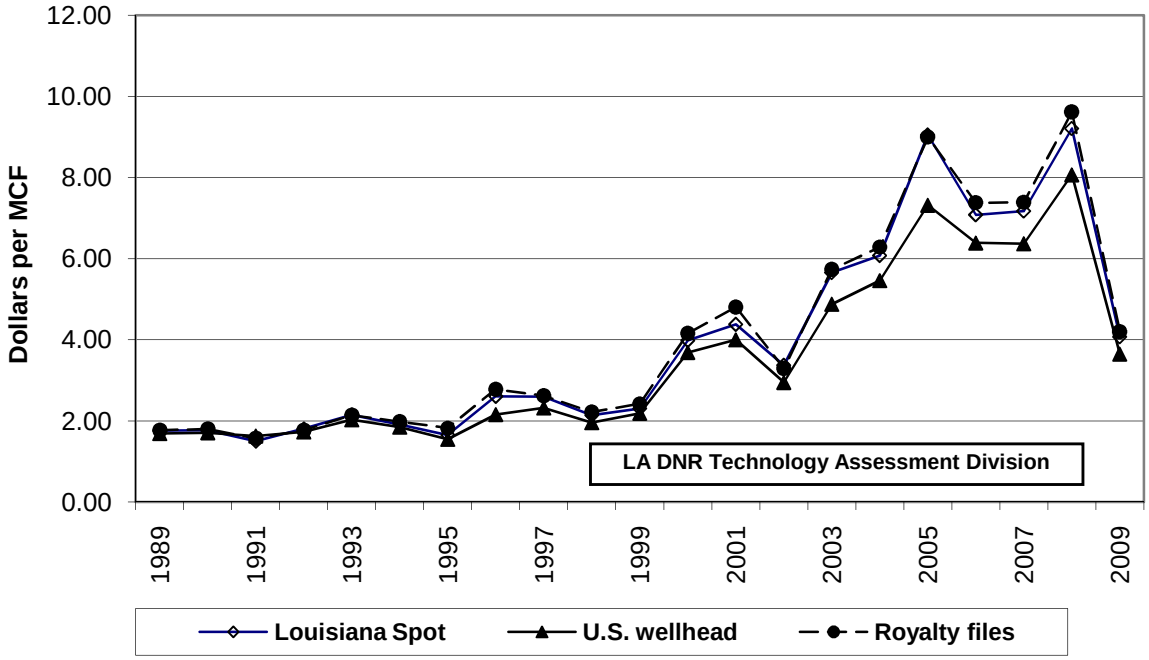

Table 18

UNITED STATES AVERAGE CRUDE OIL PRICES [2]

(Dollars per Barrel)

DATE	REFINERY ACQUISITION		DOMESTIC	IMPORTS	IMPORTS	IMPORTS
	Domestic Costs	Imports Costs	WELLHEAD	LANDED	FOB	OPEC FOB
1989	17.87	18.08	15.86	17.68	16.89	17.06
1990	22.59	21.76	20.03	21.13	20.37	20.40
1991	19.35	18.74	16.53	18.02	16.91	17.01
1992	18.62	18.12	16.00	17.65	16.66	16.76
1993	16.66	16.17	14.24	15.75	14.72	14.72
1994	15.64	15.41	13.19	15.07	14.13	13.94
1995	17.32	17.15	14.62	16.77	15.69	15.35
1996	20.81	20.60	18.46	20.27	19.24	18.87
1997	19.65	18.55	17.23	18.14	16.98	16.33
1998	13.15	12.35	10.94	11.86	10.75	10.17
1999	17.64	17.27	15.53	17.38	16.48	16.01
2000	29.08	27.68	26.72	27.54	26.26	25.55
2001	24.34	21.99	21.90	21.77	20.45	19.56
2002	24.56	23.63	22.50	23.82	22.57	22.19
2003	29.78	27.87	27.54	27.83	26.06	25.61
2004	38.97	35.79	36.86	36.05	33.73	33.99
2005	53.05	48.93	50.53	49.41	47.74	49.75
2006	62.50	58.89	59.65	59.03	57.03	59.17
2007	69.56	67.13	66.56	67.86	66.12	68.98
January	89.57	84.82	87.06	86.65 r	83.49 r	85.51 r
February	92.23 r	87.41	89.41	90.71 r	87.84 r	91.87 r
March	99.87	96.96 r	98.44	99.94 r	96.32 r	99.90 r
April	108.54 r	104.72 r	106.64	108.40 r	104.04 r	108.19 r
May	119.75	116.55 r	118.55	119.40 r	115.02 r	118.23 r
June	129.45	126.22	127.47	125.65 r	123.34 r	126.30 r
July	131.47	127.77	128.08	124.20 r	122.12	121.93 r
August	118.42 r	111.19 r	112.83	109.64 r	108.10 r	108.99 r
September	103.73 r	96.38 r	98.50	91.83 r	90.85 r	89.61 r
October	81.03 r	70.84 r	73.18 r	65.40 r	63.09 r	62.77 r
November	61.65 r	49.10 r	53.67 r	46.96 r	44.95 r	45.61 r
December	41.42 r	35.59 r	36.80 r	36.86 r	34.23 r	35.79 r
2008 Average	**98.09 r**	**92.30 r**	**94.22 r**	**92.14 r**	**89.45 r**	**91.23 r**
January	38.67	36.84	35.00	38.51	36.86	37.60
February	37.51	38.56	34.14	40.14	38.08	39.71
March	44.92	45.96	42.46	46.61	44.34	45.75
April	47.52	49.58	45.22	51.33	47.62	48.67
May	54.58	56.77	52.69	58.01	55.46	55.89
June	64.61	66.37	63.08	65.85	64.81	65.36
July	63.78	63.46	60.43	64.73	62.32	63.25
August	67.78	68.09	65.28	68.46	67.46	67.62
September	67.86	67.65	65.27	68.04	65.41	65.91
October	72.04	72.06	69.81	71.58	69.81	69.94
November	76.48	77.21	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A	N/A
2009 Average	**57.80**	**58.41**	**53.34**	**57.33**	**55.22**	**55.97**

e Estimated r Revised p Preliminary

See footnote in Appendix B.

Table 19

LOUISIANA NATURAL GAS WELLHEAD PRICES (MCF)

(Dollars/Thousand Cubic Feet)

DATE	MMS OCS[12]	DNR State Royalty	Henry Hub Settled NYMEX	Henry Hub Cash Spot	SPOT MARKET[5] Low	SPOT MARKET[5] High	SPOT MARKET[5] Average
1989	1.86	1.77	N/A	N/A	1.40	2.29	1.76
1990	1.87	1.80	N/A	N/A	1.35	2.60	1.77
1991	1.77	1.57	N/A	N/A	1.43	1.56	1.50
1992	1.77	1.77	N/A	N/A	1.74	1.85	1.80
1993	2.18	2.14	2.19	N/A	2.08	2.21	2.15
1994	2.10	1.98	1.97	N/A	1.86	1.95	1.91
1995	1.61	1.82	1.70	1.75	1.62	1.68	1.65
1996	2.37	2.78	2.69	2.87	2.47	2.69	2.60
1997	2.63	2.62	2.69	2.63	2.54	2.67	2.60
1998	2.36	2.22	2.19	2.17	2.08	2.18	2.14
1999	2.18	2.42	2.36	2.36	2.25	2.36	2.31
2000	3.59	4.16	4.04	4.39	3.92	4.03	3.98
2001	4.05	4.80	4.44	4.11	4.27	4.47	4.38
2002	2.98	3.30	3.39	3.48	3.29	3.43	3.37
2003	5.12	5.74	5.61	5.71	5.32	5.92	5.66
2004	6.04	6.29	6.39	6.14	5.98	6.18	6.08
2005	8.58	9.00	8.96	9.19	8.84	9.26	9.05
2006	6.77	7.38	7.54	7.00	6.91	7.24	7.08
2007	7.15	7.39	7.13	7.26	7.08	7.29	7.17
January	N/A	8.39 r	7.46	8.31	7.97	8.48	8.09
February	N/A	8.93 r	8.32	8.89	8.48	8.69	8.57
March	N/A	9.90 r	9.29	9.83	9.51	9.64	9.60
April	N/A	10.70 r	9.96	10.59	10.26	10.42	10.33
May	N/A	17.39 r	11.73	11.72	11.52	11.64	11.59
June	N/A	8.78 r	12.39	13.21	12.77	12.98	12.84
July	N/A	12.77 r	13.63	11.64	12.27	12.43	12.34
August	N/A	9.21 r	9.59	8.59	8.79	9.05	8.86
September	N/A	8.48 r	8.73	7.95	7.96	8.34	8.09
October	N/A	7.40 r	7.77	7.01	7.02	7.21	7.13
November	N/A	7.00 r	6.73	6.96	6.66	6.87	6.77
December	N/A	6.53 r	7.16	6.07	6.25	6.37	6.32
2008 Average	**13.53 r**	**9.62 r**	**9.40**	**9.23**	**9.12**	**9.34**	**9.21**
January	N/A	5.89	6.38	5.24	5.70	5.84	5.77
February	N/A	4.40	4.66	4.53	4.68	4.93	4.78
March	N/A	4.26	4.22	3.96	4.03	4.20	4.13
April	N/A	6.48	3.78	3.50	3.60	3.74	3.68
May	N/A	3.72	3.45	3.83	3.70	3.91	3.79
June	N/A	3.97	3.68	3.80	3.74	3.85	3.81
July	N/A	2.90	4.11	3.38	3.46	3.66	3.59
August	N/A	3.39	3.51	3.14	3.24	3.35	3.31
September	N/A	3.07	2.96	2.96	2.70	2.98	2.89
October	N/A	3.88	3.88	4.00	3.85	3.98	3.92
November	N/A	N/A	4.46	3.70	3.82	3.98	3.89
December	N/A	N/A	4.67	5.34	5.21	5.44	5.30
2009 Average	**5.00**	**4.20**	**4.15**	**3.95**	**3.98**	**4.16**	**4.07**

e Estimated r Revised p Preliminary

See footnote in Appendix B.

Table 19A

LOUISIANA NATURAL GAS WELLHEAD PRICES (MMBTU)

(Dollars/MMBTU)

DATE	MMS OCS[12]	DNR State Royalty	Henry Hub Settled NYMEX	Henry Hub Cash Spot	SPOT MARKET[5] Low	SPOT MARKET[5] High	SPOT MARKET[5] Average
1989	1.79	1.70	N/A	N/A	1.35	2.20	1.70
1990	1.80	1.73	N/A	N/A	1.30	2.50	1.70
1991	1.70	1.51	N/A	N/A	1.38	1.50	1.44
1992	1.70	1.70	N/A	N/A	1.68	1.78	1.73
1993	2.10	2.05	N/A	N/A	2.00	2.12	2.06
1994	2.02	1.91	1.89	N/A	1.79	1.88	1.84
1995	1.55	1.75	1.63	1.69	1.56	1.61	1.59
1996	2.28	2.67	2.59	2.76	2.37	2.58	2.50
1997	2.53	2.52	2.59	2.53	2.44	2.57	2.50
1998	2.27	2.13	2.10	2.08	2.00	2.10	2.05
1999	2.10	2.33	2.27	2.27	2.17	2.27	2.22
2000	3.45	4.00	3.88	4.23	3.77	3.88	3.83
2001	3.89	4.62	4.27	3.95	4.11	4.30	4.21
2002	2.87	3.17	3.26	3.35	3.16	3.30	3.24
2003	4.92	5.52	5.40	5.49	5.11	5.69	5.44
2004	5.81	6.04	6.15	5.90	5.75	5.95	5.85
2005	8.25	8.65	8.62	8.83	8.50	8.90	8.70
2006	6.51	7.10	7.25	6.73	6.64	6.96	6.81
2007	7.02	7.08	6.86	6.98	6.80	7.01	6.89
January	N/A	7.83 r	7.17	7.99	7.66	8.16	7.78
February	N/A	8.59 r	8.00	8.55	8.15	8.35	8.24
March	N/A	9.52 r	8.93	9.45	9.14	9.27	9.23
April	N/A	10.43 r	9.58	10.18	9.86	10.02	9.94
May	N/A	16.73 r	11.28	11.27	11.08	11.19	11.14
June	N/A	8.44 r	11.92	12.70	12.28	12.48	12.35
July	N/A	12.29 r	13.11	11.19	11.80	11.96	11.87
August	N/A	8.87 r	9.22	8.26	8.45	8.70	8.52
September	N/A	8.16 r	8.39	7.64	7.65	8.02	7.77
October	N/A	7.12 r	7.47	6.74	6.75	6.93	6.85
November	N/A	6.73 r	6.47	6.69	6.41	6.61	6.51
December	N/A	6.29 r	6.89	5.84	6.01	6.13	6.08
2008 Average	**13.01 r**	**9.25 r**	**9.03**	**8.88**	**8.77**	**8.99**	**8.86**
January	N/A	5.66	6.14	5.04	5.48	5.62	5.55
February	N/A	4.24	4.48	4.36	4.50	4.74	4.60
March	N/A	4.09	4.06	3.81	3.87	4.04	3.97
April	N/A	6.23	3.63	3.37	3.46	3.60	3.54
May	N/A	3.58	3.32	3.68	3.56	3.76	3.65
June	N/A	3.82	3.54	3.65	3.59	3.71	3.66
July	N/A	2.79	3.95	3.25	3.33	3.52	3.46
August	N/A	3.26	3.38	3.02	3.12	3.22	3.18
September	N/A	2.95	2.84	2.85	2.60	2.86	2.78
October	N/A	3.73	3.73	3.85	3.70	3.82	3.77
November	N/A	N/A	4.29	3.56	3.67	3.83	3.74
December	N/A	N/A	4.49	5.13	5.01	5.23	5.09
2009 Average	**4.81**	**4.03**	**3.99**	**3.80**	**3.82**	**4.00**	**3.92**

e Estimated r Revised p Preliminary

See footnote in Appendix B.

Table 20

LOUISIANA AVERAGE NATURAL GAS PRICES
DELIVERED TO CONSUMER [3] (MCF)
(Dollars/Thousand Cubic Feet)

DATE	CITY GATES	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	UTILITY
1989	3.01	5.97	5.19	1.97	1.78
1990	2.97	6.09	5.26	2.00	1.73
1991	2.56	6.24	4.91	1.74	1.63
1992	2.48	6.19	4.85	2.00	1.93
1993	2.75	6.68	5.41	2.31	2.49
1994	2.52	6.78	5.39	2.18	2.24
1995	2.17	6.59	5.15	1.82	1.92
1996	3.03	7.55	6.18	2.83	3.07
1997	2.94	7.60	6.12	2.87	2.88
1998	2.32	7.51	5.72	2.43	2.40
1999	2.73	7.55	5.83	2.51	2.55
2000	4.50	9.20	7.52	4.01	4.56
2001	5.11	9.99	7.85	5.22	4.56
2002	4.07	8.99	6.77	3.66	3.71
2003	5.72	11.68	8.86	5.56	6.00
2004	6.46	12.50	9.66	6.50	6.56
2005	8.93	14.88	11.61	9.33	9.50
2006	7.49	15.62	11.62	7.44	7.93
2007	7.31	15.30	11.65	7.32	7.61
January	8.48	13.05	12.42	7.64	8.21
February	9.74	13.78	12.71	8.59	8.72
March	9.09	14.32	12.95	9.42	9.58
April	10.13	17.02	13.83	9.68	10.51
May	10.77	18.44	15.22	12.61	12.24
June	11.70	22.19	16.67	11.38	14.03
July	11.84	24.65	16.97	12.74	13.66
August	11.74	19.99	13.94	10.06	10.43
September	11.76	18.53	12.46	8.30	8.69
October	N/A	16.95	12.29	7.60	7.81
November	7.51 r	15.68 r	12.63 r	5.88 r	7.19 r
December	8.18 r	14.06 r	13.07 r	6.88 r	7.07 r
2008 Average	**9.25 r**	**17.39 r**	**13.76 r**	**9.23 r**	**9.85 r**
January	7.95	12.96	12.32	6.35	6.40
February	6.86	12.53	11.37	4.99	5.06
March	6.26	13.41	11.53	4.51	4.52
April	5.32	12.84	9.74	3.99	4.04
May	4.62	13.54	8.60	3.85	4.01
June	4.81	15.53	9.26	3.92	4.22
July	4.37	16.51	9.43	3.70	4.07
August	4.12	15.68	8.94	3.54	3.69
September	3.83	15.69	8.79	3.12	3.29
October	4.99	14.27	9.68	4.24	N/A
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2009 Average	**5.31**	**14.30**	**9.97**	**4.22**	**4.37**

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See footnote in Appendix B.

Table 20A

LOUISIANA AVERAGE NATURAL GAS PRICES
DELIVERED TO CONSUMER [3] (MMBTU)
(Dollars/MMBTU)

DATE	CITY GATES	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	UTILITY
1989	2.89	5.74	4.99	1.89	1.71
1990	2.86	5.86	5.06	1.92	1.66
1991	2.46	6.00	4.72	1.67	1.57
1992	2.38	5.95	4.66	1.92	1.86
1993	2.64	6.42	5.20	2.22	2.39
1994	2.42	6.52	5.18	2.09	2.16
1995	2.09	6.33	4.95	1.75	1.84
1996	2.91	7.26	5.94	2.72	2.95
1997	2.83	7.30	5.88	2.76	2.77
1998	2.23	7.22	5.50	2.34	2.31
1999	2.63	7.26	5.60	2.42	2.45
2000	4.33	8.84	7.23	3.85	4.39
2001	4.91	9.60	7.55	5.02	4.39
2002	3.92	8.64	6.51	3.52	3.56
2003	5.30	11.23	8.52	5.35	5.77
2004	6.21	12.02	9.29	6.25	6.29
2005	8.59	14.31	11.16	8.97	9.14
2006	7.20	15.02	11.18	7.16	7.62
2007	7.02	14.71	11.20	7.03	7.32
January	8.15	12.55	11.94	7.35	7.89
February	9.37	13.25	12.22	8.26	8.38
March	8.74	13.77	12.45	9.06	9.21
April	9.74	16.37	13.30	9.31	10.11
May	10.36	17.73	14.63	12.13	11.77
June	11.25	21.34	16.03	10.94	13.49
July	11.38	23.70	16.32	12.25	13.13
August	11.29	19.22	13.40	9.67	10.03
September	11.31	17.82	11.98	7.98	8.36
October	N/A	16.30	11.82	7.31	7.51
November	7.22 r	15.08 r	12.14 r	5.65 r	6.91 r
December	7.87 r	13.52 r	12.57 r	6.62 r	6.80 r
2008 Average	**9.70 r**	**16.72 r**	**13.23 r**	**8.88 r**	**9.47 r**
January	7.64	12.46	11.85	6.11	6.15
February	6.60	12.05	10.93	4.80	4.87
March	6.02	12.89	11.09	4.34	4.35
April	5.12	12.35	9.37	3.84	3.88
May	4.44	13.02	8.27	3.70	3.86
June	4.63	14.93	8.90	3.77	4.06
July	4.20	15.88	9.07	3.56	3.91
August	3.96	15.08	8.60	3.40	3.55
September	3.68	15.09	8.45	3.00	3.16
October	4.80	13.72	9.31	4.08	N/A
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2009 Average	**5.11**	**13.75**	**9.58**	**4.06**	**4.20**

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See footnote in Appendix B.

Table 21

UNITED STATES AVERAGE NATURAL GAS PRICES (MCF)

(Dollars/Thousand Cubic Feet)

DATE	WELLHEAD[3]	SPOT MARKET[5]	FOREIGN IMPORTS[3]	CITY GATES[3]	DELIVERED TO RESIDENTIAL[3]
1989	1.69	1.64	2.04	3.01	5.64
1990	1.71	1.67	1.94	3.03	5.80
1991	1.63	1.45	1.82	2.90	6.22
1992	1.73	1.75	1.85	3.01	6.28
1993	2.03	2.10	2.03	3.21	6.67
1994	1.85	1.84	1.87	3.07	6.89
1995	1.55	1.56	1.49	2.78	6.58
1996	2.16	2.39	1.96	3.27	6.97
1997	2.32	2.54	2.15	3.66	6.94
1998	1.96	2.11	1.97	3.07	7.45
1999	2.19	2.28	2.23	3.10	7.34
2000	3.69	3.94	3.88	4.62	8.51
2001	4.00 r	4.34	4.36	5.24	9.91
2002	2.95	3.26	3.14	4.10	8.60
2003	4.88	5.48	5.18	5.84	10.62
2004	5.46 r	5.94	5.78	6.61	11.64
2005	7.33 r	8.67	8.09	8.72	13.72 r
2006	6.39 r	6.81	6.87	8.28	14.18
2007	6.37 r	6.89	6.87	8.01	14.14
January	6.99	8.28	7.66	8.37	12.07
February	7.55	8.61	8.34	8.91	12.42
March	8.29	9.46	9.03	9.49	12.95
April	8.94	10.14	9.61	9.84	14.29
May	9.81	11.11	10.80	11.05	16.03
June	10.82	12.16	11.71	11.85	18.39
July	10.62	11.81	11.78 r	12.48	20.24
August	8.32	8.48	8.67 r	10.20	19.60
September	7.27	7.20	7.54 r	8.99	17.91
October	6.36 r	6.16	6.87 r	7.80 r	15.19 r
November	5.97 r	5.98	6.54 r	7.93 r	13.62 r
December	5.87 r	6.15	6.74 r	8.16 r	12.64 r
2008 Average	**8.07 r**	**8.80**	**8.77 r**	**9.59 r**	**15.45 r**
January	5.15	5.72	6.18	7.97	12.40
February	4.19	4.56	5.21	7.25	12.18
March	3.72	3.83	4.35	6.84	11.84
April	3.43	3.49	3.67	5.68	11.58
May	3.45	3.63	3.48	5.48	12.50
June	3.45	3.53	3.51	5.53	13.82
July	3.43	3.48	3.50	5.68	14.83
August	3.14	3.30	3.29	5.59	15.13
September	2.92	2.97	2.90	5.36	14.36
October	3.60	4.05	N/A	5.67	11.65
November	N/A	4.00	N/A	N/A	N/A
December	N/A	5.49	N/A	N/A	N/A
2009 Average	**3.65**	**4.00**	**4.01**	**6.11**	**13.03**

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See footnote in Appendix B.

Table 21A

UNITED STATES AVERAGE NATURAL GAS PRICES (MMBTU)

(Dollars/MMBTU)

DATE	WELLHEAD[3]	SPOT MARKET[5]	FOREIGN IMPORTS[3]	CITY GATES[3]	DELIVERED TO RESIDENTIAL[3]
1989	1.63	1.58	1.96	2.89	5.42
1990	1.64	1.61	1.87	2.91	5.58
1991	1.57	1.40	1.75	2.76	5.98
1992	1.67	1.68	1.78	2.91	6.04
1993	1.95	2.02	1.95	3.14	6.42
1994	1.78	1.77	1.80	2.95	6.63
1995	1.49	1.50	1.43	2.69	6.33
1996	2.08	2.30	1.88	3.19	6.70
1997	2.23	2.44	2.07	3.44	7.16
1998	1.88	2.03	1.89	2.94	7.16
1999	2.11	2.19	2.15	3.04	7.06
2000	3.54	3.79	3.73	4.48	8.18
2001	3.84 r	4.17	4.19	5.04	9.53
2002	2.83	3.14	3.02	3.94	8.27
2003	4.69	5.27	4.98	5.62	10.21
2004	5.25 r	5.71	5.56	6.35	11.19
2005	7.04 r	8.34	7.77	8.38	13.19
2006	6.14 r	6.55	6.60	7.96	13.63
2007	6.12 r	6.63	6.61	7.70	13.59
January	6.72	7.96	7.37	8.05	11.61
February	7.26	8.28	8.02	8.57	11.94
March	7.97	9.09	8.68	9.13	12.45
April	8.60	9.75	9.24	9.46	13.74
May	9.43	10.68	10.38	10.63	15.41
June	10.40	11.69	11.26	11.39	17.68
July	10.21	11.35	11.33 r	12.00	19.46
August	8.00	8.16	8.34 r	9.81	18.85
September	6.99	6.93	7.25 r	8.64	17.22
October	6.12 r	5.93	6.61 r	7.50 r	14.61 r
November	5.74 r	5.75	6.29 r	7.63 r	13.10 r
December	5.64 r	5.91	6.48 r	7.85 r	12.15 r
2008 Average	**7.76 r**	**8.46**	**8.44 r**	**9.22 r**	**14.85 r**
January	4.95	5.50	5.94	7.66	11.92
February	4.03	4.38	5.01	6.97	11.71
March	3.58	3.68	4.18	6.58	11.38
April	3.30	3.36	3.53	5.46	11.13
May	3.32	3.49	3.35	5.27	12.02
June	3.32	3.40	3.38	5.32	13.29
July	3.30	3.35	3.37	5.46	14.26
August	3.02	3.18	3.16	5.38	14.55
September	2.81	2.86	2.79	5.15	13.81
October	3.46	3.89	N/A	5.45	11.20
November	N/A	1.84	N/A	N/A	N/A
December	N/A	1.40	N/A	N/A	N/A
2009 Average	**3.51**	**3.36**	**3.86**	**5.87**	**12.53**

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See footnote in Appendix B.

Table 22

LOUISIANA STATE OIL AND GAS DRILLING PERMITS ISSUED BY TYPE

Excluding OCS

DATE	DEVELOPMENTAL +	WILDCATS =	TOTAL =	OFFSHORE +	ONSHORE
1988	1,601	249	1,850	94	1,756
1989	1,486	204	1,690	75	1,615
1990	1,526	181	1,707	85	1,622
1991	1,209	100	1,309	77	1,232
1992	1,044	92	1,136	59	1,077
1993	1,040	109	1,149	76	1,073
1994	1,015	98	1,113	74	1,039
1995	979	86	1,065	68	997
1996	1,248	133	1,381	121	1,260
1997	1,424	138	1,562	85	1,477
1998	1,171	115	1,286	96	1,190
1999	908	109	1,017	79	938
2000	1,363	90	1,453	151	1,302
2001	1,277	88	1,365	96	1,269
2002	902	123	1,025	90	935
2003	1,152	112	1,264	83	1,181
2004	1,535	98	1,633	57	1,576
2005	1,882	114	1,996	74	1,922
2006	2,040	97	2,137	61	2,076
2007	2,082	68	2,150	34	2,116
January	167	5	172	0	172
February	147	6	153	3	150
March	156	2	158	6	152
April	191	7	198	5	193
May	218	10	228	4	224
June	219	11	230	5	225
July	283	9	292	1	291
August	300	8	308	4	304
September	209	7	216	2	214
October	169	3	172	3	169
November	113	4	117	6	111
December	124	6	130	1	129
2008 Total	**2,296**	**78**	**2,374**	**40**	**2,334**
January	123	6	129	0	129
February	117	1	118	0	118
March	101	5	106	1	105
April	105	3	108	2	106
May	96	1	97	1	96
June	118	0	118	1	117
July	122	1	123	2	121
August	101	4	105	1	104
September	91	2	93	1	92
October	131	4	135	1	134
November	111	2	113	2	111
December	119	1	120	0	120
2009 Total	**1,335**	**30**	**1,365**	**12**	**1,353**

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Figure 11

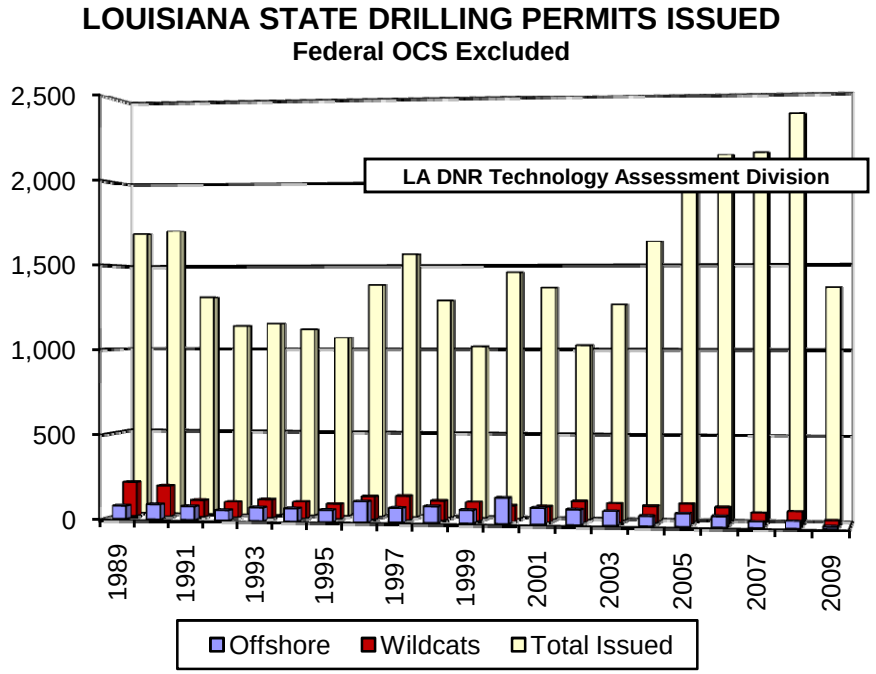

Figure 12

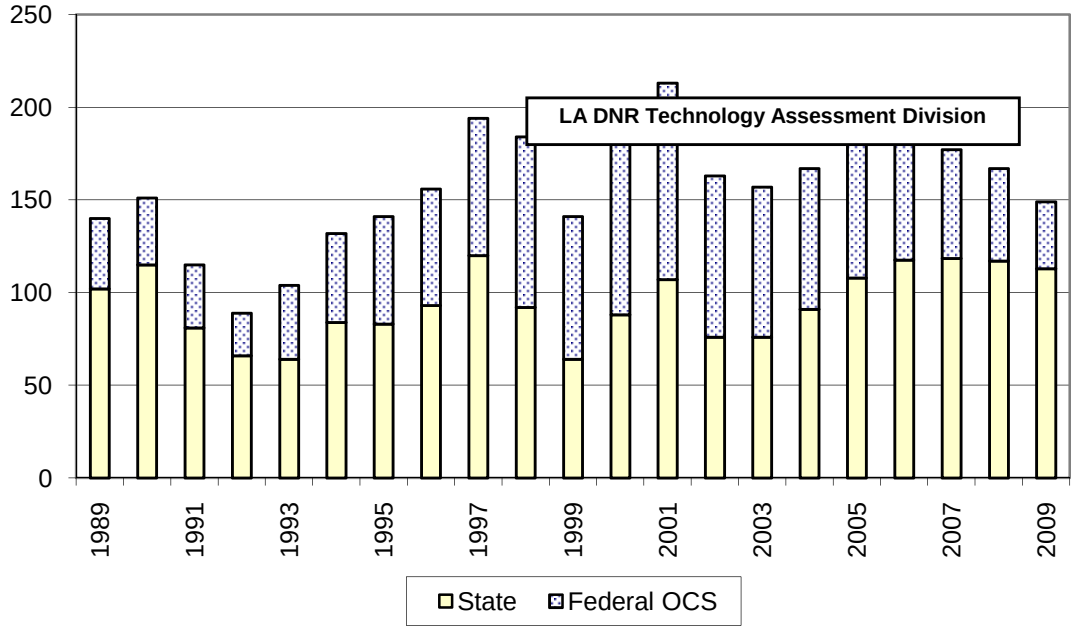

Table 23

LOUISIANA AVERAGE RIGS RUNNING

DATE	State North[4]	State South Inland Water[4]	State South Inland Land[4]	State Offshore	Total State	Federal Offshore	Total Offshore[4] (State+OCS)	LA[4] TOTAL
1988	14	27	35	20	95	68	88	163
1989	16	17	35	34	102	38	72	140
1990	19	20	36	40	115	36	76	151
1991	11	16	31	23	81	34	57	115
1992	9	13	27	16	66	23	39	88
1993	11	12	22	19	64	40	59	104
1994	14	16	25	29	84	48	78	132
1995	16	15	28	23	82	58	81	141
1996	19	19	31	25	93	63	88	156
1997	21	23	48	28	120	74	102	194
1998	19	21	38	14	93	92	106	184
1999	16	16	21	12	65	76	88	141
2000	24	16	37	10	86	108	118	195
2001	30	20	44	10	104	108	119	213
2002	23	16	32	5	76	87	92	163
2003	29	14	29	4	76	81	85	157
2004	39	18	30	3	91	76	79	167
2005	48	23	32	4	108	74	79	182
2006	57	19	38	3	118	70	73	188
2007	58	24	34	2	118	59	61	177
January	52	22	27	4	105	44	48	149
February	47	19	28	3	97	46	49	143
March	49	16	28	1	95	50	51	144
April	50	19	21	4	94	50	54	144
May	52	22	21	4	99	52	55	151
June	65	22	26	4	117	51	55	168
July	72	23	29	6	129	50	56	180
August	80	26	28	4	138	50	54	188
September	85	19	26	3	133	52	55	185
October	82	21	29	2	134	58	60	192
November	95	20	22	3	140	48	50	188
December	90	11	22	4	126	49	53	175
2008 Average	**68**	**20**	**26**	**3**	**117**	**50**	**53**	**167**
January	90	9	23	3	126	51	54	177
February	80	6	22	2	110	47	49	157
March	71	6	18	1	95	39	40	134
April	74	5	14	0	93	41	41	134
May	77	6	11	2	96	45	47	141
June	76	6	11	1	94	40	41	134
July	81	8	11	1	101	32	34	133
August	89	7	14	1	111	24	25	135
September	96	6	17	1	120	26	27	146
October	106	11	13	1	131	29	30	160
November	112	13	12	1	138	31	32	169
December	121	13	12	1	147	32	33	180
2009 Average	**89**	**8**	**15**	**1**	**113**	**36**	**38**	**150**

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Table 24

LOUISIANA STATE PRODUCING CRUDE OIL WELLS

Excluding OCS

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1963	12,833	14,144	N/A	26,977
1964	13,901	13,661	1,265	28,826
1965	14,505	11,558	3,938	30,001
1966	14,419	12,165	4,330	30,915
1967	14,191	12,183	4,677	31,051
1968	13,856	11,698	4,767	30,321
1969	13,670	11,131	4,954	29,756
1970	13,166	10,363	1,179	24,707
1971	12,889	9,626	1,107	23,623
1972	12,475	8,912	1,048	22,436
1973	11,698	8,249	1,025	20,972
1974	11,984	8,262	985	21,230
1975	12,259	8,094	936	21,288
1976	12,393	7,730	1,073	21,196
1977	12,915	7,444	1,067	21,425
1978	13,019	7,219	1,086	21,324
1979	12,961	6,859	1,078	20,898
1980	13,981	6,832	1,073	21,885
1981	15,084	6,777	1,105	22,966
1982	15,540	6,608	1,112	23,259
1983	16,299	6,374	1,037	23,710
1984	17,544	6,300	1,038	24,882
1985	18,794	6,223	1,014	26,031
1986	19,346	6,061	1,001	26,408
1987	18,630	5,768	945	25,343
1988	17,953	5,698	964	24,615
1989	16,849	5,474	927	23,250
1990	17,369	5,215	906	23,490
1991	17,731	5,143	868	23,742
1992	17,449	5,155	842	23,446
1993	16,810	5,015	814	22,640
1994	15,904	4,682	805	21,392
1995	15,260	4,451	769	20,479
1996	15,148	4,295	719	20,163
1997	14,573	4,165	619	20,358
1998	13,975	3,962	546	18,484
1999	13,747	3,971	546	18,264
2000	16,795	3,914	408	21,117
2001	16,494	4,257	393	21,144
2002	16,531	4,071	423	21,026
2003	16,516	3,583	467	20,566
2004	16,148	3,485	462	20,095
2005	17,153	3,648	317	21,117
2006	17,072	3,615	241	20,928
2007	16,994 e	3,711 e	262 e	20,966
2008	17,080 e	3,742 e	266 e	21,088

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Figure 13

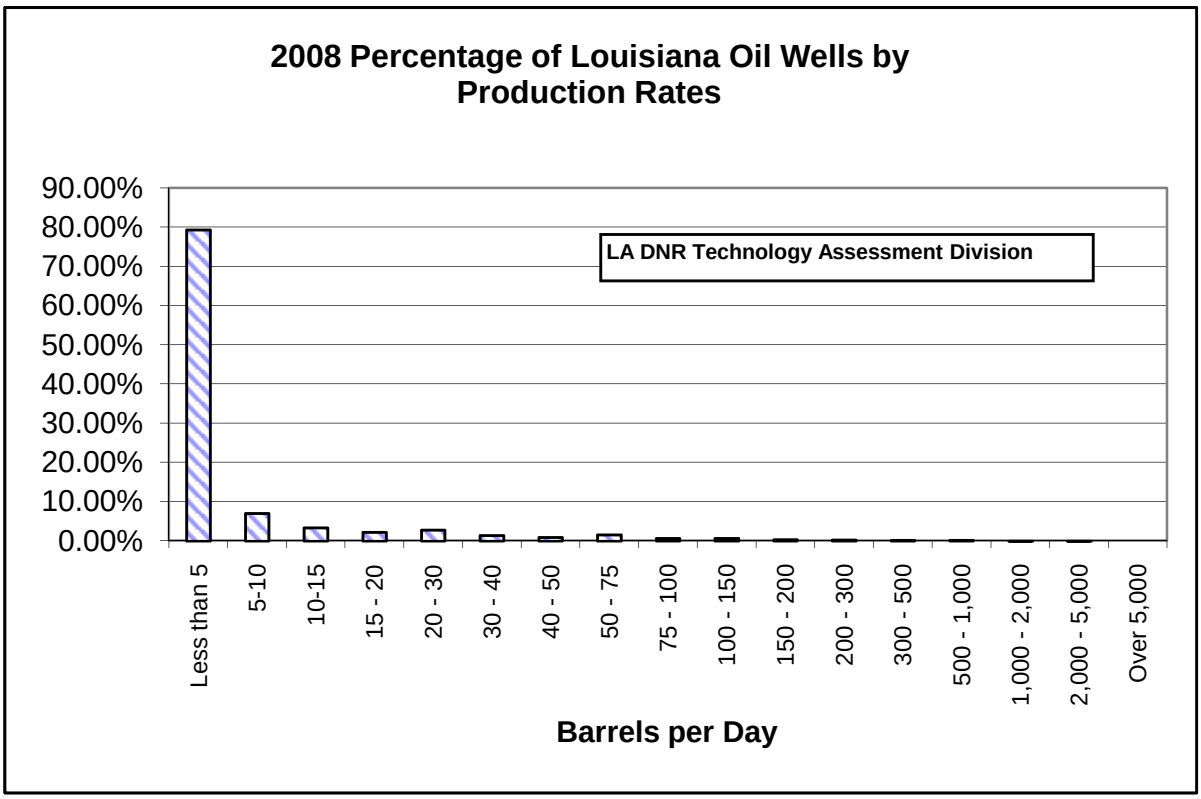

Figure 14

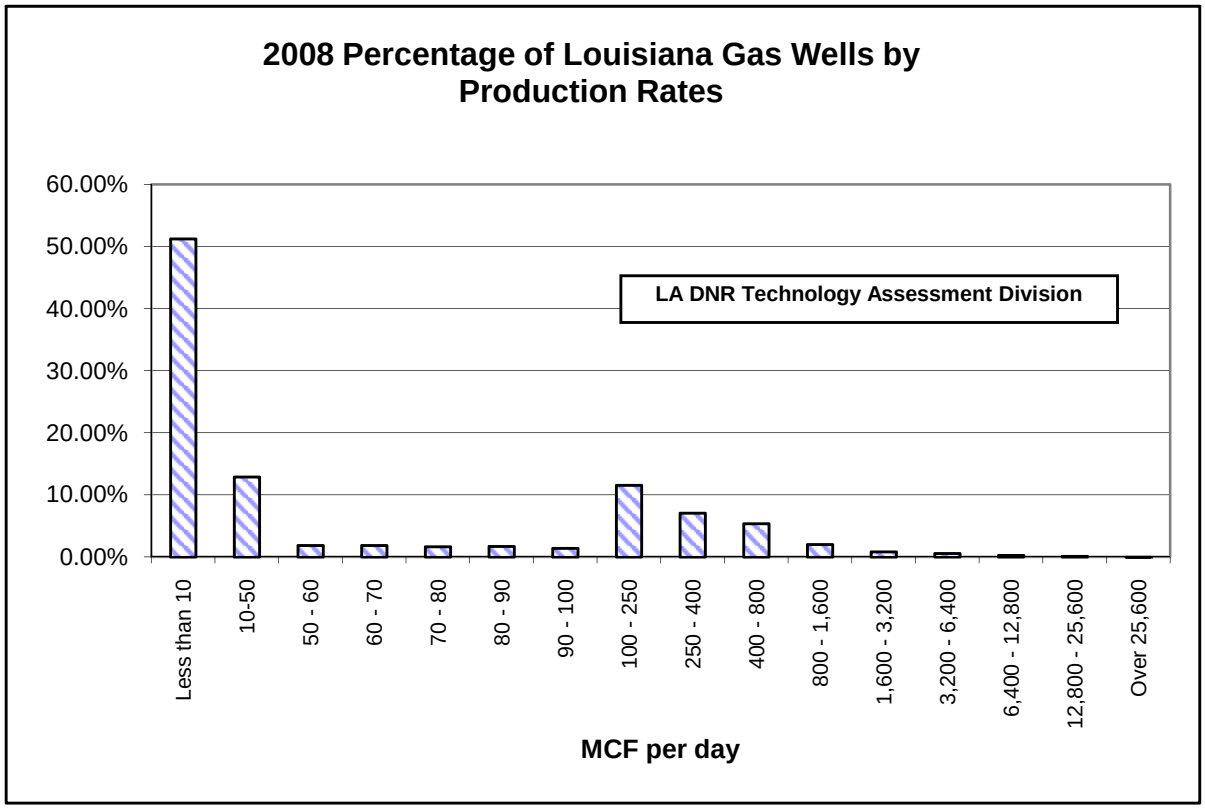

Table 25

LOUISIANA STATE PRODUCING NATURAL GAS WELLS

Excluding OCS

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1963	4,103	3,545	0	7,648
1964	4,336	3,502	187	8,025
1965	4,477	3,227	618	8,321
1966	4,566	3,381	748	8,694
1967	4,548	3,448	882	8,878
1968	4,563	3,582	1048	9,194
1969	4,558	3,451	1297	9,306
1970	4,511	3,438	311	8,260
1971	4,449	3,389	327	8,164
1972	4,664	3,397	316	8,378
1973	4,927	3,449	332	8,707
1974	5,159	3,458	313	8,929
1975	5,373	3,331	308	9,012
1976	5,851	3,289	362	9,502
1977	6,343	3,331	449	10,123
1978	6,915	3,253	472	10,640
1979	7,372	3,214	514	11,100
1980	8,360	3,277	551	12,188
1981	9,479	3,226	557	13,262
1982	10,154	3,136	564	13,855
1983	10,502	3,065	549	14,115
1984	10,812	2,955	532	14,299
1985	11,026	2,887	511	14,424
1986	11,049	2,730	436	14,216
1987	10,726	2,635	413	13,774
1988	10,813	2,539	445	13,796
1989	10,861	2,474	501	13,836
1990	10,802	2,407	512	13,721
1991	10,702	2,261	496	13,459
1992	10,498	2,149	496	13,143
1993	10,506	2,192	490	13,189
1994	10,596	2,260	473	13,329
1995	10,452	2,200	335	12,987
1996	10,376	2,148	274	12,799
1997	10,446	2,149	296	12,891
1998	10,579	1,995	259	12,833
1999	10,581	2,010	262	12,853
2000	13,704	3,194	333	17,231
2001	13,054	3,369	311	16,734
2002	13,438	3,309	344	17,092
2003	13,607	2,952	384	16,944
2004	13,924	3,005	398	17,327
2005	13,996	2,977	258	17,231
2006	14,478	3,066	204	17,748
2007	14,707 e	3,211 e	227 e	18,145
2008	15,187 e	3,312 e	239 e	18,738

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Table 26

LOUISIANA STATE WELL COMPLETION BY TYPE AND BY REGION

Excluding OCS

	YEAR	OFFSHORE	SOUTH	NORTH	TOTAL
	1993	24	136	173	333
	1994	13	103	117	233
	1995	31	100	137	268
C	1996	34	67	122	223
R O	1997	39	168	106	313
U I	1998	24	100	64	188
D L	1999	4	35	60	99
E	2000	10	51	77	138
	2001	11	92	97	200
	2002	5	91	89	185
	2003	1	106	53	160
	2004	2	106	69	177
	2005	1	86	113	200
	2006	4	137	164	305
	2007	3	164	140	307
	1993	6	89	176	271
	1994	9	141	180	330
	1995	8	126	216	350
N	1996	22	154	325	501
A	1997	22	160	383	565
T G	1998	23	170	407	600
U A	1999	17	169	287	473
R S	2000	21	166	359	546
A	2001	20	279	426	725
L	2002	15	215	249	479
	2003	15	194	383	592
	2004	7	186	649	842
	2005	9	197	769	975
	2006	6	190	826	1,022
	2007	7	225	973	1,205
	1993	4	168	234	406
	1994	12	141	236	389
	1995	8	138	155	301
	1996	12	151	170	333
D H*	1997	9	165	188	362
R O	1998	7	104	121	232
Y L	1999	8	80	135	223
E	2000	9	98	154	261
	2001	10	184	205	399
	2002	4	122	147	273
	2003	6	166	134	306
	2004	10	144	105	259
	2005	12	166	142	320
	2006	5	197	165	367
	2007	3	222	206	431

* Includes non-producing wells

Table 27

LOUISIANA STATE MINERAL BONUS, RENTAL AND ROYALTY OVERRIDE REVENUES, Excluding OCS

(Million Dollars)

DATE	BONUSES	OVERRIDE ROYALTY	RENTALS	TOTAL
1988	17.65	0.29	9.28	27.22
1989	11.59	0.29	8.34	20.21
1990	19.02	0.32	6.76	26.10
1991	9.82	0.32	8.71	18.85
1992	4.26	0.32	6.97	11.55
1993	13.29	0.20	4.20	17.68
1994	15.31	0.19	6.15	21.65
1995	31.96	0.69	9.47	42.12
1996	39.63	-0.27	18.40	57.76
1997	38.27	0.84	25.00	64.11
1998	42.27	0.69	25.86	68.82
1999	14.17	0.45	20.27	34.89
2000	21.12	1.13	14.16	36.41
2001	29.70	1.89	13.75	45.34
2002	24.74	2.29	14.26	41.28
2003	19.54	3.36	12.93	35.83
2004	29.79	5.05	9.47	44.31
2005	35.78	2.03	13.75	51.56
2006	33.49	2.05	21.64	57.18
2007	45.91	3.35	22.59	71.85
January	1.83	0.34	2.18	4.35
February	0.24	0.44	4.56	5.23
March	3.62	0.49	0.97	5.09
April	1.12	0.33	1.87	3.32
May	1.99	0.46	3.21	5.67
June	35.58	0.69	2.30	38.57
July	1.85	0.82	1.79	4.46
August	82.16	0.54	1.13	83.82
September	0.00	0.54	1.29	1.83
October	38.61	0.52	1.41	40.55
November	3.05	0.53	0.90	4.48
December	1.22	0.20	1.47	2.89
2008 Total	**171.28**	**5.89**	**23.09**	**200.26**
January	0.91	0.24	1.30	2.44
February	0.53	0.94	1.23	2.70
March	1.06	0.23	2.87	4.16
April	0.76	0.27	1.94	2.96
May	3.55	0.23	0.85	4.64
June	0.36	0.57	3.98	4.91
July	1.76	0.28	1.64	3.67
August	1.75	0.23	2.23	4.21
September	0.03	0.28	1.75	2.06
October	3.04	0.34	1.50	4.88
November	2.65	0.31	0.90	3.86
December	1.30	0.35	4.94	6.59
2009 Total	**17.70**	**4.26**	**25.13**	**47.09**

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Table 28

LOUISIANA STATE MINERAL ROYALTY REVENUE

Excluding OCS
(Million Dollars)

DATE	OIL	GAS	PLANT LIQUIDS	OTHER	TOTAL
1988	98.55	124.06	4.39	1.35	228.35
1989	112.30	116.18	3.92	1.42	233.82
1990	135.44	113.14	3.80	0.90	253.28
1991	120.49	91.43	4.51	0.34	216.76
1992	113.29	97.07	4.69	0.00	215.04
1993	99.20	125.01	4.53	0.00	228.74
1994	85.72	102.95	4.05	0.00	192.72
1995	95.82	146.60	4.60	0.00	247.02
1996	123.51	211.31	6.72	0.00	341.54
1997	112.76	154.62	5.93	0.00	273.31
1998	68.85	121.17	2.58	0.00	192.60
1999	91.52	115.10	2.05	0.00	208.66
2000	145.80	212.71	3.46	0.00	361.97
2001	122.16	252.68	6.33	0.00	381.17
2002	100.10	165.24	8.03	0.00	273.37
2003	127.61	288.91	9.31	0.00	425.83
2004	143.84	274.64	14.82	0.00	433.30
2005	149.55	278.58	10.41	0.00	438.55
2006	201.35	284.02	14.02	0.00	499.38
2007	287.79 r	300.84 r	17.84 r	0.00	606.47 r
January	30.03 r	29.06 r	2.37 r	0.00	61.46 r
February	29.62 r	30.05 r	1.91 r	0.00	61.58 r
March	33.51 r	35.92 r	2.31 r	0.00	71.74 r
April	38.12 r	37.25 r	2.79 r	0.00	78.16 r
May	44.57 r	50.70 r	3.31 r	0.00	98.59 r
June	46.11 r	55.92 r	3.46 r	0.00	105.48 r
July	47.91 r	57.79 r	6.50 r	0.00	112.20 r
August	39.84 r	37.91 r	4.40 r	0.00	82.15 r
September	12.46 r	13.62 r	0.84 r	0.00	26.92 r
October	20.72 r	24.61 r	1.70 r	0.00	47.03 r
November	17.17 r	25.58 r	1.77 r	0.00	44.52 r
December	11.22 r	19.86 r	0.62 r	0.00	31.70 r
2008 Total	**371.30 r**	**418.26 r**	**31.99 r**	**0.00**	**821.54 r**
January	10.86	19.14	0.86	0.00	30.86
February	9.58	14.55	0.84	0.00	24.97
March	13.79	13.53	0.87	0.00	28.19
April	13.76	11.93	0.85	0.00	26.54
May	16.97	12.80	1.06	0.00	30.83
June	19.34	12.01	1.16	0.00	32.52
July	18.23	11.50	1.09	0.00	30.81
August	20.53	10.34	1.50	0.00	32.37
September	20.15 e	8.07 e	1.38 e	0.00	29.61 e
October	22.19 e	7.88 e	0.84 e	0.00	30.91 e
November	21.87 e	7.98 e	0.86 e	0.00	30.71 e
December	22.73 e	8.13 e	0.85 e	0.00	31.71 e
2009 Total	**209.99 e**	**137.86 e**	**12.17 e**	**0.00 e**	**360.03 e**

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Table 29

LOUISIANA STATE MINERAL SEVERANCE TAX REVENUE[8]

Excluding OCS
(Million Dollars)

DATE	OIL	GAS	OTHER MINERALS	SEVERANCE TOTAL
1988	296.45	106.29	2.65	405.39
1989	312.99	108.84	2.43	424.26
1990	373.21	124.61	2.75	500.58
1991	367.13	146.83	1.97	515.93
1992	326.07	126.24	1.63	453.94
1993	283.68	107.32	1.76	392.76
1994	229.40	114.58	2.02	346.00
1995	233.37	114.58	1.85	349.80
1996	270.36	98.60	1.88	370.84
1997	257.13	118.27	1.85	377.25
1998	148.96	120.98	1.40	271.34
1999	171.29	102.48	1.82	275.60
2000	337.51	104.33	1.50	443.34
2001	281.95	165.77	1.65	449.38
2002	235.84	173.51	1.33	410.67
2003	316.70	152.13	1.70	470.53
2004	359.77	216.73	1.73	578.23
2005	439.00	243.62	1.61	681.50
2006	506.31	331.40	1.69	839.41
2007	529.75	354.11	1.67	885.52
January	64.71	23.58	0.14	88.43
February	53.86	27.75	0.12	81.73
March	62.85	23.34	0.12	86.31
April	62.59	20.70	0.09	83.38
May	79.79	27.62	0.16	107.57
June	79.13	23.18	0.17	102.48
July	84.16	28.22	0.13	112.51
August	52.93	10.15	0.16	63.25
September	118.27	38.70	0.20	157.17
October	94.28	26.22	0.10	120.60
November	45.23	19.06	0.11	64.40
December	45.15 r	25.14 r	0.14 r	70.44 r
2008 Total	**842.94 r**	**293.66 r**	**1.65 r**	**1,138.25 r**
January	39.09	27.38	0.15	66.61
February	22.82	18.26	0.10	41.18
March	28.68	31.48	0.23	60.38
April	15.17	15.21	0.06	30.43
May	27.42	25.19	0.15	52.76
June	31.75	25.62	0.16	57.54
July	37.52	27.49	0.19	65.20
August	38.23	21.61	0.15	59.98
September	23.07	29.05	0.09	52.20
October	43.02	24.17	0.14	67.33
November	34.59	22.48	0.14	57.21
December	36.15	24.25	0.09	60.49
2009 Total	**377.51**	**292.18**	**1.63**	**671.31**

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Table 30

STATE REVENUE FROM LOUISIANA'S OUTER CONTINENTAL SHELF[13]

(Dollars)

YEAR	RENTALS	BONUSES	ROYALTIES	OTHERS REVENUE	GOMESA	TOTAL
1986	610,567	1,912,734	66,176,203	0		68,699,504
1987	148,578	3,150,519	11,043,115	574,520,000		588,862,212
1988	153,561	5,528,006	8,708,079	2,520,000		16,909,646
1989	175,817	2,890,298	7,163,105	2,520,000		12,749,220
1990	430,198	5,570,375	6,239,368	2,520,000		14,759,941
1991	303,824	2,220,094	8,461,261	2,520,000		13,505,179
1992	258,787	1,189,989	6,405,279	5,880,000		13,734,055
1993	235,250	965,504	7,373,550	5,880,000		14,454,304
1994	1,016,932	1,913,682	11,780,932	5,880,000		20,591,546
1995	255,213	890,002	8,012,718	5,880,000		15,037,933
1996	292,445	4,666,400	12,283,395	5,880,000		23,122,240
1997	686,051	5,689,689	11,855,454	8,400,000		26,631,194
1998	412,229	1,744,928	9,621,860	8,400,000		20,179,017
1999	357,379	241,659	6,284,879	8,400,000		15,283,917
2000	321,695	1,268,244	12,690,937	15,254,978		22,680,876
2001	303,675	2,148,111	30,454,058	7,735,941		40,641,785 r
2002	94,841	0	11,768,383	28,363		11,891,587 r
2003	284,563	2,842,662	26,447,045	21,775		29,596,045 r
2004	490,745	7,620,500	30,145,237	6,613		38,256,482
2005	374,717	2,521,931	27,995,948	7,849		30,900,445 r
2006	494,362	5,947,411	24,325,787	1,304,257		32,071,817 r
2007	196,129	-2,695,489	25,498,932	89,134		23,088,706 r
2008	412,813	6,196,386	36,547,175	2,607,022		45,763,396 r
2009	274,662	0	21,433,896	608,672	6,347,321	28,664,552

See footnotes on Appendix B: "OCSLA" & "GOMESA"

Table 31

LOUISIANA STATE TOTAL MINERAL REVENUE

(Dollars)

YEAR	FEDERAL OCS	FEDERAL ONSHORE	STATE BOUNDARIES	TOTAL
1984	0	905,000	1,329,965,030	1,330,870,030
1985	0	795,000	1,164,969,360	1,165,764,360
1986	68,699,504	555,000	832,406,385	901,660,889
1987	588,862,212	517,000	746,675,897	1,336,055,109
1988	16,909,646	545,000	660,959,699	678,414,345
1989	12,749,220	452,000	678,301,987	691,503,207
1990	14,759,941	542,000	779,963,703	795,265,644
1991	13,505,179	328,000	751,117,246	764,950,425
1992	13,734,055	376,000	680,527,788	694,637,843
1993	14,454,304	782,000	639,182,812	654,412,032
1994	20,591,546	532,000	560,371,998	581,495,544
1995	15,037,933	728,000	638,942,698	654,708,631
1996	23,122,240	943,209	770,137,601	794,203,050
1997	26,631,194	817,329	714,672,685	742,121,208
1998	20,179,017	996,000	532,755,940	553,930,957
1999	15,283,917	1,276,465	519,144,200	535,704,582
2000	22,680,876	1,024,730	839,883,694	863,589,300
2001	40,641,785 r	1,481,176	875,887,102	918,010,063 r
2002	11,891,587 r	730,156	725,323,377	737,945,120 r
2003	29,596,045 r	1,182,451	932,191,569	962,970,065 r
2004	38,256,482	1,364,965	1,055,838,962	1,095,460,408
2005	30,900,445 r	1,569,882	1,166,491,860	1,198,962,188 r
2006	32,071,817 r	1,170,670	1,395,971,977	1,429,214,465 r
2007	23,088,706 r	940,888	1,545,321,941	1,569,351,535 r
2008	45,763,396	3,703,240	2,160,050,125 r	2,209,516,761 r
2009	28,664,552	914,421	1,078,432,131 p	1,108,011,103 p

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Federal OCS: See footnotes on Appendix B "OCSLA" & "GOMESA"

Federal Onshore: Revenue distributed to the state under section 35 of the Mineral Leasing Act (MLA). MLA provides to the state 50% of mineral revenue from federal lands located within the state boundaries. Revenues came from royalties, rents and bonuses. It is fiscal year data. Oil and gas produced on federal onshore pay severance tax to the state by the producer on the non-royalty share of the production, and the royalty share of the production is exempted.

State Boundaries: Revenue from mineral production such as bonuses, override royalties, rents, royalties and severance taxes within state boundaries.

Table 32

REVENUE TO FEDERAL GOVERNMENT COLLECTED FROM OIL AND GAS LEASES IN THE LOUISIANA OUTER CONTINENTAL SHELF [12]

(Area beyond the state's 3-mile offshore boundary)
(Dollars)

YEAR	BONUS PAYMENTS	RENTAL PAYMENTS	OTHER REVENUES	PRODUCTION ROYALTIES	TOTAL[a] COLLECTION
1974	3,528,744,084	8,350,760	1,739,159	535,836,029	4,074,670,032
1975	325,424,688	8,947,571	1,837,253	593,359,397	929,568,909
1976	482,592,035	12,974,770	1,879,704	682,922,971	1,180,369,480
1977	813,991,004	7,740,185	1,248,616	899,016,863	1,721,996,668
1978	1,015,873,944	8,616,027	1,502,963	1,086,517,424	2,112,510,358
1979	2,521,190,635	7,328,999	1,105,865	1,344,995,442	3,874,620,941
1980	2,676,927,673	7,361,904	1,277,987	1,866,737,837	4,552,305,401
1981	3,308,009,881	8,205,515	1,211,959	2,825,271,285	6,142,698,640
1982	1,110,172,751	7,288,316	1,349,850	3,166,294,042	4,285,104,959
1983	3,796,644,766	13,620,158	2,540,294	2,764,348,600	6,577,153,818
1984	1,154,495,009	16,323,567	2,010,462	3,195,995,282	4,368,824,320
1985	830,710,260	33,756,447	2,139,530	2,940,519,737	3,807,125,974
1986	113,731,609	34,110,029	3,199,547	2,006,205,199	2,157,246,384
1987	247,344,486	52,115,828	19,239,027	1,803,208,740	2,121,908,081
1988	388,730,457	35,752,757	8,727,373	1,571,981,500	2,005,192,087
1989	386,710,637	48,498,402	26,261,190	1,618,163,065	2,079,633,294
1990	421,375,632	55,568,777	16,028,740	2,068,487,831	2,561,460,980
1991	276,234,849	59,126,732	15,444,167	1,857,392,914	2,208,198,662
1992	53,716,797	49,087,621	33,533,897	1,848,599,157	1,984,937,472
1993	61,454,861	29,268,366	119,445,091	2,009,644,653	2,219,812,971
1994	256,271,643	30,003,884	141,190,812	1,888,953,102	2,316,419,441
1995	296,254,733	62,526,069	19,803,444	1,764,875,791	2,143,460,037
1996	24,330,068	53,231,380	40,394,227	2,549,759,516	3,154,940,691
1997	1,169,790	55,761,920	65,651,370	2,857,126,443	3,789,383,151
1998	9,207,972	51,518,286	-14,452,431	2,267,502,514	2,313,776,341
1999	1,169,790	40,463,226	49,219,184	2,228,250,265	2,319,102,465
2000	83,630,219	32,710,256	167,647,231	3,045,847,943	3,329,835,649
2001	160,037,859	30,078,009	177,773,259	5,126,344,201	5,494,233,328
			GULF OF MEXICO TOTAL		
2001	632,482,979	188,455,045	3,126,962	6,674,371,634	7,498,436,619
2002	138,423,162	153,303,576	3,252,702	3,841,164,517	4,136,143,958
2003	1,147,014,322	245,963,859	4,983,819	4,535,938,009	5,933,900,009
2004	523,416,154	214,303,045	2,570,343	4,607,776,092	5,348,065,634
2005	518,426,651	221,784,370	1,897,501	5,313,350,455	6,055,458,976
2006	865,262,735	224,006,816	2,839,550	6,514,658,836	7,606,767,938
2007	373,930,998	200,993,255	3,166,689	6,441,214,179	7,019,305,120
2008	6,818,747,137	231,026,391	3,105,849	7,850,622,155	14,903,501,532
2009	490,115,860	207,558,241	3,015,159	4,161,415,445	4,862,104,705

[a] Total collection, including state 8G shares.
See footnote in Appendix B.
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Table 33

LOUISIANA ESTIMATED CRUDE OIL PROVED RESERVES [9]
EXCLUDING LEASE CONDENSATE
As of December 31st of Each Year
(Million Barrels)

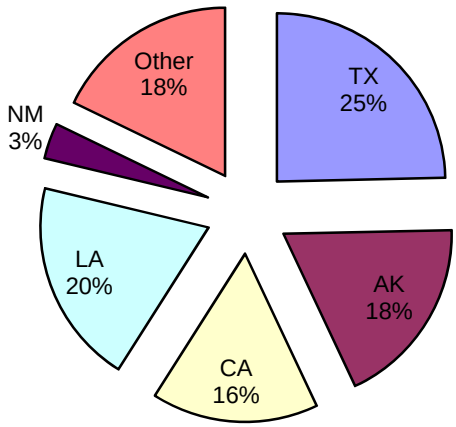
YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1988	154	511	135	1,527	2,327	26,825
1989	123	479	143	1,691	2,436	26,501
1990	120	435	150	1,772	2,477	26,254
1991	127	408	144	1,775	2,454	24,682
1992	125	417	126	1,643	2,311	23,745
1993	108	382	149	1,880	2,519	22,957
1994	108	391	150	1,922	2,571	22,457
1995	108	387	142	2,269	2,906	22,351
1996	128	382	148	2,357	3,015	22,017
1997	136	427	151	2,587	3,301	22,546
1998	101	357	97	2,483	3,038	21,034
1999	108	384	108	2,442	3,042	21,765
2000	97	310	122	2,751	3,280	22,045
2001	87	341	136	3,877	4,441	22,446
2002	75	335	91	4,088	4,589	22,677
2003	66	314	72	4,251	4,703	21,891
2004	58	304	65	3,919	4,346	21,371
2005	68	299	65	3,852	4,284	21,757
2006	68	312	48	3,500	3,928	20,972
2007	76	326	56	3,320	3,778	21,317
2008	60	277	51	3,388	3,776	19,121

See footnotes on Appendix B

Figure 15

UNITED STATES
CRUDE OIL
RESERVES
December 31, 2008
Excluding Lease Condensate
(Million Barrels)

STATE	VOLUME
Texas	4,713
Alaska	3,507
California	3,062
Louisiana	3,776
New Mexico	654
Other	3,409
TOTAL	**19,121**



LA DNR Technology Assessment Division

Table 34

LOUISIANA ESTIMATED LEASE CONDENSATE PROVED RESERVES[9]

As of December 31st of Each Year
(Million Barrels)

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1988	17	193	13	223	446	1,389
1989	20	196	12	278	506	1,389
1990	20	182	12	258	472	1,302
1991	21	175	9	253	458	1,244
1992	19	151	8	226	404	1,226
1993	19	133	9	235	396	1,192
1994	21	123	9	233	386	1,147
1995	24	136	11	305	476	1,197
1996	24	127	11	422	584	1,307
1997	30	134	12	433	609	1,341
1998	23	138	16	435	612	1,336
1999	25	134	15	435	609	1,295
2000	22	130	17	437	606	1,333
2001	27	141	19	325	512	1,398
2002	19	107	11	300	437	1,346
2003	19	82	11	251	363	1,215
2004	21	66	9	205	301	1,221
2005	23	72	9	228	332	1,218
2006	29	65	10	185	289	1,339
2007	31	69	11	180	291	1,415
2008	27	64	8	151	250	1,433

See footnotes on Appendix B

Figure 16

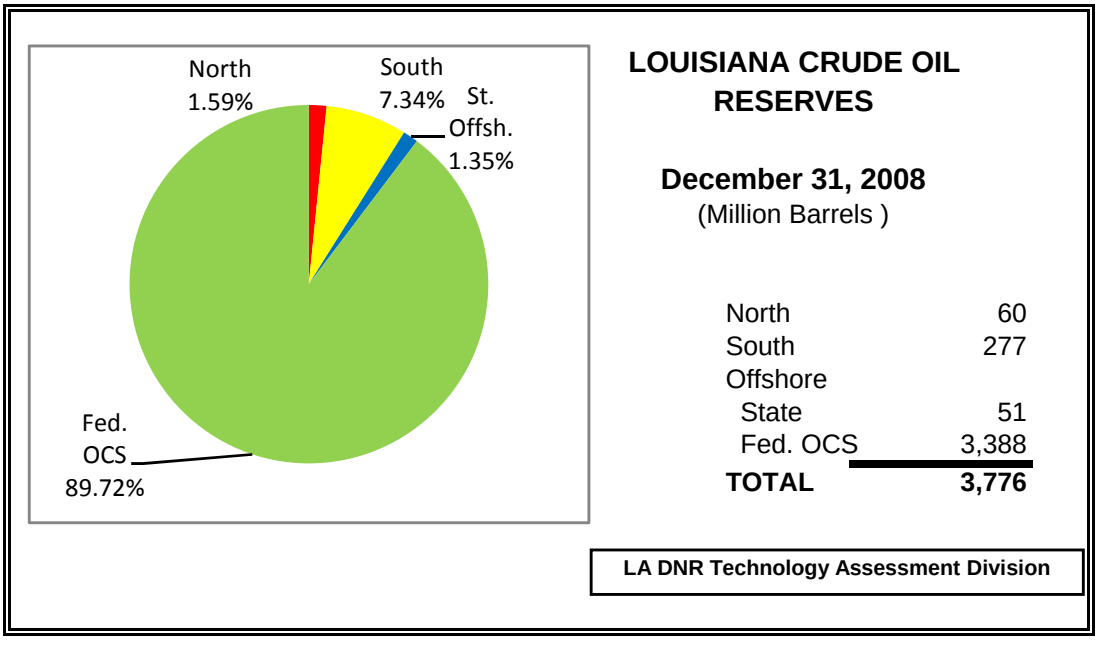


Table 35

LOUISIANA ESTIMATED DRY NATURAL GAS PROVED RESERVES[9]

As of December 31st of Each Year

(Billion Cubic Feet, at 14.73 psia and 60 degrees Fahrenheit)

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1988	2,398	8,654	1,172	23,471 c	35,695 c	168,024
1989	2,652	8,645	1,219	24,187 c	36,703 c	167,116
1990	2,588	8,171	969	22,679 c	34,407 c	169,346
1991	2,384	7,504	1,024	21,611 c	32,523 c	167,062
1992	2,311	6,693	776	19,653 c	29,433 c	165,015
1993	2,325	5,932	917	19,383 c	28,557 c	162,415
1994	2,537	6,251	960	20,835 c	30,583 c	163,837
1995	2,788	5,648	838	21,392 c	30,666 c	165,146
1996	3,105	5,704	734	21,856 c	31,399 c	166,474
1997	3,093	5,855	725	21,934 c	31,607 c	167,223
1998	2,898	5,698	551	20,774 c	29,921 c	164,041
1999	3,079	5,535	628	19,598 c	28,840 c	167,406
2000	3,298	5,245	696	19,788 c	29,027 c	177,427
2001	3,881	5,185	745	19,721 c	29,532 c	183,460
2002	4,245	4,224	491	18,500 c	27,460 c	186,946
2003	5,074	3,746	506	16,728 c	26,054 c	189,044
2004	5,770	3,436	382	14,685 c	24,273 c	192,513
2005	6,695	3,334	418	13,665 c	24,112 c	204,385
2006	6,715	3,335	424	11,824 c	22,298 c	211,085
2007	6,344	3,323	378	11,090 c	21,135 c	237,726
2008	7,876	2,799	898	10,450 c	22,023 c	244,656

[C] Includes Federal Offshore Alabama

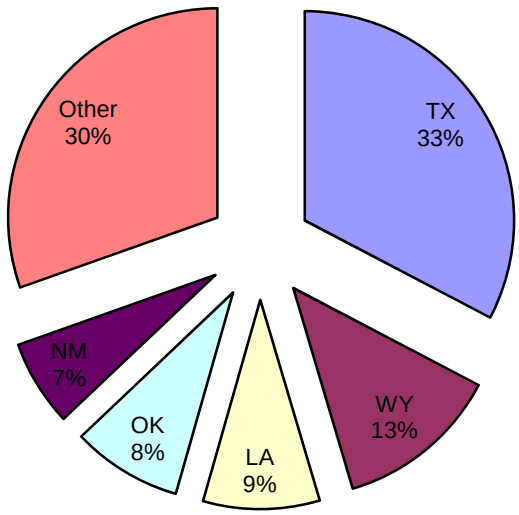
Figure 17

UNITED STATES NATURAL GAS RESERVES

December 31, 2007

(Billion Cubic Feet)

STATE	VOLUME
Texas	79,938
Wyoming	31,143
Louisiana	22,023
Oklahoma	20,845
New Mexico	16,285
Other	74,422
TOTAL	**244,656**



LA DNR Technology Assessment Division

Table 36

LOUISIANA ESTIMATED NATURAL GAS LIQUIDS PROVED RESERVES[9] EXCLUDING LEASE CONDENSATE

As of December 31st of Each Year
(Million Barrels)

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1988	39	228	27	289	583	5,460
1989	40	215	39	297	591	4,991
1990	38	249	37	261	585	4,982
1991	38	242	41	292	613	4,978
1992	41	229	47	246	563	4,999
1993	38	201	21	255	515	4,838
1994	48	214	19	267	548	4,876
1995	55	359	16	191	621	5,005
1996	61	284	36	199	580	5,209
1997	50	199	12	352	613	5,291
1998	34	187	13	341	575	4,852
1999	36	230	19	398	681	5,316
2000	39	207	21	315	582	7,012
2001	35	128	41	273	477	6,595
2002	30	119	37	346	532	6,648
2003	48	100	35	235	418	6,244
2004	53	87	27	410	577	6,707
2005	61	96	32	375	563	6,947
2006	60	94	22	390	484	7,133
2007	69	99	24	348	540	7,728
2008	68	78	55	313	514	7,842

See footnotes on Appendix B

Figure 18

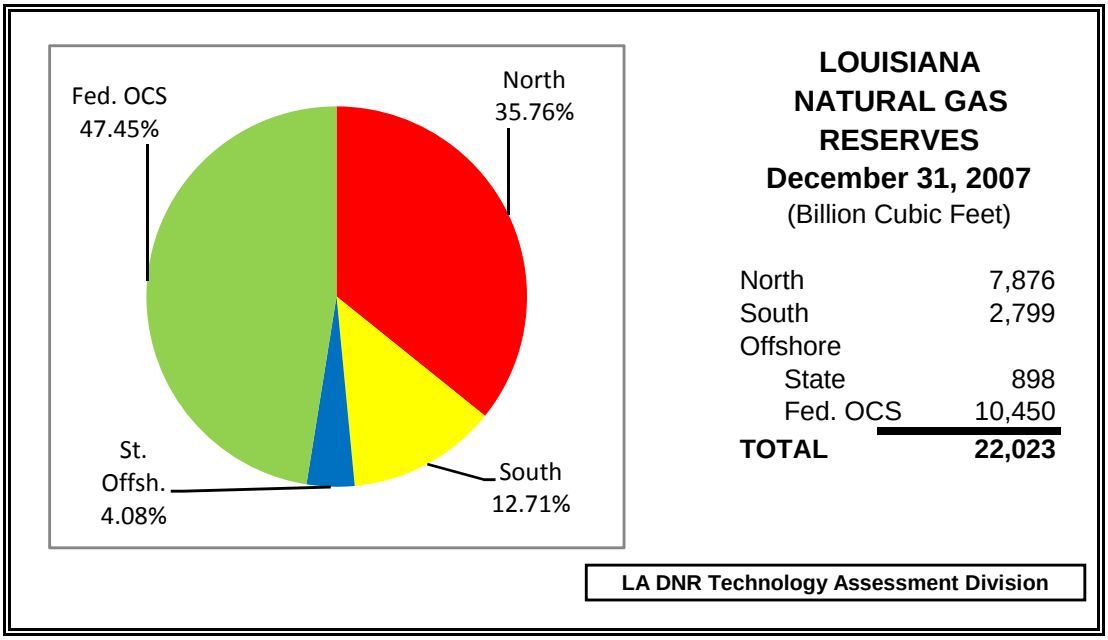


Table 37

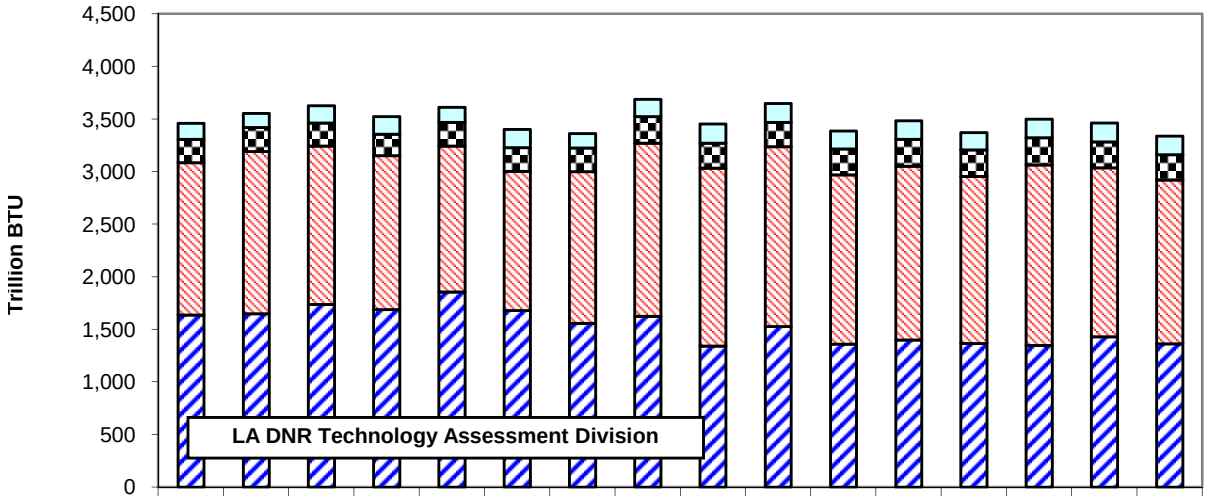
LOUISIANA NONAGRICULTURAL EMPLOYMENT[1]

DATE	OIL & GAS PRODUCTION	CHEMICAL INDUSTRY	PETROLEUM MANUFACTURING	ALL PIPELINE*	TOTAL EMPLOYMENT
1987	52,117	25,345	12,225	1,051	1,438,793
1988	54,565	26,957	11,258	1,039	1,468,508
1989	52,509	27,717	11,321	1,016	1,492,051
1990	54,063	29,083	11,535	1,041	1,546,820
1991	54,412	29,412	12,268	1,073	1,566,779
1992	45,869	30,349	12,543	1,095	1,583,423
1993	44,422	30,419	12,728	1,078	1,613,577
1994	44,885	30,014	13,037	1,014	1,671,087
1995	44,279	30,168	11,603	932	1,721,651
1996	46,885	30,096	11,262	789	1,757,619
1997	51,559	29,935	11,038	792	1,797,225
1998	54,875	30,196	10,984	702	1,837,505
1999	44,645	28,898	11,046	693	1,846,026
2000	45,714	28,335	10,345	724	1,872,494
2001	47,009	27,337	10,643	2,417	1,868,902
2002	43,839	25,694	10,566	2,306	1,848,656
2003	42,339	24,558	10,395	2,334	1,851,570
2004	40,249	23,516	9,958	2,122	1,866,870
2005	41,179	23,269	10,240	2,179	1,843,237
2006	44,394	22,188	10,310	2,347	1,810,667
January	45,486	22,279	10,474	2,410	1,829,355
February	45,771	22,351	10,497	2,436	1,842,996
March	45,851	22,403	10,499	2,441	1,863,469
April	47,068	22,554	10,627	2,403	1,863,025
May	47,310	22,604	10,637	2,404	1,875,182
June	47,587	22,573	10,868	2,439	1,880,239
July	47,066	22,798	10,935	2,423	1,847,901
August	47,492	22,855	10,918	2,521	1,870,700
September	47,201	22,836	10,888	2,497	1,880,726
October	46,782	22,686	10,916	2,472	1,886,594
November	46,937	22,664	10,972	2,492	1,896,338
December	46,615	22,745	10,941	2,509	1,903,057
2007 Average	**46,764**	**22,612**	**10,764**	**2,454**	**1,869,965**
January	48,481	22,768	11,129	2,543	1,863,686
February	48,411	22,752	11,175	2,575	1,878,531
March	48,676	22,804	11,156	2,591	1,887,335
April	49,863	22,755	11,198	2,565	1,893,683
May	50,145	22,799	11,238	2,576	1,903,581
June	50,906	22,630	11,317	2,569	1,900,273
July	51,326	22,861	11,462	2,579	1,869,305
August	51,663	22,861	11,357	2,612	1,889,545
September	51,391	22,754	11,248	2,606	1,877,398
October	52,237	22,753	11,379	2,466	1,899,106
November	51,854	22,813	11,379	2,473	1,904,950
December	51,534	22,905	11,406	2,478	1,907,517
2008 Average	**50,541**	**22,788**	**11,287**	**2,553**	**1,889,576**

* Natural Gas Pipeline employment is included in 2001 forward but excluded in prior years.
See footnote in Appendix B.

Figure 19

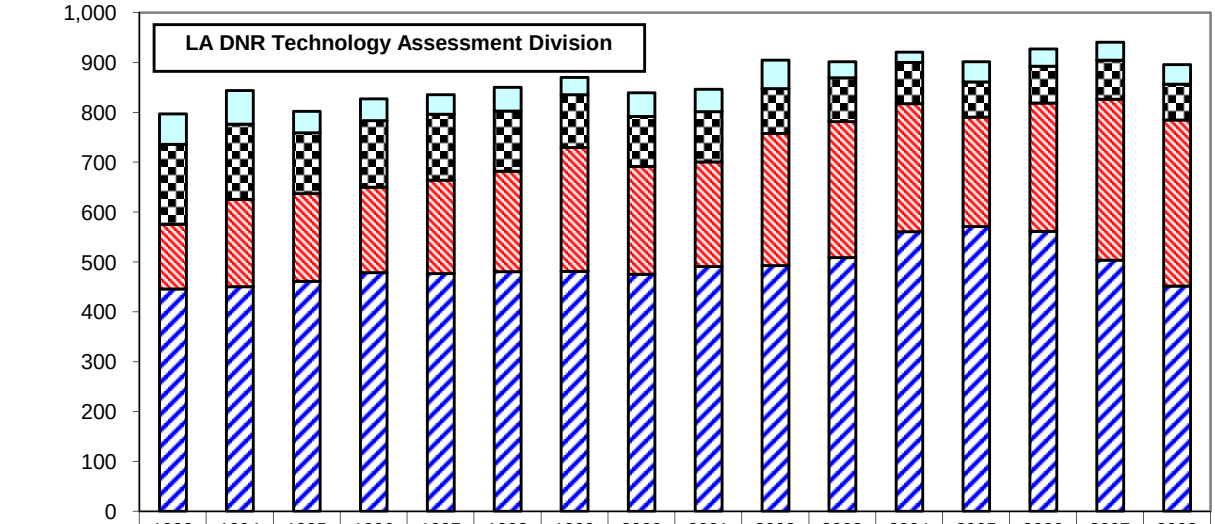
LOUISIANA ENERGY CONSUMPTION BY SOURCE



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Nuclear	151	134	165	166	142	172	137	165	181	181	168	178	163	174	178	178
Coal	224	231	217	205	226	225	228	253	240	232	248	257	254	261	248	239
Petroleum	1,448	1,542	1,508	1,464	1,387	1,325	1,441	1,645	1,691	1,711	1,610	1,651	1,587	1,716	1,607	1,561
Natural Gas	1,637	1,649	1,737	1,688	1,857	1,679	1,558	1,626	1,342	1,526	1,360	1,400	1,367	1,347	1,429	1,362
Total	3,685	3,800	3,849	3,851	3,914	3,648	3,661	3,972	3,699	3,896	3,693	3,816	3,613	3,764	3,766	3,593

Figure 20

LOUISIANA REFINERY CRUDE OIL INPUT BY SOURCE



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Other States	61	68	43	44	40	47	35	47	45	57	32	20	40	34	36	39
Louisiana	160	151	122	134	132	121	106	100	101	90	88	82	71	74	78	72
Federal OCS	130	176	176	171	187	201	249	216	210	265	273	257	219	257	323	333
Foreign	446	450	461	479	477	481	481	476	491	493	509	561	572	562	504	452
Total	797	844	802	828	836	850	871	839	847	905	902	921	902	928	941	896

Table 38

LOUISIANA ENERGY CONSUMPTION ESTIMATES BY SOURCE [11]

Year	Total Energy (TBTU)	Total Natural Gas (BCF)	Total Petroleum (MBBLS)	Total Coal (MST)	Total Nuclear (Million KWH)	Imp(+) Exp(-) Net Electic (Million KWH)
1968	2,295.0	1,521	134,583	N/A	0	0
1969	2,572.3	1,763	147,947	N/A	0	0
1970	2,701.4	1,841	150,456	0	0	0
1971	2,809.3	1,884	162,470	0	0	0
1972	2,989.3	1,940	184,947	0	0	0
1973	3,225.9	2,010	209,641	0	0	0
1974	3,313.3	2,008	218,882	0	0	0
1975	3,028.8	1,789	210,174	0	0	0
1976	3,419.1	2,044	234,995	0	0	0
1977	3,794.6	2,191	268,572	79	0	0
1978	3,930.1	2,249	277,765	172	0	0
1979	3,805.3	1,978	304,884	118	0	0
1980	3,651.3	1,794	293,743	111	0	0
1981	3,688.6	1,782	295,191	1363	0	0
1982	3,441.2	1,556	287,419	3724	0	0
1983	3,284.5	1,413	275,058	6,154	0	0
1984	3,413.5	1,594	248,344	6,855	0	0
1985	3,192.5	1,386	240,776	9,217	2457	0
1986	3,353.4	1,439	260,602	10,459	10637	0
1987	3,435.5	1,501	257,313	10,391	12,324	0
1988	3,473.1	1,446	271,773	12,848	13,785	0
1989	3,592.6	1,538	266,193	12,471	12,391	0
1990	3,623.8	1,571	259,533	12,547	14,197	0
1991	3,545.9	1,508	256,789	12,965	13,956	0
1992	3,636.0	1,546	268,559	13,674	10,356	656
1993	3,688.6	1,578	273,580	13,676	14,398	1232
1994	3,837.3	1,624	294,700	14,100	12,779	972
1995	3,837.2	1,718	288,998	13,357	15,686	952
1996	3,848.5	1,664	279,292	12,534	15,765	964
1997	3,828.0	1,659	258,290	13,874	13,511	1036
1998	3,564.0	1,568	248,094	13,891	16,428	1063
1999	3,608.6	1,495	278,926	13,953	13,112	802
2000	3,965.2	1,537	327,692	15,737	15,796	532
2001	3,712.6	1,306	325,828	14,934	17,336	732
2002	3,762.1	1,426	331,522	14,676	17,305	891
2003	3,693.3	1,308	300,899	15,592	16,126	892
2004	3,815.9	1,346	310,503	16,059	17,080	1099
2005	3,613.0	1,310	297,878	15,856	15,676	811
2006	3,763.8	1,298	320,703	16,410	16,735	955
2007	3,766.2 r	1,378 r	302,200 r	15,500 r	17,100 r	833 r
2008	3,593.0 e	1,305 e	291,623 e	14,950 e	17,111 e	811 e

e Estimated r Revised p Preliminary

TBTU = Trillion BTU BCF = Billion Cubic Feet KWH = Kilowatt-hours

MBBLS = Thousand Barrels MST = Thousand Short Tons

See footnote in Appendix B.

Table 39

LOUISIANA REFINERY'S CRUDE OIL STATISTICS

DATE	AVERAGE STOCK ON HAND (Barrels)	DAILY AVERAGE RUNS TO STILL (Barrels)	LICENSED REFINERIES
1989	14,158,306	2,051,304	23
1990	13,783,012	2,045,697	23
1991	14,197,185	2,071,276	23
1992	14,331,412	2,090,248	22
1993	14,521,046	2,159,422	20
1994	15,126,534	2,150,403	19
1995	14,325,305	2,109,245	19
1996	14,462,108	2,252,573	19
1997	14,275,221	2,257,275	19
1998	14,965,117	2,312,239	19
1999	15,467,674	2,414,781	17
2000	14,818,774	2,334,842	16
2001	15,425,670	2,480,357	17
2002	16,335,210	2,470,556	18
2003	15,246,004	2,469,756	17
2004	15,938,390	2,543,087	18
2005	16,217,856	2,458,189	18
2006	16,741,544	2,528,319	17
2007	16,108,022	2,687,658	17
January	17,217,045	2,395,113	17
February	16,030,444	2,518,959 r	17
March	15,345,038	2,589,718	18 r
April	16,458,808	2,538,820	18 r
May	16,898,318	2,629,811 r	18 r
June	15,590,183	2,596,052 r	18 r
July	16,184,463 r	2,554,189 r	18 r
August	17,366,117 r	2,346,404 r	18 r
September	16,651,843 r	1,680,128 r	18 r
October	15,574,121 r	2,444,930 r	18 r
November	18,071,515 r	2,350,104 r	19 r
December	13,598,022 r	2,647,584 r	19 r
2008 Average	**16,248,826 r**	**2,440,984 r**	**18 r**
January	14,598,832	2,291,959	19
February	15,361,760	2,358,369	19
March	15,514,032	2,464,079	19
April	13,425,240	2,543,148	19
May	14,471,975	2,470,079	19
June	14,909,864	2,512,215	19
July	14,332,177	2,317,546	19
August	13,391,702	2,477,067	19
September	13,318,854	2,198,038	19
October	13,068,999	2,419,109	19
November	13,171,975 e	2,346,404 e	19
December	13,099,864 e	2,518,959 e	19
2009 Average	**14,055,440 e**	**2,409,748 e**	**19**

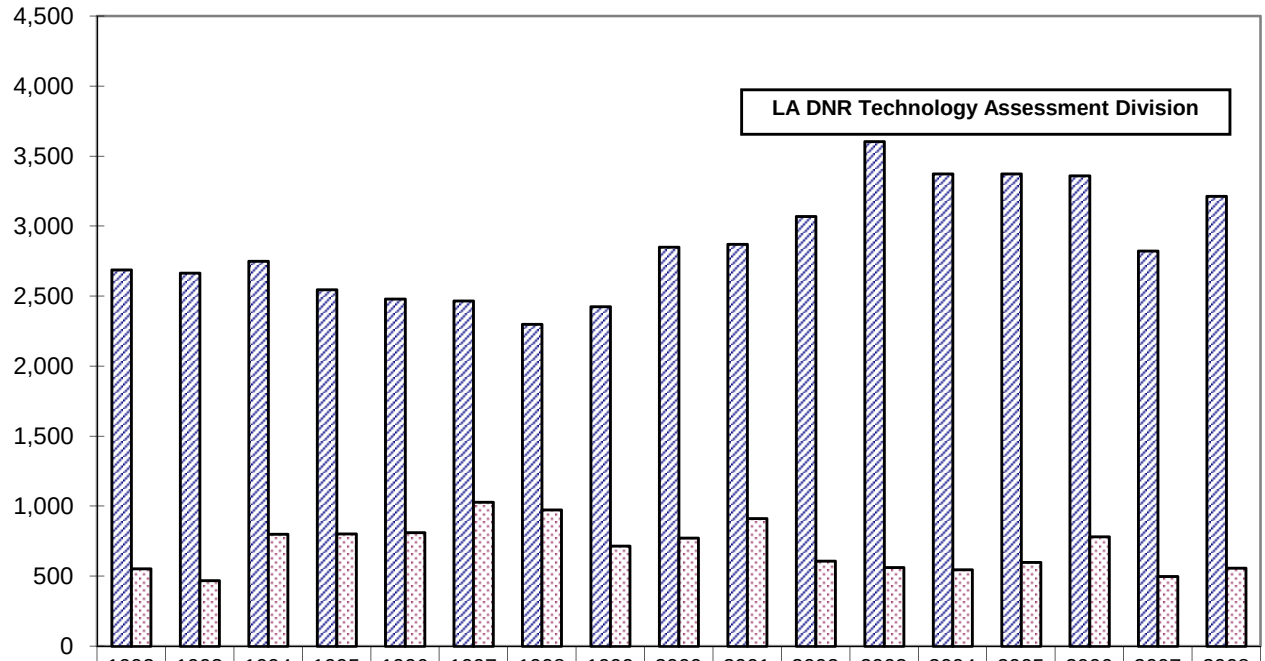
e Estimated r Revised p Preliminary

Exxon-Mobil Refinery - Baton Rouge

Figure 21

LOUISIANA LIGNITE PRODUCTION BY MINE SOURCE

(Thousand Tons Shipped)



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Dolet Hills	2,688	2,665	2,750	2,546	2,480	2,466	2,301	2,426	2,850	2,872	3,069	3,604	3,373	3,374	3,361	2,823	3,213
Oxbow	554	470	800	804	812	1,029	974	717	773	912	609	564	548	599	783	500	559
Total	3,242	3,135	3,550	3,350	3,292	3,495	3,275	3,143	3,622	3,784	3,678	4,168	3,921	3,973	4,144	3,323	3,772

Table 40

LOUISIANA ELECTRIC UTILITIES NET ELECTRICITY GENERATION [14] BY FUEL TYPE

(Million KWH)

YEAR	COAL	LIGNITE	OIL	GAS	NUCLEAR	TOTAL
1969	0	0	26	32,301	0	32,327
1970	0	0	79	33,623	0	33,702
1971	0	0	N/A	N/A	0	37,118
1972	0	0	N/A	N/A	0	39,348
1973	0	0	14,353	36,351	0	40,704
1974	0	0	5,034	34,472	0	39,506
1975	0	0	3,257	35,967	0	39,224
1976	0	0	7,773	37,343	0	45,116
1977	0	0	13,255	35,196	0	48,451
1978	0	0	14,568	36,935	0	51,503
1979	0	0	8,259	38,396	0	46,655
1980	0	0	4,787	40,952	0	45,739
1981	1,529	0	2,634	39,947	0	44,110
1982	4,998	0	940	35,594	0	41,532
1983	8,377	0	356	28,311	0	37,044
1984	9,830	0	140	29,360	0	39,330
1985	13,968	0	100	27,736	2,457	44,261
1986	12,642	2,884	419	26,202	10,637	52,784
1987	12,176	2,926	60	23,823	12,324	51,309
1988	14,372	4,059	272	24,286	13,785	56,774
1989	14,227	3,854	298	21,900	12,391	52,670
1990	13,890	3,910	130	26,041	14,197	58,168
1991	14,786	4,126	45	24,245	13,956	57,158
1992	15,613	4,183	483	24,554	10,356	55,188
1993	15,794	3,572	1,838	23,751	14,398	59,353
1994	15,761	4,364	680	26,586	12,779	60,170
1995	14,632	4,321	49	30,867	15,686	65,555
1996	14,630	4,002	273	23,972	15,765	58,643
1997	16,453	4,499	646	26,010	13,511	61,120
1998	16,131	4,631	600	28,318	16,428	66,107
1999	16,386	4,780	397	30,162	13,112	64,837
2000	11,150 *	3,335 *	625	26,696	15,796	57,601 *
2001	8,157 *	2,760 *	1,722	20,402	17,336	50,378 *
2002	9,177 *	3,081 *	68	25,086	17,305	54,922 *
2003	8,075 *	2,946 *	1,008	15,094	16,126	43,485 *
2004	8,569 *	2,755 *	3,694	15,139	17,080	47,604 *
2005	8,838 *	2,578 *	3,378	13,688	15,676	44,158 *
2006	8,659 *	2,886 *	1,757	10,854	16,735	40,781 *
2007	8,440 *	2,296 * r	1,920	13,885	17,078	43,619 *
2008	8,634 *	2,579 *	1,901	14,633	15,371	43,118 *

* Cajun Electric Power Cooperative's purchase by Louisiana Generating LLC changed their classification from electric utility to independent power producer.

e Estimated r Revised

See footnotes on Appendix B

APPENDICES

The Sol of New Orleans II
The University of New Orleans's solar powered car

Appendix A

Abbreviations

BCF	Billion Cubic Feet
BTU	British Thermal Unit
DNR	Louisiana Department of Natural Resources
DOE	United States Department of Energy
DOI	United States Department of the Interior
EIA	Energy Information Administration, DOE
FOB	Free on Board
KWH	Kilowatt-hours
MBBLS	Thousand Barrels
MCF	Thousand Cubic Feet
MMS	Minerals Management Service, DOI
MST	Thousand Short Tons
NGC	Natural Gas Clearinghouse
OCS	Outer Continental Shelf
OPEC	Organization of Petroleum Exporting Countries
RAC	Refinery Acquisition Costs
SLS	South Louisiana Sweet Crude Oil
SPR	Strategic Petroleum Reserve
TBTU	Trillion BTU
TCF	Trillion Cubic Feet

State Abbreviations Used in the Louisiana Energy Facts Annual

AL	Alabama	MS	Mississippi
AK	Alaska	MT	Montana
CA	California	ND	North Dakota
CO	Colorado	NM	New Mexico
IL	Illinois	OK	Oklahoma
KS	Kansas	TX	Texas
LA	Louisiana	UT	Utah
MI	Michigan	WY	Wyoming

Appendix B

Data Sources*

1. EMPLOYMENT AND TOTAL WAGES PAID BY EMPLOYERS SUBJECT TO LOUISIANA EMPLOYMENT SECURITY LAW, Baton Rouge, LA: Louisiana Department of Labor, Office of Employment Security, Research and Statistics Unit.

2. MONTHLY ENERGY REVIEW and ANNUAL ENERGY REVIEW, Washington, D.C.: U.S. Department of Energy, Energy Information Administration.

3. NATURAL GAS MONTHLY and NATURAL GAS ANNUAL, Washington, D.C.: U.S. Department of Energy, Energy Information Administration.

4. Baker Hughes from OIL & GAS JOURNAL, Tulsa, OK: PennWell Publishing Co.

5. October 2002 to Present, NATURAL GAS WEEK, Washington, D.C.: Energy Intelligence Group. Prior, SURVEY OF DOMESTIC SPOT MARKET PRICES, Houston, TX: Dynegy Inc. (formerly Natural Gas Clearinghouse).

6. PETROLEUM MARKETING MONTHLY and PETROLEUM MARKETING ANNUAL, Washington, D.C.: U.S. Department of Energy, Energy Information Administration.

7. PETROLEUM SUPPLY MONTHLY and PETROLEUM SUPPLY ANNUAL, Washington, D.C.: U.S. Department of Energy, Energy Information Administration.

8. SEVERANCE TAX, Baton Rouge, LA: Louisiana Department of Revenue and Taxation, Severance Tax Section.

9. U.S. CRUDE OIL, NATURAL GAS and NATURAL GAS LIQUIDS RESERVES, Washington, D.C.: U.S. Department of Energy, Energy Information Administration.

10. THE WALL STREET JOURNAL, Gulf Coast Edition, Beaumont, TX: Dow Jones and Company.

11. STATE ENERGY DATA REPORT, Washington, D.C.: U.S. Department of Energy, Energy Information Administration.

12. FEDERAL OFFSHORE STATISTICS, Washington, D.C.: U.S. Department of the Interior, Minerals Management Service.

13. MINERAL REVENUE, Washington, D.C.: U.S. Department of the Interior, Minerals Management Service, Royalty Management Program.

14. ELECTRIC POWER MONTHLY, Washington, D.C.: U.S. Department of Energy, Energy Information Administration.

- Unless otherwise specified, data is from the Louisiana Department of Natural Resources.

An Explanation of Changes in Oil and Gas Statistics

Note # 1

Current production data and all future reports will reflect changes due to modifications in the reporting system by the Department of Natural Resources Office of Conservation, Production Audit Section. Only the oil and gas production data in state jurisdiction is affected.

The new data for oil will not include crude oil, condensate or raw make recovered from natural gas processing plants. In the past these products were added to the state production as crude oil or condensate.

A separate report on gas plants liquids production is not available at the present.

In addition, the gas data system has been adjusted to reflect reporting production on the date produced. Previously it had been reported on the date first purchased.

The new reporting system should produce more accurate and timely data.

The Technology Assessment Division is not the source of these data sets, but merely reports data provided to us by the Office of Conservation. However, we understand that users of our time series data need consistency over time. For that reason our time series has been adjusted backwards to 1980 using these new definitions.

Note # 2

Producing oil and gas well data since 2000 reflect changes due to modifications in the reporting system by the Department of Natural Resources Office of Conservation.

The new data for oil and natural gas producing wells count them as productive if they had any production in the month, previous system counted only the producing wells at the end of the month. The new reporting system should produce more accurate and timely data.

The Technology Assessment Division is not the source of these data sets, but merely reports data provided to us by the Office of Conservation. However, we understand that users of our time series data need consistency over time, but due to lack of accurate information the time series has been adjusted backwards to 2000 using the new system.

Other factors that affected the big increase on wells numbers are the big jump on energy prices around 2000, and the inactive wells

Outer Continental Shelf Lands Act (OCSLA)

The OCSLA of 1953 (67 Stat. 462), as amended (43 U.S.C. 1331 et seq. (1988)) established Federal jurisdiction over submerged lands on the Outer Continental Shelf (OCS) seaward of State boundaries. Under the OCSLA, the Secretary of the Interior is

responsible for the administration of mineral exploration and development of the OCS. The Act empowers the Secretary to grant leases to the highest qualified responsible bidder(s) on the basis of sealed competitive bids and to formulate such regulations as necessary to carry out the provisions of the Act. The Act, as amended, provides guidelines for implementing an OCS oil and gas exploration and development program. The basic goals of the Act include the following:

1. To establish policies and procedures for managing the oil and natural gas resources of the OCS that are intended to result in expedited exploration and development of the OCS in order to achieve national economic and energy policy goals, assure national security, reduce dependence on foreign sources, and maintain a favorable balance of payments in world trade.
2. To preserve, protect, and develop oil and natural gas resources of the OCS in a manner that is consistent with the need
    (a) to make such resources available to meet the nation's energy needs as rapidly as possible;
    (b) to balance orderly resource development with protection of the human, marine, and coastal environments;
    (c) to ensure the public a fair and equitable return on the resources of the OCS;
    (d) to preserve and maintain free enterprise competition.
3. To encourage development of new and improved technology for energy resource production, this will eliminate or minimize risk of damage to the human, marine, and coastal environments.

Royalty revenues from Federal offshore leases on the OCS are distributed to the Land and Water Conservation Fund, the Historic Preservation Fund, and the General Fund of the U.S. Treasury. Transfers are made in each fiscal year from OCS royalties, rentals and bonuses in order to maintain the Land and Water Conservation Fund's annual authorization of $900 million. Annually, $150 million is put into the Historic Preservation Fund. The balance of offshore revenue receipts is directed to the General Fund of the U.S. Treasury.

Section 8(g) of the OCSLA Amendments of 1978 provided that the states were to receive a "fair and equitable" division of revenues generated from the leasing of lands within 3 miles of the seaward boundary of a coastal state that contains one or more oil and gas pools or fields underlying both the OCS and lands subject to the jurisdiction of the state. The states and the federal government, however, were unable to reach agreement concerning the meaning of the term "fair and equitable". Revenues generated in the 3-mile boundary zone were subsequently placed into an escrow fund in August 1979.

Congress resolved the dispute over the meaning of "fair and equitable" in the Outer Continental Shelf Lands Act Amendments of 1985, Public Law 99-272. The amendments required that the affected coastal state will receive 27 percent of the

revenues generated from the leasing and development of oil and natural gas resources located in the Federal 8(g) zone. The law provided for the following distribution of revenues to Louisiana under section 8(g):

Before 1986: Louisiana did not receive any shared revenue from OCS production prior to 1986.

1986: Louisiana received a payment of $68.7 million from royalties, rentals and bonuses collected in 1986 and prior years.

1998-2000: In 1987 Louisiana received an initial settlement payment of $572 million from the escrow funds. A series of annual settlement payments have been disbursed to the states over a 15-year period along with an annual disbursement of 27 percent of royalty, rental, and bonus revenues received within each affected state's 8(g) zone. The annual settlement payments are: From 1987 through 1991, Louisiana received an annual settlement payment of $2.52 million per year. From 1992 through 1996, the state received an annual settlement payment of $5.88 million per year. Beginning in 1997 until the last payment in 2001, Louisiana will receive an annual settlement payment of approximately $8.40 million per year.

2002 and After: No further settlement payments; states receive only a recurring annual disbursement of 27 percent of royalty, rental, and bonus revenues received within each affected state's 8(g) zone. Louisiana will receive an annual disbursement of 27 percent of royalty, rental, and bonus revenues received within Louisiana's affected 8(g) zone.

Gulf of Mexico Energy Security Act (GOMESA)

On December 20, 2006, the President signed into law the GOMESA of 2006 (Pub. Law 109-432). The Act significantly enhances OCS oil and gas leasing activities and revenue sharing in the Gulf of Mexico (GOM). The Act:

A. Stipulated that 8.3 million acres be offered for oil and gas leases. This acreage is included in both the Central Gulf Planning Area and the Eastern Gulf Planning Area. The 8.3 million acres consist of approximately 2 million acres in the Central Gulf was first that was offered for lease after enactment of the law was and was included in Lease Sale 205 in October 2007; additional .5 million acres in the Eastern Gulf received additional environmental review and was offered in Lease Sale 224 in March 2008; and the remaining 5.8 million acres in the Central Gulf is undergoing environmental review and was offered for leasing at Lease Sale 208 in March, 2009.

B. Updated moratoria (bans) areas in the Gulf. Those tracts in the Eastern Gulf of Mexico that are within 125 miles of Florida, all tracts east of the Military Mission Line, and tracts in the Central Gulf of Mexico within 100 miles of Florida that are included in the moratorium area which extends until 2022.

C. Created revenue sharing provisions for four Gulf oil and gas producing States – Alabama, Louisiana, Mississippi and Texas, and their coastal political subdivisions. There are two phases in the GOMESA revenue sharing.

   a. Phase 1: Covers Fiscal Year 2007 through Fiscal Year 2016, 37.5 percent of all qualified OCS revenues will be shared among the four States (30%) and subdivisions (7.5%) for those new leases in the .5 million acres in the Eastern Gulf and the 5.8 million acres in the Central Gulf. Qualified OCS revenues are bonuses, selected rentals and production royalty (including RIK sales, except SPR transfer). Additionally, 12.5 percent of revenues are allocated to the Land and Water Conservation Fund (LWCF). The final regulations for Phase I revenue sharing were issued on December 23, 2008 and specify that the MMS intends to disburse funds on or before March 31st of the fiscal year following the fiscal year to which the qualified OCS revenues were attributed.

   b. Phase 2: Covers Fiscal Year 2017 and beyond, the four States and subdivisions will share 37.5 percent of revenues from all Gulf leases issued after December 20, 2006. GOMESA funds are to be used for coastal conservation, restoration and hurricane protection.

D. Allowed for the exchange of existing leases in the moratorium areas for bonus or royalty credit to be used in the Gulf of Mexico. A credit will be provided to lessees who relinquish certain eligible leases in the Gulf of Mexico. Leases are considered eligible if they lie within 125 miles of the Florida coast in the Eastern Planning Area or within 100 miles of the Florida coast in the Central Planning Area. The lessees will be allowed to use the credits in lieu of monetary payment for either a lease bonus bid or royalty due on oil and gas production from most other leases in the Gulf of Mexico or transfer the credits to other Gulf of Mexico lessees for their use.

Appendix C

Glossary

Bonus. A cash payment by the lessee for the execution of a lease. A lease is a contract that gives a lessee the right: (a) To search for minerals, (b) to develop the surface for extraction, and (c) to produce minerals within the area covered by the contract.

Casinghead Gas. All natural gas released from oil during the production of oil from underground reservoirs.

City-Gate. A point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system.

Commercial Consumption. Gas used by non-manufacturing organizations such as hotels, restaurants, retail stores, laundries, and other service enterprises. This also includes gas used by local, state, and federal agencies engaged in non-manufacturing activities.

Condensate. (See Lease Condensate)

Crude Oil. A mixture of hydrocarbons that existed in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities.

CRUDE OIL PRICES

Domestic Wellhead. The average price at which all domestic crude oil is first purchased.

Imports FOB. The price actually charged at the producing country's port of loading. It is the responsibility of the buyer to arrange for transportation and insurance.

Imports Landed. The dollar per barrel price of crude oil at the port of discharge. It includes crude oil landed in the U.S. and U.S. company-owned refineries in the Caribbean, but excludes crude oil from countries that export only small amounts to the United States. The landed price does not include charges incurred at the port of discharge.

Imports OPEC FOB. The average price actually charged by OPEC at their country's port of loading. This price does not include transportation or insurance.

OCS Gulf. The average price at which all offshore, Outer Continental Shelf, Central Gulf region crude oil is first purchased as reported by the U.S. Department of Energy, Energy Information Administration.

Refinery Acquisition Costs (RAC). The average price paid by refiners in the U.S. for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners.

a) **Domestic**. The average price of crude oil produced in the United States or from the Outer Continental Shelf of the U.S.

b**) Imports**. The average price of any crude oil not reported as domestic.

Refinery Posted. The average price from a survey of selected refiners' postings for Light Louisiana Sweet (LLS) crude, which is effective at the middle and at the end of the month.

Severance Tax. The average wellhead price calculated from oil severance taxes paid to the Louisiana Department of Revenue and Taxation.

Spot Market. The spot market crude oil price is the average of daily Light Louisiana Sweet (LLS) crude price futures traded in the month and usually includes transportation from the producing field to the St. James, Louisiana terminal.

State. The average price at which all Louisiana crude oil, excluding Louisiana OCS, is first purchased as reported in a survey by the U.S. Department of Energy, Energy Information Administration.

State Royalty. The average wellhead price from its royalty share of oil produced in state lands or water bottoms. The price is calculated by the ratio of received oil royalty gross revenue divided by royalty volume share reported to the Louisiana Department of Natural Resources.

Developmental Well. Wells drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

Dry Gas. (See Natural Gas, "Dry")

Dry Hole. An exploratory or developmental well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

Electric Utility Consumption. Gas used as fuel in electric utility plants.

Exploratory Well. A well drilled to find and produce oil or gas in an unproved area, to find a new reservoir in an old field, or to extend the limits of a known oil or gas reservoir.

Exports. Crude oil or natural gas delivered out of the Continental United States and Alaska to foreign countries.

Extraction Loss. The reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants.

Federal Offshore or Federal OCS. (See Louisiana OCS)

FOB Price (Free on board). The price actually charged at the producing country's port of loading. The reported price includes deductions for any rebates and discounts or additions of premiums where applicable and should be the actual price paid with no adjustment for credit terms.

Gate. (See City-Gate)

Gross Revenue. Amount of money received from a purchaser, including charges for field gathering, transportation from wellhead to purchaser receiving terminal, and state production severance tax.

Gross Withdrawals. (See Natural Gas, Gross Withdrawals)

Imports. Crude oil or natural gas received in the Continental United States, Alaska, and Hawaii from foreign countries.

Industrial Consumption. Natural gas used by manufacturing and mining establishments for heat, power, and chemical feedstock.

Lease Condensate. A mixture consisting primarily of pentane and heavier hydrocarbons that is recovered as a liquid from natural gas in lease or field separation facilities, exclusive of products recovered at natural gas processing plants or facilities.

Lease Separator. A facility installed at the surface for the purpose of: (a) Separating gases from produced crude oil and water at the temperature and pressure conditions of the separator, and/or (b) separating gases from that portion of the produced natural gas stream which liquefies at the temperature and pressure conditions of the separator.

Louisiana OCS. Submerged lands under federal regulatory jurisdiction that comprise the Continental Margin or Outer Continental Shelf adjacent to Louisiana and seaward of the Louisiana Offshore region.

Louisiana Offshore. A 3-mile strip of submerged lands under state regulatory jurisdiction located between the State coast line and the OCS region.

Louisiana Onshore. Region defined by the State boundary and the coast line.

Major Pipeline Company. A company whose combined sales for resale, and gas transported interstate or stored for a fee, exceeded 50 million thousand cubic feet in the previous year.

Marketed Production. (See Natural Gas, Marketed Production)

Natural Gas. A mixture of hydrocarbon compounds and small quantities of various non-hydrocarbons existing in the gaseous phase or in solution with crude oil in natural underground reservoirs at reservoir conditions. The principal hydrocarbons usually contained in the mixture are methane, ethane, propane, butanes and pentanes. Typical non-hydrocarbon gases that may be present in reservoir natural gas are carbon dioxide, helium, hydrogen sulfide and nitrogen. Under reservoir conditions, natural gas and the liquefiable portions occur either in a single gaseous phase in the reservoir or in solution with crude oil, and are not distinguishable at the time as separated substances.

Natural Gas, "Dry". The actual or calculated volume of natural gas which remains after: (a) The liquefiable hydrocarbon portion has been removed from the gas stream, and (b) any volumes of non-hydrocarbon gases have been removed where they occur in sufficient quantity to render the gas unmarketable.

Natural Gas, Gross Withdrawals. Full well-stream volume, including all natural gas plant liquids and all non-hydrocarbon gases, but excluding lease condensate.

Natural Gas Liquids. Lease condensate plus natural gas plant liquids.

Natural Gas, Marketed Production. Gross withdrawals less gas used for repressurizing, quantities vented and flared, and non-hydrocarbon gases removed in treating or processing operations. It includes all quantities of gas used in field and processing operations.

Natural Gas, OCS Gas. OCS gas volume is as reported. Most are "dry" gas, though some are "wet" gas.

Natural Gas Plant Liquids. Those hydrocarbons remaining in a natural gas stream after field separation and later separated and recovered at a natural gas processing plant or cycling plant through the processes of absorption, adsorption, condensation, fractionation or other methods. Generally such liquids consist of propane and heavier hydrocarbons and are commonly referred to as condensate, natural gasoline, or liquefied petroleum gases. Where hydrocarbon components lighter than propane (e.g., ethane) are recovered as liquids, these components are included with natural gas liquids.

NATURAL GAS PRICES

Henry Hub Settled NYMEX. The last trading day price for the month before delivery posted in the New York Mercantile Exchange for natural gas at Henry Hub.

Spot Market. The average price of natural gas paid at the regional spot market receipt points or zones as reported by the Energy Intelligence Group's NATURAL GAS WEEK. The data are a volume weighted average and reflect market activity information gathered during the entire month before the publication date, regardless of delivery date. The data are not an arbitrary weighting by production zone, but a true deal-by-deal volume weighting of prices gathered. Data prior to October 2002 were from Dynegy's survey of the domestic natural gas spot market receipt points or zones located in Louisiana. The new and old points or zones are as follows:

NATURAL GAS PIPELINES AND SALES POINTS FOR PRICES

Dynegy	Natural Gas Week
ANR	ANR
Eunice, LA	Patterson, LA
COLUMBIA GULF	COLUMBIA GULF TRANSMISSION CO.
Average Louisiana onshore laterals	Average of Erath, Rayne, and Texaco Henry Plant in Louisiana
LOUISIANA INTRASTATES	LOUISIANA INTRASTATES
Average of Faustina, Bridgeline, LIG, and Monterrey pipelines	Average of LIG, Bridgeline, LRC, and Acadian pipelines
SOUTHERN NATURAL	SONAT
South Louisiana	Saint Mary Parish, LA
TENNESSEE GAS	TENNESSEE GAS
Vinton, LA	Average Zone 1 of 500 & 800
TEXAS GAS TRANSMISSION	TEXAS GAS TRANSMISSION
Zone 1 (North Louisiana)	Zone 1 (North Louisiana)
GULF SOUTH PIPELINE	TRUNKLINE GAS CO.
	HENRY HUB

OCS. The average wellhead price calculated from sales and volumes from Louisiana OCS natural gas as reported by the U.S. Department of Interior, Minerals Management Service.

State Royalty. The average wellhead price calculated from revenue received and volumes reported to the Louisiana Department of Natural Resources.

State Wells. The average price of gas sold at Louisiana wellhead. This price includes: (a) Value of natural gas plant liquids subsequently removed from the gas, (b) gathering and compression charges, and (c) state production, severance, and/or similar charges.

MAJOR PIPELINES PURCHASES.

a) **Domestic Producers**. The average price of natural gas produced in the United States or from the Outer Continental Shelf of the U.S.

b**) Foreign Imports**. The average price of any natural gas not reported as domestic.

Wellhead. The wellhead sales price including: (a) Value of natural gas plant liquids subsequently removed from the gas, (b) gathering and compression charges, and (c) state production, severance, and/or similar charges.

Natural Gas, Wet After Lease Separation. The volume of natural gas, if any, remaining after: (a) Removal of lease condensate in lease and/or field separation facilities, and (b) exclusion of non-hydrocarbon gases where they occur in sufficient quantities to render the gas unmarketable. Also excludes gas returned to formation in pressure maintenance and secondary recovery projects and gas returned to earth from cycling and/or gasoline plants. Natural gas liquids may be recovered from volumes of natural gas, wet after lease separation, at natural gas processing plants.

Organization of Petroleum Exporting Countries (OPEC). Countries that have organized for the purpose of negotiating with oil companies on matters of oil production, prices, and future concession rights. Current members are Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

Outer Continental Shelf (OCS). All submerged lands that comprise the Continental Margin adjacent to the U.S. and seaward of the state offshore lands. Production in the OCS is under federal regulatory jurisdiction and ownership.

Processing Plant. A facility designed to recover natural gas liquids from a stream of natural gas which may or may not have passed through lease separators and/or field separation facilities. Another function of natural gas processing plants is to control the quality of the processed natural gas stream.

Proved Reserves of Crude Oil. As of December 31 of the report year, the estimated quantities of all liquids defined as crude oil which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. Volumes of crude oil in underground storage are not considered proved reserves.

Proved Reserves of Lease Condensate. The volumes of lease condensate as of December 31 of the report year expected to be recovered in future years in conjunction with the production of proved reserves of natural gas as of December 31 of the report year.

Proved Reserves of Natural Gas. The estimated quantities of natural gas as of December 31 of the report year which analysis of geologic and engineering data demonstrates with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. Volumes of natural gas in underground storage are not considered proved reserves.

Proved Reserves of Natural Gas Liquids. The volumes of natural gas liquids (including lease condensate) as of December 31 of the report year, which analysis of

geologic and engineering data demonstrates with reasonable certainty to be separable in the future from proved natural gas reserves under existing economic and operating conditions.

Rental. Money paid by the lessee to maintain the lease after the first year if it is not producing. A lease is considered expired when rental is not paid on time on an unproductive lease.

Reservoir. A porous and permeable underground formation containing an individual and separate natural accumulation of producible hydrocarbons (oil and/or gas) which is confined by impermeable rock or water barriers and is characterized by a single natural pressure system. Reservoirs are considered proved if economic producibility is supported by actual production or conclusive formation tests (drill stem or wire line), or if economic producibility is supported by core analysis and/or electric or other log interpretations. The area of a gas or oil reservoir considered proved includes: (a) That portion delineated by drilling and defined by gas-oil and/or gas-water contacts, if any; and (b) the immediately adjoining portions not yet drilled, but which can be reasonably judged as economically productive on the basis of available geological and engineering data.

Residential Consumption. Gas used in private dwellings, including apartments, for heating, cooking, water heating, and other household uses.

Royalty (Including Royalty Override) Interest. Those interests which entitle their owner(s) to a share of the mineral production from a property or to a share of the proceeds from there. These interests do not contain the rights and obligations of operating the property and normally do not bear any of the costs of exploration, development, or operation of the property.

Royalty Override (Or Overriding Royalty). An interest in oil and gas produced at the surface free of any cost of production. It is royalty in addition to the usual landowner's royalty reserved to the lessor. The Layman's Guide to Oil & Gas by Brown & Miller defines overriding royalty as a percentage of all revenue earned by a well and carrying no cost obligation.

State Offshore. (See Louisiana Offshore**)**

Wet After Lease Separation. (See Natural Gas, Wet After Lease Separation)

Wildcat Well. (See Developmental Well)

Appendix D

Gas Production at 14.73 psia

Page

Appendix D-1

LOUISIANA STATE GAS PRODUCTION, WET AFTER LEASE SEPARATION

Natural Gas and Casinghead Gas, Excluding OCS

(Thousand Cubic Feet (MCF) at 14.73 psia and 60 degrees Fahrenheit)*

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1988	382,100,449	1,192,889,101	218,544,278	1,793,533,828
1989	386,783,455	1,153,294,096	207,381,469	1,747,459,020
1990	398,236,494	1,160,425,829	185,678,416	1,744,340,739
1991	389,623,599	1,139,243,110	152,895,972	1,681,762,681
1992	379,671,005	1,146,893,542	149,933,256	1,676,497,803
1993	360,897,088	1,126,950,007	156,919,403	1,644,766,497
1994	361,146,486	1,048,229,785	158,315,609	1,567,691,880
1995	370,709,558	1,028,500,599	167,742,330	1,566,952,486
1996	425,506,052	1,048,009,685	189,331,696	1,662,847,432
1997	450,873,442	995,341,920	189,565,415	1,635,780,777
1998	446,138,374	979,584,537	183,246,642	1,608,969,552
1999	402,085,989	928,879,872	152,594,840	1,483,560,702
2000	387,378,267 r	997,388,529 r	108,834,505 r	1,493,601,301
2001	398,557,614 r	1,013,214,870 r	113,440,413 r	1,525,212,897
2002	394,754,358 r	894,184,300 r	100,197,646 r	1,389,136,304
2003	425,011,598 r	862,151,369 r	85,131,993 r	1,372,294,960
2004	484,889,405 r	822,556,089 r	69,490,229 r	1,376,935,723
2005	548,167,353 r	707,798,147 r	54,619,543 r	1,310,585,044
2006	582,871,962 r	725,404,783 r	68,576,195 r	1,376,852,940
2007	623,952,944 r	686,007,074 r	72,868,113 r	1,382,828,130 r
January	57,429,317 r	52,636,465 r	7,624,314 r	117,690,096 r
February	54,751,431 r	48,340,110 r	6,842,040 r	109,933,581 r
March	57,926,153 r	52,848,884 r	7,636,205 r	118,411,242 r
April	56,570,400 r	51,542,876 r	7,427,050 r	115,540,326 r
May	59,534,695 r	54,594,657 r	7,837,724 r	121,967,075 r
June	58,138,568 r	53,313,593 r	7,626,911 r	119,079,073 r
July	60,449,974 r	55,867,088 r	7,929,609 r	124,246,670 r
August	58,874,999 r	54,218,738 r	7,680,325 r	120,774,063 r
September	49,019,229 r	34,822,272 r	4,935,824 r	88,777,325 r
October	61,542,042 r	47,439,486 r	6,282,290 r	115,263,817 r
November	61,833,716 r	48,804,491 r	6,836,902 r	117,475,109 r
December	61,826,780 r	49,209,205 r	6,855,841 r	117,891,826 r
2008 Total	**697,897,303 r**	**603,637,864 r**	**85,515,035 r**	**1,387,050,202 r**
January	56,632,014	55,570,420	6,505,582	118,708,015
February	52,313,463	51,650,406	5,943,870	109,907,738
March	56,323,809	58,739,765	6,836,294	121,899,868
April	55,426,578	58,475,010	6,804,894	120,706,482
May	57,962,149	62,461,154	7,253,177	127,676,480
June	56,184,420	60,854,929	6,988,441	124,027,790
July	58,953,997	63,880,636	7,461,949	130,296,582
August	60,171,380	67,446,577	7,475,634	135,093,591
September	60,847,227	64,987,076	7,025,485	132,859,788
October	62,841,587	68,084,259	7,323,977	138,249,823
November	58,251,132 p	61,787,796 p	6,673,519 p	126,712,448 p
December	57,832,082 p	62,451,032 p	6,627,122 p	126,910,236 p
2009 Total	**693,739,838 p**	**736,389,060 p**	**82,919,942 p**	**1,513,048,840 p**

e Estimated r Revised p Preliminary

* See Table 11 corresponding volumes at 15.025 psia and footnote in Appendix B.

Appendix D-2

LOUISIANA TOTAL GAS PRODUCTION, WET AFTER LEASE SEPARATION

Natural Gas and Casinghead Gas

(Thousand Cubic Feet (MCF) at 14.73 psia and 60 degrees Fahrenheit)*

	ONSHORE	OFFSHORE		TOTAL
DATE		**State**	**Federal OCS[12]**	
1988	1,574,989,550	218,544,278	3,096,881,645	4,890,415,472
1989	1,540,077,551	207,381,469	3,006,576,077	4,754,035,097
1990	1,558,662,324	185,678,416	3,706,324,064	5,450,664,803
1991	1,528,866,709	152,895,972	3,289,968,620	4,971,731,301
1992	1,526,564,547	149,933,256	3,338,101,465	5,014,599,268
1993	1,487,847,094	156,919,403	3,386,808,671	5,031,575,169
1994	1,409,376,270	158,315,609	3,492,406,781	5,060,098,660
1995	1,399,210,157	167,742,330	3,636,068,016	5,203,020,503
1996	1,473,515,737	189,331,696	3,783,483,306	5,446,330,739
1997	1,446,215,363	189,565,415	3,901,964,998	5,537,745,775
1998	1,425,722,911	183,246,642	3,890,978,799	5,499,948,351
1999	1,330,965,862	152,594,840	3,913,456,139	5,397,016,841
2000	1,384,766,796 r	108,834,505 r	3,837,150,457	5,330,751,758
2001	1,411,772,484 r	113,440,413 r	3,895,134,261	5,420,347,158
2002	1,288,938,658 r	100,197,646 r	3,527,116,066	4,916,252,369
2003	1,287,162,967 r	85,131,993 r	3,342,004,232 e	4,714,299,192 e
2004	1,307,445,494 r	69,490,229 r	2,897,440,676 e	4,274,376,399 e
2005	1,255,965,500 r	54,619,543 r	2,229,362,826 e	3,539,947,870 e r
2006	1,308,276,744 r	68,576,195 r	2,089,462,261 e	3,466,315,200 e r
2007	1,309,960,018 r	72,868,113 r	2,062,554,663 e	3,445,382,794 e r
January	110,065,782 r	7,624,314 r	173,655,624 e	291,345,720 e r
February	103,091,540 r	6,842,040 r	165,572,472 e	275,506,053 e r
March	110,775,037 r	7,636,205 r	171,687,328 e	290,098,570 e r
April	108,113,276 r	7,427,050 r	157,110,644 e	272,650,971 e r
May	114,129,351 r	7,837,724 r	157,973,273 e	279,940,348 e r
June	111,452,162 r	7,626,911 r	158,733,294 e	277,812,367 e r
July	116,317,061 r	7,929,609 r	167,465,955 e	291,712,625 e r
August	113,093,738 r	7,680,325 r	153,977,587 e	274,751,650 e r
September	83,841,501 r	4,935,824 r	38,136,582 e	126,913,907 e r
October	108,981,527 r	6,282,290 r	98,686,485 e	213,950,302 e r
November	110,638,207 r	6,836,902 r	109,840,465 e	227,315,574 e r
December	111,035,986 r	6,855,841 r	123,654,525 e	241,546,351 e r
2008 Total	**1,301,535,167 r**	**85,515,035 r**	**1,676,494,236** e	**3,063,544,438 e r**
January	112,202,434	6,505,582	136,386,247 e	255,094,262 e
February	103,963,869	5,943,870	128,702,449 e	238,610,187 e
March	115,063,574	6,836,294	144,274,849 e	266,174,717 e
April	113,901,588	6,804,894	139,843,091 e	260,549,573 e
May	120,423,303	7,253,177	142,540,888 e	270,217,368 e
June	117,039,349	6,988,441	147,345,141 e	271,372,931 e
July	122,834,633	7,461,949	155,042,251 e	117,311,861 e
August	127,617,957	7,475,634	133,023,993 e	117,080,127 e
September	125,834,303	7,025,485	130,013,203 e	98,553,583 e
October	130,925,846	7,323,977	123,586,413 e	112,961,788 e
November	120,038,928 p	6,673,519 p	N/A	110,528,300 p
December	120,283,114 p	6,627,122 p	N/A	110,181,564 p
2009 Total	**1,430,128,899 p**	**82,919,942 p**	**1,380,758,525 e**	**2,893,807,365 p**

e Estimated r Revised p Preliminary

* See Table 12 corresponding volumes at 15.025 psia and footnote in Appendix B.

NOTE: The 2003 Federal OCS production is estimated from the marketed production

Appendix D-3

LOUISIANA MARKETED AND DRY GAS PRODUCTION[12]

(Billion Cubic Feet (BCF) at 14.73 psia and 60 degrees Fahrenheit)*

	MARKETED			EXTRACTION	
DATE	State	OCS[12]	Total[3]	LOSS[3]	DRY[3]
1967	4,640 e	1,076	5,717 e	115	5,602
1968	5,017 e	1,399	6,416 e	140	6,276
1969	5,424 e	1,804	7,228 e	179	7,049
1970	5,538 e	2,250	7,788 e	193	7,595
1971	5,474 e	2,608	8,082 e	195	7,887
1972	5,120 e	2,853	7,973 e	198	7,775
1973	5,217 e	3,025	8,242 e	207	8,036
1974	4,438 e	3,316	7,754 e	194	7,559
1975	3,792 e	3,299	7,091 e	190	6,901
1976	3,542 e	3,465	7,007 e	173	6,834
1977	3,604 e	3,611	7,215 e	166	7,049
1978	3,368 e	4,108	7,476 e	162	7,315
1979	3,149 e	4,117	7,266 e	166	7,101
1980	2,966 e	3,974	6,940 e	142	6,798
1981	2,715 e	4,065	6,780 e	142	6,638
1982	2,406 e	3,766	6,172 e	129	6,043
1983	2,190 e	3,142	5,332 e	124	5,208
1984	2,282 e	3,543	5,825 e	133	5,693
1985	1,928 e	3,086	5,014 e	118	4,896
1986	1,997 e	2,899	4,895 e	116	4,780
1987	1,974 e	3,148	5,123 e	125	4,998
1988	2,114 e	3,066	5,180 e	120	5,060
1989	2,102 e	2,977	5,078 e	121	4,957
1990	1,573 e	3,669	5,242 e	119	5,123
1991	1,777 e	3,257	5,034 e	129	4,905
1992	1,649 e	3,265	4,914 e	133	4,782
1993	1,674 e	3,317	4,991 e	130	4,861
1994	1,691 e	3,479	5,170 e	129	5,041
1995	1,683 e	3,425	5,108 e	146	4,962
1996	1,628 e	3,662	5,290 e	140	5,150
1997	1,535 e	3,652	5,187 e	147	4,980
1998	1,583	3,652	5,235	142	5,032
1999	1,598	3,636	5,234	162	5,011
2000	1,484	3,664	5,148	168	5,027
2001	1,532	3,621 e r	5,153 e	156 e	4,997 e r
2002	1,389	3,247 e r	4,636 e r	160 e	4,476 e r
2003	1,377	3,068 e r	4,446 e r	127 e	4,318 e r
2004	1,380 r	2,620 e r	4,000 e r	136 e	3,864 e r
2005	1,322 r	1,999 e r	3,321 e r	105 e r	3,216 e r
2006	1,388 r	1,911 e r	3,300 e r	107 e r	3,192 e r
2007	1,391 r	1,865 e r	3,256 e r	113 e r	3,143 e r
2008	1,343 r	1,532 e	2,874 e	116 e	2,758 e r

e Estimated r Revised p Preliminary

* See Table 13 corresponding volumes at 15.025 psia and footnote in Appendix B.

Appendix D-4

UNITED STATES OCS GAS PRODUCTION[12]

Natural Gas and Casinghead Gas

(Thousand Cubic Feet (MCF) at 14.73 psia and 60 degrees Fahrenheit)*

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
1964	621,731,441	0	0	621,731,441
1965	645,589,472	0	0	645,589,472
1966	965,387,854	42,059,386	0	1,007,447,240
1967	1,087,262,810	99,952,947	0	1,187,215,756
1968	1,413,467,614	109,910,788	799,685	1,524,178,086
1969	1,822,544,152	127,096,983	4,845,851	1,954,486,985
1970	2,273,147,052	133,300,405	12,229,147	2,418,676,604
1971	2,634,014,045	127,357,909	15,671,479	2,777,043,433
1972	2,881,364,748	147,156,460	10,033,581	3,038,554,789
1973	3,055,628,252	148,673,638	7,286,549	3,211,588,439
1974	3,349,170,882	159,979,402	5,573,642	3,514,723,926
1975	3,332,169,075	122,572,765	3,951,633	3,458,693,473
1976	3,499,865,919	92,582,425	3,475,201	3,595,923,545
1977	3,647,513,694	86,943,285	5,525,455 r	3,739,982,434
1978	4,149,731,158	231,857,451	5,269,836 r	4,385,060,901
1979	4,158,521,732	511,590,610	5,539,887 r	4,672,979,164
1980	4,013,707,456	624,642,529	6,018,181 r	4,641,457,008
1981	4,106,494,612	730,275,835	13,019,274 r	4,849,536,754
1982	3,803,740,070	858,020,303	18,106,913 r	4,679,511,297
1983	3,173,892,371	850,817,216	24,652,702 r	4,040,733,879
1984	3,578,740,589	931,293,587	47,291,519 r	4,537,841,075
1985	3,116,884,507	834,926,527	65,850,913 r	4,000,975,247
1986	2,927,832,280	978,370,557	60,261,164 r	3,948,891,858
1987	3,180,107,212	1,204,488,343	55,902,588 r	4,425,581,714
1988	3,096,881,645	1,178,422,567	50,151,675 r	4,309,874,850
1989	3,006,576,077	1,165,112,959	51,808,199 r	4,200,263,949
1990	3,706,324,064	1,348,075,368	50,972,797 r	5,092,931,196
1991	3,289,968,620	1,184,936,500	52,893,508 r	4,515,531,697
1992	3,338,101,465	1,239,389,554	56,337,120 r	4,685,644,750
1993	3,386,808,671	1,027,937,761	53,194,416 r	4,533,389,755
1994	3,492,406,781	1,014,204,140	54,633,674 r	4,657,017,854
1995	3,636,068,016	908,520,055	55,887,288 r	4,692,270,850
1996	3,783,483,306	972,873,764	68,121,494 r	5,024,420,834
1997	3,901,964,998	965,334,787	74,813,892 r	5,076,996,337
1998	3,890,978,799	867,606,779	76,486,736 r	4,835,387,697
1999	3,913,456,139	814,124,878	79,367,293 r	4,992,363,948
2000	3,837,150,457	886,473,041	77,598,566 r	4,977,690,726
2001	3,895,134,261	916,020,487	72,367,867 r	5,217,043,720

	GULF OF MEXICO		PACIFIC	TOTAL
	CENTRAL	WESTERN		
2002	3,580,828,493	1,019,741,703	69,174,162 r	4,674,545,003
2003	3,392,897,697	1,087,114,884	59,258,478 r	4,568,534,591
2004	2,941,564,138	1,121,137,433	55,749,584 r	4,131,857,651
2005	1,973,860,605	788,940,947	55,171,229 r	2,819,465,782
2006	2,165,245,866	795,608,571	41,216,237 r	3,002,354,380
2007	2,137,362,345	648,316,715	46,427,556 r	2,878,983,938
2008	1,737,299,727	490,776,742	35,718,127	2,402,122,860

NOTE: Starting in 2002 MMS has not formally published production by state adjacent areas

e Estimated r Revised p Preliminary

* See Table 15 corresponding volumes at 15.025 psia and footnote in Appendix B.

Appendix D-5

UNITED STATES NATURAL GAS AND CASINGHEAD GAS PRODUCTION[3]

(Billion Cubic Feet (BCF) at 14.73 psia and 60 degrees Fahrenheit)*

DATE	GROSS	WET AFTER LEASE SEPARATION	MARKETED	DRY	GROSS IMPORTS
1988	20,999	18,061	17,918	17,103	1,294
1989	21,074	18,237	18,095	17,311	1,382
1990	21,523	18,744	18,594	17,810	1,532
1991	21,749	18,703	18,532	17,698	1,773
1992	22,132	18,879	18,712	17,840	2,138
1993	22,725	19,209	18,982	18,095	2,350
1994	23,581	19,938	19,710	18,821	2,624
1995	23,743	19,790	19,506	18,598	2,841
1996	24,114	20,084	19,812	18,854	2,937
1997	24,213	20,122	19,865	18,902	2,994
1998	24,108	20,064	19,961	19,024	3,152
1999	23,823	19,915	19,805	18,832	3,586
2000	24,174	20,289	20,198	19,182	3,782
2001	24,501	20,667	20,570	19,616	3,977
2002	23,941	20,020	19,921	18,964	4,015
2003	24,119	20,072	19,974	19,099	3,944
2004	23,970	19,615	19,517	18,591	4,259
2005	23,457	19,046	18,927	18,051	4,341
2006	23,507	19,512	19,382	18,476	4,186
2007	24,536	20,270	20,151	19,278	4,608
January	2,179 r	1,779 r	1,769 r	1,695 r	390 r
February	2,065 r	1,694 r	1,684 r	1,613 r	350 r
March	2,233 r	1,830 r	1,819 r	1,742 r	367 r
April	2,121 r	1,757 r	1,746 r	1,670 r	322 r
May	2,181 r	1,820 r	1,809 r	1,730 r	297 r
June	2,127 r	1,784 r	1,773 r	1,700 r	287 r
July	2,203 r	1,864 r	1,852 r	1,774 r	323 r
August	2,172 r	1,856 r	1,846 r	1,769 r	329 r
September	1,929 r	1,579 r	1,570 r	1,509 r	314 r
October	2,173 r	1,787 r	1,776 r	1,702 r	321 r
November	2,183 r	1,787 r	1,778 r	1,706 r	320 r
December	2,244 r	1,842 r	1,834 r	1,768 r	365 r
2008 Total	**25,810 r**	**21,380 r**	**21,258 r**	**20,377 r**	**3,984 r**
January	2,251	1,877	1,868	1,794	360
February	2,073	1,716	1,707	1,638	322
March	2,291	1,899	1,888	1,811	324
April	2,191	1,832	1,822	1,746	322
May	2,239	1,879	1,868	1,787	264
June	2,150	1,826	1,814	1,737	281
July	2,188	1,869	1,857	1,778	316
August	2,178	1,881	1,871	1,791	330
September	2,113	1,787	1,776	1,697	306
October	2,229	1,881	1,870	1,785	307
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2009 Total	**21,903**	**18,447**	**18,341**	**17,565**	**3,134**

e Estimated r Revised p Preliminary

* See Table 16 corresponding volumes at 15.025 psia and footnote in Appendix B.

Appendix E

Louisiana Energy Topics

NUCLEAR POWER GENERATION UPDATE

by
Patty Nussbaum, Engineer

We have a new administration and a new congress coming to Washington and they have a new view of the role of nuclear energy in America's energy mix. The new administration has aggressive goals to reduce our greenhouse gas emissions. Since nuclear generation does not have carbon dioxide as a waste product, nuclear has a place in the energy mix. However, expansion is probably not going to be pursued until the issue of where to store the nuclear waste is addressed.

The U.S. Department of Energy plans to store the spent fuel at Yucca Mountain, Nevada (Figure 1). However, there is opposition, and the project has faced delays. President-elect Barack Obama does not believe that Yucca Mountain is a suitable site and it is unlikely that nuclear expansion will be pursued until another long-term disposal solution is found. Radioactive waste is currently being stored at reactor sites. The security of the nuclear fuel and waste including tracking, controlling and accounting for spent fuel at nuclear power plants are also areas that need to be resolved.

Figure 1. Planned Nuclear Waste Repository

Source: Energy Information Administration

There are 104 licensed nuclear reactors in the U.S. About 20% of the electricity produced in the U.S. comes from nuclear generation. In Louisiana, about 8% of the electricity is produced from nuclear generation.

Nuclear generation has been used in the U.S. for over 30 years and during that time there have been efficiency improvements such that the capacity factor for nuclear power plants has increased from 60% to 90%. However, no new reactors have been ordered since the 1970s. Cost overruns and increased regulatory oversight following the Three Mile Island accident were factors in ending construction of new nuclear facilities. The Three Mile Island Nuclear Station, Unit 2 (TMI-2) accident in 1979 was the most serious in U.S. commercial power plant history.[1] The TMI-2 reactor

[1] The Chernobyl accident in 1986 in the former Soviet Union was the most severe nuclear reactor accident to occur in any country.

is shut down and defueled; however, the accident did not kill or injure anyone inside the plant or in the surrounding community. The regulation of the industry increased after the accident and the nuclear industry in the U.S. has had an excellent safety record since then.

Louisiana has two operating nuclear reactors. River Bend Station is owned by Entergy Gulf States Inc. It is a boiling water reactor, manufactured by General Electric (turbine generator manufactured by General Electric) with a 966 megawatt capacity. Waterford 3 is owned by Entergy Louisiana Inc. It is a pressurized water reactor, manufactured by Combustion Engineering (turbine generator manufactured by Westinghouse) with a 1,157 megawatt capacity.

There are currently 19 potential new commercial nuclear reactor projects in the United States.[2] These projects meet the following criteria.

1. publicly notified the Nuclear Regulatory Commission (NRC) of interest in applying for a combined operating license (COL) to build and operate new commercial nuclear reactors
2. issued one or more press releases or initiated a pre-application meeting at the NRC
3. selected a specific site for the reactor
4. selected a specific reactor design for the project
5.

Entergy Nuclear has two of those 19 potential projects. The application for a combined operating license (COL) for Grand Gulf, MS was submitted in February 2008. In September 2008, a COL application was filed for River Bend, LA. The applications are currently under review by the NRC. Entergy has ordered long lead-time components for use at either Grand Gulf or River Bend. Entergy is seeking the licenses to keep the nuclear option open for the future and has made no commitment to construct a new reactor.

The Energy Policy Act of 2005 includes federal subsidies that will go to the first plants to be built. In particular it provides for loan guarantees up to 80 percent of the project cost. There is some concern that the new Congress will make changes to those loan guarantee provisions. Weak credit markets and higher cost estimates mean that the new reactors may not get built if these incentives are removed. Nuclear projects take approximately 7 to 10 years to construct and the financial risks are an impediment.

Our nation's need for safe, clean, and economical electricity generation continues to grow. There is renewed interest in nuclear power generation resulting from increased demand for electricity, global warming, and concerns over the security of our current energy supply from foreign sources but even though the groundwork for nuclear expansion is underway the financial risk remains an obstacle.

More information on nuclear power generation can be obtained from the following sources:

- Nuclear Regulatory Commission (URL: http://www.nrc.gov/)
- World Nuclear Organization (URL: http://www.world-nuclear.org/info/inf09.html)
- Energy Information Administration (URL: http://www.eia.doe.gov/fuelnuclear.html)

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[2] Energy Information Administration (http://www.eia.doe.gov/cneaf/nuclear/page/nuc_reactors/reactorcom.html accessed 1/6/2009)

A RESIDENTIAL WIND POWER PROJECT IN LOUISIANA

by

Bryan Crouch, P.E.

A small-scale wind turbine power system has recently been installed at a residence that is under construction on Lake Pontchartrain near Slidell, LA. The system consists of twin grid-tied wind turbines connected to a net metering system. The home will include many energy-efficient features as well as features to resist wind and water damage from hurricanes. Several staff members from TAD visited the construction site. See pictures on next page.

The 2000 square foot, 3 bedroom, 3 ½ bath home is engineered to withstand 260 mph winds and is elevated well above ground level to resist flooding. The house is designed to be very energy efficient and features passive heating and cooling design, a thermally reflective metal roof, an earth source heat pump system, closed-cell urethane foam insulation, and high efficiency tankless water heaters. Back-up power is provided via a 17 kW natural gas generator and two 2.4 kW wind turbine generators.

The wind turbines are Skystream 3.7's manufactured by Southwest Windpower, Inc. The Skystream 3.7 has a rotor diameter of 12 ft. and a rated capacity of 2.4 kW. It begins producing power at a wind speed of 8 mph and achieves rated capacity at a wind speed of 29 mph. It operates in a wind speed of up to 60 mph and automatically shuts down when the wind speed exceeds 60 mph. It is rated to survive in a wind speed of up to 140 mph. The turbines are mounted on 45 ft. tall utility polls and are located on opposite ends of the property, approximately 300 feet apart. They are grid-tied and net-metered, meaning that the amount of power that they produce reduces the metered power coming into the house from the grid (or the back-up natural gas generator) by the same amount.

The National Renewable Energy Laboratory categorizes wind resources into 7 power classes based on mean annual wind speeds. Class 1 has the lowest wind speed and is defined as anything less than 12.5 mph at an elevation of 164 feet, or 9.8 mph at an elevation of 33 feet. On-shore winds in Louisiana are rated as class 1. The particular site where this project is located is on the shore of Lake Pontchartrain with large areas of flat unobstructed land on all sides. These factors should mean wind speeds at the project site that are on the upper end of class 1. Based on manufacturer supplied figures and assuming an annual average wind speed of 10 mph, each Skystream 3.7 wind turbine would produce approximately 240 kWh per month. Increasing the assumed average annual wind speed to 12 mph increases the monthly energy output to 380 kWh per turbine. Considering the energy efficient design of the home, the wind turbines should be able to provide a significant percentage of the home's electricity.

Residential wind turbine systems currently do not make economic sense in most areas of Louisiana. The location of this system and areas along the coast may be exceptions, but payback times will still be relatively high. For example, a single Skystream 3.7 turbine would cost approximately $20,000 installed in a net metering configuration. Louisiana offers a tax credit of 50% of the first $25,000 of the system cost ($12,500 maximum credit), and a federal tax credit is available for 30% of the system cost, $500 per 0.5 kW of system capacity, or $4000, whichever is less. The example $20,000 system cost, after the tax credits are applied, would be reduced $7,600. Assuming a 12.3 mph average wind speed, the system would produce 400 kWh per month or 4800 kWh annually. Assuming an electricity cost of $0.10 per kWh, the wind turbine system would save $480 annually in electricity costs for a simple payback of 15.8 years.

STATE OIL AND GAS PRODUCTION AND PRICE PROJECTIONS FOR THE NEXT FIVE YEARS

by
Manuel Lam

Louisiana has produced oil and gas for more than a century. This is the production projection of the oil and gas from state regulated land and water bottoms and the price projection of the oil and gas prices for the near future. Oil and gas production is intimately linked with the economy of our state. Presently, Louisiana is the fourth largest producer of crude oil and the fifth largest producer of natural gas in the U.S. Louisiana is also second in per capita energy consumption. More than 225,000 wells have been drilled searching for oil and gas in Louisiana since the first commercial oil well was drilled in 1901 in Jennings.

Production Forecast

Oil production declined an average of 5.1% per year and gas production declined an average of 1.5% per year over the past ten years. The DNR Technology Assessment Division long term model is projecting a 3.1 % decline per year for oil and a 2.6% decline per year for gas. Even though the long term model is accurate over long periods (10 to 30 years), the short term fluctuation, as shown in the following tables, illustrates the need for a short term model. The short model projections, listed below, are accurate for production over periods of one to five years.

DNR's Short Term Crude Oil Production Projection

	Date	Base Case (Barrels)	% Change	Low Case (Barrels)	High Case (Barrels)
Actual	2006	73,974,517	-2.25%	N/A	N/A
Actual	2007	77,391,320	4.62%	N/A	N/A
Actual	2008	72,043,958	-6.91%	N/A	N/A
Projected	2009	75,887,338	5.33%	72,092,971	78,922,831
Projected	2010	74,376,603	-1.99%	70,062,760	79,062,329
Projected	2011	72,077,261	-3.09%	67,320,161	77,915,519
Projected	2012	69,816,525	-3.14%	64,650,102	75,681,113
Projected	2013	67,737,588	-2.98%	62,183,106	73,630,759

DNR's Short Term Natural Gas Production Projection

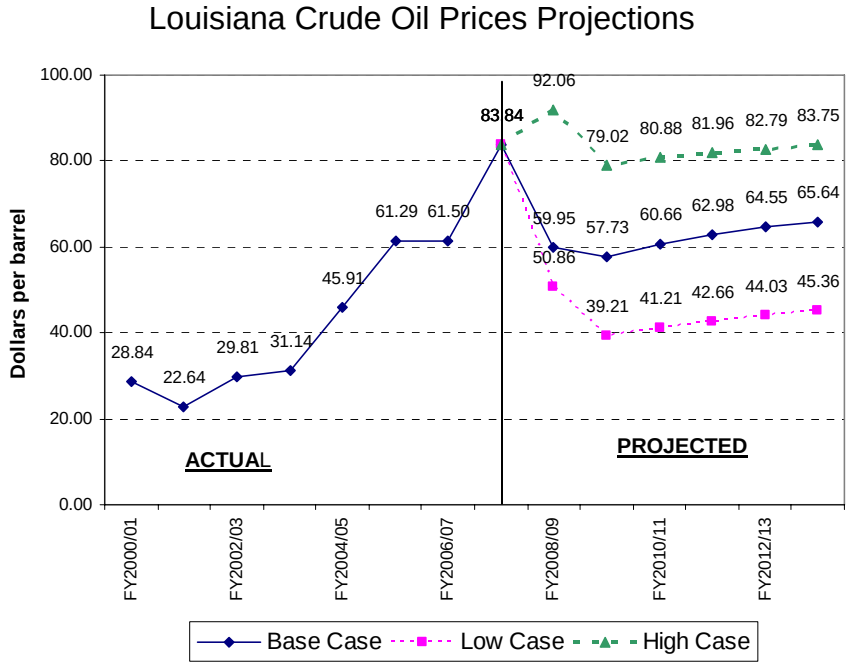
	Date	Base Case (MCF)	% Change	Low Case (MCF)	High Case (MCF)
Actual	2006	1,349,819,887	5.06%	N/A	N/A
Actual	2007	1,353,918,237	0.30%	N/A	N/A
Actual	2008	1,348,906,562	-0.37%	1,348,906,562	1,348,906,562
Projected	2009	1,322,197,335	-1.98%	1,238,237,804	1,414,486,709
Projected	2010	1,317,989,164	-0.32%	1,229,683,890	1,414,597,770
Projected	2011	1,318,345,476	0.03%	1,225,402,120	1,419,594,409
Projected	2012	1,321,722,742	0.26%	1,223,915,259	1,427,857,078
Projected	2013	1,325,520,993	0.29%	1,222,793,116	1,436,599,653

Factors which contribute to the year-to-year deviations in oil production are:

- Changes in wildcat drilling and development of marginal fields within the state
- Early capping of incapable wells by major producers
- Unstable prices of crude oil and natural gas
- Changes in environmental laws, especially those concerning salt water discharge, and the Clean Air Act Amendments of 1990
- World supply and demand, causing an a glut or shortage depending on its growth rate
- The number of active rigs in the region
- Military conflicts or political instability in some producing countries
- Application of advanced technology such as 3-D and 4-D seismic
- State and local tax incentives
- Mild or severe weather patterns
- Foreign imports

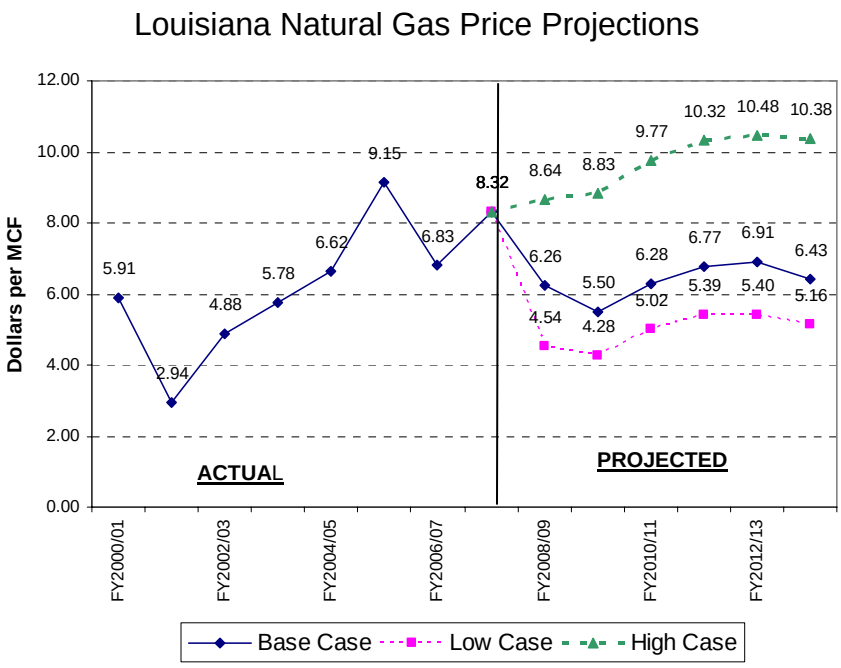
Price Projection

Oil prices are determined in the international markets and are difficult to project. Just as the historical data shows great swings in the price of oil, there is also considerable uncertainty about future prices. The future price of oil is linked to the unpredictability of world oil supplies and world economics. Major factors affecting oil prices are: a) political stability of producing countries, b) world environmental issues, c) industrialized countries' conservation practices, d) weather related demand for petroleum products, e) production restrictions by OPEC countries, f) economic changes in consumer nations, and g) stability in the labor force. If crude oil supply and demand for petroleum products is well balanced and refiners have sufficient downstream capacity to process difficult crudes, the price of crude oil will seek a stable market condition.



Natural gas prices recently started to behave similarly to crude oil prices, but with a lag. Oil prices are heavily driven by the international oil market while gas prices only recently started to feel its effect. Gas prices usually are driven by factors such as weather, demand for gas not satisfied by the pipeline system, availability of spot supplies, and competing fuel prices. There is less international trade of natural gas than there is of oil. It is harder to find producers with export capabilities, transport vessels, and receiving ports with the necessary infrastructure (pipelines, compression stations, LNG tanks, etc.). Natural gas also has to fight the NIMBY (Not In My Back Yard) resistance from residents to its infrastructure. The major cost components of natural gas prices are: cost of infield production, cost of transportation, cost of marketing, and investment rate of return. As the historical data shows, most of the components of natural gas prices are stable with the exception of marketing cost. Marketing cost is the only cost that oscillates widely. Gas prices increased as regulations faded out in the early 80's. With deregulation, natural gas started trading in the spot and commodity markets. Since 1985, this spot market for gas has grown in importance and today, it is the major factor in the determination of gas prices. In April 1990, natural gas futures contracts started trading in the New York Mercantile Exchange (NYMEX). A NYMEX gas future contract calls for delivery of 10,000 MCF of gas during a specific month, 1 to 12 months in the future. The contract delivery point of the gas is Sabine Pipe Line Company's Henry Hub terminal near Erath, Louisiana.

Others factors that could affect prices are storage levels, curtailments, market changes, new consumption and NAFTA (North America Free Trade Agreement). Gas prices are also affected by psychological factors and often the expectation of soft prices is enough to bring them about. A good dose of cold winter weather will usually erase much of the psychological element of low gas prices.



NATURAL GAS VEHICLE WORKSHOP

by
Bryan Crouch, Engineer

The Compelling Case for Natural Gas Vehicles workshop was held on January 22 at the Shreveport Convention Center. The workshop was co-hosted by the Clean Vehicle Education Foundation, several area Clean Cities Coalitions, the cities of Shreveport and Bossier City, and the Louisiana Department of Natural Resources. Stephe Yborra with the Clean Vehicle Education Foundation was the workshop moderator. There were approximately 200 people in attendance.

DNR Office of Conservation Commissioner Jim Welch welcomed attendees with remarks about the history of natural gas in Louisiana, the importance of Louisiana's natural gas industry to the country, including the Haynesville shale play, and Louisiana's commitment to the efficient and environmentally sound use of this valuable natural resource.

As the title of the workshop suggests, the purpose was to show that natural gas vehicles (NGVs) are a viable option for many fleets. Mr. Yborra emphasized that NGVs are not suited for every fleet, but generally feasible only for fleets that have high fuel usage and are centrally refueled. He also mentioned that personal, light-duty NGVs are currently not practical in most situations due to limited vehicle availability, the high cost of converting a vehicle, and the lack of sufficient refueling infrastructure. With these caveats out of the way, Mr. Yborra and the other presenters went on to speak about all aspects of NGVs. The following is a summary of the benefits of NGVs that were presented during the workshop.

Economic benefits of NGVs. It is less expensive to fuel with natural gas than with gasoline or diesel, but currently, the price advantage of natural gas is small due to the dramatic fall in gasoline and diesel prices over the past six months. It is widely believed that gasoline and diesel prices will not stay at their current low levels, but rise significantly, thus restoring a bigger price advantage for natural gas. Maintenance costs of NGVs are also reduced over those of gasoline and diesel vehicles due to the clean-burning nature of natural gas.

Environmental benefits of NGVs. EPA emission requirements for heavy-duty vehicles are becoming increasingly stringent. NGVs can achieve these requirements with less cost and complexity than diesel fueled heavy-duty vehicles. NGVs also produce 20 - 30% less green house gas emissions over gasoline and diesel fueled vehicles, depending on vehicle and usage.

Energy security benefits of NGVs. Most of the natural gas consumed in the U.S. is produced domestically. Using it to displace gasoline or diesel produced from foreign crude oil enhances U.S. energy security.

Louisiana Public Service Commissioner Foster Campbell spoke during lunch about the positive economic impact the exploration and development of the Haynesville shale has had on the area, and Louisiana's opportunities to diversify its energy production/consumption mix utilizing offshore wind and solar energy.

The workshop agenda and many of the presentations can be accessed at: http://www.cleanvehicle.org/workshop/Shreveport.shtml.

American Recovery and Reinvestment Act of 2009 (ARRA)
DOE Grants for State and Local Governments

by
Patty Nussbaum, Engineer

The American Recovery and Reinvestment Act of 2009 (ARRA) provides appropriations for energy efficiency and renewable energy. Three Department of Energy (DOE) programs provide grants for state and local governments. The programs are the Weatherization Assistance Program, the State Energy program and Energy Efficiency and Conservation Block Grant program. Most of the funding must be obligated by the end of FY2010.

Weatherization Assistance Grant Program

ARRA provides $5.0 billion for the Weatherization Assistance Program.

DOE uses a formula to allocate funding to the states and the states decide how to allocate the state's share to local governments. The program allows low-income families to make their homes more energy efficient to reduce their energy bills.

The act increases the income eligibility level for the Weatherization Assistance Program from 150% to 200% of the poverty level and increases the maximum assistance per dwelling from $2500 to $6500. Cost effective energy efficiency measures such as attic insulation, space-heating equipment, energy efficient windows, water heaters and air conditioners are eligible under the program.

A Senate Committee on Appropriations estimate is $53.6 million dollars as Louisiana's portion of the Weatherization Assistance Grant Program.

State Energy Program

ARRA provides $3.1 billion for the State Energy Program (SEP).

The Act makes additional funding available for the State Energy Program. However, the funds in excess of a state's base funding allocation will only be released if a state's governor ensures in writing that certain requirements will be met regarding utility decoupling and energy efficient building codes. Note that the Act does not use the word "decoupling," it describes the necessary assurance as follows:

> "The applicable State regulatory authority will seek to implement, in appropriate proceedings for each electric and gas utility, with respect to which the State regulatory authority has ratemaking authority, a general policy that ensures that utility financial incentives are aligned with helping customers use energy more efficiently and that provide timely cost recovery and a timely earnings opportunity for utilities associated with cost-effective measurable and verifiable efficiency savings, in a way that sustains or enhances utility customers' incentives to use energy more efficiently."

Under SEP the state energy offices manage renewable energy and energy efficiency programs. The states design their own programs but they must comply with the program criteria set by the U S Department of Energy (DOE). The ARRA provided SEP funding contains criterion that in order to receive the funding the governor of the state must certify that the state will pursue decoupling, a regulatory device to compensate utilities for lost sales when they meet energy conservation targets. The theory is that utility companies have little motivation to promote efficiency when their profits increase the more electricity they sell. The governor must also certify that the state will implement energy efficient building codes.

A Senate Committee on Appropriations estimate is $69.3 million dollars as Louisiana's portion of the SEP funds.

Energy Efficiency and Conservation Block Grants

ARRA provides $3.2 billion for Energy Efficiency and Conservation Block Grants (EECBG).

The Energy Independence and Security Act of 2007 (EISA) established the EECBG grant program to help reduce energy use and carbon emissions at the local and regional level. EISA established the allowed purposes of the funding, which include strategic planning, consultant services, and energy audits. Eligibility requirements for the block grants under this program stipulate paying the prevailing wage rates in accordance with the Davis-Bacon Act, submitting a strategic plan and sharing information. EISA stresses that the funding is to supplement not replace the funding provide under the Weatherization Program and SEP.

Energy efficiency and renewable energy programs are featured in the American Recovery and Reinvestment Act of 2009. More than $11 billion in grants for state and local governments are provided through the three DOE programs - Weatherization Assistance Program, State Energy Program, and the Energy Efficiency and Conservation Block Grant Program.

Sources

THOMAS (www.thomas.loc.gov)
Congressional Research Service Summary on www.govtrack.us
CRS Report for Congress, *Energy Provisions in the American Recovery and Reinvestment Act of 2009 (P.L. 11-5)*, March 3, 2009

BIOFUEL FACILITIES IN LOUISIANA: MARCH 2009 UPDATE

by
Bryan Crouch, Engineer

High feedstock prices and lower ethanol and biodiesel prices have caused many projects to be put on hold or cancelled altogether. The table below lists the operating, under construction, and planned biofuel production facilities in the state and their current status. Further details about each facility are given following the table.

Biofuel Production Facilities in Louisiana

Company	Location	Product	Feedstock	Capacity (million gpy)	Status
Allegro Biodiesel Corporation	Pollock	Biodiesel	Soybean oil	12	Shut down
Bionol Lake Providence LLC	Lake Providence	Ethanol	Corn	108	Construction on hold
Dynamic Fuels LLC	Geismar	Renewable diesel	Animal fat	75	Under construction
Greater Baton Rouge Ethanol LLC	Port Allen	Ethanol	Corn	100	Cancelled
Green Earth Fuels of New Orleans LLC	Harvey	Biodiesel	Undecided	86	Construction not begun
Louisiana Green Fuels LLC	Lacassine	Ethanol	Sugar cane, sweet sorghum	22	Under construction
Renewable Energy Group Inc	St. Rose	Biodiesel	Soybean oil	60	Construction on hold
South Louisiana Ethanol LLC	Belle Chase	Ethanol	Corn	65	Construction on hold
Tiger State Ethanol LLC	Convent	Ethanol	Corn	110	Construction not begun
Tiger State Ethanol LLC	Lake Providence	Ethanol	Corn	110	Construction not begun
Verenium Corporation	Jennings	Ethanol	Biomass	Pilot scale	Operating
Verenium Corporation	Jennings	Ethanol	Bagasse, energy cane	1.4	Operating

Allegro Biodiesel ceased producing in 2008 due to economic concerns. In June 2008, the plant was purchased by Consolidated Energy Holdings, LLC with plans to restart production soon. The plant originally began production in April 2006 and is currently producing about 4 million gallons per year (gpy) with an estimated capacity of 12 million gpy. Their primary feedstock is soybean oil.

Bionol Lake Providence, a subsidiary of Massachusetts-based BioEnergy International, is building a conventional, corn feedstock ethanol plant in Lake Providence using technology designed by Delta-T Corporation. Construction on the 108 million gpy facility began in late 2007 and is currently on hold. The company plans to gradually introduce its own proprietary technology into the plant to produce bio-based specialty chemicals and fuels from a wide variety of biomass wastes.

Dynamic Fuels is a joint venture between Tyson Foods, Inc. and Syntroleum Corporation. Tyson will supply animal fats, greases, and vegetable oils that will be converted into renewable synthetic diesel fuel using Syntroleum's proprietary, Fischer-Tropsch based process. The plant will be located in Geismar and have an ultimate capacity of 75 million gpy. Construction began in December 2008 and is scheduled to reach full operating capacity by mid 2010.

Greater Baton Rouge Ethanol is a subsidiary of Baton Rouge-based Shaw Capital. Plans for the plant located in Port Allen on land leased from the Port of Greater Baton Rouge were shelved in July 2008 due to increased feedstock costs that would have rendered the plant unprofitable.

Houston-based Green Earth Fuels subsidiary **Green Earth Fuels of New Orleans** has planned and secured permits for an 86 million gpy biodiesel plant in Harvey at the Kinder Morgan Terminal. Construction has not yet begun.

Louisiana Green Fuels in Lacassine is being built to complement the Lacassine syrup mill. The company is owned by Andino Energy (80%) and a group of Lake Charles cane farmers (20%). The plant will use molasses from sugar cane and newly planted sweet sorghum for feedstock and have a capacity of 22 million gpy. Ground-breaking took place in January 2008, but no completion date has been given.

Iowa-based **Renewable Energy Group** began construction in St. Rose on a 60 million gpy biodiesel plant in June 2007 which they will own and operate. The feedstock will be soybean oil obtained from a large oilseed processing plant located just 2 miles away. Completion of the plant has been delayed.

The former Missalco plant in Belle Chase is being refurbished by **South Louisiana Ethanol** with 50/50 partner Earth Biofuels out of Texas. The refurbished plant will have a 65 million gpy capacity utilizing corn feedstock. The project is under construction but currently on hold due to legal issues surrounding Earth Biofuels in regard to an equipment purchase.

Monroe-based **Tiger State Ethanol** was issued air permits in 2006 to build two 110 million gpy ethanol plants, one in Convent, and the other in Lake Providence. Neither plant has begun construction.

Massachusetts-based **Verenium** (merged from Celunol and Diversa, formerly BCI) operates a pilot scale and a demonstration scale cellulosic ethanol plant in Jennings. The facility was originally an oil refinery that was converted to an ethanol plant in the 1980s. BCI purchased the facility in 1994 and began refurbishing it into the current pilot scale cellulosic plant that began operation in 1999. The demonstration scale plant began construction in February 2007 and started operating in May 2008.

CURRENT TAXES AND INCENTIVES AT THE STATE LEVEL FOR OIL AND GAS EXPLORATION AND PRODUCTION IN LOUISIANA AND SURROUNDING STATES

by
Manfred Dix, Economist

Oil and natural gas exploration and production is a very important industry in many states of the Union. Thus, it comes as no surprise that states have devised many different tax designs for the oil and gas sector, *and* corresponding tax incentives, when production was decreasing. In what follows, we give a birds-eye view of most state taxes that affect the oil and gas industry in Louisiana and a few surrounding states. We also summarize, *a grosso modo,* different tax incentives available for oil and gas exploration and production. This tax and incentives list is neither meant to be exhaustive, nor is it meant to be for tax preparation purposes. Always consult the taxing agencies and tax professionals for specifics on these taxes and incentives. However, the information below is deemed accurate at the moment of this writing.

Louisiana

Corporation Income Tax

Corporations pay tax on net income computed at the following rates:
4% on the first $25,000, 5% on the next $25,000, 6% on the next $50,000, 7% on the next $100,000, and 8% on the excess over $200,000. Louisiana tax law allows for federal income tax deduction.[1, 2]

Corporation Franchise Tax

$1.50 for each $1,000 up to $300,000 of capital employed in Louisiana, and $3 for each $1,000 in excess of $300,000, with a minimum of $10 per year.[3]

Property Taxes at local level

Property taxes at the parish (county) level do tax the equipment for production of oil and gas.[4]

Severance Tax - Oil[5]

- Full rate oil/condensate: 12.5% of value
- Incapable oil rate: 6.25% of value
- Stripper oil rate: 3.125% of value
- Reclaimed oil: 3.125% of value
- Produced water-full rate: 10.0% of value
- Produced water-incapable oil rate: 5.0% of value
- Produced water-stripper oil rate: 2.5% of value

Severance Tax - Gas

A return must be filed by each severer who withholds tax from royalty payments and each purchaser

who withholds tax from any amount due a seller or owner if the tax has not yet been paid. The percentages are:

- Full rate (July 1st, 2009 to June 30, 2010): $0.331 per mcf
- Incapable oil-well gas: $0.03 per mcf
- Incapabable gas-well gas: $0.013 per mcf
- Produced water-full rate: $0.215 per mcf
- Produced water-incapable oil-well gas: $0.024 per mcf
- Produced water-incapable gas-well gas: $0.0104 per mcf

Incentives

The state of Louisiana offers a variety of incentives for oil and gas exploration. The list is long and there is no space to mention them all. The highlights are:[6]

- Severance tax suspension on horizontally drilled well.
- Severance tax suspension on inactive wells.
- Severance tax suspension on deep drilled wells, with a true vertical distance of 15,000 feet or more.

Arkansas

Corporation Income Tax

The tax rates on net taxable income are as follows: 1% on the first $3,000, 2% on the next $3,000, 3% on the next $5,000, 5% on the next $14,000, 6% on the next $75,000, and 6.5% on the excess over $100,000. Arkansas tax law does not allow for federal corporate income tax deductibility.[7]

Corporation Franchise Tax

The corporation franchise tax varies depending on the type of corporation. For corporations with stock there is a $150 minimum and then it is 0.3% of the outstanding capital stock. For corporations without stock the franchise tax is $300. For LLCs it is $150. This tax is collected by the Secretary of State of Arkansas, not by the Department of Finance and Administration.[8]

Property taxes at the local level

Counties levy oil and natural gas ad valorem taxes. Rates vary by county. Arkansas counties also levy property taxes on oil and gas exploration and production equipment. As with the oil and natural gas ad valorem taxes, property tax millages vary by county.[9]

Severance Tax - Oil

The severance tax on oil is five percent (5%) of the market value at time and point of severance.[10]

Severance Tax - Gas

Tax is collected from the Operator/Producer on the market value of gas sold. The 1st Purchaser of natural gas is required to receive advanced ascertainment that the Operator/Producer holds an Arkansas Natural Gas Severance Tax Permit. If advanced ascertainment is not received, the 1st Purchaser is required to withhold natural gas severance tax on the gas purchase. The Operator/Producer and 1st Purchaser have monthly reporting responsibilities. The applicable tax rates of 1.25%, 1.5%, and 5.0% are dependent on the well classification by the Arkansas Oil and Gas Commission.[11]

Incentives

The state of Arkansas offers a series of incentives for certain cases:

- Marginal wells (which produce less than 10 barrels of oil per day) pay 4% of severance tax;
- idle oil wells that are restored and re-established as producing are exempted from severance tax for 10 years;
- idle oil fields that are returned to production are exempted from severance tax;
- enhanced oil recovery projects benefit from a reduction to half the severance tax rate for the incremental volume of oil attributable to the project;
- the incremental production due to the application of new research technologies is exempt from severance tax.[12]

Mississippi

Corporate Income Tax

The rates are 3% on the first $5,000 of taxable income, 4% on the next $5,000 and 5% on the excess over $10,000. There is no deductibility of the federal corporate income tax.[13]

Corporate Franchise Tax

This tax is $2.50 per $1,000, with a minimum of $25, of capital, surplus, undivided profits and true reserves employed in Mississippi.[14]

Property Taxes at the local level

Producing wells are exempt from property tax.[15]

Severance Tax - Oil

The severance tax amounts to 6% of the value of production, at the mouth of the well. The Mississippi Oil and Gas Board levies an oil maintenance tax of 4.4 cents per barrel.[16]

Severance Tax - Gas

A similar tax rate, 6%, applies to natural gas. The Mississippi Oil and Gas Board levies a gas

maintenance tax of 0.005 cents per mcf.[17]

Incentives

The state of Mississippi offers a reduction in the severance tax rate to 3% of the value of oil produced by an enhanced oil recovery method in which carbon dioxide is used when transported by a pipeline to the oil well.[18]

Oklahoma

Corporation Income Tax

The corporation income tax in Oklahoma is 6% of taxable income. There is no deductibility of the federal corporate income tax.[19]

Corporation Franchise Tax

Corporations are taxed $1.25 for each $1,000 of capital invested or used in Oklahoma.[20]

Property Taxes at the local level

Some drilling equipment is subject to personal property tax [or "ad-valorem", as it is called in Oklahoma], while other equipment is covered by the Gross Production Tax. Once extracted, oil stored for sale, and natural gas in transmission for sale is subject to county property tax.[21]

Severance Tax - Oil

The severance tax [called in Oklahoma "the Gross Production Tax", GPT] rate is a variable rate that depends on the price of a barrel of oil. The highest rate, 7% of value produced, is applied to prices equal to or exceeding $17 per barrel. Thus, the current tax rate is 7% of the taxable value. There is also a Petroleum Excise Tax on oil, computed as 0.00095 of the taxable value.[22]

Severance Tax - Gas

The severance tax on the production of gas is set on a gliding scale of the price of gas. When the price of natural gas is equal to or exceeds $2.10 per mcf, the tax is 7%. Similarly as with oil, there is also a Petroleum Excise Tax on natural gas, computed as 0.00095 of the taxable value.[23]

Voluntary Contributions

There are two voluntary contributions in Oklahoma payable by the oil and natural gas industries. One is the Oklahoma Energy Resources Board voluntary contribution to fund the agency; it amounts to an assessment of one-tenth of one percent on the sale of oil and natural gas. The other is a voluntary fee that funds the Oklahoma Marginal Well Commission; this fee amounts to $.00015 per mcf of gas and $.0035 per barrel of oil (these are new fees since January 1st, 2008).[24]

Incentives

The state of Oklahoma offers a variety of incentives for exploration and production of oil and gas. Such incentives include:[25]

- Incremental production from approved secondary recovery properties beginning before July 1st, 2009 are exempt from the GPT for 5 years or upon ending the project;
- incremental production from approved tertiary recovery projects begun before July 1st, 2009 is exempt from the GPT for period of 10 years or upon project payback;
- exemption of the GPT for 28 months in the case of deep wells;
- exemption of the GPT for 28 months in the case of new discovery wells.

Texas

Corporate Income Tax

Texas does not have a "corporate income tax" per se, but does have a so-called "franchise tax" imposed on each taxable entity chartered/organized in Texas or doing business in Texas. This tax has been revamped substantially, and new rules apply since January 1st, 2008. The rate for most taxable entities is 1% [for some entities it is 0.5%] of the "margin". The margin is defined as the lesser of three calculations: i) total revenue minus cost of goods sold; ii) total revenue minus compensation; iii) total revenue times 0.7.[26]

Property Taxes at the local level

Texas counties do levy local property taxes on the estimated present value of minerals in the ground as well as structures and equipment used to produce oil and natural gas.[27]

Severance Tax - Oil

The severance tax [in Texas it is called the "Oil Production Tax"] is 4.6% of the market value of oil produced. There is a regulatory tax of $0.001875 per barrel produced, and a regulatory oil field clean-up fee of $0.00675 per barrel produced.[28]

Severance Tax - Gas

The severance tax [Gas Production Tax] is 7.5% of the market value of gas produced. The oil field clean-up fee on gas is one-fifteenth of one percent per mcf of gas produced.[29]

Incentives

The state of Texas offers a variety of incentives for oil and gas production.[30]

- High cost gas incentive – there is a 100% reduction for up to 120 months or until cumulative value of exemption equals 50% of drilling and completion cost;
- flared casinghead gas – if an operator markets casinghead gas that had previously been released to the air for 12 months or more, the operator may receive a severance tax exemption for that gas for the life of the oil well;

- two year inactive oil wells – any oil or gas well that has not produced in more than one month in the last 24 months is eligible for a 10-year severance tax exemption upon a return to beneficial production;
- marginal gas wells – the Railroad Commission of Texas can exempt marginal gas wells from otherwise applicable production limitations if the wells are located in gas fields without special field rules;
- enhanced oil recovery – severance tax is reduced by 50% for oil production from new enhanced oil recovery projects.

Louisiana

[1] See: http://www.rev.state.la.us/sections/business/corp.aspx.

[2] A good resource for state corporate income taxation is the Tax Foundation's "State Corporate Income Tax Rates" publication. It is at: http://www.taxfoundation.org/taxdata/show/230.html. Several of the rates we took from this publication.

[3] See: http://www.rev.state.la.us/sections/business/corp.aspx.

[4] Property tax rates are set by each parish (county). Unfortunately, there is no on-line resource for the assessments in each parish. However, the Louisiana Tax Commission [which can be found at http://www.latax.state.la.us/], has biennial reports that detail the millage rates for each parish.

[5] Detailed information can be found at:
http://dnr.louisiana.gov/sec/execdiv/techasmt/facts_figures/la_severance_tax_2008_2009.pdf.

[6] Detailed information can be found at:
http://dnr.louisiana.gov/sec/execdiv/techasmt/facts_figures/la_severance_tax_2008_2009.pdf.

Arkansas

[7] See the Tax Foundation webpage on state corporate income taxes, http://www.taxfoundation.org/taxdata/show/230.html. The amount of tax payments can be seen as well at:
http://www.arkansas.gov/dfa/income_tax/documents/Corporate_Booklet_2008.pdf.

[8] The reference is: http://www.sos.arkansas.gov/corp_ucc_franchise_tax.html.

[9] Source: oral communication from functionaries at the Economic Analysis and Tax Research Division of the Director's Office of the Arkansas Department of Finance and Administration,
http://www.arkansas.gov/dfa/directors_office/do_about.html#2.

[10] This can be looked up at: http://www.arkansas.gov/dfa/excise_tax_v2/et_mt_descriptions.html#14#14.

[11] The source for this information is: http://www.arkansas.gov/dfa/excise_tax_v2/et_mt_descriptions.html#14#14.

[12] A good source for state incentives in the following publication by the Interstate Oil and Gas Compact Commission:
http://iogcc.myshopify.com/products/investments-in-energy-security-state-incentives-to-maximize-oil-and-gas-recovery-2007.

Mississippi

[13] The source is the Tax Foundation webpage on state corporate income taxes and the Mississippi State Tax Commission, which can be found at: http://www.mstc.state.ms.us/taxareas/corp/main.htm.

[14] The source is the same as in the previous footnote.

[15] The Mississippi State Code, in Title 27 Chapter 31 states:
§ 27-31-19. Oil, gas and other petroleum products refined in state.
There shall be exempt from all ad valorem taxes now levied or hereafter levied by the State of Mississippi, or any county, municipality, levee district, school, or any other taxing district within the state, all oil, gas, and petroleum products, whether produced within or without the state, which oil, gas or petroleum products are owned by a person, firm, or corporation operating a refinery for the refining of oil, gas or petroleum products in the state, and either (1) are in transit to or situated at such a refinery for refining thereat; (2) are in the process of being refined at such a refinery; or (3) have been refined at such refinery and are still owned by or in the hands of the refiner. Such exemption shall also extend to such oil, gas and petroleum products owned by any corporation controlled by, under common control with, or controlling such a refiner; provided, however, that the exemption afforded by this section shall not extend to those finished petroleum products incident to regular, normal, and customary marketing operations held in marketing bulk plants or retail service stations.

Sources: Codes, 1942, § 9702.5; Laws, 1961, 2nd Ex. ch. 6, eff on passage (approved October 20, 1961). The Mississippi State Tax Commission has the Mississippi State Code on-line at: http://www.mstc.state.ms.us/taxareas/property/main.htm.

[16] The severance tax rate can be looked up at: http://www.mstc.state.ms.us/taxareas/misc/oilgasgn.htm. The source for the maintenance taxes the Mississippi Oil and Gas Board charges is the publication by the Interstate Oil and Gas Compact Commission, "Summary of State Statutes and Regulations for Oil and Gas Production" [this publication is not on-line].

[17] The source for this is the same as in the previous footnote.

[18] See the Interstate Oil and Gas Compact Commission: http://iogcc.myshopify.com/products/investments-in-energy-security-state-incentives-to-maximize-oil-and-gas-recovery-2007.

Oklahoma

[19] See the Tax Foundation webpage on state corporate income taxes, http://www.taxfoundation.org/taxdata/show/230.html, or the Oklahoma Corporate Income Tax Return Form 512, line 2, at: http://www.tax.ok.gov/it2008/512-PKT-08-W.pdf.

[20] The source is the Oklahoma Tax Commission: http://www.tax.ok.gov/bt7.html.

[21] Information about this was given to the author by functionaries of the Oklahoma Tax Commission. Some information is available at: http://www.tax.ok.gov/adv1.html.

[22] The source is the Oklahoma Tax Commission: http://www.tax.ok.gov/gp2.html. The source for the excise tax is the publication by the Interstate Oil and Gas Compact Commission, "Summary of State Statutes and Regulations for Oil and Gas Production" [this publication is not on-line].

[23] Same source as in the previous footnote.

[24] The voluntary contributions fund the Oklahoma Energy Resources Board. You can look up the contributions at: http://www.oerb.com/Default.aspx?tabid=146. The voluntary fee for the Oklahoma Marginal Well Commission can be looked up at: http://www.marginalwells.com.

[25] See the Interstate Oil and Gas Compact Commission: http://iogcc.myshopify.com/products/investments-in-energy-security-state-incentives-to-maximize-oil-and-gas-recovery-2007.

Texas

[26] Rate for the Corporate Franchise Tax can be looked up at: http://www.window.state.tx.us/taxinfo/franchise/rates.html.

[27] Oral communication with Mr. John Kennedy, Senior Analyst, of the Texas Taxpayer and Research Association, which can be found at: http://www.ttara.org/Default.aspx.

[28] Information can be found at: http://www.window.state.tx.us/taxinfo/crude/index.html. Information on the regulatory tax and regulatory clean up fee can be found in the publication by the Interstate Oil and Gas Compact Commission, "Summary of State Statutes and Regulations for Oil and Gas Production" [this publication is not on-line].

[29] Information can be found at: http://www.window.state.tx.us/taxinfo/nat_gas/index.html. The source for the oil clean-up fee on gas is the publication by the Interstate Oil and Gas Compact Commission, "Summary of State Statutes and Regulations for Oil and Gas Production" [this publication is not on-line].

[30] Information can be found in the publication by the Interstate Oil and Gas Compact Commission, "Summary of State Statutes and Regulations for Oil and Gas Production" [this publication is not on-line], or see the Interstate Oil and Gas Compact Commission on state tax incentives: http://www.iogcc.state.ok.us/PDFS/2007-Incentives-publication.pdf. ■

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
TECHNOLOGY ASSESSMENT DIVISION
2008 LOUISIANA ENERGY FACTS ANNUAL

The report is now available for download in PDF form at:
http://dnr.louisiana.gov/sec/execdiv/techasmt/energy_facts_annual/index.htm

The **Louisiana Energy Facts Annual - 2008** (Annual) was published by the Technology Assessment Division of the Louisiana Department of Natural Resources under the direction of Manuel Lam. The division director is T. Michael French; William J. Delmar, Jr. is assistant director.

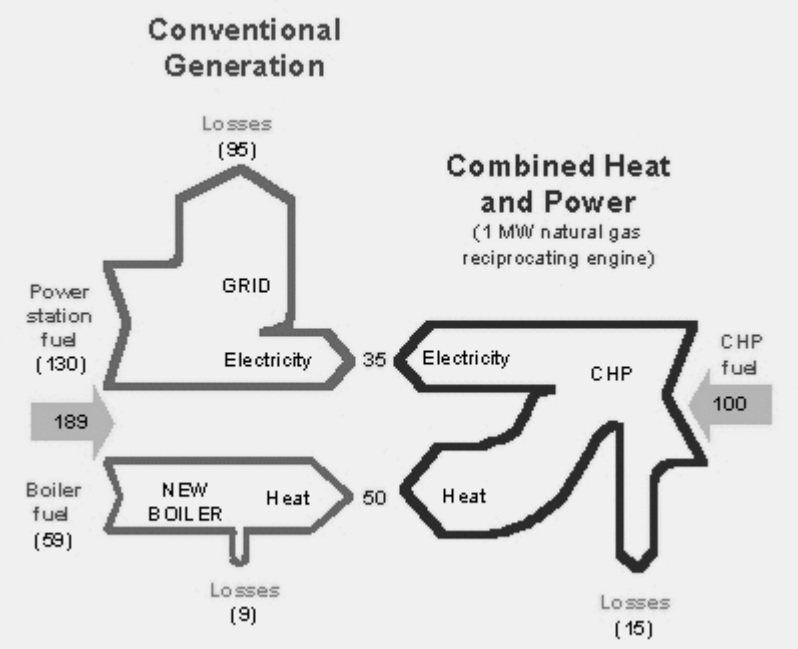
The Annual is published to provide a comprehensive compendium of Louisiana related energy production and use statistics on a yearly basis. The data tables are supplemented with numerous graphs and charts to aid in the interpretation of the data and the discernment of trends. The Annual is published as soon as sufficient data for the previous calendar year is available. Due to time lags in the availability of some of the data, there is approximately a nine month lag before the current Annual can be published. Some changes have been introduced in order to incorporate the latest available data. ■

COGENERATION: AN EFFICIENT ENERGY SYSTEM

by
Patty Nussbaum, Engineer

Cogeneration, or combined heat and power (CHP), is a type of distributed generation that uses the waste heat produced in electricity generation. The heat or steam produced is used for industrial processes or heating/cooling applications. CHP is an integrated energy system that is modified to fit the needs of the end user. Cogeneration, unlike some of the other distributed generation technologies, is not experimental. Cogeneration in the form of turbines, micro-turbines, reciprocating engines, and steam-turbine systems has operated successfully for decades. Combined heat and power can lower energy costs and increase electric reliability. Some CHP systems are connected to the utility's power grid and others are used only for internal use and are stand alone systems.

Comparison of Conventional Generation and Combined Heat and Power



SOURCE: http://www.uschpa.org/files/public/CHP%20Basics.pdf

The American view of electricity reliability has been shaped by recent events. Since September 11, 2001, securing the electric power infrastructure against terrorism has become a focus. Then, on August 14, 2003, a massive outage occurred and portions of the Midwest and Northeast United States and Ontario, Canada lost power. The blackout brought attention to the country's ageing transmission grid. On August 29, 2005 Hurricane Katrina struck Louisiana and impacted many utilities and caused major damage to both the generating plants and the transmission infrastructure. Most recently, on September 1, 2008, Hurricane Gustav made landfall near Cocodrie, Louisiana and continued northwest through the State. Gustav affected all major cities in Louisiana with the exception of Lake Charles. About 829,000 customers were without power immediately after Hurricane Gustav struck. The hurricane damaged the major transmission lines running between Baton Rouge and New Orleans. Seven days after the hurricane struck Louisiana, about 40 percent of Baton Rouge was still affected by widespread power blackouts. When the power went out, basic services for health, communications, finance, cooling and water supply were no longer available.

Distributed generation, which locates the power source close to the load served, is now being looked at as a hedge against power outages caused by problems on the transmission grid. Traditional users of distributed generation were operations which required absolute reliability of service. Today's dependency on electricity for our "way of life" broadens the scope of distributed generation. Cogeneration becomes more attractive.

The ideal co-generation application uses the same ratio of electricity and heat all the time. Many plants only 'co-gen' the amount of electricity they can use the heat from in their process and buy the rest. Quite often they can not start the plant with their own power, but they provide a very stable base load for the utility as they generate most of the varying load for the process. Other plants require much more heat than electricity. If the local laws permit they can generate extra power and sell it into the grid.

In Louisiana, cogeneration has been largely confined to industrial users who needed process heat. Any time fuel is converted to electricity extra heat will be left to dispose of. The new reality created by recent hurricane opens the door for more applications of cogeneration at the agricultural, industrial and commercial customer levels. CHP systems may just be the mechanism to allow continued safe operations when the utility is out of service at hospitals, nursing homes, multifamily housing, perhaps even some food storage or preparation businesses. All projects have to be justified technically and financially, but in some applications reliability, which was an elusive quality in the past, may have become a quantifiable service.

CHP can provide clean power and improved comfort from a single reliable source of both power and heat for buildings. Systems can provide winter space heating and utilize proven absorption chiller technology for summer cooling, while reducing overall electrical consumption and reducing NOx (nitrogen oxide (air quality)) emissions. The overall efficiency of CHP can easily be related to the reduction of total energy use and can be correlated to reduced operating costs for the building owner. Using energy more efficiently always has a positive effect on the air and water. The figure above compares the typical fuel input needed to produce 35 units of electricity and 50 units of heat using conventional separate heat and power. For typical electric and thermal efficiencies, CHP is nearly twice as efficient.

There are, however, some barriers to cogeneration. Grid interconnection issues, permitting regulations and lack of tax benefits have historically hindered cogeneration projects. The American Recovery and Reinvestment Act of 2009 (ARRA) provides rebates to businesses instead of tax credits for energy property placed in service during 2009 or 2010, including for combined heat and power systems. Time will tell if this inducement can tip the scale in favor of cogeneration.

The U.S. Department of Energy (DOE) has established and funded regional centers to encourage adoption of Combined Heat and Power. Louisiana is affiliated with the Gulf Coast CHP Application Center (http://www.gulfcoastchp.org/) located in Houston. Over 214 CHP installations are operating in Texas, Louisiana, and Oklahoma providing over 23 GW (gigawatts) of electrical capacity. The center's purpose is to help companies evaluate whether CHP would enhance operations.

More information about Combined Heat and Power can be found on the DOE Energy Efficiency and Renewable energy website (http://www1.eere.energy.gov/industry/distributedenergy/) and on the EPA Combined Heat and Power Partnership website (http://www.epa.gov/chp).

Louisiana Department of Natural Resources
American Recovery & Reinvestment Act (ARRA) of 2009
Energy Efficiency & Conservation Block Grant Program
Fact Sheet

Purpose

The purpose of the Energy Efficiency & Conservation Block Grant Program (EECBG) Program is to assist eligible entities in creating and implementing strategies to:

- Reduce fossil fuel emissions in manner that is environmentally sustainable and, to the maximum extent practicable, maximizes benefits for local and regional communities;
- reduce the total energy use of the eligible entities; and
- improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors.

Eligible Activities

A list of eligible activities for use of the program funds in contained in Section 544 of the Energy Independence and Security Act (EISA) of 2007. Additional activities may be eligible pending approval by the DOE. The activities below are therefore not an exhaustive list and should be used as a guide to the intent of the program. DOE encourages each entity to develop a strategy, including its component activities, that is likely to result in maximum energy efficiency improvements, fossil-fuel emission reductions, economic benefits and total energy use reduction.

Timeline

June 25, 2009: DNR Submits an Energy Efficiency and Conservation Strategy to DOE. The State is required to distribute sub grants not later than 180 days after the date on which the DOE Secretary approves the proposed energy efficiency and conservation strategy. Local governments are required to obligate/commit all funds within 18 months from the date of the award.

Period of Performance: 36 months

For additional information, and to view the Department of Energy EECBG Guidelines, please visit our web site: http://dnr.louisiana.gov/stimulus.

Register Now

Eligible applicants must register and apply to receive direct formula funds. There are several one-time actions you must complete in order to submit an application.

1. Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number at http://www.dnb.com/US/duns_update/ (NOTE: If you already have a DUNS number, you do not need to apply for a new one).
2. Register with the Central Contractor Registration (CCR) at http://www.ccr.gov/ (NOTE: If you are already registered with CCR, you do not need to reregister – however, CCR does require that registrants update their contact information annually).
3. Register E-Business Point of Contact with FedConnect to submit their application at www.fedconnect.net.

Formula grants are available to states, U.S. territories, local governments, and Indian Tribes under the Energy Efficiency and conservation Block Grants (EECBG) Program (http://www.eecbg.energy.gov/).

Allocations for Louisiana

LA	**Total Sum City, County and SEO Allocations**	**All**	**$33,623,200**
LA	Louisiana	State Energy Office	$ 13,805,700
LA	Alexandria	City	$ 226,700
LA	Baton Rouge	City	$ 2,354,700
LA	Bossier City	City	$ 608,600
LA	Kenner	City	$ 601,100
LA	Lafayette	City	$ 1,193,300
LA	Lake Charles	City	$ 715,000
LA	Monroe	City	$ 555,600
LA	New Iberia	City	$ 145,500
LA	New Orleans	City	$ 2,440,100
LA	Shreveport	City	$ 1,977,900
LA	Ascension	County	$ 406,500
LA	Calcasieu	County	$ 473,700
LA	Jefferson	County	$ 3,563,900
LA	Lafourche	County	$ 388,100
LA	Livingston	County	$ 458,300
LA	Ouachita	County	$ 396,400
LA	Rapides	County	$ 336,100
LA	St. Landry	County	$ 382,000
LA	St. Tammany	County	$ 2,110,000
LA	Tangipahoa	County	$ 484,000

LOUISIANA, AN ENERGY CONSUMING STATE: AN UPDATE USING 2006 DATA

by
Bryan Crouch, P.E.

Louisiana is a net energy consuming state; that is, Louisiana consumes more energy than it produces. In 2006, Louisiana consumed 3,794.2 trillion BTUs (TBTUs) of energy and produced 2,202.7 TBTUs (not including OCS oil and gas production). The reason for Louisiana's huge energy consumption is the petrochemical and petroleum refining industry in the state that produces and exports to the rest of the nation, enormous volumes of energy intensive chemicals and fuel products. Figures 1 & 2 break up total Louisiana energy consumption by sector and source, respectively.

Figure 1. Louisiana Energy Consumption Percentage by Sector - 2006

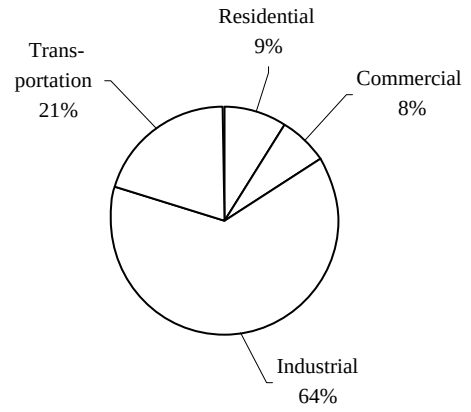
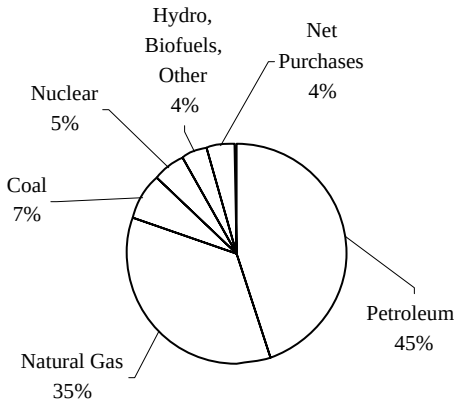


Figure 2. Louisiana Energy Consumption Perecentage by Source - 2006



The industrial sector is, by far, the largest energy consumer in Louisiana. The abundance of Louisiana's natural resources has historically meant low energy prices, which have attracted a large cluster of energy intensive industries to the state. The large industrial sector consumption is also reflected in Louisiana's high natural gas consumption, which is used both as an energy source and a feedstock.

Table 1 shows where Louisiana ranks among the states in various energy consumption categories, and lists the top energy consuming state for each category. Louisiana's high ranking for per capita energy consumption is a reflection of high industrial energy consumption.

Table 2 on the following page presents the Louisiana energy balance for 2006. Energy production from Louisiana's federal OCS area dwarfs state production. The energy balance is calculated both inclusive and exclusive of Louisiana's OCS oil and gas production.

Table 1. Louisiana Energy Consumption Rankings Among the States - 2006

Category	Rank	TBTU	#1 State (TBTU)	
Residential	24	345.9	Texas	(1,579.6)
Commercial	23	264.4	California	(1,583.3)
Industrial	2	2,419.8	Texas	(5,926.1)
Transportation	12	772.4	California	(3,343.0)
Coal	29	265.2	Texas	(1,610.3)
Natural Gas	3	1,346.8	Texas	(3,551.3)
Petroleum	4	1,702.2	Texas	(5,871.4)
Electricity	20	264.3	Texas	(1,169.4)
Total	8	3,802.5	Texas	(11,558.3)
Per Capita (MBTU)	3	896.1	Alaska	(1,112.2)

Table 2. Louisiana Energy Balance - 2006 [1]

ENERGY SOURCE		PRODUCTION	CONSUMPTION	NET STATE ENERGY PRODUCTION Excluding OCS	NET STATE ENERGY PRODUCTION Including OCS
PETROLEUM:	STATE OIL[2]	429.0 TBTU[4] (74.0 MMBBL)	1,702.2 TBTU (320.7 MMBBL)	-1,273.2 TBTU	1,160.2 TBTU
	LOUISIANA OCS OIL[2]	2,433.4 TBTU[4] (419.6 MMBBL)			
NATURAL GAS:	STATE GAS [3]	1,401.1 TBTU[4] (1.350 TCF)	1,346.8 TBTU (1.298 TCF)	54.3 TBTU	2,180.6 TBTU
	LOUISIANA OCS GAS [3]	2,126.3 TBTU[4] (2.048 TCF)			
COAL:	LIGNITE	56.4 TBTU (4.114 MMSTON)	265.2 TBTU (16.4 MMSTON)	-208.8 TBTU	-208.8 TBTU
NUCLEAR ELECTRIC POWER		174.6 TBTU (16.7 Billion kWH)	174.6 TBTU (16.7 Billion kWH)	0.0 TBTU	0.0 TBTU
HYDROELECTRIC, BIOFUELS & OTHER		141.6 TBTU	141.6 TBTU	0.0 TBTU	0.0 TBTU
NET INTERSTATE PURCHASES OF ELECTRICITY INCLUDING ASSOCIATED LOSSES			163.8 TBTU (25.249 Billion kWH)	-163.8 TBTU	-163.8 TBTU
TOTALS:	EXCLUDING LOUISIANA OCS	2,202.7 TBTU	3,794.2 TBTU	-1,591.5 TBTU	
	INCLUDING LOUISIANA OCS	6,762.4 TBTU	3,794.2 TBTU		2,968.2 TBTU

The Louisiana energy balance for 2006 shows that the state consumed 1,592 more TBTUs of energy than it produced if Louisiana OCS production is not included. If Louisiana OCS production is included, the state is a net producer of energy by 2,968 TBTUs.

TCF = Trillion Cubic Feet
TBTU = Trillion BTU's
MMBBL = Million Barrels
OCS = Outer Continental Shelf (federal waters seaward of the state's 3-mile offshore boundary)
kWH = Kilowatt hour
MMSTON = Million Short Tons

1. Unless otherwise noted, data is obtained from the Energy Information Administration's latest published figures for state energy consumption.
2. Includes condensate
3. Includes gas plant liquids
4. Louisiana Department of Natural Resources data

2009 HURRICANE SEASON

The official Atlantic hurricane season began on June 1, 2009 and runs through November 30, 2009. Governor Jindal is promoting hurricane preparedness by telling citizens to "GET A GAME PLAN"– Put together an emergency kit, make preparations, and stay informed.

Evacuation Guides for southeast and southwest Louisiana are available on the "GET A GAME PLAN" website (www.getagameplan.org).

Table 1: Agency Contact Information

AGENCY CONTACT INFORMATION

American Red Cross
www.redcross.org

American Red Cross

	1-800-RED-CROSS or 1-800-733-2767
• Español	1-800-257-7575
• Acadiana Chapter (Lafayette)	(337) 234-7371
• Central Louisiana Chapter (Alexandria)	(318) 442-6621
• Louisiana Capital Area Chapter (Baton Rouge)	(225) 291-4533
• Northeast Louisiana Chapter (Monroe)	(318) 323-5141
• Northwest Louisiana Chapter (Shreveport)	(318) 865-9545
• Southeast Louisiana Chapter (Greater New Orleans)	(504) 620-3105
• Southwest Louisiana Chapter (Lake Charles)	(337) 478-5122
• St. Bernard Chapter (St. Bernard Parish only)	(504) 277-8163

Louisiana Department of Transportation and Development
www.dotd.louisiana.gov

• Customer Service Center	(225) 379-1232 toll-free (877) 4LADOTD or (877) 452-3683

Governor's Office of Homeland Security and Emergency Preparedness
www.ohsep.louisiana.gov (225) 925-7500

Louisiana Department of Social Services
www.dss.state.la.us

Louisiana Department of Health and Hospitals
www.dhh.state.la.us

Louisiana State Police
www.lsp.org

• Road Closure Information	(800) 469-4828
• Troop A (Baton Rouge)	(800) 969-2059
• Troop B (Kenner)	(800) 964-8076
• Troop C (Gray)	(800) 659-5907
• Troop D (Lake Charles)	(888) 225-5577
• Troop E (Alexandria)	(800) 256-4160
• Troop F (Monroe)	(866) 292-8320
• Troop G (Bossier City)	(866) 853-6580
• Troop I (Lafayette)	(888) 768-8746
• Troop L (Covington)	(888) 339-8659

or dial *LSP (*577) from a cellular phone

Louisiana Attorney General
www.ag.state.la.us

• Fair Housing Hotline	(800) 273-5718
• Investigations	(800) 488-2770
• Consumer Hotline	(888) 799-6885

U.S. Department of Agriculture and Forestry
www.ldaf.state.la.us

U.S. Department of Homeland Security
www.ready.gov

National Weather Service
www.srh.noaa.gov

Table 2: Family Disaster Supply Kit

FAMILY DISASTER SUPPLY KIT

There are six basics that you should stock for your disaster supply kit: water, food, clothing and bedding, first aid supplies, tools and emergency supplies and special items. Keep these items in a waterproof container that can be easily transported from your home to your car and your safe place. Assemble your kit now to allow for immediate action during an emergency. Your family's disaster supply kit should include at least a three-day supply of:

- Water - One gallon of water per person per day
- Non-perishable food - Select food items that are compact and lightweight. Include the following items:
  - Ready-to-eat canned meats, fruits and vegetables
  - Canned juices
  - High energy foods
  - Vitamins
  - Comfort goods
  - Condiments
  - Food for infant
- Clothing and bedding - Include at least one complete change of clothing and footwear per person and the following weather-appropriate items:
  - Sturdy shoes or work boots
  - Rain gear
  - Blankets or sleeping bags
  - Hat and gloves
  - Thermal underwear
  - Sunglasses
- First aid supplies – Assemble a first aid kit for your home and one for each car.
- Tools and emergency supplies
  - Emergency preparedness manual
  - Flashlight and extra batteries
  - Non-electric can opener, utility knife
  - Tube tent
  - Tape
  - Matches in a waterproof container
  - Plastic storage containers
  - Paper, pencil
  - Medicine dropper
  - Whistle
  - Sanitation supplies
  - Louisiana Citizen Awareness and Disaster Evacuation Guide
  - Battery-operated radio and extra batteries
  - Cash or traveler's checks, change
  - Fire extinguisher: small canister ABC-type
  - Pliers
  - Compass
  - Aluminum foil
  - Signal flare
  - Needles, thread
  - Shut-off wrench to turn off household gas and water
  - Plastic sheeting
  - Official DOTD Highway Map
  - Mess kits, paper cups, plates and plastic utensils
- Special Items
  Infant and medical supplies: Remember supplies for family members with special requirements, such as infants, elderly, persons with disabilities and persons taking medication
- Entertainment - Games and books
- Important family documents
  - Wills, insurance policies, contracts, deeds, stocks and bonds
  - Passports, social security cards and immunization records
  - Bank account numbers
  - Credit card account numbers and company addresses
  - Inventory of valuable household goods and important telephone numbers
  - Family records (birth, marriage, death certificates)

Store your kit in a convenient place known to all family members. Keep a smaller version of the supply kit in the trunk of your car. Change your stored water supply every six months so it stays fresh. Replace your stored food every six months. Re-think your kit and family needs at least once a year. Replace batteries, update clothes, etc.

SELECTED LOUISIANA ENERGY STATISTICS

Among the 50 states, Louisiana's rankings (in 2008, unless otherwise indicated) were:

PRIMARY ENERGY PRODUCTION
(Including Louisiana OCS*)

- 1st in crude oil
- 1st in OCS crude oil
- 1st in OCS natural gas
- 1st in OCS revenue generated for federal government
- 1st in mineral revenues from any source to the federal government
- 1st in LNG terminal capacity
- 1st in foreign oil import volume
- 2nd in natural gas
- 3rd in crude oil proved reserves
- 3rd in dry natural gas proved reserves
- 3rd in total energy from all sources

REFINING AND PETROCHEMICALS

- 1st in natural gas processing capacity
- 2nd in petroleum refining capacity
- 2nd in primary petrochemical production

PRIMARY ENERGY PRODUCTION
(Excluding Louisiana OCS)

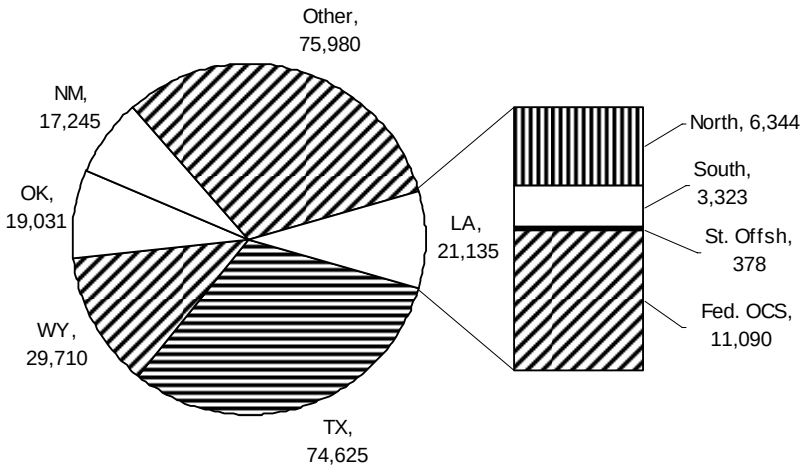
- 4th in crude oil
- 5th in natural gas
- 6th in dry natural gas proved reserves
- 7th in crude oil proved reserves
- 12th in total energy (2006)
- 17th in nuclear electricity (2006)

ENERGY CONSUMPTION (2006)

- 2nd in industrial energy
- 3rd in per capita energy
- 3rd in natural gas
- 4th in petroleum
- 8th in total energy
- 24th in residential energy

Figure 1

2008 U.S. NATURAL GAS RESERVES
(Billion Cubic Feet)



PRODUCTION

State controlled (i.e., excluding OCS) natural gas production peaked at 5.6 trillion cubic feet (TCF) per year in 1970, declined to 1.5 TCF in 1995, and rebounded 4.5% to 1.6 TCF in 1996. Gas production was 1.35 TCF in 2004, 1.28 TCF in 2005, 1.35 TCF in 2006 and 2007, and 1.36 in 2008.

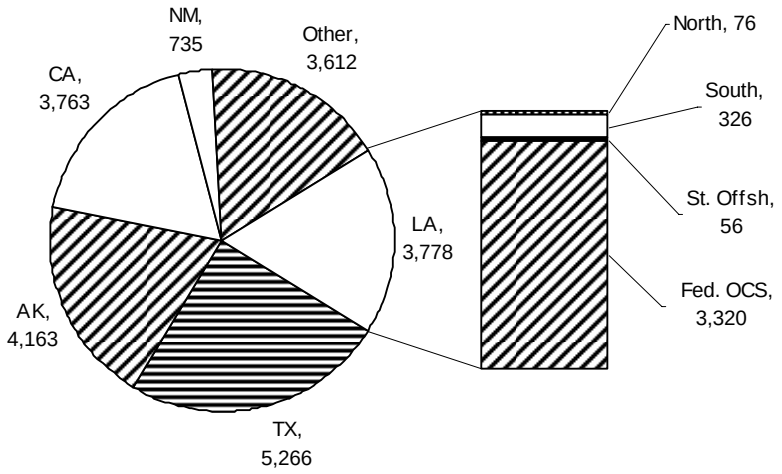
State controlled gas production is on a long term decline rate of 2.7% per year, though the current short term (2009-2014) forecast decline average 0.3% per year.

State controlled crude oil and condensate production peaked at 566 million barrels per year in 1970, declined to 127 million barrels in 1994, recovered to 129 million barrels in 1996, declined to 77.4 million barrels in 2007, and declined to 72.5 million barrels in 2008.

State controlled crude oil production is on a long term decline rate of 3.1% per year, though the current short term (2009-2014) forecast an average decline of 1.4% per year. If oil stays above $80 per barrel, the decline trend should be negligible for the next two years.

Figure 2

2008 U.S. CRUDE OIL RESERVES
(Million Barrels)



Louisiana OCS (federal) territory is the most extensively developed and mature OCS territory in the U.S.

Louisiana OCS territory has produced approximately 88.1% of the 17.3 billion barrels of crude oil and condensate, and 80.6% of the 170 TCF of natural gas extracted from all federal OCS territories from the beginning of time through the end of 2008. Currently, Louisiana OCS territory produces 21.0% of the oil and 8.2% of the natural gas produced in the entire U.S., and 91.6% of the oil and 72.2% of the natural gas produced in the Gulf of Mexico OCS.

Louisiana OCS gas production peaked at 4.07 TCF per year in 1979, declined to 2.95 TCF in 1989, then recovered to 3.84 TCF in 1999, fell to 2.19 TCF in 2005, 2.05 TCF in 2006, 2.02 TCF in 2007, and 1.62 TCF in 2008.

Louisiana OCS crude oil and condensate production first peaked at 388 million barrels per year in 1972 and then declined to 246 million barrels in 1989. In this decade, the production has steadily risen from 264 million barrels in 1990 to 508 million barrels in 2002 due to the development of deep water drilling. 407 million barrels was produced in 2005, 419 million barrels in 2006, 427 million barrels in 2007, and 375 million barrels in 2008.

REVENUE

In Fiscal Year (FY) 2007/08 oil and gas revenue (severance tax, royalties, and bonuses) reached to an all time high at $1.94 billion; the previous peak occurred in FY 1981/82, it was $1.62 billion or 41% of state income (total state taxes, licenses and fees). The $1.94 billion oil and gas revenue was only 16% of state income. For FY 2008/09 oil and gas revenue is expected to reach $1.68 billion, or 15% of state income.

At constant production, the state treasury gains or loses about $11.2 million of direct revenue from oil severance taxes and royalty payments for every $1 per barrel change in oil prices.

For every $1 per MCF change in gas price, at constant production, the state treasury gains or loses $42.7 million in royalty payments, and increases or decreases gas full rate severance tax by 3.9 cents per MCF or about $35.4 million dollars for the following fiscal year (there is a 7 cents floor on gas severance tax).

There are no studies available on indirect revenue to the state from changes in gas and oil prices.

DRILLING ACTIVITY

Drilling permits issued on state controlled territory peaked at 7,631 permits in 1984 and declined to a low of 1,017 permits in 1999. In 2005 drilling permits issued increased to 1,996 permits, in 2006 increased to 2,137 permits, in 2007 increased to 2,150 permits, and in 2008 increased to 2,374.

The average active rotary rig count for Louisiana, excluding OCS, reached a high of 386 rigs in 1981 and fell to 76 active rigs in 2002. In 2005 the average swung back to 108 active rigs, then rose in 2006 to 118 active rigs, increased to119 active rigs in 2007, and fell to 117 active rigs in 2008. The lowest year average between 1981 and 2005 was 64 active rigs in 1993.

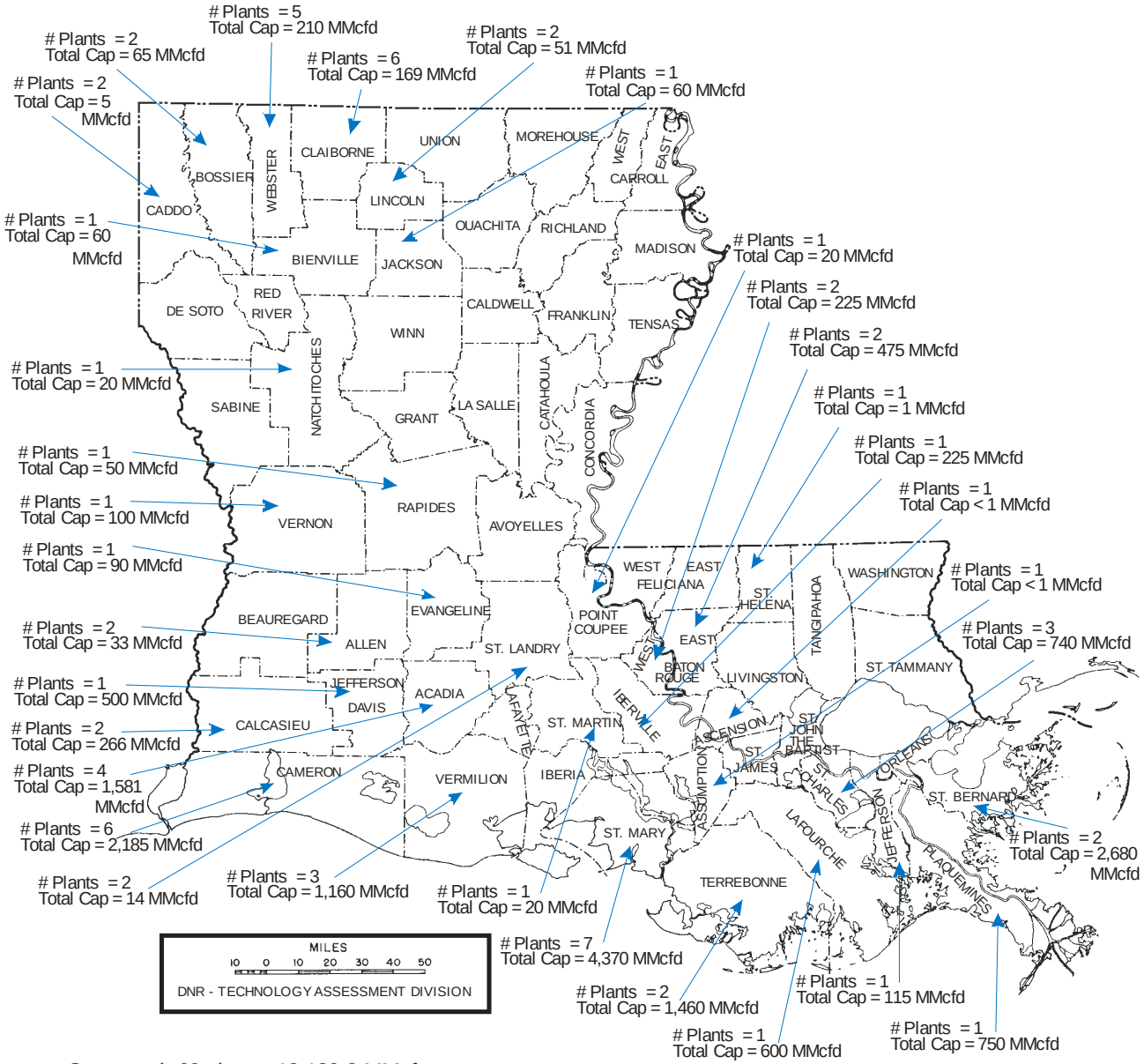
The annual average active rotary rig count for Louisiana OCS reached a high of 109 rigs in 2001 and is in a downward trend. It was 76 in 2004, 74 in 2005, 70 in 2006, 59 in 2007, and 50 in 2008. The lowest year average between 1981 and 2007 was 23 active rigs in 1992.

Note: Louisiana OCS or Outer Continental Shelf is federal offshore territory adjacent to Louisiana's coast beyond the three mile limit of the state's offshore boundary.

Figure 3

Louisiana Gas Plants and Total Capacity by Parish

As of January 1, 2009



State total: 69 plants, 18,180.3 MMcfg

Data source: Oil & Gas Journal (6/22/2009)

PASSIVE COOLING OF LOUISIANA BUILDINGS

by
Jerry Heinberg, AIA, Architect

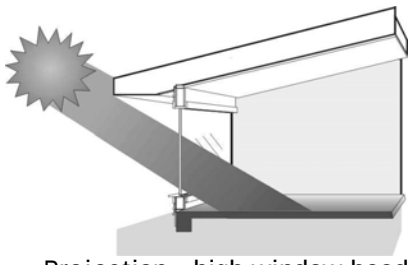
The hot-humid climate of Louisiana does not readily lend itself to natural cooling as it does in dryer states northwest of us. To compensate, we have to create designated areas of shade and configure the site plan to catch the prevailing breezes, making nature work for us in the spring and summer. During the mid-1800s, kitchens were built outside of the main house. This was not only to keep the odors out of the main house, but also especially to exclude the heat, although today, it is expensive and impractical to have only an exterior kitchen. The building "envelope" can be defined as any barrier to wind, water penetration, and thermal transmission. Inside the envelope is the useable space contained in our buildings. Outside the envelope, ambient temperature and humidity prevail.

Keeping the cooking heat out of the house is still a sound principle. Cooking outside on a Bar B-Q pit helps keep additional heat out of the envelope on a hot, muggy summer day. Excluding heat is equivalent to cooling. That big refrigerator-freezer (even the highly efficient ones in common residential use today) is removing heat seven days a week, twenty-four hours per day from its contents and dumping the heat inside the kitchen. That would be bad enough, but the occupant is also paying for the electricity that creates the additional heat, which then has to be removed by the HVAC system, which requires additional electricity use. The dishwasher also dumps heat and humidity into the envelope by doing its job, and is amplified if the "dry" cycle is used. It goes without saying that cooking adds heat and humidity, except that the exhaust fan, if used, removes a great deal of it (along with the HVAC pre-cooled air for which we pay dearly). A little planning and imagination can have the condenser section of the refrigerator-freezer transfer its heat load directly to the exterior of the envelope. Even more efficient would be accomplishing this through the use of a water-cooled refrigerator-freezer condenser connected to a heat exchanger, which preheats water in the domestic water heater storage tank. This gets the heat out of the envelope, and puts it to good use. This approach could be augmented by solar thermal production of pre-heated water to the storage tank. The dishwasher also could be vented directly to the exterior like we do with clothes dryers. The ceiling fan is an appropriate tool for active cooling as it makes us feel cooler through convective removal of heat from our bodies and by evaporation of perspiration. However, again, it is not only adding to the heat gain in the envelope through its use of electricity, but the humidity and heat, although removed from us, still remains in the envelope.

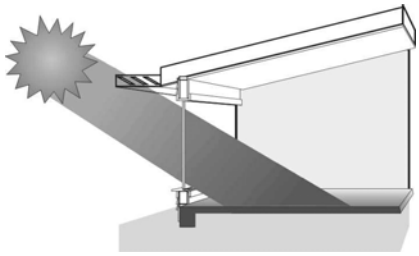
The north elevation of a building receives very little direct sunlight with enough long and short wave infrared radiation to penetrate windows and add heat to the envelope. Only very early or very late in the day in late June do the sun's rays come from the east-northeast or west-northwest. During these times, the sun is very low and its rays are almost parallel to the ground. It is not possible to block it with an overhang, but other methods may help. Landscaping, such as flowering vines on a trellis, will block much of this low sunlight. Also, avoid hard reflective ground cover, such as paving, in the path of the low east and west sunrays. The reflected sunlight bouncing off the hard surface and entering the windows creates undesired heat and glare, and is disconcerting to see sunlight entering the house from bouncing rays casting patterns of light on the ceiling.

The proper design of roof overhangs admits the low winter sun into the house, and excludes the higher summer sun. The design of the overhang is dependent on the orientation of the wall under consideration, the height of the wall, the depth of the soffit (exterior ceiling), and the vertical distance from the soffit to the sill (bottom) of the window, or glass door (collectively called

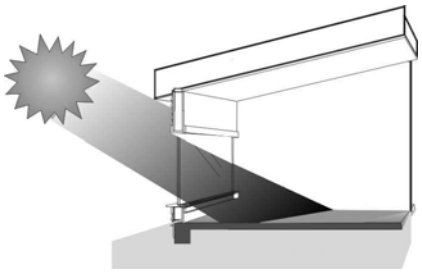
"fenestration," indicating glazed openings in an opaque wall). Our energy codes such as IRC-2006



Projection – high window head. Excludes summer sun; admits winter sun.



Louver – high window head. Excludes summer sun; admits winter sun



Low window head. Excludes summer sun; admits winter sun

(residential for 1 & 2 family dwellings), IECC-2006 (for low-rise multi-family residential), or ASHRAE 90.1-2004 (commercial) refer to this cut-off angle as Projection Factor, or PF. This is basically the ray angle of sunlight cut off by the overhang. Ideally, the overhang would be designed to totally shade a window at noon, on the Summer Equinox (around June 21) for a south-facing wall. It is clear that a uniform two-foot overhang around the whole building (which is very common) may not be appropriate to shield the windows from summer solar energy. It may work well for getting water runoff from the roof away from the wall/foundation, or may to simplify the framing design, or may be just for aesthetic reasons. Conversely, it would be useful if the same overhang was designed specifically to permit the low-angled winter sun to penetrate the window while excluding the summer sun. Because the sun's rays originate at a considerably lower angle (from horizontal) at noon on the Winter Solstice (around December 21), the same overhang provides some welcome morning heat penetrating the south fenestration.

A wind rose graphically shows the annual average wind direction and wind speed for a specific geographical location. If one were site planning a building, and was aware that the predominant summer breeze was from the southwest, there may be a dedicated design intent to capture that trend with a breezeway, or by orienting the building to take advantage of natural ventilation by location of operable windows. Wind rose tools are available online and as software. One such tool is available at http://mesonet.agron.iastate.edu/sites/locate.php?network=LA_ASOS. It is very useful in determining the predominant strength and direction of wind for the area of the site. This allows design for natural summer ventilation and shielding from cold winter winds. The web site will construct a wind rose for the most populated areas of the state. Thirty-eight stations on land are available in Louisiana, plus Vicksburg and Natchez in Mississippi. Be sure to try several years as these plots are for one year of data, and will vary somewhat, year to year. By using January 1 to March 1 and July 1 to September 1, the most significant prevailing winds can be seen for the more extreme seasons. April to June and October to December will show the temperate seasons when many people like to be out-of-doors. Be careful to avoid a date range with hurricanes, as they will distort the average results.

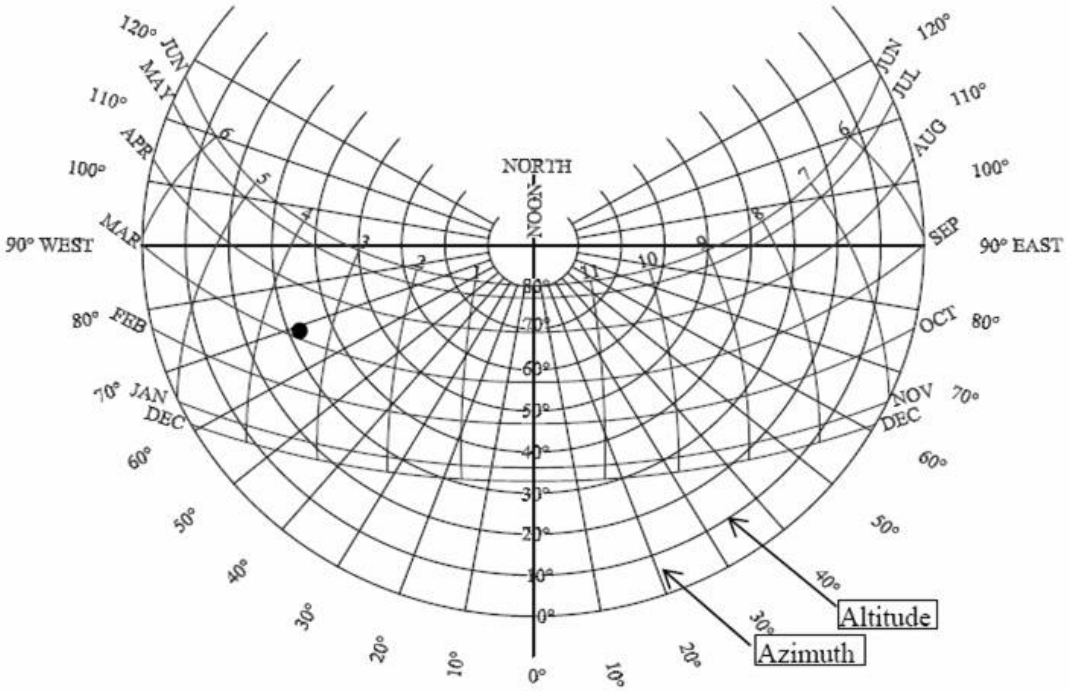
The length of the wind rose ray (vector) indicates the percent of the time that the wind blew from a particular direction while the different sized/colored sections indicate the proportion of that time within a particular speed range. The center shows the percentage of the time period that was calm and the average wind speed for the period is shown below the speed legend. The USDA also has a wind rose program that illustrates the yearly average since 1961 of wind direction and speed for four cities around the state at ftp://ftp.wcc.nrcs.usda.gov/downloads/climate/windrose/louisiana/.

Natural Ventilation

Even in the land of hot and humid, there are those times when we would prefer natural ventilation to heating or cooling. The fresh air is great for removing odors or pollutants from our environs. The savings for not using the heating and cooling is another plus. Use the wind rose information combined with site specific information. A forest or high hill on one side of the site will change wind directions. Large man-made structures will also, but are not usually found in residential areas. Locating on the side of a hill or on the edge of a lake or other large cleared area will affect wind patterns. For example, if the site is on a man-made lake, it is probably sloping; that is, a hill on the side away from the lake. The same winds will affect similar sites on north and south shores of the lake differently. The north shore site will have some of the winter winds blocked and receive direct breezes in the summer, while the south shore site will be just the opposite. The degree of affect will depend on the magnitude of the obstacles being considered. It may be desired to present the bedroom side of the house with few windows to predominantly north winter winds. The west side may be "shaded" by a garage and storage area. But the south or southeast breezes of the spring and fall present a good time to welcome the breezes by opening various windows on opposite sides of the house. Careful planning is required to combine the many beneficial features into an efficient house.

Solar Position

Below is a solar chart used to determine the position of the sun at any time during the year. The curved horizontal arcs (months) represent the 21st day of each month. Solar altitude is shown by concentric circles in 10° increments. Curved lines indicating the time of day are labeled as 6 a.m. (east) to 6 p.m. (west). Azimuth lines are radial lines in 10° increments from south. Interpolation is permissible. In the example indicated by the "●": month/day: March 23 (or August 30), time: 3:35 p.m., azimuth: 69° west of south, altitude: 30.5° above the horizon.



The chart above is for 32 degrees north latitude. A chart can be calculated mathematically for a specific

latitude, but this one is representative of much of Louisiana. It is based on sun time, not Daylight Savings time, for the particular latitude. Using the chart as an overlay on a site plan provides insight to how the sun's path each day of the year will affect window placement, admitting daylight and heat gain when and where desired, and excluding them when they would be detrimental.

Natural Cooling

Louisiana's hot, humid summers drive most people indoors to seek air-conditioned comfort -- comfort that is paid for by high monthly cooling bills. Natural cooling design measures can further reduce the air conditioning needs of any house. Natural cooling guidelines are especially important for passive solar homes because their large expanses of south-facing glass can cause overheating if unprotected in summer. In Louisiana, summer discomfort is caused by humidity as much as by heat. Natural cooling techniques and approaches designed to reduce humidity levels can promote comfort on moderately warm days. Natural cooling techniques, proper insulation, and air sealing will continue to save money and energy. Remember that shading from trees can greatly reduce the ambient temperature, saving air conditioning. Capturing the natural breezes on the site can reduce the need for air conditioning during spring and fall.

Landscaping and Trees

According to the U.S. Department of Energy report, "Landscaping for Energy Efficiency", careful landscaping can save up to 25% of a household's energy consumption for heating and cooling. Trees and vines on trellis or arbor are very effective means of shading in the summer months. In addition to contributing shade, landscape features, combined with a lawn or other ground cover, can reduce air temperatures as much as 9^{o} F in the surrounding area when water evaporates from vegetation and cools the surrounding air. Louisiana's abundant trees are wonderful for natural shading and cooling. However, they must be located so as to provide shade in summer and permit sun light in the winter coming from the south. Even deciduous trees that lose their leaves during cold weather block some winter sunlight – bare trees can block over 50 percent of the available solar energy if they have a lot of limbs. Here are some general landscaping guidelines: 1) Ground cover reduces reflected sunlight; 2) deciduous trees shade east, west, southeast, and southwest sides in summer; 3) trellis with deciduous vine can shade east and west walls; 4) a windbreak of evergreen trees and/or shrubs to the north buffers winter winds.

Orientation of Building and Components

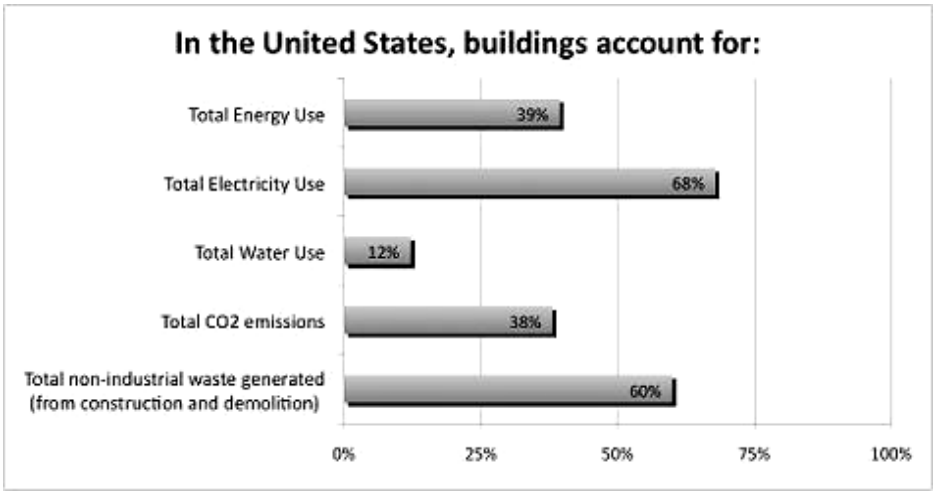
Major glazed areas should be oriented within 20 degrees of north and south that have overhangs for summer shading. Placing the garage on the west blocks summer sun. One should plant low-limb, deciduous trees to the east and west of living spaces. This helps to permit the passage of some sun into the space in winter, but the heavy summer foliage blocks the sunlight when the heat gain is least wanted inside the space. South-facing overhangs can be designed to permit the passage of low altitude winter sunlight into the space, while excluding the high altitude summer sun. Low shrubbery can help prevent ground bounce glare from reflecting off the ground or paved areas and penetrating the windows. Using high operable clearstory windows can create a stack effect and replace rising exiting hot air with cooler air entering through low windows due to the negative pressure created by the escape of the hot air above.

GREEN BUILDING BEGINS WITH THE DESIGN

by

Howard Hershberg, AIA

The design phase of the project is the best time to incorporate energy efficiency and sustainability. In order to do this the requirements for a sustainable and energy efficient design must be clearly set out. Using a sustainability rating system such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) building rating system is one way to achieve this. LEED establishes energy performance targets for such things as, material and resource efficiency and lighting levels. However, commissioning and ongoing monitoring of energy usage for the facility are vital to achieving energy savings over the life of the project.



Source: EPA, 2004 from Whole Building Design Guide (http://www.wbdg.org/design/sustainable.php)

Sustainable or green design is evolving and growing but the following six principles are basic:

1. Site selection (sustainable siting) - consider the location, orientation and reuse or rehabilitation of existing structures or building

2. Energy use optimized (energy and atmosphere) – find ways to reduce energy demand and increase efficiency

3. Water use optimized (water efficiency) – find ways to reduce water use and use water efficiently as well as reuse or recycle water, for example, capture and utilization of rainwater whenever possible

4. Build with sustainable products (materials and resources) – environmentally preferable materials have a reduced effect on human health and the environment

5. Enhance indoor environmental quality (IEQ) – maximize day lighting, appropriately ventilate and control moisture and avoid the use of materials with high VOC (Volatile Organic Compound) emissions.

6. Optimize operation and maintenance practices (innovation and design process) – consider operating and maintenance issues during the design phase.

A "green building" is a building with reduced impact on the environment. The less its environmental impact, the "greener" the project is. A green building is a building that is located and constructed in a sustainable manner that allows it's occupants to live, work and play in a sustainable manner.

Green design supports a commitment to conservation within the framework of cost, schedule and the intended function of the facility. Operating and maintenance issues considered during the design phase of a facility will contribute to reduced energy and resource costs.

Links

US Green Building Council (USGBC): www.usgbc.org.

US DOE Office of Energy Efficiency and Renewable Energy (EERE): www.eere.energy.gov.

Whole Building Design Guide: http://www.wbdg.org/design/sustainable.php.

HIGHLIGHTS OF THE 17TH EDITION OF THE LOUISIANA CRUDE OIL REFINERY SURVEY REPORT

by

J. Bryan Crouch, P.E.

The 17th edition of DNR's *Louisiana Crude Oil Refinery Survey Report* covers the 12-month period from July 1, 2007 to June 30, 2008. Louisiana has 17 operating refineries with a combined capacity of 3,071,216 barrels per calendar day (bcd). The throughput for the 12-month period was 1,021,102,360 barrels, and the operating rate was 91.1%. ExxonMobil has the most refining capacity in Louisiana as well as the largest single refinery. See Table 1 for details and comparison to the results of DNR's last survey.

Regular gasoline and ultra low sulfur diesel (ULSD) make up the largest percentages of the Louisiana refinery product slate at 34.8% and 15.9% respectively. The total diesel component (ULSD and other diesel) is 26.5%. See Table 2. The phase-in for ULSD is continuing with a final deadline of December 1, 2010 for all refinery output of on-highway diesel to be 100% ULSD.

The expansion of Placid's refinery in Port Allen is still underway. The $300 million investment is scheduled for completion in 2010 and will bring the facility's crude capacity up to 80,000 bcd, allow the processing of lower quality crudes, and increase its gasoline and diesel production capacity. Alon USA Energy, Inc. acquired Valero's Krotz Springs refinery in 2008. Marathon's expansion of its Garyville facility is nearing completion and will result in a capacity increase of 180,000 bcd.

Data is also presented in the report from the *Oil and Gas Journal's* annual Worldwide Refinery Report, and the Energy Information Agency's annual Refinery Capacity Report.

The only 2008 storm to impact Louisiana refineries was Hurricane Gustav which affected 14 of the 17 operating refineries in Louisiana. On September 1st, in anticipation of Gustav, 11 Louisiana refineries with a total capacity of 1.9 million bcd were shutdown. ExxonMobil in Baton Rouge and Citgo in Lake Charles remained in operation, but with reduced runs. As Gustav moved through the area, ExxonMobil in Baton Rouge and Placid in Port Allen shutdown, bringing the total shutdown capacity to 2.5 million bcd, which is approximately 83 % of the total Louisiana capacity. Citgo in Lake Charles continued operating with reduced runs. Gustav caused only minor damage to area refineries, so outages did not last long. By September 13th, most refineries were back to normal operation with a few operating with reduced runs or in start-up procedures.

The full report is available online in PDF format on the Department of Natural Resources Technology Assessment Division website (http://dnr.louisiana.gov/sec/execdiv/techasmt/oil_gas/refineries/), and printed copies will be available soon. If you are currently on our mailing list as a subscriber to this publication, a printed copy will be mailed to you automatically. If you would like to be added to our mailing list to receive a free copy, submit an email request to techasmt@la.gov (include your name and address, and specify which publication you are requesting), or contact Jan Janney at 225-342-1270.

Table 1. Louisiana Operating Refinery Capacity and Throughput

Refinery	Operating Capacity as of 6/30/08 (bcd)	Operating Capacity Change [1] (%)	Throughput 7/1/07 - 6/30/08 (barrels)	Throughput Change [2] (%)
Calcasieu Refining Co - Lake Charles	78,000	0.00	18,493,896	-26.09
Calumet Lubricants Co LP - Cotton Valley	12,158	0.00	2,735,295	-4.01
Calumet Lubricants Co LP - Princeton	7,158	-1.86	2,619,828	1.34
Calumet Shreveport LLC - Shreveport	65,000	62.50	13,127,890	3.35
Chalmette Refining LLC - Chalmette	196,000	0.00	58,684,766	-5.88
Citgo Petroleum Corp - Lake Charles	429,500	0.00	131,480,397	-6.81
ConocoPhillips - Belle Chasse	247,000	0.00	86,506,300	-3.15
ConocoPhillips - West Lake	239,000	0.00	84,960,254	-3.45
ExxonMobil Refining & Supply Co - Baton Rouge	503,000	0.00	184,252,000	1.02
Marathon Petroleum Co LLC - Garyville	255,000	0.00	90,701,028	-2.54
Motiva Enterprises LLC - Convent	235,000	2.17	79,157,000	-3.21
Motiva Enterprises LLC - Norco	236,400	-2.39	84,620,968	19.49
Murphy Oil USA Inc - Meraux	125,000	4.17	39,055,000	1.03
Placid Refining Co - Port Allen	58,000	3.57	19,853,369	1.93
Shell Chemical Co - St. Rose	55,000	0.00	17,003,657	-5.45
Valero Refining Co - Krotz Springs	80,000	0.00	25,358,333	-10.60
Valero Refining Co - Norco	250,000	35.14	82,492,379	-3.33
Totals	3,071,216	3.23	1,021,102,360	-1.98

1. Change from end date (6/30/2007) of previous DNR survey to end date (6/30/2008) of current DNR survey.
2. Change from previous DNR survey throughput (7/2006 - 6/2007) to current DNR survey throughput (7/2007 - 6/2008).

Table 2. Top Products from LA Refineries by % of Product Slate

Product	Total Product Slate (%)
Regular gasoline	34.81
Diesel	26.54
Jet fuel/Kerosene	10.61
Fuel oil	5.84
Residual/Coke	6.50
Premium gasoline	3.80

UPDATE ON 2009 NATIONAL ELECTRIC TRANSMISSION CONGESTION STUDY

by

Patty Nussbaum

The Federal Power Act requires the U. S. Department of Energy (DOE) to publish a study of electric transmission congestion every three years. The first study was issued in August of 2006. The study, due in 2009, is looking at how to determine significant transmission congestion using publicly available data. DOE is also interested in identifying effective methods for distinguishing congestion caused by technical limits on line loading and contractual or other business limits that are resulting in transmission congestion. The request for written comments and notice of technical workshops was published in the Federal Register on Wednesday, June 4, 2008[1].

BACKGROUND

The Energy Policy Act of 2005 (EPACT 2005) charged DOE with identifying electricity transmission congestion. The 2006 Congestion study looked at congestion on all grids nationwide except the portion of the grid in Texas covered by the Electricity Reliability Council of Texas (ERCOT).[2] See below for the map showing the North American Reliability Corporation (NERC) interconnections[3]. EPACT 2005 also authorized the Secretary of the Department of Energy (Secretary) to designate geographic areas where transmission congestion occurs as National Interest Electric Transmission Corridors (National Corridors). The designation indicates that a transmission congestion problem exists and affects customers to the point that there is a national interest in eliminating it. The designation does not preempt State authority but it does provide the first step toward Federal Government siting authority. This means that if an applicant does not receive approval from a State to site a proposed new transmission facility in a National Corridor within a year, the applicant may then apply to the Federal Energy Regulatory Commission (FERC) for a permit to construct the facility.

DOE was charged with providing a backstop authority, a safety net, to be used as a method to analyze transmission requirements from a national perspective. DOE conducted a National Electric Transmission Study and identified the Southwest and Mid-Atlantic as having critical transmission congestion and constraint problems. Determining where to site transmission facilities is very important to the people who live and work near those facilities.

Many "interested parties" filed comments opposing the concept of National Corridors. DOE responded to the principal concerns of the interested parties in their October 2, 2007 report, however, they were virtually unchanged from those presented in the Draft report.

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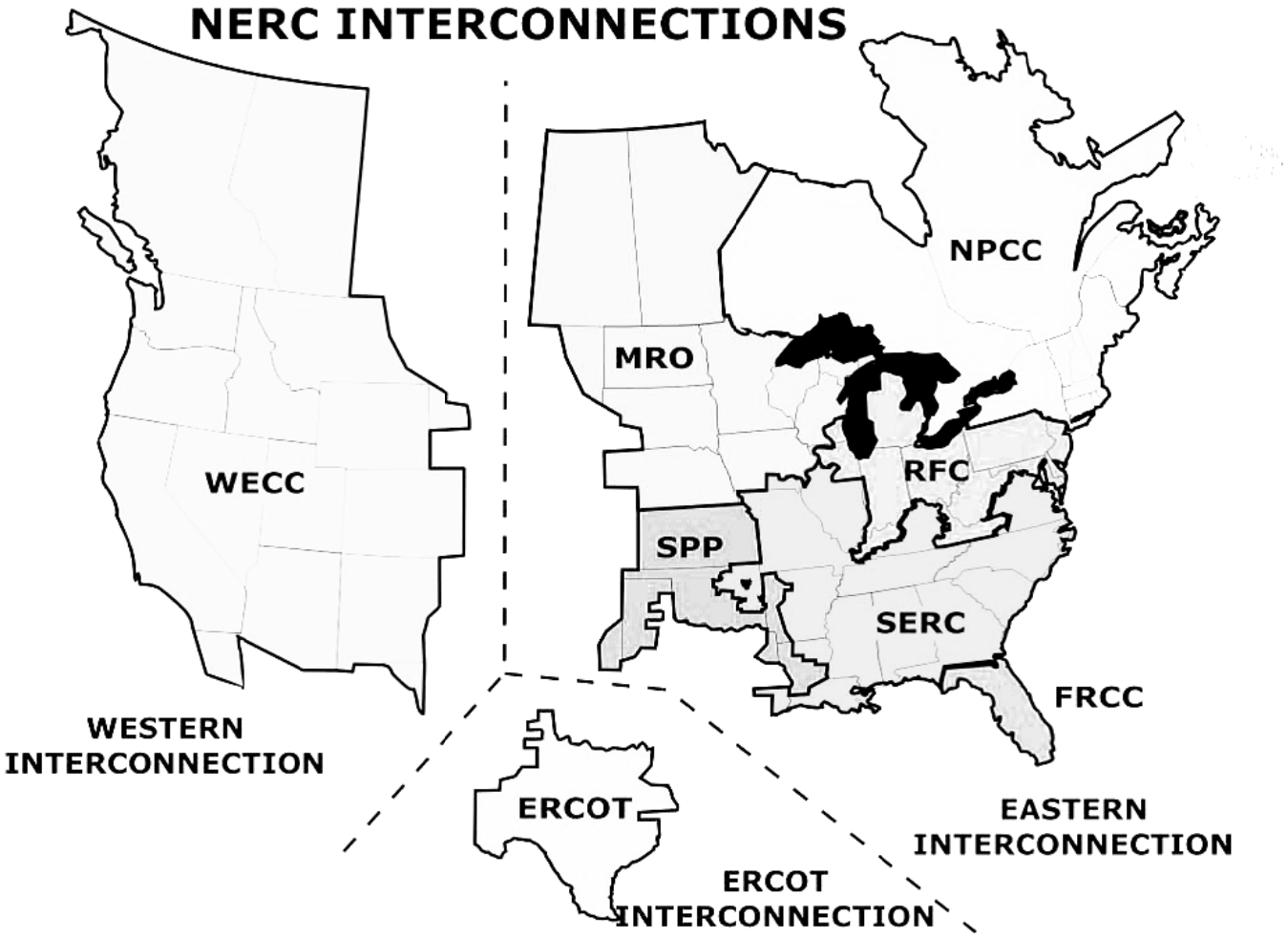
[1] http://congestion09.anl.gov/documents/docs/FR_Notice_4_June_08.pdf, accessed 11/12/2009.

[2] Section 1221 of the Energy Policy Act of 2005 added provisions to the Federal Power Act (FPA) including FPA section 216(a) which requires the Secretary of Energy to conduct a study of electric transmission congestion within one year from the date of enactment of EPAct 2005 and every three years thereafter. FPA Section 216 does not apply to the portion of Texas covered by ERCOT.

[3] The regional reliability organizations under FPA section 215 are Florida Reliability Coordinating Council, the Midwest Reliability Organization, the Northeast power Coordinating Council, Reliability First Corporation, SERC Reliability Corporation, the Southwest Power Pool, the Texas Regional Entity, and the western Electricity Coordinating Council.



The designations are not intended to thwart state and local transmission planning.[4] Designation of a National Corridor does not:

- Mandate that additional transmission facilities must be built
- Direct anyone to build a transmission facility
- Preclude local generation, demand response and energy conservation as ways to resolve the congestion
- Determine a preferred route for a transmission solution
- Represent a siting decision

On October 5, 2007, the Department of Energy (DOE) published a National Electric Transmission Congestion Report and Order in which it designated the Mid-Atlantic National Interest Electric Transmission Corridor and the Southwest Area National Interest Electric Transmission Corridor. The

[4] Under FPA section 216 (b)(1), FERC jurisdiction is triggered only when either: the State does not have authority to site the project; the State lacks the authority to consider the interstate benefits of the project; the applicant does not qualify for a State permit because it does not serve end-use customers in the State; the State has withheld approval for more than one year; or the State has conditioned its approval in such a manner that the project will not significantly reduce congestion or is not economically feasible.

states affected by the Mid-Atlantic Area National Corridor are Delaware, Washington DC, Maryland, New Jersey, New York, Ohio, Pennsylvania, Virginia, and West Virginia. California and Arizona are affected by the Southwest Area National Corridor. The National Corridor designations went into effect October 5, 2007 and will remain in effect until October 7, 2019 unless the designations are rescinded or renewed.

For more information and to view maps of the National Corridors, visit:
http://www.oe.energy.gov/nietc.htm.

COMMENTS FROM TECHNICAL WORKSHOPS RELATING TO LOUISIANA

DOE, in preparing for the 2009 congestion study, asked for comments on what publicly-available data and information should be considered and what type of analysis should be performed to identify the transmission congestion. The 2006 study identified some areas in Louisiana experiencing congestion and the July 29, 2008 pre-congestion study regional workshop for the 2009 national Electric Congestion Study in Atlanta, Georgia[5] addressed some of the Louisiana congestion problems.

Transmission congestion occurs when the flow of electricity on a transmission line is restricted or constrained by either the physical capacity of the line or by operational restrictions designed to protect the security and reliability of the transmission grid. Transmission congestion has a cost. Congestion forces electricity to be purchased from a more expensive source because a constraint prevents access to cheaper sources. However, it is not always cost-effective to eliminate the congestion because the investment in the transmission grid can be substantial.

Mr. George Bartlett, Director of Transmission Operations for Entergy Services, participated and his comments and the written comments submitted by Entergy stated that Entergy does not view congestion as a reliability issue but rather as an economic issue. Entergy stated that the existence of congestion on a transmission system does not equate to a lack of reliability. A cause of congestion on the Entergy transmission system is merchant generation. They feel that the cost of transmission upgrades falls to their customers or Independent Power Producers (IPPs) and that the resulting benefit is not always sufficient to justify that cost.

Mr. Terry Huval with the Lafayette Utility System and Lafayette, Louisiana stated that their cost structure and service reliability were impacted by transmission congestion. Lafayette owns 741 MW of generation capacity but relies on the transmission lines of other providers (Entergy and Cleco) to deliver the electricity.[6] They feel that it is not right for the transmission owner to plan and design a system that assumes that other users of the lines will re-dispatch their units to manage congestion. He suggested that congress consider changing the ownership of the transmission lines from the current model, which has the transmission lines owned by vertically integrated utility companies to a model with either stand alone transmission companies or joint transmission ownership.

Jennifer Vosberg with NRG stated that they have four generating units in Louisiana and are dependent on Entergy for transmission. She focused on recent Transmission Loading Relief Orders (TLRs) in the

[5] A transcript of the Atlanta Georgia workshop is available at http://www.congestion09.anl.gov/documents/docs/Transcript_Pre_2009_Congestion_Study_Atlanta.pdf, accessed 11/16/2009.
[6] Plans are in place for new transmission in Lafayette in the next five years.

Entergy region and offered that DOE should use the NERC TLR web and its TLR data and logs for information.

Since the 2006 study was issued, the Southwest Power Pool (SPP), in the role of Independent Coordinator of Transmission (ICT), administers Entergy's Open-Access Transmission Tariff (OATT). The OATT is the transmission for wholesale customers that use the Entergy transmission system. SPP also evaluates potential transmission projects.

DOE's Office of Electricity Delivery and Energy Reliability maintains a web site that is the online source for information on the congestion study and can be found at http://www.congestion09.anl.gov/.

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