



LOUISIANA
ENERGY
FACTS
ANNUAL

2012

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LOUISIANA ENERGY FACTS

ANNUAL 2012

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General Questions and Comments

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Louisiana Energy Facts Annual 2012

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 six 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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Facts & Figures

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 appreciate your feedback. Please fill, detach and return the survey form at the back of this report.

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

2012 HIGHLIGHTS

The data in the 2012 **Louisiana Energy Facts Annual** contains some recent trends.

Crude Oil and Natural Gas Prices

Gas spot price average was \$4.11 per MCF in 2011, and it was \$2.82 per MCF in 2012; which is 31.4% lower than in 2011. The Louisiana natural gas spot market average in January 2012 was \$2.85 per MCF and rose to \$3.52 per MCF in December 2012. The average price for gas for 2013 is expected to be above \$3 per MCF.

Light Louisiana Sweet (LLS) average spot crude oil price was 111.79 per barrel in 2012 and it was \$112.29 per barrel in 2011, a 0.4% drop. The LLS crude oil spot price average was \$111.81 per barrel in January 2012 and fell to \$109.47 per barrel in December 2012. The 2013 LLS average spot price is expected to be around \$100 per barrel.

Oil and Gas Production

Oil and gas production increased in 2012 over 2011. The Louisiana state crude oil and condensate production, excluding the federal Outer Continental Shelf (OCS), was 74.3 million barrels in 2012, a 5.3% increase from 2011. The Louisiana state natural gas and casinghead, excluding OCS production was 3.0 TCF in 2012, a 3.4% increase over 2011. The increase in oil was caused by the high oil prices and new production from shale formations. The increase in gas was driven by higher production in the Haynesville shale area despite low gas prices. The Haynesville shale is producing more than 60% of the state total gas production.

Drilling

Louisiana rig count, including the OCS area, averaged 134 active rigs in 2012 a 25% decrease from 2011. On state areas the South showed drilling activity increased 10% and the North showed a 63% decrease over 2011. The Federal OCS showed a 54% increase over 2011. The North LA drilling rigs decreased due to decreases in the Haynesville shale areas caused by low gas prices; the South LA increase was caused by the high oil prices; and the OCS increase was due to recovery from the "Moratorium" and higher oil prices.

Other significant items

Louisiana state areas proved oil reserves were higher in 2010 than in 2009. It showed an increase in all areas due higher drilling for oil. Louisiana proved gas reserves were higher in 2010 than in 2009 in the onshore areas, while the offshore proved gas reserves declined. The high gas reserves were the result of strong drilling activities in the shale areas

Louisiana refineries' 2012 daily crude oil average runs to stills were 2.70 million barrels per day, 1.5% lower than the 2011. It reflected the lower utilization of the refinery capacity.

Average employment in the oil and gas extraction industries was 49,239 in 2011, a 3% increase from 2010, due to high activities in the Haynesville shale areas.

Table 1

LOUISIANA STATE CRUDE OIL PRODUCTION Excluding OCS (Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
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	51,355,403	9,330,512	71,580,558
2002	9,783,288	43,558,030	7,664,577	61,005,894
2003	9,249,374	42,407,022	8,491,699	60,148,095
2004	8,755,584	41,804,382	7,032,177	57,592,143
2005	8,628,554	37,316,842	5,606,166	51,551,562
2006	8,405,302	36,905,015	4,655,982	49,966,299
2007	8,228,068	39,307,081	5,473,474	53,008,624
2008	8,245,198	36,616,971	3,988,829	48,850,998
2009	7,821,844 r	35,814,820 r	3,813,509 r	47,450,173 r
2010	8,021,467 r	36,631,301 r	4,661,511 r	49,314,279 r
January	755,144 r	3,045,416 r	382,144	4,182,704 r
February	690,439 r	2,781,004 r	355,462	3,826,905 r
March	796,261 r	3,267,417 r	437,875 r	4,501,553 r
April	738,691 r	3,101,932 r	387,828 r	4,228,451 r
May	805,116 r	3,186,490 r	440,023 r	4,431,629 r
June	867,404 r	2,993,722 r	441,869 r	4,302,995 r
July	910,052 r	3,098,933 r	415,499 r	4,424,484 r
August	907,492 r	3,212,124 r	408,186 r	4,527,802 r
September	896,286 r	3,136,312 r	343,480 r	4,376,078 r
October	934,076 r	3,468,062 r	439,593 r	4,841,731 r
November	943,032 r	3,330,805 r	413,013 r	4,686,850 r
December	1,016,669 r	3,343,434 r	493,527 r	4,853,630 r
2011 Total	10,260,662 r	37,965,651 r	4,958,499 r	53,184,812 r
January	1,335,776	3,220,641	467,504	5,023,921
February	1,228,453	2,991,757	428,701	4,648,911
March	1,368,153	3,303,623	430,800	5,102,576
April	1,327,090	3,208,808	429,802	4,965,700
May	1,355,171	3,466,479	438,007	5,259,657
June	1,186,971	3,354,305	411,568	4,952,844
July	1,257,003	3,510,667	490,356	5,258,026
August	1,246,402	3,116,197	412,651	4,775,250
September	1,282,887	2,866,041	255,886	4,404,814
October	1,337,709	2,991,119	334,269	4,663,096
November	1,260,301 p	3,145,492 p	378,660 p	4,784,453 p
December	1,274,945 e	3,104,022 e	372,118 e	4,751,085 e
2012 Total	15,460,861 e	38,279,151 e	4,850,322 e	58,590,333 e

e Estimated r Revised p Preliminary

Table 2

LOUISIANA STATE CONDENSATE PRODUCTION

**Excluding OCS
(Barrels)**

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
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	25,212,928	2,339,594	31,222,575
2001	3,352,988	28,003,761	1,933,594	33,290,343
2002	2,926,737	27,980,334	1,761,536	32,668,607
2003	2,789,398	25,616,633	1,850,882	30,256,912
2004	2,926,460	21,468,353	1,684,363	26,079,176
2005	3,270,729	19,685,719	1,171,950	24,128,398
2006	3,682,224	18,262,702	2,063,292	24,008,218
2007	4,193,850	18,062,445	2,117,929	24,374,224
2008	4,878,509	16,668,316	2,243,840	23,790,665
2009	4,268,649 r	15,076,284 r	2,176,661 r	21,521,594 r
2010	3,225,932 r	13,381,420 r	1,925,733 r	18,533,085 r
January	271,105 r	1,152,711 r	141,855 r	1,565,671 r
February	250,640 r	1,023,735 r	108,113 r	1,382,488 r
March	271,054 r	1,163,034 r	135,098 r	1,569,186 r
April	246,512 r	1,076,481 r	126,076 r	1,449,069 r
May	251,348 r	1,088,535 r	128,059 r	1,467,942 r
June	235,412 r	1,022,652 r	110,979 r	1,369,043 r
July	239,072 r	1,072,521 r	116,773 r	1,428,366 r
August	225,879 r	1,070,481 r	132,587 r	1,428,947 r
September	218,382 r	1,018,958 r	101,456 r	1,338,796 r
October	227,342 r	1,110,689 r	123,123 r	1,461,154 r
November	226,191 r	1,074,569 r	142,864 r	1,443,624 r
December	248,824 r	1,070,207 r	157,019 r	1,476,050 r
2011 Total	2,911,761 r	12,944,573 r	1,524,002 r	17,380,336 r
January	254,720	1,064,801	147,196	1,466,717
February	229,841	959,675	135,676	1,325,192
March	230,561	1,024,219	158,314	1,413,094
April	230,701	1,009,217	154,442	1,394,360
May	237,638	1,004,843	155,670	1,398,151
June	215,616	959,041	131,085	1,305,742
July	220,911	981,408	135,449	1,337,768
August	230,968	875,302	92,496	1,198,766
September	208,157	881,083	139,693	1,228,933
October	219,563	878,193	116,095	1,213,850
November	218,714 p	907,685 p	122,226 p	1,248,625 p
December	219,333 e	897,496 e	120,464 e	1,237,294 e
2012 Total	2,716,723 e	11,442,963 e	1,608,806 e	15,768,492 e

e Estimated r Revised p Preliminary

Table 3

LOUISIANA STATE CRUDE OIL and CONDENSATE PRODUCTION
Excluding OCS
(Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1991	27,366,301	101,809,303	17,498,281	146,673,885
1992	25,927,357	100,590,634	16,202,453	142,720,444
1993	24,176,815	97,956,877	15,596,342	137,730,034
1994	21,324,702	90,907,553	14,892,953	127,125,208
1995	20,595,093	87,613,455	17,016,027	125,224,575
1996	22,078,179	89,743,267	17,137,665	128,959,111
1997	21,829,276	88,295,426	16,030,812	126,155,514
1998	20,304,949	87,523,706	14,312,144	122,140,799
1999	16,711,501	81,260,610	12,850,588	110,822,699
2000	15,307,562	80,304,828	11,549,975	107,162,365
2001	14,274,475	79,328,486	11,264,058	104,867,019
2002	12,726,261	71,523,765	9,440,089	93,690,115
2003	12,049,211	67,975,624	10,349,488	90,374,323
2004	11,696,648	63,270,406	8,725,050	83,692,104
2005	11,909,370	56,993,657	6,782,960	75,685,987
2006	12,101,998	55,150,979	6,717,312	73,970,289
2007	12,427,647 r	57,353,465 r	7,595,386 r	77,376,498 r
2008	13,103,021 r	53,214,294 r	6,282,040 r	72,599,355 r
2009	12,090,493 r	50,891,104 r	5,990,170 r	68,971,767 r
2010	11,247,399 r	50,012,721 r	6,587,244 r	67,847,364 r
January	1,026,249 r	4,198,127 r	523,999 r	5,748,375 r
February	941,079 r	3,804,739 r	463,575 r	5,209,393 r
March	1,067,315 r	4,430,451 r	572,973 r	6,070,739 r
April	985,203 r	4,178,413 r	513,904 r	5,677,520 r
May	1,056,464 r	4,275,025 r	568,082 r	5,899,571 r
June	1,102,816 r	4,016,374 r	552,848 r	5,672,038 r
July	1,149,124 r	4,171,454 r	532,272 r	5,852,850 r
August	1,133,371 r	4,282,605 r	540,773 r	5,956,749 r
September	1,114,668 r	4,155,270 r	444,936 r	5,714,874 r
October	1,161,418 r	4,578,751 r	562,716 r	6,302,885 r
November	1,169,223 r	4,405,374 r	555,877 r	6,130,474 r
December	1,265,493 r	4,413,641 r	650,546 r	6,329,680 r
2011 Total	13,172,423 r	50,910,224 r	6,482,501 r	70,565,148 r
January	1,590,496	4,285,442	614,700	6,490,638
February	1,458,294	3,951,432	564,377	5,974,103
March	1,598,714	4,327,842	589,114	6,515,670
April	1,557,791	4,218,025	584,244	6,360,060
May	1,592,809	4,471,322	593,677	6,657,808
June	1,402,587	4,313,346	542,653	6,258,586
July	1,477,914	4,492,075	625,805	6,595,794
August	1,477,370	3,991,499	505,147	5,974,016
September	1,491,044	3,747,124	395,579	5,633,747
October	1,557,271	3,869,312	450,363	5,876,946
November	1,479,015 p	4,053,177 p	500,886 p	6,033,079 p
December	1,494,278 e	4,001,518 e	492,583 e	5,988,379 e
2012 Total	18,177,583 e	49,722,114 e	6,459,128 e	74,358,825 e

e Estimated r Revised p Preliminary

Figure 1

LOUISIANA STATE OIL PRODUCTION Actual and Forecasted Through Year 2030

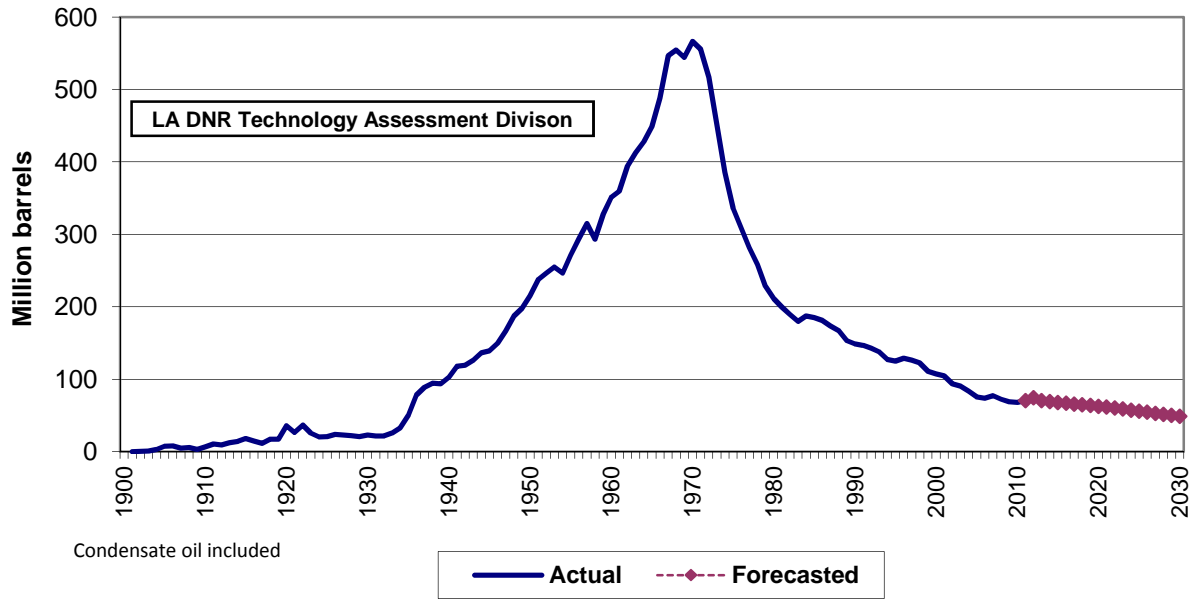
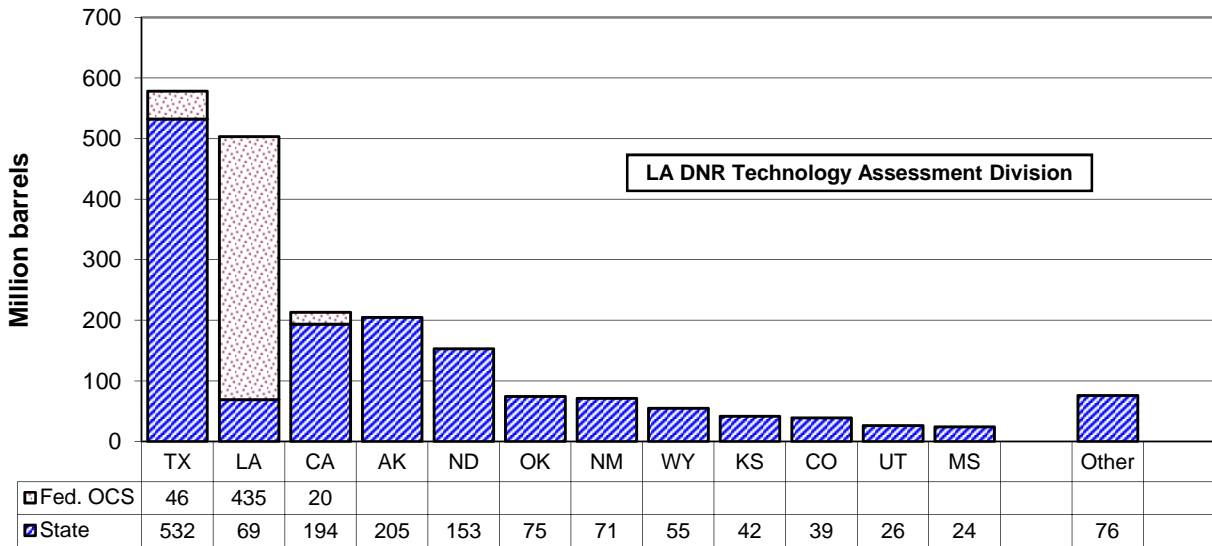


Figure 2

2011 UNITED STATES OIL PRODUCTION BY STATE



Federal OCS production estimated

Table 4

LOUISIANA TOTAL CRUDE OIL and CONDENSATE PRODUCTION (Barrels)

DATE	ONSHORE	OFFSHORE		TOTAL
		State	Federal OCS	
1991	122,492,061	24,183,350	262,647,733	409,323,144
1992	119,379,190	23,421,386	288,918,208	431,718,784
1993	114,666,029	23,222,089	293,443,881	431,331,999
1994	104,464,211	22,660,730	293,077,191	420,202,132
1995	102,907,063	22,318,172	320,255,087	445,480,322
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	13,471,159	477,645,662	584,831,281
2001	93,606,795	11,264,106	502,115,031	606,985,932
2002	84,248,389	9,426,112	508,630,349	602,304,850
2003	80,062,426	10,342,581	505,203,116	595,608,123
2004	74,954,779	8,716,540	477,182,586 e	560,853,905
2005	68,901,844	6,778,116	407,154,253 e	482,834,213 e
2006	67,255,244	6,719,273	419,555,392 e	493,529,909 e
2007	69,781,112 r	7,595,386 r	427,033,161 e	504,409,659 er
2008	66,317,315 r	6,282,040 r	385,638,041 e	458,237,396 er
2009	62,981,597 r	5,990,170 r	528,205,742 er	597,177,509 er
2010	61,260,120 r	6,587,244 r	520,546,617 er	588,393,981 er
January	5,224,376 r	523,999 r	44,114,499 er	49,862,874 er
February	4,745,818 r	463,575 r	35,945,082 er	41,154,475 er
March	5,497,766 r	572,973 r	39,286,492 er	45,357,231 er
April	5,163,616 r	513,904 r	36,617,078 er	42,294,598 er
May	5,331,489 r	568,082 r	38,238,959 er	44,138,530 er
June	5,119,190 r	552,848 r	35,918,236 er	41,590,274 er
July	5,320,578 r	532,272 r	33,841,660 er	39,694,510 er
August	5,415,976 r	540,773 r	35,378,400 er	41,335,149 er
September	5,269,938 r	444,936 r	29,561,317 er	35,276,191 er
October	5,740,169 r	562,716 r	36,700,401 er	43,003,286 er
November	5,574,597 r	555,877 r	34,436,136 er	40,566,610 er
December	5,679,134 r	650,546 r	34,676,755 er	41,006,435 er
2011 Total	64,082,647 r	6,482,501 r	434,715,015 er	505,280,163 er
January	5,875,938	614,700	35,918,033 e	42,408,671 e
February	5,409,726	564,377	34,002,685 e	39,976,788 e
March	5,926,556	589,114	37,726,539 e	44,242,209 e
April	5,775,816	584,244	32,858,592 e	39,218,652 e
May	6,064,131	593,677	31,711,314 e	38,369,122 e
June	5,715,933	542,653	28,785,423 e	35,044,009 e
July	5,969,989	625,805	35,052,060 e	41,647,854 e
August	5,468,869	505,147	29,896,067 e	35,870,083 e
September	5,238,168	395,579	30,025,514 e	35,659,261 e
October	5,426,583	450,363	32,613,658 e	38,490,603 e
November	5,532,193 e	500,886 e	N/A	6,033,079 e
December	5,495,796 e	492,583 e	N/A	5,988,379 e
2012 Total	67,899,698 e	6,459,128 e	328,589,884 e	402,948,709 e

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Table 5

LOUISIANA STATE OIL PRODUCTION* BY TAX RATES AS PUBLISHED IN SEVERANCE TAX REPORTS⁸ (Barrels)

DATE	FULL RATE	INCAPABLE WELLS RATE	STRIPPER WELLS RATE	TAXED VOLUME
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
2008	61,520,109	2,564,615	4,974,960	69,059,684
2009	55,212,475	1,927,478	4,364,995	61,504,949
2010	52,998,554	2,144,740	4,315,681	59,458,975
January	4,620,085	192,347	406,910	5,219,341
February	4,305,997	220,389	418,165	4,944,551
March	4,496,984	176,888	384,250	5,058,123
April	4,336,873	184,340	323,675	4,844,888
May	3,875,538	307,431	482,622	4,665,590
June	4,495,616	210,138	426,867	5,132,621
July	4,354,321	155,232	409,169	4,918,722
August	3,763,959	162,189	362,309	4,288,458
September	4,294,281	193,391	402,904	4,890,576
October	4,166,955	174,563	395,033	4,736,551
November	4,200,265	177,055	364,674	4,741,994
December	4,141,487	206,143	387,947	4,735,577
2011 Total	51,052,360	2,360,106	4,764,525	58,176,991
January	4,565,605	201,135	404,491	5,171,230
February	3,546,333	174,654	479,022	4,200,009
March	4,780,797	204,977	414,662	5,400,436
April	4,042,927	151,103	357,969	4,551,999
May	4,789,347	189,482	481,799	5,460,628
June	4,475,901	199,101	425,302	5,100,304
July	4,631,765	207,212	433,449	5,272,426
August	3,934,382	183,567	355,189	4,473,137
September	4,688,381	196,382	434,126	5,318,889
October	3,994,946	191,730	424,733	4,611,409
November	4,021,060	207,720	468,278	4,697,058
December	4,581,557	212,193	438,571	5,232,321
2012 Total	52,052,999	2,319,256	5,117,590	59,489,845

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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

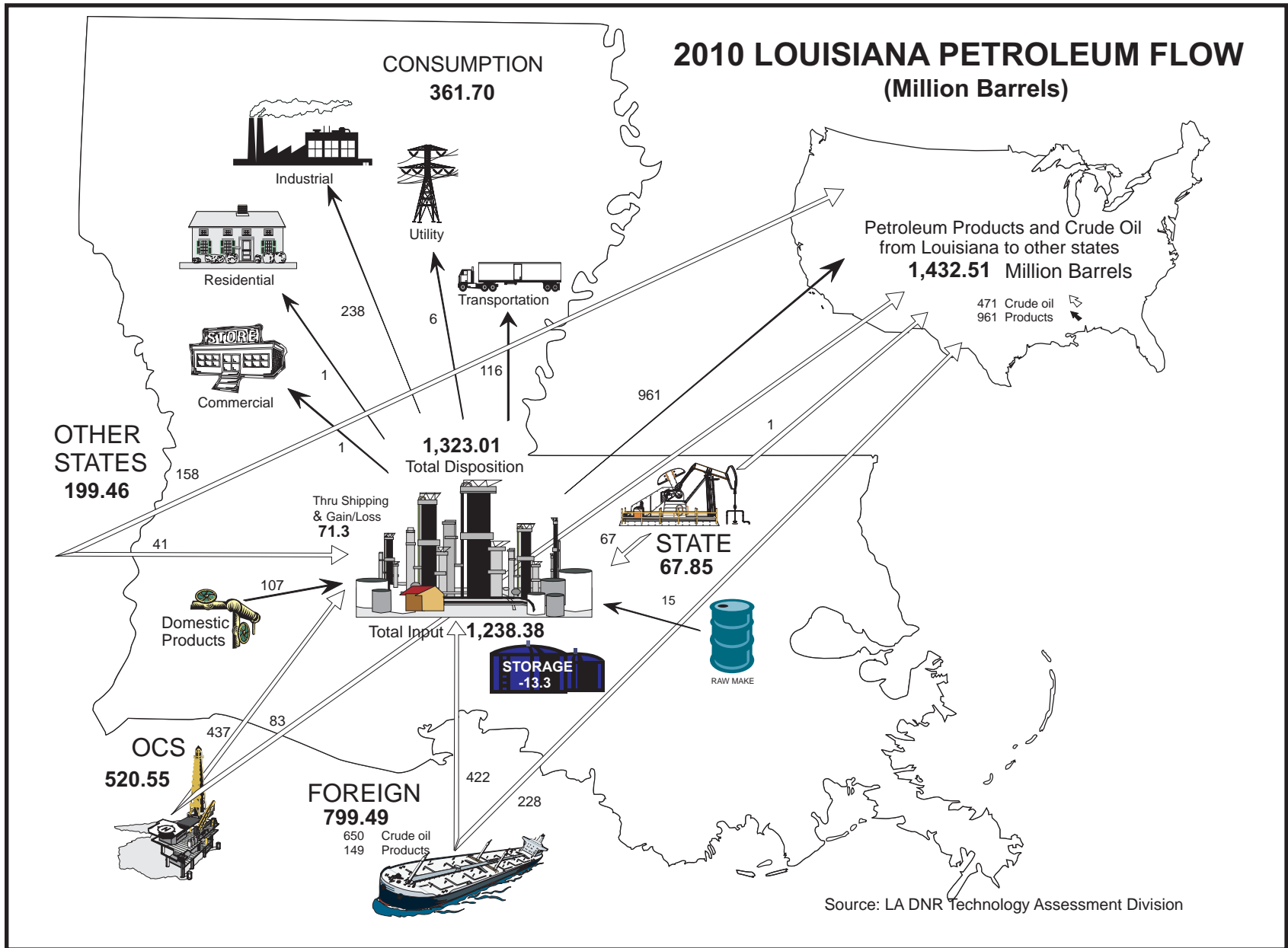


Table 6**UNITED STATES OCS CRUDE OIL AND CONDENSATE PRODUCTION¹²**
(Barrels)

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
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
2004	447,625,460	86,932,724	27,052,000	561,629,979
2005	327,825,527	74,791,038	26,554,000	429,172,427
2006	393,445,174	76,794,758	26,113,000	496,352,933
2007	407,038,554	59,225,206	24,599,000	490,878,085
2008	371,922,492	48,984,103	24,145,000	445,092,125
2009	514,730,687	52,407,408	21,900,000 r	589,096,991 r
2010	507,418,273 r	52,110,604 r	21,702,000 r	581,267,406 r
2011	420,580,354	57,622,995	20,048,000	498,271,108

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 ⁷	DOMESTIC PRODUCTION ⁷	IMPORTS TOTAL ⁷	IMPORTS SPR ⁷
1991	323,274	2,707,205	2,110,532	0
1992	335,258	2,617,998	2,226,341	3,594
1993	349,179	2,495,933	2,477,230	5,367
1994	365,107	2,418,981	2,578,072	4,485
1995	408,872	2,383,404	2,638,810	0
1996	431,807	2,368,535	2,747,839	0
1997	446,857	2,339,981	3,002,299	0
1998	490,777	2,293,763	3,177,584	0
1999	515,782	2,162,752	3,186,663	3,041
2000	557,989	2,130,706	3,319,816	3,006
2001	588,855	2,117,512	3,404,894	3,912
2002	596,605	2,097,124	3,336,175	5,767
2003	590,444	2,073,454	3,527,696	0
2004	561,610	1,983,300	3,692,063	0
2005	494,332	1,890,107	3,695,971	18,889
2006	497,994 r	1,862,259	3,693,081	3,086
2007	492,547 r	1,848,450	3,661,404	2,703
2008	447,258 r	1,811,816	3,580,694	7,113
2009	592,544 r	1,956,596	3,289,675	20,368
2010	587,675 r	1,999,731 r	3,362,856	0
January	50,017 r	170,664 r	284,678 r	0
February	40,995 r	151,722 r	229,140 r	0
March	44,773 r	173,265 r	284,677 r	0
April	42,064 r	166,148 r	265,167 r	0
May	44,272 r	173,546 r	280,840 r	0
June	41,441 r	167,001 r	277,050 r	0
July	39,289 r	168,071 r	287,563 r	0
August	41,088 r	174,912 r	277,006 r	0
September	34,361 r	167,846 r	267,410 r	0
October	41,709 r	182,429 r	276,125 r	0
November	39,832 r	180,559 r	261,729 r	0
December	40,549 r	186,802 r	270,037 r	0
2011 Total	500,390 r	2,062,965 r	3,261,422 r	0
January	42,284	190,454	265,739	0
February	39,899	180,349	248,173	0
March	43,382	194,688	271,767	0
April	38,962	188,368	257,744	0
May	38,594	195,416	276,173	0
June	35,096	187,033	273,024	0
July	40,608	197,056	266,786	0
August	36,300	194,786	267,560	0
September	36,673	194,509	251,264	0
October	42,929	211,434	250,835	0
November	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A
2012 Total	394,727	1,934,093	2,629,065	0

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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)
1991	6,923,565	61,809,109	933,307
1992	6,837,552	57,911,258	1,689,942
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
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	34,454,802	1,101,153
2006	3,611,971 r	40,978,902 r	1,399,577 r
2007	4,554,260 r	43,242,493 r	1,416,364 r
2008	4,301,480 r	44,210,090 r	1,482,867 r
2009	4,094,544 r	41,624,043 r	721,985 r
2010	3,912,746 r	37,340,522 r	4,791,949 r
January	276,392 r	3,450,765 r	503,259 r
February	307,793 r	3,209,990 r	443,905 r
March	337,006 r	3,731,080 r	456,624 r
April	319,511 r	3,636,653 r	519,170 r
May	330,640 r	3,447,559 r	484,419 r
June	312,459 r	3,302,763 r	466,237 r
July	316,943 r	3,498,184 r	508,141 r
August	344,002 r	3,622,818 r	484,896 r
September	297,346 r	3,263,454 r	377,233 r
October	346,565 r	3,642,880 r	457,642 r
November	339,057 r	3,543,948 r	438,132 r
December	350,738 r	3,691,916 r	375,817 r
2011 Total	3,878,453 r	42,042,011 r	5,515,474 r
January	350,044	3,584,364	349,869
February	303,954	3,339,799	396,508
March	333,129	3,621,458	464,847
April	332,103	3,538,500	378,658
May	337,860	3,566,793	452,085
June	320,582	3,546,929	413,966
July	351,609	3,724,024	419,193
August	284,779	3,176,157	361,633
September	249,785	3,387,552	350,419
October	332,591	N/A	N/A
November	N/A	N/A	N/A
December	N/A	N/A	N/A
2012 Total	3,196,435	31,485,577	3,587,177

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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
1991	353,306,368	1,053,556,868	98,562,669	1,505,425,905
1992	347,457,229	1,027,264,984	95,668,773	1,470,390,986
1993	337,285,840	1,000,882,139	106,161,644	1,444,329,623
1994	334,991,404	963,252,221	111,049,367	1,409,292,992
1995	348,385,615	942,253,430	117,647,934	1,408,286,979
1996	390,027,306	968,846,558	142,807,837	1,501,681,701
1997	406,306,877	900,334,348	143,913,520	1,450,554,745
1998	386,628,112	891,315,044	127,056,460	1,404,999,616
1999	355,536,417	858,338,237	100,525,024	1,314,399,678
2000	358,193,670	880,522,742	94,251,610	1,332,968,022
2001	370,998,160	903,068,572	97,208,445	1,371,275,177
2002	370,358,148	803,816,704	87,069,617	1,261,244,469
2003	401,217,674	779,381,241	72,327,053	1,252,925,968
2004	462,100,053	741,913,556	59,881,419	1,263,895,028
2005	526,863,613	645,073,330	46,609,741	1,218,546,684
2006	562,603,788	659,253,087	62,090,849	1,283,947,724
2007	603,091,131	611,343,569	65,570,627	1,280,005,327
2008	677,228,483	542,367,086	79,879,793	1,299,475,362
2009	954,044,041	445,943,541	70,848,164	1,470,835,746
2010	1,689,192,405 r	361,785,165 r	62,202,958 r	2,113,180,528 r
January	180,367,482 r	29,665,421 r	5,525,809 r	215,558,712 r
February	168,669,053 r	26,591,229 r	5,047,090 r	200,307,372 r
March	200,741,901 r	29,848,422 r	5,760,377 r	236,350,700 r
April	199,406,595 r	28,716,168 r	5,242,642 r	233,365,405 r
May	211,983,664 r	29,102,363 r	5,416,387 r	246,502,414 r
June	202,161,661 r	27,967,068 r	4,970,737 r	235,099,466 r
July	213,411,144 r	29,809,549 r	5,062,230 r	248,282,923 r
August	221,826,345 r	29,693,554 r	5,495,495 r	257,015,394 r
September	221,400,908 r	27,284,579 r	4,705,448 r	253,390,935 r
October	229,259,564 r	29,345,365 r	4,993,218 r	263,598,147 r
November	226,840,620 r	27,918,050 r	5,255,938 r	260,014,608 r
December	230,192,061 r	28,249,117 r	5,707,009 r	264,148,187 r
2011 Total	2,506,260,998 r	344,190,885 r	63,182,380 r	2,913,634,263 r
January	227,420,864	27,794,619	5,381,870	260,597,353
February	200,230,506	25,542,870	5,436,894	231,210,270
March	212,328,043	26,970,620	6,452,796	245,751,459
April	201,109,669	26,540,981	6,527,558	234,178,208
May	210,915,722	26,814,685	6,373,254	244,103,661
June	212,272,282	25,943,675	6,223,535	244,439,492
July	220,593,018	27,152,835	6,107,731	253,853,584
August	219,640,715	24,403,213	4,709,605	248,753,533
September	206,565,843	24,302,093	5,736,711	236,604,647
October	213,103,279	24,365,927	5,317,650	242,786,856
November	214,113,375 p	25,031,680 p	5,585,332 p	244,730,387 p
December	214,481,041 e	24,850,740 e	5,458,457 e	244,790,239 e
2012 Total	2,552,774,357 e	309,713,939 e	69,311,394 e	2,931,799,689 e

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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
1991	33,434,906	102,249,162	15,933,292	151,617,360
1992	25,980,476	137,859,672	18,335,536	182,175,684
1993	23,009,433	136,674,314	17,880,673	177,564,420
1994	19,873,183	105,685,162	17,346,385	142,904,730
1995	18,829,476	104,638,062	18,858,344	142,325,882
1996	25,253,140	95,560,699	16,692,314	137,506,153
1997	35,537,210	107,984,665	17,042,997	160,564,872
1998	42,629,820	117,397,217	17,264,409	177,291,446
1999	29,943,303	99,043,293	15,304,875	144,291,471
2000	23,214,008	98,062,634	13,295,103	134,571,745
2001	19,843,912	90,200,751	14,001,877	124,046,540
2002	16,711,388	72,739,365	11,166,555	100,617,308
2003	15,270,654	65,328,195	11,086,256	91,685,105
2004	13,325,138	64,252,316	8,252,738	85,830,192
2005	11,006,284	48,525,678	6,876,708	66,408,670
2006	9,217,910	51,561,634	5,183,113	65,962,657
2007	8,385,311	60,946,975	5,841,867	75,174,153
2008	7,729,253	48,663,524	4,055,693	60,448,470
2009	7,120,784	45,768,516	4,026,917	56,916,217
2010	6,811,053 r	48,880,537 r	6,179,065 r	61,870,655 r
January	591,546 r	4,179,743 r	387,989 r	5,159,278 r
February	512,344 r	3,836,536 r	376,521 r	4,725,401 r
March	590,735 r	4,632,119 r	519,074 r	5,741,928 r
April	554,671 r	4,322,058 r	449,473 r	5,326,202 r
May	582,551 r	4,368,585 r	457,669 r	5,408,805 r
June	568,129 r	4,200,285 r	473,020 r	5,241,434 r
July	590,827 r	4,397,725 r	586,691 r	5,575,243 r
August	604,891 r	4,424,931 r	580,137 r	5,609,959 r
September	557,532 r	4,151,390 r	638,109 r	5,347,031 r
October	560,287 r	4,890,749 r	728,675 r	6,179,711 r
November	610,069 r	4,998,236 r	665,554 r	6,273,859 r
December	679,985 r	5,110,125 r	781,983 r	6,572,093 r
2011 Total	7,003,567 r	53,512,482 r	6,644,895 r	67,160,944 r
January	693,005	4,554,820	721,911	5,969,736
February	623,226	4,187,270	564,112	5,374,608
March	616,532	4,487,522	476,494	5,580,548
April	634,059	4,506,275	389,189	5,529,523
May	612,301	4,884,509	426,256	5,923,066
June	556,013	4,533,553	432,882	5,522,448
July	533,718	4,540,805	387,832	5,462,355
August	588,207	4,036,626	335,838	4,960,671
September	562,302	3,581,985	231,491	4,375,778
October	693,570	3,535,302	206,666	4,435,538
November	585,882 p	4,013,289 p	317,028 p	4,916,199 p
December	591,847 e	3,910,069 e	293,996 e	4,795,912 e
2012 Total	7,290,662 e	50,772,025 e	4,783,696 e	62,846,382 e

e Estimated r Revised p Preliminary

Figure 4

LOUISIANA STATE GAS PRODUCTION Actual and Forecasted Through Year 2030

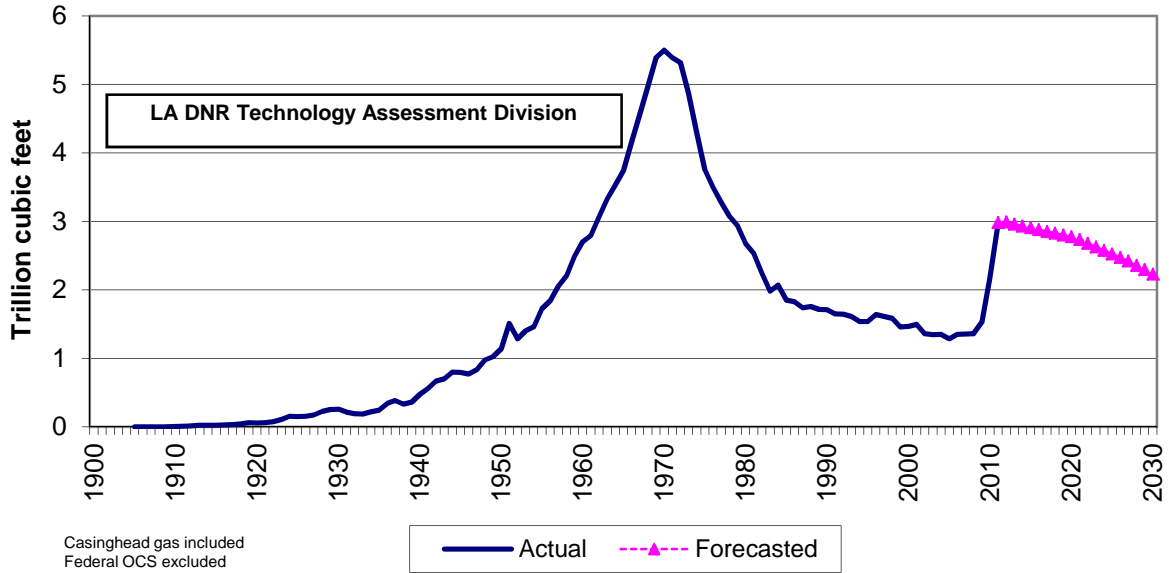
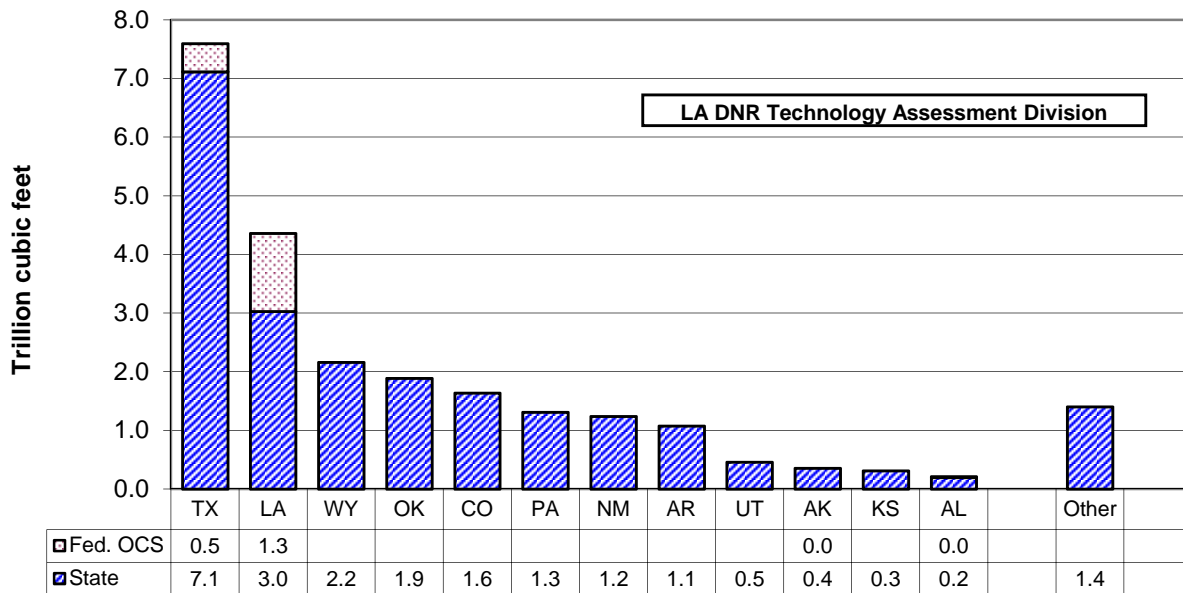


Figure 5

2011 UNITED STATES MARKETED GAS PRODUCTION BY STATE



Federal OCS Production estimated

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
1991	386,741,274	1,155,806,030	114,495,961	1,657,043,265
1992	373,437,705	1,165,124,656	114,004,309	1,652,566,670
1993	360,295,273	1,137,556,453	124,042,317	1,621,894,043
1994	354,864,587	1,068,937,383	128,395,752	1,552,197,722
1995	367,215,091	1,046,891,492	136,506,278	1,550,612,861
1996	415,280,446	1,064,407,257	159,500,151	1,639,187,854
1997	441,844,087	1,008,319,013	160,956,517	1,611,119,617
1998	429,257,932	1,008,712,261	144,320,869	1,582,291,062
1999	385,479,720	957,381,530	115,829,899	1,458,691,149
2000	381,407,678	978,585,376	107,546,713	1,467,539,767
2001	390,842,072	993,269,323	111,210,322	1,495,321,717
2002	387,069,536	876,556,069	98,236,172	1,361,861,777
2003	416,488,328	844,709,436	83,413,309	1,344,611,073
2004	475,425,191	806,165,872	68,134,157	1,349,725,220
2005	537,869,897	693,599,008	53,486,449	1,284,955,354
2006	571,821,698	710,814,721	67,273,962	1,349,910,381
2007	611,476,442	672,290,544	71,412,494	1,355,179,480
2008	684,116,465 r	591,384,645 r	83,936,258 r	1,359,437,368 r
2009	961,272,181 r	492,295,157 r	74,861,501 r	1,528,428,839 r
2010	1,696,003,458 r	410,665,702 r	68,382,023 r	2,175,051,183 r
January	180,959,028 r	33,845,164 r	5,913,798 r	220,717,990 r
February	169,181,397 r	30,427,765 r	5,423,611 r	205,032,773 r
March	201,332,636 r	34,480,541 r	6,279,451 r	242,092,628 r
April	199,961,266 r	33,038,226 r	5,692,115 r	238,691,607 r
May	212,566,215 r	33,470,948 r	5,874,056 r	251,911,219 r
June	202,729,790 r	32,167,353 r	5,443,757 r	240,340,900 r
July	214,001,971 r	34,207,274 r	5,648,921 r	253,858,166 r
August	222,431,236 r	34,118,485 r	6,075,632 r	262,625,353 r
September	221,958,440 r	31,435,969 r	5,343,557 r	258,737,966 r
October	229,819,851 r	34,236,114 r	5,721,893 r	269,777,858 r
November	227,450,689 r	32,916,286 r	5,921,492 r	266,288,467 r
December	230,872,046 r	33,359,242 r	6,488,992 r	270,720,280 r
2011 Total	2,513,264,565 r	397,703,367 r	69,827,275 r	2,980,795,207 r
January	228,113,869	32,349,439	6,103,781	266,567,089
February	200,853,732	29,730,140	6,001,006	236,584,878
March	212,944,575	31,458,142	6,929,290	251,332,007
April	201,743,728	31,047,256	6,916,747	239,707,731
May	211,528,023	31,699,194	6,799,510	250,026,727
June	212,828,295	30,477,228	6,656,417	249,961,940
July	221,126,736	31,693,640	6,495,563	259,315,939
August	220,228,922	28,439,839	5,045,443	253,714,204
September	207,128,145	27,884,078	5,968,202	240,980,425
October	213,796,849	27,901,229	5,524,316	247,222,394
November	214,699,257 p	29,044,969 p	5,902,360 p	249,646,586 p
December	215,072,888 e	28,760,809 e	5,752,454 e	249,586,151 e
2012 Total	2,560,065,018 e	360,485,963 e	74,095,089 e	2,994,646,071 e

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	
1991	1,542,547,304	114,495,961	3,225,373,562	4,882,416,827
1992	1,538,562,361	114,004,309	3,272,561,370	4,925,128,040
1993	1,497,851,726	124,042,317	3,320,312,261	4,942,206,304
1994	1,423,801,970	128,395,752	3,423,837,064	4,976,034,786
1995	1,414,106,583	136,506,278	3,564,677,663	5,115,290,524
1996	1,479,687,703	159,500,151	3,709,198,609	5,348,386,463
1997	1,450,163,100	160,956,517	3,825,354,038	5,436,473,655
1998	1,437,970,193	144,320,869	3,814,583,541	5,396,874,603
1999	1,342,861,250	115,829,899	3,836,619,562	5,295,310,711
2000	1,359,993,054	107,546,713	3,761,812,062	5,229,351,829
2001	1,384,111,395	111,210,322	3,818,657,416	5,313,979,133
2002	1,263,625,605	98,236,172	3,457,864,868	4,819,726,645
2003	1,261,197,764	83,413,309	3,276,387,510 e	4,620,998,583 e
2004	1,281,591,063	68,134,157	2,840,552,489 e	4,190,277,709 e
2005	1,231,468,905	53,486,449	2,185,591,643 e	3,470,546,997 e
2006	1,282,636,419	67,273,962	2,048,437,877 e	3,398,348,258 e
2007	1,283,766,986	71,412,494	2,022,058,582 e r	3,377,238,062 e r
2008	1,275,501,110 r	83,936,258 r	1,644,624,969 e	3,004,062,337 e r
2009	1,453,567,338 r	74,861,501 r	1,727,190,594 e	3,255,619,433 e r
2010	2,106,669,160 r	68,382,023 r	1,636,195,866 e r	3,811,247,049 e r
January	214,804,192 r	5,913,798 r	130,812,086 e r	351,530,076 e r
February	199,609,162 r	5,423,611 r	111,616,527 e r	316,649,300 e r
March	235,813,177 r	6,279,451 r	122,909,319 e r	365,001,947 e r
April	232,999,492 r	5,692,115 r	117,048,367 e r	355,739,974 e r
May	246,037,163 r	5,874,056 r	118,659,356 e r	370,570,575 e r
June	234,897,143 r	5,443,757 r	110,094,170 e r	350,435,070 e r
July	248,209,245 r	5,648,921 r	109,681,495 e r	363,539,661 e r
August	256,549,721 r	6,075,632 r	107,338,842 e r	369,964,195 e r
September	253,394,409 r	5,343,557 r	89,324,550 e r	348,062,516 e r
October	264,055,965 r	5,721,893 r	104,866,922 e r	374,644,780 e r
November	260,366,975 r	5,921,492 r	100,809,413 e r	367,097,880 e r
December	264,231,288 r	6,488,992 r	104,743,115 e r	375,463,395 e r
2011 Total	2,910,967,932 r	69,827,275 r	1,327,904,164 e r	4,308,699,371 e r
January	260,463,308	6,103,781	103,335,781 e	369,902,870 e
February	230,583,872	6,001,006	94,999,663 e	331,584,541 e
March	244,402,717	6,929,290	102,732,168 e	354,064,175 e
April	232,790,984	6,916,747	94,515,284 e	334,223,015 e
May	243,227,217	6,799,510	91,112,929 e	341,139,656 e
June	243,305,523	6,656,417	84,712,235 e	334,674,175 e
July	252,820,376	6,495,563	95,774,216 e	355,090,155 e
August	248,668,761	5,045,443	79,690,801 e	333,405,005 e
September	235,012,223	5,968,202	77,599,604 e	318,580,029 e
October	241,698,078	5,524,316	82,068,482 e	329,290,876 e
November	243,744,226 p	5,902,360 p	86,725,750 e	336,372,337 e
December	243,833,697 e	5,752,454 e	84,354,873 e	333,941,024 e
2012 Total	2,920,550,982 e	74,095,089 e	1,077,621,786 e	4,072,267,856 e

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)*

DATE	MARKETED			EXTRACTION LOSS ³	DRY ³
	State	OCS	Total ³		
1970	5,429 e	2,206 ¹²	7,788	189	7,446
1971	5,367 e	2,556 ¹²	8,082	191	7,732
1972	5,020 e	2,797 ¹²	7,973	194	7,622
1973	5,115 e	2,966 ¹²	8,242	203	7,878
1974	4,351 e	3,251 ¹²	7,754	191	7,411
1975	3,717 e	3,234 ¹²	7,091	186	6,766
1976	3,472 e	3,397 ¹²	7,007	169	6,700
1977	3,533 e	3,540 ¹²	7,215	163	6,910
1978	3,302 e	4,028 ¹²	7,476	158	7,171
1979	3,087 e	4,036 ¹²	7,266	162	6,961
1980	2,908 e	3,896 ¹²	6,940	139	6,664
1981	2,661 e	3,986 ¹²	6,780	140	6,507
1982	2,359 e	3,692 ¹²	6,172	126	5,924
1983	2,147 e	3,080 ¹²	5,332	122	5,106
1984	2,237 e	3,473 ¹²	5,825	130	5,581
1985	1,890 e	3,025 ¹²	5,014	115	4,800
1986	1,958 e	2,842 ¹²	4,895	113	4,686
1987	1,935 e	3,086 ¹²	5,123	122	4,899
1988	2,073 e	3,006 ¹²	5,180	118	4,961
1989	2,060 e	2,918 ¹²	5,078	119	4,859
1990	1,542 e	3,597 ¹²	5,242	117	5,022
1991	1,841 e	3,193 ¹²	5,034	127	4,809
1992	1,713 e	3,201	4,914	130	4,688
1993	1,740 e	3,252	4,991	128	4,765
1994	1,759 e	3,410	5,170	126	4,942
1995	1,750 e	3,358	5,108	143	4,865
1996	1,700 e	3,590	5,290	137	5,049
1997	1,505	3,725	5,230	144	4,882
1998	1,552	3,725	5,277	139	4,933
1999	1,567	3,645	5,212	158	4,912
2000	1,455	3,576	5,031	165	4,928
2001	1,502	3,627 e	5,129 e	153 e	4,976 e
2002	1,362	3,260 e	4,622 e	157 e	4,465 e
2003	1,350	3,085 e	4,436 e	125 e	4,311 e
2004	1,353	2,646 e	3,999 e	133 e	3,865 e
2005	1,296	2,037 e	3,333 e	103 e	3,230 e
2006	1,361	1,951 e	3,312 e	105 e	3,207 e
2007	1,365	1,915 e	3,280 e	111 e	3,169 e
2008	1,378	1,579 e	2,957 e	114 e	2,844 e
2009	1,549	1,667 e	3,216 e	124 e	3,092 e
2010	2,210	1,590 e	3,800 e	129 e	3,671 e
2011	3,050	1,317 e	4,367 e	103 e	4,263 e

e Estimated r Revised p Preliminary

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

Figure 6

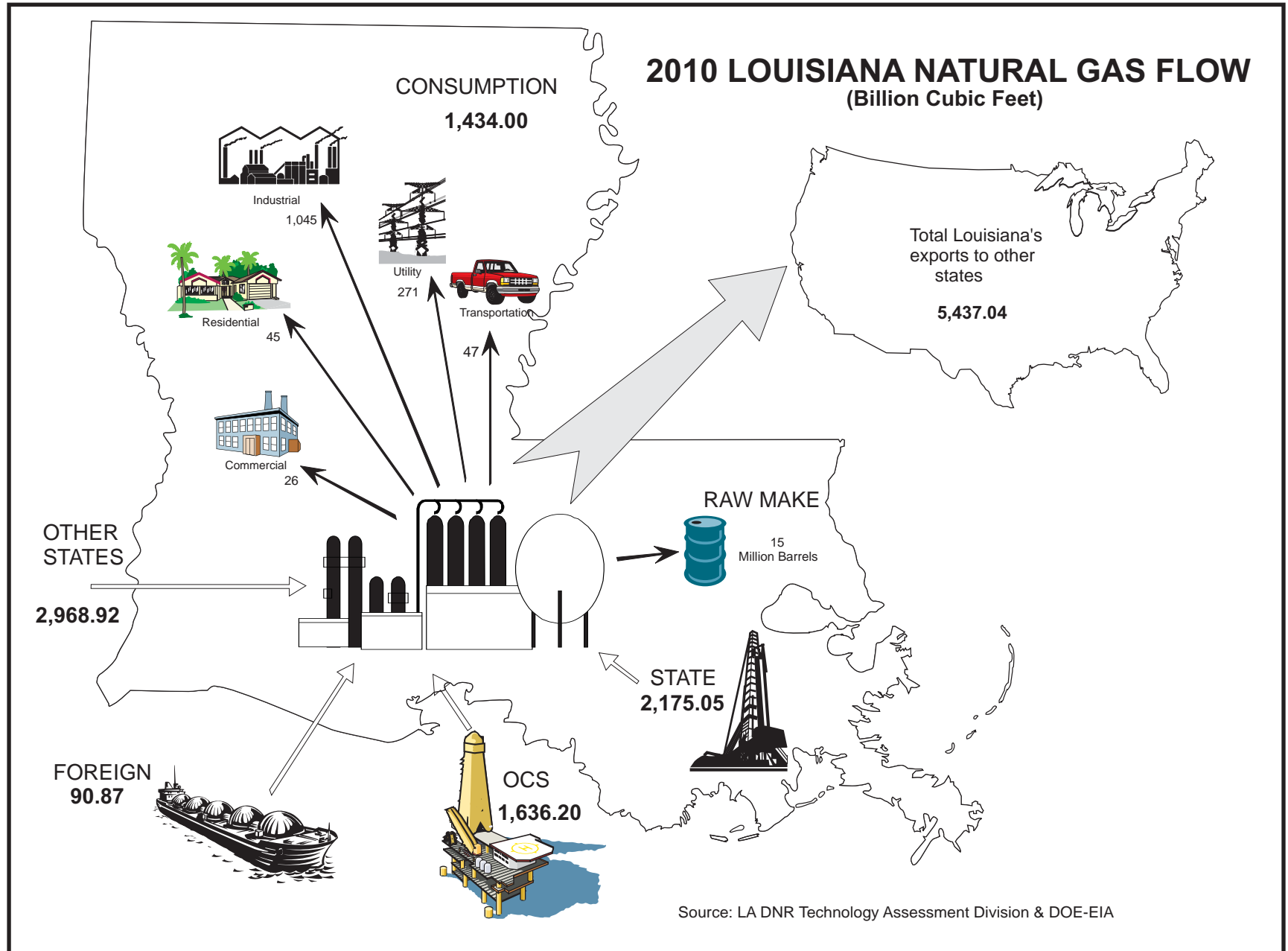


Table 14

LOUISIANA STATE GAS PRODUCTION BY TAX RATES

AS PUBLISHED IN SEVERANCE TAX REPORTS⁸

(MCF at 15.025psia and 60 degrees Fahrenheit)

DATE	FULL RATE	INCAPABLE GAS WELLS RATE	OTHER RATES	TAXED VOLUME
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
2008	1,044,876,723	137,853,642	6,398,792	1,189,129,157
2009	994,356,639	168,793,831	4,489,808	1,167,640,278
2010	874,590,391	177,946,449	7,737,200	1,060,274,040
January	-33,714,269	15,229,812	568,196	-17,916,261
February	71,359,589	15,230,729	820,199	87,410,517
March	41,556,939	15,529,484	994,617	58,081,040
April	38,721,356	14,475,551	804,172	54,001,079
May	105,731,462	15,845,714	629,220	122,206,396
June	82,161,344	15,219,394	772,943	98,153,681
July	62,374,120	15,475,308	778,477	78,627,905
August	61,212,583	14,743,331	760,488	76,716,402
September	45,796,243	12,679,941	673,018	59,149,202
October	72,359,652	16,669,095	800,577	89,829,324
November	90,025,846	15,161,240	877,740	106,064,826
December	91,657,500	13,211,526	771,700	105,640,726
2011 Total	729,242,365	179,471,125	9,251,347	917,964,837
January	77,899,567	17,164,101	511,653	95,575,321
February	103,164,175	14,817,578	356,483	118,338,236
March	57,345,517	14,604,192	351,233	72,300,942
April	39,904,320	14,061,217	529,303	54,494,840
May	94,352,970	14,399,807	585,375	109,338,152
June	104,016,119	14,413,685	581,259	119,011,063
July	95,116,546	14,785,776	570,826	110,473,148
August	69,015,147	13,827,521	722,224	83,564,892
September	50,753,489	15,176,791	583,749	66,514,029
October	88,997,554	14,917,412	646,082	104,561,048
November	22,650,826	14,048,976	540,035	37,239,837
December	51,692,534	14,361,298	677,532	66,731,364
2012 Total	854,908,764	176,578,354	6,655,754	1,038,142,872

e Estimated r Revised p Preliminary

See footnote in Appendix B.

Table 15

UNITED STATES OCS GAS PRODUCTION¹²
Natural Gas and Casinghead Gas
(MCF at 15.025 psia and 60 degrees Fahrenheit)*

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
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	5,417,963	3,666,552,825
1978	4,068,255,571	227,305,175	5,166,292	4,300,727,039
1979	4,076,873,552	501,546,069	5,431,822	4,583,851,442
1980	3,934,902,550	612,378,333	5,900,023	4,553,180,906
1981	4,025,867,929	715,937,640	12,763,307	4,754,568,877
1982	3,729,057,653	841,173,981	17,751,924	4,587,983,558
1983	3,111,576,348	834,112,318	24,168,292	3,969,856,958
1984	3,508,475,799	913,008,621	46,363,899	4,467,848,319
1985	3,055,687,773	818,533,627	64,558,213	3,938,779,613
1986	2,870,347,386	959,161,285	59,078,021	3,888,586,692
1987	3,117,669,167	1,180,839,487	54,805,158	4,353,313,812
1988	3,036,077,646	1,155,285,485	49,167,638	4,240,530,769
1989	2,947,545,132	1,142,237,197	50,791,912	4,140,574,242
1990	3,633,554,307	1,321,607,333	49,972,764	5,005,134,404
1991	3,225,373,562	1,161,671,524	51,855,577	4,438,900,663
1992	3,272,561,370	1,215,055,449	55,231,660	4,608,807,577
1993	3,320,312,261	1,007,755,289	52,150,277	4,455,275,861
1994	3,423,837,064	994,291,314	53,560,686	4,578,282,175
1995	3,564,677,663	890,682,224	54,790,061	4,619,222,806
1996	3,709,198,609	953,772,416	66,783,677	4,955,474,989
1997	3,825,354,038	946,381,458	73,344,546	5,010,736,875
1998	3,814,583,541	850,572,237	74,984,850	4,789,522,576
1999	3,836,619,562	798,140,396	77,809,430	4,935,623,726
2000	3,761,812,062	869,068,079	76,074,550	4,919,901,921
2001	3,818,657,416	898,035,393	70,946,682	5,145,905,423
	GULF OF MEXICO		PACIFIC	TOTAL
	CENTRAL	WESTERN		
2002	3,510,522,709	999,720,152	67,816,000	4,607,640,353
2003	3,326,281,736	1,065,770,532	58,095,000	4,503,195,666
2004	2,883,809,634	1,099,125,084	54,655,000	4,104,828,091
2005	1,935,105,938	773,450,925	54,088,000	2,764,108,550
2006	2,122,733,551	779,987,637	40,407,000	2,943,406,324
2007	2,095,397,494	635,587,701	45,516,000	2,822,458,130
2008	1,704,274,579	481,863,516	44,902,000	2,370,112,660
2009	1,789,834,812	466,958,100	41,229,000	2,477,584,901
2010	1,695,244,230	412,777,256	41,200,000	2,272,131,363
2011	1,369,520,370	337,432,069	40,399,000	1,853,023,622

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

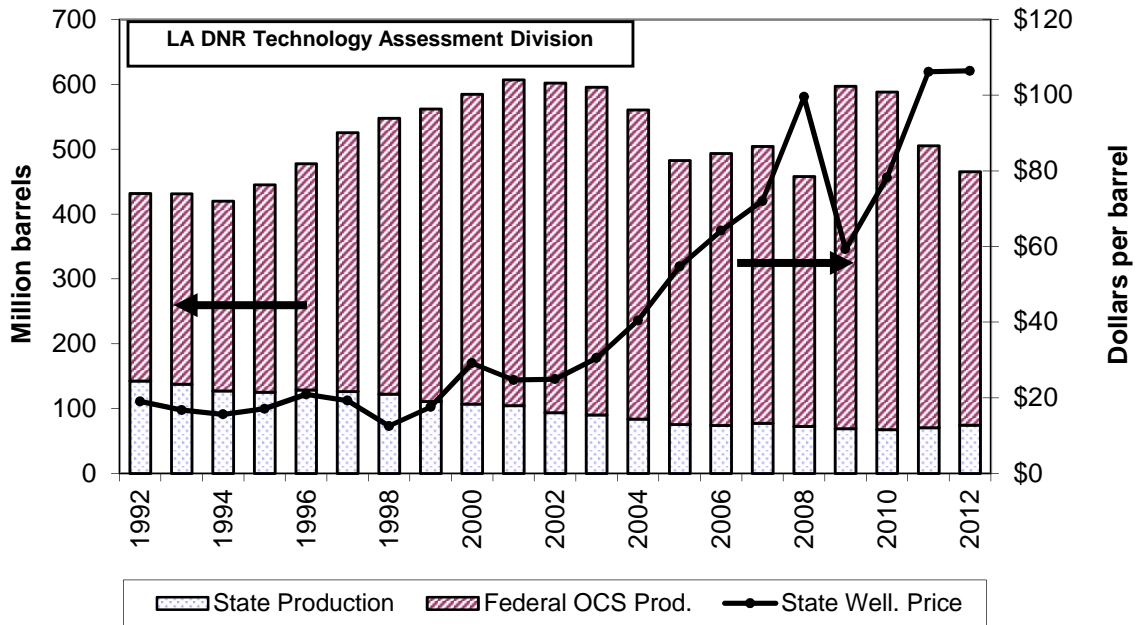


Figure 8

LOUISIANA GAS PRODUCTION AND PRICE

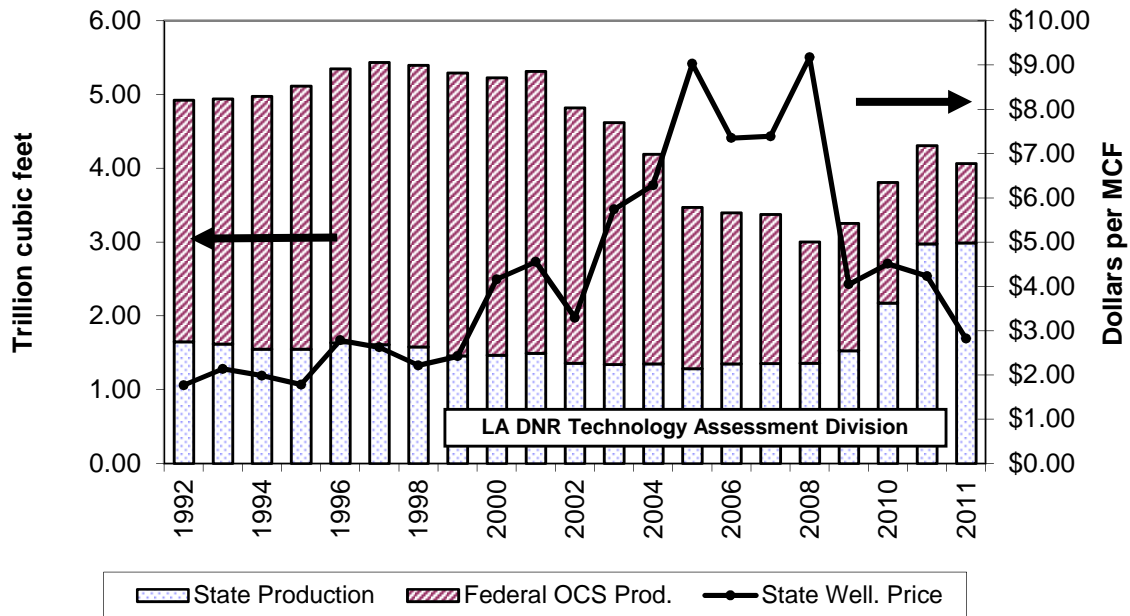


Table 16

UNITED STATES NATURAL GAS AND CASINGHEAD GAS PRODUCTION³
(Billion Cubic Feet (BCF) at 15.025 psia and 60 degrees Fahrenheit)*

DATE	GROSS	WET AFTER LEASE SEPARATION	MARKETED	DRY	GROSS IMPORTS
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	19,592	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	19,156	19,001	18,113	4,104
2007	24,108	19,940	19,626	18,714	4,517
2008	25,133 r	20,861 r	20,698 r	19,763 r	3,906
2009	25,545 r	21,385 r	21,223 r	20,219 r	3,678 r
2010	26,290 r	22,105 r	21,942 r	20,897 r	3,667 r
January	2,254 r	1,924 r	1,914 r	1,824 r	365 r
February	2,063 r	1,705 r	1,695 r	1,615 r	305 r
March	2,364 r	1,975 r	1,963 r	1,870 r	309 r
April	2,304 r	1,934 r	1,922 r	1,832 r	272 r
May	2,364 r	2,002 r	1,991 r	1,897 r	266 r
June	2,268 r	1,929 r	1,916 r	1,826 r	261 r
July	2,294 r	2,006 r	1,993 r	1,899 r	288 r
August	2,324 r	2,029 r	2,016 r	1,921 r	275 r
September	2,312 r	1,960 r	1,948 r	1,856 r	247 r
October	2,453 r	2,093 r	2,077 r	1,979 r	277 r
November	2,427 r	2,053 r	2,035 r	1,939 r	244 r
December	2,494 r	2,109 r	2,093 r	1,994 r	292 r
2011 Total	27,920 r	23,720 r	23,564 r	22,452 r	3,401 r
January	2,523	2,124	2,107	2,000	275
February	2,331	1,966	1,950	1,850	264
March	2,487	2,099	2,081	1,975	260
April	2,397	2,042	2,025	1,922	238
May	2,480	2,115	2,097	1,991	254
June	2,372	2,042	2,020	1,920	255
July	2,408	2,116	2,095	1,991	275
August	2,326	2,106	2,086	1,981	276
September	2,380	2,066	2,045	1,939	253
October	2,521	2,148	2,130	2,018	248
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2012 Total	24,225	20,823	20,637	19,586	2,598

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)

DATE	LIGHT LOUISIANA SWEET		ALL GRADES AT WELLHEAD			
	Spot Market ¹⁰	Refinery Posted	State ⁶	OCS Gulf ⁶	Severance Tax ⁸	State Royalty
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	63.08
2007	74.60	68.96	71.98	67.62	64.14	71.87
2008	102.29	96.57	99.53	100.00	104.86	97.60
2009	64.28	59.04	59.27	57.57	52.78	57.54 r
2010	82.72	75.90	78.23	77.13	75.24	77.80 r
January	97.83	86.43	90.87	89.04	83.01	91.25 r
February	106.21	86.43	92.18	91.47	89.51	92.38 r
March	117.41	100.65	110.30	103.24	88.38	111.97 r
April	126.03	108.28	118.91	113.66	89.82	118.80 r
May	116.44	99.31	111.19	115.05	111.57	114.22 r
June	113.24	94.19	105.92	109.49	115.55	109.13 r
July	115.86	95.41	108.96	109.55	109.80	109.42 r
August	109.29	84.79	99.68	105.33	110.61	102.28 r
September	112.67	85.20	102.08	105.40	106.84	107.00 r
October	111.82	86.98	107.91	109.98	104.54	113.07 r
November	111.41	97.78 r	117.03 r	111.53 r	104.41	123.85 r
December	108.62	97.91 r	110.59 r	110.54 r	102.77	113.45 r
2011 Total	112.24	93.61 r	106.30 r	106.19 r	101.40	108.90 r
January	111.81	98.43	107.15	106.09	117.12	137.39
February	120.45	100.69	109.16	108.66	102.83	110.83
March	127.39	105.88	118.36	116.12	106.37	122.28
April	122.51	103.67	118.48	119.85	107.01	122.22
May	108.00	94.65	109.44	113.75	120.26	112.92
June	94.90	81.54	92.66	101.19	119.04	95.25
July	103.49	86.75	96.63	93.59	108.84	98.41
August	111.77	93.25	103.95	95.02	94.34	105.86
September	112.99	94.46	107.47	105.69	98.75	109.60
October	110.24	89.22	102.44	104.53	103.71	104.33
November	108.51	86.72	N/A	N/A	101.77	104.64
December	109.47	87.77	N/A	N/A	109.51	99.84
2012 Total	111.79	93.59	106.57	106.45	107.46	110.30

e Estimated r Revised p Preliminary
See footnote in Appendix B.

Figure 9

CRUDE OIL AVERAGE PRICES

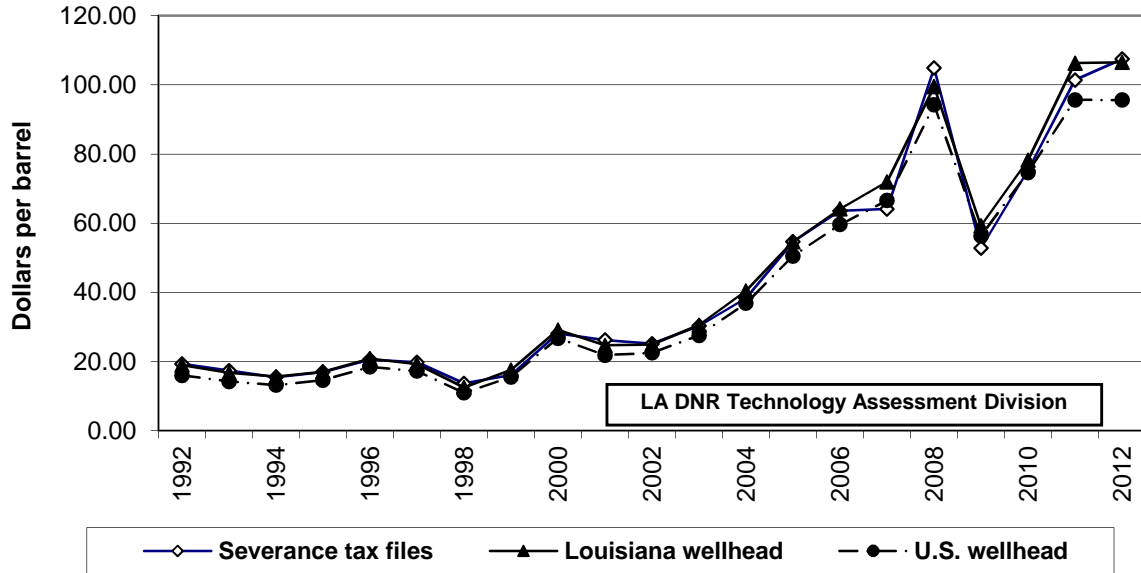


Figure 10

NATURAL GAS AVERAGE PRICES

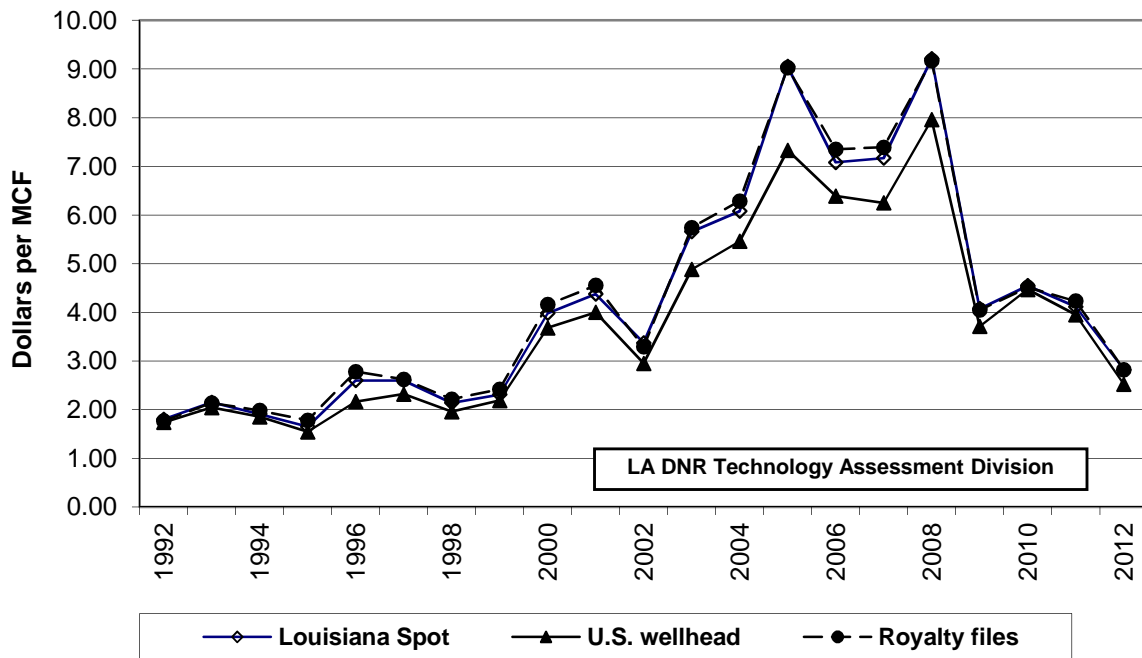


Table 18

UNITED STATES AVERAGE CRUDE OIL PRICES²
(Dollars per Barrel)

DATE	REFINERY ACQUISITION		DOMESTIC WELLHEAD	IMPORTS LANDED	IMPORTS FOB	IMPORTS OPEC FOB
	Domestic Costs	Imports Costs				
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
2008	98.09	92.30	94.22	92.14	89.45	91.23
2009	58.95	59.37	56.31	60.30	58.12	58.92
2010	77.90	75.94	74.65	76.51	74.21	75.31
January	88.73	87.99	85.66	89.61	86.80	89.74
February	89.50	91.72	86.69	94.25	92.07	96.01
March	102.34	102.48	99.19	104.80	104.19	106.19
April	111.96	113.08	108.80	112.54	111.52	115.15
May	107.55	107.99	102.46	108.28	105.92	108.50
June	102.53	105.36	97.30	105.19	104.35	108.22
July	102.67	105.94	97.82	106.19	105.60	110.09
August	95.89	99.01	89.00	99.27	97.72	104.19
September	96.89	101.05	90.22	101.03 r	100.84 r	105.82 r
October	98.34 r	102.00 r	92.28	102.55 r	101.92 r	105.20 r
November	106.69	107.67 r	100.18 r	105.98 r	105.79 r	108.16 r
December	104.51 r	106.52 r	98.71 r	105.62 r	103.09 r	106.42 r
2011 Total	100.63 r	102.57 r	95.69 r	102.94 r	101.65 r	105.31 r
January	103.97	105.25	98.99	105.27	103.96	107.51
February	105.93	108.08	102.05	109.24	108.56	113.85
March	110.80	111.00	105.42	110.68	110.72	117.06
April	111.26	108.53	103.62	107.58	107.17	113.85
May	103.17	103.26	95.57	101.56	100.79	105.28
June	91.66	92.18	83.59	91.90	87.89	90.63
July	92.64	92.98	86.10	93.66	92.50	96.30
August	98.58	97.07	92.53	98.70	99.63	104.18
September	102.17	101.82	95.98	100.83	100.79	104.41
October	95.82	100.92	92.26	99.65	98.86	101.26
November	N/A	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A	N/A
2012 Total	101.60	102.11	95.61	101.91	101.09	105.43

e Estimated r Revised p Preliminary
See footnote in Appendix B.

Table 19

LOUISIANA NATURAL GAS WELLHEAD PRICES (MCF)
(Dollars/Thousand Cubic Feet)

DATE	GOM	DNR	HENRY HUB		SPOT MARKET ⁵		
	Federal OCS ¹²	State Royalty	Settled NYMEX	Cash Spot	Low	High	Average
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	1.78	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	4.55	4.44	4.11	4.27	4.47	4.38
2002	2.98	3.29	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	9.03	8.96	9.19	8.84	9.26	9.05
2006	6.77	7.35	7.54	7.00	6.91	7.24	7.08
2007	7.30	7.39	7.13	7.26	7.08	7.29	7.17
2008	13.53	9.17	9.40	9.23	9.12	9.34	9.21
2009	4.34	4.05	4.15	3.95	3.98	4.16	4.07
2010	5.16	4.51 r	4.57	4.39	4.47	4.61	4.55
January	N/A	4.63 r	4.38	4.50	4.45	4.57	4.52
February	N/A	4.35 r	4.49	4.09	4.19	4.32	4.27
March	N/A	4.14 r	3.94	3.97	3.92	4.06	4.00
April	N/A	4.44 r	4.41	4.24	4.24	4.39	4.33
May	N/A	4.55 r	4.55	4.31	4.33	4.47	4.41
June	N/A	4.72 r	4.50	4.53	4.57	4.70	4.66
July	N/A	4.62 r	4.53	4.42	4.44	4.57	4.52
August	N/A	4.46 r	4.54	4.05	4.22	4.34	4.30
September	N/A	4.15 r	4.01	3.90	3.93	4.07	4.01
October	N/A	3.76 r	3.91	3.56	3.61	3.76	3.69
November	N/A	3.47 r	3.66	3.27	3.31	3.40	3.34
December	N/A	3.42 r	3.50	3.15 r	3.25	3.38	3.33
2011 Total	4.16	4.23 r	4.20 r	4.00	4.04	4.17	4.11
January	N/A	3.00	3.21	2.68	2.79	2.91	2.85
February	N/A	2.73	2.79	2.50	2.60	2.69	2.65
March	N/A	2.41	2.54	2.16	2.22	2.35	2.29
April	N/A	2.14	2.28	1.95	1.97	2.07	2.04
May	N/A	2.39	2.12	2.43	2.32	2.45	2.39
June	N/A	2.48	2.53	2.46	2.36	2.48	2.43
July	N/A	2.92	2.88	2.95	2.88	2.99	2.96
August	N/A	2.98	3.13	2.84	2.90	3.02	2.97
September	N/A	2.79	2.74	2.85	2.74	2.87	2.81
October	N/A	3.39	3.14	3.32	3.21	3.35	3.29
November	N/A	3.65	3.61	3.54	3.52	3.65	3.59
December	N/A	2.90	3.84	3.34	3.46	3.59	3.52
2012 Total	3.13	2.82	2.90	2.75	2.75	2.87	2.82

e Estimated r Revised p Preliminary
See footnote in Appendix B.

Table 19A

LOUISIANA NATURAL GAS WELLHEAD PRICES (MMBTU)

(Dollars/MMBTU)

DATE	GOM	DNR	HENRY HUB		SPOT MARKET ⁵		
	Federal	State	Settled	Cash	Low	High	Average
	OCS ¹²	Royalty	NYMEX	Spot			
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	4.28	4.27	3.95	4.11	4.30	4.21
2002	2.87	3.16	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
2008	13.01	9.25	9.03	8.88	8.77	8.99	8.86
2009	4.17	3.89	3.99	3.80	3.82	4.00	3.92
2010	4.96	4.33 r	4.39	4.22	4.30	4.44	4.37
January	N/A	4.46 r	4.22	4.33	4.27	4.40	4.35
February	N/A	4.18 r	4.32	3.93	4.03	4.15	4.11
March	N/A	3.99 r	3.79	3.82	3.77	3.90	3.85
April	N/A	4.27 r	4.24	4.08	4.08	4.22	4.16
May	N/A	4.37 r	4.38	4.14	4.16	4.30	4.24
June	N/A	4.54 r	4.33	4.36	4.40	4.52	4.48
July	N/A	4.45 r	4.36	4.25	4.27	4.39	4.34
August	N/A	4.29 r	4.37	3.89	4.06	4.17	4.13
September	N/A	3.99 r	3.86	3.75	3.77	3.91	3.85
October	N/A	3.61 r	3.76	3.42	3.47	3.61	3.54
November	N/A	3.34 r	3.52	3.14	3.19	3.27	3.21
December	N/A	3.29 r	3.36	3.03 r	3.13	3.25	3.20
2011 Total	4.00	4.06 r	4.04 r	3.85	3.88	4.01	3.96
January	N/A	2.89	3.08	2.58	2.69	2.80	2.74
February	N/A	2.62	2.68	2.40	2.50	2.59	2.55
March	N/A	2.32	2.45	2.08	2.14	2.26	2.20
April	N/A	2.06	2.19	1.88	1.89	1.99	1.96
May	N/A	2.30	2.04	2.34	2.23	2.35	2.30
June	N/A	2.39	2.43	2.37	2.27	2.38	2.34
July	N/A	2.81	2.77	2.84	2.77	2.88	2.84
August	N/A	2.87	3.01	2.73	2.79	2.90	2.85
September	N/A	2.69	2.63	2.74	2.63	2.76	2.70
October	N/A	3.26	3.02	3.19	3.09	3.22	3.16
November	N/A	3.51	3.47	3.40	3.39	3.51	3.46
December	N/A	2.79	3.70	3.21	3.32	3.45	3.39
2012 Total	3.01	2.71	2.79	2.65	2.64	2.76	2.71

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
1992	2.48	5.60	4.79	1.93	1.91
1993	2.72	6.09	5.33	2.30	2.49
1994	2.54	6.24	5.42	2.17	2.17
1995	2.21	6.01	5.15	1.82	1.88
1996	3.13	6.76	6.09	2.84	2.94
1997	3.04	7.16	6.22	2.87	2.79
1998	2.33	6.68	5.64	2.31	2.37
1999	2.70	6.83	5.73	2.54	2.59
2000	4.61	8.34	7.41	4.03	4.55
2001	5.55	10.47	8.58	5.04	4.30
2002	4.07	8.06	6.74	3.69	3.63
2003	5.78	10.29	8.81	5.53	5.94
2004	6.56	11.20	9.56	6.58	6.50
2005	8.56	13.26	11.41	9.11	9.14
2006	7.67	14.66	11.84	7.42	7.66
2007	7.22	14.20	11.83	7.08	7.53
2008	9.58	15.49	13.52	9.32	10.01
2009	5.96	13.15	10.46	4.31	4.35
2010	5.35	13.65	9.82	4.64 r	4.82
January	5.69	9.39	9.22	4.63	4.75
February	5.99	9.68	9.15	4.43	4.62
March	5.49	10.63	9.39	4.15	4.18
April	6.19	13.36	9.44	4.54	4.51
May	6.26	14.95	9.78	4.58	4.63
June	6.27	15.96	9.89	4.67	4.79
July	6.50	16.69	9.85	4.64	4.68
August	6.42	17.27	9.56	4.52	4.46
September	5.70	16.24	9.31	4.18	4.23
October	5.31	14.32	9.16	3.88	N/A
November	4.82 r	11.65 r	9.10 r	3.56 r	3.65 r
December	4.48 r	9.98 r	9.12 r	3.47 r	3.56 r
2011 Total	5.76 r	13.34 r	9.41 r	4.27 r	4.37 r
January	4.60	10.38	N/A	3.15	3.17
February	N/A	11.06	9.05	2.81	N/A
March	3.38	11.78	9.28	2.48	2.53
April	2.69	12.47	7.79	2.23	2.25
May	2.51	12.41	7.10	2.47	2.56
June	2.30	13.66	7.68	2.62	2.63
July	3.14	14.31	7.86	3.00	3.12
August	3.44	15.12	7.90	3.11	3.16
September	3.03	14.04	7.71	2.91	2.99
October	3.62	13.69	7.95	3.34	3.51
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2012 Total	3.19	12.89	8.04	2.81	2.88

e Estimated r Revised p Preliminary
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
1992	2.38	5.38	4.61	1.86	1.84
1993	2.62	5.86	5.13	2.21	2.39
1994	2.44	6.00	5.21	2.09	2.09
1995	2.13	5.78	4.95	1.75	1.81
1996	3.01	6.50	5.86	2.73	2.83
1997	2.92	6.88	5.98	2.76	2.68
1998	2.24	6.42	5.42	2.22	2.28
1999	2.60	6.57	5.51	2.44	2.49
2000	4.43	8.02	7.13	3.88	4.38
2001	5.34	10.07	8.25	4.85	4.13
2002	3.91	7.75	6.48	3.55	3.49
2003	5.56	9.89	8.47	5.32	5.71
2004	6.31	10.77	9.19	6.33	6.25
2005	8.23	12.75	10.97	8.76	8.79
2006	7.38	14.10	11.38	7.13	7.37
2007	6.94	13.65	11.38	6.81	7.24
2008	9.21	14.89	13.00	8.96	9.63
2009	5.73	12.64	10.06	4.14	4.18
2010	5.14	13.13	9.44	4.46 r	4.63
January	5.47	9.03	8.87	4.45	4.57
February	5.76	9.31	8.80	4.26	4.44
March	5.28	10.22	9.03	3.99	4.02
April	5.95	12.85	9.08	4.37	4.34
May	6.02	14.38	9.40	4.40	4.45
June	6.03	15.35	9.51	4.49	4.61
July	6.25	16.05	9.47	4.46	4.50
August	6.17	16.61	9.19	4.35	4.29
September	5.48	15.62	8.95	4.02	4.07
October	5.11	13.77	8.81	3.73	N/A
November	4.63 r	11.20 r	8.75 r	3.42 r	3.51 r
December	4.31 r	9.60 r	8.77 r	3.34 r	3.42 r
2011 Total	5.54 r	12.83 r	9.05 r	4.11 r	4.20 r
January	4.42	9.98	N/A	3.03	3.05
February	N/A	10.63	8.70	2.70	N/A
March	3.25	11.33	8.92	2.38	2.43
April	2.59	11.99	7.49	2.14	2.16
May	2.41	11.93	6.83	2.38	2.46
June	2.21	13.13	7.38	2.52	2.53
July	3.02	13.76	7.56	2.88	3.00
August	3.31	14.54	7.60	2.99	3.04
September	2.91	13.50	7.41	2.80	2.88
October	3.48	13.16	7.64	3.21	3.38
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2012 Total	3.07	12.40	7.73	2.70	2.77

e Estimated r Revised p Preliminary
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
1992	1.74	1.75	1.85	3.01	6.28
1993	2.04	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	2.17	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	3.68	3.94	3.88	4.62	8.51
2001	4.00	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	5.94	5.78	6.61	11.64
2005	7.33	8.67	8.09	8.72	13.72
2006	6.39	6.81	6.87	8.28	14.16
2007	6.25	6.89	6.87	8.02	14.19
2008	7.96	8.80	8.77	9.59	15.45
2009	3.71	4.00	4.14	6.14	12.91
2010	4.47	4.58	4.46	6.07	12.91 r
January	4.37 r	4.92	4.66	5.69	9.90 r
February	4.34 r	4.58	4.49	5.75	10.14 r
March	3.95 r	4.13	4.24 r	5.73 r	10.43 r
April	4.05 r	4.39	4.35 r	5.62 r	11.27 r
May	4.12 r	4.45	4.31 r	5.80 r	12.50 r
June	4.20 r	4.68	4.60 r	6.12 r	14.70 r
July	4.27 r	4.57	4.39 r	6.16 r	16.14 r
August	4.20 r	4.57	4.40 r	6.19 r	16.67 r
September	3.82 r	4.07	3.92 r	5.94 r	15.63 r
October	3.62 r	3.73	4.06 r	5.45 r	12.85 r
November	3.35 r	3.50	3.58 r	5.29 r	10.78 r
December	3.14 r	3.50	3.66 r	5.03 r	9.84 r
2011 Total	3.95 r	4.26	4.22 r	5.73 r	12.57 r
January	2.89	3.14	3.27	4.86	9.64
February	2.46	2.79	2.86	4.74	9.51
March	2.25	2.37	2.36	4.84	10.45
April	1.89	2.11	2.04	4.20	10.91
May	1.94	2.41	2.28	4.32	12.44
June	2.54	2.49	2.35	4.66	14.22
July	2.59	3.00	2.77	4.90	15.29
August	2.86	3.00	2.79	5.17	15.94
September	2.71	2.86	2.64	4.77	14.89
October	3.03	3.37	3.12	4.67	11.74
November	N/A	3.77	N/A	N/A	N/A
December	N/A	3.81	N/A	N/A	N/A
2012 Total	2.52	2.93	2.65	4.71	12.50

e Estimated r Revised p Preliminary
See footnote in Appendix B.

Table 21A

**UNITED STATES AVERAGE NATURAL GAS PRICES (MMBTU)
(Dollars/MMBTU)**

DATE	WELLHEAD³	SPOT MARKET⁵	FOREIGN IMPORTS³	CITY GATES³	DELIVERED TO RESIDENTIAL³
1992	1.67	1.68	1.78	2.89	6.04
1993	1.97	2.02	1.95	3.09	6.42
1994	1.78	1.77	1.80	2.95	6.63
1995	1.49	1.50	1.43	2.67	6.33
1996	2.08	2.30	1.88	3.14	6.70
1997	2.23	2.44	2.07	3.52	6.67
1998	1.88	2.03	1.89	2.95	7.16
1999	2.11	2.19	2.15	2.98	7.06
2000	3.54	3.79	3.73	4.44	8.19
2001	3.85	4.17	4.19	5.04	9.53
2002	2.84	3.14	3.02	3.94	8.27
2003	4.69	5.27	4.98	5.62	10.21
2004	5.25	5.71	5.56	6.35	11.19
2005	7.05	8.34	7.77	8.38	13.19
2006	6.14	6.55	6.60	7.96	13.62
2007	6.01	6.63	6.61	7.72	13.64
2008	7.65	8.46	8.44	9.22	14.85
2009	3.57	3.85	3.98	5.91	12.41
2010	4.30	4.40	4.29	5.84	12.41 r
January	4.20 r	4.74	4.48	5.47	9.52 r
February	4.17 r	4.40	4.32	5.53	9.75 r
March	3.80 r	3.97	4.08 r	5.51 r	10.03 r
April	3.89 r	4.22	4.18 r	5.40 r	10.84 r
May	3.96 r	4.28	4.14 r	5.58 r	12.02 r
June	4.04 r	4.50	4.42 r	5.88 r	14.13 r
July	4.11 r	4.39	4.22 r	5.92 r	15.52 r
August	4.04 r	4.39	4.23 r	5.95 r	16.03 r
September	3.67 r	3.91	3.77 r	5.71 r	15.03 r
October	3.48 r	3.59	3.90 r	5.24 r	12.36 r
November	3.22 r	3.37	3.44 r	5.09 r	10.37 r
December	3.02 r	3.37	3.52 r	4.84 r	9.46 r
2011 Total	3.80 r	4.09	4.06 r	5.51 r	12.09 r
January	2.78	3.02	3.14	4.67	9.27
February	2.37	2.69	2.75	4.56	9.14
March	2.16	2.28	2.27	4.65	10.05
April	1.82	2.02	1.96	4.04	10.49
May	1.87	2.32	2.19	4.15	11.96
June	2.44	2.40	2.26	4.48	13.67
July	2.49	2.89	2.66	4.71	14.70
August	2.75	2.89	2.68	4.97	15.33
September	2.61	2.75	2.54	4.59	14.32
October	2.91	3.24	3.00	4.49	11.29
November	N/A	3.62	N/A	N/A	N/A
December	N/A	3.66	N/A	N/A	N/A
2012 Total	2.42	2.81	2.55	4.53	12.02

e Estimated r Revised p Preliminary
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
1991	1,209	100	1,309
1992	1,044	92	1,136
1993	1,040	109	1,149
1994	1,015	98	1,113
1995	979	86	1,065
1996	1,248	133	1,381
1997	1,424	138	1,562
1998	1,171	115	1,286
1999	908	109	1,017
2000	1,363	90	1,453
2001	1,277	88	1,365
2002	902	123	1,025
2003	1,152	112	1,264
2004	1,535	98	1,633
2005	1,882	114	1,996
2006	2,040	97	2,137
2007	2,082	68	2,150
2008	2,296	78	2,374
2009	1,335	30	1,365
2010	1,914	42	1,956
January	113	0	113
February	141	2	143
March	204	4	208
April	103	4	107
May	151	8	159
June	155	4	159
July	126	2	128
August	128	3	131
September	172	4	176
October	123	2	125
November	124	4	128
December	98	1	99
2011 Total	1,638	38	1,676
January	133	1	134
February	122	1	123
March	141	0	141
April	146	1	147
May	147	5	152
June	146	4	150
July	125	4	129
August	112	7	119
September	128	2	130
October	136	7	143
November	103	4	107
December	104	2	106
2012 Total	1,543	38	1,581

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Figure 11

LOUISIANA STATE DRILLING PERMITS ISSUED
Federal OCS Excluded

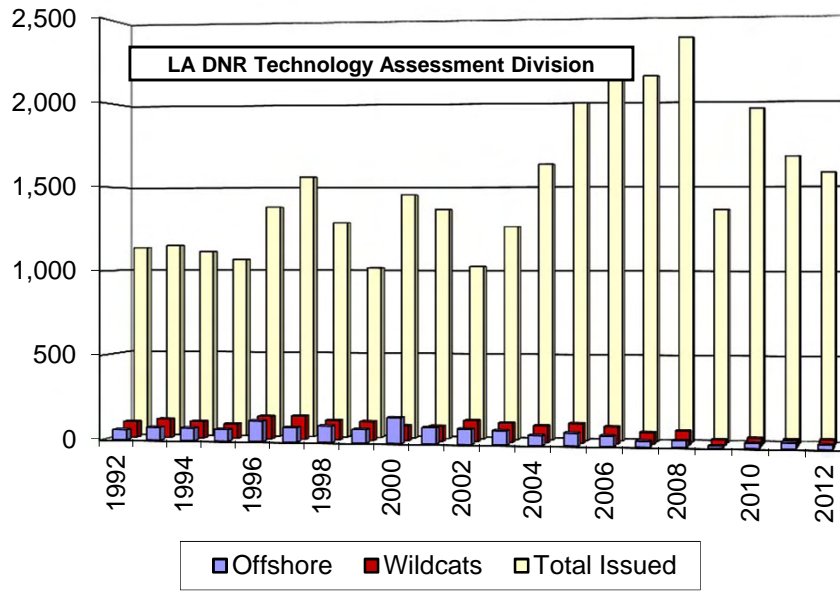


Figure 12

LOUISIANA AVERAGE ACTIVE RIGS

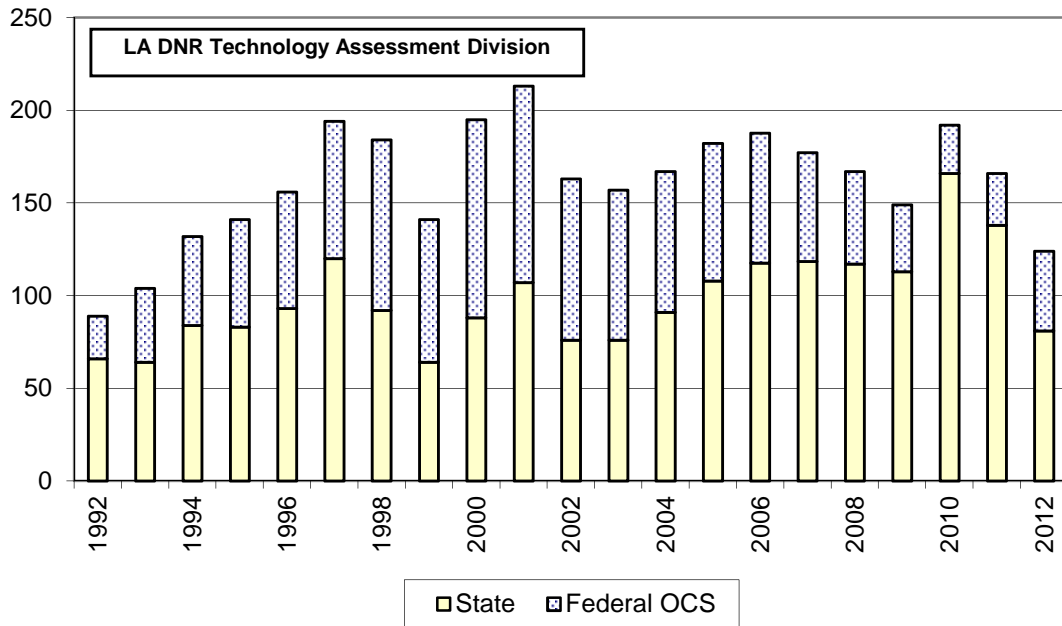


Table 23

LOUISIANA AVERAGE RIGS RUNNING

DATE	State North ⁴	State South Inland		State Offshore	Total State	Federal Offshore	Total Offshore ⁴ (State+OCS)	LA ⁴ TOTAL
		Water ⁴	Land ⁴					
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
2008	68	20	26	3	117	50	53	167
2009	89	8	15	1	113	36	38	150
2010	134	13	16	2	166	26	28	192
January	119	14	15	0	148	22	22	169
February	115	15	20	1	151	22	23	173
March	114	17	18	2	151	23	24	174
April	112	17	17	3	149	23	26	172
May	106	16	17	2	141	29	31	170
June	100	16	22	2	140	31	33	171
July	93	17	29	3	132	33	33	169
August	89	18	29	2	130	32	32	168
September	83	17	25	2	127	25	27	152
October	84	17	24	1	126	27	28	153
November	83	19	24	2	128	30	32	158
December	70	16	26	2	114	37	35	149
2011 Total	97	17	22	2	138	28	29	165
January	65	15	29	1	110	37	38	147
February	59	14	28	1	102	35	36	137
March	51	19	27	2	99	37	39	136
April	42	21	27	1	90	40	40	130
May	38	20	27	0	85	43	43	128
June	31	19	29	1	80	45	46	125
July	24	18	28	1	71	47	48	118
August	27	19	28	1	74	46	47	121
September	25	19	23	0	67	49	49	115
October	25	16	23	0	63	43	43	107
November	24	18	24	0	66	48	48	114
December	22	20	20	1	63	46	47	109
2012 Total	36	18	26	1	81	43	44	124

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Table 24**LOUISIANA STATE PRODUCING CRUDE OIL WELLS
Excluding OCS**

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
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	3,711	262	20,966
2008	N/A	N/A	N/A	21,146
2009	N/A	N/A	N/A	20,852
2010	N/A	N/A	N/A	19,367
2011	14,333	4,045	411	18,789
2012	14,217	4,275	436	18,928

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Figure 13

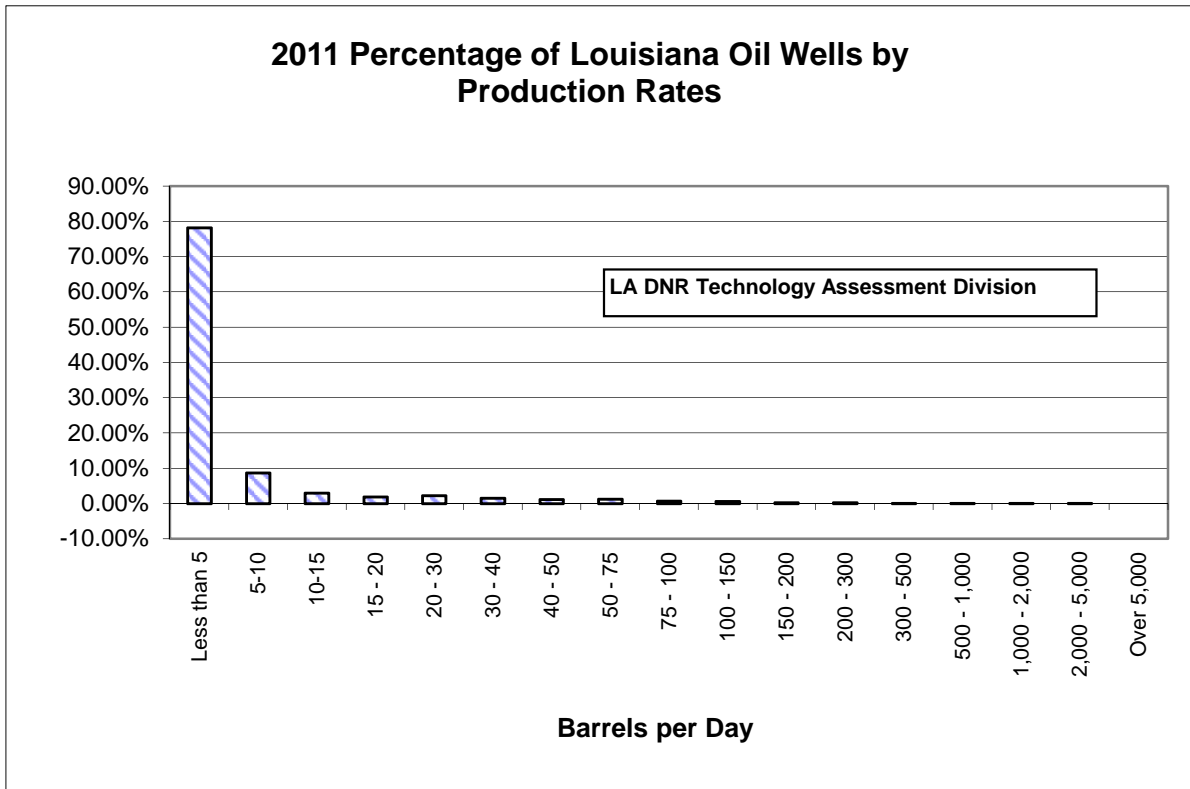


Figure 14

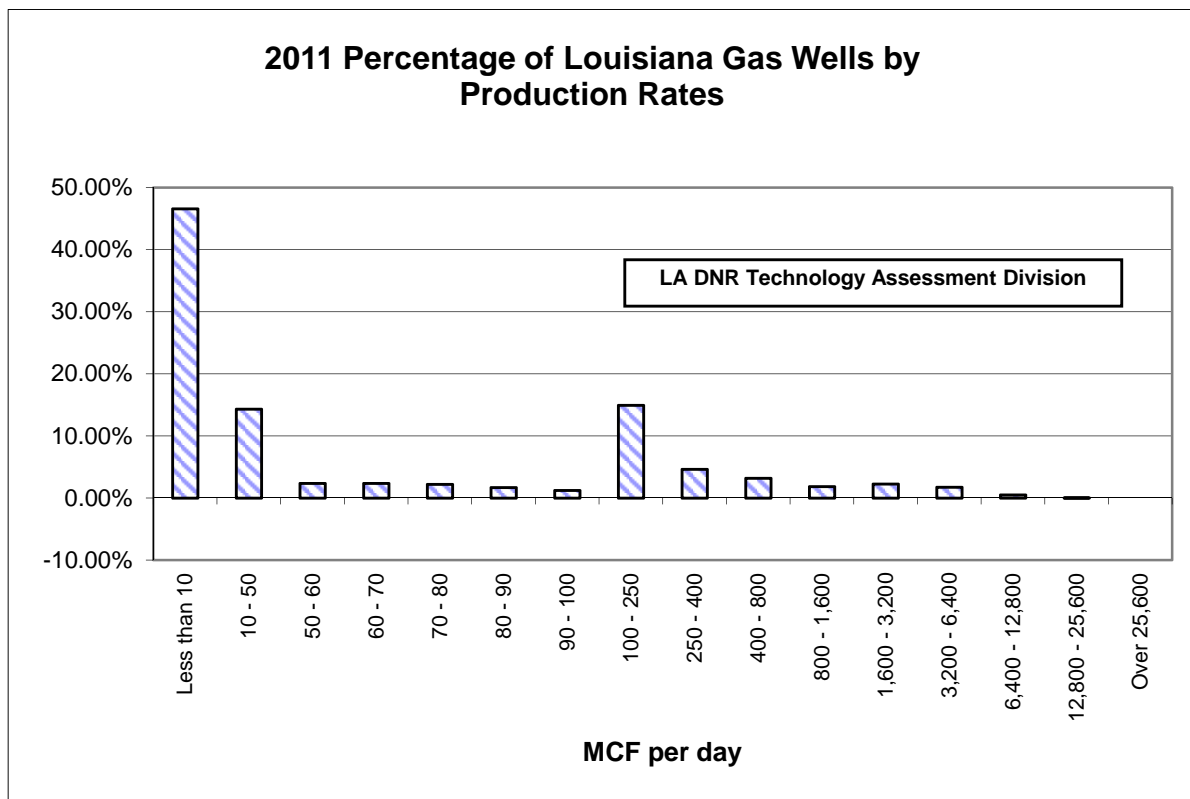


Table 25**LOUISIANA STATE PRODUCING NATURAL GAS WELLS
Excluding OCS**

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1967	4,548	3,448	882	8,878
1968	4,563	3,582	1,048	9,194
1969	4,558	3,451	1,297	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	3,211	227	18,145
2008	N/A	N/A	N/A	18,984
2009	N/A	N/A	N/A	19,009
2010	N/A	N/A	N/A	19,384
2011	18,542	1,851	159	20,552
2012	19,125	1,734	144	21,003

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Table 26

LOUISIANA STATE WELL COMPLETION BY TYPE AND BY REGION
Excluding OCS

	YEAR	OFFSHORE	SOUTH	NORTH	TOTAL
C R O U I D L E	1997	39	168	106	313
	1998	24	100	64	188
	1999	4	35	60	99
	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	125	149	277
	2008	5	101	228	334
	2009	1	63	90	154
2010	2 r	125 r	148 r	275 r	
2011	11 r	197 r	240 r	448 r	
N A T G U A R S A L	1997	22	160	383	565
	1998	23	170	407	600
	1999	17	169	287	473
	2000	21	166	359	546
	2001	20	279	426	725
	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	5	104	923	1,032
	2008	9	97	984	1,090
	2009	3	39	707	749
2010	6 r	68 r	816 r	890 r	
2011	4 r	72 r	914 r	990 r	
D H R O Y L E	1997	9	165	188	362
	1998	7	104	121	232
	1999	8	80	135	223
	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	164	116	283
	2008	4	94	121	219
	2009	1	63	75	139
2010	0 r	0 r	1 r	1 r	
2011	0 r	0 r	0 r	0 r	

Table 27

LOUISIANA STATE MINERAL BONUS, RENTAL AND ROYALTY OVERRIDE REVENUES, Excluding OCS
(Million Dollars)

DATE	BONUSES	OVERRIDE ROYALTY	RENTALS	TOTAL
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
2008	171.28	5.89	23.09	200.26
2009	17.70	4.26	25.13	47.09
2010	32.01	4.60	19.35	55.96
January	0.86	1.65	0.99	3.50
February	0.73	0.65	1.17	2.54
March	1.34	0.60	1.39	3.32
April	1.02	0.78	1.64	3.44
May	1.91	0.56	1.40	3.87
June	2.27	0.45	1.18	3.90
July	0.70	0.56	2.04	3.29
August	0.56	0.77	1.66	2.99
September	2.52	0.84	0.43	3.79
October	2.64	0.51	0.59	3.75
November	1.35	0.40	2.10	3.85
December	3.59	0.65	1.77	6.01
2011 Total	19.48	8.42	16.36	44.27
January	2.17	0.42	1.17	3.77
February	1.99	1.13	0.05	3.18
March	0.87	0.88	0.26	2.00
April	0.55	0.97	1.20	2.72
May	2.52	0.58	0.57	3.67
June	0.83	1.20	0.72	2.75
July	0.33	0.72	0.64	1.69
August	4.49	0.78	1.56	6.82
September	-0.14	0.82	0.41	1.09
October	0.34	0.76	0.64	1.74
November	1.57	0.79	0.87	3.23
December	1.96	0.76	3.63	6.34
2012 Total	17.48	9.80	11.72	39.00

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Table 28

LOUISIANA STATE MINERAL ROYALTY REVENUE
Excluding OCS
(Million Dollars)

DATE	OIL	GAS	PLANT LIQUIDS	OTHER	TOTAL
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	149.97	279.03	10.51	0.00	439.50
2006	201.71	287.24	14.23	0.00	503.19
2007	288.57	305.62	18.98	0.00	613.18
2008	372.30	419.94	32.16	0.00	824.41
2009	210.54	153.86	14.91	0.00	379.31
2010	271.16 r	162.69 r	22.53 r	0.00	456.38 r
January	22.82 r	15.57 r	2.44 r	0.00	40.83 r
February	25.50 r	13.60 r	2.25 r	0.00	41.36 r
March	33.66 r	14.98 r	2.51 r	0.00	51.15 r
April	34.33 r	15.63 r	2.83 r	0.00	52.79 r
May	33.79 r	15.06 r	2.82 r	0.00	51.67 r
June	30.50 r	15.10 r	3.02 r	0.00	48.62 r
July	31.82 r	15.71 r	3.09 r	0.00	50.61 r
August	31.37 r	15.46 r	3.20 r	0.00	50.03 r
September	28.53 r	13.10 r	2.63 r	0.00	44.26 r
October	35.04 r	13.38 r	2.64 r	0.00	51.05 r
November	36.19 r	11.84 r	2.60 r	0.00	50.63 r
December	35.58 r	12.15 r	2.46 r	0.00	50.19 r
2011 Total	379.12 r	171.59 r	32.48 r	0.00	583.19 r
January	33.97	10.31	2.51	0.00	46.79
February	30.07	8.75	2.16	0.00	40.98
March	36.40	8.27	2.29	0.00	46.95
April	36.27	7.12	2.34	0.00	45.73
May	34.06	7.98	2.01	0.00	44.05
June	27.32	8.36	1.74	0.00	37.42
July	30.85	10.47	1.71	0.00	43.03
August	26.90	9.12	1.73	0.00	37.75
September	24.44	9.09	1.70	0.00	35.24
October	30.92	N/A	N/A	N/A	30.92
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2012 Total	311.20	79.48	18.19	0.00	408.87

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Table 29

LOUISIANA STATE MINERAL SEVERANCE TAX REVENUE⁸
Excluding OCS
(Million Dollars)

DATE	OIL	GAS	OTHER MINERALS	SEVERANCE TOTAL
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
2008	842.94	293.66	1.65	1,138.25
2009	377.51	292.18	1.63	671.32
2010	516.90	224.18	1.58	742.67
January	49.93	-17.35	0.05	32.63
February	50.65	11.17	0.11	61.93
March	51.56	1.71	0.07	53.35
April	51.32	6.02	0.14	57.48
May	58.29	16.80	0.11	75.21
June	68.22	13.91	0.18	82.31
July	62.49	9.13	0.11	71.73
August	54.72	10.71	0.14	65.57
September	60.29	6.90	0.10	67.29
October	57.12	10.02	0.08	67.23
November	57.07	13.47	0.15	70.69
December	55.89	15.12	0.09	71.10
2011 Total	677.56	97.61	1.34	776.51
January	69.87	13.87	0.11	83.85
February	48.76	16.77	0.12	65.64
March	66.24	8.91	0.11	75.25
April	55.88	6.55	0.11	62.53
May	76.08	14.92	0.12	91.12
June	70.12	16.05	0.09	86.26
July	65.96	15.11	0.15	81.23
August	48.36	11.32	0.08	59.76
September	60.75	9.45	0.10	70.31
October	54.26	12.35	0.18	66.79
November	54.37	2.93	0.08	57.37
December	66.13	7.00	0.06	73.20
2012 Total	736.78	135.23	1.31	873.32

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Table 30**STATE REVENUE FROM LOUISIANA'S OUTER CONTINENTAL SHELF¹³**
(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
2002	94,841	0	11,768,383	28,363		11,891,587
2003	284,563	2,842,662	26,447,045	21,775		29,596,045
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
2006	494,362	5,947,411	24,325,787	1,304,257		32,071,817
2007	196,129	-2,695,489	25,498,932	89,134		23,088,706
2008	412,813	6,196,386	36,547,175	2,607,022		45,763,396
2009	339,802	463,332	21,433,896	80,201	6,347,321	28,664,552
2010	355,697	2,892,749	19,321,141	35,844	699,757	23,305,188
2011	268,106	0	20,325,825	93,441	222,725	20,910,097
2012	N/A	N/A	N/A	N/A	80,770	19,845,947

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	1,481,176	875,887,102	918,010,063
2002	11,891,587	730,156	725,323,377	737,945,120
2003	29,596,045	1,182,451	932,191,569	962,970,065
2004	38,256,482	1,364,965	1,055,838,962	1,095,460,408
2005	30,900,445	1,569,882	1,166,491,860	1,198,962,188
2006	32,071,817	1,170,670	1,395,971,977	1,429,214,465
2007	23,088,706	940,888	1,545,321,941	1,569,351,535
2008	45,763,396	3,703,240	2,162,918,035	2,212,384,671
2009	28,664,552	914,421	1,097,717,147	1,127,296,119
2010	23,305,188	3,123,211	1,253,724,962	1,280,153,361
2011	20,910,097	17,982,455	1,403,961,976	1,442,854,528
2012	19,845,947	6,914,439	1,467,482,505 e	1,494,242,891 e

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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 SHELF¹²**
(Area beyond the state's 3-mile offshore boundary)
(Dollars)

YEAR	BONUS PAYMENTS	RENTAL PAYMENTS	OTHER REVENUES	PRODUCTION ROYALTIES	TOTAL^a COLLECTION
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	1,181,075,491	226,229,847	3,013,594	4,161,415,445	5,571,734,377
2010	979,569,294	236,631,251	-3,531,170	3,743,286,144	4,955,955,519
2011	36,751,111	219,119,868	2,153,134	5,960,501,525	6,218,525,638
2012	663,714,729	217,669,757	31,841,893	5,626,212,490	6,539,438,869

^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
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
2009	55	269	46	3,570	3,940	20,682
2010	104	274	46	3,914	4,338	23,267

See footnotes on Appendix B

Figure 15

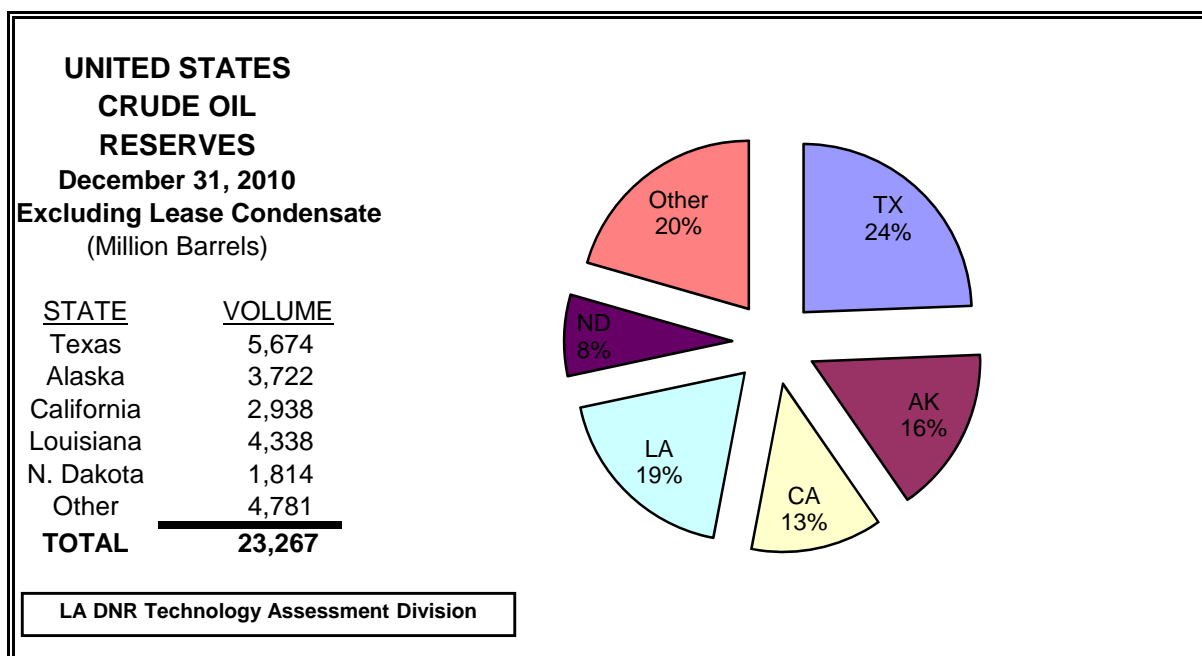


Table 34

LOUISIANA ESTIMATED LEASE CONDENSATE PROVED RESERVES⁹
As of December 31st of Each Year
(Million Barrels)

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
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
2009	26	74	10	134	244	1,633
2010	27	38	11	129	205	1,914

See footnotes on Appendix B

Figure 16

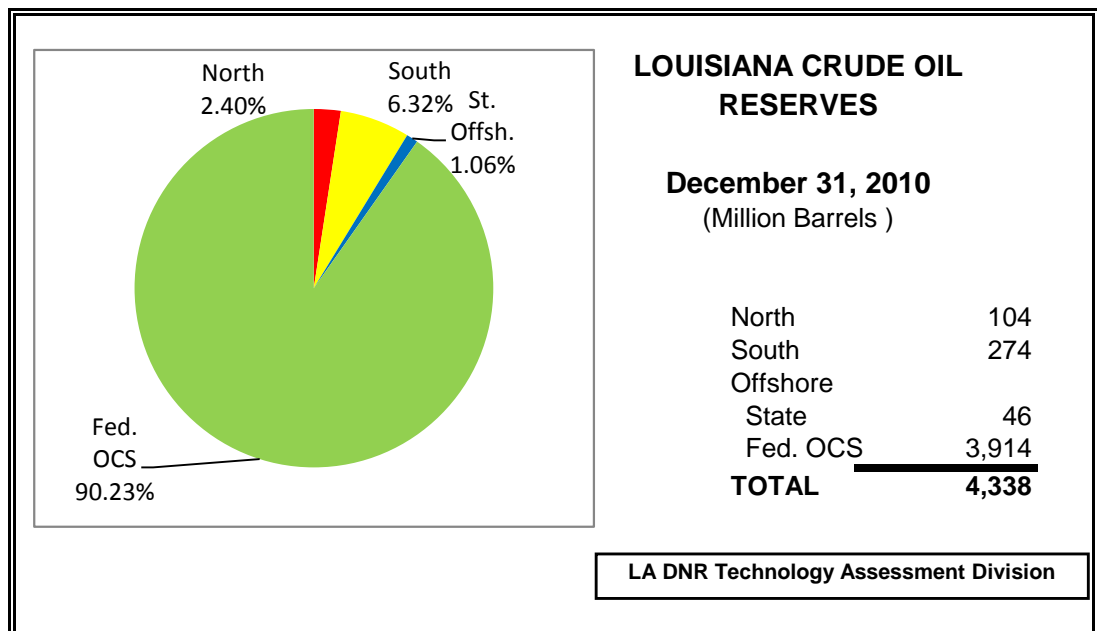


Table 35

LOUISIANA ESTIMATED DRY NATURAL GAS PROVED RESERVES⁹
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
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
2009	17,146	2,844	701	9,362 c	30,053 c	272,509
2010	26,030	2,876	371	8,896 c	38,173 c	304,625

^c Includes Federal Offshore Alabama

Figure 17

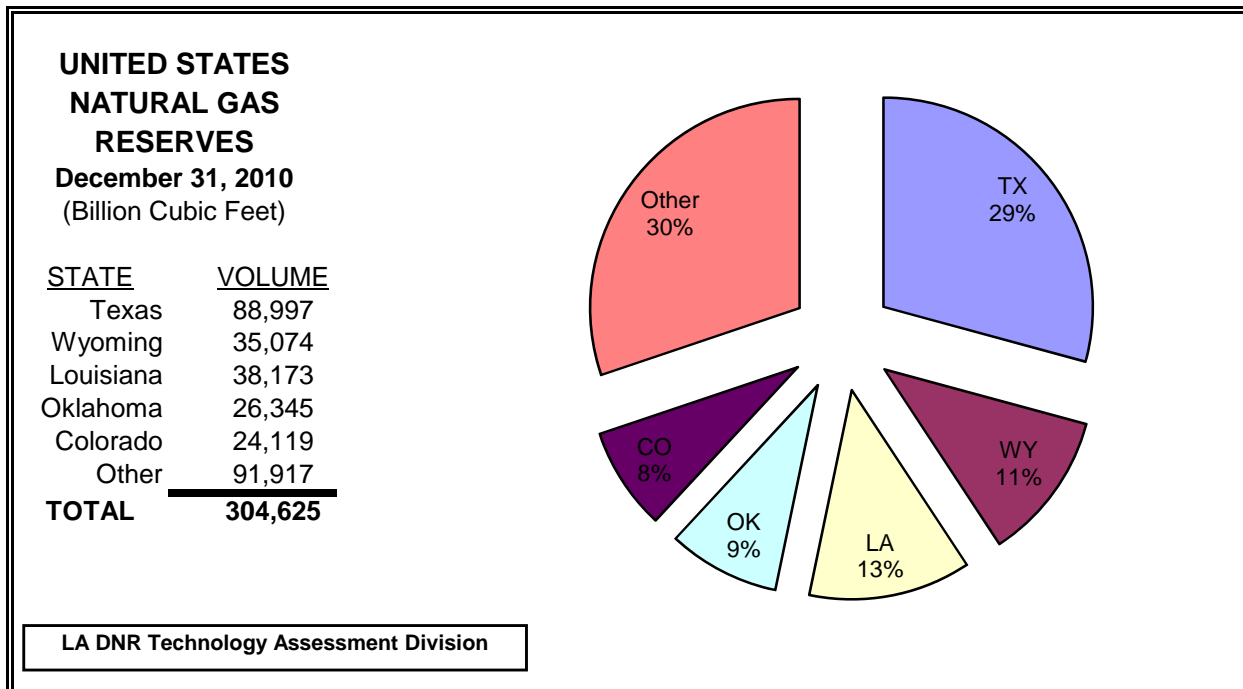


Table 36

**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
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
2009	98	90	43	301	532	8,557
2010	79	113	24	340	556	9,809

See footnotes on Appendix B

Figure 18

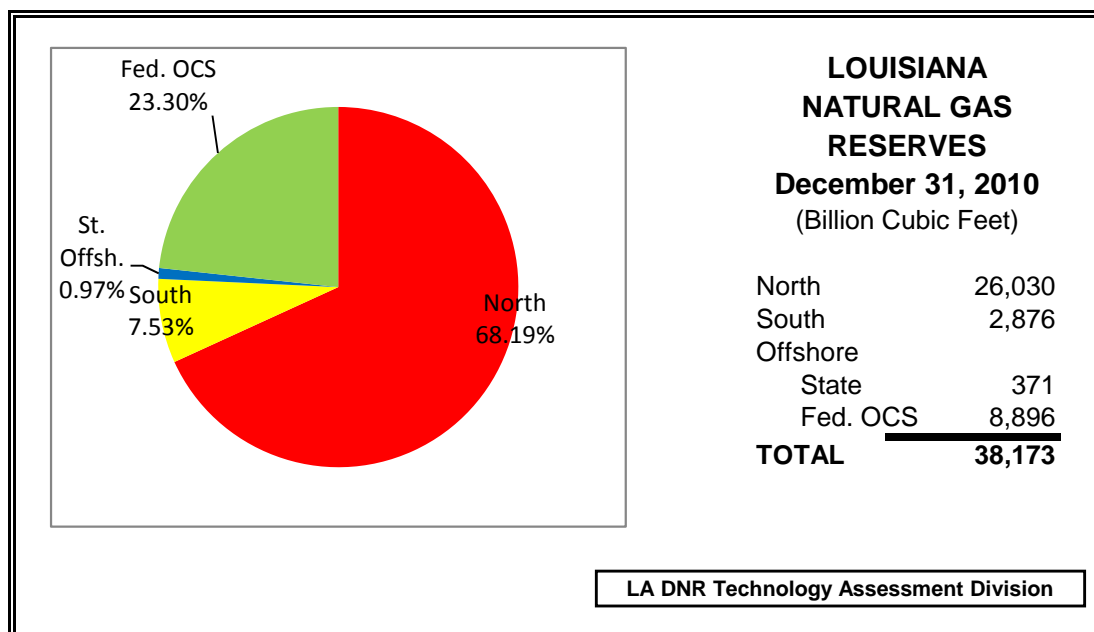


Table 37

LOUISIANA NONAGRICULTURAL EMPLOYMENT¹

DATE	OIL & GAS PRODUCTION	CHEMICAL INDUSTRY	PETROLEUM MANUFACTURING	ALL PIPELINE*	TOTAL EMPLOYMENT
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
2007	46,764	22,612	10,764	2,454	1,869,965
2008	50,541	22,788	11,287	2,553	1,889,576
2009	46,956	22,478	11,363	2,456	1,849,395
January	45,422	22,268	11,337	2,597	1,806,283
February	46,580	22,278	11,386	2,600	1,811,536
March	47,035	22,283	11,335	2,635	1,826,337
April	47,729	22,278	11,551	2,572	1,837,825
May	48,229	22,539	11,510	2,597	1,849,858
June	48,759	22,664	11,567	2,665	1,849,417
July	48,677	22,704	11,464	2,676	1,821,160
August	48,951	22,713	11,453	2,701	1,825,003
September	48,577	22,632	11,396	2,717	1,836,328
October	48,581	22,671	11,409	2,731	1,844,323
November	48,252	22,655	11,338	2,755	1,847,852
December	48,199	22,709	11,330	2,757	1,850,731
2010 Average	47,916	22,533	11,423	2,667	1,833,888
January	47,659	22,819	11,267	2,820	1,820,110
February	48,193	22,821	11,266	2,782	1,831,623
March	48,348	22,870	11,250	2,764	1,841,298
April	48,974	22,819	11,279	2,705	1,852,046
May	48,834	22,859	11,239	2,769	1,855,817
June	49,100	22,938	11,189	2,721	1,844,780
July	49,678	23,540	11,081	2,705	1,825,423
August	49,963	23,596	11,073	2,769	1,835,029
September	50,137	23,648	11,027	2,721	1,852,320
October	50,031	23,327	11,007	2,861	1,862,818
November	49,951	23,319	11,116	2,863	1,869,097
December	50,005	23,465	11,162	2,857	1,870,771
2011 Average	49,239	23,168	11,163	2,778	1,846,761

* 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

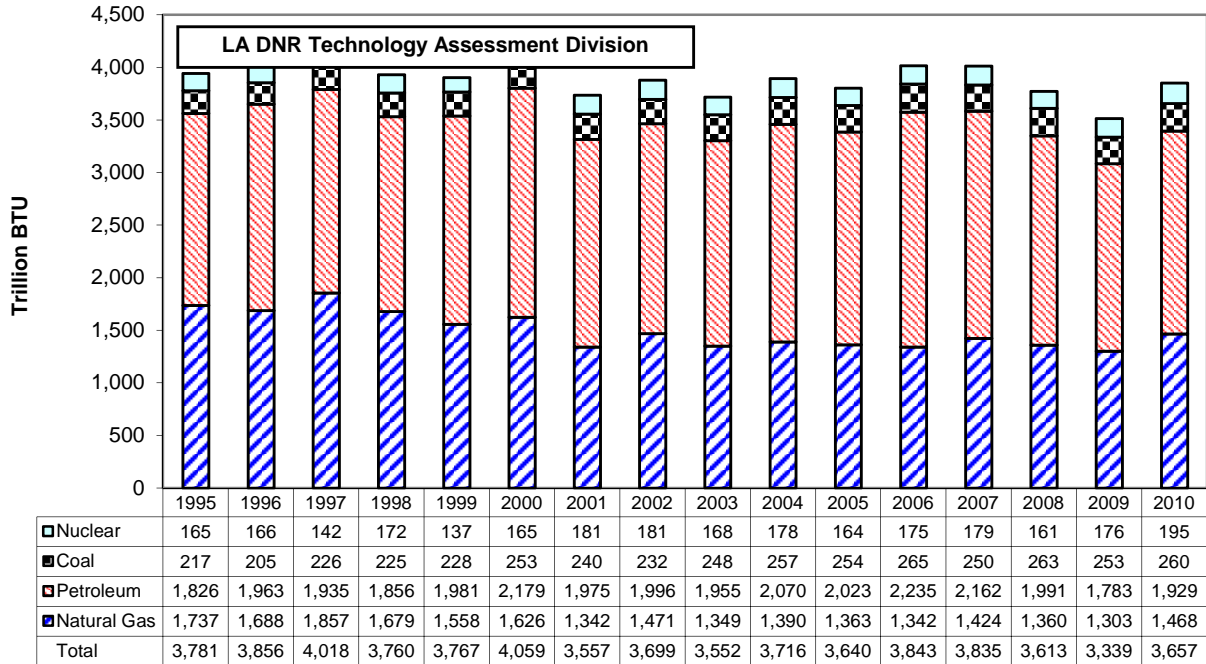


Figure 20

LOUISIANA REFINERY CRUDE OIL INPUT BY SOURCE

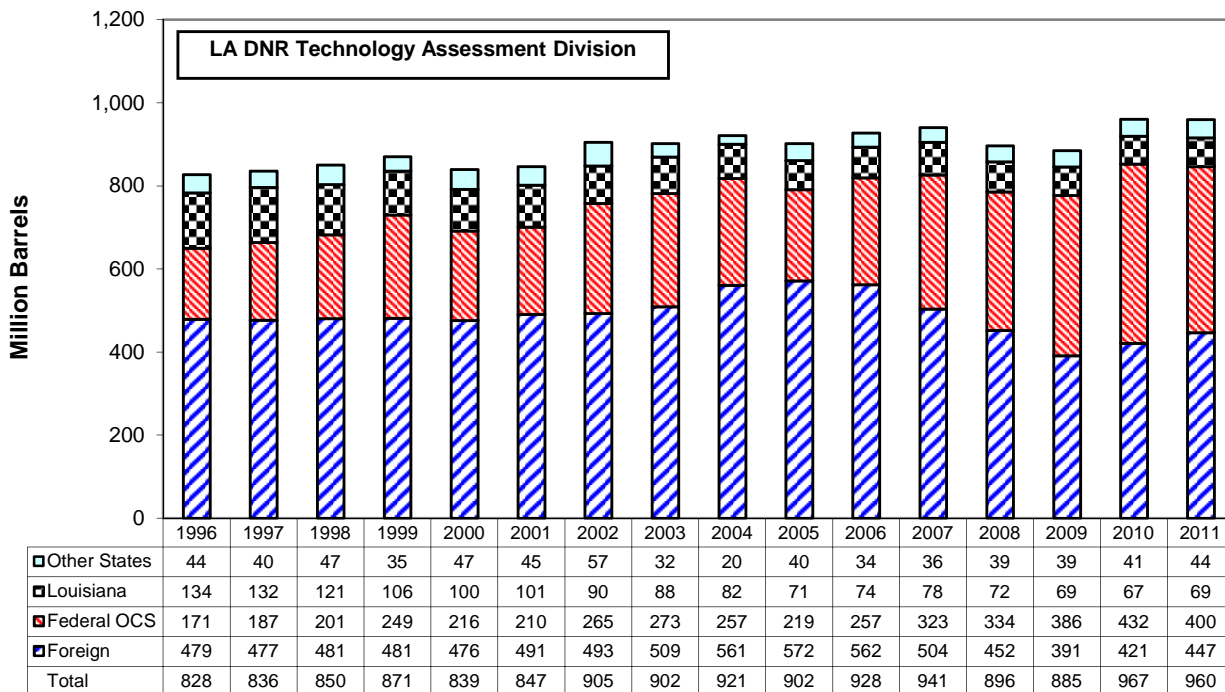


Table 38

LOUISIANA ENERGY CONSUMPTION ESTIMATES BY SOURCE¹¹

Year	Total Energy (TBTU)	Total Natural Gas (BCF)	Total Petroleum (MBBLS)	Total Coal (MST)	Total Nuclear (Million KWH)	Hydroelectric Power (Million KWH)
1970	2,798 r	1,841	176,224 r	0	0	0
1971	2,865 r	1,884	180,931 r	0	0	0
1972	3,042 r	1,940	205,568 r	0	0	0
1973	3,270 r	2,010	231,763 r	0	0	0
1974	3,333 r	2,008	242,545 r	0	0	0
1975	3,066 r	1,789	230,872 r	0	0	0
1976	3,506 r	2,044	260,930 r	0	0	0
1977	3,888 r	2,191	299,549 r	79	0	0
1978	4,037 r	2,249	312,231 r	172	0	0
1979	3,936 r	1,978	351,467 r	118	0	0
1980	3,730 r	1,794	345,640 r	111	0	0
1981	3,723 r	1,782	351,404 r	1,363	0	0
1982	3,384 r	1,556	329,383 r	3,724	0	0
1983	3,151 r	1,413	307,978 r	6,154	0	0
1984	3,248 r	1,594	283,675 r	6,855	0	0
1985	3,036 r	1,386	280,304 r	9,217	2,457	0
1986	3,198 r	1,439	292,730 r	10,459	10,637	0
1987	3,240 r	1,501	286,809 r	10,391	12,324	0
1988	3,311 r	1,446	300,896 r	12,848	13,785	0
1989	3,408 r	1,556 r	297,765 r	12,471	12,391	0
1990	3,480 r	1,588 r	304,516 r	12,547	14,197	656
1991	3,463 r	1,525 r	312,517 r	12,965	13,956	656
1992	3,584 r	1,551 r	329,450 r	13,674	10,356	656
1993	3,627 r	1,579 r	334,556 r	13,676	14,398	1,232
1994	3,753 r	1,586 r	358,274 r	14,100	12,779	972
1995	3,781 r	1,679 r	350,162 r	13,357	15,686	952
1996	3,856 r	1,616 r	374,722 r	12,534	15,765	964
1997	4,018 r	1,661 r	361,782 r	13,874	13,511	1,036
1998	3,760 r	1,569	348,208 r	13,891	16,428	1,063
1999	3,767 r	1,495	381,195 r	13,953	13,112	802
2000	4,059 r	1,537	428,363 r	15,737	15,796	532
2001	3,557 r	1,307 r	377,607 r	14,934	17,336	732
2002	3,699 r	1,426	383,119 r	14,676	17,305	891
2003	3,552 r	1,308	362,328 r	15,592	16,126	892
2004	3,716 r	1,346	384,677 r	16,059	17,080	1,099
2005	3,640 r	1,310	373,980 r	15,856	15,676	811
2006	3,843 r	1,293 r	413,583 r	16,410	16,735	713
2007	3,835 r	1,377 r	399,732 r	15,524 r	17,078 r	827
2008	3,613 r	1,314	369,658 r	16,409 r	15,371 r	1,064
2009	3,339 r	1,266 r	336,444 r	15,736	16,782 r	1,236
2010	3,657	1,434	361,683	16,240	18,639	1,109

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
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
2008	16,248,826	2,440,984	18
2009	13,019,604	2,412,848	19
2010	14,183,752	2,632,282	19
January	13,479,992	2,707,889	19
February	13,218,569	2,763,908	19
March	12,625,306	2,822,433	19
April	13,872,864 r	2,681,293 r	19
May	14,108,312 r	2,847,641 r	19
June	14,059,641 r	2,763,239 r	19
July	14,259,605 r	2,735,064 r	19
August	14,573,861 r	2,852,351 r	19
September	12,997,549 r	2,667,002 r	19
October	13,424,933 r	2,720,294 r	19
November	12,459,968 r	2,741,522 r	18 r
December	12,604,751 r	2,621,537 r	18 r
2011 Total	13,473,779 r	2,743,681 r	19 r
January	13,893,982	2,460,873	18
February	12,946,176	2,603,478	18
March	13,867,040	2,479,709	18
April	13,703,695	2,656,078	18
May	12,984,455	2,904,454	18
June	14,462,080	2,926,800	18
July	13,839,012	2,963,408	18
August	13,272,747	2,736,355	18
September	13,693,927	2,561,225	18
October	13,624,158	2,861,707	18
November	13,607,461 e	2,729,836 e	18 e
December	13,549,573 e	2,529,055 e	18 e
2012 Total	13,620,359 e	2,701,081 e	18 e

e Estimated r Revised p Preliminary



Exxon-Mobil Refinery - Baton Rouge

Figure 21

LOUISIANA LIGNITE PRODUCTION BY MINE SOURCE
(Thousand Tons Shipped)

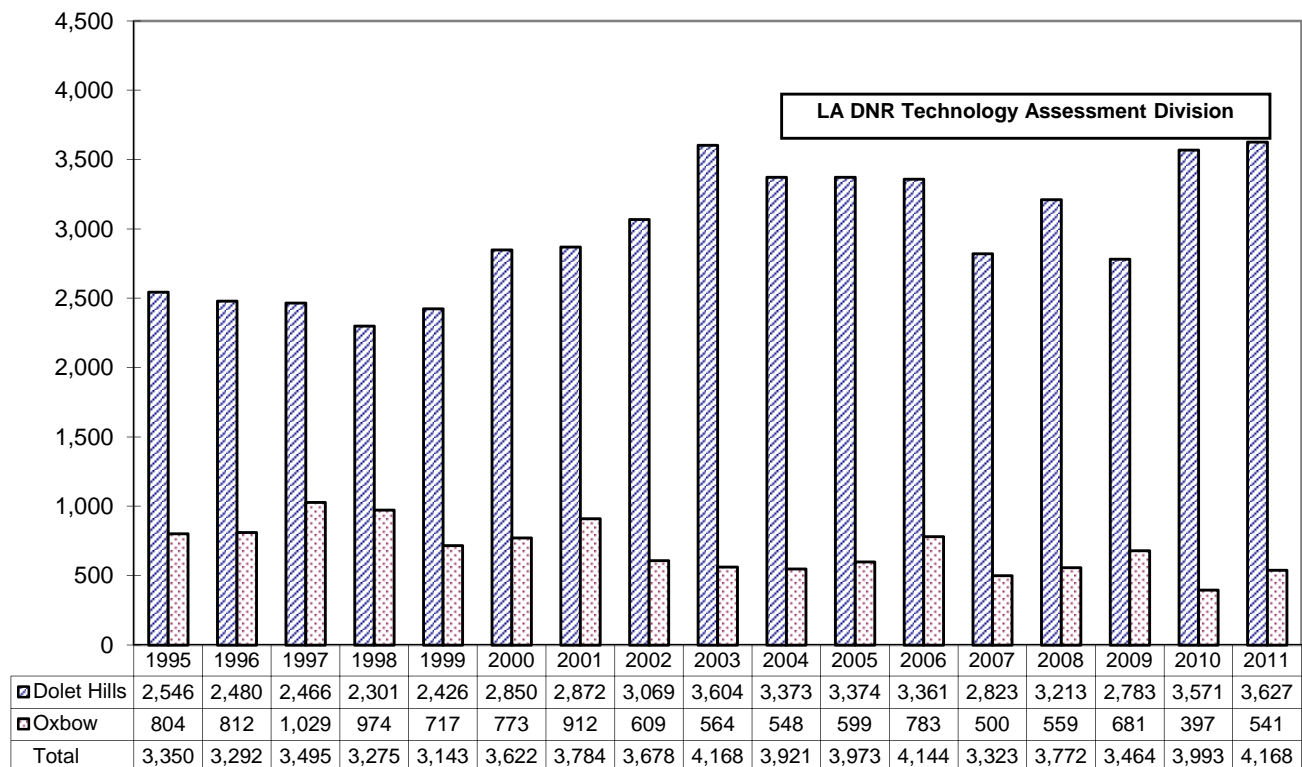


Table 40

LOUISIANA ELECTRIC UTILITIES NET ELECTRICITY GENERATION¹⁴
BY FUEL TYPE
(Million KWH)

YEAR	COAL	LIGNITE	OIL	GAS	NUCLEAR	TOTAL
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	14,484 *	N/A	625	26,696	15,796	57,601
2001	10,917 *	N/A	1,722	20,402	17,336	50,378
2002	12,259 *	N/A	68	25,086	17,305	54,922 *
2003	11,020 *	N/A	1,008	15,094	16,126	43,485 *
2004	11,324 *	N/A	3,694	15,139	17,080	47,604 *
2005	11,416 *	N/A	3,378	13,688	15,676	44,158 *
2006	11,545 *	N/A	1,757	10,854	16,735	40,891 *
2007	10,736 *	N/A	1,977	13,872	17,078	43,523 *
2008	11,213 *	N/A	1,901	14,680	15,371	43,164 *
2009	11,025 *	N/A	1,460	14,325	16,782	43,592 *
2010	11,226 *	N/A	2,891	18,924	18,639	51,681 *
2011	11,860 *	N/A	4,378	22,071	16,615	54,924 *

* 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

AbbreviationsA-1

Data SourcesB-1

GlossaryC-1

Gas Production at 14.73 psiaD-1

Louisiana Energy Briefs and Topics.....E-1



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
GOM	Gulf of Mexico
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
AR	Arkansas	ND	North Dakota
CA	California	NM	New Mexico
CO	Colorado	OK	Oklahoma
IL	Illinois	PA	Pennsylvania
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 ROTARY RIGS COUNT, Houston, TX: Baker Hughes Inc.
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, 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, Bureau of Ocean Energy Management.
13. NATURAL RESOURCES REVENUE, Denver, CO: U.S. Department of the Interior, Office of Natural Resources Revenue.
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 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. It is the 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 pressurizing, 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

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

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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
1991	394,486,602	1,178,953,537	116,788,989	1,690,229,128
1992	380,916,600	1,188,458,789	116,287,491	1,685,662,880
1993	367,510,962	1,160,338,473	126,526,532	1,654,375,967
1994	361,971,515	1,090,345,158	130,967,154	1,583,283,827
1995	374,569,365	1,067,857,751	139,240,110	1,581,667,226
1996	423,597,332	1,085,724,307	162,694,485	1,672,016,124
1997	450,692,967	1,028,512,775	164,180,018	1,643,385,760
1998	437,854,747	1,028,913,898	147,211,205	1,613,979,851
1999	393,199,782	976,555,159	118,149,642	1,487,904,583
2000	389,046,189	998,183,657	109,700,568	1,496,930,414
2001	398,669,527	1,013,161,682	113,437,548	1,525,268,757
2002	394,821,438	894,110,994	100,203,563	1,389,135,995
2003	424,829,404 r	861,626,563 r	85,083,840 r	1,371,539,808
2004	484,946,605 r	822,311,081 r	69,498,690 r	1,376,756,377
2005	548,641,901 r	707,489,823 r	54,557,630 r	1,310,689,355
2006	583,273,660 r	725,050,318 r	68,621,268 r	1,376,945,246
2007	623,722,576 r	685,754,611 r	72,842,683 r	1,382,319,870
2008	697,817,372 r	603,228,397 r	85,617,262 r	1,386,663,032
2009	980,523,728 r	502,154,429 r	76,360,764 r	1,559,038,921
2010	1,729,969,583 r	418,890,168 r	69,751,520 r	2,218,611,271 r
January	184,583,123 r	34,522,986 r	6,032,235 r	225,138,343 r
February	172,569,619 r	31,037,147 r	5,532,231 r	209,138,996 r
March	205,364,756 r	35,171,088 r	6,405,211 r	246,941,055 r
April	203,965,921 r	33,699,888 r	5,806,112 r	243,471,921 r
May	216,823,312 r	34,141,276 r	5,991,697 r	256,956,284 r
June	206,789,891 r	32,811,574 r	5,552,780 r	245,154,245 r
July	218,287,822 r	34,892,348 r	5,762,053 r	258,942,223 r
August	226,885,901 r	34,801,781 r	6,197,310 r	267,884,992 r
September	226,403,636 r	32,065,542 r	5,450,573 r	263,919,751 r
October	234,422,489 r	34,921,766 r	5,836,486 r	275,180,741 r
November	232,005,879 r	33,575,506 r	6,040,083 r	271,621,468 r
December	235,495,756 r	34,027,333 r	6,618,948 r	276,142,037 r
2011 Total	2,563,598,105 r	405,668,234 r	71,225,717 r	3,040,492,056 r
January	232,682,341	32,997,306	6,226,022	271,905,670
February	204,876,261	30,325,550	6,121,189	241,323,000
March	217,209,249	32,088,159	7,068,064	256,365,472
April	205,784,081	31,669,044	7,055,270	244,508,395
May	215,764,328	32,334,039	6,935,685	255,034,051
June	217,090,640	31,087,600	6,789,726	254,967,967
July	225,555,276	32,328,373	6,625,651	264,509,300
August	224,639,481	29,009,408	5,146,489	258,795,378
September	211,276,333	28,442,517	6,087,728	245,806,577
October	218,078,592	28,460,011	5,634,952	252,173,555
November	218,999,072 p	29,626,657 p	6,020,568 p	254,646,297 p
December	219,380,186 e	29,336,806 e	5,867,659 e	254,584,651 e
2012 Total	2,611,335,839 e	367,705,472 e	75,579,003 e	3,054,620,313 e

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)*

DATE	ONSHORE	OFFSHORE		TOTAL
		State	Federal OCS ¹²	
1991	1,573,440,139	116,788,989	3,289,968,620	4,980,197,748
1992	1,569,375,389	116,287,491	3,338,101,465	5,023,764,345
1993	1,527,849,435	126,526,532	3,386,808,671	5,041,184,638
1994	1,452,316,673	130,967,154	3,492,406,781	5,075,690,608
1995	1,442,427,115	139,240,110	3,636,068,016	5,217,735,242
1996	1,509,321,639	162,694,485	3,783,483,306	5,455,499,430
1997	1,479,205,742	164,180,018	3,901,964,998	5,545,350,758
1998	1,466,768,646	147,211,205	3,890,978,799	5,504,958,650
1999	1,369,754,941	118,149,642	3,913,456,139	5,401,360,722
2000	1,387,229,846	109,700,568	3,837,150,457	5,334,080,871
2001	1,411,831,209	113,437,548	3,895,134,261	5,420,403,019
2002	1,288,932,431	100,203,563	3,527,116,066	4,916,252,060
2003	1,286,455,968 r	85,083,840 r	3,342,004,232	4,713,544,040
2004	1,307,257,686 r	69,498,690 r	2,897,440,676	4,274,197,053
2005	1,256,131,724 r	54,557,630 r	2,229,362,826	3,540,052,181
2006	1,308,323,978 r	68,621,268 r	2,089,462,261 e	3,466,407,507 e
2007	1,309,477,187 r	72,842,683 r	2,062,554,663 e	3,444,874,533 e
2008	1,301,045,769 r	85,617,262 r	1,677,562,129 e	3,064,225,160 e r
2009	1,482,678,157 r	76,360,764 r	1,761,781,308 e	3,320,820,229 e r
2010	2,148,859,751 r	69,751,520 r	1,668,964,214 e	3,887,575,486 e r
January	219,106,109 r	6,032,235 r	133,431,880 e	358,570,224 e r
February	203,606,766 r	5,532,231 r	113,851,889 e	322,990,885 e r
March	240,535,844 r	6,405,211 r	125,370,843 e	372,311,898 e r
April	237,665,809 r	5,806,112 r	119,392,513 e	362,864,434 e r
May	250,964,588 r	5,991,697 r	121,035,765 e	377,992,049 e r
June	239,601,465 r	5,552,780 r	112,299,043 e	357,453,288 e r
July	253,180,170 r	5,762,053 r	111,878,103 e	370,820,326 e r
August	261,687,682 r	6,197,310 r	109,488,534 e	377,373,526 e r
September	258,469,178 r	5,450,573 r	91,113,467 e	355,033,219 e r
October	269,344,255 r	5,836,486 r	106,967,109 e	382,147,850 e r
November	265,581,385 r	6,040,083 r	102,828,339 e	374,449,806 e r
December	269,523,089 r	6,618,948 r	106,840,822 e	382,982,859 e r
2011 Total	2,969,266,339 r	71,225,717 r	1,354,498,307 e	4,394,990,363 e r
January	265,679,647	6,226,022	105,405,303 e	377,310,972 e
February	235,201,811	6,121,189	96,902,236 e	338,225,237 e
March	249,297,408	7,068,064	104,789,601 e	361,155,073 e
April	237,453,125	7,055,270	96,408,156 e	340,916,551 e
May	248,098,366	6,935,685	92,937,662 e	347,971,713 e
June	248,178,241	6,789,726	86,408,780 e	341,376,746 e
July	257,883,649	6,625,651	97,692,301 e	362,201,601 e
August	253,648,889	5,146,489	81,286,781 e	340,082,159 e
September	239,718,849	6,087,728	79,153,703 e	324,960,280 e
October	246,538,603	5,634,952	83,712,080 e	335,885,636 e
November	248,625,729 p	6,020,568 p	88,462,621 e	343,108,918 e
December	248,716,992 e	5,867,659 e	86,044,262 e	340,628,913 e
2012 Total	2,979,041,310 e	75,579,003 e	1,099,203,485 e	4,153,823,798 e

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 PRODUCTION¹² (Billion Cubic Feet (BCF) at 14.73 psia and 60 degrees Fahrenheit)*

DATE	MARKETED			EXTRACTION	DRY ³
	State	OCS ¹²	Total ³	LOSS ³	
1970	5,538 e	2,250	7,944 e	193	7,595
1971	5,474 e	2,608	8,244 e	195	7,887
1972	5,120 e	2,853	8,132 e	198	7,775
1973	5,217 e	3,025	8,407 e	207	8,036
1974	4,438 e	3,316	7,909 e	194	7,559
1975	3,792 e	3,299	7,233 e	190	6,901
1976	3,542 e	3,465	7,147 e	173	6,834
1977	3,604 e	3,611	7,360 e	166	7,049
1978	3,368 e	4,108	7,626 e	162	7,315
1979	3,149 e	4,117	7,412 e	166	7,101
1980	2,966 e	3,974	7,079 e	142	6,798
1981	2,715 e	4,065	6,916 e	142	6,638
1982	2,406 e	3,766	6,295 e	129	6,043
1983	2,190 e	3,142	5,439 e	124	5,208
1984	2,282 e	3,543	5,942 e	133	5,693
1985	1,928 e	3,086	5,114 e	118	4,896
1986	1,997 e	2,899	4,993 e	116	4,780
1987	1,974 e	3,148	5,225 e	125	4,998
1988	2,114 e	3,066	5,284 e	120	5,060
1989	2,102 e	2,977	5,180 e	121	4,957
1990	1,573 e	3,669	5,347 e	119	5,123
1991	1,878 e	3,257	5,135 e	129	4,905
1992	1,748 e	3,265	5,013 e	133	4,782
1993	1,774 e	3,317	5,091 e	130	4,861
1994	1,795 e	3,479	5,273 e	129	5,041
1995	1,785 e	3,425	5,211 e	146	4,962
1996	1,734 e	3,662	5,396 e	140	5,150
1997	1,535 e	3,799	5,335 e	147	4,980
1998	1,583 e	3,800	5,383 e	142	5,032
1999	1,598 e	3,718	5,316 e	162	5,011
2000	1,484 e	3,647	5,131 e	168	5,027
2001	1,532	3,699	5,232	156	5,076
2002	1,389	3,325	4,715	160	4,554
2003	1,377	3,147	4,524	127	4,397
2004	1,380	2,699	4,079	136	3,943
2005	1,322	2,078	3,400	105	3,295
2006	1,388	1,990	3,378	107	3,271
2007	1,393 r	1,953	3,346	113	3,233
2008	1,406 r	1,611	3,017	116	2,901
2009	1,580 r	1,701	3,280	126	3,154
2010	2,254 r	1,622	3,876	132	3,745
2011	3,111 r	1,343 e	4,454 e	105 e	4,349 e

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 PRODUCTION¹² Natural Gas and Casinghead Gas (Thousand Cubic Feet (MCF) at 14.73 psia and 60 degrees Fahrenheit)*

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
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	5,526,469	3,739,983,448
1978	4,149,731,158	231,857,451	5,269,758	4,386,858,368
1979	4,158,521,732	511,590,610	5,540,606	4,675,652,948
1980	4,013,707,456	624,642,529	6,018,184	4,644,368,168
1981	4,106,494,612	730,275,835	13,018,920	4,849,789,367
1982	3,803,740,070	858,020,303	18,107,445	4,679,867,818
1983	3,173,892,371	850,817,216	24,652,314	4,049,361,901
1984	3,578,740,589	931,293,587	47,292,436	4,557,326,612
1985	3,116,884,507	834,926,527	65,851,130	4,017,662,165
1986	2,927,832,280	978,370,557	60,261,186	3,966,464,023
1987	3,180,107,212	1,204,488,343	55,902,749	4,440,498,305
1988	3,096,881,645	1,178,422,567	50,152,326	4,325,456,538
1989	3,006,576,077	1,165,112,959	51,809,130	4,223,498,166
1990	3,706,324,064	1,348,075,368	50,973,576	5,105,373,008
1991	3,289,968,620	1,184,936,500	52,894,097	4,527,799,217
1992	3,338,101,465	1,239,389,554	56,337,793	4,701,108,883
1993	3,386,808,671	1,027,937,761	53,194,699	4,544,502,364
1994	3,492,406,781	1,014,204,140	54,633,354	4,669,972,144
1995	3,636,068,016	908,520,055	55,887,350	4,711,732,699
1996	3,783,483,306	972,873,764	68,121,164	5,054,719,057
1997	3,901,964,998	965,334,787	74,813,429	5,111,087,682
1998	3,890,978,799	867,606,779	76,486,583	4,885,443,089
1999	3,913,456,139	814,124,878	79,367,732	5,034,470,230
2000	3,837,150,457	886,473,041	77,598,107	5,018,433,562
2001	3,895,134,261	916,020,487	72,367,542	5,248,963,271
	GULF OF MEXICO		PACIFIC	TOTAL
	CENTRAL	WESTERN		
2002	3,580,828,493	1,019,741,703	69,174,162	4,699,918,283
2003	3,392,897,697	1,087,114,884	59,258,478	4,593,381,866
2004	2,941,564,138	1,121,137,433	55,749,584	4,187,036,121
2005	1,973,860,605	788,940,947	55,171,229	2,819,465,782
2006	2,165,245,866	795,608,571	41,216,237	3,002,354,380
2007	2,137,362,345	648,316,715	46,427,556	2,878,983,938
2008	1,738,406,351	491,513,872	45,801,259	2,417,579,275
2009	1,825,680,112	476,309,942	42,054,700	2,527,203,879
2010	1,729,195,150	421,044,010	42,025,119	2,317,635,691
2011	1,396,947,967	344,189,874	41,208,077	1,890,134,414

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 PRODUCTION³ (Billion Cubic Feet (BCF) at 14.73 psia and 60 degrees Fahrenheit)*

DATE	GROSS	WET AFTER LEASE SEPARATION	MARKETED	DRY	GROSS IMPORTS
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	19,984	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	19,539	19,382	18,476	4,186
2007	24,591	20,340	20,019	19,089	4,608
2008	25,636	21,279	21,112	20,159	3,984
2009	26,057	21,813	21,648	20,624	3,751
2010	26,816	22,548	22,382	21,316	3,741
January	2,299 r	1,963 r	1,953 r	1,861 r	372 r
February	2,104 r	1,739 r	1,729 r	1,647 r	311 r
March	2,411 r	2,015 r	2,002 r	1,908 r	315 r
April	2,350 r	1,973 r	1,961 r	1,868 r	278 r
May	2,411 r	2,043 r	2,031 r	1,935 r	271 r
June	2,313 r	1,967 r	1,954 r	1,862 r	267 r
July	2,340 r	2,047 r	2,033 r	1,937 r	293 r
August	2,370 r	2,069 r	2,057 r	1,960 r	280 r
September	2,358 r	2,000 r	1,987 r	1,893 r	252 r
October	2,502 r	2,135 r	2,119 r	2,019 r	282 r
November	2,476 r	2,094 r	2,076 r	1,978 r	249 r
December	2,544 r	2,151 r	2,135 r	2,034 r	298 r
2011 Total	28,479 r	24,195 r	24,036 r	22,902 r	3,469 r
January	2,573	2,167	2,149	2,041	281
February	2,378	2,005	1,989	1,887	270
March	2,537	2,141	2,123	2,014	265
April	2,445	2,083	2,065	1,960	243
May	2,530	2,158	2,139	2,031	259
June	2,420	2,082	2,061	1,958	260
July	2,456	2,159	2,137	2,031	281
August	2,372	2,148	2,128	2,021	281
September	2,428	2,107	2,086	1,978	258
October	2,571	2,191	2,172	2,058	253
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2012 Total	24,710	21,240	21,051	19,978	2,650

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

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NATURAL GAS VEHICLES IN LOUISIANA

by
Bryan Crouch, P.E.

Natural Gas Vehicle Basics

Natural gas is a clean-burning, economical alternative to gasoline and diesel that can be utilized in almost any type of vehicle. Natural gas vehicles (NGVs) reduce greenhouse gas emissions by 20% – 30%, reduce ozone forming nitrogen oxide emissions by 35% – 60%, and produce little or no particulate emissions when compared to gasoline and diesel powered vehicles. Natural gas is currently about 40% – 45% less expensive than gasoline and diesel. Natural gas is also an abundant and domestically produced fuel with Louisiana being the second largest producer in the U.S.

Natural gas can be stored onboard a vehicle as either compressed natural gas (CNG) or liquefied natural gas (LNG). CNG is typically utilized in light, medium, and some heavy-duty applications, and LNG is typically utilized in heavy-duty long-haul trucks. Natural gas vehicles are available directly from manufacturers (OEM), by modifying an engine in a new or existing vehicle to operate on natural gas (referred to as “conversion”), or by replacing the gasoline or diesel engine in an existing vehicle with an engine that operates on natural gas (referred to as “repowering”). In addition, vehicles converted to CNG can be dedicated or bi-fuel. A dedicated CNG vehicle can only operate on CNG, whereas a bi-fuel CNG vehicle can operate on CNG or gasoline, but not simultaneously. Bi-fuel CNG conversions have the advantage of being able to use gasoline when CNG is not available, but are not optimized for CNG, and therefore, are not as efficient as a dedicated NGV.

Natural gas vehicle availability is limited, but expanding. The only OEM CNG passenger car available is the Honda Civic GX. General Motors has a CNG cargo van available and a CNG wheel chair accessible van is available through Ford. Both GM and Ford are planning to offer CNG pick up trucks very soon. Choices for OEM NGVs in the mid- and heavy-duty market are greater with several manufacturers offering school busses, transit busses, refuse trucks, and more. The conversion and repower markets are fairly extensive with several manufacturers offering bi-fuel and dedicated natural gas conversion “kits” and engines for vehicles ranging from small passenger vehicles to long-haul trucks. A guide to available NGVs is available from the Natural Gas Vehicles for America website: <http://www.ngvc.org/pdfs/marketplace/MP.Analyses.NGVs-a.pdf>.

NGVs cost more than their conventionally fueled counterparts. The Honda Civic GX has a premium of approximately \$6,500 and a CNG refuse truck has a premium of approximately \$45,000. Conversion costs for light duty cars and trucks range from \$12,000 - \$18,000, and repower costs for heavy-duty trucks can top \$50,000.

In addition to the increased up-front costs of NGVs, the other main impediment to their widespread usage is the lack of refueling infrastructure. L/CNG refueling stations range from small private access only stations for a particular fleet to large publicly accessible stations similar to and/or in conjunction with conventional refueling stations. Currently, there are only a handful of refueling stations in Louisiana for NGVs, but several more are either under construction or in the planning stages. By late 2012, there will be about 20 public access CNG stations in Louisiana, including locations in and around Shreveport, Alexandria, Lafayette, Baton Rouge, and New Orleans.

Louisiana Incentives and Initiatives

Louisiana has a state tax credit for individuals and businesses who invest in alternative fuel vehicles and refueling equipment. In the case of L/CNG, the credit is for 50% of either the cost to convert or repower a vehicle to L/CNG, 50% of the incremental cost of an OEM L/CNG vehicle, and 50% of the cost of refueling equipment.

The Louisiana Department of Natural Resources administers the EmPower Louisiana Transportation Efficiency and Alternative Fuels Grant Program. Funding for this program came through the American Recovery and Reinvestment Act of 2009 and has already been completely allocated. Eighteen grants totaling \$8.4 million were awarded for 119 CNG vehicle purchases/conversions and 8 publicly accessible refueling stations.

Economics

Payback times and life-cycle cost savings are dependent on a number of variables that are specific to each situation. In general, payback times are long and life-cycle cost savings are relatively small for the average consumer light-duty vehicle, whereas, high-mileage heavy-duty fleet vehicles can pay back in less than 2 years and result in life-cycle savings of \$80,000 or more. Here are several examples based on a fuel cost savings of \$1.40 per GGE:

- Private commuter vehicle – Honda Civic GX
 - 15,000 miles driven per year, 26 mpg average, 10 years service life
 - \$6,500 incremental cost
 - \$3,250 Louisiana income tax credit
 - **Simple payback = 4 years**
 - **Life-cycle cost savings = \$4,827**

- Contractor – Chevy/GMC 3500 cargo van
 - 35,000 miles driven per year, 13 mpg average, 5 years service life
 - \$15,500 incremental cost
 - \$7,750 Louisiana income tax credit
 - **Simple payback = 2.1 years**
 - **Life-cycle cost savings = \$11,096**

- Uniform service – Ford/GM step van
 - 28,000 miles driven per year, 6.2 mpg average, 10 years service life
 - \$30,000 incremental cost
 - \$15,000 Louisiana income tax credit
 - **Simple payback = 2.4 years**
 - **Life-cycle cost savings = \$48,226**

- School bus – Blue Bird/Thomas Built
 - 18,000 miles driven per year, 6.8 mpg average, 13 years service life
 - \$43,000 incremental cost
 - \$21,500 Louisiana income tax credit
 - **Simple payback = 5.8 years**
 - **Life-cycle cost savings = \$26,677**

- Garbage truck – Crane Carrier/Peterbilt/Mack
 - 25,000 miles driven per year, 2.7 mpg average, 8 years service life
 - \$45,000 incremental cost
 - \$22,500 Louisiana income tax credit
 - **Simple payback = 1.7 years**
 - **Life-cycle cost savings = \$81,204**

MONTEREY BAY AQUARIUM: DESIGN OF ENDURING SIGNIFICANCE

by
Howard Hershberg, AIA



SOURCE: Kelp Forest

© Monterey Bay Aquarium Foundation

The American Institute of Architects California Council (AIACC) 2011 Twenty-Five Year Award recipient is the Monterey Bay Aquarium (MBA).¹ The award recognizes buildings between twenty-five and fifty years old that have stood the test of time. The Monterey Bay Aquarium, designed by EHDD Architecture, was completed in 1984 in the historic Cannery Row in Monterey, California. The Aquarium's mission is "to inspire conservation of the oceans," and this facility, built half over land and half over water, embraces that mission. The MBA occupies land at the end of Cannery Row. The Aquarium was built on the site of the Hovden Cannery, a sardine cannery that helped define the character of Monterey from the time it was built until the cannery's closure in 1973, after sardine fishing collapsed. Hovden Cannery was dismantled in 1980.

The MBA pumps 2000 G.P.M. through 100 exhibit tanks night and day. During the day, the seawater is

¹ For more information about the Monterey Bay Aquarium see the Monterey Bay Aquarium Visitors Guide <http://gocalifornia.about.com/cs/montereycarmel/a/mbaq.htm> and the Monterey Bay Aquarium Website (www.montereybayaquarium.org).



SOURCE: Outer Bay Exhibit at the Monterey Aquarium © Monterey Bay Aquarium/Randy Wilder

filtered for clarity. At night, unfiltered seawater is pumped through the exhibits bringing in nutrients. Wastewater is pumped from the aquarium back into Monterey Bay. This design makes the MBA ecologically part of the Pacific Ocean. A 4.5 million liter tank in the Open Sea Galleries features one of the world's largest single pane windows. The pane is made up of five panes seamlessly glued together via a proprietary process.

While an aquarium takes lots of energy to run, they have implemented several conservation strategies including installing motion sensors and energy efficient lights in office spaces, replacing aquatic pumps with energy saving models, and regular power plant upgrades to increase the Aquarium's energy efficiency. They have a comprehensive recycling program and encourage their vendors to do the same. More than a third of the full-time employees carpool, walk, telecommute, bike to work, or use mass transit.

The Louisiana State Energy Office (SEO) disseminates information about energy efficiency and conservation. The information includes articles, facts, products, and applications being proposed, designed, and used by the building industry.

FUEL TAXES¹ ON CNG POWERED VEHICLES IN LOUISIANA

by

Bryan Crouch, P.E.
Patty Nussbaum, P.E.

When compressed natural gas (CNG) is used as a fuel for vehicles that operate on Louisiana highways it is subject to the fuel tax. The tax is paid annually based on mileage after the first year. A Special Fuels Decal is displayed on the vehicle as evidence that the fuel tax was paid. “Special fuels” means all combustible gases and liquids used in an internal combustion engine or motor for the generation of power for motor vehicles, except fuels subject to the gasoline tax.

The initial decal registration form, R-5390 (shown on page 2), is available on the Louisiana Department of Revenue’s (LDR) website under Registration forms for Excise Tax. When the registration form and payment are received by LDR, the applicant is sent the decal to be displayed on the vehicle. Annual renewal notices are sent automatically and a new decal is sent to the vehicle owner when the renewal and applicable tax are received.

State agencies, and those of its political subdivisions, are not exempt from the fuel tax.

LDR collects the state excise taxes on fuel but the funds are dedicated and used by the Louisiana Department of Transportation and Development for specific purposes. The state fuel tax is twenty cents per gallon. Sixteen cents of that goes to the Transportation Trust Fund. Four cents goes to the Transportation Infrastructure Model of Economic Development. The Special Fuels Decal tax is allocated in the same manner as the state fuel tax.

The tax rate for CNG vehicles under 10,000 pounds:

- 1) Annual flat rate at 80 percent of \$150, or
- 2) Variable rate of 80 percent of current rate (\$0.20 per gallon) based on fuel efficiency of 12 miles per gallon, but not to exceed the annual flat rate.

Louisiana is a member of the International Fuel Tax Agreement (IFTA). The decal requirement does not apply to vehicles owned and operated by interstate users who participate in the IFTA.

The rate for school buses used to transport Louisiana students is one-half of the lesser of the regular flat rate, or one-half of the variable rate.

1

Act 879 of the 1986 Regular Legislative Session changed the method of collecting the Special Fuels Tax on vehicles which are powered using liquefied petroleum gas, compressed natural gas, and/or liquefied natural gas.

Compressed natural gas (CNG), liquefied natural gas (LNG), and liquefied petroleum gas (LPG) are subject to Louisiana’s fuel tax when used to power a motor vehicle licensed or required to be licensed for highway use. The payment of the fuel tax is evidenced by a special fuel decal. The owners or operators of these vehicles are required to register each vehicle with the Department of Revenue and obtain a special fuel decal to indicate the payment of applicable fuel tax. The decals are renewed each year the vehicle is in use and are due annually on July 31 for the immediate prior 12-month period ending June 30. Vehicles acquired, altered, or converted after July 1 must be registered and have been issued a decal.

R-5390 (1/11)

For office use only

Batch type = 783 or 4

 LDR <i>Contributing to a better quality of life</i>	SF-D New Annual Special Fuels Decal Users of Liquefied Petroleum Gas, Compressed Natural Gas, and/or Liquefied Natural Gas
	Special Programs Division Excise Taxes Section P.O. Box 201 Baton Rouge, LA 70821-0201 (225) 219-7656 • (225) 219-2114 (TDD)

Name		
Address		
City	State	ZIP

REGISTRATION INFORMATION:

LPG _____ CNG _____ LNG _____

Due July 31

Line 1.	Vehicle information:	
	A. Date purchased and/or converted	▶
	B. Make of vehicle	▶
	C. Vehicle model	▶
	D. Vehicle serial number	▶
	E. Vehicle year	▶
	F. Vehicle weight (<i>in pounds</i>)	▶
	G. License number	▶
	H. Number of axles	▶
	I. Check here if a school bus <input type="checkbox"/>	▶
Line 2.	Amount of tax (<i>See instructions.</i>)	▶
Line 3.	If your vehicle has a gross license tax classification of more than 10,000 pounds, complete the following:	
	Odometer reading on date purchased and/or converted	▶
Line 4	Penalty , if report is delinquent (<i>5% for each 30 days or fraction thereof, not to exceed 25% of tax</i>)	▶
Line 5.	Interest , if report is delinquent (<i>See instructions.</i>)	▶
Line 6.	Total due. Make check payable to: Louisiana Department of Revenue	▶

Under the penalties of perjury, I declare that I have examined this return, including all accompanying documents, and to the best of my knowledge and belief, is true, correct, and complete.

Date (dd/mm/yyyy)	Sign here X	Signature of preparer, if other than taxpayer	Telephone
Complete Only If Vehicle Sold			
Date sold (dd/mm/yyyy)	Name of purchaser	Address	



8303

Source: Louisiana Department of Revenue ([http://revenue.louisiana.gov/forms/taxforms/5390\(1_11\)F.pdf](http://revenue.louisiana.gov/forms/taxforms/5390(1_11)F.pdf))

STATE OIL AND GAS: PRODUCTION AND PRICE PROJECTIONS

by
Manuel Lam, Senior Analyst

Louisiana has produced oil and gas for more than a century. This reports the historical and projected oil and gas productions from state regulated land and water bottoms; and the historical and projected oil and gas prices for the near future. Oil and gas production are intimately linked with the economy of our state. Presently, Louisiana is the sixth largest producer of crude oil and the third largest producer of natural gas in the U.S., if the federal Outer Continental Shelf (OCS) production is excluded. Louisiana is also second in per capita energy consumption. More than 229,000 wells have been drilled searching for oil and gas in Louisiana since the first commercial oil well was drilled in 1901 in Jennings. The Louisiana OCS oil and gas production volumes are greater than in any other federally regulated offshore areas in the U.S.

Some other interesting benchmarks in the Louisiana oil and gas production history are that, in 1910, the first freestanding above-water platform was used in Caddo Lake, near Shreveport; in 1938, the first well over water was completed in the Gulf of Mexico near Creole, offshore Cameron Parish; in 1947, the first offshore oil well was completed out of sight from land in Ship Shoal Block 32, south of Morgan City, St. Mary Parish; in 1951, the first concrete-coated pipeline was laid in the Gulf of Mexico; in 1954, the state started to produce more natural gas in terms of barrels of oil equivalents than crude oil; and in 2006, Haynesville Shale gas started producing, making the gas domination in the state more predominant.

Production Projections

Louisiana Historical and Projected Crude Oil Productions

	<u>Date</u>	<u>Base Case</u> (Barrels)	<u>% Change</u>	<u>Low Case</u> (Barrels)	<u>High Case</u> (Barrels)
Actual	FY2005/06	68,873,016	-17.57%	N/A	N/A
Actual	FY2006/07	76,845,430	11.58%	N/A	N/A
Actual	FY2007/08	77,143,123	0.39%	N/A	N/A
Actual	FY2008/09	69,558,354	-9.83%	N/A	N/A
Actual	FY2009/10	68,795,201	-1.10%	N/A	N/A
Actual	FY2010/11	69,684,073	1.29%	N/A	N/A
Projected	FY2011/12	70,082,527	0.57%	67,427,162	71,304,407
Projected	FY2012/13	67,024,200	-4.36%	64,680,997	70,623,503
Projected	FY2013/14	65,155,899	-2.79%	62,401,037	69,017,574
Projected	FY2014/15	63,916,664	-1.90%	60,461,027	68,236,504
Projected	FY2015/16	62,393,414	-2.38%	58,660,526	67,422,442

Louisiana's state oil production trend, excluding federal OCS, showed an average decline of 3.8% per year over the past ten years, but actual year-to-year change varies widely. As shown in the above table, FY2005/06 shows a 17.57% decline that was caused by Hurricanes Katrina and Rita; FY2006/07 and FY2007/08 showed increases due to recovery from the weather disaster and rising oil prices. A decline of 9.83% in FY2008/09 was caused by Hurricanes Gustav and Ike; in FY2009/10, the decline can be at-

tributed to a plunge in oil prices after the high in 2008 delayed its recovery from the weather disaster; FY2010/11's increase was part of the delayed weather disaster recovery. The DNR Technology Assessment Division short term model base case is projecting a 2.2 % decline per year for oil over the next five years, if crude oil prices stay over \$90 per barrel and no major weather disruption occurs. The model projections for the next five years are listed in the above table. If prices go over \$110 for an extended period, the projections will be closer to the high case, and will exceed it if significant oil volume is found in the Tuscaloosa Marine shale in South Louisiana or the Brown Dense shale in North Louisiana.

Louisiana Historical and Projected Natural Gas Productions

	<u>Date</u>	<u>Base Case</u> (MCF)	<u>% Change</u>	<u>Low Case</u> (MCF)	<u>High Case</u> (MCF)
Actual	FY2005/06	1,282,110,642	-5.40%	N/A	N/A
Actual	FY2006/07	1,353,183,804	5.54%	N/A	N/A
Actual	FY2007/08	1,373,628,194	1.51%	N/A	N/A
Actual	FY2008/09	1,430,424,981	4.13%	N/A	N/A
Actual	FY2009/10	1,887,413,135	31.95%	N/A	N/A
Actual	FY2010/11	2,680,042,422	42.00%	N/A	N/A
Projected	FY2011/12	3,071,618,383	14.61%	2,881,790,027	3,113,366,578
Projected	FY2012/13	2,957,419,816	-3.72%	2,776,868,742	3,183,299,069
Projected	FY2013/14	3,007,383,465	1.69%	2,788,786,095	3,219,472,264
Projected	FY2014/15	3,019,475,013	0.40%	2,802,599,862	3,258,191,279
Projected	FY2015/16	3,036,077,749	0.55%	2,804,022,952	3,282,765,108

Louisiana state gas production, excluding federal OCS, from FY2001/02 thru FY2006/07 declined an average of 1.57% per year. Similar to oil, gas production varies from year-to-year, reflecting the severity of weather patterns. In FY2006/07, the Haynesville Shale dry gas field came into the picture and changed the pattern. For example, the high decline in oil production in FY2008/09 was due to Hurricanes Gustav and Ike, while gas production showed a 4.13% increase. If there were no hurricanes that year, the percentage of increase in production would have been higher. From FY2008/09 to the present, Louisiana state gas production has shown percent increases in the double digits. The DNR Technology Assessment Division short-term model projections for the next five years are shown in the above table. The projections assume that no major weather disruptions occur and average gas prices are above \$3 per MCF. Recent gas prices dropping below the \$3 per MCF have caused a slowdown in drilling activities in the Haynesville Shale areas. On March 23, 2012, there were 50 active rigs in Haynesville areas, a 59% decline compared to the previous year. The drop in drilling activities and cutback in production due to low prices will curtail the gas production growth in Louisiana.

Factors that contribute to the year-to-year deviations in oil and gas production are:

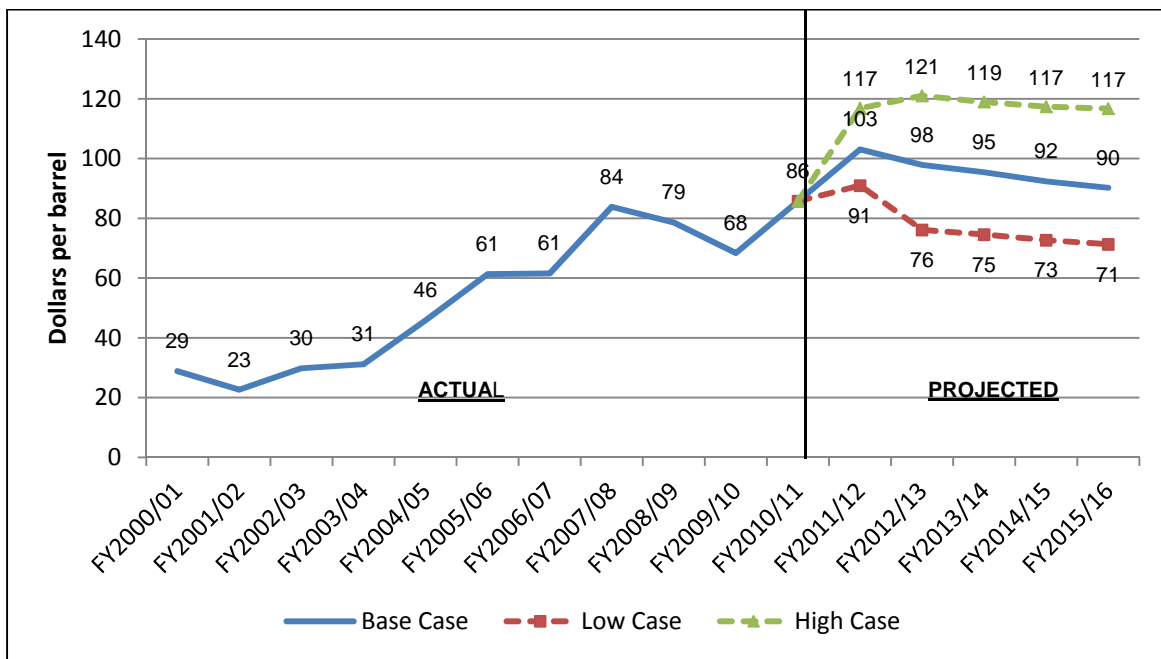
- Changes in wildcat drilling and development of marginal fields within the state
- Adding new producing areas
- Unstable crude oil and natural gas prices
- Changes in environmental laws, especially those concerning salt water discharge and the Clean Air Act Amendments of 1990
- World supply and demand causing a glut or shortage, depending on its growth rate
- The number of active drilling rigs in the region
- Application of advanced technology such as 3-D and 4-D seismic

- State and local tax incentives
- Weather patterns
- Foreign imports or exports

Price Projections

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 are well balanced and refiners have sufficient downstream capacity to process difficult crudes, the price of crude oil will seek a stable market condition.

Louisiana Crude Oil Historical and Projected Prices

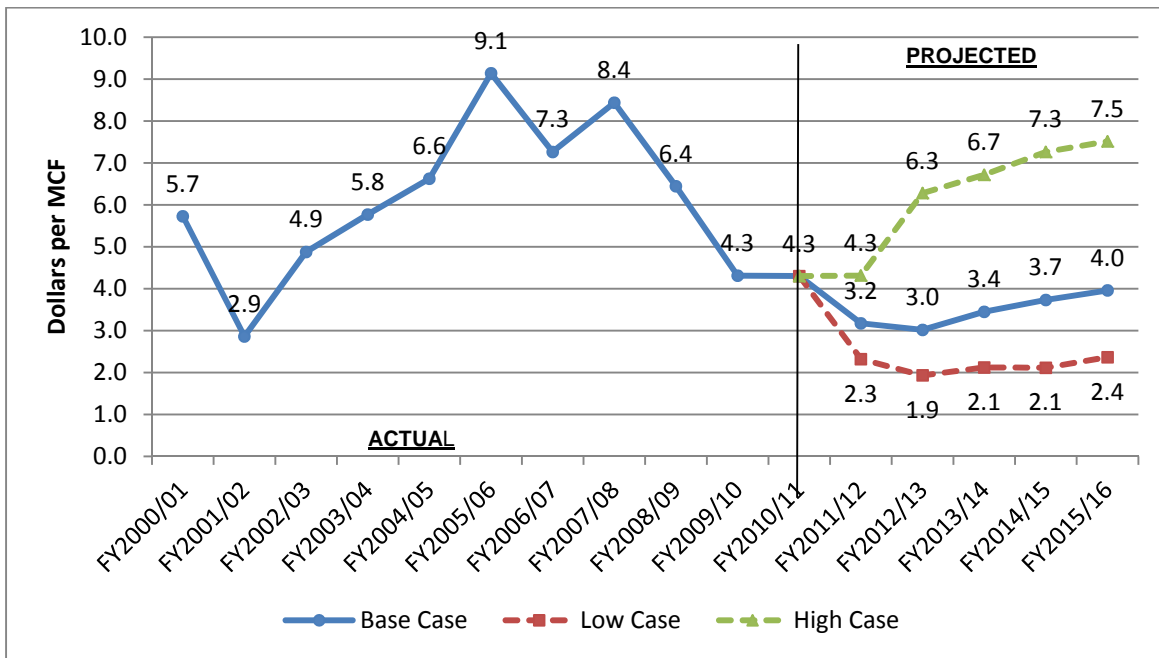


The most used relationship between crude oil price and natural gas price is the so-called “6-to-1” rule, where the price of one barrel of crude oil should be approximately six times the price of natural gas per million BTUs (MMBTUs). The reason is that the BTU content of a barrel of oil is around six times the quantity of a million BTUs of natural gas. Natural gas prices recently started to diverge from this relationship, with the current ratio being 58:1. Oil prices have risen rapidly while gas prices are falling, because Asian countries are consuming more oil than gas as they recover from recent recession and the earthquake in Japan; the political unrest in African and Islamic countries are disrupting oil supply more heavily than gas supply. Gas has less mobility than oil in international trade because it requires special vessels and infrastructure (pipelines, compression stations, LNG terminals, etc.).

Gas prices are cyclical, regional, controlled by supply and demand, and lack infrastructure for international trade. They are driven by factors such as weather, demand for gas not satisfied by pipeline systems, availability of spot supplies, and competing fuel prices. Others factors that could affect prices are storage levels, curtailments, market changes, new consumption, and NAFTA (North American Free Trade Agreement). Gas prices are also affected by psychological factors. Often the expectation of soft prices is enough to bring them about and a good dose of cold winter weather will usually erase much of the psychological element of low gas prices and prices move higher.

The lack of mobility of natural gas between producing areas and consuming areas caused by insufficient infrastructure is best shown by market prices in consuming nations. In March 2012, gas prices were \$15.25 per MMBTU in Japan and Korea, \$13.65 per MMBTU in India, \$9.65 per MMBTU in Spain, \$8.87 per MMBTU in Belgium, and \$2.22 per MMBTU in the U.S. (Lake Charles). In the U.S., the lack of gas mobility is causing the sky over the Bakken oil shale producing areas in North Dakota to be lighted at night by the flaring of casinghead gas.

Louisiana Natural Gas Historical and Projected Prices



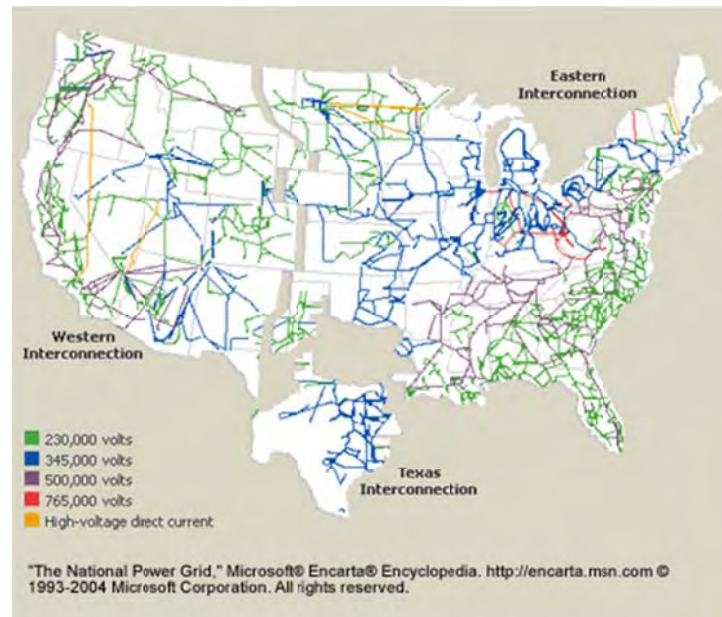
The 2011 Louisiana Energy Facts Annual is available online now at <http://www.dnr.louisiana.gov/tad>

SMART METERS: DEVICES FOR A SMART ELECTRIC POWER GRID

by
Patty Nussbaum, P.E.

The electric power grid is the three large interconnected systems that move electricity. Electricity is generated at power generating stations and moved over the electric power grid to the customers. The “Smart Grid” uses digital information and control technology to improve grid reliability. It allows the utilities and their customers to communicate with the grid, that is, transmit information to the grid and receive information from the grid.

Figure 1. The National Power Grid



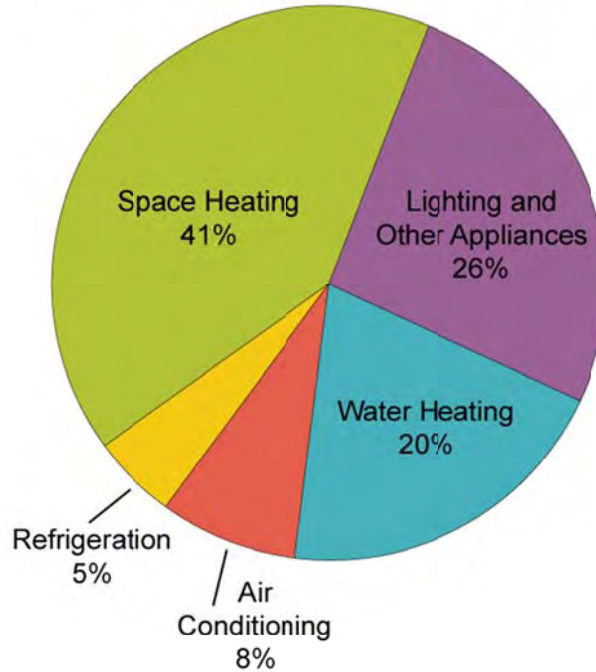
SOURCE: http://www.eia.gov/energy_in_brief/power_grid.cfm

Electricity is metered at the point of use or sale. It is this metering process that is now being made smart. Analog meters are being replaced with digital smart meters. Digital smart meters receive information and transmit it back. They are two-way communication devices that can be accessed remotely (<http://energy.about.com/od/metering/a/Pros-And-Cons-Of-Smart-Meters.htm>).

Utilities are replacing analog meters with digital smart meters that can be read remotely. The smart meters eliminate the need for manual meter reading and detect power outages at a location automatically. Eliminating the need for monthly meter reading reduces personnel costs as well as the pollution from their vehicles. Smart meters are devices that track and record a customer’s electric use and transmit it back to the utility company. However, utilities will have to manage and store large quantities of metering data and protect the privacy of their customer’s personal data.

Figure 2.

How Energy Is Used in Homes (2005)*



* 2005 is the most recent year for which data are available.

Source: U.S. Energy Information Administration, *Residential Energy Consumption Survey 2005*.

The smart meter technology provides real-time data for the utilities that can help balance loads and reduce outages. It can also help the consumer by educating them on how they are using electricity and potentially allowing them to adjust their usage and lower their electric bills. The technology can also be combined with other devices that would control as well as monitor. For example, once the usage got to a predetermined amount the system could turn off the HVAC equipment.

The smart metering has some challenges as well. The public is not always happy about having their personal data collected. Companies have to educate the public about what they are using the information for, as well as how they are going to protect it from misuse. There are often additional costs associated with the new meters that are passed on to customers. And, there is an environmental question about what is being done with all of the old meters.

In Louisiana, the Lafayette Utility System (LUS) had a \$23 million dollar project to install new digital meters for electric and water service at businesses and residences. The project was going to have a 6-year payback by eliminating the need for manual meter reading. Supporters point out that the new meters will alert companies to outages/leaks quickly. Opponents focus on the data gathering and monitoring of their usage (<http://www.theind.com/news/9967-smart-meter-opt-out-on-council-agenda>).

The Louisiana State Energy Office (SEO) disseminates information about energy, energy efficiency, and sustainable construction. The information includes articles, facts, products, and applications being proposed, designed, and used.

LOUISIANA REFINERY OVERVIEW

by
Patrick Courreges, Policy Analyst

Louisiana is a primary energy producing state with an estimated 69.1 million barrels in crude production (2011), ranking it 7th among the states (2rd if the Louisiana portion of the federal outer continental shelf (OCS) is included). The Louisiana OCS territory is the most extensively developed and matured OCS territory in the United States. The Louisiana OCS territory produced approximately 88.1% of the 17.3 billion barrels of crude oil and condensate produced in the U.S. through the end of 2008.

The discovery of these large quantities of crude oil led to the development of the refining and petrochemical industry in Louisiana. Louisiana's refining capacity grew with oil production until about 1970 when Louisiana's oil production peaked and began to decline. Refinery capacity continued to grow by processing more foreign oil and oil from other states as well. Approximately 60 percent of refinery input is foreign crude.

Not all refineries and refining companies are created equal. There are small refineries and large ones. Some are quite complex, while others are relatively simple. A number are part of major, integrated oil companies, and some are independent. In addition to refining, integrated oil companies are engaged in all other aspects of the petroleum industry, which range from the exploration of crude oil to the marketing of finished petroleum products.

Independent refiners, on the other hand, purchase most of their crude oil on the open market rather than producing it. Refiners such as Placid Refining Co. and Calcasieu Refining Co. are examples of independent refiners.

Major oil companies dominate the refining industry. The top 10 U.S. refiners, all of them major, integrated oil companies, account for about 75% of the total domestic refinery charge capacity. Most of these have operations in Louisiana, either as wholly owned facilities such as the Baton Rouge ExxonMobil refinery or as part owners or joint ventures such as Motiva Refineries in Norco and Convent. Many refineries are primarily fuels refineries, some are lube stock refineries, and others are petrochemical refineries. Besides the level of vertical integration of a refiner and the product mix of a refinery, industry analysts also look at capacity and complexity.

A "complexity factor" is assigned to each process unit of a refinery based on its relative construction cost. The atmospheric crude distillation unit is assigned a value of one. For example, the cost of a fluidized catalytic cracker is six times greater than an atmospheric crude distillation unit of the same capacity, so its unit complexity factor is six.

Greater complexity does not necessarily go hand-in-hand with larger capacity. Some of the smaller facilities in Louisiana are the most complex. For example, the smaller lube and wax producing refineries of North Louisiana are quite complex when compared to some very large refineries in the state.

EIA statistics show total U.S. petroleum consumption in 2011 dropped 1.8% to 18.835 million barrels per day (bpd). Finished motor gasoline dropped 2.9% to 8,736 thousand bpd, jet fuel dropped 0.5% to

1,425 thousand bpd, and overall distillate fuel increased 1.3% to 3,849 thousand bpd in 2011.

According to DNR's survey, the Louisiana refinery operating rate was 89.69% for this survey period with little idle capacity, about 3 percent total. The operating capacity for Louisiana refineries was 3,311,020 barrels per calendar day (bcd). Regular gasoline accounted for 31% of Louisiana refinery production.

The table below shows the 17 active refining facilities in Louisiana, ranked by crude capacity.

REFINERY	CAPACITY (bbls/day)
ExxonMobil -Baton Rouge	502,500
Marathon Petroleum – Garyville	490,000
Citgo Petroleum - Lake Charles	425,000
Valero Refining -Norco	250,000
Phillips66 - Belle Chasse	247,000
Phillips66 – Westlake	239,000
Motiva Enterprises – Convent	235,000
Motiva Enterprises – Norco	233,500
Chalmette Refining - Chalmette	192,500
Valero Refining – Meraux	135,000
Alon Refining - Krotz Springs	80,000
Calcasieu Refining -Lake Charles	80,000
Calumet Shreveport– Shreveport	65,000
Placid Refining - Port Allen	58,500
Shell Chemical - St. Rose	55,000
Calumet Lubricants -Cotton Valley	13,020
Calumet Lubricants – Princeton	10,000

Operating Refinery Recent Changes

Valero Refining acquired the Meraux refining facility from Murphy in October 2011. Organizational change within ConocoPhillips has rebranded the facilities at Belle Chasse and Westlake as Phillips66 refineries.

LOUISIANA, AN ENERGY CONSUMING STATE: AN UPDATE USING 2010 DATA

by
Bryan Crouch, P.E.

Louisiana continues to rank high among the states in overall energy consumption. For 2010, Louisiana jumped from 8th to 4th in total energy consumption, but remained 3rd in per capita energy consumption. The main reason for Louisiana’s high energy consumption is the extremely energy intensive petrochemical and petroleum refining industry that is located in the state. 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. Figures 1 & 2 below show Louisiana energy consumption by sector and source. The large amount of energy consumed by the petrochemical and petroleum refining industry is reflected in high percentage for the industrial sector and the high percentages for natural gas and petroleum.

Figure 1

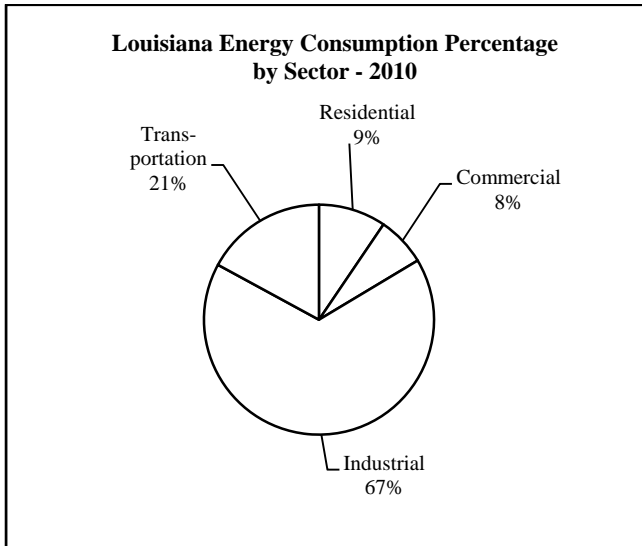


Figure 2

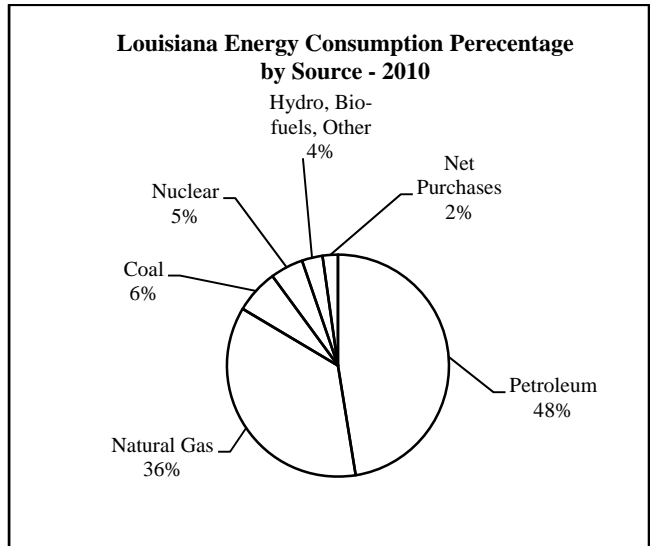


Table 1

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 is also a large producer of energy, mainly in the form of crude oil and natural gas. Table 2, on the following page, presents the Louisiana energy balance for 2010. The energy balance is calculated both inclusive and exclusive of Louisiana’s OCS oil and gas production.

Louisiana Energy Consumption Rankings Among the States - 2010			
Category	Rank	TBTU	#1 State (TBTU)
Residential	24	385.2	Texas (1,689.1)
Commercial	23	281.7	California (1,500.9)
Industrial	2	2,704.2	Texas (5,786.7)
Transportation	13	694.3	California (3,096.8)
Coal	30	259.8	Texas (1,608.6)
Natural Gas	3	1,468.3	Texas (3,458.9)
Petroleum	3	1,946.2	Texas (5,841.2)
Electricity	18	290.3	Texas (1,223.1)
Total	4	4,065.4	Texas (11,769.9)
Per Capita (MBTU)	3	894.4	Wyoming (948.1)

Table 2. Louisiana Energy Balance - 2010 ¹

<u>ENERGY SOURCE</u>		<u>PRODUCTION</u>	<u>CONSUMPTION</u>	<u>NET STATE ENERGY PRODUCTION</u>	
				<u>Excluding OCS</u>	<u>Including OCS</u>
PETROLEUM:	STATE OIL ²	392.8 TBTU ⁴ (67.7 MMBBL)	1,929.0 TBTU (361.7 MMBBL)	-1,536.2 TBTU	1,473.5 TBTU
	LOUISIANA OCS OIL ²	3,009.7 TBTU ⁴ (518.9 MMBBL)			
NATURAL GAS:	STATE GAS ³	2,239.2 TBTU ⁴ (2.176 TCF)	1,468.0 TBTU (1.434 TCF)	771.2 TBTU	2,453.1 TBTU
	LOUISIANA OCS GAS ³	1,681.9 TBTU ⁴ (1.635 TCF)			
COAL:	LIGNITE	54.3 TBTU (3.945 MMSTON)	259.8 TBTU (16.2 MMSTON)	-205.5 TBTU	-205.5 TBTU
NUCLEAR ELECTRIC POWER		194.8 TBTU (18.6 Billion kWh)	194.8 TBTU (18.6 Billion kWh)	0.0 TBTU	0.0 TBTU
HYDROELECTRIC, BIOFUELS & OTHER		122.9 TBTU	122.9 TBTU	0.0 TBTU	0.0 TBTU
NET INTERSTATE PURCHASES OF ELECTRICITY INCLUDING ASSOCIATED LOSSES			90.9 TBTU	-90.9 TBTU	-90.9 TBTU
TOTALS:					
	EXCLUDING LOUISIANA OCS	3,004.0 TBTU	4,065.4 TBTU	-1,061.4 TBTU	
	INCLUDING LOUISIANA OCS	7,695.6 TBTU	4,065.4 TBTU		3,630.2 TBTU

The Louisiana energy balance for 2010 shows that the state consumed 1,061 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 3,630 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

SELECTED LOUISIANA ENERGY STATISTICS

Among the 50 states, Louisiana’s rankings (in 2011, 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
- 2nd in crude oil proved reserves
- 3rd in dry natural gas proved reserves
- 4th in total energy from all sources

REFINING AND PETROCHEMICALS

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

PRIMARY ENERGY PRODUCTION

(Excluding Louisiana OCS)

- 7th in crude oil
- 2nd in natural gas
- 3rd in dry natural gas proved reserves
- 9th in crude oil proved reserves
- 12th in total energy
- 16th in nuclear electricity

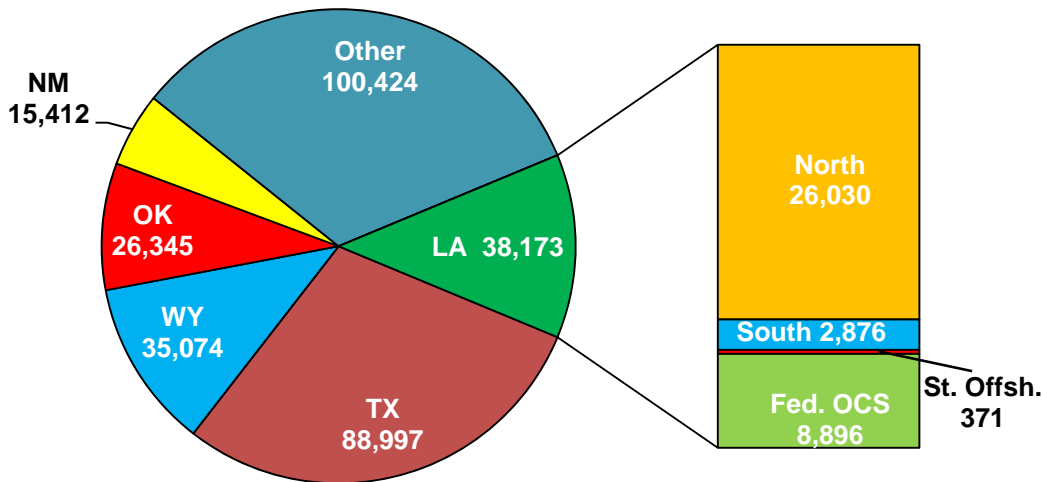
ENERGY CONSUMPTION (2009)

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

Figure 1

2011 U.S. Natural Gas Reserves

(Billion Cubic Feet)



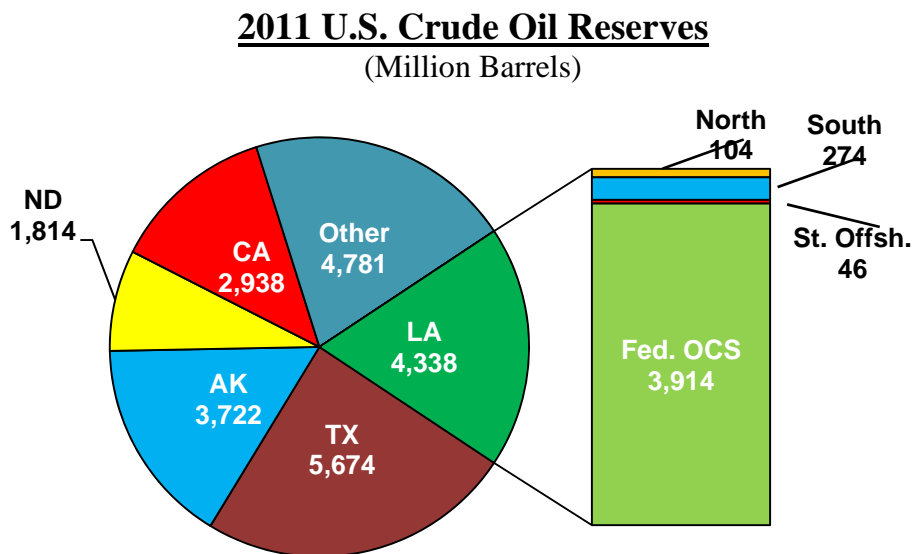
PRODUCTION

State controlled natural gas production peaked at 5.6 trillion cubic feet (TCF) per year in 1970 and declined to 1.28 TCF in 2005. The trend started to reverse in 2006 when production increased to 1.35 TCF. The increasing trend continued with 1.36 TCF in 2008, 1.53 TCF in 2009, 2.26 TCF in 2010, and 3.05 TCF in 2011. The production surge is primarily due to production in the Haynesville shale play. Prior to the Haynesville discovery, the long-term decline rate was around 3.2% per year. With the start of production in Haynesville in 2007, the state production has shown an increase of 0.3% in 2008 over the previous year, 12.4% in 2009, 47.9% in 2010, and 34.8% in 2011. The production rate is expected to dip in 2012 due to low natural gas prices and then remain steady for the next five years if the natural gas price averages around \$3.00 per MCF.

State controlled crude oil and condensate production peaked at 566 million barrels (mmbbls) per year in 1970, declined to 129 mmbbls in 1996, declined to 72.6 mmbbls in 2008, declined to 69.2 mmbbls in 2009, declined to 67.6 mmbbls in 2010, and increased to 69.2 mmbbls in 2011.

State controlled crude oil production decline rate averaged 1.4% per year for the past five years, and the projected decline rate for the next five years is 2.5%, if the price of oil is around \$90 per barrel. If the oil price were above \$100 per barrel, the decline trend would be negligible, and if the Tuscaloosa Marine Shale takes off, the state oil production will reverse its decline rate.

Figure 2



Louisiana OCS territory has produced approximately 87.2% of the 18.9 billion barrels of crude oil and condensate, and 80.3% of the 174 TCF of natural gas extracted from all federal OCS territories from the beginning of time through the end of 2011. Currently, Louisiana OCS territory produces 21% of the oil and 6% of the natural gas produced in the entire U.S., and 95% of the oil and 73% 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, recovered to 3.84 TCF in 1999, fell to 2.02 TCF in 2007, fell to 1.65 TCF in 2008, rose to 1.73 TCF in 2009, fell to 1.63 TCF in 2010, and fell to 1.32 TCF in 2011.

Louisiana OCS crude oil and condensate production first peaked at 388 mmbbls per year in 1972 and then declined to 246 mmbbls in 1989. The production rose from 264 mmbbls in 1990 to 508 mmbbls in 2002 due to the development of deep water drilling. In 2007, production dropped to 427 mmbbls, in 2008, it dropped to 385 mmbbls, in 2009, production increased to 528 million barrels, in 2010, it fell to 520 mmbbls, and in 2011, it fell to 433 mmbbls. The roller coaster ride in oil production can be attributed to weather events and production mishaps.

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

REVENUE

In Fiscal Year (FY) 2007/08, oil and gas revenue (severance tax, royalties, and bonuses) reached an all time high of \$1.94 billion or 16% of state income (total state taxes, licenses, and fees). The previous peak occurred in FY1981/82 at \$1.62 billion, but it was 41% of state income. In FY2008/09, oil and gas revenue was \$1.54 billion or 14% of state income. In FY2010/11, it was \$1.31 billion or 14% of state income, and in FY2011/12, it is expected to be around \$1.41 billion or 15% of the state income.

At constant production, the state treasury gains or loses about \$10 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 \$40 million in royalty payments. In the recent past, increases or decreases in gas full rate severance tax by 1.0 cent per MCF would have caused an \$8 million dollar change in revenue. Today, shale gas is mostly exempted from severance taxes due to the horizontal drilling incentives, thus it is hard to estimate due to the advent of large production volumes from the Haynesville shale.

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. Since 2000, the annual number of drilling permits issued has been on a roller coaster ride. In 2007, the number increased to 2,150 permits, in 2008, it increased to 2,374 permits, in 2009, it decreased to 1365 permits, in 2010, it increased to 1,956 permits, and in 2011, the number decreased to 1,676 permits.

The average active rotary rig count for Louisiana, excluding OCS, reached a high of 386 active rigs in 1981 and fell to 76 active rigs in 2002. In 2007, there was an average of 119 active rigs. The number fell to 117 rigs in 2008 and decreased again in 2009 to 113 rigs. In 2010, the number

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.

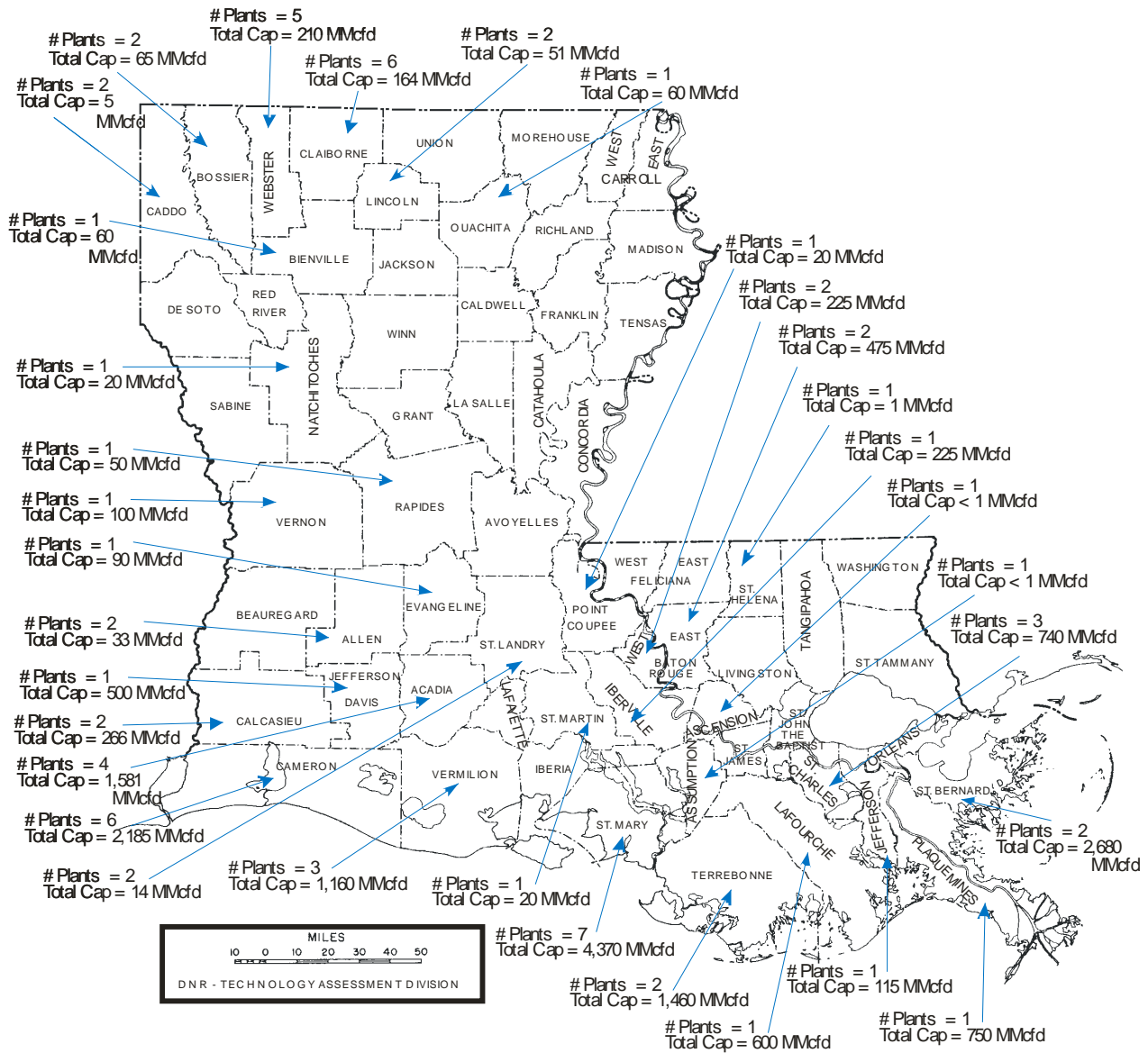
increased to 166 rigs in 2010 due to the strength in the development in the Haynesville Shale gas, and in 2011, it decreased to 138 rigs due to low gas prices. The lowest year average between 1981 and 2010 was 64 active rigs in 1993.

The annual average active rotary rig count for Louisiana OCS reached a high of 109 rigs in 2001 and it is in a downward trend. The active rig count was 70 in 2006, 59 in 2007, 50 in 2008, 36 in 2009, 26 in 2010, and 27 in 2011. The lowest year average between 1981 and 2010 was 23 active rigs in 1992.

Figure 3

Louisiana Gas Plants and Total Capacity by Parish

As of January 1, 2012



State total: 69 plants, 18,140.3 MMcfd

Data source: Oil & Gas Journal

ENERGY ASSURANCE

by
Sara Krupa
Patty Nussbaum

The State of Louisiana received a grant from DOE under the American Recovery and Reinvestment Act of 2009 (ARRA) State and Local Energy Assurance Program (SLEAP) to develop new or refine existing energy assurance and emergency preparedness plans. These plans were to contribute to the resiliency of the energy sector by focusing on the entire energy supply system. Energy assurance planning requires the involvement of federal, state, local and private-sector participants. Timely and accurate information is critical during emergency events.

The deliverable for the program is a State Energy Assurance Plan which is intended to be incorporated into or used in concert with State Emergency Response Plans. The Louisiana State Energy Office partnered with the NIMSAT Institute at the University of Louisiana to accomplish the goals of this project. The NIMSAT Institute is uniquely qualified to deliver on the project's tasks because of its partnership with the Office of the Governor and the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP).

The project goal was to create expertise within Louisiana on energy assurance planning, and build regional energy assurance capability with other Gulf of Mexico states. The final Energy Assurance Plan is due to be submitted on October 14, 2012. Following are accomplishments with the goals and objectives:

State Energy Plan (Draft) – completed February 11, 2011

Energy Supply-Demand Model – completed February 15, 2011

Participated in the 2011 Southern Regional Energy Assurance Exercise March 1-2, 2011

Interstate Exercise After-Action Report – completed March 31, 2011

Participated in the Louisiana Governor's Office of Homeland Security and Emergency Preparedness sponsored "Louisiana 2011 New Madrid Exercise Series" – July 14-15, 2011

Intrastate Exercise After-Action Report – completed August 2, 2011

Participated in the National Energy Assurance Conference on June 28-29, 2012 – the final event for the four regional energy assurance exercises held in 2011

State and local governments participated in a series of regional energy assurance exercises held throughout 2011. These events were designed to help states meet the grant requirement to participate in an interstate exercise. Louisiana participated in the Southern Regional Energy Assurance Exercise – *Red Earth*, Raleigh, NC, March 2011. The exercises had strong state and local participation and generated the following key elements learned:

- Communications – Know who the key points of contact are and establish relationships in advance of emergencies; have robust communication technologies and protocols in place; and develop plans for communicating with the public.
- Interdependencies – State and local governments need to understand energy industry interdependencies and prepare for them; this will improve recovery time.
- Collaboration & Coordination – Federal, state, and local government and the private sector need to work together, share information, and communicate effectively in both preparation and response.
- Resource Allocations – Identify and establish resource priorities and maintain strong situational awareness so allocations can be made effectively if and when they are needed.

Louisiana is a significant exporter of energy in the United States and impacts to Louisiana's energy infrastructure are felt nationwide. Almost all of the energy consumed in Louisiana is produced in Louisiana so the infrastructure is critical to the state's energy assurance. Hurricanes are the most likely threat to the state's energy assurance. When the petrochemical infrastructure is shutdown either in anticipation of a hurricane or as a result of storm damage the impacts are felt nationwide.

Louisiana has built public-private partnerships to address energy emergencies. The Louisiana Fuel Team is one of those partnerships. It is a cooperative effort between the state Department of Natural Resources and industry and trade organizations. The Fuel Team Play Book focuses on emergency evacuation fuel availability. The Fuel Team works with GOHSEP and the state Emergency Operations Center.

A national conference, held on June 28-29, 2012 was attended by more than 250 people, including representatives from 46 states, Washington D.C, and Puerto Rico. It was the final program of the ARRA SLEAP intended to recap the results of the three-year program and discuss a path going forward to sustain energy assurance planning at the national, state and local levels. New sources of funding will be required to continue to support Energy Assurance Planning. Key Points follow regarding what type of effort will be required:

- Review and update plans every one to two years.
- Require annual updates to state, local, and energy industry contact lists.
- Reference the plan in the state's emergency response plans.
- Include energy assurance-specific duties in position descriptions of staff with those responsibilities.
- Require training for new staff and periodic refresher training for existing staff.
- Hold exercises (state and regional) to validate the plan.

LEED RENOVATION OF A 1762 STRUCTURE

by
Jerry Heinberg, AIA, Architect

Photo 1



Photo 2

This unique building on Lafayette Street was constructed about a hundred years before the Civil War. It is amazing that it is still standing, has seen so much history, and even more amazing, that a local architect-turned-developer with LEED credentials and a goal to put them to use has extended the long life of the Tossier Building by making an adaptive reuse of the structure and has applied for LEED gold status for the finished work.

LEED, which stands for Leadership in Energy and Environmental Design, is a program administered by the U.S. Green Building Council which provides an independent, third-party verification that a building, home or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health. New developments bring new



opportunities to live it up downtown.

Downtown is quickly becoming a desirable place to live in Baton Rouge. With quality schools, new green spaces like the North Boulevard Town Square, exciting entertainment options and unparalleled cultural amenities all within walking distance. Baton Rouge native and new Downtown resident Erin Miletello says, "There are so many new restaurants, shops and bars, it definitely doesn't feel like I'm in the same Baton Rouge anymore." Miletello, a recent law school graduate, is one of the new residents moving into the newly renovated Tessier Building, located near the corner of Lafayette and Laurel Streets in Downtown Baton Rouge.

Photo 3



Recognized as one of the oldest buildings in Baton Rouge, these townhouse style buildings feature Spanish-Colonial architecture, high ceilings, wood floors, a full range of appliances, large expanses of glass, huge balconies nearly 10 feet deep, and the building's original cast-iron gallery fencing. Over the course of its 200-year history, the Tessier Building has been home to many prominent Baton Rouge residents, including Judge Charles Tessier, the first probate judge of East Baton Rouge Parish, and Frances and Jules Landry, preservationists who purchased the building in the 1950's to prevent this historic landmark from being torn down.

Like so many of Downtown's most unique assets, it fell into a state of disrepair over the years and remained uninhabited until someone came along with the desire and the means to restore it to its former glory. Those people were Dyke Nelson and David Weinstein at the DNA Workshop.

Photo 4

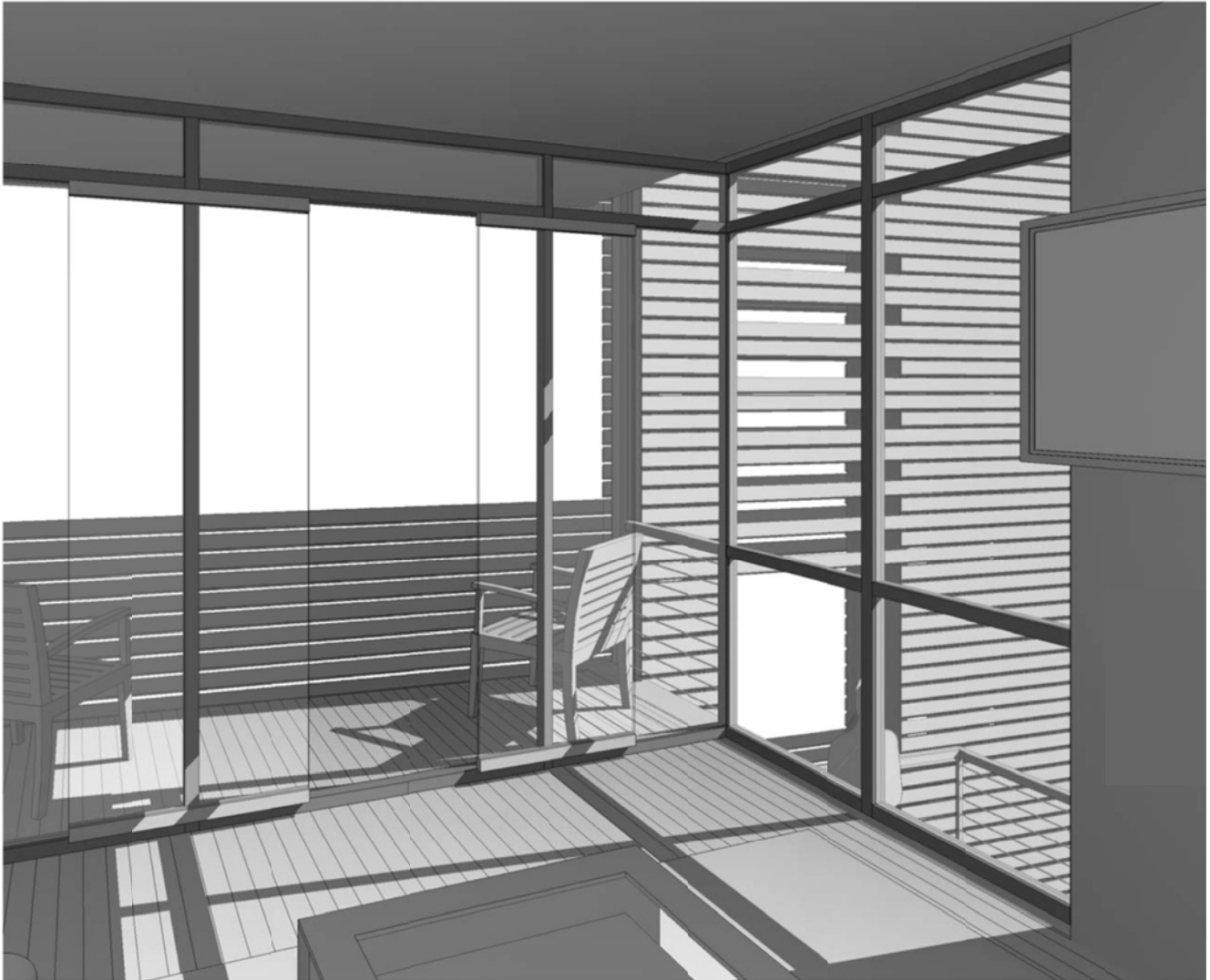


As the owners and developers of the Tessier Building, Nelson and Weinstein began the renovation last year with the goal of respecting the original architecture and restoring as much as possible, while also adding high tech amenities and sustainable features to make the building more attractive to modern day tenants. "I've always focused on sustainable architecture, and one of the most sustainable things you can do is renovate a building, rather than build a new one,"

Nelson said. "The Tessier renovation was indeed a Herculean task, but it's one that we gladly took on. We had one person working on this project whose entire job was simply to restore – not to rip out, but to restore," Weinstein said. "From the doors, to the windows, and the wood, we saved as much as we could. That's attractive to a lot of people, but it's also a part of our core beliefs.... "

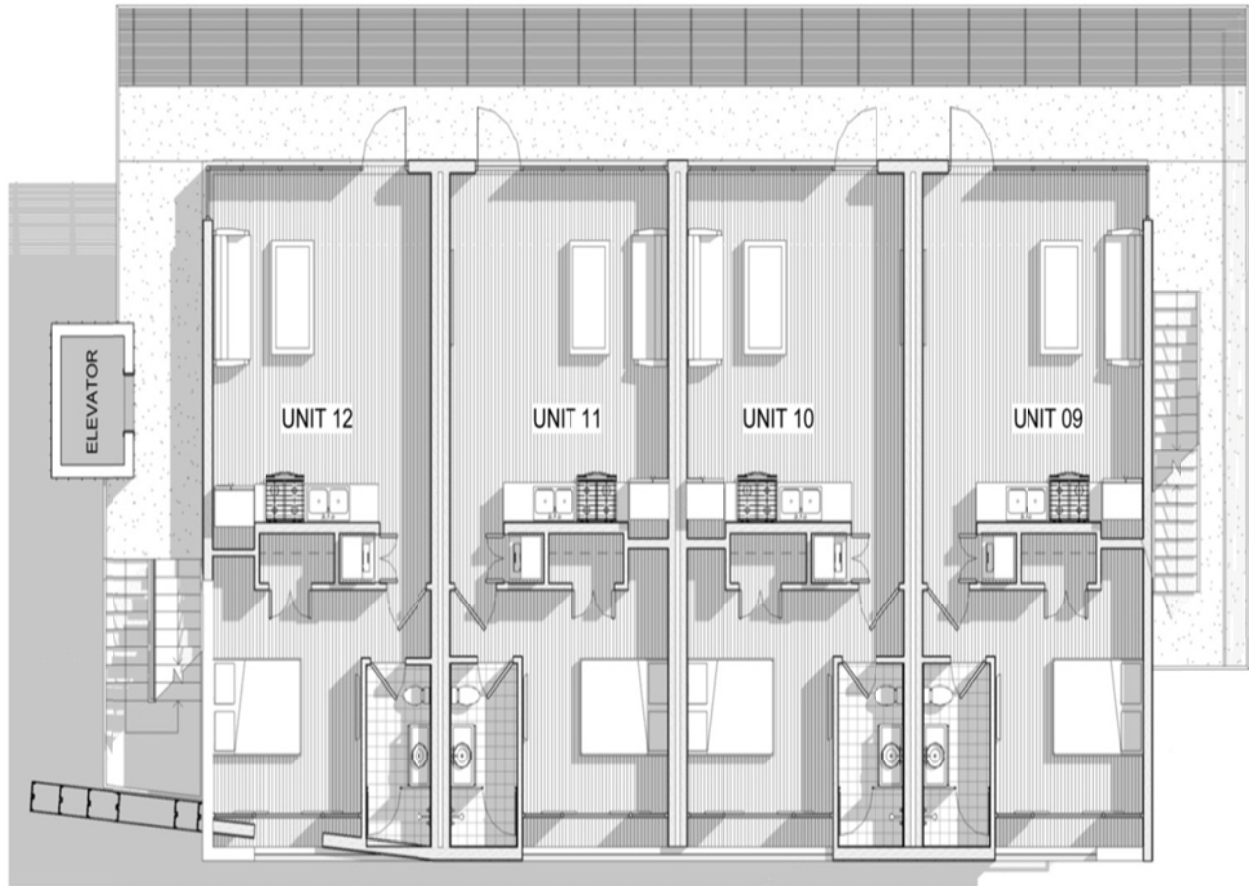
"As owners, we felt it was important to develop this project consistent with LEED design standards – that means focusing on energy efficiency, proper disposal of waste from the site, and many other elements that contribute to a healthy environment," Nelson said.

Figure 1



"Now, we actually have a waiting list for the residential units, which shows there really is a tremendous demand for this kind of high quality, reasonably priced, property," Weinstein added. "The success of the project has really encouraged us to continue working to keep meeting the tremendous demand there is for sustainable development downtown."

Figure 2



WHAT IS COMBINED HEAT AND POWER?

by
William Delmar, P.E.

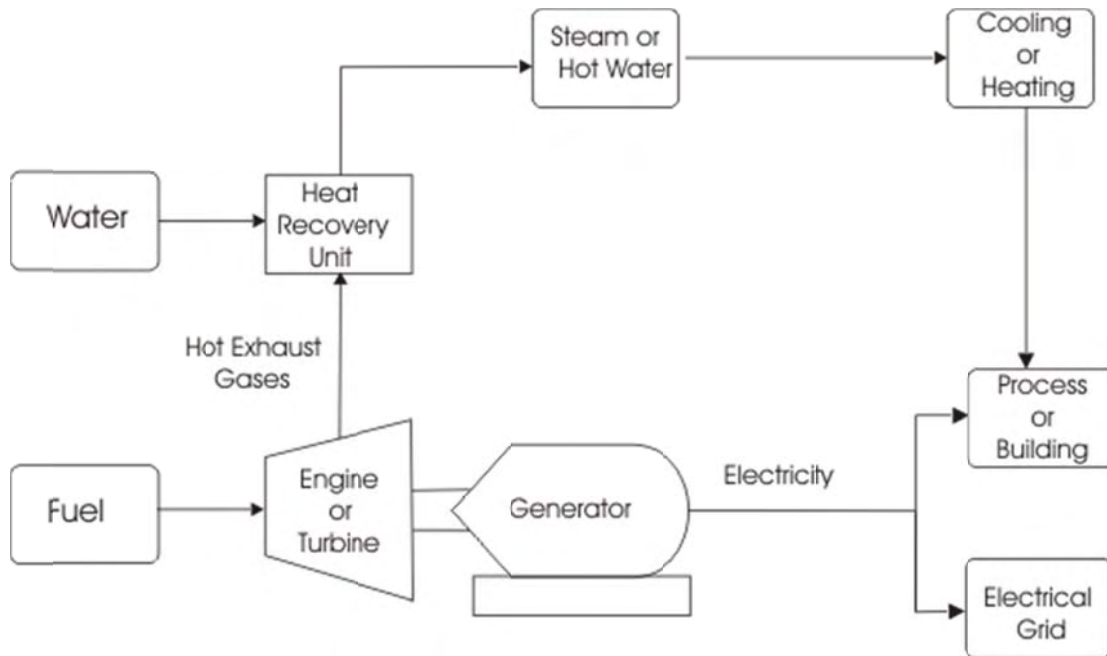


Figure 1. Combined Heat and Power Example System

Combined Heat and Power (CHP) is an attempt to make the most efficient use of any fuel source by using it several different ways. Thermodynamics tells us that energy is neither created nor destroyed, but the quality of energy degrades with each use, until its present usefulness is negligible and the energy, as heat, is discharged into the surroundings.

Since the beginning of commercial electricity production, there has been some degree of combined heat and power being produced and used. The first modern use of energy recycling was done by Thomas Edison. His 1882 Pearl Street Station, the world's first commercial power plant, was a combined heat and power plant, producing both electricity and thermal energy while using waste heat to warm neighboring buildings. Recycling allowed Edison's plant to achieve approximately 50 percent efficiency.

CHP (cogeneration) uses a heat engine or a power station to simultaneously generate both electricity and useful heat. When the main use of the energy is strictly to produce electricity, it is often called cogeneration, the concurrent production of electricity and steam. When it is less clear how the heat is used, such as building heating, it is now more often called combined heat and power.

All thermal power plants emit a certain amount of heat during electricity generation. This can be released into the natural environment through cooling towers, flue gas, or by other means. By contrast, CHP captures some or all of the by-product heat for heating purposes. In Scandinavia and Eastern Europe there is district heating that uses hot water with temperatures ranging from approximately 80 to 130 °C. This is also called Combined Heat and Power District Heating or CHPDH.

Small CHP plants are an example of decentralized energy. Industrial facilities such as refineries, chemical plants, or paper mills can use much higher quality steam products. They may use a natural gas-fueled turbine to generate electricity and then discharge very high temperature exhaust gases, which, in turn, heats water in boiler tubes to generate 600 psig or higher pressure steam. This high-pressure steam can be used to drive compressors and pumps within the facility, and the lower pressure steam discharged from these devices, 250 psig or 40 psig, can be used as heat in the processes within the plants. These can run equipment such as evaporators, product driers, or distillation columns, or even run various devices that produce cooling, such as chilled water.

While the simple explanation of the process described is a large industrial process, it is not always the case. There are now numerous smaller scale operations, often within a building complex or even a very large building, where fuel is used to generate some, or all, of the building's electrical load, and the resultant "waste heat" is used in a heating or cooling plant to deal with other building utilities.

Cogeneration has been used for many years in commercial buildings for large-scale applications such as generating energy for college campuses, hospitals, and commercial buildings in campus-like settings where there is considerable power and thermal demand. Currently, reciprocating engines are the most common and most efficient prime movers (engines) used in commercial cogeneration systems because of their cost, reliability, and availability. However, micro-turbines, fuel cells, and Stirling engines may be economically viable for cogeneration in the next few years as technology advances.

A new report, *[Combined Heat and Power: A Clean Energy Solution](#)*, provides a foundation for national discussions on effective ways to achieve 40 GW of new, cost-effective CHP by 2020 and includes an overview of the key issues currently impacting CHP deployment and the factors that need to be considered by stakeholders involved in the dialogue.

2013 SERVICE QUESTIONNAIRE

LOUISIANA DEPARTMENT OF NATURAL RESOURCES - TECHNOLOGY ASSESSMENT DIVISION

Dear Customer,

Our goal is to provide accurate and timely information on oil, gas, and energy production and use in Louisiana. By taking a few minutes to fill in our 2013 Service Questionnaire, your comments enable us to see how we are doing, and allows you to suggest areas where we might improve.

Thank you, in advance, for helping us to provide you with the best service possible.

(Check one for each question)	VERY GOOD	GOOD	SATISFACTORY	NEEDS IMPROVEMENT	POOR
Accuracy of Data Provided					
Timeliness of Data Provided					
Quality of Analyses Provided					
Quality of Tables Provided					
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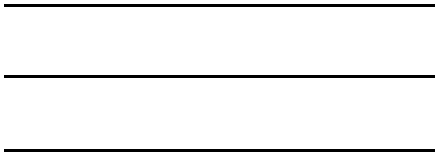
(Check all that apply)	NEWSLETTER	FACTS ANNUAL	OTHER
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