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ANNUAL 2015

Department of Natural Resources
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General Questions and Comments

The **Louisiana Energy Facts Annual - 2015 (Annual)** was published by the Technology Assessment Division of the Louisiana Department of Natural Resources under the direction of Manuel Lam. The division director is Paul D. Miller.

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Louisiana Energy Facts Annual 2015

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 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 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 in, 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.

2015 HIGHLIGHTS

The data in the 2015 **Louisiana Energy Facts Annual** contains some recent trends.

Crude Oil and Natural Gas Prices

Gas spot price average was \$4.44 per MCF in 2014, and it was \$2.67 per MCF in 2015; which is 40.0% lower than in 2014. The Louisiana natural gas spot market average in January 2015 was \$3.13 per MCF and dropped to \$1.93 per MCF in December 2014. The January price was attributed to the normal weather and the price drop at the end of 2015 was caused by record gas shale production and mild temperate weather. The average price for gas for 2016 is expected to be above \$2.00 per MCF.

Light Louisiana Sweet (LLS) average spot crude oil price was \$96.83 per barrel in 2014 and it was \$52.36 per barrel in 2015, a 45.9% drop. The LLS crude oil spot price average was \$48.81 per barrel in January 2015 and fell to \$38.88 per barrel in December 2015. The oil price decline was caused by high production in oil shale, the increase of abilities in transporting crude oil from Cushing, OK to the Gulf refineries, and high volume in storage. The 2016 LLS average spot price is expected to be above \$30 per barrel.

Oil and Gas Production

Louisiana state oil production was lower in 2015 than in 2014, while in the federal Outer Continental Shelf (OCS) in the Gulf of Mexico (GOM) it was the opposite. The Louisiana state crude oil and condensate production, excluding the federal OCS, was 64.3 million barrels (MMB) in 2015 and it was 68.6 MMB in 2014. The 2015 oil production was 4.3 MMB or 6.3% lower than 2014. The preliminary Central GOM oil production in 2015 is 496.5 MMB and it was 26.3 MMB or 5.3% higher than 2014 oil production. The increase in Central GOM oil was caused by the higher production from discovered large oil reservoir in the GOM, and smarter drilling in the area.

Louisiana gas production was lower in 2015 than in 2014. The Louisiana state natural gas and casinghead, excluding OCS production, was 1.8 TCF in 2015, 7.6% lower than 2014. The decrease in gas was driven by low gas prices and a decline in drilling in the Haynesville shale area, and higher production from other shale plays that are capable of producing hydrocarbons liquids. The Haynesville shale is producing around 58% of the state total gas production. The preliminary Central GOM gas production in 2015 is 1.26 TCF and almost the same level of gas production as in 2014. The Central GOM gas has maintained its production level despite lower gas wells drilling due to low gas prices and shifting priorities from gas fields to oil fields.

Drilling

Louisiana rig count, including the OCS area, averaged 77 active rigs in 2015, 30.0% lower than in 2014. In state areas, state offshore region drilling rigs was almost non-existent in 2015, South LA Inland water showed a 10 drilling rigs decrease in 2015 from 2014, South LA inland land showed a 5 drilling rigs decrease in 2015 over 2014, and North LA region maintained the same drilling rigs level in 2015 as in 2014. The 2015 LA Federal OCS average showed a 17 drilling rigs decrease from 2014. Despite falling oil and gas prices the North LA drilling rigs level was stable due to drilling and lease contracts, and low drilling rig rates in the Haynesville shale play and surrounding areas. The South LA region and Federal OCS region drilling rigs decreased due to low market prices, low demand and high inventories in crude oil and natural gas.

Other significant items

Louisiana proved oil reserves were higher in 2013 than in 2012, due to increases in the North and South state regions. While state offshore showed a decline, and the federal OCS areas showed a slight decline. Louisiana proved gas reserves were lower in 2013 than in 2012 in the onshore areas and offshore (state and federal OCS) areas. The decline in gas reserves were the result of weak gas drilling activities in all LA areas.

Louisiana refineries 2015 daily crude oil average runs to stills were 2.63 million barrels per day, 7.1% lower than in 2014. It reflected the lower utilization of the refinery capacity.

Average employment in the oil and gas extraction industries was 50,064 in 2014; a 0.31% decrease from 2013, due to technological improvement in exploration and production activities.

Table 1

LOUISIANA STATE CRUDE OIL PRODUCTION
Excluding OCS
(Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1995	16,246,955	64,813,287	15,196,984	96,257,226
1996	16,576,627	63,662,781	14,748,690	94,988,098
1997	17,254,666	63,980,263	13,537,822	94,772,751
1998	16,320,254	62,329,107	12,731,270	91,380,631
1999	13,024,727	56,492,360	11,507,149	81,024,236
2000	11,890,407	53,957,823	10,120,547	75,968,777
2001	10,835,037	50,906,438	9,293,584	71,035,059
2002	9,734,754	43,151,661	7,630,661	60,517,076
2003	9,179,787	41,803,886	8,453,966	59,437,639
2004	8,697,903	41,289,067	7,015,580	57,002,550
2005	8,585,924	36,628,208	5,587,547	50,801,679
2006	8,327,465	36,416,376	4,639,216	49,383,057
2007	8,091,774	39,053,879	5,480,658	52,626,311
2008	8,010,562 r	36,313,404 r	4,124,198 r	48,448,164 r
2009	7,955,097 r	35,621,149 r	3,858,277 r	47,434,523 r
2010	7,915,495 r	36,270,826 r	4,671,151 r	48,857,472 r
2011	9,136,216 r	37,563,060 r	5,064,106 r	51,763,382 r
2012	10,119,670 r	39,381,902 r	5,035,892 r	54,537,464 r
2013	10,644,451 r	40,058,545 r	5,584,261 r	56,287,257 r
January	865,536 r	3,215,730 r	421,985 r	4,503,251 r
February	808,598 r	2,922,498 r	406,841 r	4,137,937 r
March	894,633 r	3,278,044 r	548,854 r	4,721,531 r
April	853,729 r	3,106,916 r	501,748 r	4,462,393 r
May	879,186 r	3,299,211 r	503,987 r	4,682,384 r
June	853,686 r	3,243,838 r	482,440 r	4,579,964 r
July	851,269 r	3,374,474 r	416,655 r	4,642,398 r
August	841,937 r	3,430,241 r	445,480 r	4,717,658 r
September	836,831 r	3,257,840 r	445,524 r	4,540,195 r
October	870,823 r	3,287,786 r	466,247 r	4,624,856 r
November	848,610 r	3,101,755 r	444,317 r	4,394,682 r
December	867,607 r	3,291,590 r	469,642 r	4,628,840 r
2014 Total	10,272,446 r	38,809,924 r	5,553,720 r	54,636,090 r
January	908,960	3,233,736	484,360	4,627,056
February	821,618	2,910,228	445,685	4,177,531
March	914,243	3,075,401	506,160	4,495,804
April	872,930	2,984,442	466,607	4,323,979
May	891,051	3,103,278	456,074	4,450,403
June	867,565	2,944,481	431,738	4,243,785
July	890,497	2,999,114	392,628	4,282,239
August	889,757	2,961,463	392,042	4,243,262
September	867,610	2,869,795	448,709	4,186,113
October	815,601 p	2,839,198 p	395,067 p	4,049,865 p
November	859,276 p	2,902,350 p	408,328 p	4,169,955 p
December	857,632 p	2,893,983 p	403,689 p	4,155,304 p
2015 Total	10,456,740 p	35,717,469 p	5,231,087 p	51,405,296 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 2

LOUISIANA STATE CONDENSATE PRODUCTION

**Excluding OCS
(Barrels)**

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1995	3,927,365	22,863,248	2,177,307	28,967,349
1996	5,162,593	26,495,266	2,313,383	33,971,013
1997	4,397,384	24,247,395	2,737,982	31,382,763
1998	3,962,756	24,405,878	2,400,173	30,760,168
1999	3,555,355	24,032,940	2,233,271	29,798,463
2000	3,417,173	26,347,208	1,429,439	31,193,588
2001	3,352,988	28,003,761	1,933,594	33,831,960
2002	2,926,737	27,980,334	1,761,536	33,173,039
2003	2,789,398	25,616,633	1,850,882	30,936,684
2004	2,926,460	21,468,353	1,684,363	26,689,554
2005	3,323,446	20,365,449	1,195,413	24,884,308
2006	3,773,415	18,735,542	2,078,103	24,587,060
2007	4,335,873	18,299,586	2,114,728	24,750,187
2008	5,107,407 r	16,897,961 r	2,157,717 r	24,163,085 r
2009	4,254,544 r	15,004,194 r	2,131,896 r	21,390,634 r
2010	3,269,391 r	13,240,103 r	1,911,052 r	18,420,546 r
2011	3,148,207 r	12,601,089 r	1,452,156 r	17,201,452 r
2012	2,996,469 r	11,547,482 r	1,560,490 r	16,104,441 r
2013	3,521,245 r	10,915,704 r	1,187,090 r	15,624,039 r
January	291,000 r	812,314 r	78,496 r	1,181,810 r
February	252,788 r	772,124 r	71,273 r	1,096,185 r
March	274,325 r	880,928 r	75,235 r	1,230,488 r
April	270,560 r	866,853 r	66,199 r	1,203,612 r
May	248,517 r	863,524 r	73,957 r	1,185,998 r
June	300,795 r	826,745 r	73,342 r	1,200,882 r
July	267,178 r	792,402 r	49,939 r	1,109,519 r
August	309,666 r	761,162 r	46,974 r	1,117,802 r
September	298,397 r	782,735 r	55,013 r	1,136,145 r
October	333,782 r	781,831 r	67,716 r	1,183,328 r
November	340,271 r	728,537 r	64,480 r	1,133,288 r
December	298,068 r	794,526 r	64,547 r	1,157,141 r
2014 Total	3,485,347 r	9,663,681 r	787,171 r	13,936,199 r
January	355,247	808,136	63,027	1,226,410
February	287,553	721,144	54,389	1,063,087
March	300,845	772,076	61,393	1,134,314
April	277,090	743,488	50,725	1,071,304
May	279,507	754,395	55,285	1,089,187
June	234,494	746,414	52,026	1,032,934
July	231,101	808,114	62,133	1,101,348
August	226,337	771,823	40,899	1,039,059
September	297,506	739,885	42,418	1,079,809
October	255,570 p	661,715 p	40,024 p	957,310 p
November	246,263 p	738,880 p	46,028 p	1,031,170 p
December	248,590 p	737,387 p	44,865 p	1,030,842 p
2015 Total	3,240,105 p	9,003,458 p	613,211 p	12,856,774 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 3

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

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
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	12,100,880	55,151,918	6,717,319	73,970,117
2007	12,427,647	57,353,465	7,595,386	77,376,498
2008	13,117,969 r	53,211,365 r	6,281,915 r	72,611,249 r
2009	12,209,641 r	50,625,343 r	5,990,173 r	68,825,157 r
2010	11,184,886 r	49,510,929 r	6,582,203 r	67,278,018 r
2011	12,284,423 r	50,164,149 r	6,516,262 r	68,964,834 r
2012	13,116,139 r	50,929,384 r	6,596,382 r	70,641,905 r
2013	14,165,696 r	50,974,249 r	6,771,351 r	71,911,296 r
January	1,156,537 r	4,028,044 r	500,481 r	5,685,061 r
February	1,061,387 r	3,694,622 r	478,114 r	5,234,123 r
March	1,168,958 r	4,158,972 r	624,089 r	5,952,019 r
April	1,124,289 r	3,973,769 r	567,947 r	5,666,005 r
May	1,127,703 r	4,162,735 r	577,944 r	5,868,382 r
June	1,154,481 r	4,070,583 r	555,782 r	5,780,846 r
July	1,118,447 r	4,166,876 r	466,594 r	5,751,918 r
August	1,151,603 r	4,191,403 r	492,454 r	5,835,460 r
September	1,135,228 r	4,040,576 r	500,537 r	5,676,340 r
October	1,204,605 r	4,069,617 r	533,963 r	5,808,185 r
November	1,188,881 r	3,830,293 r	508,797 r	5,527,970 r
December	1,165,675 r	4,086,116 r	534,189 r	5,785,981 r
2014 Total	13,757,793 r	48,473,605 r	6,340,891 r	68,572,289 r
January	1,264,207	4,041,872	547,387	5,853,466
February	1,109,171	3,631,372	500,074	5,240,618
March	1,215,089	3,847,477	567,553	5,630,119
April	1,150,021	3,727,930	517,332	5,395,283
May	1,170,558	3,857,673	511,359	5,539,590
June	1,102,060	3,690,895	483,764	5,276,719
July	1,121,598	3,807,228	454,761	5,383,586
August	1,116,094	3,733,285	432,941	5,282,320
September	1,165,116	3,609,680	491,127	5,265,923
October	1,071,171 p	3,500,913 p	435,091 p	5,007,175 p
November	1,105,539 p	3,641,230 p	454,356 p	5,201,125 p
December	1,106,222 p	3,631,370 p	448,554 p	5,186,146 p
2015 Total	13,696,845 p	44,720,926 p	5,844,299 p	64,262,070 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 1

LOUISIANA STATE OIL PRODUCTION Actual and Forecasted Through Year 2030

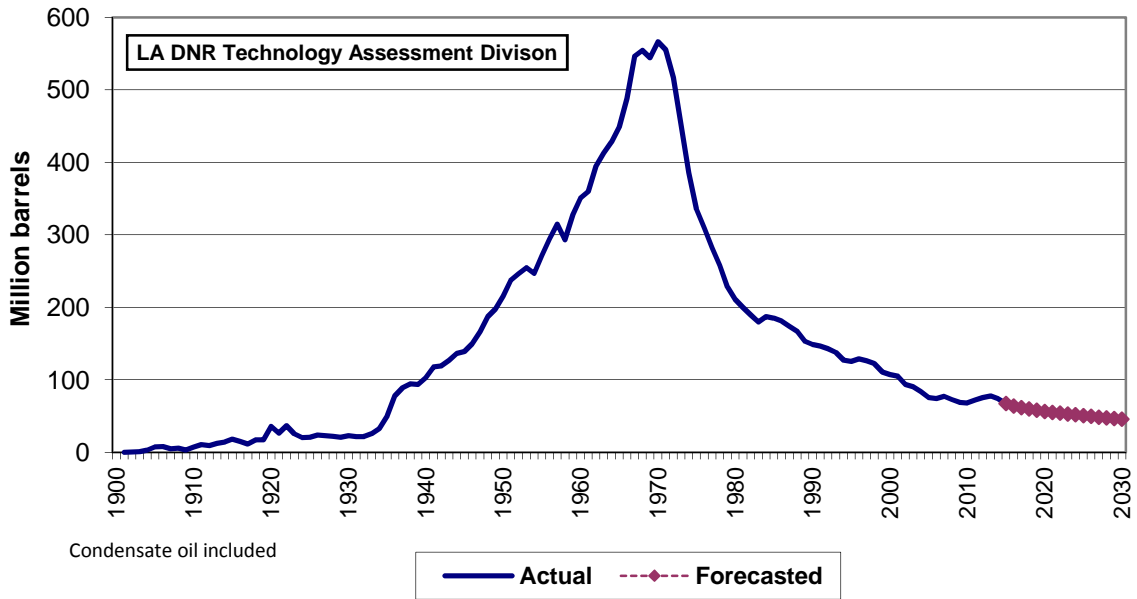
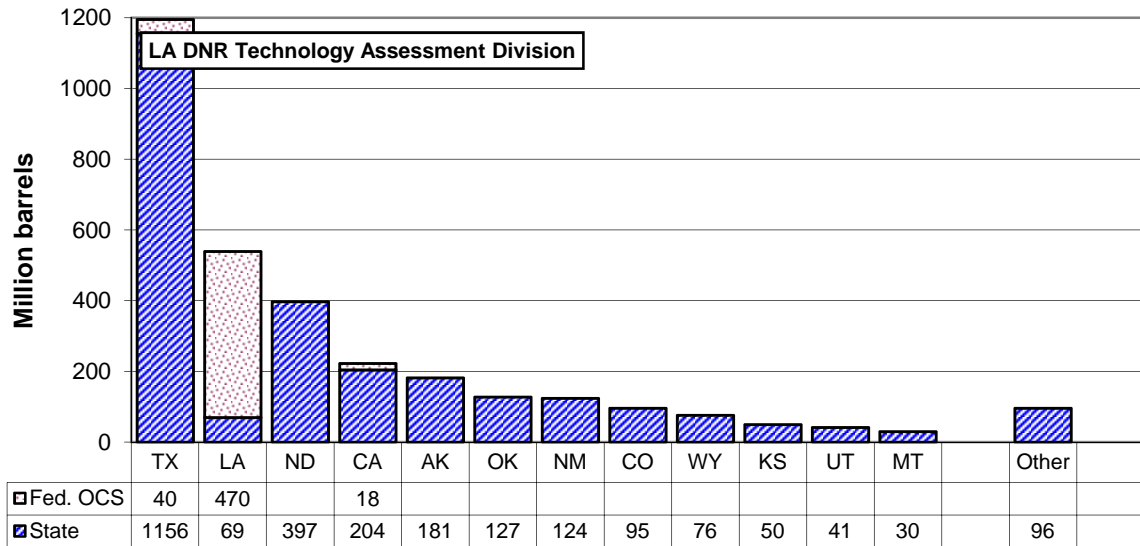


Figure 2

2014 UNITED STATES OIL PRODUCTION BY STATE



Federal OCS production estimated

Table 4

**LOUISIANA and GOM CENTRAL CRUDE OIL and CONDENSATE PRODUCTION
(Barrels)**

DATE	ONSHORE	OFFSHORE		TOTAL
		State	GOM Central	
1995	108,208,548	17,016,027	325,403,956	450,628,531
1996	111,821,446	17,137,665	345,928,261	474,887,372
1997	110,124,702	16,030,812	389,573,523	515,729,037
1998	107,828,655	14,312,144	419,841,427	541,982,226
1999	97,972,111	12,850,588	474,461,887	585,284,586
2000	95,612,390	11,549,975	500,407,261	607,569,626
2001	93,602,961	11,264,058	524,563,398	629,430,417
2002	84,250,026	9,440,089	521,432,474	615,122,589
2003	80,024,835	10,349,488	509,552,915	599,927,238
2004	74,967,054	8,725,050	482,598,762	566,290,866
2005	68,903,027	6,782,960	418,763,978	494,449,965
2006	67,252,798	6,717,319	431,633,489	505,603,606
2007	69,781,112	7,595,386	435,264,843	512,641,341
2008	66,329,334 r	6,281,915 r	396,112,395	468,723,644 r
2009	62,834,984 r	5,990,173 r	544,854,279	613,679,436 r
2010	60,695,815 r	6,582,203 r	541,600,736	608,878,754 r
2011	62,448,572 r	6,516,262 r	451,838,190	520,803,024 r
2012	64,045,523 r	6,596,382 r	422,692,750	493,334,655 r
2013	65,139,945 r	6,771,351 r	415,660,859	487,572,155 r
January	5,184,580 r	500,481 r	36,931,316	42,616,377 r
February	4,756,009 r	478,114 r	34,426,420	39,660,543 r
March	5,327,930 r	624,089 r	37,671,571	43,623,590 r
April	5,098,058 r	567,947 r	39,224,471	44,890,476 r
May	5,290,438 r	577,944 r	40,306,820	46,175,202 r
June	5,225,064 r	555,782 r	38,839,183	44,620,029 r
July	5,285,324 r	466,594 r	40,507,222	46,259,140 r
August	5,343,006 r	492,454 r	40,854,436	46,689,896 r
September	5,175,803 r	500,537 r	39,920,979	45,597,319 r
October	5,274,222 r	533,963 r	41,872,379	47,680,564 r
November	5,019,173 r	508,797 r	38,163,205	43,691,175 r
December	5,251,792 r	534,189 r	41,467,364	47,253,345 r
2014 Total	62,231,398 r	6,340,891 r	470,185,366	538,757,655 r
January	5,306,079	547,387	41,544,158	47,397,624
February	4,740,544	500,074	37,412,401	42,653,019
March	5,062,566	567,553	39,630,786	45,260,905
April	4,877,951	517,332	42,189,057	47,584,340
May	5,028,231	511,359	39,826,283	45,365,873
June	4,792,955	483,764	39,029,318	44,306,037
July	4,928,825	454,761	45,168,226	50,551,812
August	4,849,379	432,941	47,326,136	52,608,456
September	4,774,796	491,127	46,693,515	51,959,438
October	4,572,084 p	435,091 p	45,800,806	50,807,981 p
November	4,746,769 p	454,356 p	42,338,651	47,539,776 p
December	4,737,592 p	448,554 p	46,017,147	51,203,293 p
2015 Total	58,417,771 p	5,844,299 p	512,976,484	577,238,554 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 3

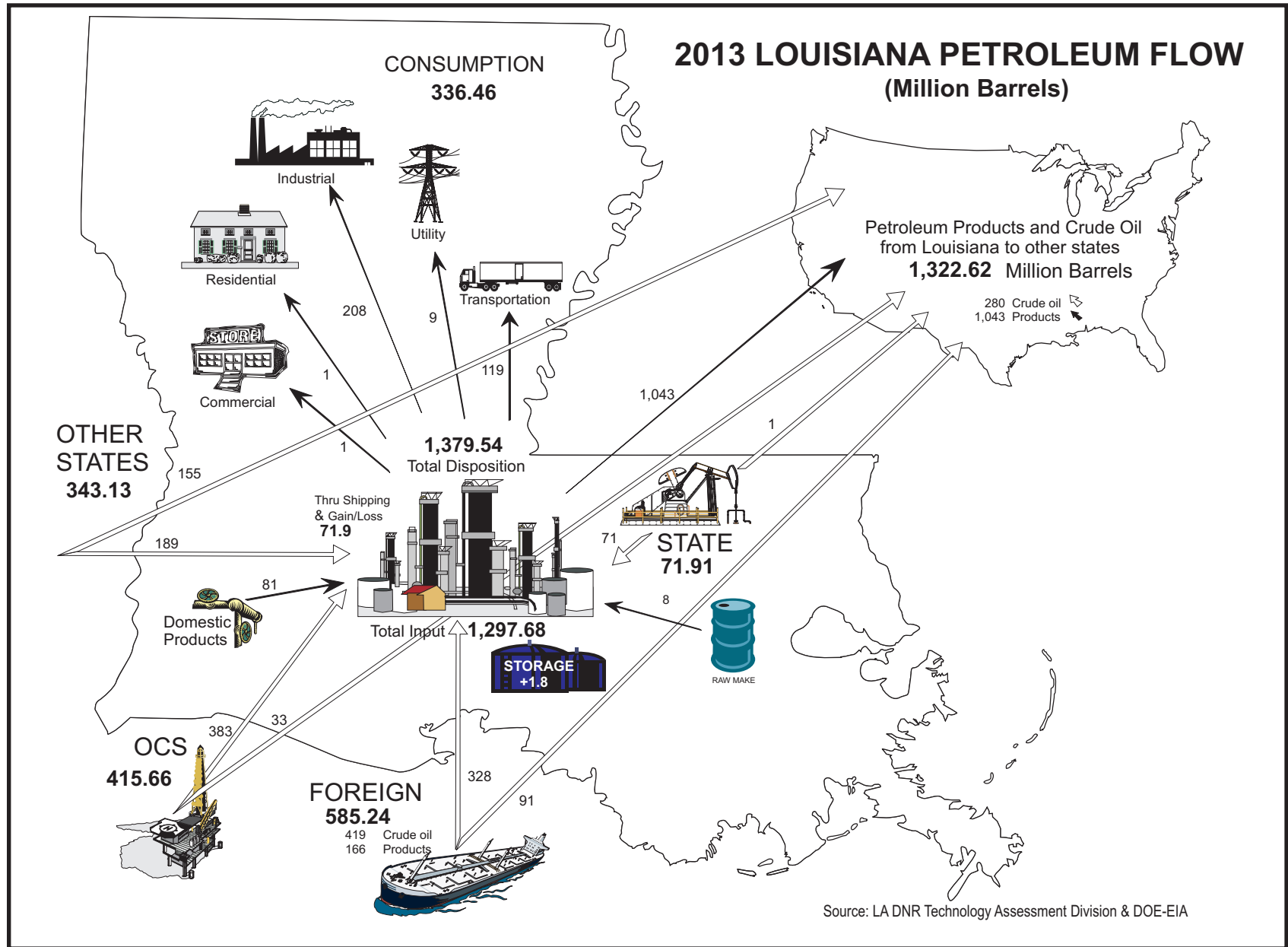


Table 5

**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
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
2011	51,052,360	2,360,106	4,764,525	58,176,991
2012	52,052,999	2,319,256	5,117,590	59,489,845
2013	54,720,459	2,110,666	5,117,677	61,948,801
January	4,219,575	188,687	416,093	4,824,354
February	4,674,177	202,148	394,340	5,270,665
March	4,136,039	175,407	448,112	4,759,558
April	4,247,507	174,447	416,017	4,837,971
May	4,694,119	204,797	471,209	5,370,124
June	4,221,004	182,122	411,208	4,814,334
July	4,726,577	172,925	406,578	5,306,080
August	4,246,746	183,788	462,998	4,893,531
September	4,730,714	197,658	483,779	5,412,151
October	5,312,393	189,147	393,137	5,894,678
November	3,698,577	144,087	311,440	4,154,103
December	5,895,173	195,005	366,527	6,456,705
2014 Total	50,583,025	2,021,531	4,565,344	57,169,900
January	3,761,072	104,679	280,501	4,146,251
February	4,316,864	153,115	324,476	4,794,456
March	5,634,776	345,977	738,921	6,719,674
April	3,913,032	111,554	397,938	4,422,525
May	3,782,102	187,177	433,755	4,403,034
June	3,902,119	157,729	359,992	4,419,840
July	3,999,419	150,366	350,818	4,500,603
August	4,157,897	162,407	442,193	4,762,497
September	4,169,965	169,519	393,272	4,732,757
October	2,833,285	193,565	473,950	3,500,799
November	3,638,371	127,776	422,331	4,188,479
December	4,860,987	185,839	424,303	5,471,130
2015 Total	48,969,890	2,049,703	5,042,452	56,062,045

e Estimated r Revised p Preliminary See footnote in Appendix B

* Due to reporting time lag and well exemptions the above figures are different from actual production.

Table 6

UNITED STATES OCS CRUDE OIL AND CONDENSATE PRODUCTION¹²
(Barrels)

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
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 MEXICO¹²		PACIFIC⁷	TOTAL
	CENTRAL	WESTERN		
2002	521,432,474 r	46,423,253 r	29,783,000	597,638,727 r
2003	509,552,915 r	51,825,370 r	30,001,000	591,379,285 r
2004	482,598,762 r	52,683,149 r	27,510,000 r	562,791,911 r
2005	418,763,978 r	48,155,514 r	26,498,079 r	493,417,571 r
2006	431,633,489 r	40,379,554 r	25,992,128 r	498,005,171 r
2007	435,264,843 r	32,704,378 r	24,623,593 r	492,592,814 r
2008	396,112,395 r	27,297,077 r	24,029,346 r	447,438,818 r
2009	544,854,279 r	25,399,965 r	22,306,167 r	592,560,411 r
2010	541,600,736 r	20,900,548 r	21,708,034 r	584,209,318 r
2011	451,838,190 r	29,695,690 r	19,816,847 r	501,350,727 r
2012	422,692,750 r	42,005,409 r	17,678,497 r	482,376,656 r
2013	415,660,859 r	43,128,502 r	18,558,778 r	477,348,139 r
2014	470,185,366	40,308,726	18,481,821	528,975,913

e Estimated r Revised p Preliminary See footnote in Appendix B

NOTE: Starting in 2002 BOEM 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
				4,485
1995	416,027	2,394,268	2,638,810	0
1996	438,063	2,366,017	2,747,839	0
1997	466,303	2,354,831	3,002,299	0
1998	494,621	2,281,919	3,177,584	0
1999	533,766	2,146,732	3,186,663	3,041
2000	558,242	2,130,707	3,319,816	3,006
2001	591,588	2,117,511	3,404,894	3,912
2002	599,484	2,096,588	3,336,175	5,767
2003	590,803	2,061,995	3,527,696	0
2004	562,864 r	1,991,394 r	3,692,063	0
2005	493,433 r	1,892,095 r	3,695,971	18,889
2006	498,004 r	1,856,606 r	3,693,081	3,086
2007	492,595 r	1,853,243 r	3,661,404	2,703
2008	447,355 r	1,830,416 r	3,580,694	7,113
2009	592,608 r	1,954,241 r	3,289,675	20,368
2010	588,334 r	1,998,583 r	3,362,856	0
2011	500,518 r	2,057,608 r	3,261,422	0
2012	481,108 r	2,370,114 r	3,120,755	0
2013	476,433 r	2,720,782 r	2,821,480	0
January	42,005 r	247,930 r	235,269 r	0
February	38,685 r	226,446 r	201,572 r	0
March	42,313 r	255,562 r	225,487 r	0
April	44,186 r	257,027 r	226,639 r	0
May	45,418 r	265,897 r	222,177 r	0
June	43,916 r	260,348 r	212,025 r	0
July	45,903 r	271,389 r	236,534 r	0
August	46,177 r	273,874 r	231,649 r	0
September	44,201 r	268,774 r	224,851 r	0
October	45,836 r	282,994 r	221,600 r	0
November	43,192	276,036	218,845	0
December	46,627	292,278	223,978	0
2014 Total	528,459 r	3,178,555 r	2,680,626 r	0
January	48,049	289,560	221,638	0
February	43,028	264,615	199,055	0
March	45,224	299,084	234,806	0
April	47,333	290,830	216,229	0
May	45,807	293,845	224,604	0
June	43,746	279,453	219,126	0
July	49,667	292,415	227,255	0
August	51,705	291,631	236,785	0
September	51,123	283,562	216,669	0
October	50,214	290,688	220,747	0
November	46,170	279,153	221,117	0
December	51,284	287,133	244,915	0
2015 Total	573,350	3,441,969	2,682,946	0 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 8

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

DATE	OIL (Barrels)	GAS (MCF)	PLANT LIQUIDS (Barrels)
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	40,978,902	1,399,577
2007	4,554,260	43,242,493	1,416,364
2008	4,301,480	44,210,090	1,482,867
2009	4,094,544	41,624,043	721,985
2010	3,912,951	37,204,336	4,784,684
2011	3,901,117	42,335,904 r	5,506,453 r
2012	3,900,343 r	43,757,730 r	5,797,828 r
2013	4,010,232 r	45,588,369 r	10,239,261 r
January	308,854 r	3,176,047 r	745,177 r
February	273,511 r	2,996,447 r	745,353 r
March	333,537 r	3,400,146 r	796,895 r
April	305,321 r	3,312,899 r	805,560 r
May	332,210 r	3,528,764 r	775,869 r
June	326,644 r	3,271,595 r	719,823 r
July	320,946 r	2,989,289 r	671,517 r
August	322,285 r	3,392,453 r	722,142 r
September	316,520 r	3,376,876 r	728,253 r
October	320,882 r	3,293,654 r	747,100 r
November	302,529 r	3,223,037 r	795,329 r
December	316,202 r	3,346,762 r	989,757 r
2014 Total	3,779,441 r	39,307,969 r	9,242,775 r
January	312,494.11	3,350,378.70	898,862.98
February	277,307.07	2,690,979.29	762,980.03
March	300,149.43	2,928,905.65	646,198.06
April	292,531.01	2,962,224.67	551,492.00
May	293,937.91	3,149,295.53	706,327.39
June	281,369.06	3,085,579.16	718,643.79
July	284,037.75	3,035,484.28	673,372.31
August	284,795.13	2,933,048.10	645,993.31
September	263,277.79	2,615,398.29	603,639.62
October	263,239.48	2,695,012.20 p	624,139.06 p
November	262,154.87 p	2,666,917.78 p	614,292.41 p
December	261,494.80 p	2,654,520.21 p	607,911.28 p
2015 Total	3,376,788.39 p	34,767,743.85 p	8,053,852.23 p

e Estimated r Revised p Preliminary See footnote in Appendix B

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
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	562,637,880	659,271,052	62,090,012	1,283,998,944
2007	603,078,425	611,264,372	65,638,857	1,279,981,654
2008	676,367,962 r	542,416,864 r	79,984,290 r	1,298,769,116 r
2009	903,727,141 r	444,014,121 r	70,811,813 r	1,418,553,075 r
2010	1,603,226,702 r	359,800,310 r	62,296,972 r	2,025,323,984 r
2011	2,449,125,453 r	339,286,937 r	63,099,986 r	2,851,512,376 r
2012	2,487,143,683 r	318,800,982 r	71,877,130 r	2,877,821,795 r
2013	1,852,582,662 r	335,221,857 r	58,679,364 r	2,246,483,883 r
January	131,885,900 r	25,971,932 r	3,866,383 r	161,724,215 r
February	118,419,307 r	23,984,395 r	3,814,830 r	146,218,532 r
March	129,977,814 r	27,273,628 r	4,163,204 r	161,414,646 r
April	126,206,841 r	26,727,480 r	3,940,947 r	156,875,267 r
May	130,916,699 r	27,140,211 r	4,027,013 r	162,083,923 r
June	128,683,789 r	25,936,109 r	3,501,083 r	158,120,980 r
July	124,869,845 r	26,195,533 r	2,216,020 r	153,281,398 r
August	126,126,983 r	24,766,899 r	3,316,314 r	154,210,196 r
September	124,225,841 r	24,242,291 r	3,429,550 r	151,897,682 r
October	126,785,571 r	24,435,708 r	3,574,055 r	154,795,334 r
November	127,073,192 r	22,909,865 r	3,462,670 r	153,445,727 r
December	118,049,319 r	24,892,919 r	3,493,976 r	146,436,214 r
2014 Total	1,513,221,099 r	304,476,970 r	42,806,045 r	1,860,504,114 r
January	120,975,579	24,044,891	3,304,813	148,325,283
February	113,493,766	21,095,051	3,005,688	137,594,505
March	123,229,658	23,848,580	3,191,466	150,269,704
April	121,323,401	24,079,348	2,874,070	148,276,818
May	125,737,533	24,822,004	2,989,808	153,549,345
June	114,079,537	24,518,753	2,724,873	141,323,163
July	118,718,211	25,330,380	2,733,411	146,782,002
August	116,524,491	24,772,947	2,433,427	143,730,865
September	115,120,166	23,234,287	2,390,538	140,744,991
October	105,809,836 p	21,051,684 p	2,369,049 p	129,230,569 p
November	112,659,033 p	23,567,576 p	2,472,064 p	138,698,672 p
December	112,378,398 p	23,379,052 p	2,422,665 p	138,180,115 p
2015 Total	1,400,049,609 p	283,744,553 p	32,911,871 p	1,716,706,033 p

e Estimated r Revised p Preliminary See footnote in Appendix B

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
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	51,568,797	5,183,113	65,969,820
2007	8,385,917	61,102,107	5,842,664	75,330,688
2008	7,686,180 r	49,011,952 r	3,951,968 r	60,650,100 r
2009	7,405,876 r	45,822,387 r	4,050,916 r	57,279,179 r
2010	7,042,385 r	48,420,430 r	6,175,270 r	61,638,085 r
2011	7,302,869 r	53,008,327 r	6,788,281 r	67,099,477 r
2012	7,751,185 r	52,686,327 r	4,972,281 r	65,409,793 r
2013	7,383,156 r	54,274,618 r	4,693,549 r	66,351,323 r
January	529,346 r	4,167,733 r	452,086 r	5,149,165 r
February	475,484 r	3,928,229 r	447,079 r	4,850,792 r
March	637,210 r	4,433,924 r	529,933 r	5,601,067 r
April	621,023 r	4,243,734 r	400,519 r	5,265,276 r
May	489,804 r	4,396,235 r	700,603 r	5,586,642 r
June	552,987 r	4,337,404 r	408,375 r	5,298,766 r
July	576,035 r	4,535,703 r	331,109 r	5,442,847 r
August	549,932 r	4,824,041 r	360,486 r	5,734,459 r
September	627,275 r	4,790,115 r	358,976 r	5,776,366 r
October	601,371 r	4,969,151 r	358,742 r	5,929,264 r
November	570,963 r	4,709,391 r	333,502 r	5,613,856 r
December	503,895 r	4,868,424 r	405,262 r	5,777,581 r
2014 Total	6,735,325 r	54,204,083 r	5,086,672 r	66,026,080 r
January	526,731	4,765,756	503,086	5,795,573
February	479,549	4,186,562	428,402	5,094,513
March	527,586	4,579,763	442,368	5,549,717
April	509,005	4,312,107	438,137	5,259,249
May	523,246	4,552,799	336,806	5,412,851
June	492,148	4,396,011	275,740	5,163,899
July	488,137	4,562,599	286,365	5,337,101
August	484,994	4,478,589	296,025	5,259,608
September	482,005	4,062,318	317,879	4,862,202
October	453,844 p	4,057,119 p	316,984 p	4,827,948 p
November	476,384 p	4,272,525 p	295,314 p	5,044,223 p
December	473,256 p	4,248,050 p	299,186 p	5,020,492 p
2015 Total	5,916,885 p	52,474,198 p	4,236,292 p	62,627,375 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 4

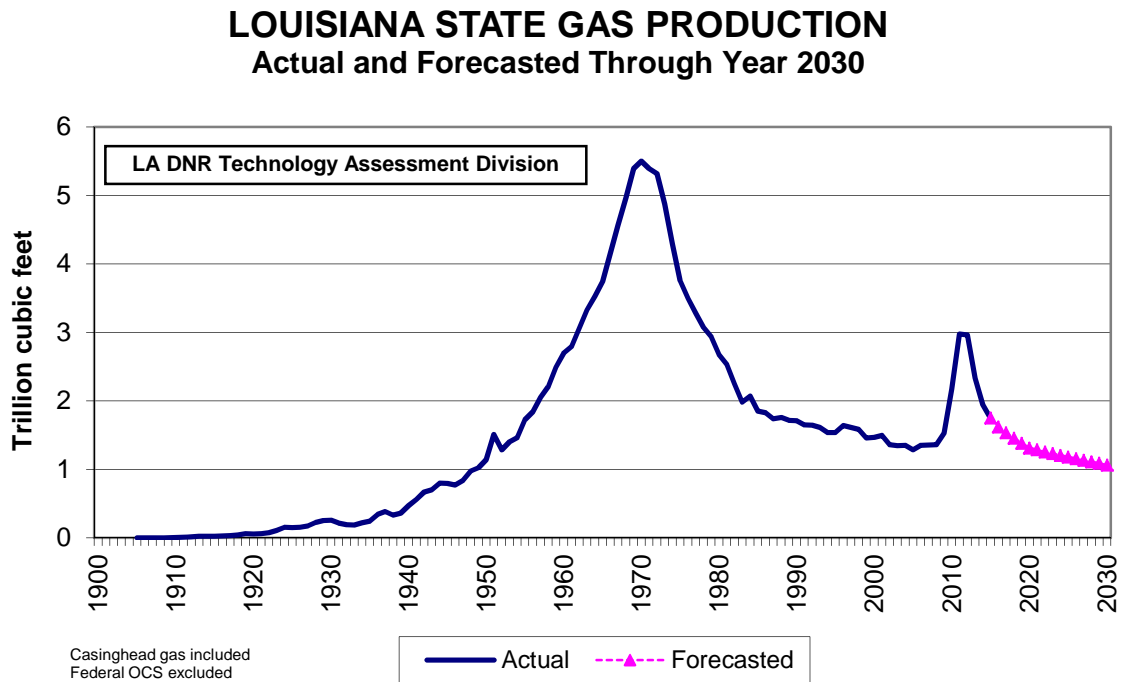


Figure 5

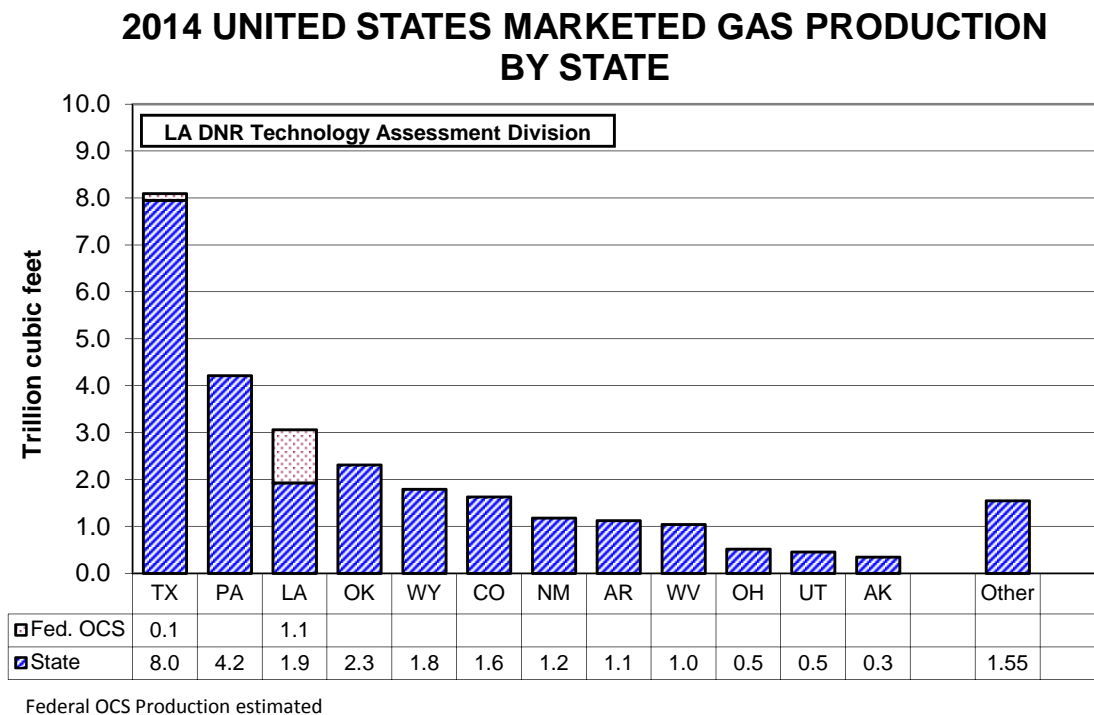


Table 11

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

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
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	571,855,790	710,839,849	67,273,125	1,349,968,764
2007	611,464,342	672,366,479	71,481,521	1,355,312,342
2008	684,054,142 r	591,428,816 r	83,936,258 r	1,359,419,216
2009	911,133,017 r	489,836,508 r	74,862,729 r	1,475,832,254
2010	1,610,269,087 r	408,220,740 r	68,472,242 r	2,086,962,069
2011	2,456,428,322 r	392,295,264 r	69,888,267 r	2,918,611,853 r
2012	2,494,894,868 r	371,487,309 r	76,849,411 r	2,943,231,588 r
2013	1,859,965,818 r	389,496,475 r	63,372,913 r	2,312,835,206 r
January	132,415,246 r	30,139,665 r	4,318,469 r	166,873,380 r
February	118,894,791 r	27,912,624 r	4,261,909 r	151,069,323 r
March	130,615,023 r	31,707,553 r	4,693,137 r	167,015,713 r
April	126,827,864 r	30,971,213 r	4,341,466 r	162,140,543 r
May	131,406,503 r	31,536,446 r	4,727,616 r	167,670,565 r
June	129,236,776 r	30,273,513 r	3,909,458 r	163,419,746 r
July	125,445,880 r	30,731,237 r	2,547,129 r	158,724,245 r
August	126,676,915 r	29,590,940 r	3,676,800 r	159,944,655 r
September	124,853,116 r	29,032,406 r	3,788,526 r	157,674,049 r
October	127,386,942 r	29,404,858 r	3,932,797 r	160,724,598 r
November	127,644,155 r	27,619,256 r	3,796,172 r	159,059,583 r
December	118,553,214 r	29,761,343 r	3,899,238 r	152,213,795 r
2014 Total	1,519,956,424 r	358,681,053 r	47,892,717 r	1,926,530,194 r
January	121,502,310	28,810,647	3,807,899	154,120,856
February	113,973,315	25,281,613	3,434,090	142,689,018
March	123,757,244	28,428,343	3,633,834	155,819,421
April	121,832,405	28,391,455	3,312,207	153,536,067
May	126,260,779	29,374,803	3,326,614	158,962,196
June	114,571,685	28,914,764	3,000,613	146,487,062
July	119,206,348	29,892,979	3,019,776	152,119,103
August	117,009,485	29,251,535	2,729,452	148,990,472
September	115,602,171	27,296,605	2,708,417	145,607,194 p
October	106,263,680 p	25,108,803 p	2,686,033 p	134,058,517 p
November	113,135,417 p	27,840,101 p	2,767,378 p	143,742,895 p
December	112,851,654 p	27,627,103 p	2,721,850 p	143,200,607 p
2015 Total	1,405,966,493 p	336,218,751 p	37,148,163 p	1,779,333,408 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 12

LOUISIANA and GOM CENTRAL NATURAL GAS and CASINGHEAD PRODUCTION
Natural Gas and Casinghead Gas
 (Thousand Cubic Feet (MCF) at 15.025 psia and 60 degrees Fahrenheit)*

DATE	ONSHORE	OFFSHORE		TOTAL
		State	GOM Central	
1995	1,414,106,583	136,506,278	3,677,250,412	5,227,863,273
1996	1,479,687,703	159,500,151	3,948,719,003	5,587,906,857
1997	1,450,163,100	160,956,517	4,065,406,053	5,676,525,670
1998	1,437,970,193	144,320,869	4,050,232,219	5,632,523,281
1999	1,342,861,250	115,829,899	4,114,592,335	5,573,283,484
2000	1,359,993,054	107,546,713	4,039,065,859	5,506,605,626
2001	1,384,111,395	111,210,322	4,118,472,221	5,613,793,938
2002	1,263,625,605	98,236,172	3,711,664,200	5,073,525,977
2003	1,261,197,764	83,413,309	3,498,876,681	4,843,487,754
2004	1,281,591,063	68,134,157	3,048,397,242	4,398,122,462
2005	1,231,468,905	53,486,449	2,393,359,338	3,678,314,692
2006	1,282,695,639	67,273,125	2,272,400,259	3,622,369,023
2007	1,283,830,821	71,481,521	2,292,135,779	3,647,448,121
2008	1,275,482,958 r	83,936,258 r	1,930,267,479	3,289,686,695 r
2009	1,400,969,525 r	74,862,729 r	2,084,867,099	3,560,699,353 r
2010	2,018,489,827 r	68,472,242 r	1,943,658,414	4,030,620,483 r
2011	2,848,723,586 r	69,888,267 r	1,574,039,140	4,492,650,993 r
2012	2,866,382,177 r	76,849,411 r	1,317,720,101	4,260,951,689 r
2013	2,249,462,293 r	63,372,913 r	1,152,879,863	3,465,715,069 r
January	162,554,911 r	4,318,469 r	90,246,677	257,120,057 r
February	146,807,414 r	4,261,909 r	85,168,527	236,237,850 r
March	162,322,576 r	4,693,137 r	93,793,819	260,809,532 r
April	157,799,077 r	4,341,466 r	93,710,878	255,851,421 r
May	162,942,949 r	4,727,616 r	98,803,288	266,473,853 r
June	159,510,288 r	3,909,458 r	95,418,339	258,838,085 r
July	156,177,116 r	2,547,129 r	97,588,004	256,312,249 r
August	156,267,855 r	3,676,800 r	98,707,098	258,651,753 r
September	153,885,523 r	3,788,526 r	96,277,417	253,951,466 r
October	156,791,801 r	3,932,797 r	100,747,360	261,471,958 r
November	155,263,411 r	3,796,172 r	90,946,815	250,006,398 r
December	148,314,557 r	3,899,238 r	95,949,332	248,163,127 r
2014 Total	1,878,637,477 r	47,892,717 r	1,041,408,222	3,063,887,748 r
January	150,312,957	3,807,899	96,404,391	250,525,247
February	139,254,928	3,434,090	84,399,938	227,088,956
March	152,185,587	3,633,834	85,648,264	241,467,685
April	150,223,860	3,312,207	98,089,594	251,625,661
May	155,635,582	3,326,614	99,885,241	258,847,437
June	143,486,449	3,000,613	95,115,995	241,603,057
July	149,099,327	3,019,776	105,497,813	257,616,916
August	146,261,020	2,729,452	108,446,017	257,436,489
September	142,898,777	2,708,417	105,639,132	251,246,326
October	131,372,484 p	2,686,033 p	100,620,346	234,678,863 p
November	140,975,518 p	2,767,378 p	90,865,862	234,608,757 p
December	140,478,757 p	2,721,850 p	97,026,785	240,227,392 p
2015 Total	1,742,185,245 p	37,148,163 p	1,070,612,593	2,946,972,786 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 6

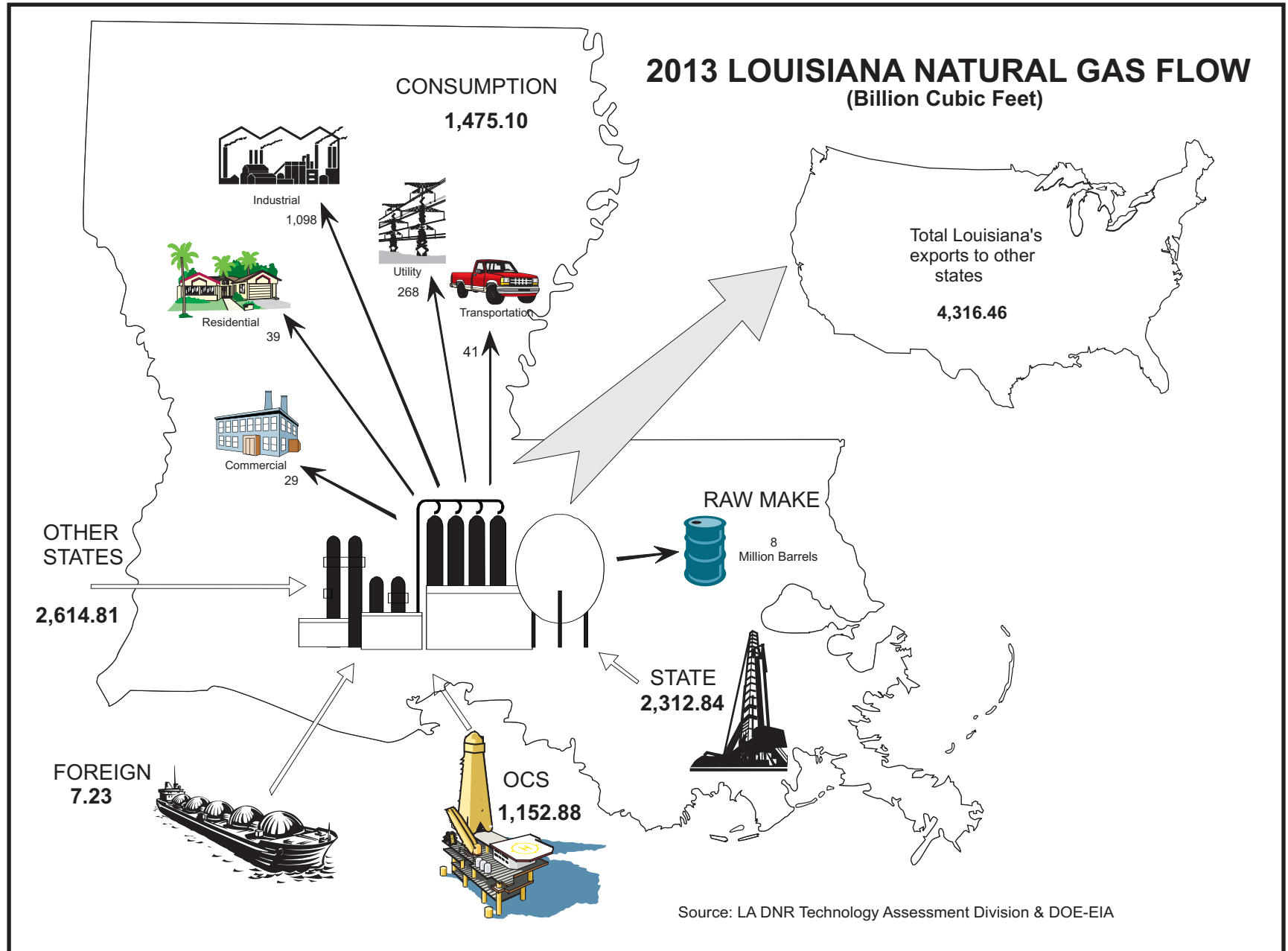


Table 13

GULF OF MEXICO MARKETED GAS PRODUCTION³
(Billion Cubic Feet (BCF) at 15.025 psia and 60 degrees Fahrenheit)

DATE	Alabama	Florida	Louisiana	Federal OCS GOM	Mississippi	Texas
1972	3.6	15.2	7,816.1	N/A **	101.9	8,487.9
1973	11.0	33.2	8,080.6	N/A **	97.7	8,346.7
1974	27.3	37.4	7,601.4	N/A **	77.2	8,010.4
1975	37.1	43.5	6,951.4	N/A **	72.9	7,338.8
1976	40.6	42.3	6,869.0	N/A **	69.4	7,050.7
1977	56.1	47.2	7,073.3	N/A **	81.4	6,912.6
1978	83.9	50.6	7,329.7	N/A **	104.5	6,419.6
1979	84.1	49.2	7,123.6	N/A **	141.2	7,033.8
1980	64.0	39.8	6,803.7	N/A **	171.6	6,976.2
1981	77.7	31.8	6,647.1	N/A **	177.7	6,774.4
1982	73.5	22.1	6,050.5	N/A **	163.9	6,341.8
1983	89.0	20.6	5,227.4	N/A **	148.2	5,822.0
1984	99.8	12.3	5,710.7	N/A **	154.8	6,063.6
1985	105.2	10.3	4,915.3	N/A **	141.3	5,933.8
1986	105.1	8.7	4,799.3	N/A **	138.1	6,031.0
1987	114.9	8.1	5,021.9	N/A **	137.0	6,006.0
1988	127.0	7.3	5,078.6	N/A **	121.6	6,162.6
1989	125.9	7.4	4,978.4	N/A **	100.6	6,118.9
1990	132.6	6.4	5,139.1	N/A **	92.8	6,218.6
1991	167.5	4.8	4,935.5	N/A **	105.9	6,157.3
1992	348.1	6.5	4,817.8	N/A **	89.9	6,025.2
1993	380.4	6.9	4,893.1	N/A **	79.1	6,126.9
1994	505.2	7.3	5,068.2	N/A **	62.2	6,229.1
1995	509.5	6.3	5,008.1	N/A **	93.7	6,205.8
1996	520.4	5.9	5,185.9	N/A **	101.2	6,343.6
1997	381.0	6.0	1,475.5	5,103.8	105.2	5,065.9
1998	384.7	5.7	1,521.5	4,976.8	105.9	5,124.8
1999	374.2	5.8	1,536.2	4,931.0	108.8	4,955.2
2000	356.3	6.4	1,426.4	4,837.5	86.8	5,178.4
2001	349.8	5.6	1,472.6	4,928.9	105.4	5,179.0
2002	349.1	3.3	1,335.0	4,423.4	110.8	5,040.1
2003	339.3	3.0	1,323.9	4,319.9	131.3	5,140.6
2004	309.8	3.1	1,326.7	3,891.5	62.1	4,967.8
2005	290.7	2.6	1,270.6	3,070.6	51.9	5,172.8
2006	280.6	2.5	1,334.4	2,845.0	59.3	5,439.1
2007	265.1	1.7	1,338.5	2,743.8	72.0	6,003.0
2008	252.8	2.4	1,350.9	2,268.9	94.7	6,824.0
2009	231.4	0.3	1,518.2	2,381.2	86.4	6,685.1
2010	218.6	12.2	2,166.7	2,201.0	72.3	6,583.4
2011	191.7	14.8	2,969.7	1,776.7	79.9	6,973.2
2012	211.5	0.8	2,897.4	1,478.0	62.6	7,328.7
2013	192.5	0.3	2,359.6	1,283.5	58.1	7,397.3
2014	177.5	0.4	1,943.5	1,206.9	53.4	7,598.0

e Estimated r Revised p Preliminary See footnote in Appendix B

** Prior to 1997 Federal OCS GOM production was included in state productions

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
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
2011	729,242,365	179,471,125	9,251,347	917,964,837
2012	854,908,764	176,578,354	6,655,754	1,038,142,872
2013	758,214,527	174,056,487	8,764,522	941,035,536
January	87,373,179	14,132,732	721,865	102,227,776
February	93,730,725	13,556,602	703,227	107,990,554
March	90,963,261	14,464,457	651,521	106,079,239
April	92,485,183	12,954,496	589,958	106,029,637
May	80,896,575	13,871,801	639,232	95,407,608
June	95,591,025	13,435,359	622,556	109,648,940
July	85,312,090	15,068,005	687,945	101,068,040
August	95,461,869	13,410,400	465,101	109,337,370
September	117,363,260	12,141,346	632,032	130,136,638
October	101,035,201	13,237,399	615,948	114,888,548
November	88,657,626	13,375,411	729,648	102,762,685
December	93,137,867	15,155,841	701,298	108,995,006
2014 Total	1,122,007,861	164,803,849	7,760,331	1,294,572,041
January	91,984,992	11,480,332	1,015,031	104,480,355
February	96,831,401	12,565,611	673,115	110,070,127
March	119,623,889	14,908,014	608,230	135,140,133
April	86,485,781	10,648,973	591,896	97,726,650
May	105,931,011	11,931,408	619,908	118,482,327
June	94,379,404	11,554,785	501,421	106,435,610
July	102,256,122	11,874,545	572,402	114,703,069
August	84,695,270	12,353,589	556,640	97,605,499
September	93,679,674	13,424,845	539,985	107,644,504
October	81,967,174	12,707,062	489,959	95,164,195
November	98,096,287	12,436,644	856,397	111,389,328
December	104,331,399	10,520,239	667,676	115,519,314
2015 Total	1,160,262,405	146,406,047	7,692,660	1,314,361,112

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
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 MEXICO¹²		PACIFIC⁷	TOTAL
	CENTRAL	WESTERN		
2002	3,711,664,200	812,271,646	67,816,000	4,534,984,410
2003	3,498,876,681	930,004,249	58,095,000	4,439,929,494
2004	3,048,397,242	957,120,117	54,655,000	4,016,565,923
2005	2,393,359,338	762,118,570	54,134,794	3,166,526,472
2006	2,272,400,259	649,372,254	47,153,866	2,932,821,077
2007	2,292,135,779	520,160,276	45,589,671	2,823,344,619
2008	1,930,267,479	399,312,145	46,911,954	2,340,628,188
2009	2,084,867,099	365,965,839	41,233,149	2,461,881,502
2010	1,943,658,414	304,429,714	41,238,185	2,259,136,692
2011	1,574,039,140	252,180,858	36,579,269	1,837,268,562
2012	1,317,720,101	217,944,400	27,262,401	1,546,713,065
2013	1,152,860,088	175,026,774	27,453,674	1,338,935,426
2014	1,134,944,591	138,635,418	28,244,946	1,284,628,573

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

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 7

LOUISIANA OIL PRODUCTION AND PRICE

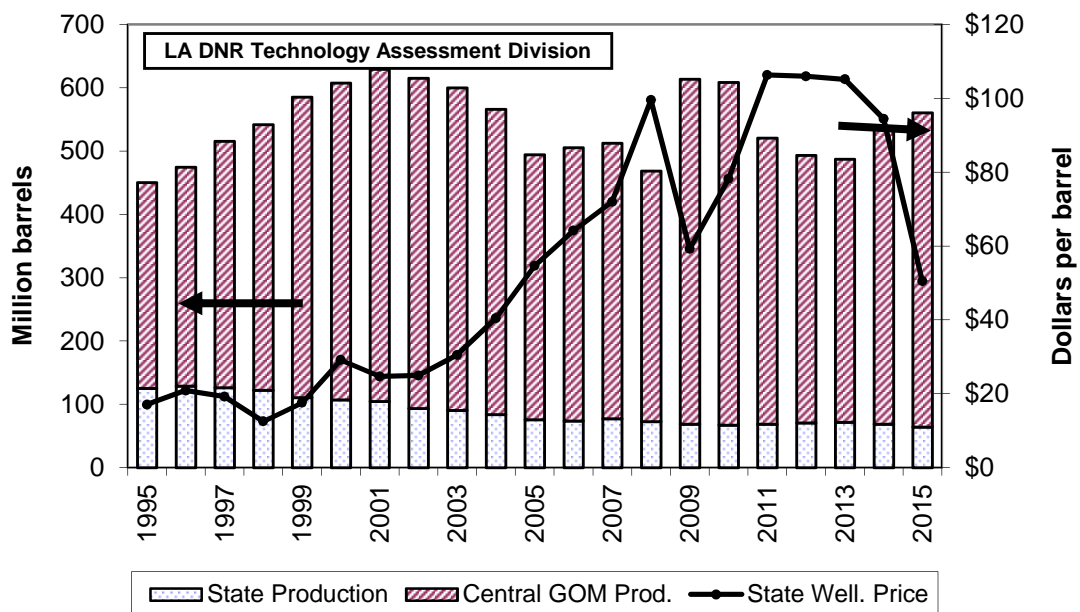


Figure 8

LOUISIANA GAS PRODUCTION AND PRICE

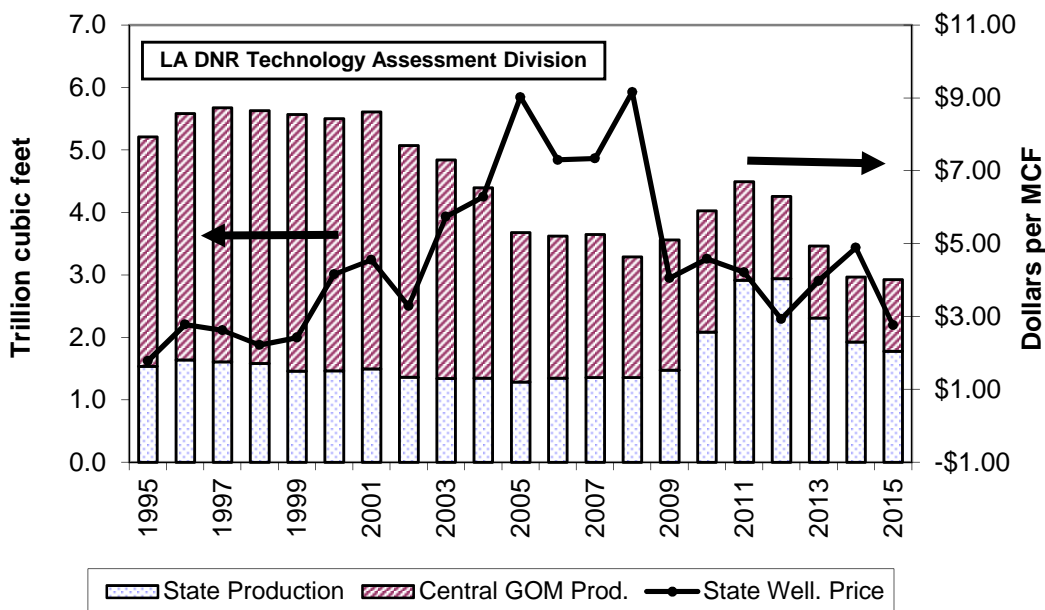


Table 16

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
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	20,861	20,698	19,763	3,906
2009	25,545	21,385	21,223	20,219	3,678
2010	26,290	22,105	21,942	20,897	3,667
2011	27,920	23,770 r	23,564	22,452	3,401
2012	28,962	24,996 r	24,787	23,561	3,076
2013	28,943 r	25,316 r	25,060 r	23,730 r	2,827
January	2,543	2,188	2,166	2,038	290
February	2,300	1,985	1,963	1,848	241
March	2,578	2,226	2,202	2,073	230
April	2,513	2,186	2,163	2,036	197
May	2,590	2,280	2,255	2,122	203
June	2,511	2,215	2,192	2,063	198
July	2,566	2,321	2,296	2,161	197
August	2,576	2,338	2,312	2,176	202
September	2,569	2,276	2,252	2,119	198 r
October	2,679	2,371	2,349	2,211	217 r
November	2,592	2,303	2,280	2,146	223 r
December	2,713	2,394	2,371	2,231	249 r
2014 Total	30,730	27,083	26,800	25,223	2,642 r
January	2,714	2,372	2,351	2,221	274
February	2,463	2,163	2,142	2,019	249
March	2,765	2,410	2,391	2,252	252
April	2,688	2,351	2,331	2,192	201
May	2,722	2,402	2,384	2,242	200
June	2,624	2,341	2,323	2,185	202
July	2,713	2,431	2,411	2,268	213
August	2,712	2,444	2,425	2,280	210
September	2,696	2,378	2,360	2,218	205
October	2,762	2,426	2,407	2,258	222
November	2,690	2,348	2,329	2,183	214
December	2,767	2,412	2,392	2,244	223
2015 Total	32,316	28,478	28,247	26,563	2,665

e Estimated r Revised p Preliminary See 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
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
2010	82.72	75.90	78.23	77.13	75.24	77.71
2011	112.24	93.61	106.30	106.19	101.40	108.89
2012	111.79	93.71	105.98	105.85	107.46	110.89
2013	107.35	93.99	105.16	103.50	106.75	107.09
January	102.79	90.07	96.45	88.11	96.09	97.36 r
February	106.36	95.79	104.87	101.81	96.40	106.71 r
March	104.13	96.05	103.28	102.01	101.62	103.88 r
April	104.15	97.60	103.94	101.18	99.34	103.78 r
May	104.27	97.16	102.29	99.36	105.85	102.48 r
June	108.22	100.39	105.47	100.91	104.07	105.39 r
July	106.41	97.70	103.37	101.65	103.11	104.18 r
August	100.13	91.45	98.16	99.17	105.27	98.40 r
September	96.30	88.11	94.32	94.35	105.53	95.53 r
October	87.60	79.76	85.19	87.47	65.77 r	85.81 r
November	79.64	71.00 r	76.53 r	80.98 r	88.65 r	77.27 r
December	61.90	54.39 r	59.36 r	66.27 r	90.38 r	61.12 r
2014 Average	96.83	88.29 r	94.44 r	93.61 r	96.84 r	95.16 r
January	48.81	43.55	46.64	51.57	76.50	46.90
February	55.28	46.13	48.92	46.61	63.11	48.39
March	54.38	43.18	47.36	47.12	55.63	48.17
April	60.67	49.30	54.91	53.23	45.79	55.33
May	64.96	54.64	60.12	57.33	55.69	60.39
June	63.23	54.03	60.99	61.02	59.26	61.86
July	54.69	46.53	51.52	50.43	59.02	52.10
August	47.07	38.28	43.09	46.21	58.69	43.61
September	48.64	40.52	45.53	42.66	48.92	45.73
October	47.38	41.50	45.90	43.54	37.61	45.79
November	44.36	37.83	40.77	39.94	51.62	40.39 p
December	38.88	36.95 p	34.77	35.88	59.34	38.20 p
2015 Average	52.36	44.37 p	48.38	47.96	55.93	48.91 p

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 9

CRUDE OIL AVERAGE PRICES

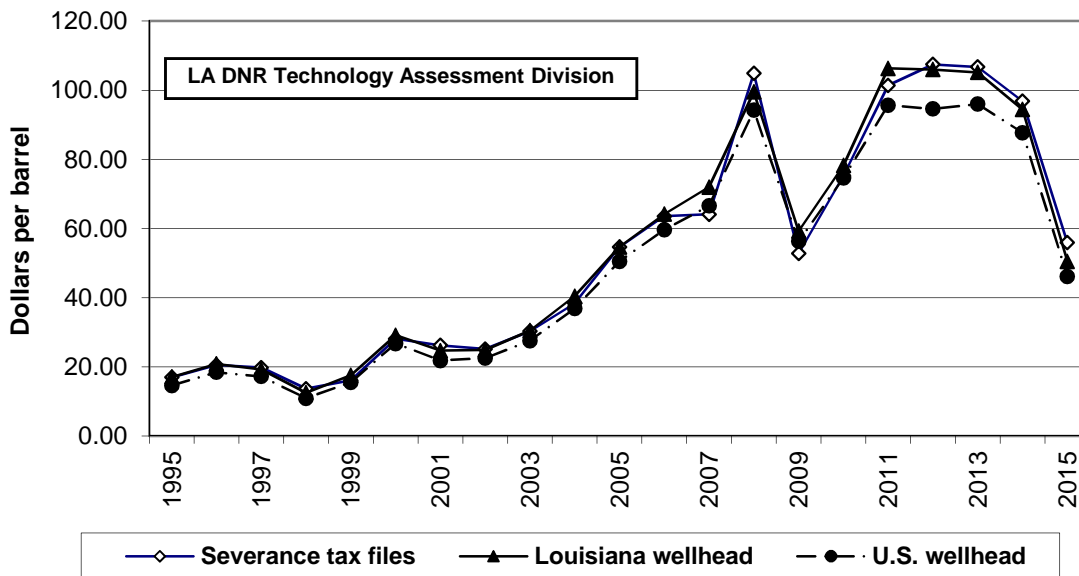


Figure 10

NATURAL GAS AVERAGE PRICES

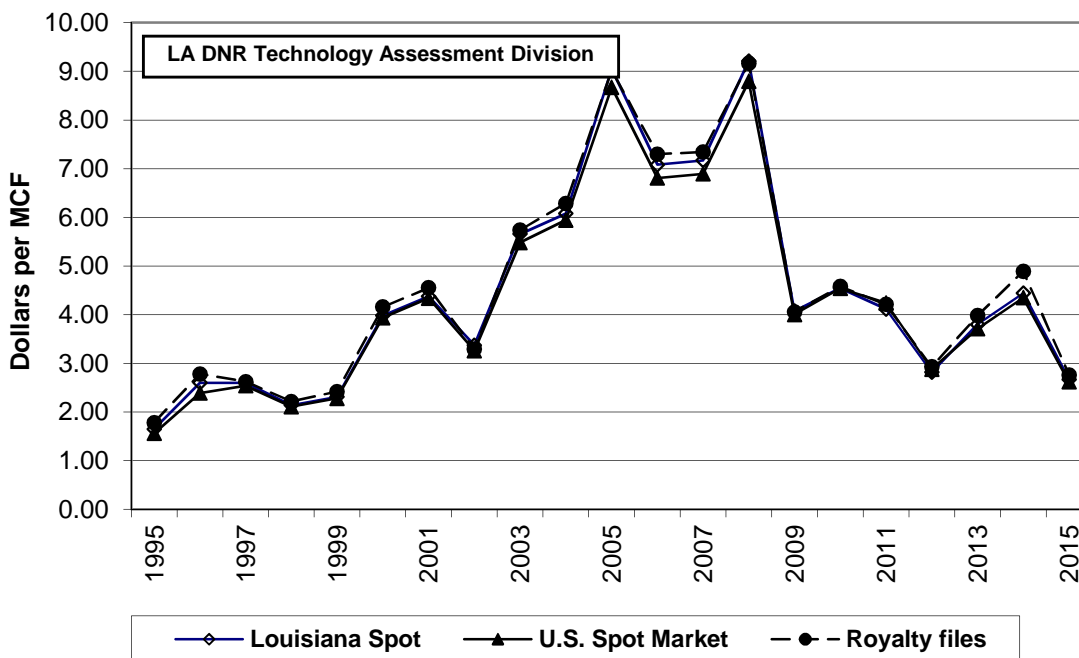


Table 18

UNITED STATES AVERAGE CRUDE OIL PRICES ²
(Dollars per Barrel)

DATE	REFINERY ACQUISITION		DOMESTIC WELLHEAD	IMPORTS LANDED	IMPORTS FOB	IMPORTS OPEC FOB
	Domestic	Imports				
	Costs	Costs				
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	77.94	75.92	74.65	76.51	74.21	75.31
2011	100.62	102.50	95.69	102.92	101.65	105.30
2012	100.91	101.07	94.63	100.86	99.54	104.08
2013	102.93 r	98.03 r	96.00 r	96.90 r	96.51 r	100.54 r
January	97.21 r	89.71 r	89.57 r	90.97	90.93	94.85 r
February	102.35 r	96.10 r	96.86 r	95.38	92.76	97.51
March	102.61 r	97.13 r	96.17 r	95.54	93.05	97.19
April	102.53 r	97.33 r	96.49 r	96.51	94.15	99.15 r
May	102.40 r	98.46 r	95.74 r	97.99	96.16	98.29
June	104.21 r	100.26 r	98.68 r	99.27	97.57	100.67
July	103.21 r	98.75 r	96.70 r	96.59	93.79	97.43
August	97.60 r	93.23 r	90.72 r	91.53	89.28	93.30
September	94.62 r	89.38 r	86.87 r	87.31 r	85.26 r	88.39 r
October	86.73 r	82.75 r	78.84 r	80.13 r	76.73 r	79.29 r
November	76.67 r	74.34 r	71.07 r	70.94 r	67.48 r	71.14 r
December	63.26 r	57.36 r	54.86 r	54.86 r	50.01 r	52.49 r
2014 Average	94.45 r	89.57 r	87.71 r	88.09 r	85.60 r	89.14 r
January	48.90	44.74	43.06	44.38	40.09	42.64
February	50.30	47.20	44.35	47.16	43.86	47.12
March	48.69	47.27	42.66	47.15	43.58	45.17
April	54.86	51.63	49.30	51.79	48.31	50.12
May	59.39	57.66	54.38	56.94	53.45	54.12
June	61.06	58.90	55.88	56.60	53.57	53.96
July	54.15	52.42	47.70	49.71	45.53	46.33
August	46.30	43.23	39.98	41.39	37.17	38.21
September	46.68	41.13	41.60	40.02	36.90	39.81
October	47.02	42.03	42.33	40.39	37.21	39.33
November	43.30	39.06	38.19	37.39	33.64	34.05
December	37.79	33.13	32.26	32.20	29.28	29.81
2015 Average	49.87	46.53	44.31	45.43	41.88	43.39

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
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	6.84	9.03	8.96	9.19	8.84	9.26	9.05
2006	8.24	7.35	7.54	7.00	6.91	7.24	7.08
2007	6.86	7.39	7.13	7.26	7.08	7.29	7.17
2008	9.04	9.17	9.40	9.23	9.12	9.34	9.21
2009	5.03	4.05	4.15	3.95	3.98	4.16	4.07
2010	4.10	4.54	4.57	4.39	4.47	4.61	4.55
2011	4.48	4.24	4.20	4.00	4.04	4.17	4.11
2012	3.07	2.88	2.90	2.75	2.75	2.87	2.82
2013	3.58	3.71	3.80	3.72	3.67	3.91	3.80
January	N/A	4.53	4.58	4.70	4.24	5.24	4.60
February	N/A	5.71	5.78	5.97	5.00	6.96	5.96
March	N/A	4.80 r	5.05	4.87	4.44	6.26	4.95
April	N/A	4.61	4.77	4.63	4.44	4.91	4.69
May	N/A	4.60	4.99	4.56	4.44	5.00	4.72
June	N/A	4.61 r	4.80	4.57	4.45	4.85	4.69
July	N/A	4.18 r	4.58	4.01	3.59	4.58	4.17
August	N/A	3.83 r	3.96	3.88	3.78	4.06	3.94
September	N/A	3.92 r	4.12	3.92	3.47	6.69	4.02
October	N/A	3.84 r	4.14	3.77	3.57	4.18	3.94
November	N/A	3.94 r	3.88	4.10	3.62	4.53	4.03
December	N/A	3.69 r	4.45	3.42	2.68	4.47	3.61
2014 Average	4.04	4.35 r	4.59	4.37	3.98	5.14	4.44
January	N/A	3.04	3.32	2.97	2.94	3.32	3.13
February	N/A	2.82	2.98	2.85	2.56	3.14	2.85
March	N/A	2.73	3.01	2.80	2.63	3.20	2.91
April	N/A	2.52	2.69	2.55	2.52	2.72	2.63
May	N/A	2.70	2.62	2.83	2.48	3.05	2.80
June	N/A	2.70	2.93	2.77	2.54	2.95	2.81
July	N/A	2.74	2.88	2.89	2.72	3.03	2.87
August	N/A	2.73	3.00	2.77	2.68	3.01	2.86
September	N/A	2.55	2.74	2.64	2.51	2.79	2.68
October	N/A	2.25	2.67	2.29	2.24	2.66	2.44
November	N/A	2.05	2.11	2.08	1.96	2.23	2.09
December	N/A	1.85	2.29	1.88	1.46	2.30	1.93
2015 Average	3.33	2.62	2.77	2.61	2.44	2.87	2.67

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			
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	6.58	8.68	8.62	8.83	8.50	8.90	8.70
2006	7.92	7.07	7.25	6.73	6.64	6.96	6.81
2007	6.60	7.11	6.86	6.98	6.80	7.01	6.89
2008	8.69	8.81	9.03	8.88	8.77	8.99	8.86
2009	4.84	3.90	3.99	3.80	3.82	4.00	3.92
2010	3.94	4.37	4.39	4.22	4.30	4.44	4.37
2011	4.31	4.08	4.04	3.85	3.88	4.01	3.96
2012	2.95	2.77	2.79	2.65	2.64	2.76	2.71
2013	3.44	3.57	3.65	3.58	3.54	3.77	3.65
January	N/A	4.36	4.41	4.52	4.08	5.04	4.43
February	N/A	5.49	5.56	5.74	4.81	6.69	5.73
March	N/A	4.62	4.86 r	4.68	4.27	6.02	4.76
April	N/A	4.43	4.58	4.45	4.27	4.72	4.51
May	N/A	4.42	4.80	4.38	4.27	4.81	4.54
June	N/A	4.43	4.62 r	4.39	4.28	4.66	4.51
July	N/A	4.02	4.40 r	3.86	3.46	4.40	4.01
August	N/A	3.68	3.81 r	3.73	3.63	3.90	3.79
September	N/A	3.77	3.96 r	3.77	3.34	6.43	3.87
October	N/A	3.69	3.98 r	3.63	3.43	4.02	3.78
November	N/A	3.79	3.73 r	3.94	3.48	4.36	3.88
December	N/A	3.54	4.28 r	3.29	2.58	4.30	3.47
2014 Average	3.88	4.19	4.41 r	4.20	3.82	4.95	4.27
January	N/A	2.92	3.19	2.86	2.82	3.19	3.01
February	N/A	2.72	2.87	2.74	2.46	3.02	2.74
March	N/A	2.63	2.89	2.69	2.53	3.08	2.80
April	N/A	2.42	2.59	2.45	2.42	2.62	2.53
May	N/A	2.60	2.52	2.72	2.38	2.93	2.69
June	N/A	2.60	2.82	2.66	2.44	2.84	2.70
July	N/A	2.64	2.77	2.78	2.62	2.91	2.76
August	N/A	2.63	2.89	2.66	2.58	2.89	2.75
September	N/A	2.45	2.64	2.54	2.41	2.68	2.58
October	N/A	2.17	2.56	2.20	2.15	2.56	2.35
November	N/A	1.97	2.03	2.00	1.88	2.14	2.01
December	N/A	1.78	2.21	1.81	1.40	2.21	1.85
2015 Average	3.20	2.52	2.66	2.51	2.34	2.76	2.56

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
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	4.82
2011	5.76	13.34	9.41	4.27	4.45
2012	3.41	12.34	8.25	2.97	3.09
2013	4.14	12.50 r	8.63	3.87	3.93
January	5.05	8.90 r	8.70 r	4.74 r	4.87
February	5.96	9.38 r	9.08 r	5.95 r	N/A
March	5.38	9.90 r	9.24 r	5.16 r	5.45
April	5.09	11.57 r	9.28 r	4.84 r	5.00
May	5.09	13.92 r	9.59 r	4.97 r	4.99
June	5.03	15.54 r	9.33 r	4.88 r	4.93
July	4.64	16.39 r	9.37 r	4.53 r	4.59
August	4.19	16.12 r	8.66 r	4.08 r	4.22
September	4.33	16.44 r	9.00 r	4.19 r	4.30
October	4.44	15.82 r	8.74 r	4.21 r	4.23
November	4.49	11.54	8.57	4.18	N/A
December	4.65	10.16	8.77	4.29	4.15
2014 Average	4.86 r	12.97 r	9.03 r	4.67 r	4.67 r
January	3.37	6.92	6.07	2.94	2.75
February	3.38	6.57	6.09	2.99	2.49
March	3.26	5.68	5.59	2.78	2.60
April	3.19	5.34	5.28	2.16	2.86
May	3.20	5.30	5.32	2.13	2.27
June	3.10	5.34	5.08	2.08	2.18
July	3.14	5.74	5.09	2.00	2.14
August	2.86	6.12	5.26	1.98	2.07
September	2.78	6.37	5.20	1.89	1.91
October	2.55	6.74	5.40	1.74	1.94
November	2.55	6.87	5.57	1.75	1.87
December	2.97	7.07	5.39	1.85	1.67
2015 Average	3.03	6.17	5.45	2.19	2.23

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
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	4.63
2011	5.54	12.83	9.05	4.11	4.28
2012	3.28	11.87	7.94	2.85	2.98
2013	3.98	12.02 r	8.30	3.72	3.77
January	4.86	8.56 r	8.37 r	4.56 r	4.68
February	5.73	9.02 r	8.73 r	5.72 r	N/A
March	5.17	9.52 r	8.88 r	4.96 r	5.24
April	4.89	11.13 r	8.92 r	4.65 r	4.81
May	4.89	13.38 r	9.22 r	4.78 r	4.80
June	4.84	14.94 r	8.97 r	4.69 r	4.74
July	4.46	15.76 r	9.01 r	4.36 r	4.41
August	4.03	15.50 r	8.33 r	3.92 r	4.06
September	4.16	15.81 r	8.65 r	4.03 r	4.13
October	4.27	15.21 r	8.40 r	4.05 r	4.07
November	4.32	11.10	8.24	4.02	N/A r
December	4.47	9.77	8.43	4.13	3.99
2014 Average	4.67 r	12.47 r	8.68 r	4.49 r	4.49 r
January	3.99	8.82	8.27	3.30	3.20
February	3.71	8.69	8.08	3.05	3
March	3.55	8.34	7.63	3.02	3.00
April	2.96	10.63	7.33	2.74	2.92
May	2.92	12.79	7.23	2.73	N/A
June	3.10	14.14	7.39	2.95	2.95
July	3.35	14.60	7.43	2.94	N/A
August	3.15	15.58	7.42	3.03	3.08
September	2.96	14.97	7.32	2.82	N/A
October	2.84	14.22	7.34	2.62	N/A
November	2.52	13.05	7.37	2.18	N/A
December	2.84	10.29	7.57	2.26	N/A
2015 Average	3.16	12.18	7.53	2.80	3.04

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	SPOT	FOREIGN	CITY	DELIVERED TO	
	MARKET ⁵	IMPORTS ³	GATES ³	RESIDENTIAL ³	INDUSTRIAL ³
1995	1.56	1.49	2.78	6.58	2.71
1996	2.39	1.97	3.27	6.97	3.42
1997	2.54	2.17	3.66	6.94	3.59
1998	2.11	1.97	3.07	7.45	3.14
1999	2.28	2.24	3.10	7.34	3.12
2000	3.94	3.95	4.62	8.51	4.45
2001	4.34	4.43	5.72	9.91	5.24
2002	3.26	3.15	4.12	8.60	4.02
2003	5.48	5.17	5.85	10.62	5.89
2004	5.94	5.81	6.65	11.64	6.53
2005	8.67	8.12	8.67	13.72	8.56
2006	6.81	6.88	8.61	14.16	7.87
2007	6.89	6.87	8.16	14.19	7.68
2008	8.80	8.70	9.18	15.45	9.65
2009	4.00	4.19	6.48	12.91	5.33
2010	4.58	4.52	6.18	12.91	5.49
2011	4.26	4.24	5.63	12.57	5.13
2012	2.93	2.88	4.73	12.09	3.88
2013	3.98	3.83	4.88	12.15	4.64
January	6.43	7.15	5.56 r	9.26 r	5.62
February	8.22	9.11	6.41 r	9.77	6.58
March	6.87	8.12	6.57 r	10.70 r	6.39
April	4.71	5.11	5.64 r	11.76 r	5.78
May	4.62	4.60	5.90 r	13.60 r	5.69
June	4.53	5.32	6.05 r	16.13 r	5.42
July	4.07	4.77	5.99 r	17.23 r	5.36
August	3.80	3.87	5.49 r	17.41 r	4.90
September	3.86	4.24	5.51 r	16.27 r	4.96
October	3.73	3.87	5.16 r	13.11 r	4.97
November	4.08	3.97	4.91	10.19	4.97
December	3.78	4.44	5.15	10.01	5.54
2014 Average	4.89	5.38 r	5.70 r	12.95 r	5.52
January	3.56	4.75	4.48	9.50	4.76
February	3.87	5.46	4.54	9.10	4.60
March	3.27	3.90	4.35	9.28	4.35
April	2.54	2.59	3.93	10.42	3.86
May	2.69	2.52	4.24	12.61	3.50
June	2.67	2.56	4.43	15.07	3.69
July	2.71	2.66	4.65	16.21	3.67
August	2.75	2.74	4.58	16.80	3.73
September	2.62	2.75	4.54	16.37	3.58
October	2.41	3.23	4.00	12.59	3.45
November	2.14	2.40	3.68	10.06	3.18
December	1.96	2.28	3.76	9.29	3.38
2015 Average	2.76	3.15	4.27	12.28	3.81

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

Table 21A

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

DATE	SPOT	FOREIGN	CITY	DELIVERED TO	
	MARKET ⁵	IMPORTS ³	GATES ³	RESIDENTIAL ³	INDUSTRIAL ³
1995	1.50	1.43	2.67	6.33	2.61
1996	2.30	1.89	3.14	6.70	3.29
1997	2.44	2.09	3.52	6.67	3.45
1998	2.03	1.89	2.95	7.16	3.02
1999	2.19	2.15	2.98	7.06	3.00
2000	3.79	3.80	4.44	8.19	4.28
2001	4.17	4.26	5.50	9.53	5.04
2002	3.14	3.03	3.96	8.27	3.87
2003	5.27	4.97	5.63	10.21	5.66
2004	5.71	5.59	6.39	11.19	6.28
2005	8.34	7.81	8.34	13.19	8.23
2006	6.55	6.62	8.28	13.62	7.57
2007	6.63	6.61	7.85	13.64	7.38
2008	8.46	8.37	8.83	14.85	9.28
2009	3.85	4.03	6.23	12.41	5.13
2010	4.40	4.35	5.94	12.41	5.28
2011	4.09	4.08	5.41	12.09	4.93
2012	2.81	2.77	4.55	11.62	3.73
2013	3.83	3.68	4.69	11.68	4.46
January	6.18	6.88	5.35	8.90	5.40
February	7.90	8.76	6.16	9.39	6.33
March	6.60	7.81	6.32	10.29	6.14
April	4.53	4.91	5.42	11.31	5.56
May	4.44	4.42	5.67	13.08	5.47
June	4.36	5.12	5.82	15.51	5.21
July	3.91	4.59	5.76	16.57	5.15
August	3.65	3.72	5.28	16.74	4.71
September	3.71	4.08	5.30	15.64	4.77
October	3.59	3.72	4.96	12.61	4.78
November	3.92	3.82	4.72	9.80	4.78
December	3.64	4.27	4.95	9.63	5.33
2014 Average	4.70	5.17	5.48	12.46	5.30
January	3.42	4.57	4.31	9.13	4.58
February	3.72	5.25	4.37	8.75	4.42
March	3.14	3.75	4.18	8.92	4.18
April	2.44	2.49	3.78	10.02	3.71
May	2.58	2.42	4.08	12.13	3.37
June	2.57	2.46	4.26	14.49	3.55
July	2.61	2.56	4.47	15.59	3.53
August	2.65	2.63	4.40	16.15	3.59
September	2.52	2.64	4.37	15.74	3.44
October	2.31	3.11	3.85	12.11	3.32
November	2.06	2.31	3.54	9.67	3.06
December	1.88	2.19	3.62	8.93	3.25
2015 Average	2.66	3.03	4.10	11.80	3.67

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
1994	1,015	98	1,113	74	1,039
1995	979	86	1,065	68	997
1996	1,248	133	1,381	121	1,260
1997	1,424	138	1,562	85	1,477
1998	1,171	115	1,286	96	1,190
1999	908	109	1,017	79	938
2000	1,363	90	1,453	151	1,302
2001	1,277	88	1,365	96	1,269
2002	902	123	1,025	90	935
2003	1,152	112	1,264	83	1,181
2004	1,535	98	1,633	57	1,576
2005	1,882	114	1,996	74	1,922
2006	2,040	97	2,137	61	2,076
2007	2,082	68	2,150	34	2,116
2008	2,296	78	2,374	40	2,334
2009	1,335	30	1,365	12	1,353
2010	1,914	42	1,956	32	1,924
2011	1,638	38	1,676	36	1,640
2012	1,543	38	1,581	28	1,553
2013	1,549	29	1,578	37	1,541
January	164	1	165	0	165
February	118	2	120	1	119
March	91	3	94	0	94
April	102	0	102	2	100
May	121	1	122	0	122
June	154	5	159	0	159
July	121	1	122	1	121
August	84	3	87	1	86
September	104	2	106	1	105
October	136	4	140	1	139
November	99	4	103	1	102
December	85	3	88	0	88
2014 Total	1,379	29	1,408	8	1,400
January	39	1	40	1	39
February	37	0	37	1	36
March	49	1	50	0	50
April	49	4	53	0	53
May	62	2	64	1	63
June	69	0	69	0	69
July	70	7	77	0	77
August	41	3	44	1	43
September	75	2	77	0	77
October	71	1	72	0	72
November	32	0	32	0	32
December	27	1	28	0	28
2015 Total	621	22	643	4	639

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 11

LOUISIANA STATE DRILLING PERMITS ISSUED
Federal OCS Excluded

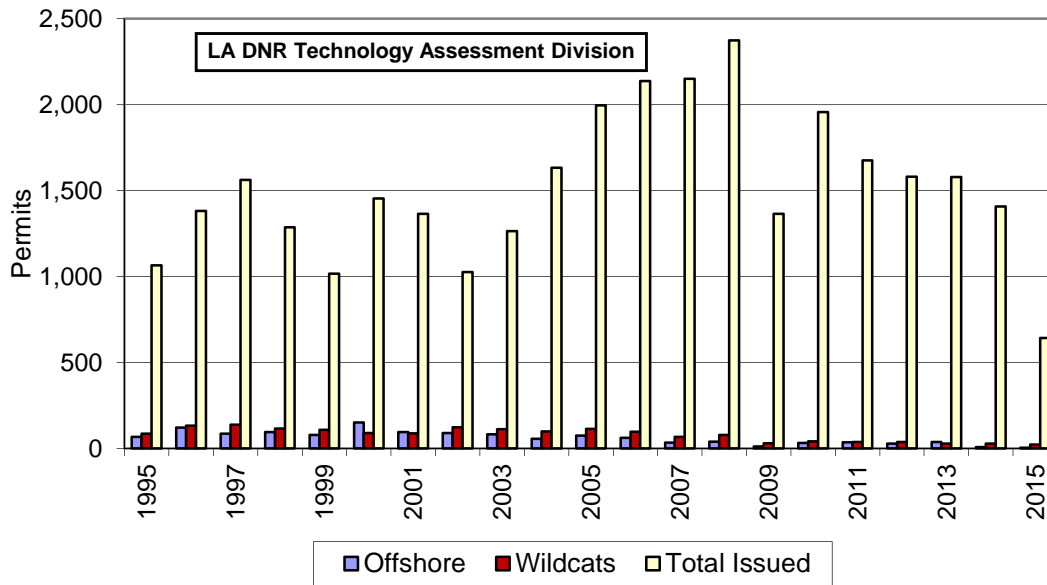


Figure 12

LOUISIANA AVERAGE ACTIVE RIGS

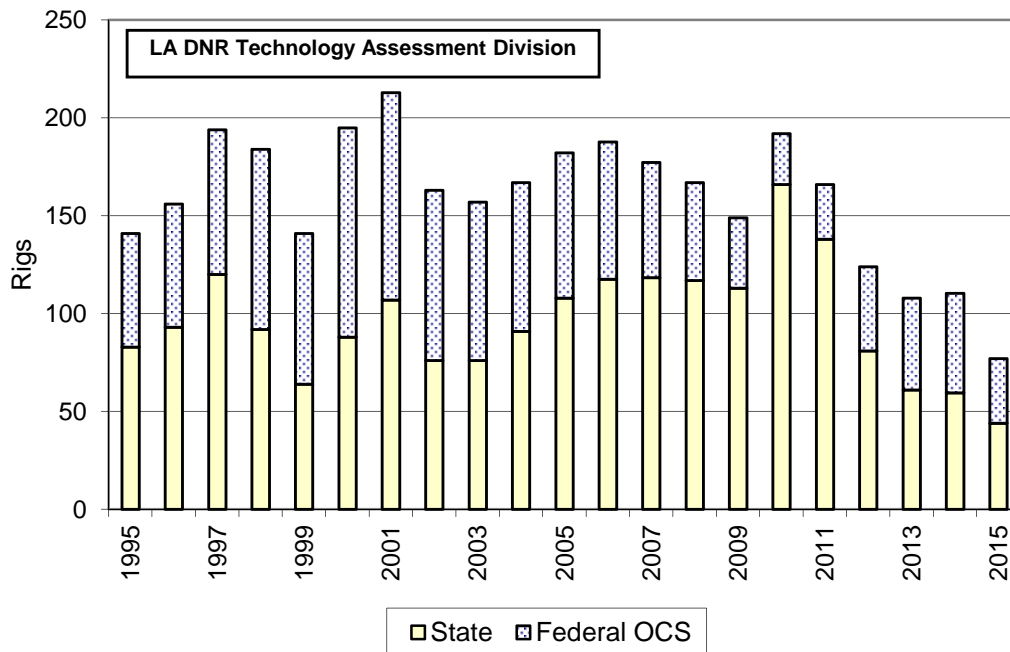


Table 23

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					
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
2011	97	17	22	2	138	28	29	165
2012	36	18	26	1	81	43	44	124
2013	24	20	15	2	61	47	49	108
January	25	20	14	0	59	52	52	111
February	24	19	13	0	56	50	50	106
March	28	18	12	0	58	47	47	105
April	24	16	20	0	59	47	47	107
May	28	14	19	0	60	53	53	114
June	27	16	15	1	59	50	51	109
July	27	18	15	1	60	51	52	112
August	30	12	16	0	58	56	56	114
September	29	13	17	1	59	55	56	115
October	32	13	16	1	62	49	51	111
November	31	13	18	2	64	46	48	110
December	28	13	18	2	61	51	54	112
2014 Average	28	15	16	1	60	51	51	110
January	30	12	16	1	59	49	50	108
February	33	8	17	1	59	48	49	107
March	27	6	12	0	45	40	40	85
April	26	4	10	0	40	30	30	70
May	27	3	10	0	40	30	30	70
June	26	5	12	0	43	28	28	71
July	25	4	14	0	43	31	31	74
August	29	5	11	0	45	32	32	77
September	30	4	9	0	42	30	30	72
October	28	2	7	0	37	32	32	69
November	29	3	6	0	37	30	30	67
December	29	2	8	0	38	21	21	59
2015 Average	28	5	11	0	44	33	33	77

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 24

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

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
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
2013	16,691	3,646	240	20,577
2014	12,557	3,156	228	16,941
2015	13,007	4,151	447	17,605

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 13

2014 Percentage of Louisiana Oil Wells by Production Rates

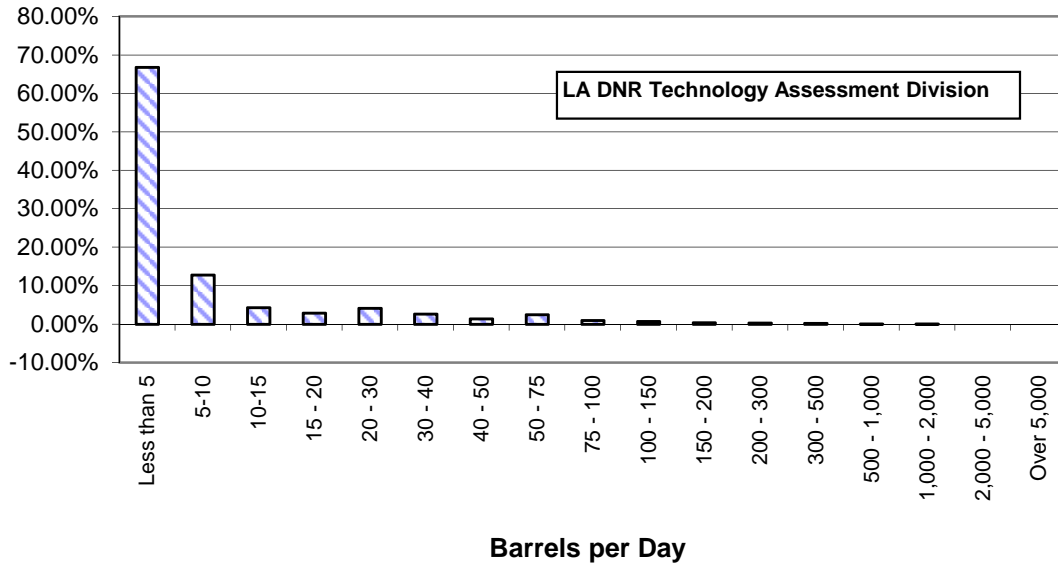


Figure 14

2014 Percentage of Louisiana Gas Wells by Production Rates

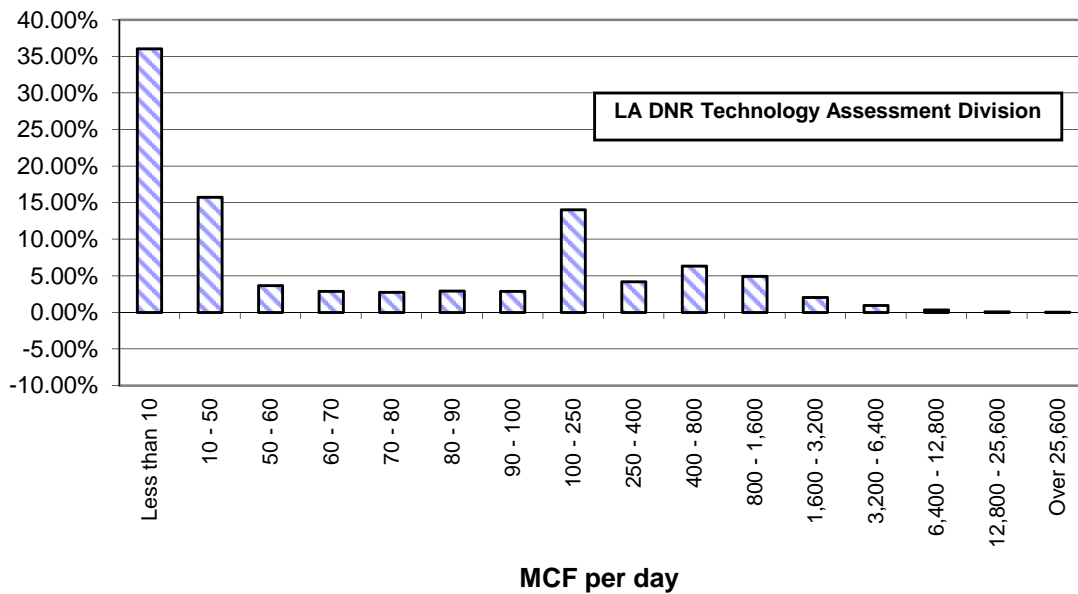


Table 25

LOUISIANA STATE PRODUCING NATURAL GAS WELLS
Excluding OCS

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
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
2013	18,184	1,295	104	19,583
2014	16,114	1,003	72	17,189
2015	19,273	1,424	87	20,784

e Estimated r Revised p Preliminary See footnote in Appendix B

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	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	9	114	167	290
	2011	4	122	144	270
	2012	3	258	422	683
	2013	3	123	267	393
	2014	9	126	225	360
	2015	19	194	39	252
N A T G U A R S A L	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	9	73	958	1,040
	2011	4	37	198	239
	2012	1	54	203	258
	2013	2	28	55	85
	2014	6	66	303	375
	2015	9	172	307	488
D H R O Y L E	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	2	61	76	139
	2011	0	36	52	88
	2012	1	57	92	150
	2013	0	33	71	104
	2014	0	11	3	14
	2015	0	2	1	3

Table 27

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

DATE	BONUSES	OVERRIDE ROYALTY	RENTALS	TOTAL
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
2011	19.48	8.42	16.36	44.27
2012	17.48	9.80	11.72	39.00
2013	18.92	11.31	11.14	41.38
January	0.66	0.78	1.09	2.53
February	0.00	1.31	0.68	1.99
March	1.59	0.82	-0.03	2.38
April	1.91	0.15	0.90	2.96
May	0.54	0.65	0.61	1.80
June	0.48	0.72	0.61	1.81
July	1.19	0.68	1.27	3.15
August	0.95	0.63	0.90	2.48
September	0.26	0.06	1.47	1.79
October	1.19	0.11	0.85	2.15
November	0.07	1.30	2.23	3.60
December	0.15	0.50	0.52	1.17
2014 Total	8.98	7.72	11.11	27.80
January	2.68	0.41	0.44	3.54
February	0.13	-6.11	0.21	-5.77
March	0.29	-5.50	0.49	-4.72
April	0.02	0.25	1.05	1.32
May	0.00	0.29	0.18	0.48
June	0.01	0.44	0.53	0.98
July	0.01	0.45	0.30	0.76
August	0.05	0.48	0.42	0.95
September	0.48	-5.96	0.23	-5.25
October	0.10	0.09	0.90	1.08
November	0.22	1.22	0.23	1.67
December	0.25	0.23	0.11	0.59
2015 Total	4.25	-13.71	5.10	-4.36

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 28

LOUISIANA STATE MINERAL ROYALTY REVENUE
Excluding OCS
(Million Dollars)

DATE	OIL	GAS	PLANT LIQUIDS	OTHER	TOTAL
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	272.57	162.50	22.52	0.00	457.59
2011	381.35	173.52 r	32.48	0.00	587.34 r
2012	377.91 r	121.73 r	24.81	0.00	524.45 r
2013	382.32 r	158.51 r	27.76 r	0.00	568.66 r
January	26.68 r	14.06 r	2.35 r	0.00	43.08 r
February	25.91 r	16.78 r	2.64 r	0.00	45.32 r
March	30.87 r	15.97 r	2.22 r	0.00	49.06 r
April	28.18 r	14.94 r	2.27 r	0.00	45.39 r
May	30.27 r	15.87 r	2.17 r	0.00	48.31 r
June	30.55 r	14.75 r	2.03 r	0.00	47.32 r
July	29.70 r	12.09 r	1.75 r	0.00	43.54 r
August	28.18 r	12.54 r	1.84 r	0.00	42.56 r
September	26.81 r	12.79 r	1.97 r	0.00	41.57 r
October	24.39 r	12.18 r	1.83 r	0.00	38.40 r
November	20.70 r	12.24 r	1.52 r	0.00	34.47 r
December	17.10 r	11.84 r	1.15 r	0.00	30.09 r
2014 Total	319.33 r	166.05 r	23.72 r	0.00	509.11 r
January	13.00	9.70	0.77	0.00	23.47
February	11.93	7.22	0.75	0.00	19.90
March	12.78	7.60	0.74	0.00	21.12
April	14.33	7.07	0.76	0.00	22.15
May	15.73	8.09	0.79	0.00	24.60
June	15.47	7.91	0.69	0.00	24.08
July	13.13	7.93	0.65	0.00	21.71
August	11.01	7.64	0.50	0.00	19.15
September	10.68	6.50	0.56	0.00	17.74
October	11.00	5.86	0.58	0.00	17.44
November	9.14	4.68	0.59	0.00	14.42
December	8.02	4.45	0.53	0.00	13.00
2014 Total	146.24	84.64	7.92	0.00	238.80

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 29

LOUISIANA STATE MINERAL SEVERANCE TAX REVENUE⁸Excluding OCS
(Million Dollars)

DATE	OIL	GAS	OTHER MINERALS	SEVERANCE TOTAL
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	1138.25
2009	377.51	292.18	1.63	671.32
2010	516.90	224.18	1.58	742.67
2011	677.56	97.61	1.34	776.51
2012	736.78	135.23	1.31	873.32
2013	761.75	99.45	1.38	862.58
January	52.90	11.50	0.07	64.46
February	58.32	10.52	0.09	68.92
March	55.02	11.11	0.11	66.24
April	54.84	11.37	0.08	66.29
May	64.97	9.57	0.11	74.64
June	57.35	11.52	0.09	68.97
July	63.44	13.79	0.11	77.33
August	58.61	11.45	0.11	70.17
September	65.39	17.16	0.11	82.66
October	43.77	9.71	0.13	53.61
November	42.48	14.02	0.10	56.60
December	68.59	15.98	0.14	84.72
2014 Total	685.68	147.70	1.24	834.61
January	37.03	15.59	0.15	52.78
February	35.26	15.92	0.11	51.29
March	41.15	19.75	0.16	61.05
April	23.56	14.12	0.08	37.76
May	27.75	17.86	0.10	45.71
June	30.03	15.71	0.13	45.87
July	30.41	16.67	0.13	47.20
August	31.93	14.35	0.13	46.40
September	26.32	14.87	0.11	41.30
October	13.23	13.53	0.11	26.86
November	24.74	16.20	0.16	41.10
December	37.55	15.73	0.10	53.39
2015 Total	358.96	190.30	1.46	550.72

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 30

STATE REVENUE FROM LOUISIANA'S OUTER CONTINENTAL SHELF¹³

(Dollars)

YEAR	RENTALS	BONUSES	ROYALTIES	OTHERS REVENUE	GOMESA	TOTAL
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
2013	N/A	N/A	N/A	N/A	75,621	24,533,076
2014	N/A	N/A	N/A	N/A	1,119,942	20,586,591
2015	N/A	N/A	N/A	N/A	653,383	12,579,284

e Estimated r Revised p Preliminary See footnote in Appendix B

Table 31

**LOUISIANA STATE TOTAL MINERAL REVENUE
(Dollars)**

YEAR	FEDERAL OCS¹³	FEDERAL ONSHORE¹³	STATE BOUNDARIES	TOTAL
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	1,256,220,286	1,282,648,686
2011	20,910,097	17,982,455	1,408,117,556	1,447,010,108
2012	19,845,947	6,914,439	1,436,769,322	1,463,529,708
2013	24,533,076	2,607,490	1,472,614,331	1,499,754,898
2014	20,586,591	3,417,220	1,371,527,259	1,395,531,070
2015	12,579,284	1,734,869	786,474,618 e	800,788,771 e

e Estimated r Revised p Preliminary See footnote in Appendix B

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
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
2013	2,675,653,773	244,699,154	34,646,396	5,778,759,396	8,733,758,719
2014	967,365,328	229,741,396	46,262,768	5,846,709,902	7,090,079,394
2015	642,044,899	215,683,828	-36,545,638	4,109,252,603	4,930,435,692

^a Total collection, including state 8G shares.

e Estimated r Revised p Preliminary See footnote in Appendix B

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
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
2011	103	264	50	4,438	4,855	26,544
2012	100	300	63	4,504	4,967	30,529
2013	120	328	55	4,503	5,006	33,371

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 15

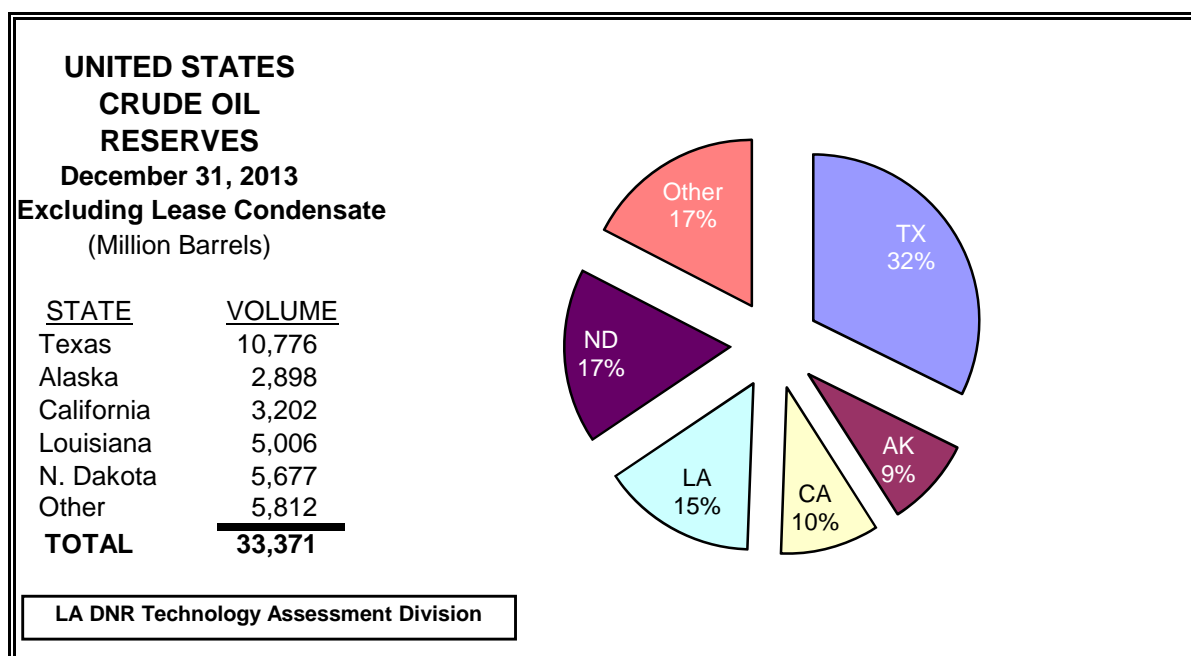


Table 34

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
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	68	11	129	235	1,914
2011	33	64	11	129	237	2,406
2012	38	70	13	98	219	2,874
2013	39	68	12	88	207	3,149

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 16

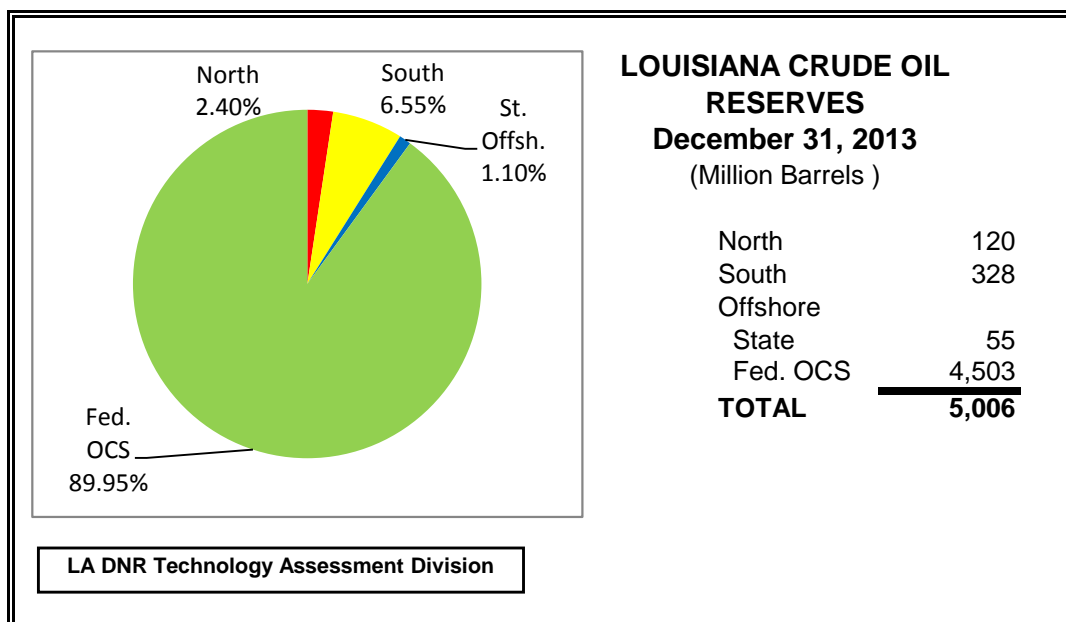


Table 35

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
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
2011	27,337	2,519	502	8,156 c	38,514 c	334,067
2012	18,418	3,029	502	7,291 c	29,240 c	308,036
2013	17,044	2,718	402	6,482 c	26,646 c	328,264

^c Includes Federal Offshore Alabama

Figure 17

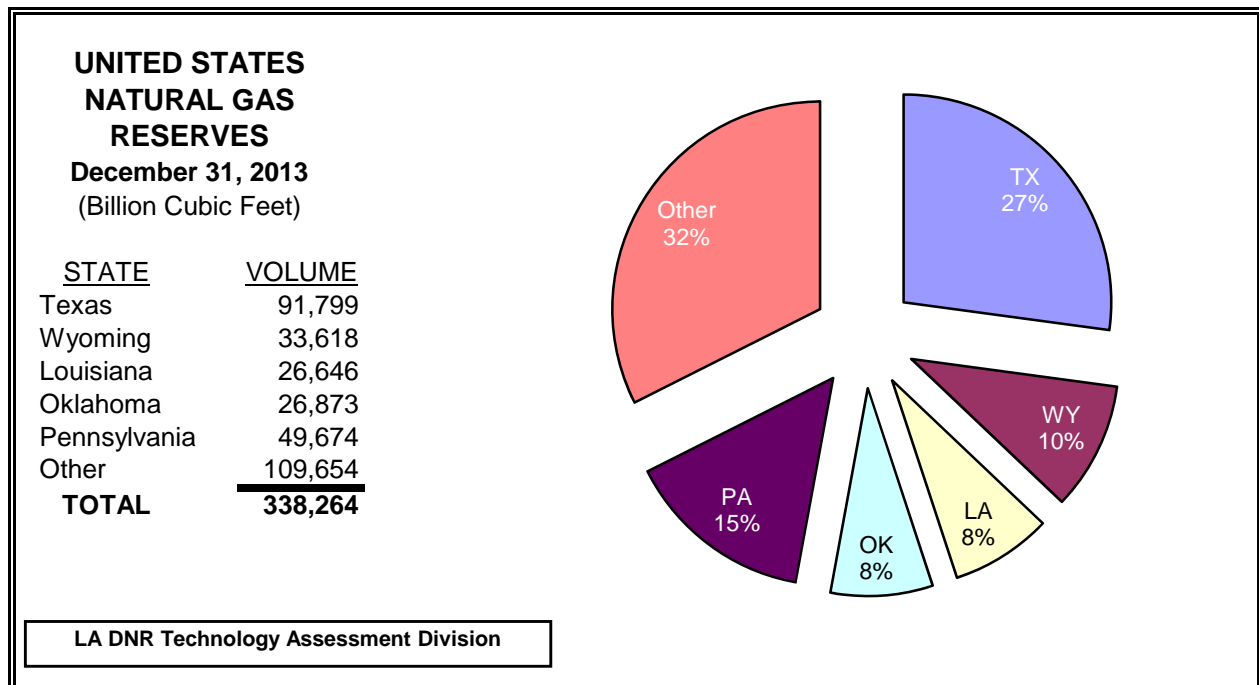


Table 36

**LOUISIANA ESTIMATED NATURAL GAS LIQUIDS
PROVED RESERVES ⁹
As of December 31st of Each Year
(Million Barrels)**

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1993	38	201	21	255 c	515 c	6,030
1994	48	214	19	267 c	548 c	6,023
1995	55	359	16	191 c	621 c	6,202
1996	61	284	36	199 c	580 c	6,516
1997	50	199	12	352 c	613 c	6,632
1998	34	187	13	341 c	575 c	6,188
1999	36	222	23	403 c	684 c	6,503
2000	35	178	28	487 c	728 c	6,873
2001	35	128	41	460 c	664 c	6,595
2002	30	119	37	483 c	669 c	6,648
2003	48	100	35	347 c	530 c	6,244
2004	53	87	27	410 c	577 c	6,707
2005	57	103	31	407 c	598 c	6,903
2006	60	94	22	390 c	566 c	7,133
2007	69	97	25	365 c	556 c	7,648
2008	68	78	55	313 c	514 c	7,842
2009	98	90	43	301 c	532 c	8,557
2010	79	113	24	340 c	556 c	9,809
2011	54	94	44	354 c	546 c	10,825
2012	35	134	20	369 c	558 c	10,777
2013	52	144	16	292 c	504 c	11,943

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 18

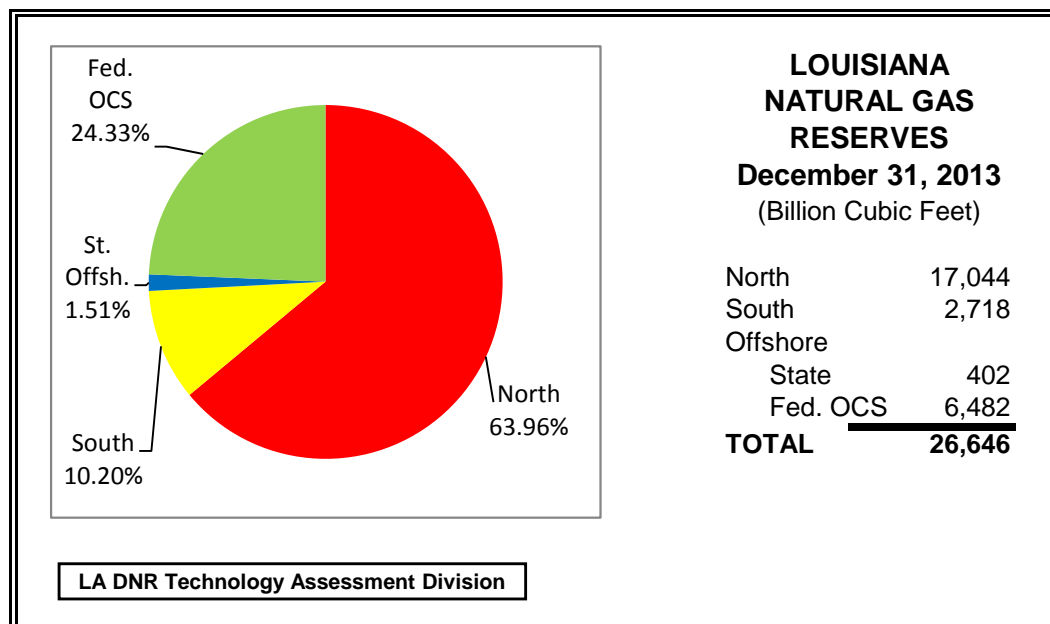


Table 37

LOUISIANA NONAGRICULTURAL EMPLOYMENT¹

DATE	OIL & GAS PRODUCTION	CHEMICAL INDUSTRY	PETROLEUM MANUFACTURING	ALL PIPELINE*	TOTAL EMPLOYMENT
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	49,990	22,772	11,225	2,543	1,889,138
2009	47,500	22,529	11,356	2,463	1,856,385
2010	47,916	22,533	11,423	2,667	1,833,888
2011	49,239	23,168	11,163	2,778	1,846,761
2012	50,963	23,029	11,276	2,862	1,868,317
January	48,890	22,880	11,460	2,791	1,860,800
February	49,305	22,958	11,476	2,761	1,875,950
March	49,451	22,929	11,452	2,752	1,884,377
April	49,861	23,373	11,421	2,893	1,894,546
May	50,167	23,374	11,484	2,863	1,900,275
June	50,835	23,542	11,584	2,899	1,894,568
July	50,713	23,191	11,592	2,903	1,869,949
August	51,047	23,358	11,678	2,889	1,889,898
September	50,696	23,423	11,593	2,827	1,893,439
October	50,771	23,576	11,712	2,906	1,909,062
November	50,698	23,686	11,719	2,898	1,917,701
December	50,474	23,853	11,731	2,899	1,911,642
2013 Average	50,221	23,299	11,561	2,853	1,890,051
January	50,256	23,747	11,693	2,981	1,886,297
February	50,249	23,753	11,662	2,978	1,896,510
March	50,534	23,777	11,766	2,959	1,910,404
April	49,452	23,810	11,783	2,958	1,917,866
May	49,986	23,915	11,869	2,972	1,929,739
June	49,935	24,183	12,001	3,009	1,921,632
July	50,349	24,333	12,099	3,005	1,906,332
August	50,172	24,364	12,197	3,006	1,923,732
September	49,881	24,156	12,137	2,990	1,928,031
October	50,082	24,296	12,165	2,935	1,947,618
November	49,805	24,349	12,179	2,954	1,953,209
December	49,681	24,348	12,231	2,960	1,953,992
2014 Average	50,064	24,062	11,959	2,977	1,920,125

* Natural Gas Pipeline employment is included in 2001 forward but excluded in prior years.

e Estimated r Revised p Preliminary See footnote in Appendix B

Figure 19

LOUISIANA ENERGY CONSUMPTION BY SOURCE

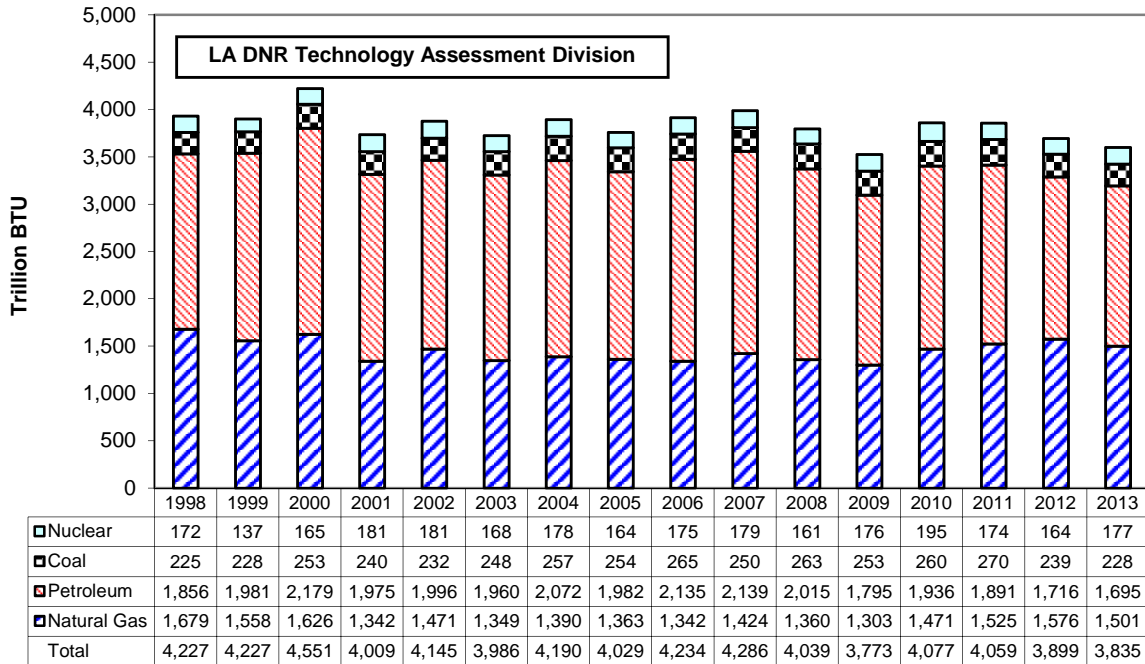


Figure 20

LOUISIANA REFINERY CRUDE OIL INPUT BY SOURCE

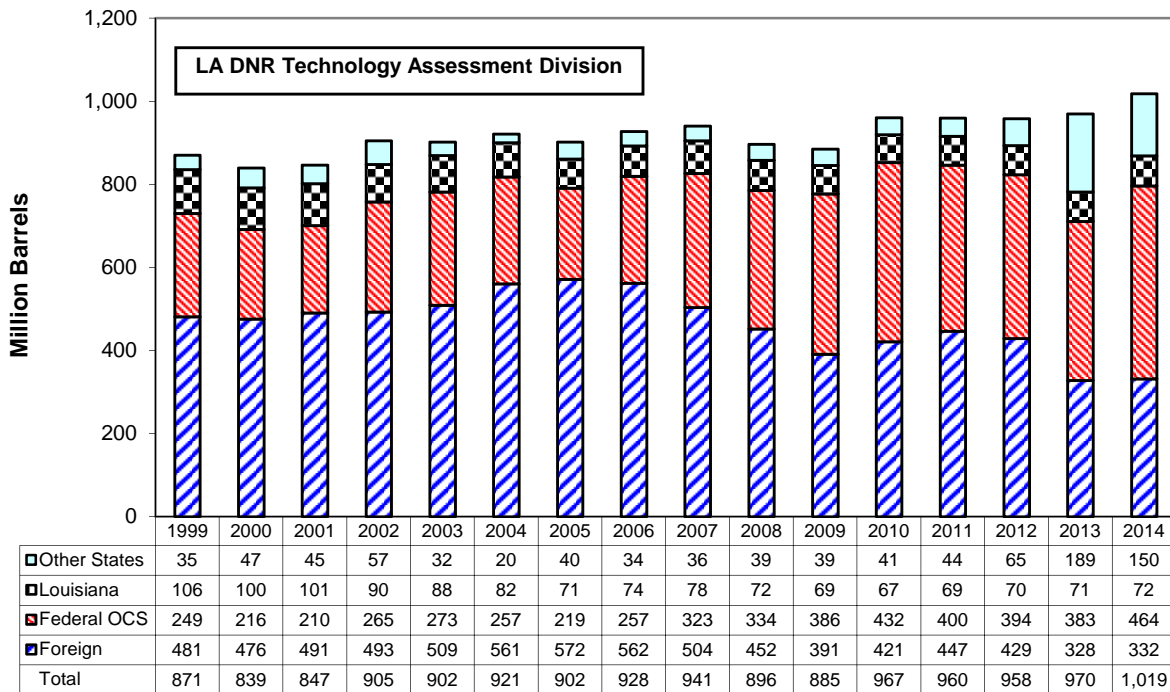


Table 38

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)
1973	3,323	2,010	231,763	0	0	0
1974	3,414	2,008	242,545	0	0	0
1975	3,113	1,789	230,872	0	0	0
1976	3,542	2,044	260,930	0	0	0
1977	3,943	2,191	299,549	79	0	0
1978	4,102	2,249	312,231	172	0	0
1979	4,051	1,978	351,467	118	0	0
1980	3,914	1,794	345,640	111	0	0
1981	3,970	1,782	351,404	1,363	0	0
1982	3,648	1,556	329,383	3,724	0	0
1983	3,443	1,413	307,978	6,154	0	0
1984	3,584	1,594	283,675	6,855	0	0
1985	3,349	1,386	280,304	9,217	2,457	0
1986	3,507	1,439	292,730	10,459	10,637	0
1987	3,569	1,501	286,809	10,391	12,324	0
1988	3,607	1,446	300,896	12,848	13,785	0
1989	3,764	1,556	297,765	12,471	12,391	0
1990	3,858	1,588	304,516	12,547	14,197	656
1991	3,847	1,525	312,517	12,965	13,956	656
1992	3,966	1,551	329,450	13,674	10,356	656
1993	4,034	1,579	334,556	13,676	14,398	1,232
1994	4,170	1,586	358,274	14,100	12,779	972
1995	4,210	1,679	350,162	13,357	15,686	952
1996	4,389	1,616	374,722	12,534	15,765	964
1997	4,496	1,661	361,782	13,874	13,511	1,036
1998	4,227	1,569	348,208	13,891	16,428	1,063
1999	4,227	1,495	381,195	13,953	13,112	802
2000	4,551	1,537	428,363	15,737	15,796	532
2001	4,009	1,307	377,607	14,934	17,336	732
2002	4,145	1,426	383,119	14,676	17,305	891
2003	3,986	1,308	363,307	15,592	16,126	892
2004	4,190	1,346	384,677	16,059	17,080	1,099
2005	4,029	1,310	366,578	15,856	15,676	811
2006	4,234	1,293	396,178	16,410	16,735	713
2007	4,286	1,377	396,182	15,524	17,078	827
2008	4,039	1,314	374,490	16,409	15,371	1,064
2009	3,773	1,266	339,481	15,736	16,782	1,236
2010	4,077	1,437	364,867	16,240	18,639	1,109
2011	4,059	1,497	357,528	16,792	16,615	1,044
2012	3,899	1,553	329,441	14,893	15,659	680
2013	3,835	1,475	330,391	13,934	16,954	1,045

e Estimated r Revised p Preliminary See footnote in Appendix B

TBTU = Trillion BTU

BCF = Billion Cubic Feet

KWH = Kilowatt-hours

MBBLS = Thousand Barrels

MST = Thousand Short Tons

Table 39

LOUISIANA REFINERY CRUDE OIL STATISTICS

DATE	AVERAGE STOCK ON HAND (Barrels)	DAILY AVERAGE RUNS TO STILL (Barrels)	LICENSED REFINERIES
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
2011	13,473,779	2,743,681	19
2012	13,596,335	2,754,173	18
2013	14,611,002	2,750,860	18
January	13,007,861	2,800,554	18
February	13,167,906	2,793,007	18
March	14,058,096	2,647,101	18
April	14,351,599	2,752,866	18
May	14,823,614	2,799,749	18
June	15,095,005	2,745,519	18
July	15,069,700	3,009,305	18
August	13,889,723	2,989,710	18
September	14,394,247	2,943,547	18
October	14,240,144 r	2,739,077 r	18
November	13,960,281 r	2,822,955 r	18
December	13,873,188 r	2,930,784 r	18
2014 Total	14,160,947 r	2,831,181 r	18
January	14,529,402	2,631,833	18
February	14,309,619	2,674,617	18
March	13,747,351	2,821,583	18
April	13,386,532	2,909,980	18
May	13,930,134	2,984,691	18
June	13,867,553	2,950,444	18
July	11,787,690	2,477,496	18
August	12,498,738	2,519,398	18
September	12,764,467	2,490,393	18
October	10,325,577	2,236,750	18
November	10,585,406 e	2,509,195 e	18
December	10,845,704 e	2,390,270 e	18
2015 Total	12,714,848 e	2,633,054 e	18

e Estimated r Revised p Preliminary See footnote in Appendix B



Exxon-Mobil Refinery - Baton Rouge

Figure 21

LOUISIANA LIGNITE PRODUCTION BY MINE SOURCE
(Thousand Tons Shipped)

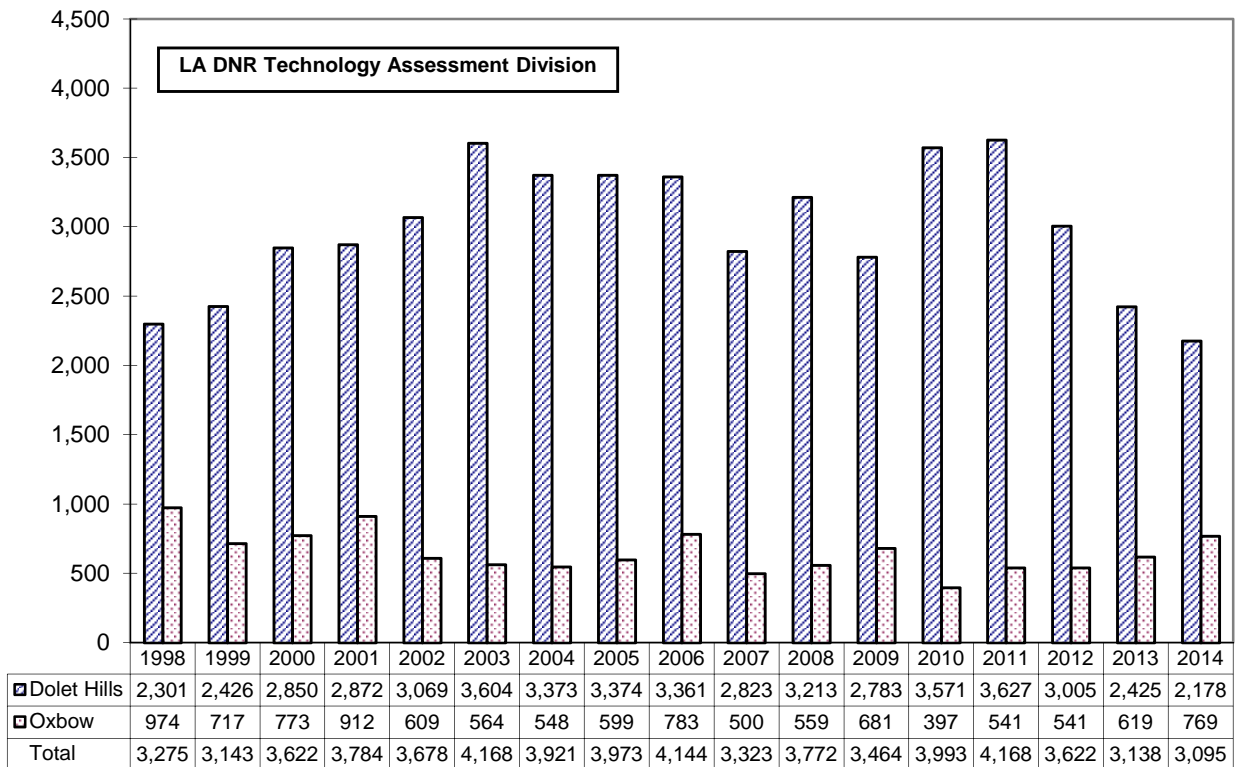


Table 40

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

YEAR	COAL	LIGNITE	OIL	GAS	NUCLEAR	TOTAL
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 *	2,891	18,924	18,639	51,681	51,681 *
2011	11,860 *	4,378	22,071	16,615	54,924	54,924 *
2012	11,163 *	2,701	22,525	15,659	52,048	52,048 *
2013	9,843 *	4,476	24,227	16,954	56,226	49,723 *
2014	8,497 *	4,762	23,058	17,311	53,628	49,723 *

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

e Estimated r Revised p Preliminary See footnote in Appendix B

APPENDICES

AbbreviationsA-1
Data SourcesB-1
GlossaryC-1
Louisiana Energy Briefs and TopicsD-1



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

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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
MMB	Million Barrels
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. The severance tax reported production volumes are different from actual production due to reporting time lag and well tax exemptions.
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, it was the first that was offered for lease after enactment of the law 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: Beginning in Fiscal Year 2007, 37.5 percent of all qualified OCS revenues, including bonus bids, rentals and production royalty, will be shared among the four States and their coastal political subdivisions from those new leases issued in the 181 Area in the Eastern planning area (also known as the 224 Sale Area) and the 181 South Area. 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 Bureau 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: The second phase of GOMESA revenue sharing begins in Fiscal Year 2017. It expands the definition of qualified OCS revenues to include receipts from GOM leases issued either after December 20, 2006, in the 181 Call Area, or, in 2002–2007 GOM Planning Areas subject to withdrawal or moratoria restrictions. A revenue sharing cap of \$500 million per year for the four Gulf producing States, their CPS's and the LWCF applies from fiscal years 2016 through 2055. The \$500 million cap does not apply to qualified revenues generated in those areas associated with Phase I of the GOMESA program. The Bureau will address the second phase of GOMESA revenue sharing in a subsequent rulemaking.
- 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)

Federal Onshore. They are lands in the United States for which ownership is claimed by the U.S. federal government, pursuant to Article Four, section 3, clause 2 of the United States Constitution.

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

OCS. The average wellhead price calculated from sales and volumes from Louisiana OCS natural gas as reported by the U.S. Department of Interior, Office of Natural Resources Revenue.

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 Plant Liquids (NGPL). NGPL are those hydrocarbons in natural gas that are separated as liquids at natural gas processing, fractionating, and cycling plants. Products obtained include ethane, liquefied petroleum gases (propane, normal butane, and isobutene), and natural gasoline. Component products may be fractionated or mixed. Lease condensate and plant condensate are excluded. Cycling plants are classified as gas processing plants or facilities designed to recover natural gas liquids from a stream of natural gas that may or may not have passed through lease separators and/or field separation facilities. These facilities control the quality of the natural gas to be marketed. Note: Some EIA publications categorize NGPL production as field production, in accordance with definitions used prior to January 2014.

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 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 overriding royalty interest is a percentage of oil and gas revenue from a producing well free of all drilling and producing costs. It is carved out of the lessee's or working interest owner and paid by the lessee or working interest owner. It is limited in duration to the terms of an existing lease, not subject to any of the expenses of development, operation or maintenance, and not connected to an ownership of minerals under the ground, and it is royalty in addition to the usual landowner's royalty reserved to the lessor.

Severance Tax. It is levied on production of natural resources taken from land or water bottoms within the territorial boundaries of the state. The state collects no severance from production in federal waters in the Gulf which start three miles from the Louisiana coastline. Natural resources are all forms of timber, including pulp woods, and turpentine and other forest products; minerals such as oil, gas, natural gasoline, distillate, condensate, casinghead gasoline, sulphur, salt, coal, lignite, and ores; also marble, stone, gravel, sand, shells, and other natural deposits; and the salt content in brine.

State Offshore. (See Louisiana Offshore)

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

Wildcat Well. (See Developmental Well)

Appendix D

Louisiana Energy Topics

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PHASE 1 OF LPSC STATEWIDE ENERGY EFFICIENCY PROGRAM

by

Patty Nussbaum, P.E.

The Energy Efficiency Quick Start Program, Phase 1 of the Louisiana Public Service Commission Statewide Energy Efficiency Program (LPSC Docket R-31106), started in November 2014. Participation by utilities is voluntary. Entergy Louisiana, Entergy Gulf States Louisiana, CLECO and SWEPCO are participating.

The Quick Start program introduces a set of energy efficiency programs that can be designed and implemented quickly and economically. Residential programs generally involve a walk-through assessment from a participating contractor to determine areas of energy efficiency improvement for the home. The customer receives cost offsets/rebates for the assessment and incentives for improvements made as a result of the walk-through assessment. This might be rebates to purchase energy efficient light bulbs, power strips and room air conditioning units,

Evaluation, Measurement and Verification (EM&V)¹ is one of the areas, which will be addressed in Phase I. The EM&V process evaluates the effectiveness of the program. Each utility will develop an EM&V Plan. Energy Savings can be determined using different methods but generally these programs will involve recording or estimating energy savings, verifying that energy saving measures are installed and operating, and finally reviewing the cost effectiveness of the program to determine whether the desired savings were achieved.

Energy savings are the difference in energy usage between the existing equipment and the new energy efficient equipment installed in its place. Verification takes place after the new equipment has been installed for some period of time, typically a year. EM&V is the framework of the program. It determines whether the investment in energy efficiency is getting the desired objectives. The EM&V approach must also be cost effective.

The Statewide Energy Efficiency Program is funded by all customers. As such, the program's phased approach is designed so that the infrastructure is developed in Phase I to support a long term program in Phase II. A separate rulemaking at the LPSC will be developed for Phase II. The idea is to develop an energy efficiency program that benefits all customers not just the customers who get the upgrades. Access to the full docket R-31106 is available on the LPSC website (<http://www.lpsc.org/>) under "Document Access."

¹ *What is EM&V?* The Department of Energy's Technical Assistance Program
http://www1.eere.energy.gov/wip/solutioncenter/pdfs/what_is_emv.pdf

Following is an example of a typical residential project from the Entergy program (http://entergylouisiana.com/energy_efficiency/). Under the Entergy program, small business customers will also have incentives for upgrades.

EXAMPLE OF A TYPICAL RESIDENTIAL PROJECT:

Incentives are available for air sealing, ceiling insulation, duct sealing, and AC or Heat Pump replacement. The incentives are provided in the form of an instant discount off the contractor's invoice, allowing you to shorten your payback time without having to pay the full cost up front. Be sure to look for your Entergy Solutions Louisiana discount on your invoice.

In addition to the incentives, this example customer could save \$550 on their Entergy bill.

Note: These incentives and savings amounts are based on a typical Louisiana home. Every home is different, so incentive and savings amounts will vary based on pre-existing home conditions, customer behavior and measures installed.

Measure	Incentive*
Energy Assessment	\$75
Air Sealing	\$234*
Ceiling Insulation	\$665
Duct Sealing	\$180*
A/C Replacement	\$250*
Total	\$1,404

*Example above is based on a 1,900-square-foot electrically heated home with R-4 ceiling insulation improved to R-30, 3.5-ton air conditioning system replaced with a 16 SEER unit, 90% reduction in duct leakage and a 40 percent reduction in house leakage.

SOURCE: Entergy (http://entergylouisiana.com/energy_efficiency/)

HIGHLIGHTS OF THE 19TH EDITION OF THE LOUISIANA CRUDE OIL REFINERY SURVEY REPORT

By
Ross LeBlanc

Louisiana has 16 operating refineries with a combined capacity of 3,349,520 barrels per calendar day (bcd) in 2013. This is an increase of 94,000 barrels or 2.89% as compared to the 2012 survey report. The throughput for the 12-month period was 1,068,697,802 barrels, and the operating rate was 87.4%. This is a decrease of 2,995,125 barrels or 0.3% as compared to the 2012 survey report. Marathon Petroleum's Garyville refinery has the most refining capacity in Louisiana with an atmospheric crude oil distillation capacity of 522,000 bcd. The Garyville refinery is also the largest single refinery in the state, with a 2013 total throughput of 179,395,948 barrels. See Table 1 (pg. 2) for details and comparison to the results of DNR's last survey.

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.

Regular gasoline, other diesel, and jet fuel make up the largest percentages of the Louisiana refinery product slate at 35%, 11%, and 11% respectively. The total diesel component of Ultra Low Sulfur Diesel (ULSD) and other diesel is 19%. See Table 2 (pg. 2).

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

The full report will be available soon online in PDF format on the Louisiana Department of Natural Resources Technology Assessment Division website (http://dnr.louisiana.gov/assets/TAD/reports/refinery_survey/refinsurvey_2013.pdf). If you would like to be added to our mailing list to receive a printed copy, submit an email request to techasmt@la.gov (include your name, address, and specify which publication you are requesting) or contact Jan Janney at 225-342-1270.

Table 1. Louisiana Operating Refinery Capacity and Throughput

Refinery	Operating Capacity as of 12/31/13 (bcd)	Operating Capacity Change ¹ (%)	Throughput 01/1/13 - 12/31/13 (barrels)	Throughput Change ² (%)
Alon Refining Co Krotz Springs	80,000	0.00	23,617,407	-0.35
Calcasieu Refining Co - Lake Charles	80,000	0.00	26,177,791	30.89
Calumet Lubricants Co LP - Cotton Valley	13,020	0.00	3,092,177	4.64
Calumet Lubricants Co LP - Princeton	8,300	-17.00	2,086,203	-17.00
Calumet Shreveport LLC - Shreveport	65,000	0.00	13,205,941	-9.34
Chalmette Refining LLC - Chalmette	197,000	2.34	49,447,000	-1.36
Citgo Petroleum Corp - Lake Charles	427,800	0.66	138,812,420	-5.92
Phillips66* - Belle Chasse	252,000	2.02	80,136,000	1.93
Phillips66* - Lake Charles	239,400	0.17	78,044,400	0.07
ExxonMobil Refining & Supply Co - Baton Rouge	502,500	0.00	169,126,500	-2.61
Marathon Petroleum Co LLC - Garyville	522,000	6.53	179,395,948	-0.90
Motiva Enterprises LLC - Convent	235,000	0.00	74,315,293	-9.56
Motiva Enterprises LLC - Norco	233,500	0.00	70,967,751	-5.59
Placid Refining Co - Port Allen	59,000	1.72	21,549,923	4.16
Shell Chemical Co - St. Rose*	45,000	0.00	0	0.00
Valero Refining Co - Meraux	140,000	3.70	38,041,347	4.05
Valero Refining Co - Norco	250,000	0.00	100,681,701	19.31
Totals	3,349,520	1.50	1,068,697,802	-0.30

1. Change from end date (12/31/2011) of previous DNR survey to end date (12/31/2013) of 2013 DNR survey.

2. Change from previous DNR survey throughput (12/31/2011 – 12/31/2013) to 2013 DNR survey throughput (1/31/2013-12/31/2013)

*Data from EIA Refinery Capacity Report 2013

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

Product	Total Product Slate (%)
Regular gasoline	35.00
Diesel	19.00
Jet fuel/Kerosene	11.00
Fuel oil	4.80
Residual/Coke	5.80
Premium gasoline	8.90

NET ZERO-ENERGY BUILDINGS

by

Edward O'Brien, M.Ec, MBA

In recent years, there has been a movement to promote greater energy efficiency for buildings. With this movement, net zero-energy buildings have become highlighted as a way to increase energy efficiency, to a point where, after the structures are completed, their net energy use is negligible. A net zero-energy building is a structure with greatly reduced energy needs through efficiency gains such that the balance of energy needs can be supplied with renewable technologies. According to a United States Energy Information Administration (EIA) report in 2005, commercial and residential building use approximately 70% of all the electricity produced in the United States.¹ With a reduction of energy consumption by utilizing more efficient building components, coupled with generating electricity through renewable energy such as solar, buildings can meet all their energy requirements from low-cost, locally available, nonpolluting, renewable sources, generating enough renewable energy on site to equal or exceed its annual energy use.

Ways to Achieve Net Zero-Energy Buildings

The keys to designing a zero net-energy building are design and technology. From the design aspect, the need to create a building which naturally tempers down energy consumption is important. This is currently being utilized in smaller buildings; however, with recent advancements in technology, the growing trend in net zero-energy buildings is with larger structures. The most efficient way to reach net zero-energy consumption is to focus on increasing efficiency.

One such more efficient technology utilized in net zero-energy buildings is Light Emitting Diode (LED) lighting, which uses approximately 85% less energy than their incandescent bulb predecessor.² While LED technology has been available since 1961, recent developments in the amount of lumens (the amount of visual light emitted) have allowed LED lighting to become more energy efficient than traditional incandescent lighting. LED lighting uses less power per lumen when compared to a traditional 60 watt incandescent light bulb, and produces less heat. All of these factors coupled together mean a more efficient, cost effective way to light a structure, making it easier to achieve a Net Zero-Energy building.

Another technology being utilized is high efficiency Heating, Ventilation, and Air Conditioning (HVAC) units, which use heat recovery, cool roofs, radiant heating and cooling, and under floor ventilation, with all being more efficient than standard HVAC units. Traditional HVAC units generally account for 39% of energy used in building in the United States; high efficiency HVAC units typically save 10-40% of that energy, and, when designed in conjunction with the structure, can save up to 70%.³ This can include something as simple as installing an HVAC unit that is the right size for the building. If the unit is too small for the building, the unit will be insufficient to heating or cooling the structure, while constantly using energy. If the unit is too large, the HVAC unit will operate less efficiently and cost inherently more to purchase and install than properly sized equipment.

¹ Zero Energy Buildings: A Critical Look at the Definition (<http://www.nrel.gov/docs/fy06osti/39833.pdf>)

² Energy Saver Tips on Saving Money and Energy at Home, (http://energy.gov/sites/prod/files/2014/09/f18/61628_BK_EERE-EnergySavers_w150.pdf)

³ Energy Savings Potential and Research, Development, & Demonstration Opportunities for Residential Building Heating, Ventilation, and Air Conditioning Systems, (http://energy.gov/sites/prod/files/2014/09/f18/residential_hvac_research_opportunities.pdf)

Another HVAC option for Net Zero-Energy buildings is geothermal heating and cooling systems. Geothermal systems use the earth to heat and cool structures. Outdoor temperatures may fluctuate with the seasons, but underground temperatures don't change as quickly. Under ground, temperatures remain constant year-round. A geothermal system typically consists of an indoor handling unit, a buried system of pipes, and a pump for reinjection. Geothermal heating and cooling systems utilize the ground's constant temperatures to provide the cooling and heating from the ground.

Another strategy employed is utilizing the design of the building in order to maximize the cooling effect (such as the direction that the building faces) and also maximize natural sunlight with skylights to lower their lighting needs. There are new, energy saving materials that can add to the efficiency of a structure, which can be utilized to improve the energy efficiency. One such improvement to the efficiency is to use materials which are temperature absorbent. Windows which use modern technology are more efficient than their predecessors. Dynamic glazing, reflective glass, and multi-pane windows have the ability to improve the efficiency of thermal transfer, allowing less heat to be radiated indoors in the warm temperatures and more heat when the temperature falls. Other technology which has been utilized in Zero Net-Energy buildings includes advanced framing techniques and materials (such as composites, vacuum insulation, and fly ash concrete), and the orientation of a building, such as southern facing windows, to maximize natural solar heating and cooling effects.

The largest perceived impediment for implementing net zero-energy buildings deals with energy production in order to off set the energy which the building uses. Currently, photovoltaic panels are being used to provide the buildings with renewable energy. Photovoltaic is the conversion of light into electricity at the atomic level. Some materials exhibit a property known as the photoelectric effect that causes them to absorb photons of light and release electrons. When these free electrons are captured, an electric current results, which can be used as electricity. Multiple panels can be wired together to form an array. These arrays are used in zero net-energy buildings to produce electricity, which the buildings use for their energy needs. One of the main concerns of the use of photovoltaics is the efficiency of solar power.

Currently, the photovoltaics only convert approximately 38% of the potential energy; however, that has increased from less than 30% a decade ago.⁴ In addition, since 2010, the price of photovoltaic panels have decreased by 62% due to both better technology and efficiency and an oversupply of panels produced in China, dropping the price from \$1.87 per watt to \$0.71 per watt produced.⁵ While still more expensive than fossil fuel production, the difference in price is becoming closer to parity between the two, and on a smaller scale, net zero-energy buildings are becoming more affordable and realistic for future development.

While a Net Zero-Energy building does have more up-front costs to build, that extra money can be recovered from the overall saving features that the building incorporates. With the cost of technology decreasing, Net Zero-Energy construction methods typically cost between 15 to 100 percent more than traditional buildings, which is dependent on where the building is being constructed, the size of the building, and the materials used. Not only are Net Zero-Energy buildings constructed to be more efficient, the buildings also generate the electricity used. As technology improves, greater efficiency with regards to not only the building materials but also photovoltaics will be recognized, allowing more structures to be built in accordance with Net Zero-Energy standards.

⁴ Solar Spectrum Conversion for Photovoltaics Using Nanoparticles (<http://www.intechopen.com/books/third-generation-photovoltaics/solar-spectrum-conversion-for-photovoltaics-using-nanoparticles>)

⁵ Shift Expected from Concentrated Solar Power (CSP) to Solar PhotoVoltaic (Solar PV) (<http://www.criticalsystemsinc.com/industry-advancements/shift-expected-from-concentrated-solar-power-csp-to-pv-solar.html>)

2015 STATE OIL AND GAS: PRODUCTION AND PRICE PROJECTIONS

by
Manuel Lam

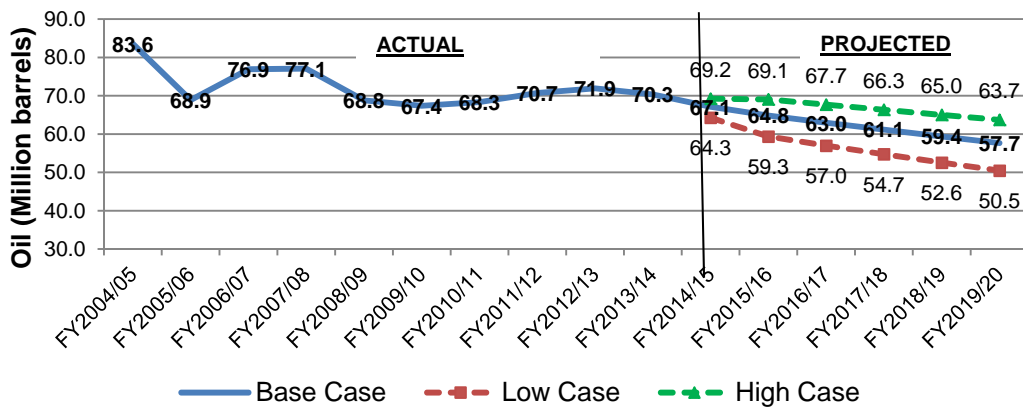
Louisiana has produced oil and gas for more than a century. Oil and gas production are intimately linked with the economy of our state. Presently, Louisiana is the seventh largest producer of crude oil and the third largest producer of natural gas in the U.S., excluding the federal Outer Continental Shelf (OCS) production. Louisiana is also the second in per capita energy consumption. The petrochemical and petroleum refining industries located in the state are the main reason for Louisiana’s high-energy use. These industries are extremely energy intensive and rely on Louisiana’s abundance of natural resources and historically low energy prices. Despite the location of these industries, the bulk of the final consumption of their products is in other states, as well as overseas.

Following are some other interesting benchmarks in the Louisiana oil and gas production history. 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, Saint 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.

In 2006, the Haynesville Shale started producing natural gas, making gas a predominate factor in new production. In 2010, oil production slowly reversed its declining trend due to production from Louisiana oil shale formations and enhanced recovery in mature fields. In 2015, oil and gas productions are expected to resume their decline due to falling oil and gas prices, cheaper production costs in other U.S. oil shale fields, and gas shale fields containing higher gas liquids.

Production Projections

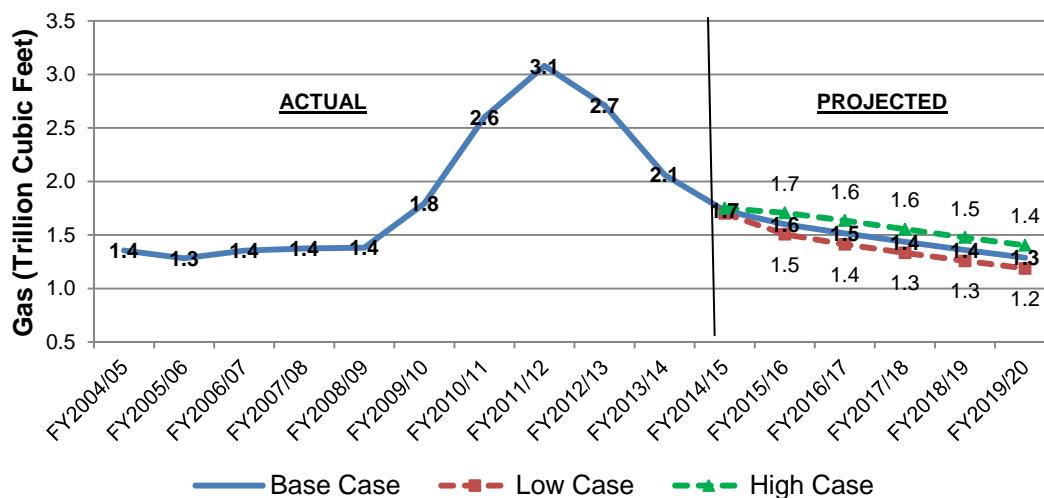
Figure 1. Louisiana Historical and Projected Crude Oil Productions



The Louisiana state oil production, excluding federal OCS, showed an average decline of 2.7% per year over the past ten years, but actual year-to-year change varies widely. Hurricanes Katrina and Rita

caused a 17.57% decline in oil production in FY2005/06; the recovery from the weather disaster and rising oil prices caused increases in production volumes in FY2006/07 and FY2007/08. Hurricanes Gustav and Ike caused a 10.73% decline in FY2008/09. A plunge in oil prices in FY2009/10 kept the production declining. The delayed recovery and new production from enhanced oil recovery in old oil fields increased FY2010/11 production. Production from enhanced oil recovery fields, initial production from oil shale formations, and high oil prices increased production in FY2011/12. In FY2012/13, the falling oil prices slowed the production increase. In FY2013/14, the continuous falling oil prices and production difficulties in the oil shale formations reversed the increase in oil production trend. The Department of Natural Resources (DNR) Technology Assessment Division short-term model is projecting a slight decline in oil production over the next five years, if crude oil prices stay below \$100 per barrel and no major weather disruptions occur. Figure 1 shows the projections for the next five years. If prices go over \$90 per barrel for an extended period, the projections will be closer to the high case trend, and if the Tuscaloosa Marine shale or the Brown Dense shale productions take off, the above oil production projections will be too conservative.

Figure 2. Louisiana Historical and Projected Natural Gas Productions



Similar to oil, gas production varies from year-to-year, reflecting the severity of weather patterns and prices. In FY2006/07, the Haynesville Shale dry gas field appeared 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 slight increase. If there had been no hurricanes that year, the percentage of increase in production would have been higher. From FY2008/09 through FY2011/12, Louisiana state gas production has shown percent increases in the double digits. In FY2012/13, gas production dropped 11.97%, caused by a drop in drilling activities. In FY2013/14, production continued to fall due to low prices and competition from other gas shale plays. Figure 2 shows the DNR Technology Assessment Division short-term model projections for the next five years. The projections assume that the weather will be mild without major disruptions and the average gas prices above \$3.00 per MCF. In 2012, the gas price fell below \$3 per MCF causing a slowdown in drilling activities in the Haynesville Shale areas. There were 93 active rigs in Haynesville areas in January 2012, dropping to 16 active rigs by January 2013, an 82.8% decline. The drop in drilling activities, cutback in production due to low prices, competition from wet shale plays, and overstock of gas in storage curtailed the gas production in Louisiana. In January 2014, drilling active rigs recovered to 40 rigs, caused by rising gas prices, an

expected demand increase, and exports. In January 2015, drilling rigs dropped to 30 rigs due to declining prices and improvements in drilling techniques.

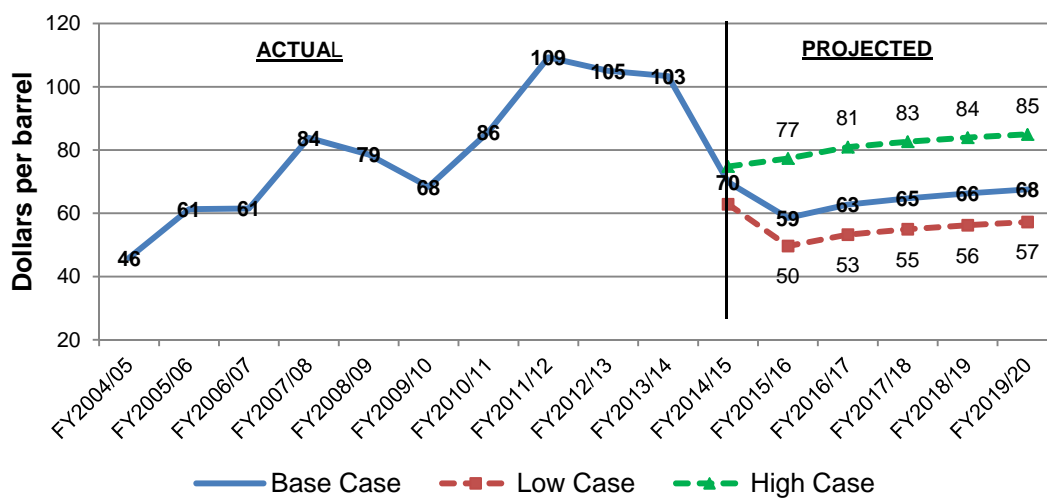
Factors that contribute to the year-to-year deviations in oil and gas production are:

- 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 saltwater 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, 4-D, or carbon dioxide injection,
- state and local tax incentives,
- weather patterns, and
- imports/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, g) stability in the labor force, and h) new producing fields. 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.

Figure 3. Louisiana Crude Oil Historical and Projected Prices

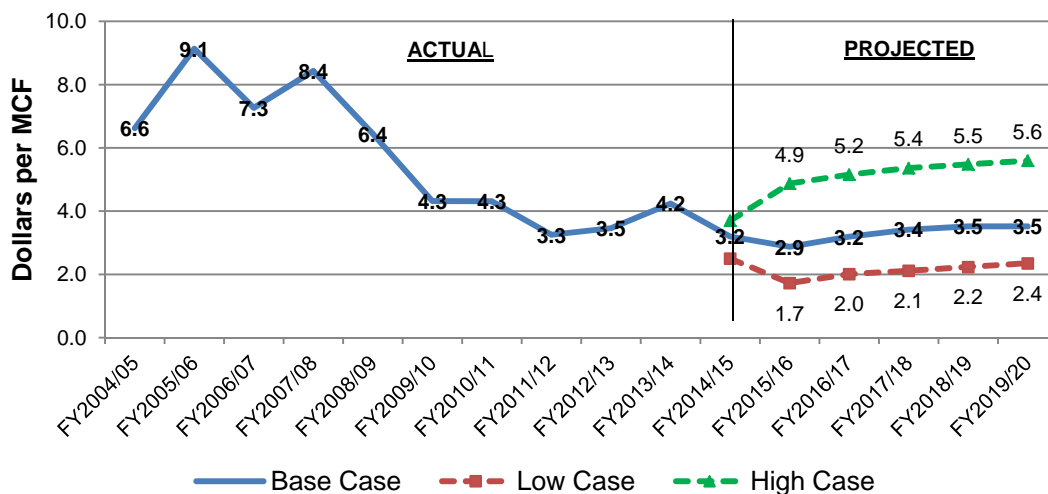


Louisiana crude oil price was over \$100 per barrel in the spot market in February 2014, and by the end

of February 2015, the price had dropped to \$54 per barrel, caused by fully operational Southern Keystone Pipeline moving crude oil from Cushing, OK to the Gulf Coast refineries; more production from oil shale plays; production increases from old fields using enhanced techniques; and the slow recovery pace of the economy. 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 17:1. Oil prices rose rapidly, while gas prices fell because Asian countries are consuming more oil than gas as they recover from recessions and 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 long, cold, winter weather will usually erase much of the psychological element of low gas prices and price increases.

The lack of mobility of natural gas between producing areas and consuming areas caused by insufficient infrastructure is best shown by the Federal Energy Regulatory Commission’s August 2014 world LNG estimated landed prices. Gas prices are \$11.35 per MMBTU in Japan and Korea, \$10.95 per MMBTU in China, \$11.20 per MMBTU in India, \$6.76 per MMBTU in Belgium, \$9.70 per MMBTU in Spain, \$12.34 per MMBTU in Brazil, and in the U.S., it is \$4.00 per MMBTU in Lake Charles and \$3.27 per MMBTU in Cove Point. The low price in the U.S. is caused by the over supply of gas from shale plays.

Figure 4. Louisiana Natural Gas Historical and Projected Prices



Louisiana annual average gas price is expected to be above \$3 per MMBTU in the near future, and to increase to above \$4 per MMBTU when demand increases from newly built plants in the state and LNG export terminals became operational.

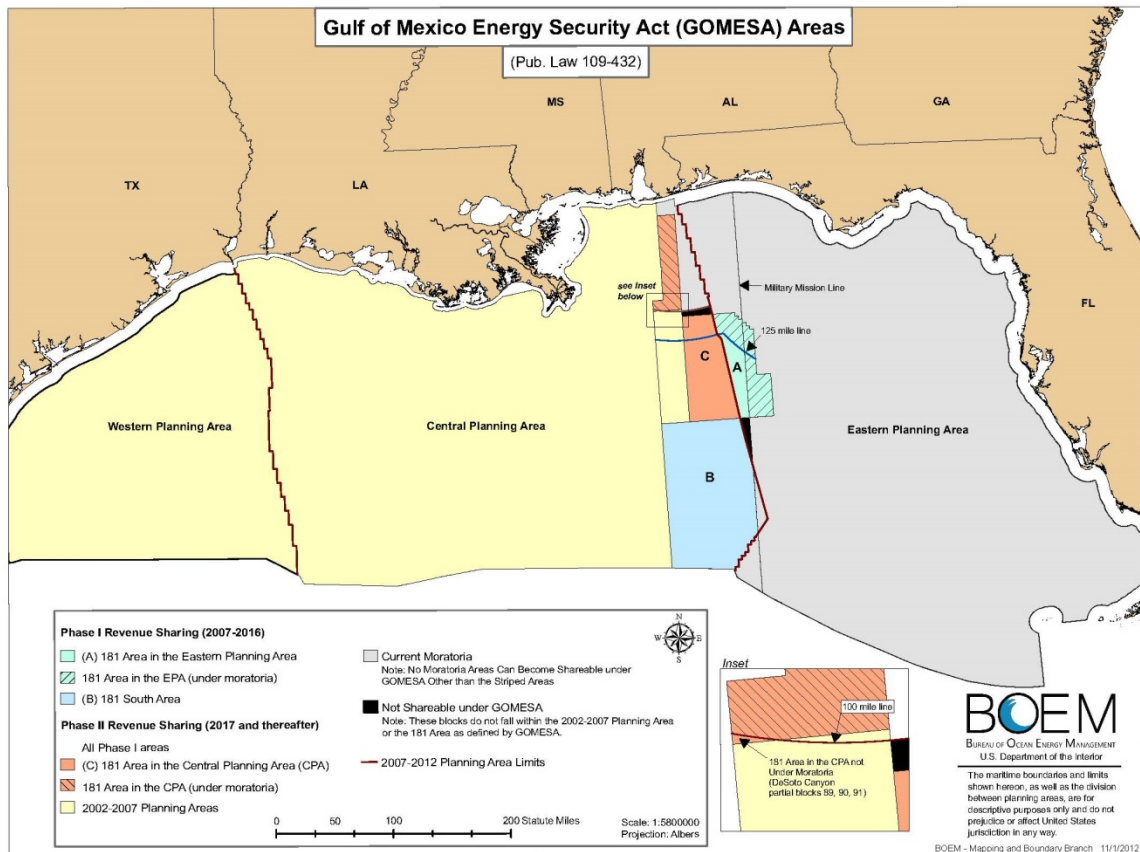
GULF OF MEXICO ENERGY SECURITY ACT (GOMESA)

Update

by
Patty Nussbaum, P.E.
Ross LeBlanc

The Gulf of Mexico Energy Security Act (GOMESA) of 2006 (Pub. Law 109-432) enhances Outer Continental Shelf (OCS) oil and gas leasing activities and revenue sharing in the Gulf of Mexico. It shares leasing revenues with Gulf producing states (Alabama, Louisiana, Mississippi, and Texas) and the Land & Water Conservation Fund for coastal restoration projects, coastal conservation, and hurricane protection.

Figure 1. Gulf of Mexico Energy Security Act (GOMESA) Areas



There are two phases of GOMESA revenue sharing:

Phase I: Beginning in Fiscal Year 2007, 37.5 percent of all qualified OCS revenues, including bonus bids, rentals and production royalty, has been shared among the four States and their coastal political subdivisions from those leases issued in the 181 Area in the Eastern planning area and the 181 South Area. Additionally, 12.5 percent of revenues have been allocated to the Land and Water Conservation Fund (LWCF).

Phase II: The second phase of GOMESA revenue sharing begins in Fiscal Year 2017 with payments beginning in FY 2018. It expands the definition of qualified OCS revenues to include receipts from GOM leases issued either after December 20, 2006 in the 181 Call Area, or in 2002–2007 GOM Planning Areas subject to withdrawal or moratoria restrictions. A cap of \$375

million per year is currently in place to be divided by the four gulf energy-producing states. Based on past and current leasing, Louisiana's share of GOMESA revenue for FY 2018 is estimated to be \$176 million, or 47 percent of the GOMESA revenue cap. If the current White House budget is adopted as is, GOMESA revenues will be shared with all 50 US states, not only the Gulf states. GOMESA funds would be directed to broader national programs that benefit the entire nation, thus drastically reducing Louisiana's estimated share of qualified GOMESA funds.

GOMESA Revenue-Sharing Allocations (shown below) and other statistical information can be found at <http://statistics.onrr.gov/> under Common Data Summaries.

Figure 2. Disbursements for All States FY 2009 – FY 2014



GOMESA Disbursements
FY 2009 through FY 2014

Fund	2009	2010	2011	2012	2013	2014
Coastal Political Subdivision Share	\$5,048,008.21	\$545,948.74	\$173,192.29	\$62,799.81	\$62,799.81	\$856,371.90
Land & Water Conservation Fund	\$585,996.47	\$288,653.84	\$104,666.34	\$104,666.34	\$1,408,869.91	\$877,818.12
State Share	\$20,192,032.83	\$2,183,794.94	\$692,769.22	\$251,199.20	\$235,185.24	\$3,441,501.51
U.S. Treasury	\$4,195,639.98	\$1,154,615.35	\$418,665.35	\$418,665.35	\$5,635,479.50	\$3,511,263.05
Total	\$30,021,677.49	\$4,173,012.87	\$1,389,293.20	\$837,330.76	\$7,342,334.46	\$8,686,954.58

Figure 3. Louisiana's Disbursements for FY 2014



GOMESA Disbursements
FY 2014 through FY 2014

Fund	County or Coastal Political Subdivision (CPS)	2014
Coastal Political Subdivision Share	Assumption Parish	\$9,139.78
	Calcasieu Parish	\$12,802.07
	Cameron Parish	\$14,385.55
	Iberia Parish	\$12,286.24
	Jefferson Parish	\$24,152.12
	Lafourche Parish	\$14,197.32
	Livingston Parish	\$12,879.51
	Orleans Parish	\$21,369.55
	Plaquemines Parish	\$28,830.17
	St. Bernard Parish	\$16,171.64
	St. Charles Parish	\$11,252.28
	St. James Parish	\$9,392.78
	St. John the Baptist Parish	\$10,391.78
	St. Martin Parish	\$9,929.26
	St. Mary Parish	\$10,178.22
	St. Tammany Parish	\$17,898.31
	Tangipahoa Parish	\$12,924.07
Terrebonne Parish	\$19,086.81	
Vermilion Parish	\$11,430.77	
State Share		\$1,119,942.08
Total		\$1,398,640.31

Information on GOMESA can be found at the Bureau of Ocean Energy Management website: <http://www.boem.gov/Oil-and-Gas-Energy-Program/Energy-Economics/Revenue-Sharing/Index.aspx>.

PACE - FINANCING MODEL FOR ENERGY EFFICIENCY PROJECTS

by
Patty Nussbaum, P.E.

Property Assessed Clean Energy (PACE)¹ financing is a method that allows owners to pay for energy efficiency retrofits or renewable power systems by borrowing money that is then repaid as an assessment to the local property tax bill. The program allows the costs of the retrofits/systems to remain with the property. If the property is sold, the new owner takes over the payments.

State Legislative authority must exist and local governments must set up energy financing districts before a PACE program can operate. The process model generally is that a city or county creates a land-secured financing district. Property owners sign up for financing, the lender provides funding to pay for the projects, and the property owner installs energy projects. Property owner repays the debt on the property tax bill (up to 20 years).



PACE Financing Model

In 2009, the Louisiana Legislature enacted SB 224 (ACT No. 348), which gave the governing authority of any local government subdivision that is authorized to collect property taxes and to issue and sell bonds the authority to create sustainable energy financing districts. The legislation went on to say that the owner of residential or commercial immovable could request financing to cover the cost of energy improvements. The term for repayment was not to exceed twenty years. The loan payment was to be assessed against the immovable property and collected in the same manner as the ad valorem taxes assessed on the property.

Following are examples from the Louisiana enabling legislation of allowable energy efficiency improvements:

- 1) Insulation in walls, roofs, floors, foundations, and in heating and cooling distribution systems.
- 2) Storm windows and doors, multi-glazed windows and doors, heat-absorbing or heat-reflective glazed and coated window and door systems, additional glazing, reductions

¹ <http://energy.gov/eere/slsc/property-assessed-clean-energy-programs>

in glass area, and other window and door system modifications that reduce energy consumption.

- 3) Automatic energy control systems.
- 4) Heating, ventilating, or air conditioning and distribution system modification or replacements in buildings or central plants.
- 5) Caulking and weather stripping.
- 6) Replacement or modification of lighting fixtures.
- 7) Daylighting systems.

Then, in 2010, The Federal Housing Finance Agency (FHFA) directed Fannie Mae and Freddie Mac against purchasing mortgages of homes with a PACE lien due to its senior status above a mortgage.² Most residential programs came to a halt over concerns about what happens if a homeowner defaults on a mortgage. Commercial programs were not directly affected because Fannie and Freddie do not underwrite commercial mortgages. The chart below lists some of the advantages and disadvantages of commercial PACE programs.³

ADVANTAGES

- Allows for secure financing of comprehensive projects over a longer term, making more projects cash flow positive.
- Spreads repayment over many years and removes the requirement that the debt be paid at sale or refinance.
- Can lead to low interest rates because of the high security of loan repayments attached to the property tax bill.
- Helps some property owners deduct payments from their income tax liability.
- Allows municipalities to encourage energy efficiency and renewable energy without putting general funds at risk.
- Taps into large sources of private capital, such as the municipal bond markets.

DISADVANTAGES

- Available only to property owners.
- Cannot finance portable items (screw-in light bulbs, standard refrigerators, etc.).
- Can require dedicated local government staff time.
- High legal and administrative setup.
- Not appropriate for investments below \$2,500.
- Potential resistance by lenders/mortgage-holders whose claims to the property may be subordinated to the unpaid assessment amount should the property go into foreclosure.

² <http://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-Statement-on-Certain-Energy-Retrofit-Loan-Programs.aspx>

³ <http://energy.gov/eere/slsc/property-assessed-clean-energy-programs>

REASONS FOR OIL PRICE DECLINE

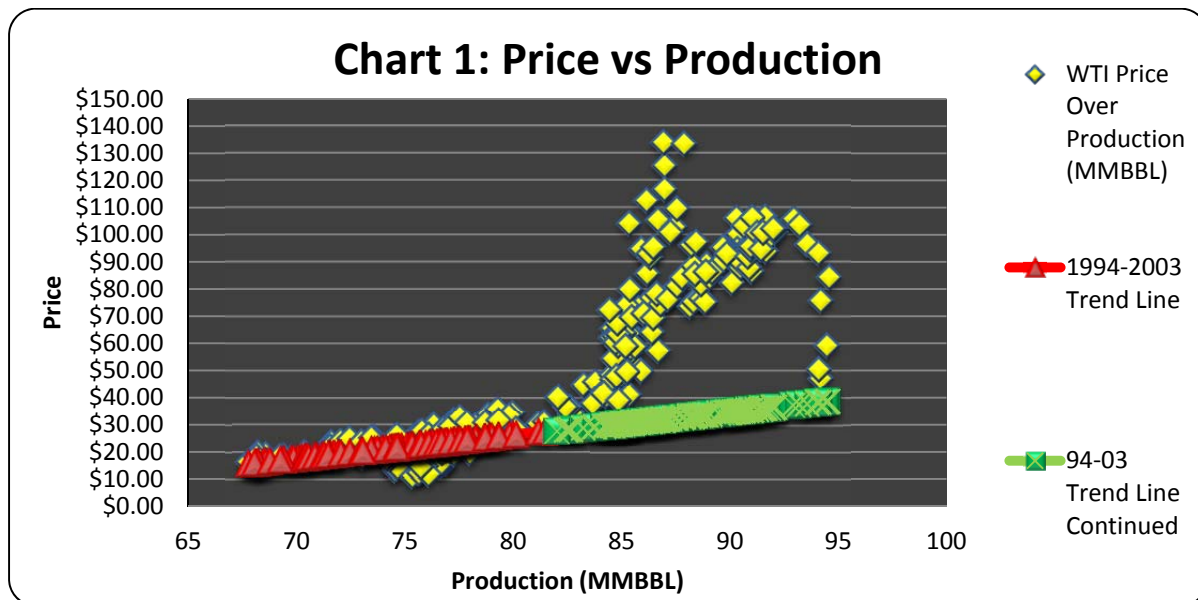
by
Edward O'Brien, M.Ec, MBA

In the volatile realm of oil prices, the world has seen the price of West Texas Intermediate oil (WTI) fall, since peaking in August 2013 at an average price of \$106.57 for the month and staying elevated until July 2014 where the price averaged \$103.59, to an average price low of \$47.22 for the month in January 2015. Oil prices are a commodity, a primary good, with prices controlled by the markets; thus, not one factor, but many, determine the price at which oil is sold in the commodity markets.

Part of the reason for the declining oil prices is that the global supply has increased, especially with the recent boom in production within the United States and global demand has not increased to the extent predicted. Some of the slower demand growth in the global market is due to increased efficiency, especially in the automobile markets where the average motor vehicle gasoline consumption has become more efficient, ahead of the new vehicle efficiency standards, which will require automobile companies to have their fleet average 54.5 MPG by 2025.¹

One of the theories about the falling oil prices is that they are reverting closer to the trend line established in the 1994-2003 period. Taking the trend line from this period, based on production and price, the escalation that followed from 2004 to the summer of 2014 signifies a bubble for oil, which is now being corrected (Chart 1). That isn't to say it will stay near the trend line for long; the oil market is determined by the market price, which does not always follow the fundamentals of how a market should react towards events.

Table 1. Price vs Production



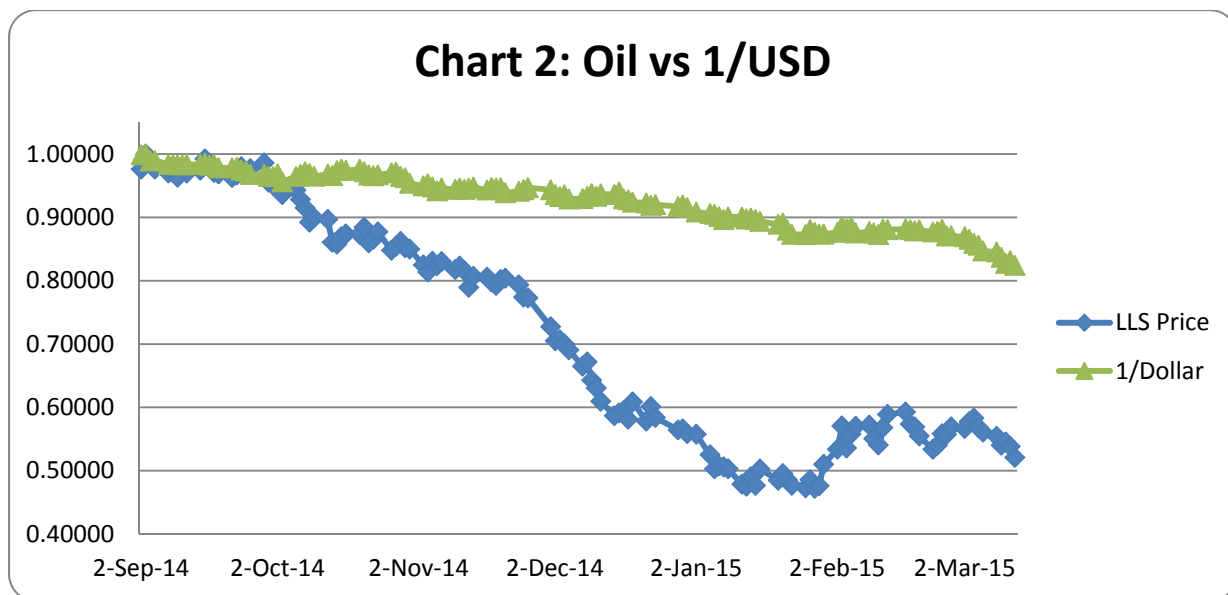
Source: Louisiana Department of Natural Resources/ Technology Assessment Division

¹ Autos must average 54.5 MPG by 2025, new EPA standards say. Juliet Eilperin, August 28, 2012. http://www.washingtonpost.com/national/health-science/autos-must-average-545-mpg-by-2025-new-epa-standards-are-expected-to-sav/2012/08/28/2c47924a-f117-11e1-892d-bc92fee603a7_story.html

The total US commercial crude inventory peaked on April 24, with a supply of 491 million barrels.² In recent weeks, those supplies have fallen back a bit, with 479 million barrels in inventory for the weekend ending May 22.³ Prior to the development of tight oil, weekly averages hovered in the 320-million barrel range. Since 2009, the supply has steadily been increasing, peaking in April. The slight retreat in commercial inventories in recent weeks has also signaled an increase of oil prices. The close of WTI was \$43.39 on March 17; on May 12, the close was \$60.72, an increase of 39.94%.

Another theory about the falling price of oil is that the dollar is responsible for the decline in oil rather than the supply. Chart 2 has the inverse value of the dollar (the inverse value would reflect the opposite of what is happening in the market, in this case a decline rather than an increase, which is easier to show the correlation) and the value of oil for the period September 2 through March 15, with September 2 used as par. While the increasing value of the dollar cannot completely account for the decline in oil prices, the decline cannot be overlooked as a catalyst, which helped stimulate the precipice. As seen in the data, during the period for the month of September there was high correlation between the increasing dollar and the decline in oil prices. During that time, Louisiana Light Sweet (LLS) prices declined by 4.90%, and the value of the dollar increased by 3.08%.

Table 2. Oil vs 1/USD



Source: Louisiana Department of Natural Resources/ Technology Assessment Division

While there has been no single factor leading to the decline of oil prices in the past year, there has been a confluence of circumstances that lead to the price decrease we have experienced over the past year. The strength of the dollar, increasing inventories, and an oil bubble influenced the decreasing prices within the commodities market. One thing to watch in the future is the amount of consumption emerging markets, such as China and India, demand. An increase of demand in those markets will allow global consumption to expand, and the market prices will reflect that demand.

² <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WCESTUS1&f=W>

³ Ibid.

SELECTED LOUISIANA ENERGY STATISTICS

Among the 50 states, Louisiana’s rankings (in 2014, unless otherwise indicated) were:

PRIMARY ENERGY PRODUCTION

(Including GOM Central OCS region)

- 2nd 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
- 3rd in natural gas
- 3rd in crude oil proved reserves
- 5th in natural gas proved reserves
- 4th in total energy from all sources

REFINING AND PETROCHEMICALS

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

PRIMARY ENERGY PRODUCTION

(Excluding GOM Central OCS region)

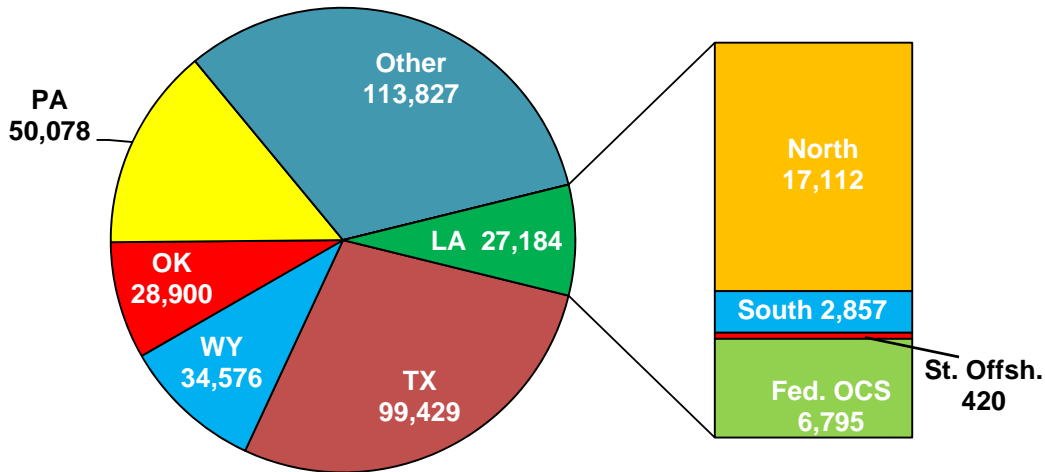
- 9th in crude oil
- 4th in natural gas
- 7th in natural gas proved reserves
- 10th in crude oil proved reserves
- 18th in coal
- 17th in nuclear electricity

ENERGY CONSUMPTION (2013)

- 2nd in industrial energy
- 3rd in per capita energy
- 3rd in natural gas
- 3rd in petroleum
- 6th in total energy
- 27th in residential energy

Figure 1

2014 U.S. Natural Gas Reserves (Billion Cubic Feet)

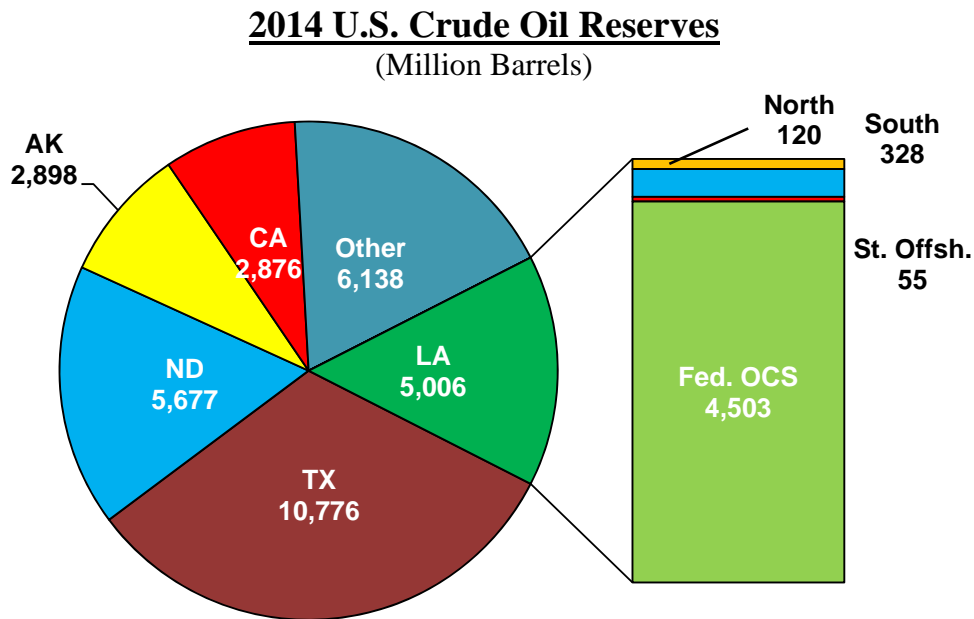


PRODUCTION

State controlled natural gas and casinghead 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 rising trend continued until 2011 when it peaked at 2.98 TCF, the production surge was 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, 42.3% in 2010, and 37.1% in 2011. In 2012, production fell to 2.96 TCF, in 2013 it fell to 2.32 TCF, and in 2014 it fell to 1.91 TCF, or a 17.6% drop from the previous year, and it is expected to continue to drop as prices continue to be below \$4.50 per MCF and high production from other gas shale with liquids contents and U.S. demand does not increase dramatically.

State controlled crude oil and condensate production peaked at 566 million barrels (mmbbls) per year in 1970, declined to 211 mmbbls in 1980, declined to 148 mmbbls in 1990, declined to 107 mmbbls in 2000, and declined to 68 mmbbls in 2010. Then in 2011, oil production reversed its trend; 2011 production was 69 mmbbls, in 2012 it increased to 71 mmbbls, in 2013 it increased to 72 mmbbls, and in 2014 it decreased to 68 mmbbls. The oil production decrease is caused by declining oil prices and lower drilling activities. If oil prices stay below \$65 per barrel, production will decrease from the present level, but if the Tuscaloosa Marine Shale or the Brown dense shale productions increase, state oil production might reverse the declining trend.

Figure 2



Gulf of Mexico (GOM) Central OCS region is the most extensively developed and mature OCS territory in the U.S. It has produced approximately 88% of the 20 billion barrels of crude oil and condensate and 79% of the 179 TCF of natural gas extracted from all federal OCS territories, from the beginning of time through the end of 2014.

In 2014, GOM Central OCS region produced 14.8% and the state territory produced 2.2% of the U.S. oil domestic production. The GOM Central OCS region produced 4.2% and the state territory produced 7.0% of the natural gas produced in the U.S.

GOM Central OCS region gas production first peaked at 4.10 TCF per year in 1981, then declined to 3.00 TCF in 1986, then started to recover as prices increased, reaching a second peak at 4.11 TCF in 2010 then slowly started to decline, caused first by the Moratorium and later by the decline in price and the increased gas shale production. In 2014, it produced 1.13 TCF.

GOM Central OCS region crude oil and condensate production first peaked at 374 mmbbls per year in 1972 and then declined to 249 mmbbls in 1981. The production rose from 248 mmbbls in 1990 to 524 mmbbls in 2001, due to the development of deep water drilling. In 2008, production dropped to 396 mmbbls due to weather, in 2009 production reached its second peak at 544 mmbbls, in 2011 production began to slow down after the Macondo oil spill, but by 2014 production is on the upswing with discovery of deep oil reservoirs. It produced 467 mmbbls in 2014.

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 FY 1981/82 at \$1.62 billion, but it was 41% of state income. In FY 2011/12, it was \$1.40 billion or 14% of state income, in FY 2012/13, it was \$1.37 billion or 13% of the state income, in FY 2013/14, it was \$1.32 billion or 13% of state income and, in FY 2014/15, it was around \$1.01 billion.

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 around \$40 million in royalty payments. 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 in the past. Today, however, it is hard to estimate due to the advent of large production volumes from Haynesville shale, which are mostly exempted from severance taxes and fast diminishing production in other areas of the state.

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, permits increased to 2,150, in 2008, they increased to 2,374 permits, in 2009, permits decreased to 1365, in 2010, they increased to 1,956 permits, in 2013, they decreased to 1,578 permits and, in 2014, they decreased to 1,408.

- Note: **GOM Central OCS** (Outer Continental Shelf) region is the federal offshore territory adjacent to Louisiana's coast beyond the three mile limit of the state's offshore boundary and includes Alabama federal offshore production.

LOUISIANA, AN ENERGY CONSUMING STATE: AN UPDATE USING 2013 DATA

by
Manuel Lam

Louisiana ranks high among the states in overall energy consumption. Louisiana ranked 5th in total energy consumption in 2013 and it was 4th in 2012. Louisiana is 3rd in per capita energy consumption for 2013. 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 the high percentage for the industrial sector and the high percentages for natural gas and petroleum.

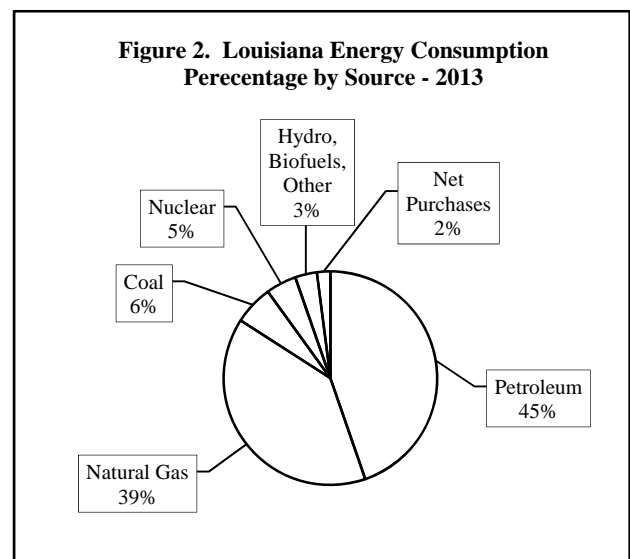
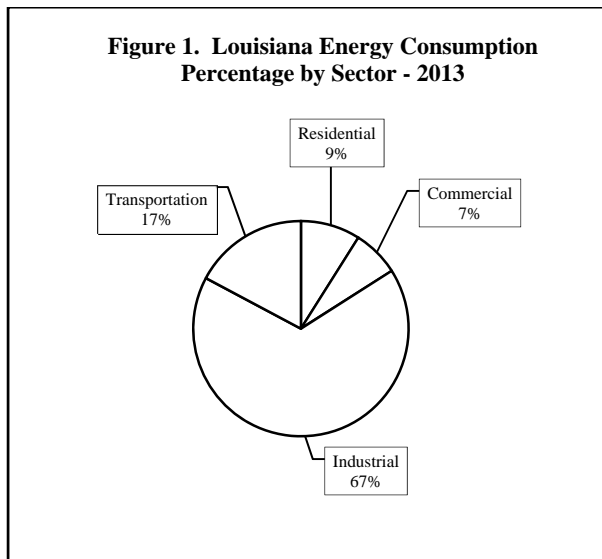


Table 1 shows where Louisiana ranks among the states in various energy consumption categories and lists the top energy consuming state for each category.

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 2013. The energy balance is calculated both inclusive and exclusive of Louisiana’s OCS oil and gas production.

Category	Rank	TBTU	#1 State (TBTU)
Residential	26	343.6	Texas (1,685.9)
Commercial	24	269.1	Texas (1,609.9)
Industrial	2	2,562.0	Texas (6,574.8)
Transportation	13	660.2	Texas (3,073.5)
Coal	28	228.1	Texas (1,597.4)
Natural Gas	3	1,501.1	Texas (4,137.4)
Petroleum	3	1,714.7	Texas (6,259.5)
Electricity	16	292.8	Texas (1,292.5)
Total	5	3,835.0	Texas (12,944.1)
Per Capita (MBTU)	3	849.0	Wyoming (949.0)

Table 2. Louisiana Energy Balance - 2013 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	418.2 TBTU ⁴ (72.1 MMBBL)	1,714.7 TBTU (330.4 MMBBL)	-1,296.5 TBTU	1,016.7 TBTU
	LOUISIANA OCS OIL ²	2,313.2 TBTU ⁴ (398.8 MMBBL)			
NATURAL GAS:	STATE GAS ³	2,362.8 TBTU ⁴ (2.319 TCF)	1,510.1 TBTU (1.475 TCF)	852.7 TBTU	1,781.5 TBTU
	LOUISIANA OCS GAS ³	928.8 TBTU ⁴ (0.912 TCF)			
COAL:	LIGNITE	41.6 TBTU (3.161 MMSTON)	228.1 TBTU (13.9 MMSTON)	-186.5 TBTU	-186.5 TBTU
NUCLEAR ELECTRIC POWER		177.2 TBTU (16.9 Billion kWh)	177.2 TBTU (16.9 Billion kWh)	0.0 TBTU	0.0 TBTU
HYDROELECTRIC, BIOFUELS & OTHER		126.6 TBTU	126.6 TBTU	0.0 TBTU	0.0 TBTU
NET INTERSTATE PURCHASES OF ELECTRICITY INCLUDING ASSOCIATED LOSSES			78.3 TBTU	-78.3 TBTU	-78.3 TBTU
<hr/>					
TOTALS:	EXCLUDING LOUISIANA OCS	3,126.4 TBTU	3,835.0 TBTU	-708.6 TBTU	
	INCLUDING LOUISIANA OCS	6,368.4 TBTU	3,835.0 TBTU		2,533.4 TBTU

The Louisiana energy balance for 2013 shows that the state consumed 708.6 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 2533.4 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

QUADRENNIAL ENERGY REVIEW: ENERGY TRANSMISSION, STORAGE, AND DISTRIBUTION INFRASTRUCTURE (PUBLISHED APRIL 2015)

by
Patty Nussbaum

In June 2013, the federal government initiated a quadrennial cycle (every 4 years) of energy reviews. The reviews are intended to provide a roadmap for U.S. energy policy. The first Quadrennial Energy Review (QER) was published in April 2015¹ and focuses on the nation's infrastructure for transporting, transmitting and delivering energy (TS&D Infrastructure). The U.S. Energy system has changed significantly. The U.S. has become the leading producer of oil and natural gas combined, solar electricity generation has increased 20-fold, electricity from wind energy has almost tripled, and there is an increased focus to reduce greenhouse gas emissions from the energy sector. There has also been a lack of investment in replacing components of that infrastructure due to age and obsolescence.

Key Findings

- Mitigating energy disruptions is fundamental to infrastructure resilience
- TS&D infrastructure is vulnerable to many natural phenomena
- Threats and vulnerabilities vary substantially by region
- Recovery from natural gas and liquid fuel system disruptions can be difficult
- Cyber incidents and physical attacks are growing concerns
- High-voltage transformers are critical to the grid
- Assessment tools and frameworks need to be improved
- Shifts in the natural gas sector are having mixed effects on resilience, reliability, safety, and asset security
- Dependencies and interdependencies are growing
- Aging, leak-prone natural gas distribution pipelines and associated infrastructures prompt safety and environmental concerns

Recommendations

- Develop comprehensive data, metrics, and an analytical framework for energy infrastructure resilience, reliability, safety, and asset security
- Establish a competitive program to accelerate pipeline replacement and enhance maintenance programs for natural gas distribution systems
- Support the updating and expansion of state energy assurance plans
- Establish a competitive grant program to promote innovative solutions to enhance energy infrastructure resilience, reliability, and security
- Analyze the policies, technical specifications, and logistical and program structures needed to mitigate the risks associated with loss of transformers
- Analyze the need for additional or expanded regional product reserves

¹ U.S. Department of Energy (<http://energy.gov/epa/quadrennial-energy-review-qer>)

- Integrate the authorities of the President to release products from regional petroleum product reserves into a single, unified authority.

Table 1. Components of TS&D Infrastructure Considered in this Installment of the QER

Fuel/Energy Carrier	TS&D Infrastructure Element/System
Electricity	<ul style="list-style-type: none"> Transmission lines and substations Distribution lines and distributed generation Electricity storage Other electric grid-related infrastructure
Natural Gas	<ul style="list-style-type: none"> Natural gas gathering lines Transmission Pipelines Natural gas storage facilities Processing facilities Distribution pipelines and systems LNG production/storage facilities (including export terminals)
Coal	<ul style="list-style-type: none"> Rail, truck, barge transport Export terminals
Crude Oil/Petroleum Products	<ul style="list-style-type: none"> Crude oil pipelines Crude Oil and Product import and export terminals Rail, truck, barge transport Oil Refineries Strategic Petroleum Reserve & Regional Petroleum Product Reserves CO₂ pipelines (including EOR)
Biofuels	<ul style="list-style-type: none"> Transport of feedstock and derived products, bio-refineries
SOURCE: QER Report, Chapter 1, Table 1-1	

The QER is highlighting the need for the undertaking of a multi-year program of support for the updating and expansion of state energy assurance plans. Louisiana's Energy Assurance Plan was developed under a grant funded through the American Recovery and Reinvestment Act of 2009. The estimated cost for this program is \$350 - \$500 million over 10 years. Today's aging infrastructure is vulnerable as we move liquid fuels and electricity from supply areas to demand areas and the costs and timing are affected by congestion in ports, waterways and rail systems.

2015 LOUISIANA LEGISLATIVE SESSION HIGHLIGHTS

by
Patty Nussbaum

Bills of interest to the Louisiana State Energy Office were passed during the 2015 Louisiana Legislative Session. Following is summary information; the details of the bills are available on the legislature's website, <http://www.legis.la.gov/legis/home.aspx>.

ACT 131 - Solar Energy Tax Credits

ACT 131 reduces the maximum value of the credit and changes the requirements for system eligibility and claiming the credit.

Purchased System

For a system purchased and installed on or after January 1, 2008, and before July 1, 2015, the amount of the credit shall be equal to fifty percent of the first twenty-five thousand dollars of the cost of the system.

For a system purchased and installed on or after July 1, 2015, and before January 1, 2018, the tax credit shall be equal to the least of:

- (i) Two dollars multiplied by the total size of the system as measured in DC watts.
- (ii) Fifty percent of the cost of purchase and installation.
- (iii) Ten thousand dollars.

There shall be no tax credits authorized, issued, or granted on or after January 1, 2018.

For tax credits claimed on returns filed on or after July 1, 2015, and before July 1, 2016, no more than ten million dollars of tax credits shall be granted.

For tax credits claimed on returns filed on or after July 1, 2016, and before July 1, 2017, no more than ten million dollars of tax credits shall be granted.

For tax credits claimed on a return filed on or after July 1, 2017, no more than five million dollars of tax credits shall be granted.

The granting of credits shall be on a first-come, first-served basis.

Leased System

The tax credit shall be equal to fifty percent of the first twenty-five thousand dollars of the cost of purchase for a system installed before January 1, 2014. For a system installed

on or after January 1, 2014, and before January 1, 2018, the tax credit shall be equal to thirty-eight percent of the first twenty thousand dollars of the cost of purchase.

There shall be no tax credits authorized, issued, or granted on or after December 31, 2017.

The maximum amount of tax credits, which may be granted for credits not granted prior to June 1, 2015, during Fiscal Year 2014-2015, shall be nineteen million dollars.

For tax credits claimed on returns filed on or after July 1, 2015, and before July 1, 2016, no more than ten million dollars of tax credits shall be granted.

For tax credits claimed on returns filed on or after July 1, 2016, and before July 1, 2017, no more than ten million dollars of tax credits shall be granted.

For tax credits claimed on returns filed on or after July 1, 2017, no more than five million dollars of tax credits shall be granted.

The granting of credits shall be on a first-come, first-served basis.

The cost of the system and installation shall not be financed by the Solar Installer or an Installer Affiliate.

Note also that the solar energy systems tax credit is one of the credits that ACT 357 is requiring to be reviewed and reported on.

- Solar energy systems tax credit

Commencing no later than January 31, 2016, the House Committee on Ways and Means and the Senate Committee on Revenue and Fiscal Affairs shall review the credit authorized pursuant to the provisions of this Section to determine if the economic benefit provided by such credit outweighs the loss of revenue realized by the state as a result of awarding such credit. The House and Senate committees shall make a specific recommendation no later than March 1, 2017, either to continue the credit or to terminate the credit.

ACT 147 – Special Fuels Tax

ACT 147 provides for equivalency of the special fuels tax with the gasoline tax on motor vehicles that operate on the highways using liquefied natural gas, liquefied petroleum gas, or compressed natural gas.

Beginning July 1, 2015, the tax will no longer be collected pursuant to a decal program or on an annual basis. The dealer of the fuel shall add the amount of the tax to the selling price of the fuel so that the tax is paid by the ultimate consumer or purchaser of the fuel. The amount of the tax shall become part of the sales price of the fuel.

2016 SERVICE QUESTIONNAIRE

LOUISIANA DEPARTMENT OF NATURAL RESOURCES - TECHNOLOGY ASSESSMENT DIVISION

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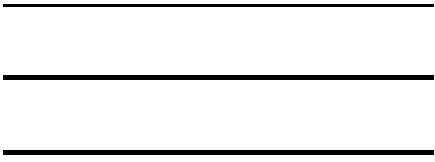
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